THE PLYMOUTH ROCKS

White Buff

RELIABLE POULTRY JOURNAL
PUBLISHING CO.,
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AMERICA'S MOST POPULAR STANDARD-BRED FOWL

THE PLYMOUTH ROCKS

BARRED, WHITE, AND BUFF

THEIR PRACTICAL QUALITIES
THE STANDARD REQUIREMENTS
HOW TO JUDGE THEM
HOW TO BREED AND MATE FOR BEST RESULTS

CONTRIBUTED TO BY THE BEST KNOWN AND MOST EXPERT BREEDERS AND JUDGES IN AMERICA

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"RINGLET" BARRED PLYMOUTH ROCKS.

Winners of the $100.00 Champion Challenge Trophy and American Plymouth Rock Club National Sweepstakes Cup for best Cock, Cockerel, Hen and Pullet at Madison Square Garden, New York. Bred, owned and exhibited by E. B. Thompson, Amenia, N. Y.

BARRED PLYMOUTH ROCKS.

Interesting History of the Origin and Early Breeding of the Barred Variety of the Most Popular American Breed, the Plymouth Rocks—Some of the Important Earliest Strains.

BY A. C. SMITH.

THE interest in Plymouth Rocks is almost world-wide; no other fancy fowl has awakened so much enthusiasm. To perfect and beautify it, more continuous hard labor has been performed and more profound study given than has ever fallen to the lot of any other variety of fancy fowls. Theories have been evolved and almost as often exploded. Yet, one point seems to have been lost sight of, and that is the necessity of learning the history of the origin and early breeding of this fowl, which enjoys the greatest popularity from shore to shore and from bay to gulf.

Among the many that engage in the several branches of poultry work, the fancier is certainly the most studious and reflective, as well as the most progressive and enterprising. It is he, if any one, whom we should expect to delve into the mystery of the past, and solve the all-perplexing question. But the fact is, that the fancier has become absorbed in one idea, and that is the common but abstruse conundrum, "How am I to beat the other fellow?"

The great interests at stake, the strong rivalry of the past few years, have indeed made it a matter of intense and continuous effort to be in the van among breeders of Barred Plymouth Rocks. Fanciers and breeders have consequently been content to accept what has been prepared for them rather than to attempt the preparation of anything in the way of a history of the early Plymouth Rocks. In a word, they prefer to make modern rather than to learn ancient history. Still, it is well to ascertain the truth of these matters, while several of those who originated and developed the early strains are yet among the living.

THE FIRST PLYMOUTH ROCKS.

Mr. D. A. Upham, of Wilsonville, Conn., rightly claims the honor of having first shown the Plymouth Rock as a variety of fancy poultry. This was at Worcester, Mass., in 1869. At first they were called "Improved Plymouth Rocks," after, and in distinction from Dr. Bennett's breed of that name, which was composed of Cochin Chinas, Dorkings, Malays, and Wild Indian fowls.

This exhibit consisted of one trio of fowls and two trios of chicks, and this display was the feature of the show. When we recollect that it was the first time that a purely American fowl had been seen, we can well imagine the feelings engendered. There was no "neutral ground" nor "middle of the road" policy found here. It was "for or against," and as a rule the fancier scouted the idea of any but the established or imported breeds gaining popular favor, while those who were interested in poultry in a practical way declared for the new candidate.

The origin of these trios has been and possibly always will be a matter of discussion, although it is hardly necessary that this should be the case. If any one knows what they were, it should be the man who bred and exhibited them. For this account, then, let us go to Mr. Upham, and from him procure what should be an accurate and official statement of the origin of the Plymouth Rocks that were first publicly introduced at Worcester, Mass., March, 1869.

Mr. Upham states, unqualifiedly, that they were bred originally by a Mr. Joseph Spaulding, of Putnam, Conn., from a Dominique or Hawke colored male, as it was known in that section, and Black Cochin females. However, various stories are told, the most common being that of a Dominique-Java cross. Some persist in calling it the American Dominique-Java cross. Whatever it was, it was impossible to have been of American Dominique origin, as that name was not heard until after the birth of the Plymouth Rock, and the term is not found in the show reports of as late a date as 1871, but, instead, that of plain Dominique is found. About the first seen of an American Dominique is in the first standard (1875), where it is described as a rose-comb fowl, while all authorities, including Ramsdell, Upham, Simpson, and others, write of the Dominique used in the make-up of the early Plymouth Rocks as a single-comb variety. It is without doubt an established fact that the American or Rose-comb Dominique did not form a part of the original trios of Plymouth Rocks shown at Worcester in 1869.

In regard to the probabilities whether the Black Cochins or Black Javas were a part of the foundation, it seems rather remarkable that Mr. Upham's word upon this matter should be disputed either at this late day or at any subsequent time. In a letter to the writer, written March 5, 1900, he states unequivocally that there was "not a drop of Black Java blood in their veins."

Those who champion the Black Java side of the controversy fall back upon statements made by Rev. H. S. Ramsdell, written for the Pet Stock, Pigeon and Poultry Bulletin, which article owes its rather wide circulation to the fact that being copied in Wright's Poultry Book (1873 edition), and being, therefore, very accessible to the modern writers, it affords a quick and easy way of making history upon the "made to order while you wait" plan. It should be here stated that Mr. Wright gives this account of Mr. Ramsdell's merely as a quotation, and does not seem to assume responsibility for the same, as in the succeeding paragraph he says, on page 437: "The Black Java fowl referred to is evidently

an Asiatic bird (either pure or cross-bred), containing a great deal of Malay. We have made inquiries of other American sources, and while some affirm the Cochin cross to have been employed, every correspondent, without exception, states that one of the parents was the Dominique fowl." The conclusion that Mr. Wright later comes to is that different crosses were made in different sections of the country. This is perhaps justified on account of his limited acquaintance with the different writers, and perhaps is true, but in this case the cross that both Mr. Ramsdell and Mr. Upham refer to is one and the same, i. e., the Spaulding cross.

On page 231 of the same work, referred to above, Mr. Wright says: "Plymouth Rocks, Danvers Whites, and nearly if not all the American breeds, also owe much to a Cochin cross." These quotations show clearly that he has no knowledge of such a breed as Mr. Ramsdell mentions, and, secondly, that he considers that Cochins in some way formed the foundation of the Plymouth Rock. The question of whether it was a direct or indirect cross, he makes no attempt to answer.

But why should the statement of Mr. Ramsdell be taken against that of Mr. Upham? Mr. Ramsdell had very little experience with fancy poultry, if indeed he had any, previous to his taking up Plymouth Rocks. Mr. Upham, on the contrary, had bred and exhibited about all the known varieties from Brahmas to Bantams.

A CONFLICT OF TERMS.

It is a fact that there was a great confliction of terms in the early days of the poultry industry. In the fifties the terms of Java and Jago seem to be used interchangeably, while the Black Java and Black Cochin are occasionally used synonymously about 1870. This was the case at the Nashua show of 1871, where the classification of "Black Cochin or Java" was used. This is, however, but a single instance, and at other shows the name Black Cochin stood for that class alone. The Java is, moreover, generally understood to be a smooth-legged fowl, while proof abounds to show that the Black Asiatic from which Upham's Plymouth Rocks sprang, had plentifully feathered shanks. Several breeders of the Spaulding stock testify to the tendency of their flocks to throw feathers on the shanks. This is one proof. Another lies in the testimony of Mr. Upham and Mark Pitman that the trios shown at Worcester had feathered shanks, some birds more, some less.

In deference to these facts, it must be conceded that whatever this black hen was, she was a black Asiatic with feathered legs, and would to-day be classed as a Cochin. That she was a modern Black Java is not, of course, the contention of any person who has given the situation the least study. Why she was ever called a Java is probably explained by the fact that the Spauldings called her a Java, and Mr. Ramsdell, who claims a very intimate acquaintance with them, must have taken the name from them. In this connection, it should not be forgotten that the Spauldings were not fanciers, and took no interest in fancy poultry, but merely bred for market stock. They were not, in all probability, qualified to classify the different breeds and varieties. The Rev. D. D. Bishop, an authority of those times, says that it is an error in nomenclature to call these fowls Javas. Mark Pitman says they were Cochins. Mr. Upham says they were Cochins. The first standard makers said they were Cochins, they were put into the standard as Cochins, and they are there yet as Cochins.

If there is any degree of satisfaction to some writers to call these birds Javas, which the best authorities of the times called Cochin, such writers are certainly welcome to the term, and also to the free and exclusive use of their one authority—Ramsdell. But the fact that the Javas or Cochins, whichever they were, were a black Asiatic with feathered legs, is undeniable. Whenever the term Java is used to describe this bird it is misleading, because it is really describing something else.

It is wrong to make the assertion that poultry literature does not give a record of any Black Cochins prior to 1870, as one writer recently did. Black Cochins may be traced as far back as 1850 or farther, and more can be learned of the Black Cochins from the writers of that period than can be found concerning Black Javas.

EARLY STRAINS.

Of the trios exhibited at Worcester, one was sold to Mark Pitman, who almost immediately transferred it to Mr. C. Carol Loring another was sold to Captain Evans, of Manchester, N. H. while the third was retained by the exhibitor. During the exhibition Mr. Upham took orders for over one hundred sittings of eggs at $2.00 per sitting. Some of these orders he was unable to fill, but the stock raised from the eggs he did sell, together with that produced by the two trios which became the property of Mr. Loring and Captain Evans, and one he sold subsequently to a Mr. Lord, of Salem, Mass., formed the foundation of all the prominent early strains. This is the claim of Mr. Upham, and is by common consent authentic history. Mark Pitman even goes so far as to say, "Everything that was good in those days came from Upham."

The early strains, that were admittedly largely of Upham blood, but modified or bred for certain characteristics to such an extent that they were entitled to be classified as "strains," were the "Essex," or as it was first known, the "Essex County," the "Drake" and the "Gilman" strains.

RAMSDELL STRAIN

The Ramsdell strain was of little importance, though much is said of it in the books, which fact is largely due to Mr. Ramsdell's own pen. It was originally Spaulding stock, the same as Mr. Upham's.

UPHAM STRAIN.

Then there was the Upham strain as bred by Mr. Upham for years He had no particular hobby. His aim was to produce a bird of all around excellence, a winner for himself and his customers. How he formed this strain he relates in the following words:

"These birds were first bred by breeding an old-fashioned single comb, hawk colored (so-called) cock to Black Cochin Asiatic hens with heavily feathered legs. In the fall of 1865 I bought a trio, the progeny of the above mating, and bred them two seasons in, and named them Plymouth Rocks. In 1868 this breeding (the pullets) were bred to a grey Chittagong (so-called) cockerel, the progeny of birds bought of G. B. Burnham. A trio was bred that year, and for several years afterwards. A large majority of both sexes were of Plymouth Rock color and had smooth legs. These were bred to the progeny of the above Plymouth Rocks, and in five or six years bred very true to color, and were free from feathered legs."

ESSEX STRAIN.

As already pointed out, the "Essex" strain or "Essex County" strain was originated by Mark Pitman, then of Salem, now of Somerville, Mass. From among the progeny of the trios sold to Mr Lord, Mr. Pitman selected one cockerel and five pullets, and from that of Mr. Loring's trio, one pullet. These birds were the foundation and starting point of Pitman's breeding of Barred Plymouth Rocks. It was his aim to produce a clearly and sharply barred bird. In order to do this, he tried to get the dark bar as dark as possible and the light bar as light as possible. The result was what he desired—a clear, bright, and showy bird.

In 1876 his entire flock of fowls was purchased by Mr. I. K. Felch, of Natick, Mass. The best of these came into the possession of Mr H. B. May of the same town. Mr. May wished to improve the birds, first by getting the males and females more of one shade, and again by getting more stamina. He first tried a Light Brahma cross with some of the fowls, and followed it up two or three years, but in his own language, "it did not amount to anything," and this blood was discarded. The original line was then crossed with what might be called a grade game. This was done through the agency of a male bird which had a deep breast, yellow legs, and a very bay eye. He was a solid, heavy bird, of great vigor and endurance. In three years all visible effects of this out-cross had disappeared, leaving as a result a Barred Plymouth Rock of very solid and compact build, very closely feathered, and a never-failing red eye. In this family these characteristics may be seen even to-day.

THE GILMAN STRAIN.

This strain was chiefly distinguished from the others by their large size, the light blue cast to the plumage, and their yellow legs and beaks. As can well be seen, it was especially desired by those who wished a good pullet line of birds.

THE DRAKE STRAIN.

Mr. Drake lived at Stoughton, Mass. He was a man of feeble health, and went into the poultry business as a means of livelihood. He early guessed the composition of the new favorite, and started in to make a Plymouth Rock of his own. Mr. Pitman relates of a visit he and Mr. Lord, of Salem, Mass., made at Drake's place, that they saw Dominiques, White Cochins, and Light Brahmas, it being his conclusion that from these three varieties Drake made his Plymouth Rocks. From all accounts Drake was a man who turned everything to account, if indeed he was not obliged to. He also purchased eggs of Mr. Upham, and obtained more or less stock in that way. We can but give credit to this man for the good results he obtained, even though handicapped in many ways.

Having thus given a condensed account of the origin and early strains of Barred Plymouth Rocks, the writer may acknowledge his indebtedness for the courteous information given by Rev. D. D. Bishop, D. A. Upham, and Mark Pitman, all of whom were breeders of the early Plymouth Rocks. He may say to those who choose to criticise this account, that the statements herein are made upon their authority. Better or more reliable authorities upon this subject than these men cannot and never could be found. No effort will be made to carry the line of breeding farther than these early strains because of the impossibility of covering accurately so large a field.

THE PLYMOUTH ROCKS.

Early History of the Breed—Pen Picture of a Perfect Male and Female Described Section by Section, with Discounts for Defects and the Disqualifications—Chart for Line Breeding.

BY I. K. FELCH.

WRITER believes that the name by which a breed is introduced belongs to it and should be held inviolate, and so he ignores the adjective "barred," which implies that there are other than the original Plymouth Rocks. This breed is America's first and best production, and when intelligently handled, it ranks as the best of the middle weight class among all that have secured recognition in the standard. The Plymouth Rock is the most famous breed in America, and it captured not only the admiration of the fancier, but of thousands of others, so that no other breed is raised in like numbers.

It came through the crossing of breeds, but its completion, so to speak, was secured by bringing together the two prominent families. From this union resulted the Essex strain of

Plymouth Rocks, with its clear, bluish gray color, barred with a darker blue, which stopped short of a positive black. This union was made in 1878 and writer called the resulting strain the "Essex." For years it held the first position in all exhibitions to such an extent that 95 per cent. of all firsts were awarded to specimens that were one-half, three-fourths, or wholly of the blood of those produced in 1878, and they all showed the remarkable color and type produced that year by the union of the strains known as the Pitman and the Drake and Gray Rocks.

The first Plymouth Rocks were made by the crossing of several breeds previous to the year 1869. Certain facts came to light when an effort was made to find some birds equal to the first bird shown by Mr. D. A. Upham at Worcester, Mass., in 1869. To Mr. Upham belongs the honor of giving this country the breed and of naming it so wisely and well. The crosses, so far as known, were as follows:

1—Black Spanish on White Cochin; top crossed by Dominique.

2—Black Spanish on Gray Dorkings; top crossed by Dominique.

3—Dominique on Buff Cochin; the progeny inbred.

4—Black Spanish on Buff Cochin; the progeny inbred.

5—White Birmingham on Black Java; top crossed by Dominique.

6—White Birmingham on Black Java; the Dominique colored progeny mated to males from No. 5..

Immediately after the exhibition of the Plymouth Rock in 1869 many claimants for the honor of producing them appeared and these different crosses were given. It will be seen that the breed was the result of thoroughbred crosses which needed the influence of the Dominique for its color. Afterward we had the Drake strain, that received a female cross of Dark Brahma blood, which gave larger size to the Plymouth Rocks from 1872 to 1875. It is a well known fact that the phenomenal trio of the Drake strain, which was never beaten, had one-half Dark Brahma blood.

DEFECTS OF EARLY BIRDS.

It would be folly for any breeder to claim that between 1869 and 1875 two-thirds of the Plymouth Rocks were free from feathers upon their shanks and white in their ear-lobes. Previous to 1878 the mating of Plymouth Rocks showed none of the system and sure results that have attended the mating of them since then.

The Black Spanish spoken of in the crosses were red faced, white ear-lobed birds, then termed Minorca-Spanish. Their combs were not half the size of those of our modern Minorcas. The birds spoken of as Black Javas were Black Asiatics, with rather poorly feathered shanks, a race of birds known in 1856 throughout New England. I think they were imported between 1849 and 1851. At any rate, there were numbers of them in Natick as early as 1854, in the hands of Messrs. Matherson and Simon Mulligan, who bred them up to 1871 or 1873, when they were forced into the first standard as Black Cochins. Mr. Perkins, of Salem, was a prominent breeder of them between 1856 and 1860, and they were the original Javas, the progenitors of the Plymouth Rock, notwithstanding the efforts of young and recent writers to "clear the records" by eliminating the Java blood from their origin.

From 1869 to 1878-79, breeders experienced the same trouble and fought the same fights to complete the evolution of the Plymouth Rock that breeders always experience who try to form a new breed of fowls. The Plymouth Rocks were sarcastically called "the Great American Mongrel." A union of the different families proved to be what was needed to clear the plumage, eliminate to a wonderful extent the feathers on the shanks and the enamel from the ear-lobes. The original trio was sold by Mr. Upham to Mr. Loring, who placed them in the hands of Mr. Mark Pitman, from 1870 to 1876. Mr. Pitman bred them with his additions, but in 1876 he sold the entire flock to I. K. Felch, of Natick, Mass.

Subsequent to 1869, Mr. Drake, of Stoughton, created his strain by introducing into the Rocks some Dark Brahma blood, and he produced the trio which won at Boston, Worcester, Northampton, and other places. A Mr. Britton, of Greenfield, achieved an enviable reputation in breeding and showing birds of the Drake strain. Mr. Gray, of Walpole, also had a good strain in which was incorporated a degree of colored Dorking blood. Greyish-salmon breasts and fifth toes would occasionally appear in his flock.

PRODUCTION OF THE ESSEX STRAIN.

But of small importance is this record of the early families of Plymouth Rocks when the breed suffered under the name of the "Great American Mongrel" and its friends were ridiculed. Of more interest is it to learn how they were brought to a degree of perfection that forced the fraternity to accept them as a thoroughbred breed, when they were able to reproduce themselves to the extent that 75 per cent. of the progeny was classed as strictly prime birds.

We put eight of the best birds bought of Mr. Pitman on the farm of H. B. May and bred them there during 1877. In the spring of 1877 I purchased of the sheriff of Greenfield three males and nine females of the Britton-Drake strains. In the same spring I made satisfactory arrangements with Bruster French, of Natick, who was breeding the Gray family alluded to previously. The cock, Col. Gray (see American Poultry Pedigree book), was taken to Mr. May's farm and mated to Lady Pitman 1st. I also took a Pitman male bird to Mr. French's farm and mated him to a sister of Col. Gray. The pen of Greenfield pullets, among them Lady Greenfield, was mated to Prince of Middlesex—a Pitman cockerel. A Greenfield male, brother of Lady Greenfield, was mated to sisters of Prince of Middlesex. This apparently mixed breeding gave all the progeny the same percentage of the different bloods of their ancestors, and they all were referred to afterwards as the Middlesex-Greenfield birds. To the original cock, Mark Pitman, I mated Lady Pitman, with four of their daughters, in order to get pure Pitman blood to use in my subsequent matings.

This was the first studied mixing of Plymouth Rock blood and this is the way I produced the Essex strain. This first and subsequent matings gave my birds the true Pitman color, such as the standard demands, a bluish-gray ground, barred with a darker blue. The birds were accepted and so described in the first standard. This was the year that Mr. Jas. E. White declared was a phenomenal one in the breeding of the Plymouth Rocks. So quickly did their fame spread that males were shipped into nearly all the states, and so popular was the strain that the flocks resulting from these top crosses were advertised by the majority of breeders as the Essex strain.

A FIXED TYPE AND COLOR.

This was over twenty years ago, but so tenaciously have these birds held their color and type, that hundreds of breeders to-day, besides myself, can look upon the same color and type that were produced in 1878.

It would be folly for me or any other breeder to claim that the best produced to-day is one whit better than the most perfect ones of that date. All that we can claim is that a greater

number to-day will score 92 or better, but we cannot beat the founders of this strain. Rivers do not run uphill.

Naturally the question arises, what is the correct type and what is the correct color, and how shall we mate our birds so that the greatest number can be produced to score 92 or better when they are at their prime, which will be when they are about to begin to lay their first eggs. At this time they have their full muscle development and their plumage is about three-quarters grown. The waste which attends reproduction and age will lower their score afterward, and we hold that 90 points for fowls is equal to 92 for specimens in their first year. A pen picture of this breed in 1878 gives us a true likeness of it to-day. To re-write it is only to describe the same type and color in different language, but perhaps it can be understood full better by the young generation of to-day. To do justice to any breed, we must describe a specimen of that breed when it has attained its full muscle growth and is free from excessive fat, which condition is generally reached when the young attain standard weight.

We believe it has been a mistake to divide the description as it now appears in our standard. The novice, in looking up a section in the standard, wants it complete. Besides, the entire plumage of the male is not of one shade or character and cannot be described by a single color clause, as now appears in our standard.

Standard Plymouth Rocks.

When the male is scored he should have his full muscle growth, but be free from fat, and his plumage should be three-fourths grown. He should then be up to the standard weight of eight pounds. When he has molted into his cock form and recovered from the strain on his vitality, and has put on his adult plumage, then he will weigh about nine and one-half pounds. Following is a description of both male and female section by section, with the proper discounts for defects.

THE COMB.

The comb of the Plymouth Rock male is single, of medium size and evenly serrated, being divided into five points, so graduated that the center and largest point stands the highest, and the outside line from front to rear is parallel with the natural growth of the skull. The comb must stay in a straight line from front to rear and the sides must be smooth and free from wrinkles. The rear point is counted with the flange. The points of the flange are not counted. The forward flange is considered with the point in front. Comb should be deep crimson red and fine and firm in texture.

The comb of the female is very much smaller in proportion to the size of the bird and the flange is not so pronounced as in the male. The comb must be straight and firm in position and the top line is straighter than in the male and the points are less prominent.

DEFECTS.—If the comb is too large or too fleshy, if the serrations are irregular, if it does not follow a straight line from front to rear, cut one-half to one and one-half points for each defect, according to the degree. If there are more or less than five points, cut one-half for each point that is missing or each point in excess of five. Cut one point for each side sprig.

DISQUALIFICATIONS.—If the comb is other than single, if it is lopped—falling to one side, or if it is twisted to form the letter S in front, refuse the specimen a score card or a prize.

THE HEAD.

The head should be medium in size and length. The top of skull of the male should be covered with silver blue feathers, barred with fine, dark blue lines. The eyes should be large and bright bay in color. The beak should be apparently stout at its juncture with the skull and be nicely arched to the point—in color, yellow. The wattles are pendant, hanging below the lower edge of the ear-lobes, which should be fairly well developed. Face, ear-lobes and wattles are crimson red.

The head of the female is in keeping with her finer nature. The ear-lobes are very small and the face is not so broad and deep as in the male, but they are crimson red. The plumage of the skull is a darker shade of blue; the eyes are prominent and bay in color and the beak is yellow, but it may be slightly striped

DEFECTS.—If the eyes are other than bay in color, or if the beak is slightly turned, or too straight, cut one-half to one point; if the head is too narrow, or depressed in front of the eyes, cut one-half to one and one-half points for each defect, according to degree.

DISQUALIFICATIONS.—If the beaks are crossed, neither score card nor prize should be awarded.

THE NECK.

The neck of the male is medium in length, that is, it should appear to be rather long instead of short and thick. The plumage of the neck called the hackle should be narrow and long and fall down over the shoulders, completely covering the cape. In color the hackle should be silver blue, or, one might say, a light shade of bluish gray, and each feather is barred with eleven to seventeen bars of slate blue instead of blue black. The juncture of the head and neck should be prominent, the neck showing a fine, even curve nearly to the base, and then a concave sweep out on the cape, matching the convex curve above.

The neck of the hen, while it may not be shorter in proportion to her size, appears so because the plumage has no semblance to a hackle, the feathers being as wide, but longer than those of the body plumage. The colors most in keeping with the standard demand are a bluish gray, barred with five, seven or nine bars of a dark blue. The under-fluff in both sexes is apt to be a light shade of bluish gray. Especially will this be found in the male and it gives a lighter appearance to his neck, which, with the saddle hackle, tend to make the males look much lighter than the females.

DEFECTS.—If the neck is too straight and the head carried too far forward, cut one-half to one point; if too light in color, even reaching white in the under-color of the males, or if the neck plumage is too short and fails to cover the cape, and the barring is too dark and black, cut one-half to one and one-half points for each defect, according to degree.

THE BACK.

The back should be medium in length, but in the male, on account of the abundant saddle hackle, it does not look long. It should be flat across the cape over the small of the back. The back nearly to the hips has a slight downward incline, from which point it rises in a gentle concave sweep to the tail. The saddle hackle should be abundant and flow downward over the points of the wing-bays. The longer these feathers, the more beautiful they are, and like the hackle, they should be silver blue in color and show from nine to seventeen bars. The plumage of the back proper should be bluish gray, barred with a darker blue that must stop short of a positive black.

In the hen the plumage of the back and saddle shows one even shade of bluish gray, barred with dark blue—this barring may be a dark slate or blue-black in the female. The whole back to the tail coverts should have a rather long

appearance. The slight dip near the tail proper gives a puff or slight convex line at the extreme rear of the saddle where the saddle and tail coverts meet.

DEFECTS.—If the specimen shows a too narrow formation of the back, if the saddle is oval from wing to wing, or the back roached, if the under-color is too light, or shows positive white, if there are less than five bars in the back plumage proper, or in the entire back plumage of the female, cut one-half to one and one-half points for each defect, according to degree.

DISQUALIFICATIONS.—If the shell bone is crooked, disqualify the specimen.

Note.—The standard does not demand that the plumage be barred to the skin, but it does demand that the under-fluff shall be bluish-gray and the web of the feather must be barred sufficiently to secure parallel dark bars on the surface. This is secured when there are five, seven or nine bars, but if the under-fluff is barred, it is not a defect. The standard says, "The barring must positively show the entire length of the feathers in all sections where they are not mostly composed of down." The down is the under-fluff. This exception is a wise one, because when a specimen is barred to the skin, the surface bars are always black and the standard emphatically declares that the bars must stop short of black. Black and white are both to be considered foreign and punishable colors, when judging Plymouth Rocks.

THE BREAST.

The breast should be full, broad and deep, the quarters being well developed. In color they should be bluish-gray barred with deep blue.

In the female the breast appears less prominent, because of the heavier posterior weight. The color should be the same as in the male, but usually it is a trifle darker in shade.

DEFECTS.—If the breast is "wedge-shaped," caused by not being full enough in the quarters to give the full, round shape desired; if the under-color is too light and if the feathers fail to show parallel lines when the head is thrown back, cut from one-half to one and one half points for each defect, according to degree.

BODY AND FLUFF.

This section may be said to be related to the breast. If the shape of the latter is not cut more than one point, the body and fluff is seldom cut for shape. They should meet the breast smoothly and show well rounded sides. The keel bone should be absolutely straight and carried well down and the muscle along it should be full, round and firm to the touch. The fluff should be tolerably full, in keeping with the balance of the breast and roundness of the body.

The body of the female appears longer in proportion to her size than does that of the male. In color it should match the breast, but it grows somewhat lighter in the fluff, which is generally a bluish-gray with indistinct bars.

DEFECTS.—If the breast bone is crooked, sides flat, or the fluff scanty, cut one-half to one point for each defect, according to degree.

THE WINGS.

The wings should be of medium size and the fronts should be buried in the breast plumage. The rose is well rounded, and in the male the points of the wing-bays are covered with the saddle hangers. The surface color of the rose should be bluish-gray, finely barred with dark blue. The secondaries and primaries may more properly be described as marbled with slate blue. When the wing is extended, it should show three parallel lines of the light shade, the darker color predominating.

In the female the entire surface of the wing when folded should be well rounded and show a pure shade of bluish-gray barred with dark blue. The primaries and secondaries are marbled, as they are in the male, and when extended they show the light lines parallel across the wing as a whole, not as in the other plumage, showing lines across the feather. In the chicken plumage the feathers show bars running across them, but the adult plumage is marbled.

DEFECTS.—If there is white in the flights, or the secondaries are black and smutty, cut one-half to one and one-half points; if the wing is carried too low and is flat in the rose, cut one-half to one point; if the secondaries or primaries are twisted, cut one-half to two points. We think that when the primaries are folded outside of the secondaries, the specimen should be refused a score card.

THE TAIL.

The tail should be well developed and spread latterly like the letter A, or say like an inverted V. It should be carried so upright that a drop line from the tip of the deck feathers would meet the tip of the tail feathers proper. The sickles and lesser sickles are well curved and extend but little beyond the tail proper. The larger coverts curve downward and extend to the rear even with the tail proper, the lesser coverts being abundant. The barring of the tail proper is somewhat marbled in character, but the sickles and coverts are regularly barred across the feathers. In color they are bluish-gray, barred with blue that stops short of a positive black.

In the female the tail proper should show clearly beyond the tail coverts, and should not close to a point, but should be fan-shaped. It should be a darker shade of gray and blue than shows in the male.

DEFECTS.—If the tail is carried too high, cut one-half to two points, because it may verge on "squirrel tail." If the tail is folded to a point, cut one-half to one point; if it shows positive black or white, cut one-half to two and one-half points, according to degree.

DISQUALIFICATIONS.—If the tail is carried positively to one side (wry tail) refuse the specimen a score card and withhold prizes.

THE SHANKS AND FEET.

The thigh is medium in length and firmly clothed in plumage of blue-gray, barred in parallel lines of dark blue. The shanks are medium, neither long nor short, and the toes are well spread and strong looking. The shanks are yellow. The male shows these features heavier and stronger than the female, in proportion to his size.

DEFECTS.—If the legs are long and crane-like, or if the shanks are too long, or are spotted with black or brown, or if the legs are turned in at the hocks, cut one-half to one and one-half points; if the thighs are lightly muscled, and the plumage shows indistinct lines running around the thigh, cut one-half to one point for each defect, according to degree. Cut one point for each crooked toe.

DISQUALIFICATIONS.—In case of generally deformed feet, positive knock-knees, or if the color of the shanks is other than yellow, or straw color in old birds, disqualify the specimen.

MATING PLYMOUTH ROCKS.

In writing the above pen-picture we have described the perfect specimen. If we could find birds of both sexes scoring 92 to 95, and having the color of plumage described, and should mate them together, we would surely have as nearly a

perfect pen as nature will permit. If we could secure birds having both the shape and color we have described, we should, of course, have a perfect mating. The art of mating any breed is to mate the largest possible number in such a manner that we shall secure prime specimens from each pen. The number we secure will of course depend upon how nearly perfect the parent birds are. How to secure a large number of prime birds is the ever recurring, momentous question. Until all breeders will agree to come to one rule and work together we shall have chaos.

My course would be, first, to discard every specimen that has positive black or positive white in its plumage, retaining no male that was not bluish-gray in color, barred with a darker blue. These two shades of course would vary, producing light, medium, or dark colored birds. In all breeds there may be seven shades between the lightest and darkest specimens.

In selecting the females, take those from light, bluish-gray, barred with light slate-blue, to those that are pure bluish-gray barred with blue-black which stops short of a positive black Such specimens, if they score as fowls from 88 upwards, and as chickens from 90 upwards, are strictly first class. If I had twenty-four such females I should divide them into three groups. If I had forty, I should make five groups or flocks of them. The lightest males I should mate to the darkest females, and so on down the line. The middle pen would seem to be the nearest perfection, but I should secure some fine chicks from all of the pens. If this course were continued for three years, I do not think the breeder would again indulge in what is called double mating.

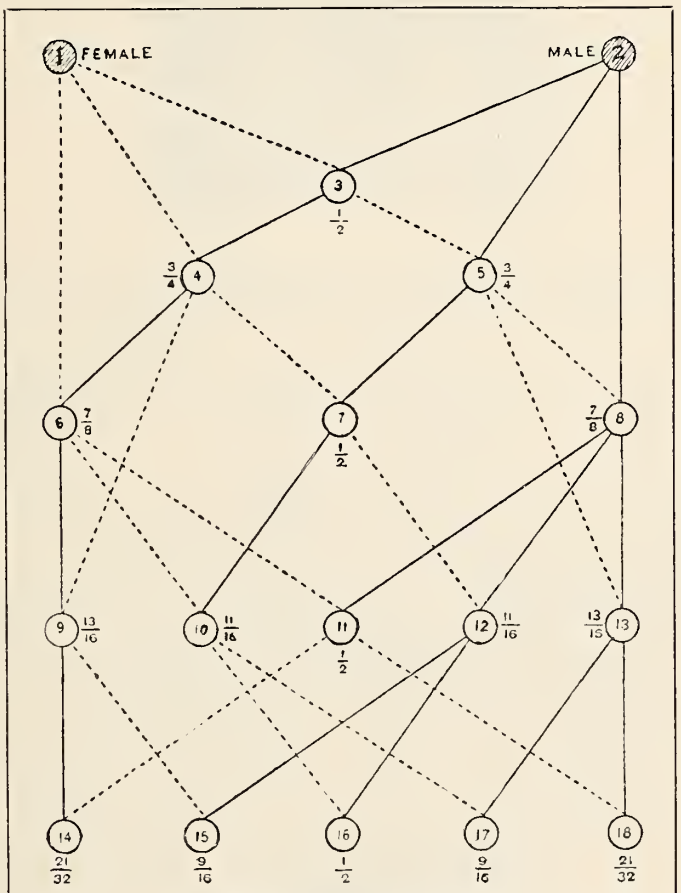
Should a breeder select a pair, male and female, of the color I have described, that are not related, and follow my breeding chart in his subsequent matings, he would soon show a flock as even in type and color as can be produced in any breed, and I believe that only in this way can it be done. He must continue selecting as breeders birds that closely resemble in type and color the first pair, then will he continue to reproduce the merits of the first parents of his strain.

FELCH'S BREEDING CHART.

You may fail to see the meaning of the solid and dotted lines of the chart. To make it clear, we say each dotted line represents the female, while the solid line shows the male, as having been taken from the indicated group. Each circle represents the progeny, to wit: Female No. 1 mated with mate No. 2 have produced group No. 3, which is one-half the blood of sire and dam.

Females from group No. 3, mated back to their own sire No. 2, have produced group No. 5, which is three-fourths of the blood of the sire No. 2, and one-fourth the blood of the dam No. 1.

A male from group No. 3, mated back to his own dam No. 1, produces group No. 4, which is three-fourths of the blood of the dam No. 1, and one-fourth the blood of the sire No. 2.



FELCH'S BREEDING CHART

Showing how thousands of chickens and three strams of blood can be produced from a single pair, in the vigor, size, and color of the original pair

Again, we select a cockerel from group No. 5 and a pullet from group 4, or vice versa, which will produce group 7, which is mathematically half the blood of each of the original pair, No. 1 and No. 2. This is a second step towards producing a new strain.

Females from No. 5 mated back to the original male No. 2, produce group 8, that are seven-eighths the blood of No. 2, and a cockerel from No. 4 mated back to the original dam No. 1, produces group No. 6, that is seven-eighths the blood of the original dam and only one-eighth the blood of the original sire.

Again, we select a male from No. 8 and females from No. 6, and for a third time produce chicks (in group No. 11) that are half the blood of the original pair. This is the third step and the ninth mating in securing complete breeding of our new strain. In all this we have not broken the line of sires, for every one has come from a group in which the preponderance of blood was that of the original sire. Nos. 8, 13, and 18 are virtually the blood of No. 2.

We have reached a point where we would establish a male line whose blood is virtually that of our original dam, and we now select from No. 6 a male which we mate with a female from No. 4 and produce group 9, which is thirteen-sixteenths the blood of the original dam No. 1, and three-sixteenths the blood of the original sire.

Again, we select a male from No. 9 and a female of the new strain, No. 11, and produce group 14, which becomes twenty-one-thirty-seconds of the blood of the original dam, thus preserving her strain of blood.

A male from No. 13, which is thirteen-sixteenths the blood of the original sire No. 2, mated to females from No. 10, which are five-sixteenths the blood of the original sire No. 2,

gives us group 17, which is nine-sixteenths the blood of said sire.

While in No. 16 we have the new strain and in No. 18 the strain of our original sire No. 2, we have three distinct strains, and by and with this systematic use we can go on breeding for all time to come. Remember that each dotted line is a female selection, and each solid line the male selection.

Breeder or novice, in presenting the above for your consideration, I have told you what I think I know to be true. If Plymouth Rocks are selected, mated, and bred as herein I have advised, they will be as popular for all time to come as they now are. Avoid the excessively blocky specimens. Specimens of the greatest productive merit show a slightly oblong type, but avoid also the other extreme, or weakness and roached backs will appear in the flock, and the results will be more detrimental than if you had gone to the first extreme. Avoid extremes in your matings, both in type and color. Remember at all times that black, white, red, brown or yellow are all foreign colors in a Plymouth Rock, and that the last three disqualify them.

The Reverend Mason used to say when he was presenting any cause in which his whole heart and belief were centered, "To-day I am going to preach you a sermon that I am willing to die by."

Reader, in the foregoing I bequeath you a legacy. I am willing you should judge my whole life as a poultryman by what I have here written.

STANDARD BARRED PLYMOUTH ROCKS.

An Illustrated Description of What the Standard of Perfection Requires in Barred Plymouth Rocks—Discounts on Defects as Applied by the Judge in the Show Room.

BY THEO. HEWES.

(Special Illustrations by Mr. Franklane L. Sewell)

THE popularity of the Plymouth Rocks remains unequalled in poultry culture. Other breeds and varieties have had or are having their day, but viewed from either the fancy or commercial standpoint, no other breed is so popular to-day as the Plymouth Rock, and the Barred variety is the most popular of the three. Other good breeds have come upon the stage and the best of them have won high favor, but the firm position of the Plymouth Rocks remains unchallenged. To-day a degree of rivalry exists, so good are some of the other claimants to public favor (the White Wyandottes for example), but taking the country over, the Plymouth Rocks easily hold their own. With the same earnest efforts put forth in the future as have been in the past, it is not likely that the Plymouth Rocks will ever occupy other than first place in the hearts of American fanciers. If we were in doubt on this point, the sale of this book alone would convince us, as this is the third edition and the last five thousand copies, printed in March, 1899, were completely exhausted July 1, 1901. Excepting the American Standard of Perfection, the Plymouth Rock Book is the most popular of any of the books published and advertised by the Reliable Poultry Journal Publishing Company, and the demand grows greater every year, showing conclusively that the number of breeders of Plymouth Rocks is increasing all the time.

There is no other breed in the standard that attracts admirers and champions in the same mesmeric manner, or holds them so completely captive, as do the Barred Plymouth Rocks. There is nothing specially flashy in their make-up, just a plain every day dress of black and white. As an amateur, or one not interested in fancy stock, you may pass them by in the show room, but as your interest in fancy stock awakens, you will come back to them and will continue to do so until you see naught but beauty in the soft blue bars, and, before you are aware of it, the same spell that has been cast over others before will have complete control of you.

The writer has been severely criticised for his opinions on the correct method of mating or breeding this variety. We believe the single mating plan, if properly handled, is best for the variety, and, believing it, if we did not say so we would be untrue to ourself and unfriendly to our favorite variety. We have studied the question as carefully as we know how, and to this date have not changed our mind in the least on this point. In fact, we are convinced more than ever that we did right when in our own yards we changed from the double to the single mating, and there are to-day many other Barred Rock breeders who think the same way, including some of those who at first were positive that good males and good females could not be produced by the single mating system. Others who may still be classed as double mating breeders are modifying their views, and we note with pleasure that a majority of the double mating advocates have discontinued the use of the washed-out, barless males for breeding pullets, and now are using at the head of their pullet breeding pens male birds light in color, but well barred.

It is our firm belief that if the system that is practiced in a majority of the yards in the central West were practiced all over the country, in less than ten years ninety-five per cent. of the breeders would be using the standard mating without knowing how or when they began to do so. It is working out this way, regardless. Each season finds a darker male placed in the pullet pens, and the lines of difference are drawn closer and closer together, and the single mating is producing

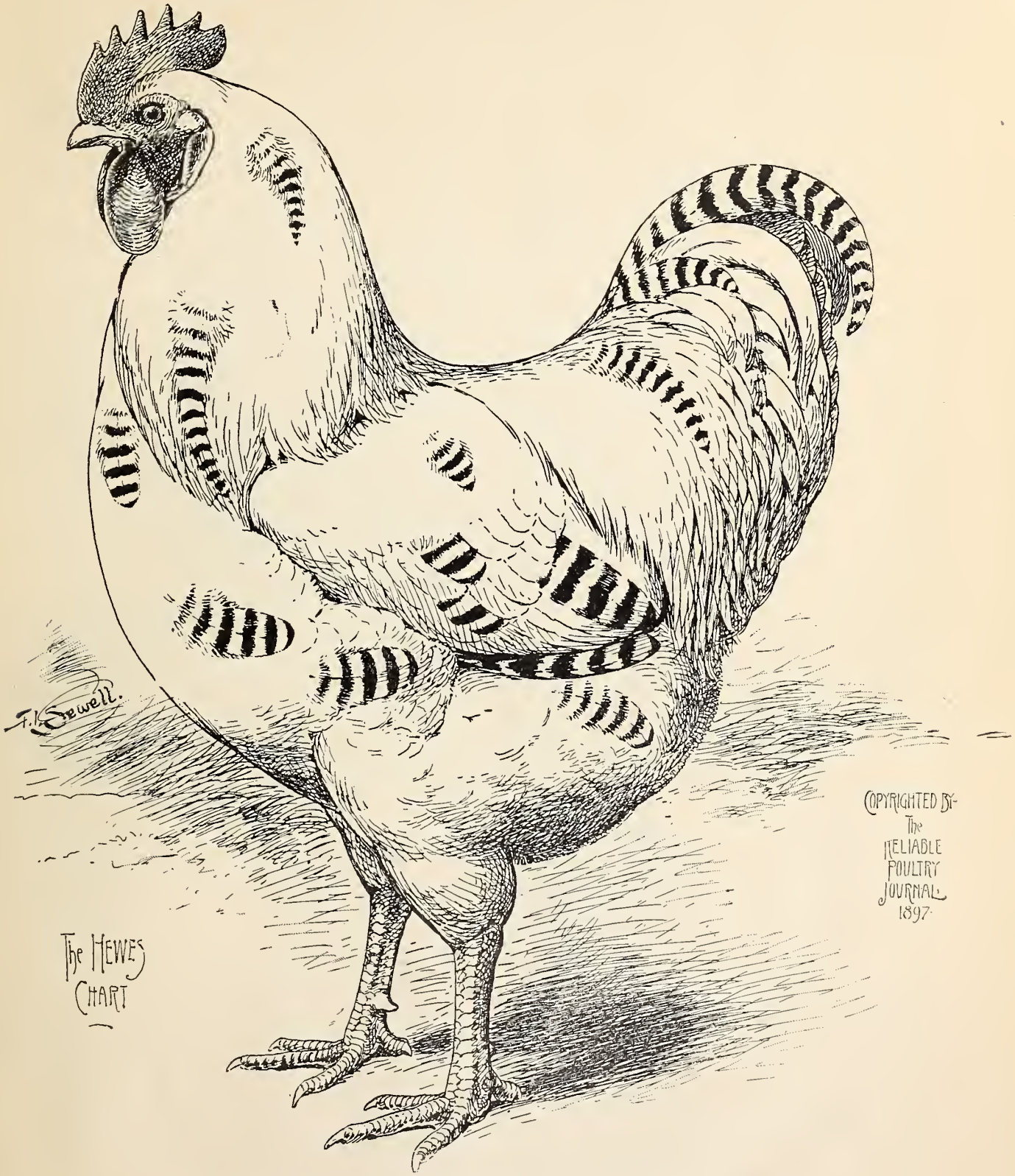


CHART I.

Showing Standard Male Shape and Standard (Revised) Barring in the Different Sections.

at present both males and females of exhibition quality. Some of us have our ideas confused, and imagine there is a wide difference of opinion in different sections of the country in regard to color. This I do not find to be the case. Individual opinions differ as to what constitutes ideal or standard color; they always have and always will. It is simply a difference of opinion in regard to shade of color, but all or nearly all are very close together in regard to what constitutes perfection, or the ideal we seek.

Of one thing we may rest assured, the day of the wide, white barred females is passed. Judges to-day are not awarding them prizes, and well informed breeders do not want them. The prize winning pullets at Boston, January, 1901, were of the color that standard men are working for. The females in the first prize pen at this show were only a shade lighter The winning males, however, were a shade darker than those that win in the west; in fact, we believe there is a difference of perhaps two shades in color between the male birds given the preference by the eastern and western breeders. We believe now, as we have during some years past, that all that is necessary is a better understanding among earnest breeders and less personal jealousy. No matter what our ideas may be, so long as we produce good birds we will find ready sale for them, but certainly it is to the interests of all that we drop personal matters and work together for the betterment of this noble fowl.

FIG. 1—Defective Comb.

The fear of producing too many high-scoring specimens, or, in other words, of overdoing the matter to the extent of high-scoring specimens becoming a drug on the market, is pure nonsense. No matter how many good ones we are able to produce, there will be a place for them. It is the poor ones that we have trouble in selling, and under no conditions do we believe the time will ever come when high-scoring birds of this variety will be a drug on the market. It is well to remember there is always a best one in every flock, and the same can be said of every show, whether a village affair or one held in Madison Square Garden. We believe it is a duty to ourselves and to the variety to produce the best we can, and the largest possible number of good ones from each pen or mating.

FIG. 2—Defective Comb.

The writer believes now, as he has from the first, that the revision committee's report on this variety, as submitted to the meeting at Boston, January, 1898, was the best that has been offered, and we should like very much to see it given a trial. We believe that the minimum number of bars should be designated in all sections. The maximum number might be omitted, but we feel that every breeder should be given as good a general idea as practicable, so that he may understand whether or not the specimens he is producing are correct or defective, section by section. It is in order to state that this committee's report on this variety, as submitted to the meeting at Boston, was highly recommended by the general committee on revision; in fact, in publishing the report of the meeting at Fisher's Island, they had this to say: "The report on Barred Plymouth Rocks was considered by all members of the general committee to be one of the best yet presented for this variety. The number of bars on each feather in the different sections is now specified." This report, however, was turned down at Boston without even so much as a word of apology or explanation to the committee that did the work. There is no use going farther into this matter. What was done will stand until the standard is revised again, when the writer hopes to see that committee's report given a fair and impartial trial.

The Reliable Poultry Journal does not stop at expense in giving its readers the best and most reliable information obtainable. A rule in this office for years past has been, "when in doubt spend money." As a matter of fact the cost has seldom been considered. The one idea has been to obtain the best to date, and then look around for something later and still better. We fully realize that this is an age of progression, and the poultry business is one that is pushing ahead and keeping well abreast of the times. Ideas that were thought to be correct a few years ago are now recognized as incorrect. This fact is clearly demonstrated in this book, for it has been found necessary to re-write or revise a number of the articles, showing that the opinions of the most successful breeders change with the times.

In the preceding edition of this book, we called attention to standard requirements in barring or in perfect marking for the Barred Plymouth Rock, as illustrated in charts made specially by Mr. Sewell; also the defects in shape as they are discounted by the judge in the show room. In this edition we present illustrations of defective feathers, made from natural feathers of our selection. The feather drawings are also the work of Mr. Sewell. These drawings show defective feathers just as we find them in the living specimens, and we have discounted the defects precisely as we would if we were judging these fowls in competition.

STANDARD MALE SHAPE.

Chart I represents our idea of standard male shape. We realize that this outline will not meet the approval of everyone; to get one that would is no doubt impossible. The outline we believe to be according to standard and we class it, therefore, as perfect. A bird like this we would pass in the show room without a cut on shape.

In barring, the feathers as shown in Chart I, section by section, are those found on our best birds. Note that every feather ends with a black bar, about one-half as wide as the bar that follows it; also note that these feathers in their respective sections show the proper number of bars as we find them on the best bred specimens. If one were to wait until all the breeders of any variety were of the same opinion in regard to color or shape, this book would never be published. We have tried to give our readers correct average ideas as we have interpreted them from the standard, in the show room, from breeders generally and through personal experience, and we believe if you follow these you will not go far wrong. Other writers with as much or greater experience may differ and differ honestly from the writer, in fact we know they do

in several cases. We never shall fail in our respect for any breeder who honestly differs from us; when we say "honestly" we mean it that way. Any man who thinks differently will be doing himself an injustice if he does not stand for his belief. On the other hand, let us not persist in a difference of opinion, mainly because our own flock may be a little deficient; let us be broad enough to look at these questions from the viewpoint of what is best for all. Our aim in what we have written is to give the amateur the best general idea we can to help him select and mate his birds and to point out to him common defects so that he may avoid at least a few of the many pitfalls in breeding this variety of fowl. We now take up the male Barred Plymouth Rock, section by section, calling attention both to shape and barring (or color) and discounting defects according to our interpretation of the standard.

SYMMETRY.

Symmetry, or typical carriage, is the first in the scale of points, as set forth on the official score card, and to be perfect in this section the bird must be perfect in all shape sections, and these sections must be properly joined together. There is no other section in the Standard of Perfection that has called out the amount of argument and been so widely discussed in the poultry journals as this one of symmetry. For a number of years there has been a constant fight on the part of some members of the American Poultry Association to eliminate this section entirely, but at every meeting it has been voted in with a good majority, and likely will remain always at the head of the scale of points. At the last meeting the word "symmetry" was discarded and the words "typical carriage" inserted in lieu of it. They have the same value and are meant to take the place of symmetry, but do they?

FIG 3—Defective Comb.

At first we were rather impressed with the change, but after giving the matter careful attention, we became satisfied that it was an unwise move, and we look forward to seeing the word "symmetry" reinstated at the next revision meeting.

Symmetry, as applied to anything, means a perfect joining together and balancing of all parts, making one symmetrical whole, while typical carriage, as I understand the meaning of the words, means any typical pose the specimen may take, regardless of symmetry. This section, when properly applied, is one of the most important in the standard, and when thoroughly understood is one that adds great value to the score card. The argument that some advance that a cut on symmetry gives a section a double cut is an error. Symmetry is a section by itself, just as much so as the comb, back or any other section, and has a valuation of eight of the one hundred points allowed to a perfect bird.

When a judge cuts one point, the cut is one-eighth, not one-hundredth; if two points, the cut is one-fourth, not one-fiftieth; if four points, the cut is one-half, not one-twenty-fifth. Judges should get this point well fixed in their minds. When you pass the section of symmetry without a cut, and then try to make up for it with cuts in the sections that are defective, you are only juggling, and your cuts should be subtracted from ninety-two, instead of one hundred, for you have ignored eight of the points that go to make up the one-hundred. The idea of judges going into a show room and cutting every bird one on symmetry is pure fol-de-rol. The judge who does this sort of work is not competent, and if not competent to judge symmetry he is not competent to judge other sections.

A bird that is long in back, narrow in body, shallow in breast, long in tail, with legs set close together, should be cut two points on symmetry. If good in all sections except tail and that section is carried too high, the cut is one-half. If deficient in breast, with hackle a trifle short where it joins on the back, the cut is one-half. If narrow in body, allowing the legs to stand close together, the cut is one-half to one. If long in legs, with breast carried up too high, giving the specimen a gamy appearance, the cut is one to two, according to degree.

WEIGHT.

Weight in all the American breeds is valued at six points, and to be of standard weight, Plymouth Rocks must weigh as follows: Cock, nine and one-half pounds; hen, seven and one half pounds; cockerel, eight pounds; pullet, six and one-half pounds. This is easy to understand in scoring and I will devote little attention to it here. In discounting short weight, where the specimen falls below the standard requirement, deduct two points for every pound the bird is short, and in the same ratio for fractions of a pound. To illustrate: Suppose you have three birds in your exhibit that are short on weight. One of them, we will say, is one-half pound too light. He must be discounted one point in the score. If another one is three-fourths of a pound below weight, he must be discounted one and one-half points. If the other is one-fourth pound below weight, it must be discounted one-half point.

CONDITION.

This section is valued at six points, and is employed as a protection to these who, by care and attention, have placed their birds in the show room in perfect health and in proper show shape, but we regret to say it is not used by judges as much as it should be. The cuts that are usually made on condition are for the ill health of the specimen and for scaly legs. Should a bird be roupy or out of condition from cold, the cut should be one-half to one and one-half, according to the stage of disease and appearance of the bird. If a specimen is in so unhealthy a state that he is a menace to healthy specimens, he should be passed by as unfit to score. If the legs are scaly, showing carelessness on the part of the owner, the cut should be one-half to two, according to the degree of the defect. If the plumage is broken or dirty, as is often the case where little or no care is given the fowl, the cut should be one-half to one.

HEAD.

Head is valued by the standard at six points, three for shape and three for color. This section, to be perfect, should be of medium size and carried well up; beak, short, stout, regularly curved and yellow in color. Eyes should be large and a clear, bright bay in color; face, bright red. The defects usually found in this section are as follows: Head too long and gamy, with long, nearly straight beak. Such a head should be discounted one point. If the head is injured so that it shows scalp wounds, as is sometimes the case where a chick has been injured early in life, the cut is one-half point.

FIG. 4—Defective Neck or Hackle Feathers.

EYES.

If the eyes are off color, running from a light bay to a pearl or Indian Game color, the cut should be one-half to one and one-half, as in degree, but the standard allows only one-half a point cut for this defect, so the judge can cut no more, no matter how serious the defect may be. Bright bay eyes are one of the chief beauties of a well bred Rock, and pearl eyes should be severely punished whenever met in the show room. If eyes are injured so that one eye is blind, the cut is one-half. If the eye is gone, leaving only the socket, the cut is one.

COMB.

This important section has a valuation of eight points, and, unlike any other section in the bird except symmetry, these eight points are devoted exclusively to shape, so that we have to use an entirely different system of valuation in making discounts. It is well to remember that all sections except the two here named are divided in valuation, part going to shape and part to color. We call attention to this fact to show the inconsistency of some remarks that we hear in the show room. We often hear critics say, in looking over some glaring defect, "If I were judging I should cut that six points, or even ten points." At the first glance one might think that they were justified in these remarks, but in judging by the score card judges soon learn that a limit has been placed on the cuts. The American Poultry Association has laid down the law for them to follow and they cannot use their own judgment without subjecting themselves to just criticism.

There are cases where the best specimens would not win by the score card under a strict application of the standard, but these cases are rare indeed and, taking the business all in all, the judge who follows the standard and scores honestly will make few mistakes in his awards. When a section has four points only in the shape column and the judge cuts two, he cuts away fifty per cent. of the section, and if more than three points are taken away, the bird in that particular section is worthless, for if any part of it is of value, the judge could not discount the section more than seventy-five per cent.

We imagine at times that we can do certain things, and that a defect should be cut so and so. If we were judging by comparison we simply would pass the specimen by and not give it a place, but when we judge by the card and apply only the number of points that we believe go to each and every section, we can place only the valuation on it that the American Poultry Association has assigned to that part of the fowl.

Comb, having a valuation of eight points, and all of these points going to shape, will stand the heaviest cut of any section. Symmetry, although having all points allowed for shape, is scattered, taking in the entire body, and it is seldom that a bird will be defective more that one point in a section, and in a majority of cases less than one-half point per section is discounted in making up the total of the symmetry cut. When breeders learn to study the standard more closely, not alone as it describes color and shape, but the number of points allowed for each section, they will have a far better idea of the value of the score card.

On Chart I. is shown an ideal comb, one that complies with the description given in the standard, which is as follows: "Single, medium, or slightly below medium in size, in proportion to the specimen; set firmly on the head, perfectly straight and upright; free from side sprigs, with five even and well defined serrations—those in front and rear smaller than those in the center; even in texture." If the reader will study the chart he will soon get the correct idea as to perfection, and in order that you may have a good general idea as to defects, we present three defective combs and place our discounts on them so that readers of these lines may form a better idea of how to select and value their stock.

In Fig. 1 we have a comb that is wrong in every way. It starts with a twist, rises up abruptly, and the serrations are uneven and are too wide apart on top. Furthermore, the rear of the comb is serrated, in fact the only good feature about this comb is that there is about the right amount of comb to

make an ideal section, if it were properly proportioned and constructed. The twist in front should be cut one-half. The upright front with defective serrations should be cut one. The spread serrations at top of comb, cut one-half. The extra serrations on rear of comb, cut one and a half. The general shape, aside from the defects mentioned, cut one-half. This makes four points all told, or fifty per cent of the entire section.

Fig. 2 is a comb that in some respects resembles the frosted comb often seen on cock birds at our winter shows. The rear portion is very defective, for, in addition to the extra serrations, we find here a side sprig, which is considered by Plymouth Rock breeders the most serious of all defects, because the one most liable to reproduce itself in the progeny. This comb does not start off well in front, being too shallow, and the serrations begin too far back. All the serrations show blunt tops as though they had been frosted. This comb also runs too far back on the head, and while it fits solidly on the head, it is not rightly proportioned. A comb like this should be discounted one-half in front, one-half for uneven serrations, one and one-half for extra serrations, one point for side sprig, and one point for bad shape generally.

Fig. 3 is a considerably better comb than either Fig. 1 or Fig. 2, regardless of the shape in the rear. Such combs as Fig. 3 are met quite often, both in the show room and in the breeding pen, and the defects are caused by some injury, or from the top part of the comb being so thin and light it lops over. There does not seem to be any muscle at all in the comb of a fowl. It is merely a piece of meat on top of the head, and once it gets defective and bends over, it is almost impossible to cause it again to assume erect form The few exceptions to this rule are when birds go into molt and the comb shrinks, reducing itself to about one-half its normal size. When a bird thus affected is through molting, and has plenty of blood and life in it, the comb may straighten again and be as erect as ever. This we have noticed, especially in females.

One trouble with comb Fig. 3 is the number of serrations. There are five distinct points on the part of the comb that is standing erect, and the portion that lops over shows four more. Still, the general shape of the comb in front is good. If I were discounting comb Fig. 3, and should the rear portion of it be lopped as is shown in the cut, and it was clearly evident that it was caused by injury or accident, I would not cut more than one point; on the other hand, if it were a natural twist, or one produced because the entire comb is too thin, resulting in the lopping of the rear portion, I should discount it two points—this for that one defect alone. The extra serrations on the rear of comb should be discounted still another point, making a three-point cut for this comb.

By a careful study of these defective combs and the valuation we have placed on them, we believe the amateur may judge fairly well as to what per cent. any defective comb in his own yards should be discounted.

WATTLES AND EAR LOBES.

Wattles and ear lobes are our next section, one that is valued in the standard at six points. In color, the wattles and ear lobes should be bright red, and inasmuch as permanent white in the ear lobes is a disqualification, it might be said that the six points refer to shape alone. However, this is not exactly the case, as there may be a trace of light color, not decidedly white, that would be cut as a defect and not constitute a disqualification. Quite often this is the case where the birds are out of condition from molting late, or when they show the first signs of roup or cholera.

In Chart I. is shown an ideal ear lobe and wattle. They are properly proportioned, showing the right size for the general make-up of the bird, and, taken all in all, are the proper adornment for the head of the male of this breed, while in Fig. 1 we have a wattle that is too long, is poorly folded, with an ear lobe that is loose and flabby, giving the bird a sickly, unkempt appearance that is not in keeping with the ideal or type of this variety. A wattle like that shown in Fig. 1 should be discounted one point; ear lobes, one-half point.

FIG. 5—Defective Back Feathers.

In Fig. 2 one wattle only seems to be drawn up. Neither is properly proportioned. The ear lobe is loose, similar to that in Fig. 1. A defective wattle like Fig. 2 should be discounted one and a half points for shape alone, and the ear lobes one-half point. Fig. 3 shows a very good wattle; a trifle too long, perhaps, but the ear lobe is not properly folded. Such an ear lobe, in conjunction with the wattles being a trifle too long, should be discounted one-half point.

NECK.

This section is valued at ten points and is sub-divided four for shape and six for color. In shape it should be of medium length, well arched and tapering nicely, with an abundant hackle flowing well over the shoulders. This section as a rule is good in shape. There are two exceptions, however.

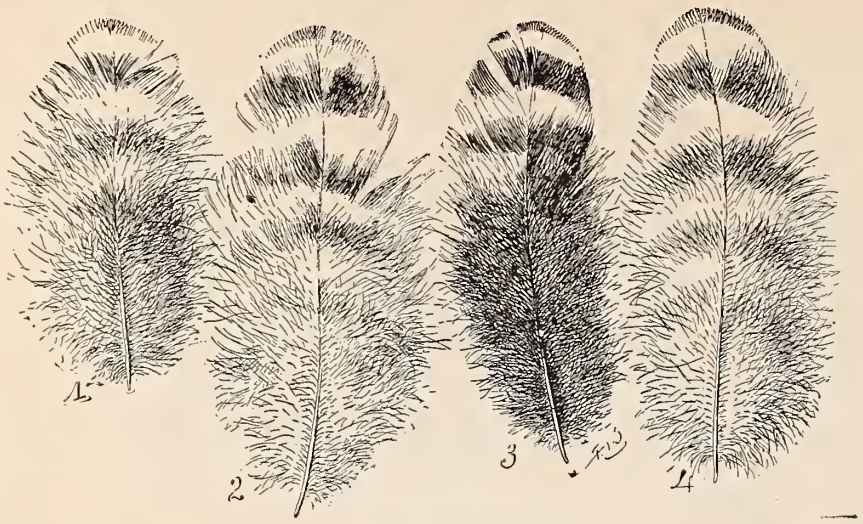


FIG. 6—Defective Breast Feathers.

The defects that are common and the ones that are as a rule discounted by the judges are, neck too straight and too scantily feathered. If the neck is too long or too straight, the cut is one-half to one. If the feathers are too short, making the neck look scanty or not finished, or if the feathers at the junction of neck and back are too short, failing in symmetrical outline between neck and back, the cut is one-half to one.

In color we ask the reader to study carefully Chart I. In this chart Mr. Sewell has portrayed as well as can be with pen and ink two perfect neck feathers. Note that the last bar is black and the white bar gradually widens as it approaches the neck proper. There is no definite number of bars specified and one must judge of the general barring as to whether the feather is complete or not. The plumage on a well marked neck shows the bars of one feather resting upon or covering the bars on another, giving it the appearance of ringlets circling the entire section.

In Fig. 4 are shown some defective neck or hackle feathers, such as are met at nearly every exhibition. Feather one in Fig. 6 is from a finely colored neck; however, on the surface of this feather there is a smutty or clouded effect and the lower barring is not distinct, but runs together, making the under-color smoky in appearance Such a neck should be discounted one point.

Feather two in Fig. 4 is a much better feather underneath, but the outside barring is indistinct, the black extending into the white, presenting what might be called a mussed-up effect. This neck not only shows bronze from the outside, but also a smutty, dingy under-color. A neck like this should be discounted two points. Feather three in Fig. 4 was taken from a bright colored bird on the surface, in fact the specimen, when looked at from the outside, would be considered far above the average, but on close inspection there is to be noted a zigzag barring that appears on one side of the feather only, but does not run across. Such a neck should be discounted one point.

Feather four in Fig. 4 is from the neck of an extra light colored male. It is indistinct in barring, not nearly black enough. The barring is zigzag also, and uneven. A neck made up entirely of feathers like this gives the specimen the appearance of having a neck at least three shades lighter than the body. Such a neck should be discounted two points.

Feather five, Fig. 4, was taken from the same bird as feather four, and has all of its bad points magnified A neck like this looks like a greasy dish rag. There is no true color in it. The entire plumage seems to be dead and gives the bird that washed-out appearance so often met in light-colored males. Such a neck should be discounted three points, or fifty per cent. of all color discount allowed.

BACK.

This section is valued at ten points, five for shape and five for color. In shape it should be broad, medium length and rising with a slight concave sweep at the tail. The saddle feathers should be of medium length and abundant. In the description of the back the standard says, "Saddle feathers of medium length and abundant." We believe the standard-makers should have left out the words "of medium length," as the choicest specimens that we can recall of this variety were birds that had exceptionally long saddle feathers that hung well down over the sides, feathers that were barred to the end. While this is one of the most important sections, so far as shape is concerned, the general description is as good as one can ask, i. e., "broad, with medium length," for the American varieties. We want the Plymouth Rock longer in body than the Wyandotte, but not as long as the Java.

One of the common defects of this variety, in male especially, is a back too straight or too narrow. Should it fail in the concave sweep, and is narrow at the shoulders, so the bird looks lanky and racy and not typical of the breed it represents, the specimen should be severely discounted. A back

FIG. 7—Defective Body or Fluff Feathers.

that is too long or too narrow should be discounted two points, as in degree. A flat back, failing to show the nice concave sweep, should be cut one point. If scantily feathered, giving the specimen the appearance of not being finished, the cut is one. A deformity of any kind in this section, including crooked or roached back, is a disqualification.

In color the barring should be close and narrow, running straight across the feather and positively must extend down to the skin, or throughout the entire length of the feathers. The ground color should be "a bluish gray, barred with nearly parallel lines of dark blue that stops short of a positive black." Feather one, Fig. 5, is a tail covert or saddle feather. This is found at the juncture of the back and tail. It was plucked from a cockerel that was one of the strongest barred males we have found for some time; however, the barring on this bird is entirely too strong, showing a metallic shade even in the under-color. This specimen, in barring alone, we believe to be the best we ever saw. It was barred almost as closely from its comb to the end of its tail, but in each section the purple barring appeared to such extent that it gave the bird a strong metallic shade when viewed in the sunlight. Still, there was not a trace of bronze to be found on its body anywhere. Such a feather should be discounted one point for the metallic black. In feather two, Fig. 5, the under-color is too light. The first four bars on the surface are good; however, there was a slight trace of brown running through them. This bird made a fine appearance in the yard, but on close inspection would be discounted at least one point for color.

Feather three, Fig. 5, shows the zigzag barring so often met and so hard to get rid of. The outside showed a slight tracing of brown. The under-color is too light and the barring is zigzag, for which defects it should be discounted two points.

Feather four, Fig. 5, is one met quite often in dark males. It is not found so much in the show room as in the breeders' yards. Strange as it may seem, these feathers have a way of molting about show time, but on a close inspection of the flock in the yards of the best breeders of the country we find that such feathers do come, perhaps in no great number, but it shows the old Java blood is there still and will come to the surface, or, as the artist would put it, "we have the paint a little too thick on one side." The outside barring on this feather is very good. However, the under-color is black and the barring along over half the feather is too strong and somewhat zigzag. If many such feathers appear on a specimen we would debar it from the show room and reject it from the breeding pen. Where a very few of these feathers appear on the back we would discount the specimen two or three points.

In Chart I. we show a well barred saddle feather. This feather conforms closely to the standard, but Mr. Sewell failed to show us a long side hanger with proper barring. We will ask the reader to consider feather one in Fig. 5, with the correct color of black instead of the color as shown in the feather, with the white and black equally divided, which will illustrate this section correctly.

BREAST.

This section is valued at ten points and, like that of back, is sub-divided five for shape and five for color. In shape it should be broad, deep and well rounded. While this description is brief, it is certainly to the point and is as good as can be used to give a thorough understanding as to what is wanted. A broad, deep, well rounded breast is the ideal for the breed and the chart surely conforms to this ideal. Here we have a bird well balanced, deep through from back to point of breast bone, one that stands upright, with legs spread well apart and body well rounded. Such a breast would pass without a discount. In color it should be of the same shade as described for the back. In Chart I. we furnish the reader three ideal feathers placed in different positions on the breast, showing about the number of bars to be found on these feathers in their respective positions. You will note that the

FIG. 8—Defective Wing Feathers.

last bar on each feather is black and is about one-third or one-half the size of the bar that follows it. This is correct. The outside bar should be crescentic in marking and each feather on the bird's body should end with a black bar. The best colored specimens we find have from five to seven bars in this section.

Fig. 6 shows a plate of defective feathers. Feather one is a trifle too dark, and the last bar is too wide, showing entirely too much black on surface. This bird will be quite smoky to the view, although the feather shown in the chart is clean cut and straight barred. The under-color shows a trace of barring, but is a little smoky and smutty. A breast with feathers like this should be discounted three-fourths of a point. Feather two, Fig. 6, fails in barring and is almost white. A breast of this kind will show splotchy on the surface, and on closer inspection will look even worse. Such a breast should be discounted two points. Feather three, Fig. 6, is almost if not quite as bad as feather two; however, there is a trace of barring on the fluffy portion of this feather, and in the center the barring runs nearly straight across. A breast showing a feather of this kind should be discounted two points. Feather four, Fig. 6, is taken from a point well up on the breast, and from a dark, cockerel-breeding male. This bird shows very good barring, with the exception that the black and white bars are broken at the shaft, not crossing in a straight line, thus giving the feather a zigzag and bronzy appearance. Such a breast should be discounted one and one-half points, one for the smutty color and one-half for the zigzag barring.

FIG. 9—Defective Tail Feathers.

BODY AND FLUFF.

This section is valued at six points, and while not especially important as compared with the breast and back, it is a section that is inspected carefully for defective feathers, both in the male and female. In Chart 1 is shown a feather giving the correct number of bars for this section, taking for our ideal the best colored specimen we were able to find. You will note in this section, as in all others, the last bar is black. In Fig. 7, feather one shows very nearly the same color as that illustrated on the chart. The outer barring is all right, but near the skin there is little under barring, and the last two bars fail

to run entirely across the feather, and do not join at the shaft. Feathers like this should be discounted one point. Feather two, Fig. 7, is too light. The two outside bars are all right, but the under barring is much too wide. The under-color on this fowl will be too light, showing "cottony" underneath. Such a body should be discounted one point.

Feather three, Fig. 7, was plucked from the thigh. This feather was selected from the same bird that produced the well barred saddle feather shown, and you will note the same metallic luster in plumage. The first three bars are good. Then it is barred on only one side of the shaft, and the bars are too black. Such a feather should be discounted two points. Feather four, Fig. 7, fails in barring. There is a slight makeshift of barring on one side of the shaft, but a specimen showing many feathers like this should be debarred from competition and from the breeding yards. Where two or more feathers like this appear in this section, it should be discounted two points for color.

WINGS.

There is no other section in the standard that breeders are so anxious to get correct in color as the wings. In fact, more attention is paid to this section than any other. In Chart I we have tried to show wing feathers that are altogether correct in color, both the long and the short ones. The best proportioned feathers we find have five bars on both primaries and secondaries, and from three to five on the short feathers on the shoulders. The last bar on all these feathers should be black. The barring should be as straight across as possible, and the bars on each feather should join the bars on the other feathers when the wing is spread, giving the specimen a well barred wing.

In Fig. 8 are shown four defective feathers. Feathers one and four are flight feathers, and two and three are secondaries. Feather one is from a wing that looked fairly well at first glance, but close inspection disclosed that the white and black intermixed, and there was not a distinct color, either white or black, as the white shaded into the black and the black into the white. There was a trace of barring that in a poor light showed up fairly well, but when in a good light it was smutty and far from correct. A wing showing feathers like this should be discounted one point.

Feather four has no good color in it. In the first place, it is too white at one end. The barring is indistinct, the white intermixing with the black, the shaft of the feather running out white, giving the feathers a white tip. A wing showing flight feathers like this should be discounted two points.

Feather two is from a very good wing. The primaries in this wing are as good as the average in our best breeding birds; however, it is more or less blurred between the barring, and the white is not quite distinct enough. Such a wing as this should be discounted one-half point.

Feather three is a secondary, and like feather four in primary, has entirely too much white, with a very uneven barring. The white comes to the shaft on one side, and drops out to the surface on the opposite side from one-fourth to one-half inch all along the feather. Feathers showing this style of barring, as also feather three in Fig. 10, should be discounted one and one-half points.

TAIL.

This section is valued at eight points, and, like the wing, is sub-divided, four for shape and four for color. In shape it should be of medium length, fairly well spread and carried upright, forming no apparent angle at the juncture with the back. The sickles should be of medium length, spreading nicely upon the stiff feathers of the tail. In Chart I is shown a tail that conforms to the standard description. It is symmetrical in every outline. From the back of the comb to the end of the sickle feathers there is not a break, one section blending into another. We have here a symmetrical outline that is pleasing to look upon. Observe in Chart I the straight barring on the sickle feathers and the closer barring on the tail coverts. It is hardly probable that we will get as good color as this, but there are specimens that are better in color than the chart shows; in fact, it has got to a point where well barred tails are common, rather than the exception, as was the case ten years ago.

In Fig. 9 we have four defective tail feathers. Feather one was taken from an old cock bird. This bird as a cockerel was very good in this section, though a little light in surface throughout, but when he molted as a cock, all the lower part of his tail feathers were white or badly mingled. The outer barring is not bad; however, it is not straight across as it should be, as shown in chart, but runs zigzag. A tail showing feathers like feather one should be discounted two points.

Feather two, Fig. 9, was taken from the same bird, but is much better. The four outside bars are extra good; still, it is too light down near the skin, and the barring on the under-color is somewhat zigzag and washed out. Then again, the black and white separate at the shaft, failing to go straight across as they should. Such a feather should be discounted one point.

Feather three, Fig. 9, is very good, but the barring is zigzag, not crossing the shaft straight, but running down and then merging the black and white together. Such a tail as this should be discounted one point.

Feather four, Fig. 9, is very much of the same style as feather number three, though not quite so bad. A tail with feathers like feather four makes a good showing, and from one-half to three-fourths is sufficiently heavy to discount it, one-half for the light color and one-fourth for the uneven barring on the feathers.

Barred Plymouth Rock Female.

No matter how good a male bird may be, or how much we may know about his breeding, unless equally good judgment is used in the selection of the females to be mated with him, the probability is we will obtain only a lot of scrubs to show for our season's work. No matter what system of breeding you follow, whether you use the single or double mating, this matter of the careful selection of females to mate with your choicest males is highly important. They must "nick in," as the saying is, both in color and shape. Remember that this is of the greatest importance if you expect to succeed in building up a strain of birds that will reproduce their characteristics season after season. It is necessary to do this in order even to hold your own with a strain already established; in fact, the selection of females to mate to certain male birds is the most important matter connected with the breeding of standard poultry, and unless carefully studied, with accurate records made from year to year, the inexperienced breeder need not hope to produce good birds of this or any other variety, at least not more than one year at a time. He may make a lucky throw one year, but these accidents are few and far between. The haphazard method does not pay.

There is a trite saying among poultrymen that "shape makes the breed and color the variety." This is pure gospel in poultry culture and we might add to it that the females govern size, for no matter how large your male birds may be,

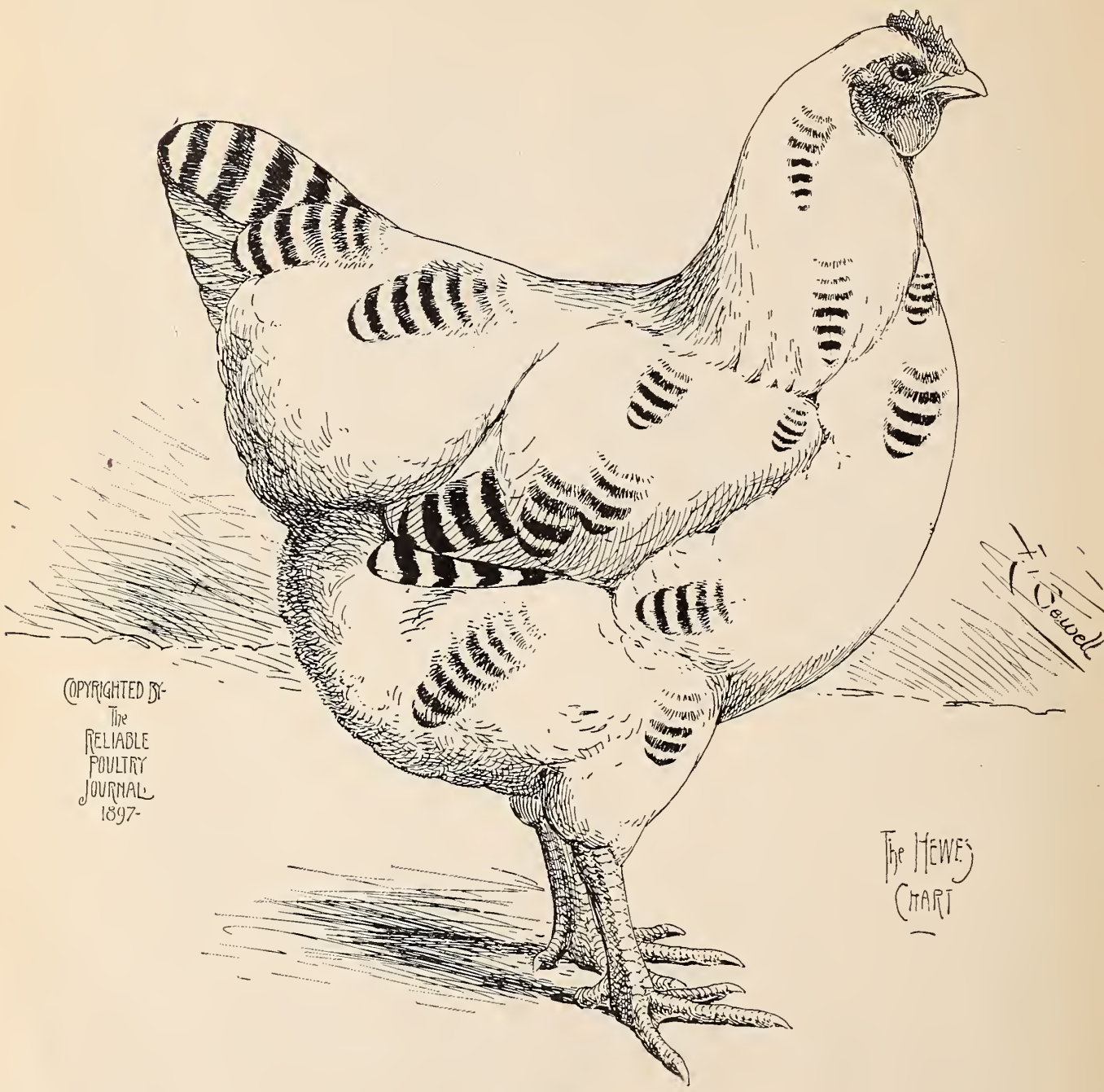


CHART II.

Showing Standard Female Shape and Standard (Revised) Barring in the Different Sections.

unless care is used in obtaining good size in females, your flock will run down in size in spite of any effort you may make in the way of food and care to hold them up. I am endeavoring to emphasize this matter of the selection of females, also the size of females, so that the amateur will realize how important a matter it is to him. My advice is that every time you purchase a breeding male you also purchase at least one good female and insist that the breeder of whom you buy shall send a female that in his judgment will mate properly with the male bird.

CHART II.—SHOWING IDEAL BARRED ROCK FEMALE.

Chart II. represents my idea of correct shape and barring in a Barred Plymouth Rock female. In the case of this chart, as with that of the male, I offer no apology, for it conforms with my best judgment. When the reader owns a flock of birds shaped like this ideal, or barred as it is in the different sections, he will have reached the top, as we now understand this variety. The reader will find in each section two feathers showing barring as it should be on an ideal bird; also the correct number of bars on each feather, with the black and white rightly proportioned or divided. Study each section by itself, then take the chart as your model and see how near you can come to matching these feathers from the best bird in your yards. Note the section in which your best bird is most defective, then plan your mating to overcome it by the proper selection of the male bird.

SYMMETRY.

The section of symmetry was explained in the description of the male Barred Rock, and the defects there discounted, to which attention was called, are found in the female, and should be discounted in the same manner. We do not feel it is necessary to repeat what was said about this section.

CONDITION.

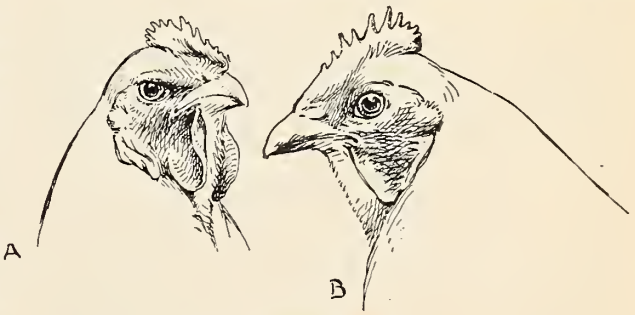
Condition in the case of the female is of more importance than in the male, for unless she is in the best of condition it is useless to expect eggs that will hatch and produce chicks that will be of value. The hen must not only be healthy, but must be kept in moderate flesh, in order to obtain fertile eggs that will hatch strong, vigorous chicks. A thin or overly fat hen may lay, but only a few of her eggs will hatch, and those that do will not produce chicks of proper strength and vigor. On the other hand, where hens are allowed their liberty, being permitted to go when and where they please, and are compelled to hunt for the greater part of their food, such hens will lay more eggs than hens that have grown fat in confinement, and the eggs will be far more fertile and produce better and stronger chicks. Let it be remembered that condition in the show room and condition in the breeding pen or yard are entirely different matters. It is well for the amateur to learn that birds fitted for the show room are not, as a rule, in proper condition for the breeding yards, and almost as much judgment is required to reduce flesh or weight as to produce it.

In the show room judges cut for defects and condition as outlined by us in the description of this section of the male bird. In the breeding pen nature cuts for condition in more ways than one, and the best and safest method we ever have found is to give the breeding hen every bit of room possible and let her condition herself by exercise. This she will do if you will compel her to work for her living. Feed whole grain or cracked grain only, and feed it in litter. If you use soft food make it as bulky as you can with bran and grain food. The more a hen works the happier she will be, and the better her condition for producing fertile eggs that will hatch large, strong, healthy chicks.

HEAD.

This section is highly important in Barred Plymouth Rocks, as well as in nearly every other variety, for a poor head on an otherwise good specimen spoils it for the fancier, while a poor head on a Barred Rock female is almost certain to be reproduced in the male offspring. For example, take a long, gamy head, or snaky head, as some call it, a head that is shallow over the eyes, with a long, ungainly beak. As a rule this bird is weak in constitution and worse than useless in the breeding pen. On the other hand, a coarse, unshapely head will produce big-boned, big-jointed, ill-shaped males that are an eyesore to the fancier. In the chart of female is shown a head that is rightly proportioned, having a sprightly, wide-awake appearance; in fact, this is the style of head we like to see on our best specimens.

Note Fig. B. Here we have represented the head of a Barred Rock female that is just a little off all around. This head is a trifle too long, a trifle too shallow, the beak is too straight, the head does not fit well on the neck, and the specimen is deficient in wattles. A head like this should be discounted one point.



Defective Heads.

In figure A is represented a head that is somewhat coarse, one that when viewed from the top looks more like the head of a Brahma. The wattles are uneven and the ear lobes are wrinkled and unsightly. A head like this should be discounted one point also.

Before leaving the head section, permit me to call special attention to the color of eyes, which is an important part of this section. The standard calls for eyes bright bay in color. Nothing adds more to the beauty of this variety than bright, clear, snappy bay eyes. Should they run light in color, being more of an amber than a bay, the cut is one-half; if gray or pearl colored, the cut should be one. When the eyes are different in color, as is frequently the case, one being bay and the other gray, for example, the discount is one point.

COMB.

This section was explained in the description of the male, hence we will refer only to the illustrations, and discount them. On Chart II. we have an ideal comb, one that fits squarely on the head, is rightly proportioned in every way, and a comb throughout that our best breeders are aiming to produce. There should be five serrations or points, and a larger or smaller number is considered defective. The standard itself directs that we shall cut one-half point for every serration in excess of five, and one point for every side sprig.

In judging or scoring a comb like Fig. B, we would have to cut it two and one-half points for extra serrations. It is

FIG. 10—Group of Defective Neck Feathers, Barred Plymouth Rock Female.

also poorly proportioned, is too long, does not fit well on the head, and is defective at the rear; hence in addition to the discount for extra serrations, this comb should be cut one and one-half points for bad shape, making a four point cut all told.

Figure A has all the bad features of Fig. B and several others besides. It has a double spike near the middle, and the entire comb is inclined to lop over in front. So poor a comb as this should be discounted five points, and specimens with a comb like this should not be used in a breeding pen, regardless.

WATTLES AND EAR LOBES.

In Chart II we give the reader the writer's idea of a perfect bird, in this section as in all others, and should your best specimens possess as good wattles and lobes as those shown in Charts I and II, you need not have any fear of them being discounted in the show room. On the other hand, in Fig. B the wattles are drawn or pinched, are not well proportioned, and should be cut one point. In Fig. A we have a double defect, for the wattles here are uneven, while the earlobes are large and wrinkled. These defects should be discounted one and one-half points.

NECK.

This section has the same valuation in the female as in the male. The ten points allowed for it are divided, giving six for color and four for shape. The cuts for shape, as described in discounting the same section in the male, fall equally heavy on the female and a repetition is not necessary. In Chart II are shown two feathers that conform closely to the standard requirements and are just such feathers as are found on our best specimens. Taking these feathers as our ideal we refer the reader to the defective feathers illustrated in group Fig. 10.

We first call attention to feather No. 1. Here we have a feather with three fairly good bars. The last bar (next to the skin) is not as distinct as it should be. The black mingles with the white between the first and second bars, and the fourth bar from the tip is decidedly faulty. These defects will give the neck of the specimen a smoky or smutty look. A neck furnished with feathers like this should be discounted one and one-half points.

Feather No. 2 is fairly good, except that the last bar is almost white, while on all of the lower half of the feather the barring runs together, mingling the black and white, and does not run straight across the feather as it should. A neck showing feathers like this should be discounted one point.

Feather No. 3 is entirely too light and is also irregularly barred. The inner barring is too wide and indistinct, the black bars not being wide enough or distinct enough. A neck like this runs gray or ashy in color and should be discounted one point.

Feather No. 4 is decidedly defective. It is not often that we meet a specimen having feathers like this, but occasionally we find one or two feathers of this kind in the neck of an otherwise good specimen, showing that the Java is not entirely eliminated. If two or more of these feathers are found in the same section, the specimen should be discounted two points.

Feather No. 5 is quite often met in this variety. The two outer bars are about correct. The third bar appears all right, running straight across the feather, but on one side of the shaft the barring fails and shows "smutty," not completing the clear cut bar on the other side. A neck containing feathers like this should be discounted two points.

BACK.

The back of the female is as important as that of the male, both as to color and shape. What was said of the back shape of the male fits the female equally well. A long, slim, narrow back is worthless in the breeding yards and unfits the specimen for exhibition purposes. It is unwise to use these narrow bodied specimens even though they are remarkably good in color. In Chart II is shown an ideal back for a Barred Plymouth Rock female, a back that we believe a majority of fanciers will fully endorse. The back here shown is broad, of the proper length and slightly cushioned, but with no break

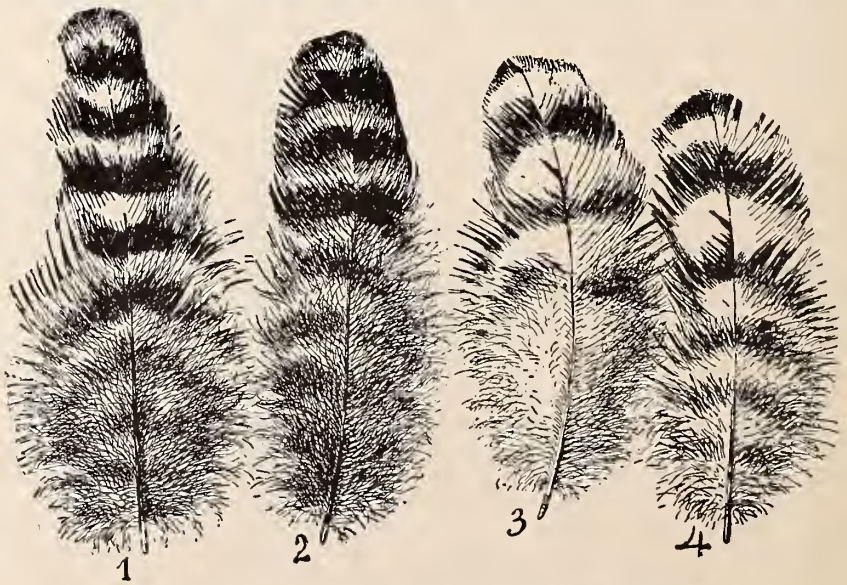


FIG. 11—Group of Defective Back Feathers, Barred Plymouth Rock Female.

FIG. 12—Group of Defective Breast Feathers, Barred Plymouth Rock Female.

in the concave sweep from the rear of the comb to the end of the tail. In color the feathers of the back of the female should be evenly and regularly barred, the last bar on each feather to be black and the long feathers in the cushion to have from seven to nine bars. The feathers in this section shown in Chart II have about the proper proportion of black and white in their respective positions on the back.

Group Fig. 11 presents four defective feathers plucked from the back section of female Barred Rocks. Feather No. 1 is from a very dark cockerel-breeding female. The barring is straight across, but it will be noticed that at the tip end of the feather it is smutty, the result being that the surface color on a specimen furnished with feathers like this is smoky in appearance. The dark bars in this feather are entirely too black and the feather itself showed the metallic sheen which is objected to by all well posted Barred Rock fanciers.

Feather No. 2 is taken from the same bird as feather No. 1 and in it the defects of feather No. 1 are magnified. It shows the smoky, smutty color all the way through. The under-color is smoky or slate colored, the white and black bars running together, and, although the barring is straight, a bird with feathers like Nos. 1 and 2 should be discounted one and one-half points in back section.

Feather No 3 is from the back of a light colored hen bred from a line of pullet matings. As a pullet she was fine, but when she molted as a hen the white barring came entirely too wide, the under-color being almost pure white. A back furnished with feathers like this should be discounted one and one-half points.

Feather No. 4 has some peculiar points about it. The under barring is extra good and the last or outer bar is all right, but there is a space of nearly an inch between the second and third bars, and the second and third bars are too wide. This feather was plucked from the back of a female that had the washed out appearance that is often met in this variety. A back defective in this respect should be discounted at least one point.

BREAST.

This section is valued at ten points. The standard description is the same as for the male. The breast should be deep and well rounded. In Chart II is shown an ideal outline that suits us exactly. So far as the writer is concerned, Mr. Sewell could not have given us anything better. On the breast in this chart are pictured three feathers, showing the proper number of bars in their respective positions. Group Fig. 12 presents four defective feathers. Feather No. 1 is all right as to the outer barring, but is too light in the under barring. The barring of this feather does not extend down to the skin, and should be discounted one point. Feather No. 2 is fairly satisfactory, with two exceptions. The outer bar is white, and will give the surface of the bird a washed-out appearance when viewed from a distance, and the second and third black bars are irregular and too light. These defects should be discounted one point for the section. Feather No. 3 is too dark in the black bars, especially in the under barring. A bird with feathers like this should be discounted one and one-half points in the breast section. Feather No. 4 was plucked from a point well up near the throat and is too black at the outer end, though good otherwise. It shows a metallic barring and should be discounted one point.

BODY AND FLUFF.

The body and fluff, so called, of the Barred Rock female are not so important in color as some of the other sections, but are of enough importance so that birds of the best color in this section are extra valuable. Fluff that is barred well down to the skin is sought for by fanciers, for this is about the last section to show deep barring, hence marks the degree of progress made with a strain. The standard valuation is three for shape and three for color. The shape of body should be of medium length, broad, deep, full and compact. The keel bone should be of medium length, straight, and extending well forward. Fluff should be moderately full. Our best laying strains of Barred Plymouth Rocks are large in body,

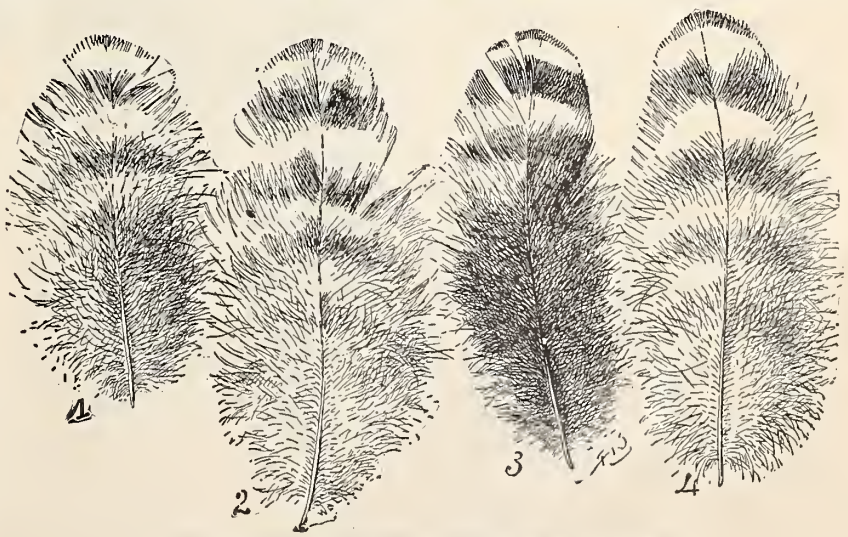


FIG. 13—Defective Fluff Feathers, Barred Plymouth Rock Female.

FIG. 14—Group of Defective Wing (Flight) Feathers, Barred Plymouth Rock Female.

especially in the posterior portion. The larger the bird, within reasonable limits, the greater the egg production; at least, this is true so far as the writer's experience is concerned. A body that is narrow and deficient at the rear has not proved a valuable egg producer in our hands. When a body is deficient in this respect the discount is one point. If the body is not wide enough, showing narrow between the thighs, the discount is one-half to one. When the keel bone is crooked, but with only a slight crook at the forward end, the cut is one-half. If badly crooked, so as to show on the surface, the cut is one to two points, as in degree.

In Chart II. is shown the proper color for the fluff feathers, with about the proper number of bars for this section. In this section the barring is not expected to be so clear and distinct as in other sections of the body, still there should be a clear and fairly even tracing of black, this light but straight barring to show entirely across the feather and extend well down to the skin.

In group Fig. 13, feather No. 1 is too dark in under-color, and the barring is uneven on the lower half of the feather, and not quite distinct enough toward the outer end. Fluff made up of feathers like this should be discounted one point.

Feather No. 2 is too light next to the skin, and the white barring between the three black bars is too wide, and extends somewhat unevenly across the feather. Fluff made up of feathers like this should be discounted one point.

Feather No. 3 is entirely too dark underneath; the three outside bars, however, are fairly good. The under-color is defective, and when many feathers of this kind appear in the fluff, the section should be discounted one to two points, as in degree.

Feather No. 4 is good, especially in the middle bars, but like feather No. 2, the white barring here is too wide. The under-color of a bird like this will run too light and the section of body and fluff should be discounted one point for this defect.

WINGS.

This section is valued at eight points, sub-divided four for shape and four for color. In shape the wing should be of medium size and well folded. In color it should be even and regular, the last bar on each feather being black. In Chart II. is presented an ideal outline both as to shape and color. On this specimen is shown the right size of

FIG. 15—Group of Defective Tail Feathers, Barred Plymouth Rock Female.

wing, perfect in proportion, and the color represented is that required by the standard. The wing is a highly important section and every expert fancier in the country is trying to secure regular and distinct barring extending entirely across not only the secondary, but also the primary or flight feathers.

Group Fig. 14 shows a reproduction of five defective wing feathers. Feather No. 1 is too dark and the last bar is white. The lower end of this feather is far too light and fails in barring. A wing furnished with feathers like this should be discounted one and one-half points. On feather No. 2 the outer barring is smutty, the black and white bars running together, neither being distinct. A wing like this should be discounted one and one-half points. Feather No. 3 is a little better. The wing from which this feather was taken was really good in outside appearance, the bars of one feather falling evenly on the bars of the next feather underneath, producing a wing that would photograph to advantage, but there is a mingling of the color and an irregularity that entitles this wing to be discounted one point. Feather No. 4 in this group is very defective. It was plucked from a dark female and fails in barring because of the absence of white bars, and what white there is, is mixed with the black. A wing containing feathers like this should be discounted two points. Feather No. 5 is also very defective, in fact, there is no good color in it, the entire feather being smutty and uneven, with too much black, and what white and black there are, are not properly divided. A wing furnished like this should be discounted two points, at least.

TAIL.

The tail is valued at eight points, four for shape and four for color. In shape it should be of medium length, fairly well spread, and carried moderately high, without forming an angle with the back. There should be a gentle concave sweep from the middle of the back to the highest point of the tail. In Chart II. is shown an ideal tail, one that conforms closely to the standard, and one that we believe a majority of fanciers will heartily endorse. Chart II. gives a good general idea of what is required by the standard as to color. The barring should run straight across the feathers, the last bar on each feather being black. Should the tail be too long or too short the discount is one point. If not full, some of the feathers being missing, the discount is one-half to one. A tail that is pinched at the rear, coming together in a spike, should suffer a discount of one point. A tail that droops, or is not carried moderately upright, should be discounted one-half to one point. A wry tail, that is, a tail that turns to either side, out of a straight line with the body, looked at from in front, disqualifies the specimen, and a bird thus deformed should not be used in the breeding yards, regardless of its merit in other sections.

In group Fig. 15 are presented several defective tail feathers. Feather No. 1 was plucked from what would be termed a mossy colored Barred Rock female. On this feather the bars on either side of the shaft have about the right proportion of black and white, and the bars run well down to the skin, but they do not extend entirely across the feather, hence this feather is smutty at the edges, giving the white bars a washed-out appearance along the entire length of the feather. A tail made up of feathers like this should be discounted two and one-half points, and a bird having a tail like this should never be used in the breeding yards.

Feather No. 2 shows very good barring, except at the lower end of the feather, where the barring runs zigzag, not meeting properly at the shaft of the feather. A tail with feathers like this should be discounted one point.

Feather No. 3 is good in under-color, but has a smutty, mixed appearance along the outer half, and is a trifle too dark in black barring, calling for a discount of one point.

Feather No. 4 has enough of black and white, if it were properly divided, but the black and white run together, producing a defective feather. The two outer bars are too broad and do not run straight across the feather. A tail with feathers like this should be discounted one and one-half points.

Although the tail is not the only important color section, a bad tail looms up in the show room like a shipwrecked mariner on the seashore.

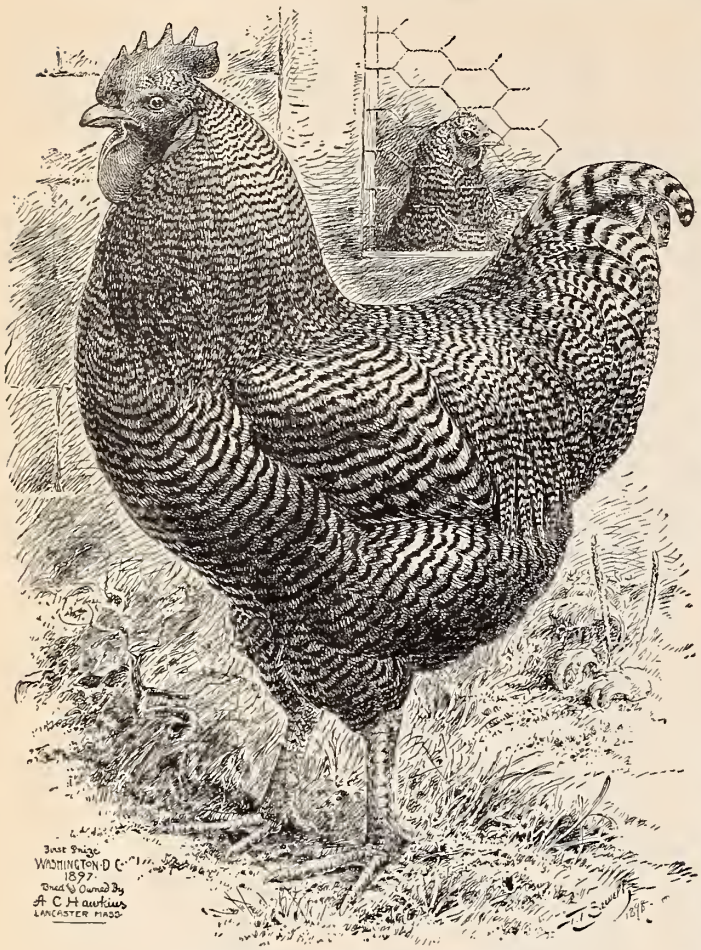
HOW TO BREED BARRED PLYMOUTH ROCKS

To Standard Requirements, as Told by Well Known and Successful Breeders—The Number of Single Mating Advocates Has Increased, but the Majority of the Oldest and Most Successful Breeders Still Practice the Double Mating Plan and Win Most of the Prizes at the Large Shows—The Extremes not so Great as Formerly.

BY A. C. HAWKINS.

NO problem has been more difficult to solve by the American fanciers than that of breeding high-class exhibition Barred Plymouth Rocks. The material that was used in producing this breed was such that the different sexes have tended to follow in line from the first. The Dominique male was mated with the Black Java female, and the product of the union was the original Barred Plymouth Rock. The pullets came dark in color, many of them black like the dam, while the males were light in color like the sire. The tendency is the same to-day in many flocks where the owners have tried to breed standard birds of both sexes from the same mating.

The leading breeders of this variety who have been most successful in producing high-scoring specimens have adopted the double mating system, that of making a special mating to produce exhibition males, and another or different line to produce show females. It is of this method of special matings that I shall treat particularly, as I believe the most perfect specimens can be produced in this way. If the judges in different sections of the country did not differ so much in their



Prize-Winning Barred Plymouth Rock Cockerel.
Sketched from life by Mr. Sewell.

ideal Barred Plymouth Rock, it would be much easier to understand what I mean by an exhibition specimen. I shall describe what I believe to be the ideal Barred Plymouth Rock.

Many of the judges have become so thoroughly carried away with the under barring that they pay little attention to the beauty of the surface color. They begin to score from the skin, and cut more severely for lack of under-color than for an inferior surface. The beauty of a fowl is what we see, and while I am a believer in distinct, even barring under the surface, I do not want the bars so strong and heavy underneath that they destroy the beautiful blue in the surface; and it is a fact that most of the specimens that are very strong in under-color have a muddy black bar on the surface. It is also a fact that the very finest surface colored birds have not the strongest under-color. The two qualities do not breed together, naturally; or, in other words, those males that are most attractive in the breeding yard and exhibition pen may not have the same strength in the under-barring as other specimens that are less attractive.

Now, breeders, which will you have? What I want, and what any real fancier wants, is perfection in surface color and all the under-barring that nature will supply with it, and not what some judges I know require; namely, perfection in under-barring and as good surface as we can get with it.

LINE FOR MALE BREEDING.

To produce fine males, select the very best exhibition male to head the pen. He must be a bird of standard weight, or a little over, with broad, full breast; low, evenly serrated comb; solid red lobes; bay eyes; broad, well curved back; nicely curved tail, carried rather low; and strong, rich yellow legs, set well apart. In color he should be a rich dark blue, even all over, and as closely barred as possible to retain distinctness, with wings and tail distinctly barred throughout. Get all the under-color possible with such a surface, but do not let the surface suffer for the sake of heavy under-color.

Mate with this male eight or ten females of the same line of blood; or, in other words, females whose sire and grandsire were high scoring exhibition males of the type and color I have described. Select females of standard size, with small, evenly serrated combs, bay eyes, blocky shape, broad backs, low, well barred tails, and strong, yellow legs. In color these females should be several shades darker than exhibition color, the bars to be narrow, distinct, and close together in all sections, with the under-color strong and distinct to the skin. With these strong colored females you can get all the under-color in the male product that it is possible to have with a brilliant, high colored surface.

From such a mating as I have described, if bred in line, I can produce 95 per cent. first-class breeding males, with 25 per cent. of sufficient merit for exhibition at the best shows.

LINE FOR FEMALE BREEDING.

In mating to produce high-class exhibition pullets select females of the best exhibition color, evenly and distinctly barred to the skin. Be particular that the neck is evenly and closely barred, and not lighter in color than the back and body. Have the main tail feathers and tail coverts well barred across the feather. Females are liable to fail in these sections unless care is exercised in the selection of the breeders. Have them standard weight or a little over, with broad, full breasts, broad backs, gently inclining to the tail, which should not be carried too high. I prefer a slight cushion, which gives the female a round, blocky appearance. The comb should be small and evenly serrated, eyes bay, and legs a rich yellow. Such a bird should be fit to show in any company. If these females have been bred in line for several generations the offspring will be more even in form and color.

With these females place a male of medium light color, and of even shade from head to tail. He should be of standard weight, have broad, deep full breast; body not too short; back well curved to tail, which should be carried rather low. This male should have been bred in line from high-class exhibition females for several generations, so that his blood may have the same character as that of the females with which he is mated.

From such a mating can be produced 95 per cent. of first-class breeding females and 20 to 30 per cent. of high scoring show specimens. The males from this mating will be very nearly the color of the sire, and are useful as breeding birds in mating for exhibition females. Save only those that are even in color for breeding purposes.

CARE OF THE BREEDING PEN.

While it is necessary to have the best blood and quality in the breeding pen to secure good results, there are many other conditions that are equally as important in the production of the winning show bird.

The breeding fowls should have a large grass range during the breeding season, so that they may have perfect health and vigor, and that the eggs laid by them will contain strong germs produced from nature's food. The exercise, insects and green food which nature supplies have much to do with

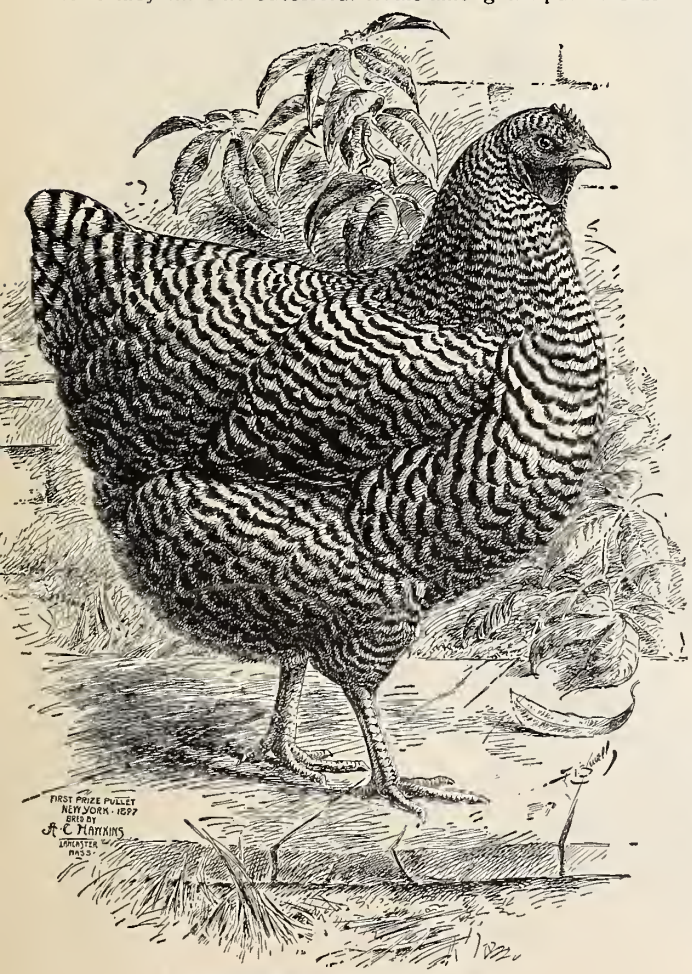
the vigor and development of the coming chicks. Give them nature from the beginning until they are ready for the show room and breeding pen. Hatch and raise them with hens, and give the chicks the opportunity to roam for insects as soon as they have the strength and desire to do so. Give them an abundance of fresh air and room in their roosting quarters. Deprive them of nothing that will add to their thrift and comfort, and when the birds get into strong competition in the show room you will be well paid for your extra care. They will have the size, the color, the form, the style and vigor, all of which should be combined in the winning show bird.

For over twenty-five years I have bred the Barred Plymouth Rock, and have yet to find a fowl with more desirable qualities. Their great popularity has been earned by their real practical merit. Their beautiful form and color will always make them the ideal of the true fancier.

UNEXCELLED PRACTICAL AND FANCY FOWL.

BY E. B. THOMPSON.

THE Barred Plymouth Rock has been termed America's idol. There is no other variety the product of American skill and breeding, that we can put on the market of the world with so much pride, and none other is received from our shores by foreign fanciers with so much favor. They need no booming. They stand acknowledged without an equal as the best general-purpose fowl bred. They thrive anywhere, are rapid growers, and make plump, juicy broilers at eight to twelve weeks old. As a market fowl they have no successful rivals among the pure breeds.



Prize-Winning Barred Plymouth Rock Pullet.
Sketched from life by Mr. Sewell.

They are a great favorite with farmers and market poultrymen, who breed this variety more extensively than all other pure breeds combined. As a fancier's fowl the Plymouth Rock has reached a popularity in this country never before known. Utility and actual worth are the basis of this popularity, and make the Barred Plymouth Rock the bird of destiny—a breed come to stay.

There are many valuable breeds of poultry among our standard varieties. Some excel in beauty of plumage and graceful forms; others in massive size and majestic carriage; while still other breeds court favor by their records as egg-producers. Nearly all breeds combine some of the good qualities in some degree. Bantams are handsome and good layers of eggs proportionate to the size of the breed. The smaller a Bantam can be bred the better. They have hosts of admirers, and as pets and a breed upon which to exercise a true fancier's skill, they are valuable.

The ornamental breeds are small in size, and fanciers of such do not find their ideal fowls in a large variety—a Cochin, Langshan or Brahma—while fanciers of these massive birds cannot see their ideal in a small fowl, be it ever so gorgeous in feathers and as graceful in movement as a billowy cloud. We are speaking of fanciers in general. There doubtless are some who really love several breeds, both great and small, handsome and plain, but the majority find delight in some particular variety, although they may breed several varieties. For a person who wants a business fowl, one that never deserts its post nor shirks a duty, I believe the Barred Plymouth Rock fills the bill nearer than any other breed. They are always ready for business, rain or shine. They are medium in size, and if decently fed are always in good meaty condition to kill after eight weeks old. Their early maturity adapts them especially for broiler use.

The Plymouth Rocks are excellent "all the year around" layers, and will lay as many eggs as any breed that incubates and rears its young. They are the farmer's favorite. In the smaller breeds we may get better layers, but lose size. The larger breeds give us no more if as many eggs as as the Plymouth Rocks, are later maturing and lack that sprightliness and elasticity of movement so admired in a medium sized fowl.

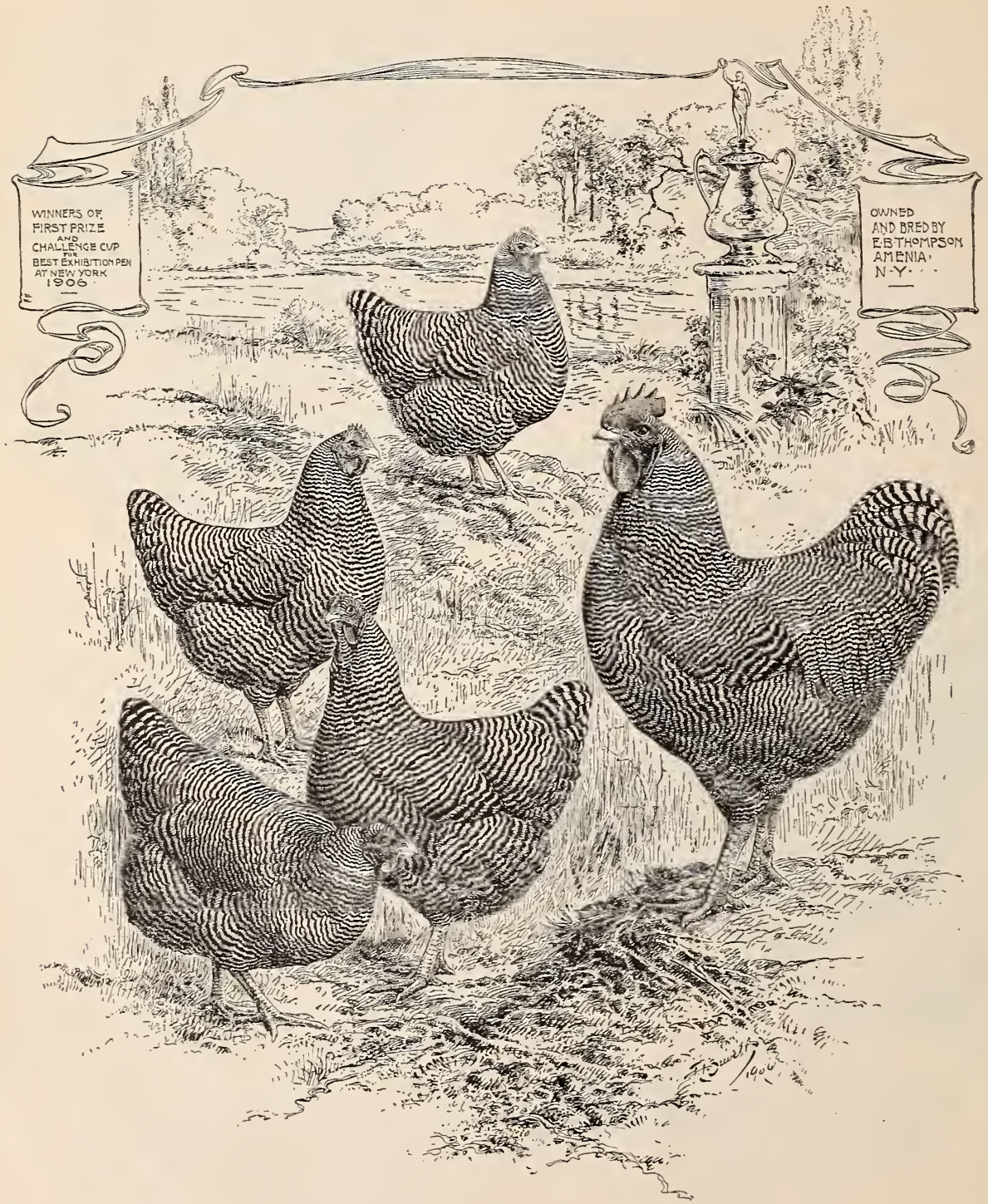
The Barred Plymouth Rock is nearly always the largest class at our American shows, and strictly choice specimens command a higher price than any other American breed, which proves their sterling merits. New breeds come and go, but the good qualities of the Barred Plymouth Rock become more and more indelible. As a practical fowl, suited to the

wants and conditions of those who desire eggs, meat and feathers combined in one breed, they acknowledge no competition.

I have bred them over twenty-two years, and the experience acquired during that period is of invaluable worth to me as a breeder, and might be called business capital. That the best specimens can be produced by the double mating plan, or a separate mating for each sex, is conceded by the majority of breeders. I will describe these matings as they are made at my farm.

COCKEREL MATING.

To mate a pen for cockerels, select a male of medium dark exhibition color, of bluish shade (even from head to tail), and barred distinctly to the skin in all sections, and as straight across the feather as possible. He should be of standard weight or over, of sturdy build, broad in back, full breasted, and not too high on legs. Wings and tail must be well barred, and tail short: comb small, straight, and evenly serrated; deep bay eyes, and rich yellow legs, set well apart.



The hens and pullets to mate with this male must be large in size, with broad backs, full, round breasts, and the barring of plumage close, narrow, clear cut, and barred to the skin throughout. They must be in color medium dark to dark, eyes bay, and combs small and straight.

The male heading this pen should be a high-class show bird, and his ancestry also of the same quality, the sire and grandsire being exhibition specimens. The hens and pullets should come from exhibition sires; in short, it is necessary that both sides of the mating be strictly cockerel bred for generations back, and from the very best ancestry. From such a mating a breeder can expect high-class exhibition cockerels; the pullets will come about the color of their dams, and be valuable for the next year's breeding.

I believe strongly in ancestral backing, and that males should be used in mating that are bred from sires or dams having the qualities desired in the progeny. In the breeding of horses, cattle, and dogs, pedigree plays a leading part. No horseman would entertain for a moment the thought of paying a large fee for the service of a stock horse, unless such animal came from ancestors possessing pronounced quality. A heifer or bull of a family of great butter or milk producers commands a high price and ready sale on account of the reasonable certainty that these qualities will be perpetuated in the offspring. In breeding all the higher classes of animals great importance is placed on ancestral blood, and animals either registered in the respective records of the breed or entitled to registration at once assume a just superiority over individual animals having no distinct or traceable family lineage. So with Barred Plymouth Rocks, the individual quality must be right and the pedigree undisputed.

The object sought in mating this variety is to get both cockerels and pullets that conform to the standard of perfection in form and color, and to bring out the bluish tinge of the plumage in a very visible degree. This blue color adds greatly to the beauty of the bird, as do also the "ringlets" which appear in specimens whose feathers are evenly barred and rightly placed.

PULLET MATING.

To produce the finest pullets, use the very best exhibition colored females, clean and bright in color and blue, showing the zebra striping or "ringlets" as much as possible. Discard all those that are splashy or broken in surface color. The barring must be regular and deep throughout and clear in wings and tails. The legs must be deep yellow; eyes red or bay. Let the size be standard and their bodies well rounded, with full breasts and broad backs.

Select a male of eight or nine pounds weight, of sturdy build, full, well rounded breast, broad back, strong legs (deep yellow in color), yellow beak and bay or red eyes. The plumage must be several shades lighter than for exhibition, clean and bright, entirely free from any shade of brown or smut, and even from end to end. Let the under-barring be as good as it may with these necessary qualities. Such a pullet mating as I have described will please the breeder in results, and certainly produce elegant exhibition pullets.

It is necessary that the male heading this pen be of the best exhibition blood. Never breed from a cockerel, expecting finely colored pullets, unless you know that his dam was an exhibition bird. It is important, too, that the pullets be not only exhibition color, but be bred from superior, prize-winning dams. Chance birds are of but little value to use in the breeding yard, because they will not transmit their good points to their progeny.

Some breeders advocate single mating, or one pen only, to get both cockerels and pullets. In this mating a male is used a little lighter than standard color, and females about exhibition color. The chicks from such a mating will come quite even and uniform as a flock, with a small percentage of culls. Some will show much quality, and the majority average good. By persisting in this method and selecting breeders each year whose sires and dams were of the right color, splendid chicks can be bred, and some good exhibition birds, but the finest exhibition birds produced during the past ten years have been the result of double matings, or a separate mating for each sex.

The utmost skill and care ought always be used in making up the season's breeding pens, for a mistake at this period is fatal to success. It cannot be corrected, and may change a hoped-for profit to a decided loss.

SUCCESSFUL BREEDING OF BARRED ROCKS.

BY C. H. LATHAM.

TO obtain standard color seems to be giving us more trouble than anything else in connection with the breeding of this variety of poultry. There are so many different interpretations as to just what is the true shade of color that it has called out long and varied discussions in the poultry press in regard to the method to pursue to obtain the correct shade, and also how to obtain males and females of the same shade of color. Our standard calls for both sexes to be alike in color, while nature designed that the sexes were to show two different shades of color, and she is all the time asserting her rights.

Any breeder of live stock of whatever kind, or a breeder (if I may be permitted the use of the term) of choice varieties of flowers, fruit or vegetables, knows that there are certain qualities in nature that can be shaped and molded to attain certain results and that there are others that cannot be changed because they are fixed laws of nature.

It is the opinion of the writer, after nearly fifteen years of careful work and study in breeding Barred Rocks, that it is one of those fixed laws that when a male is mated with a female of the same shade of color, the progeny will show males of a lighter shade of color than the sire and females of a darker shade of color than the dam. The standard reads, "Color of plumage—Body color bluish gray, barred with narrow, parallel lines of a dark blue that stops short of a positive black." To illustrate—take a quantity of black paint and add a small amount of white, mix thoroughly and "a blue-black" is the result. Reverse the process and the result

will be "bluish-gray." These are the two true colors for an ideal colored Barred Plymouth Rock, and they are seldom if ever seen in their purity in all sections of one bird.

ABOUT DOUBLE MATING.

It is an established fact that a larger per cent. of the winning birds at our largest shows are bred by the double mating system, and it would be safe to say that the winners at New York, Boston, Philadelphia and Chicago are nearly all birds bred by the double mating method.

Writer claims that in order to breed birds to standard requirements for shape alone, the double mating system must be used. Mate a pair of birds, each of standard shape, and their progeny will be males longer in body, back and shanks than their sire, and females shorter in body, back and shanks than their dam. The standard describes the ideal bird. We do not expect to breed them that will score 100 points, but

VULCAN — First Prize Cock at Boston Show, 1902; bred and owned by C. H. Latham.

there is a zest and fascination in trying to make them finer each year than they were the year before and in bringing them as near perfection as possible. The breeder who can produce winners this year, next year and the year following has become an artist in his profession. There is an army of would-be artists among the breeders of Barred Rocks, but a great many of them do not like the hard work that goes with success and they complain because the task is so difficult. "There is no royal road to success." The fact that a thing is difficult to accomplish makes us desire it, and if high scoring birds could be bred so easily that we all could get them, the interest in breeding them would die soon.

It has been remarked by some that the Barred Rocks of to-day are no better than those of fifteen or twenty years ago. The breeders who say this show that their capacity for progress is limited. Compare the best birds of the earlier period with the best birds of to-day and note the difference. In those days if all the feathers of the bird were barred it made little difference how the feathers were placed on the bird. The fact that they were barred and a limited number of bars to the feather at that, was a big consideration then. Compared to the bird of to-day, they were a bundle of barred feathers. Now a bird to be first class must be a barred bird, the bars on the feather being of such formation and the feathers lying in such a position that the bars will continue from feather to feather, giving the "ringlet" or "zebra striping" effect on the rounded portions of the bird. Many of the birds of the old days did not have the form to give this effect, as it will not show on a poorly shaped bird. It is the elegance of form, combined with the richness of color and perfectness of barring, that gives us the beautiful, high-scoring birds of to-day.

Another improvement has been the better molting quality of the plumage. Now, instead of birds "going to pieces" in their molt, and coming out mottled, smoky or smutty, with under-color faded nearly white, they now hold both the surface and under-color better and are strong, clean barred birds at two, three and four years of age. It is the writer's opinion that in the future we shall make the two contrasting colors of the plumage stronger than they are to-day, not by making the dark bar blacker or the light bar white, but by making the color cleaner and more intense as each bar meets its contrasting bar and doing away with the blending and dove-tailing of the two colors which we see in so many birds to-day. We must give our closest attention to the little things that go to make a harmonious whole.

FOR THE BEGINNER.

To begin right, stock that is pure bred must be obtained. It need not be of the highest quality and price, for the beginner who knows little about breeding would undoubtedly run down the merits of the birds in a year or two. It would be wiser to get first-class breeding stock at a fair price from some reliable breeder, than to buy high priced exhibition birds and expect to breed as good without the knowledge to do so. We must grow up in the art of breeding. No one can get there at a jump, for even if money will buy the best birds in the country, it will not buy the knowledge to breed such birds. Three or four seasons of careful breeding of a flock of birds of good blood and good breeding qualities, combined with careful study and keen observation of details, is worth more to the amateur than a present of the best pen of birds in the country.

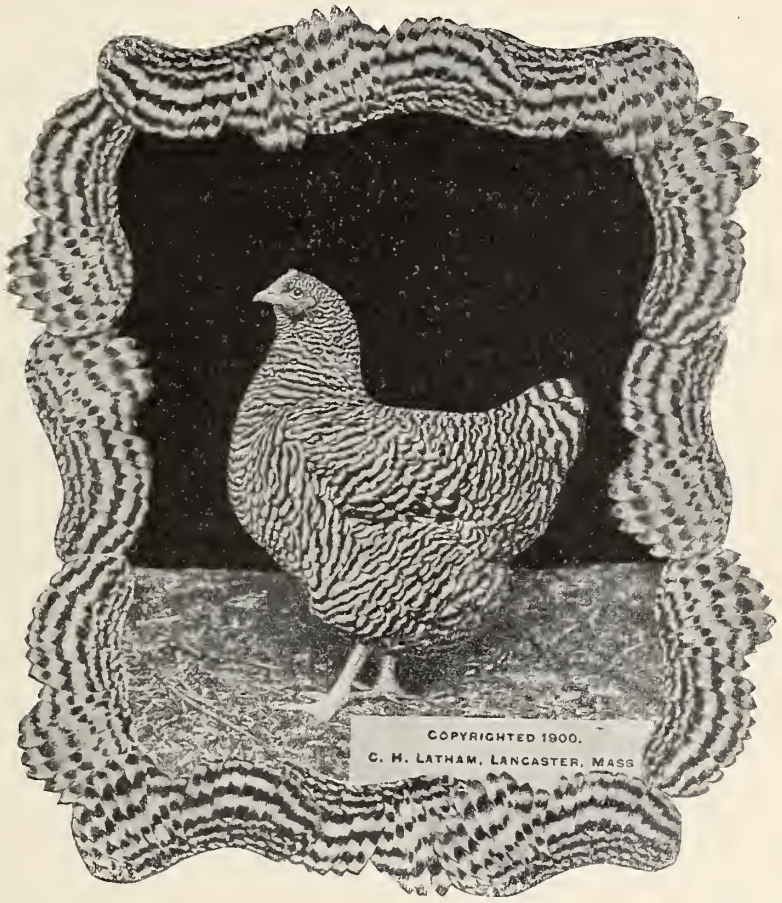
There are three important points that the breeder should always keep before him if he would obtain success—namely, vigor, shape, and color. Vigor is placed first, because the strength and health of the flock is the backbone of future success, and without vigor, shape and color are worthless. Shape comes second, because every true breeder and fancier should breed for shape in preference to color, for he knows that even though a bird may be colored to the highest point obtainable, if lacking in vigor and poor in shape, it is worthless in the breeding pen. Color is last, but not by any means least. It is a most attractive sight to see a flock of Rocks with good, even color, nicely barred, but it is hard to get and still harder to keep. The amateur breeder would like a flock of nice exhibition females, and would like to have them all standard in shape, every feather barred straight across, barred to the skin in every section, true blue in color, rich bay eyes, perfect combs, fine yellow legs and beaks. That is what he would like, and what he frequently expects to buy, as hundreds of letters we have received from such ambitious amateur breeders would testify. Such ideal birds would score 100 points, and would be priceless in value. Nevertheless, this ideal should be always in the mind's eye, and our endeavor

should be always to approach as near it as possible. After one has learned to raise strong chickens it is not so difficult a matter to keep good vigor in the flock. It is a much more difficult matter to secure and keep fine color, but hardest of all is it to secure fine shape and keep it year after year. There are so many things one must care for so closely, and while we are looking for breeding birds with fine shaped backs, the breast will be lacking, or the shanks will be too long or too short, or the comb will grow too large. We strive to get pure yellow legs and beaks and we lose in color of plumage, and so on through various details of breeding, for while we may gather some roses on the path to success, there are countless thorns also.

SELECTION OF BREEDERS.

Usually, there are several types of birds in the flock of the average breeder. Some may be fine exhibition birds, others a little too dark in color. Some have a nice blue top color, and are weak in under barring. Some are long in shape of back and some short, and there is always a per cent. of birds unfit for breeding stock, which should be thrown out as culls. No male bird obtainable could breed well with all of them, though all of them may be good breeding birds if properly mated. In selecting females for breeding, cull closely. It is far better to breed from two or three good birds than from ten or twelve ordinary ones.

A good Plymouth Rock, while a blocky bird, should not approach too closely to the short body of the Wyandotte. The body of the bird should have good length, especially of the keel bone in front of the thighs. It should be broad and deep as well. Select as good shaped females as possible, for one of the unexplainable things in breeding is that a bird derives more of its good or poor shape from its dam than from its sire, and more of its good or poor color from its sire than from its dam. The writer has seen matings year after year where the male was a fine shaped bird, with excellent color and barring, and the female also excellent in color and barring, but poor in shape. The chicks from such matings have invariably been birds of very fine color, but poor in shape, so poor that a large per cent. of them were worthless as breeders or as exhibition birds. In matings where the females were excellent in shape and the male of a suitable color to mate with the females, the chicks, both male and female, from this mating were excellent in shape, and many of them surpassed the parents in color.



GLORIA SECOND—Winner of Second Pullet Prize at Boston, 1899; Third Hen Prize at Boston, 1900; Second Hen Prize at Philadelphia, 1900; her Mother and Daughter were First Prize Winners; bred and owned by C. H. Latham.

In making a selection of a male to improve the shape of the females, the sure rule is to have him excellent in shape where the females are lacking. A much better selection is to have a male bred from a female that had excellent shape, as well as being good in shape himself. In regard to color, the same rule should be observed. Look to the breeding of the parents of the bird for what you wish to get, and if bred strictly in line for years, just so much more valuable is the bird as a breeder. Remember we are mating to produce good shape and color of females. We mention that the male gives more color than shape to his chicks, but as good a shaped bird as it is possible to get should be used.

We like a male for pullet breeding that is a little long in body, and a trifle longer in shanks than a male we would use to breed exhibition cockerels. We like to see an exhibition male that is blocky in shape, with stout, medium length shanks; but if we should use such a male in pullet breeding, unless the females he is mated with are too long in shanks and legs, the females would, in a year or two, become too short in shanks, and so bring the body too near the ground. The male should be broad, deep, and full, with a nicely shaped back and tail, and a neck of medium length, which should be well curved and tapering. Avoid the short, chunky neck of the Wyandotte. In trying to get a blocky bird, many breeders get the neck of their males too short, thick, and chunky. This is not Rock shape, but Wyandotte.

BEWARE OF SIDE SPRIGS.

The comb of the male bird can never be too fine in shape and character. Breed for fineness of texture and firmness, having the comb wide enough at the base to set firmly on the head, and taper in thickness from the base to the end of the points. Be particular that the rear of the comb is smooth and free from roughness on the sides and edges.

One of the evils in combs that will crop out in the best of breeding is side sprigs. It is most annoying for a breeder to pick up a fine looking bird in his flock and find a comb with

side sprigs; for it is not only an unsightly deformity, the comb being the part of the bird bred for ornament and most easily seen, but the evil is very prone to reproduce itself in the bird's chicks. Such birds should be used for the table and not bred at all. The writer insists that such birds are only culls, in spite of the fact that the present Standard of Perfection allows side sprigs in combs to be regarded as a defect instead of a disqualification. We think this is a mistake, as it allows birds that are worthless as breeders to get a score in a show room, and it allows the uninformed amateur to have such birds unloaded on him at a good, round price. Where is there a fancier who knows his business who would breed or exhibit a bird with side sprigs, and why should a bird that is worthless be allowed to get a score and perhaps win a prize at a show. Any purchaser who receives such a bird should immediately return it to the seller and demand another bird, or his money.

COLOR OF BREEDERS.

Many mistakes are made in selecting the color of the male. We have a shade of color we wish to breed and hold, and great care must be made in the selection of the breeders, and we must have a keen eye for the minute differences in coloring, or we cannot make successful matings. A breeder may have several matings on his farm, all meant to obtain the same shade of color in the chicks. No two of them may be mated the same apparently, but the results will be alike in each case. Not only must care be used in selecting the color of the male, but equal care must be taken in regard to the character of the barring. A fine exhibition female must have straight barring and show the barring to the skin. The first two or three of the dark bars on the feather should be bright, strong, and clearly defined. These are the outer or surface barring. The barring of the under-color, while of less importance, must be sharply defined and of sufficient strength in the dark bar to hold the color; otherwise, when the pullet molts and becomes a hen, the under-color fades out to nearly or quite white. A first-class pullet should hold her color, both top and under, and be equally as fine as a hen. She is then valuable, both as a show bird and as a breeder.

A fine exhibition bird must show the "zebra stripes" more or less, particularly on the rounded portion of the neck, breast, wing-bow, and back. To get this we must have a fine, rounded shape, combined with plumage that has each feather tipped with a dark bar, and the dark bars must be narrower than the light ones. If the dark bar is wide and the light bar narrow, the bird will have a mottled look, and the barring will run together, and a less attractive bird will be the result. We see a great many poor wings on exhibition females. It is a hard section to breed, and many times where the result is expected to be good, it is a disappointment. Many good wings in females are obtained from males that apparently had poor wings. The usual defects in wing color in females is having the dark color predominating and a lack of barring, the colors being clouded together. If the male is one bred from a female that had nicely barred wings, even though he has wings light in color and the light color predominates and the feathers are not well barred, he is still a good bird to use.

A fine exhibition female should have a tail which when spread out will show each feather well barred to the tip. This is not obtained by breeding from a male with coarse and few bars to the feather. It is seldom that we see a pullet breeding male that has an evenly barred tail, but he should have the straight, stiff feathers, finely barred, and the sickles and hangers well barred on the surface. Many mistake the term "very light colored male," and think it means one that has very little if any barring; that is, clear white in under-color and a very light gray color all over. A male may be very light in color and still be finely barred, and barred to the skin.

In order to get females of standard colored plumage, that is, "bluish gray, barred with lines of a darker blue that stops short of a positive black," we must use a male of much lighter color than the females, and in cases where the females in a breeding yard are a little too dark in color to be standard, and it is desired to have the pullets from this mating lighter in color than their dams, a male must be used that is still lighter in color, and in some cases the ground color should be nearly white, with the dark barring in proportion.

Rich, yellow legs and beak are much desired qualities, but they are difficult to acquire and hold, for nature seems bound to add a little dark color in the legs and beaks, if there is sufficient dark color in the plumage to give a strong, sharp barring, which extends to the skin. Yellow legs and beaks can only be acquired by years of careful selection. If the male has the least dark color beneath the scales, even in very small spots and few and far between, it nearly always shows in increased quantities in that bird's daughters. If we could always breed from just the male we should like to have in the flock, we could have superb yellow legs and beaks, but none of us has ever yet seen just that bird. He may have yellow legs and beak and give them to his chicks, but he is sure to give them something else which we would rather not have, and so it is through all other sections. If we devote all our attention to perfecting one section of the bird, some of the other sections are losing. We must carry them along the best we can, always using the best birds that we can get for our breeding stock.

While it may be said that the Barred Rock of to-day has reached that stage of completeness that it is now good material out of which to make a vastly better bird, still no one need think this is going to be an easy task. It will be difficult to hold the Barred Rock where it now is, and each little improvement will come after long, careful, painstaking study and work.

The zest, the fascination of breeding fine birds will never die, and we anticipate much pleasure in the future breeding of Barred Plymouth Rocks.

INDIVIDUAL MERIT NECESSARY.

BY HARRY M. LAMON.

IT was in the year 1895 that I first bred Barred Plymouth Rocks and I exhibited a cockerel at Madison Square Garden, New York City, in 1896. It was bred from the so-called double mating, but not what I consider a good double mating at the present time. Let it be understood at the outset that I am liberal minded enough to think first-class specimens can be bred from both the double and standard matings. One of the best pullets I ever owned was from a standard mating, both her sire and dam being first-class exhibition specimens. In handling the different matings, I have found I got a greater per cent. of strictly high grade specimens from my double matings than from the standard.

I do not agree with what some of the so-called breeders of Barred Rocks call double matings. In the first place, I consider it the height of folly for a person to claim that he cares nothing about the color of a cockerel bred female so long as he knows she is the sister of an exhibition male. I want to see something besides breeding when I go into a man's yards to look over his good birds, and I believe the majority of breeders feel the same, otherwise it would be useless to handle birds for hours in order to pick out a pen of eight or ten females to put with a male bird for breeding purposes. All you would have to do would be to know how they were bred and pick the well bred ones, whether they were red, white or blue, and put them with your cock bird and get New York winners. In that case it would not matter whether the legs and eyes were green, the tail black and the comb high, the shape bad, etc.

A Wing of a Well-Barred Female.

When I read such an article, I lose my patience. We can advance the poultry interests of the country in no better way, I believe, than by educating the novice, but he should be educated in the right way. Do not lead him to think that he can take a lot of well bred females which are not in themselves good, and produce prize winners. I am a great believer in good blood, but I am a greater believer in good blood in a good individual. Individuality is a good thing in poultry as well as in people. I find when a buyer comes to my yards, about the first thing he does is to pick out a good bird and look her over carefully, then he asks how she was bred. He does not pick up one that is smutty or rusty in the surface, with no barring in the under-color and wing, and ask how she was bred. Why is it that we pay more for a brood mare that has been a performer, than for her own sister that developed no particular speed? It is simply because we think the performer will breed. In other words, most of us would rather take chances with the best individual.

COCKEREL MATING.

In describing my method of mating, I will speak first of the cockerel mating. If the male is a medium colored blue, so to speak, one you would not call too dark, neither of an extra fine color, but a good bird, I should select a female as fine and distinctly barred (the bars running to the skin) as I could find, and I should prefer that she was from one of my very finest colored males. I should want her eye to be red, the brighter the better, her comb as low as possible, and anything but a green leg, as we get too many pale legged cockerels from the hens having the best legs, without deliberately encouraging their production. In shape I want all the depth of body and breast that I can get, and as a rule a pair of legs well set apart goes with such a body. If you use birds with such a shaped body, you will get very few weak or knock-kneed males. I should prefer that the tail should be medium in height.

Probably the hardest point to get good in our males is the wing barring. We all know that most of them have very wide, coarsely barred wings and the colors are not distinct, especially in the flights. I believe that to make these wings better we must begin with the female, so I want the wing of the female to be just as distinctly and finely barred as possible. In surface color, select a bird only a shade or two darker than the male. I pay considerable attention to the color of the fluff, or I should say, to the under-color of the fluff, because if there is a weakness in the under-color it is pretty sure to be seen in that section. To breed to the best advantage you must understand something of the blood lines of the ancestors of your stock. Individuals with certain peculiarities in the different sections will produce you splendid stock, but there may be an exception to the rule where the young stock is practically worthless, but this does not often happen. I am speaking now from the show standpoint. It goes without saying that the male to mate to such a hen as I have described should be just as good in all sections as can be had.

PULLET MATING.

In mating for pullets under the double mating system, I believe most decidedly that the nearer in color to the exhibition

female your male bird is, the better your pullets from such a mating will be, provided, of course, they are from double mating parents. I am well aware that some of our best breeders advocate a very light, washed-out male for this mating. If they meet with good success by using such birds, I have only to say by all means do not change your method, but I want the cockerel, as I said before, as near the exhibition colored female as possible, or to be more exact, a shade or two lighter. The finer he is in barring and the more regular the bars, the better. In under-color, he must show something besides white. I want all the proper shade of barring I can get to the skin. In regard to the shape, the same general hints I gave in regard to the female will apply to the male.

I do not claim that I know it all; I am confident there are others, but I cannot agree with the judges on the ground color of our winning Barred males. They are gradually approaching a greyish cast instead of that beautiful blue that is occasionally shown. Take one of those fine, narrow, blue barred birds and put him beside the winning birds in many of our shows to-day and you will find the crowd before the pen containing the blue bird. I am well aware that such a bird has a little sheen on his tail coverts, but he does not turn brassy in the summer, and the others are very apt to do so. Of the two evils, I prefer the sheen on the tail coverts.

One reason that many breeders fail in the production of high-class Plymouth Rocks is that they start with poor stock and expect to produce fine progeny. The breeder should always remember that good birds will as a rule produce good birds and poor birds produce poor birds, though occasionally they may produce a fair specimen. When beginning, I should advise a man to put $25 in one bird, or two, rather than to buy five birds at $5 each.

THE KEY TO SUCCESS.

BY F. W. RICHARDSON.

IN watching and breeding the Barred Plymouth Rocks for several years past, I have learned that nature has clothed the male of this grand old variety in a light, ashy plumage and the female in a dark, smoky one. Why the two sexes from the same parents should vary in color, I am unable to tell, but it is a fact that all breeders of this variety are obliged to strive to overcome in order to produce specimens of a color demanded by the standard, which requires that the male and female shall be of the same shade.

Judges, as well as breeders, differ in regard to what that shade of color shall be. It does not make so much difference what particular shade of color the male and female is, but one thing is sure, they must be the same. Since nature has seen fit to clothe the male in a plumage that is three or four shades lighter than that of the female and the standard demands that they shall be alike in color, then it becomes the duty of the breeder and exhibitor to establish a strain or strains that will produce males and females of the same shade of color, and that color must be in accordance with standard requirements.

There seems to be a great diversity of opinion among Barred Rock breeders in regard to how the same color in both sexes can be obtained best. Some breeders advise using the single mating system to bring about this result, that is, mating a male and female of the same shade of color, or in other words, using a male and female of standard color to reproduce standard color in both sexes of chicks, but I have been able to produce a larger per cent. of standard colored specimens by using what I call the double mating system, that is, having separate matings to produce standard colored males and females. We designate these as cockerel and pullet matings. The cockerel mating is used to produce standard or exhibition colored males and females for my cockerel matings the following year; while the pullet mating produces my standard or exhibition colored females and pullet mating cockerels, for which we have a great demand as pullet breeders.

For my cockerel mating I first select a male that is nearest ideal in shape and color. I want the bars to be as straight across the feather as possible and the dark bars of the same width as the light ones, and each feather clearly and distinctly barred to the skin. To such a male I mate six to eight females as near ideal in shape as possible, and in color from three to four shades darker than standard, but the feathers are as sharply and distinctly barred to the skin as I can find, the dark bars being from one-fourth to one-half wider than the white. Such a mating will be sure to produce a fine lot of exhibition colored males and a big per cent of valuable cockerel breeding females, if they have been bred along this line for several generations.

For my pullet mating I select from eight to ten females that are nearest ideal in both shape and color and mate to them a

The F. W. Richardson Type of Exhibition Pullet.

male that has been bred from a pullet mating, as near ideal in shape as possible and from three to four shades lighter in color than standard. His markings I want as bright and distinct as can be had, the dark bars being about one-half the width of the white and running straight across the feather. Such a mating has produced for me fifty per cent. of exhibition females and a grand lot of pullet breeding males.

I find the key to success in breeding Barred Plymouth Rocks (it is the same in many other varieties) is as follows: I desire a certain section in my chicks to be ideal. If I know how to select a male and female with that section not ideal, but so developed that when they are mated they will produce chicks having the section ideal, I have the key to success in my grasp. I find this theory works as well in regard to shape sections as it does in color. For example, if the male is too long in the back, too flat in the breast or too long in the legs, cover his defects by using females that are short in the back, full in the breast and short in the legs. If your male birds are running too light, use darker females, and if the females are running too dark, use lighter males. Always be sure to cancel the defect in one bird by having the same section very strong in his mate. I am confident that those who work along this line will make a success in breeding Barred Plymouth Rocks.

MATING TO PRODUCE WINNERS.

BY W. B. GIBSON.

HOW to mate Barred Rocks in order to produce the most perfect specimens, those as nearly like the ideal described in our Standard of Perfection as possible, is a question of vital importance to the great army of breeders of this grand variety. Barred Rocks are acknowledged to be the most difficult of all varieties to breed to a high degree of perfection. This fact, in connection with their acknowledged value as broilers, roasters, layers and general hustlers, and their great beauty, have made them what they are to-day, the most popular fowl on earth.

The burning question of the day to Barred Rock breeders is, how shall we mate our birds to produce winners? Times change, and with them the fashions. The Barred Rock that won ten years ago cannot win to-day. The type that won even five years ago is not winning now. This is especially true of the females. The advice in regard to mating given ten years ago, or later even, does not hold good now. The very open barred females that we were compelled to produce in order to win in the past, are not recognized by foremost judges of the present time. We believe the judges are right, and if you will read your standard carefully, we think you will admit that, according to it, darker females should be winners. The standard says: "Barred with narrow parallel lines—the barring to be close in all sections of the body—the barring must positively show the entire length of the feathers in all sections where they are not mostly composed of down." Now if you interpret these clauses literally, it will give us a female of a rather dark appearance. The fact is apparent to any one who has attended the leading shows during the last five years, that the winners, both male and female, are much darker apparently than the winners of eight or ten years ago. This apparent "darkness" is the result of the barring being narrow, consequently the bars are closer and there are more of them.

Four and Five Months' Old W. B. Gibson & Son Chicks, produced by the Double Mating Plan.

Now, we as breeders want to know what and how to mate in order to produce just such birds. Always bear in mind that color and barring are of first and prime importance in winners. Get all else as near perfect as possible, but do not sacrifice these for anything else.

We practice and use so-called double mating in a limited degree, making the difference much less than we did ten years ago. For all matings, select birds that are broad and deep in body. Never use as a breeder a bird with a narrow, contracted body, or you will rue it. The comb is a very important section. The females should have low, straight combs with deep serrations. Select a male with a straight comb, free from thumb marks and deeply serrated. The female should be large, as the size of the dam affects the progeny more than that of the sire. The male should be as nearly perfect in shape as it is possible to get, as the influence of the male is known to be the greater in reproducing shape. The beak, eyes, legs and toes should be as good as it is possible to get, as all are of value in the perfect specimen. The above applies to the requirements of birds for all matings.

For exhibition cockerels, mate females that are two or three shades darker than the best exhibition color, and if the wings are almost black in the flights, it will do no harm. These females must be barred to the skin in every section, with

narrow bars running straight across the feathers. With such females, mate a male with true exhibition color and barring. He must be clearly and distinctly barred in the tail and barred to the skin. We must get rid of these partly white tails in the males and the surest way is to never breed a male which is not free from it. The male must be strong in under-color.

For exhibition pullets, use true exhibition females, the kind that win at the present time, with narrow, deep and distinct barring. To them mate a male that is at least two shades lighter than the best exhibition color and which has narrow and distinct barring, but is not too dark in under-color. This is our way of mating and it is the way we have practiced with good success. It is not theory. If it appeals to you we should be glad to have you try it.

LAWS OF HEREDITY.

BY EUGENE W. HARRINGTON.

IT is with a considerable degree of hesitancy that I attempt to comply with your request and furnish you an opinion upon the question of double vs. single mating, as applied to the breeding of Barred Plymouth Rocks.

Many years ago I became an ardent admirer of good horses and a devoted student of the principles of heredity, as applied to the production of high-class light harness horses. At that time there was at the head of that sterling publication known as the Chicago Horseman, a man who was eternally pounding away upon the doctrine that "like begets like or the likeness of an ancestor." Whenever a sensational performer came to light, the blood lines of his sire and dam were carefully studied and this theory of "like begets like or the likeness of ancestor" was applied. The investigations of this enthusiast would go even beyond the sire and dam, and the whole line of ancestry, both upon the male and female side, would be carefully analyzed.

As a careful student of the laws of heredity, at that time I took a great interest in tracing different blood lines, seeing which ones "nicked" and how far we might rely upon the results coming from the combination of certain blood lines. After many years of close observation and study, the conclusion at which I arrived was, that, subject to some few qualifications in the breeding of all live stock, it is safe to say and to adopt it as a rule, that "like begets like or the likeness of an ancestor." I realize that at best what I write can be only an "opinion," for it is very probable that there are but a few of us "who know it all," and yet as I reflect upon the results which have come from the application of the above theory of the breeding of Barred Plymouth Rocks, I can scarcely find words sufficiently emphatic in which to express my views.

An opinion is of no value, in my judgment, except it shall be predicated upon something tangible—something which in the very nature of the inquiry gives it a value, and I therefore desire it to be distinctly understood that what I shall say upon this subject is based upon results as shown by my limited experience in the breeding of Barred Plymouth Rocks.

When I viewed the various yards of Plymouth Rocks which had been produced the past season from matings which I personally made, I felt that Hollywood Farm was grounded upon the right theory and that as a matter of fact here was ample demonstration of that time-honored law that "like begets like or the likeness of an ancestor."

RESULTS OF CAREFUL MATING.

I shall attempt to tell of only one example which will be ample to show the results achieved. Two years ago I selected three very choice exhibition females that were pullet bred. With these I placed a fine, large cock bird, about two shades lighter than an exhibition male should be. The results were thirty-five birds from this pen, nineteen being cockerels and sixteen pullets. Of the sixteen pullets, eleven were simply high-class birds and seven of them went into one breeding pen the following year. They were all a little larger than the females that produced them and their color and barring were even better. The cock bird that produced these pullets was a pullet bred cock, farm raised, over-weight, strong, vigorous, closely and evenly barred, and his ancestry was of the right kind. Next year, with the three hens used the preceding year, I mated one of the choicest of nineteen cockerels, one that was in color a trifle lighter than the cock bird of the year before. With the seven pullets, I used a pullet bred son of a full brother to the cock bird used with the three pullets of the 1899 breeding pen. The result was some of the choicest pullets it has ever been my pleasure to see.

There is not a poor bird in the whole lot from either

Plucked from a Winning Cockerel, owned by W. B. Gibson & Sons.

mating. By this I do not mean to say that they are all show birds, but the majority of them are fit to show anywhere and any of them would be a credit to any breeding pen. Clearly, each and all of them show the distinctive qualities of both sire and dam, or some of their immediate ancestry. This is simply an example of the lines upon which we have been conducting our pullet breeding for a number of years, and from my observation I state as my opinion that there is no such thing as a single mating system that will produce exhibition males and females from one mating.

Full well do I realize that there are many Barred Rock breeders who claim to be using the single mating system and to be getting good results. Many of them no doubt have more actual experience than the writer, and with all deference to them, I feel impelled to say, gentlemen, on the square, are you not in fact using the double mating system and trying to make yourselves believe that it is the single mating system? It must be apparent to any one who will give this subject a particle of thought, that any breeder of Barred Plymouth Rocks would gladly accept the single mating system if he could be sure of good results. Gladly would I do so if I did not know from actual experience that notwithstanding my best efforts it always proved a failure. Looking back over the many years in which I have endeavored in a modest way to secure the best to be had, I remember more than one year's grievous disappointments which came from my attempts to thwart nature and to get exhibition males and females from a single mating.

In breeding for cockerels I want the hens to be of the best shape possible, somewhat darker than exhibition colored females, but deeply and evenly barred. Mate them with an exhibition colored cockerel. When I mate in this way I get good cockerels and I have learned that I can depend upon the results with a reasonable degree of certainty.

In conclusion, let me say that the exercise of good "horse sense" in my judgment is essential in the use of any system of breeding. Common sense must be accompanied by an earnest devotion to a well established ideal and by the knowledge of some of the fundamental principles of nature and of the laws of heredity. There must be kept in mind the blood lines which you are about to co-mingle and you must bear in mind the defects which you wish to eradicate as well as the desirable points which you wish to perpetuate. In short, there must be the greatest care exercised in mating birds, and I should like to underscore the word care. Nature has said, the natural tendency of the Barred Plymouth Rock is to run light in the male line and dark in the female line. This is a fact which must be overcome. Experience, that best of all educators, has shown how this natural tendency may be overcome, and it is only by the intelligent use of the double mating system.

Some may ask, why try to overcome natural tendencies, and it is an entirely proper inquiry. I answer by saying that the fastidious ideas of Barred Plymouth Rock fanciers have fixed a standard of excellence. It is standard requirements we seek, and experience has shown us that the double mating system is the only sure way to success.

As is well known to the publishers, the writer's business is that of practicing law. Relief to the weary brain is often found in the recreation of poultry raising, and I might truthfully add that relief to my pocketbook as often comes through the same channel. My Hollywood Barred Rocks have all been produced by the double mating system and my candid opinion, based upon the results obtained, is that the only way to breed Barred Rocks successfully is to use the double mating system. No other system will be used at Hollywood Farm until experience, predicated by results, shall have demonstrated the wisdom of another and better system of mating.

BARRED PLYMOUTH ROCKS.

BY W. S. RUSSELL.

I HAVE read several articles in the poultry journals of late from persons advocating the idea that it is not necessary to mate separately for choice colored pullets and cockerels. These writers mislead the amateur by telling him that both exhibition colored females and males can be bred from one mating. To my sorrow I put in seven seasons experimenting with the single mating plan, to find that I was just that many years behind time, and that I must sell out and begin anew. I found by experience that the females would breed darker each season and the males lighter, and that it was impossible by this method to get both males and females of the same color.

During the past few years I have visited quite a number of breeders' yards, and among them some of the foremost in the country. What I mean by "foremost" breeders are those who have been breeding Barred Plymouth Rocks for years, and have been so fortunate in their matings as to produce prize winners. Now the question arises, how do they do it? I will say that the majority succeed by practicing the double mating system. We hear all sorts of criticisms of the double mating process, but we find it is oftenest condemned by those who have had but little experience in mating and breeding the variety.

The question is frequently asked me, "Do you practice double mating with your Rocks?" My answer is, yes, and I will explain my method of mating. First, to make a mating that will produce exhibition colored females, I select ten females for each pen, commonly hens for one pen and pullets for another, as I find it poor policy to put hens and pullets in the same pen, because a hen will get overly fat on the same food that a pullet will starve on. I select females light in color of plumage. When I say "light" I do not mean "washed-out" or "whitewashed," or so light as not to be bright in their markings. I mean standard color. I look well to the standard requirements as to shape, color of legs and beak, eyes, earlobes and shape of comb. About the first thing after catching the specimen, I look for my mark in the web of the foot to ascertain if the specimen came from a pullet mating, that is, I must be positive its ancestors were from a pullet line of breeding.

With the pen of females now selected I mate a very light-colored male. If I have a cock bird not over three years old that has proved himself to be a good pullet breeder, so much the better; I mate him back to his pullets. This will insure the results to be satisfactory. For the pen of hens I would prefer a cockerel of the same line of breeding.

I do not wish the breeder to infer that I continue inbreeding year after year, but I know by experience no breeder can establish a distinct strain or a mating that will reproduce itself unless he practices imbreeding more or less. I always have two or more pullet matings and cross one from the other, thereby giving me new blood and at the same time keeping in line.

'Lee Belle 5th" A First Place Winner at New York Show that sold in her third year for $100 for breeding purposes.

Those who practice the double mating system know full well that the male progeny from a pullet mating are worthless so far as show purposes are concerned, being altogether too light in color to score high, but they are just the thing for breeding pullets the coming season. It is a well-known fact that the value of a good pullet breeder is not measured by his score.

Now we will proceed to describe our system for mating to produce exhibition colored males. First, select ten females. They must be of good size and form, with bright colored plumage, the barring being narrow and running down to the skin. I prefer the feathers on the back to show seven or more narrow and distinct bars. I want these females to be considerably darker than the females used in the first described mating, but do not understand me as desiring birds so dark that the plumage appears "smoky," or with bars that show a metallic hue. As I said before, the barring must be distinct, using the same rule as regards ancestors as I described in pullet mating.

Now that we have our females selected, we will look through our flock for a large, vigorous male. We want an exhibition colored male. He must have narrow barring, a good comb, good eyes, beak and legs. I prefer a cock bird mated to pullets and a cockerel mated to hens, for the same reason I have mentioned in pullet mating. Most breeders select their males for the breeding pens first and then mate their females to the male. I do the reverse, for the reason that I may select a male that is strong in points where my females may be weak. For instance, if my females seem to have combs too large, and backs too long, I select a male to overcome these defects by using one with a small comb and a short back. Now, if you find your matings have been satisfactory one year do not disturb them, but continue to breed them the same way for as many years as you have the breeders. If they produce prize winners one year they will do it the next year, if the conditions and food are the same.

Do not expect 90 per cent. of the males from your cockerel mating to be exhibition specimens, nor the same from your pullet mating, as Barred Plymouth Rocks do not breed that way. If I could get 20 per cent. that will score 92 points I would be "tickled to death." This does not seem to be very good, but I know it is a greater per cent. than can be obtained from the standard mating.

I do not claim that the rules I have laid down can be depended upon at all times, as the best of them miss it in their matings once in a while. I contend that it is essential to make two matings in Barred Rocks as long as our standard requires both male and female to be of the same color, although the requirements are not in accordance with nature's laws, for the reason that we have found, by actual breeding, that the males breed lighter than the females.

If, in your progeny of Rocks, you find white in lobes or "fuzz" on shanks or feet, I should advise you to sell out and commence over. For, if one of these defects is once bred into your flock, it is impossible to get rid of it.

HOW THE AMATEUR CAN SUCCEED.

BY BRADLEY BROS.

ALL AMATEURS desire to succeed. To do so they must be able, first, to produce fine birds, and, second, must have the knowledge to select the best ones after they are raised and then to properly grade the flock. In the production of fine stock, let us consider how important is the influence of the male side of the mating. The first season's chicks will be one-half the male; the second season's flock will be three-fourths and the third season's seven-eighths the blood of the different males used; provided, of course, that the pullets from mating No. 1 be used for mating No. 2; those from mating No. 2 for mating No. 3, and so on. Hence the importance of securing the best individual quality and richest producing blood in the male line.

If one can wait a year or two for results, greater success can generally be attained by investing one's whole money wisely in males and breeding from them. But if marked results are desired the first season, both the male and his mates must be of the best blood and similar in characteristics. If the idea is to obtain both sexes fine, then the ancestry of the male must be of the best in both sexes. If matings are desired which favor one sex superior to the other, then the male's line must show generations of fine individuals in the sex desired. The pedigree of the male should not only show fine ancestors, but also that their blood has been introduced again and again into the line, securing a pent-up force and concentration which will come forth and control in the mating.

A New York Prize Winner of the "Lee Belle" Line.

The fact that every chick has

the blood of two, four, eight or sixteen different parents, or grandparents, according as we go back one, two, three or four generations in the pedigree, requires that inbreeding or concentration shall have been practiced at some point, in order to turn the type in some definite direction. Inbreeding requires strong, vigorous birds, and an inbred male full of vigor proves that the line is strong constitutionally, and such a bird has a double value, because he is fitted for both fancy and practical breeding.

A Son of "Grandson's Brother 5th" and Winner of First Prize at New York Show, pronounced to be by far the best male that had been shown at Madison Square Garden.

A DIFFICULT TASK INDEED.

To found a true-producing and inbred strain which is also vitally strong, is a difficult task indeed and requires years of patient work and thought. It means, first, the securing of the best specimens, to be used as breeders, and then the testing of all the most promising lines one owns, or can secure, in order to prove which, if any, will breed true. After that, long years of wise and careful inbreeding are required to concentrate the developed quality, involving the discarding of all the families which do not show vigor and long life sufficient to withstand inbreeding and the rigors of climate. Great caution is necessary in practicing this inbreeding or the result will be an aggravating failure. Under these conditions, is it any wonder that so few proved strains of great excellence exist and that the amateur's shortest road to success is in procuring a breeding male from such a line?

When our "Grandson's Brother 5th" was a young cockerel, at the beginning of the breeding season, he was priced to two customers who wanted an unusually rare bird. The price was objected to, but we replied that we considered that the value was in the bird, provided he lived. The first season we raised not quite $1000 worth of stock from him at our usual selling prices, and to-day, now past three years of age, he is vigorous and active.

Long life of the birds is essential to the building up of a strain, for a careful breeder with a high ideal in view frequently has to try different matings of the same bird for more than one season, before he gets something sufficiently nice to suit him, and if the bird dies in the meantime the strain, in its high ideal, at least, is lost.

HOW TO SELECT EXHIBITION BIRDS.

In selecting exhibition birds the standard of course should be obtained and studied to know what is required in the three different sections of plumage, shape, and head and shanks. These are convenient divisions to use in quickly estimating birds, and each counts about an equal number of points; shape, twenty-six (or with typical carriage added, thirty-four points); plumage, twenty-eight points; head and shanks, twenty-six points. The remaining twelve points go to weight and condition and need not here be considered.

A bird fair in one of these three sections and fine in the other two is surely a good one, and a bird superb in all three sections is never found. The typical carriage addition makes shape easily lead the other two sections, and an exquisitely formed bird with only fair color will often outscore an unusually fine-colored bird that is poor in shape. In a breeding male, however, color is of vital importance and from the breeding and mating points of view should have full consideration.

PLUMAGE.

Plumage may be divided into two sections: Color, and form of barring. In the present development of the breed, color is more easily obtained than regular, narrow and straight edged barring, so we will give twelve points to color and sixteen to barring. Color is found in "ground" and "bar." Pure "ground color" is a clear, grayish-white, or bluish-gray, the same shade all through the bird, both in outer color and under color, in both wings and tail coverts, sickles and all the same clear shade everywhere. The ground bars are to hold their color uniform, throughout, without merging or mingling with the dark bar.

Likewise, the color of the dark bar should be as nearly as possible exactly even from head to foot, in wings, tail coverts and sickles, every bar of the same shade as its neighbor. The edges should be firm and of the same shade as the center; no mingling or merging and no color shown except pure dark blue.

A pure ground color in males is attainable and gives great beauty, even if the bars are a little uneven in the different sections, in fact, it is expected that the outer bars shall be a little harder in color than those underneath. Some judges prefer a hard, nearly black bar; others, a rich, mellow bar, while in ground color some like a pearly, almost white, and others a more clouded blue. But whatever the degree of color, the purity should remain the same. A bird showing this pure color, whether it be light, medium or dark, is, as far as color goes, a thing of beauty; and when the barring is regular, it presents a picture long to be remembered.

CORRECT FORM OF BARRING.

Barring, to be perfect in form, should show its two edges equally distant apart the whole width, and should go straight across the feather or be only slightly curved, all the bars on each feather to be of uniform distance apart and parallel to one another, and all sections to match well together in appearance of bar.

For further requirements, see the standard.

Decendant of "Grandson's Brother 5th" and Winner of First Prize and Sweepstakes at New York Show, 1906.

Absolutely pure or perfect barring is not attainable, hence is not required, but the nearer it is approached, the finer is the effect, and with this approach the zebra lines are seen. The choicest males show this pure barring nearly perfect on the outside and frequently it is found well developed in the under-color.

The heaviest color sections are, neck, breast and back, though wings and tail count for such a share that they should be well looked after. In many cases the wing and tail color make the difference between a very high score and first prize, and a fairly good score and no prize. Some judges prefer a pure outside color and will cut lightly for weak under-color. Others admire perfection in under-color and will somewhat overlook a slight outside cloudiness if the under barring is ideal. Near perfection in all points, though sometimes found, is scarcely to be expected, for if a bird excels in one direction he is very apt to fail in some other.

SHAPE.

Compare the cut of a Cochin cockerel with that of a Leghorn and notice the grand work which the "poultry fathers" have done in giving our best breed, the Barred Rocks, the large body and market carcass of the Cochin, but with the activity and laying points of the Leghorn. Clasp your Plymouth Rock cockerel by the keel bone and place the other hand on the back. Are the two quite a distance apart? Then the body is "deep." See if keel bone is medium in length rather than short. This is to prevent the deep body from being too Cochiny. See if the body rapidly widens as you press from the keel bone outward at the sides and upward. This is "broad." Observe if there is roundness and curve of plumpness to body—this is "full." Press the hand against the breast. Does it feel like the end of a tea cup, or the side of a small pumpkin? If the latter, then it is standard in form. See that the keel projects enough to make the breast stand out moderately forward in its lower part. See that the back is broad at each end and is medium in length, not short. All these are carcass measurements and count, exclusive of the thighs, thirteen of the twenty-six points given to shape. They are largely measureable by the hand.

The sections of neck, tail, wings and legs count more in style and typical carriage, but frequently a bird with fine carcass measurements appears lacking in carcass because of a poorly shaped neck or tail and in that case should be cut only in the latter sections. View your cockerel from the rear. The tail should be spread at the base and well supplied with coverts because it connects with a broad back. On the other hand, the tail and wings must be of medium length rather than short, in order to sustain the large body in flying.

The neck hackle should be abundant and flowing because it comes down upon a broad back and broad shoulders, and the legs must be "well apart" because they are joined to the sides of the broad body. Still, neck and legs are required to be of "medium" length—not short—to give activity and foraging qualities to the breed. The only parts where abundant feathering is required are the eminently useful rain-shedding sections of neck and saddle.

The section of head and shanks is well described in the standard. Comb, eight points, is the most valuable of the four divisions.

In applying these principles it will be well to take a broad, general view of things, not drawing lines too closely, knowing that the next person who sees the bird will do so through a different pair of eyes.

Twice a Winner at New York Shows and three times a Winner at National Shows, sired by a brother of "Lee Belle 5th"

BREEDING EXHIBITION BARRED ROCKS.

BY M. S. GARDNER.

THOUGH much has been written upon this subject, hardly a week passes without bringing a letter from some one who asks the meaning of the terms "double, single and standard matings," or from some prospective purchaser who asks for a pen of birds mated for "both exhibition and breeding." Now I wish it understood that I do not pose as unfailing authority on breeding Barred Rocks, neither is this article written for the benefit of those who have bred them for forty years and "know all about it." During the six years in which I have been breeding this variety I have made many mistakes and have learned many (to me) useful lessons.

If anything I can write or say will be of help to one who is beginning the breeding of exhibition Barred Rocks I shall feel well repaid, as I found as a beginner that very few of the men who "knew how" were willing to give information in regard to mating for best results. After following some of the advice I had received I was ready to agree with Josh Billings that "it is better not to know so much than to know so much that isn't true."

A large majority of the leading eastern breeders use the double mating method, while a large number of western breeders use the single mating, some even advertising to breed from "standard matings." As a single mating is not necessarily a "standard mating" we will take up the question of "standard matings" first. What is a "standard mating?" There can be but one answer to this question if the term means anything. A standard mating is a male of standard color mated to a female of the same color. Now everyone who has ever bred Barred Rocks knows that the cockerels will be much lighter in color than the pullets from the same mating, and their under-color will not be so strong, so when we mate a standard or exhibition colored male to a female of the same color, we are doing so in direct opposition to nature's laws.

Whether nature made a mistake in this matter, or whether the mistake was made by the men who made the standard, I

shall not at this time try to discuss. It is sufficient to say that a mistake has been made, and we are confronted by these conditions, namely, the standard calls for a male and female of the same shade of surface color, and on both male and female each feather must show the barring the whole length of the web of the feather, in other words, be barred to the skin, while nature refuses to produce two such birds from one mating. I do not say that it cannot be done, as man has accomplished many seemingly impossible things, but I do say that I never saw two strictly standard colored birds, both male and female, produced from one mating of Barred Rocks, and I do not believe that it has ever been done. I will go further and say that from a straight standard mating I never saw a first-class bird of either sex produced.

I have seen fairly good birds produced from the mating of a standard colored female and a male a little lighter in surface than standard but with a very light under-color. Remember that it is not enough that the male be of the same surface color as the female; a standard colored male must be barred to the skin or else he is not a "standard colored" male.

I began breeding Barred Rocks with the idea that all I had to do was to get the best standard colored male that I could buy and mate him to a good exhibition hen. Others have made the same mistake. From such a mating as this the pullets will almost invariably be smoky and dark in surface color owing to excess of under-color. With all due respect to the men who use the so-called "standard mating" I cannot believe that one of them uses such a male as the present standard describes and gets high scoring birds of both sexes from the mating.

SINGLE MATINGS

I have used each year four or five pens mated on the single mating plan, and have had fairly good results. From these matings I have obtained some very nice pullets and some fairly good cockerels. The cockerels, many of them, were fine in surface color and some were fairly good in under-color. But from the matings that gave the best cockerels, the pullets were not so good; and from the matings that produced the best pullets, the cockerels were lacking in strength of under-color. For my single matings I select a male perhaps two shades lighter in surface than a standard bird, showing good under-color on breast and in hackle, with the barring in hackle and tail coverts fine and straight across. To this bird I mate females that are standard color, but with the barring fine and holding its strength well down to the base of the feather. In birds for single mating I like to have each feather end with a dark tip, black, if you please.

At the Rochester, N. Y., show in the winter of 1899–1900, I exhibited a yard of birds, a male and four females, all from eggs of one hen and from one sire. They were from such a mating as I have described, and the five birds were of the same surface color, or so nearly alike that no one could tell whether the male should be darker or lighter to match the females. The male was a little too coarse in barring and his under-color was not equal to the surface color. This, in my opinion, is where the single mating fails. In order to breed cockerels with every feather barred to the skin, or in other words "standard" color, a female that is finer and darker than standard must be used.

DOUBLE MATINGS.

As I use both double and single matings in my yards and have carefully compared results, I find that for producing exhibition birds to win in the best shows, the double mating method gives by far better results. It is much easier to kill one bird with a stone than it is to "kill two birds with one stone," so it is much easier to mate up a pen of birds with one object in view than it is to mate up the same pen with two objects in view. For several years I have attended some of the largest poultry shows in the east and I have never seen a male bird from a single or standard mating win a prize in any strong competition.

For my cockerel matings I use the best exhibition colored males I can raise or buy. Some breeders never buy any birds, but always raise them. This is a good plan, perhaps, but I confess that when I see a better bird than I own, if I have money enough and know that the bird's breeding is right, I buy him. I believe that my yards produce their share of the good ones each year, but if I find a good bird that will fit in well in my yards, I am not afraid to buy him. This is a benefit to my customers, as well as to "the other fellow" who sells the bird.

After selecting the male birds I look my females over for the right ones to mate with them. My ideas on this subject may not be considered "orthodox," but I care very little for the color of the female if her brothers, sire and grand sires were fine exhibition birds. I frequently use females so dark that they show very little white in wings and so fine in barring that they have a smoky appearance, and from such get my best and cleanest colored cockerels. These females usually have dark on legs and beaks, but the cockerels come all right in that respect, and are much better in barring than those from clean standard colored females, with yellow legs and beaks.

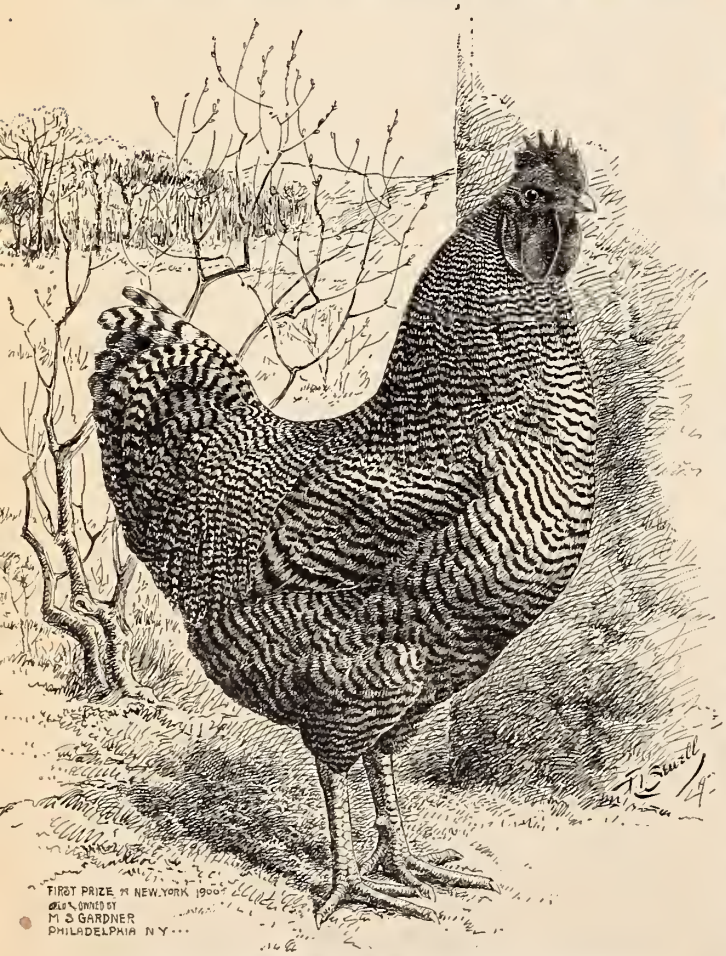
For my pullet matings I select females as near alike in color, size and shape as possible. If they are standard color I select to mate with them a male that is quite light in surface and not too heavy in under-color. I want this bird to show straight barring in hackle and saddle, but care far less what his surface color is than I do for the color of his sister and dam. If the sisters and dam of this male are clean in color and nicely barred under, I care not if the male himself is what is sometimes called a "cotton back." He will breed much better pullets than one with barring to the skin. I have in my yards a cock bird that has a white feather in each wing, and some of his tail feathers are white half way up, but $50 would not buy him, for he has sired some of the best females I ever saw and not one of them has ever shown any weakness in barring of tail or in wing. With some breeders such a bird would be thrown out of the breeding yard at sight, and four or five years ago I should have sold him for fifty cents, but I have learned by experience dearly bought that such a male, with good pullet blood to back him up, is far more valuable as a breeder than one nicely barred all over, but with no breeding back of him.

It would be very nice if we could make the single or standard mating theory work, but the trouble is it does not. Breeders of other parti-colored varieties, both in this country and in England, have for years recognized the fact that to win in hot competition they must use two matings, and the most successful breeders of Partridge Cochins, Hamburgs, Leghorns, etc., no longer expect to get top-notch birds of both sexes from one mating. Then why should the breeders of Barred Rocks continue to waste time and energy trying to do what breeders of other varieties have found to be impossible?

If all of the breeders of Barred Rocks in America could be induced to use the single mating method, it might be better for the breed and all parties concerned, and it might not. I am not prepared to say, but so long as some of our best breeders use the double mating method, the man who uses but one mating is working at a disadvantage and is bound to be beaten in every hot competition. This has been demonstrated dozens of times and the very judges who are the strongest advocates of the single mating method, nine times out of ten, will give the

preference to the bird bred from the special cockerel or pullet mating. Nothing is so convincing to a breeder as to be thoroughly beaten in the show room. It brings the matter right home, and many times after such a defeat we find that some of our pet theories have vanished into thin air. At the first two shows at which I exhibited, my male birds were hopelessly beaten by birds bred from cockerel matings. I did not need another dose of the same medicine.

Now a mistake that the amateur breeder is very liable to make, is in trying to buy or breed birds two or three pounds above standard weight. If you wish to breed the highest type of exhibition birds, do not breed them up to the size of a turkey. What you gain in size you will lose in shape and plumage every time. I believe that the present standard weight of Barred Rocks is one-half pound too high on cock, hen, cockerel and pullet, both for exhibition birds and for utility purposes. It is very easy to breed them up to eleven and twelve pounds as cock birds, or to eight and one-half to nine for hens, but to what purpose? A twelve-pound cock is clumsy and awkward in the breeding yard and is nearly always a poor breeder. A hen that weighs nine pounds is always a poor layer and her eggs seldom hatch well. Why should the breeders of Barred Rocks try to compete in size with the breeders of Cochins and Brahmas? The type of Barred Rock that is winning in our best eastern shows is a bird of medium size, somewhat Wyandotte in shape, if I may be allowed to use the term, with the difference of a little more length of body necessary for the extra weight. I believe that this is as it should be, and that a bird two pounds above weight should be cut as severely in the show room as a bird two pounds below weight. There is much for all of us to learn in regard to the breeding of Barred Rocks, and there is much chance for improvement in this grand breed. Let us do what we can to breed them nearer to standard requirements instead of each trying to breed a type or strain of his own.



BEN HUR — First Prize Barred Plymouth Rock Cockerel at Madison Square Garden Show, 1900; owned and exhibited by M. S. Gardner.

ANSWERS SOME QUESTIONS.

The following letter was sent me to answer, and I will try to make my replies as plain as possible to the beginner.

Houston, Mass., Oct. 11, 1901.

I notice that beginners are taking a hand in the controversy in regard to the double or single mating of Plymouth Rocks, so please allow a novice to ask a few questions, merely for information.

After having produced a prize winning fowl by the double mating system, is such a fowl so produced of any value outside the show room? I judge they may be used for breeders since Mr. Gardner advertises young stock "all bred from prize winners." I would like to know the method of mating these prize winners that must be near to standard.

Is it not a fact that birds bred by single mating for years would be more likely to reproduce themselves than those of an equal score bred for the same length of time by the double mating system?

Just how far is it permissible to depart from the standard in the double mating system? A. E. KITTELL.

In the first place I wish to say this, that in the breeding of Barred Plymouth Rocks there is one fact that we can always depend upon, and that is, that no matter what color your birds are, whether the matings be dark, medium or light, the cockerels from these matings will average lighter in color than the pullets. Some fanciers can tell you why this is. I will not try to do so, but will simply say that it is true, and that we must mate up our pens with the knowledge that from every mating the cockerels and pullets will vary several shades in color.

In answer to the first question I will say, yes. A prize bird produced by the double mating system is of value as a breeder, and if properly mated can be depended upon to produce high scoring birds of the same sex.

Let us suppose that Mr. Kittell sends to some double mating breeder for a sitting of eggs from a cockerel mating, and from this mating succeeds in raising two cockerels and four pullets. The cockerels should be of standard color, while the pullets will be much darker. Now, let Mr. Kittell mate his best cockerel to the four pullets and if they are from a line that has been bred in this way for a number of years the cockerels from this mating should be about the color of their sire and the pullets dark like their dams.

Or, on the other hand, if Mr. Kittell should send for eggs from a pullet mating, the pullets from that mating should be near standard color, while the cockerels will be quite light. In this case I would select the cockerels best in shape, eye and comb and mate to the pullets and should expect good exhibition pullets and light cockerels from the mating.

In my cockerel line few of the females are light enough to show, and those that approach nearest to exhibition color do not produce as good cockerels as their darker and more finely barred sisters. If a female has the right kind of blood back of her on the male side, that is, if her sire, grandsire and brothers are of the right color and are high-scoring birds, I care very little what this female is like in color as I know that if she is mated to a high-scoring male of the same line of blood the cockerels from the mating will be good birds.

And this is true of pullet matings. Last year I raised about twenty chicks from the hen that won first at Boston, 1900. All the cockerels were very light in color, but the pullets were, without exception, of fine exhibition color. Sometimes you can use quite a dark male in a pullet mating for one year, but if you follow it up, dark beaks and legs and smoky surface color on your pullets will be the result. If you get nice clean-barred exhibition pullets from a particular mating, and their brothers are quite light, as they are liable to be, do not throw them away, as they will breed better pullets than darker males with no good females back of them.

Question No. 2. No. it is not a fact that birds bred by single mating are more likely to reproduce themselves than those bred by the double mating system. To make this matter more plain let us call it a "Standard Mating," as a "single mating" may mean something or nothing. A "standard mating" is a mating of standard colored females and a standard colored male, and is supposed to produce the same. I have known a beginner who went to a show and bought a first prize pen of birds and bred from them as they were mated in the show room. This would be the ideal standard of mating, but I have never seen two good birds result from such a mating.

When you mate a standard colored male to a female of the same color you are bringing two extremes together, and nature is sure to protest, by giving you a lot of mongrel chicks. The constant tendency is toward light males and darker females, and when you follow nature your birds will reproduce themselves. So when you mate an exhibition female to a male of the same color as her sire and brother you may reasonably expect a good percentage of pullets like the dam; and when you mate a standard colored male to a female of the same color as his nearest female relatives you can depend upon nature to give you males like the sire; but when you mate a standard male to a standard colored female the color of your chicks depends largely upon which of these birds represents the strongest line of blood. If the male is from a family that has been bred in line for a long time and the female is not so strong in this respect you may get some medium dark cockerels and some pullets not so good. If on the other hand your female is strong in constitution and from an exhibition line of breeding you may get some nice pullets possibly; but cockerels and pullets equally good, never.

I have used single matings (so called) for about eight years, and have watched them closely in the yards of others and I have never seen one that would stand alone for three years, not one.

One year your pullets are good and your cockerels too light; then you pull your mating toward better cockerels and you spoil your pullets.

In answer to Mr. Kittell's last question, probably no two breeders agree. I can answer only for myself. "Nothing succeeds like success." When a breeder puts his birds into a show he puts them there to win. If from some particular mating I secured five cockerels that could go to New York, Chicago or Boston and win all the prizes, and the pullets from the same mating were ten shades darker than standard with dark legs and beaks, I should not hesitate to use them to breed more cockerels.

Illustrating Difference of Color in Exhibition Female and a Breeding Female under Double Mating System.

It may not be policy to make this statement, but it is at least honest. When I put a mating together to produce cockerels, I do so without reference to the color of the females this mating will produce, and the same is true of my pullet matings. If I get New York or Boston winners in females, I do not care how many light cockerels I get, for I can use them to produce more first-class females. These light cockerels find ready sale at $5 to $15 each, and good cockerel-bred pullets, even if very dark, find plenty of buyers at $5 to $10 each, or even more, if sired by a noted winner.

We are all after results. The use of two matings has thus far given us our best birds, and will be practiced so long as double mating birds win in all our best shows. I show herewith half-tone of feathers plucked from four birds. These birds were all molting badly, so that it was impossible to make a good selection.

The eight feathers shown in the lower row were taken from the dam of the first and second New York cockerels (1901). Beginning at the right, the first two are from her hackle, the next two are from the breast, while the four at the left are from different parts of the back. In the upper row the two at the right are from the hackle and breast of a pullet-bred pullet of standard color. Three in the middle are from the hackle of a standard colored male, bred from the hen from which the lower row of feathers were taken, and the two at the left are from the breast and hackle of a standard colored hen bred from a pullet mating.

These feathers are shown, not because they are better than have been shown before, but to show the difference in color and barring between a female of standard color, and one used to produce good cockerels by the double mating method.

HOW TO MATE BARRED ROCKS.

BY S. S. NOBLE.

KNOW the breeding of the birds you propose to mate. This every fancier worthy of the name can easily do. I do not mean by this that it is absolutely necessary to know the pedigree for eight or ten generations. What I do mean is this: Know beyond a question of doubt the breeding of the male bird at the head of your yards, know the breeding of his sire and the blood that predominates in his dam. Fine feathers make fine birds, but it does not follow that a fine feathered sire and dam will produce fine feathered chicks in any great per cent.

I would rather breed the commonest kind of a bird in general appearance if I knew he was bred right, than the grandest show bird I ever saw if there were a suspicion as to his breeding.

I believe I am not putting it too strongly when I say that of every hundred persons who embark in this business 90 per cent. get disgusted and quit, owing to improperly mated yards. They start out with great expectations, many of them broken in health and purse. They often buy the prize-winners at our leading shows at fabulous prices, birds with high scores, buying one here and one there, buying birds that honestly deserve every point accredited them. They start in with a yard composed of ten females and one male from ten different parts of the country, all grand birds in appearance and in breeding, but the birds have each a different strain of blood, and 90 per cent. of the owners meet with disappointment. Why? Simply because their birds are improperly mated.

How to mate Barred Plymouth Rocks so that like will produce like, is the object of this article, and after reading it, if you see reason in it, adopt it, and if after doing so you are more successful, I will be satisfied. Read with care and study well, for I am telling you in a few words, that which it took me years to demonstrate and which cost me hundreds of dollars.

In order to tell you how to mate I shall tell you how I do, or how experience teaches me to do. Fifteen years ago I started by buying a breeding pen, consisting of one cockerel and four pullets and paying the fabulous price of $75 for them. They were considered grand at that time, but such birds can be bought very cheap to-day. They were of the pure Essex strain. I got them all from one man and they were not closely akin. I was considered crazy by my neighbors, and many times regretted the move and wished the money back in my pocket.

I am now, and have been for years firmly convinced it was the best investment I ever made. I stuck to it at first to get some other fellow to take my investment off my hands, but I did not advertise and it took the other fellow quite a while to find me out. I am in it now for the reason that I know of no legitimate business that pays so large a per cent. on the money invested.

I use three matings, one for cockerels, one for pullets, one for choice birds of both sexes from a single mating. I do not favor this last mating, nor do I condemn it. I simply say I have had by far better results with a double mating. I have more really first-class birds and fewer culls.

I only use a yard of this kind because there is a trade that demands it and I would rather sell a buyer what he wants than what he does not want. It takes less talk and the results usually are more satisfactory.

COCKEREL MATING

Both males and females must comply as closely as possible with standard requirements as to shape and size. The cockerel must be standard in color, or two shades darker will not hurt. He must be free from smut or smoke. The barring must be clear and distinct and run straight across the feathers; bars must be narrow, the white one narrower than the black one. He must be barred to the skin and each feather tip should be a dark bar.

You must know that the male bird was bred in this way for several generations, the more the better. You must know that this blood predominates in his dam as well as sire.

The yards should be composed of either hens or all pullets. Why? Because pullets require more food than hens, and if pullets get enough to eat, hens often get so fat as to be worthless. Follow the standard requirements as to shape and size. Color must be darker than that of male, or at least as dark, unless the male is more than two shades darker than standard color. Why? Because there never was a Barred Plymouth Rock male that did not throw 95 per cent. of his cockerels lighter in color than himself unless mated to females darker in color than himself. This statement I believe will not be disputed. The females must be bred from just such a mating. Do not fear such pullets are too dark if they are well and distinctly barred. Avoid smoky or smutty color. The bars must run straight across feather, and the feathers must be barred to the skin and the tip of feather must be dark. The colors must be bright and clear.

From such a mating you will get cockerels the image of the sire. The pullets may or may not be a shade darker than the dams. This depends on how much light color they get from their sires. Some say these pullets will have to be discarded as culls, but not so, if distictly and clearly barred, with good beaks and combs and legs. They will sell like hot cakes to a buyer that knows their worth. There is a big demand to-day for well-bred cockerel mated pullets, no matter how dark, if well barred with bright, clear colors.

PULLET MATING.

Select a cockerel grand in size and shape according to standard requirements. Color, light—no matter how light so long as the barring is traceable to the skin and runs straight across the feather and the tip ends with a dark bar. The bird must not have a particle of yellow tinge in under color of back or other section. Be sure his comb is low, with five points; eye, bright bay. Do not use a bird with a pearl or pale eye, nor one with a yellow color in under-color, under any circumstances. Avoid brassiness in outer or surface color. Be sure he is bred this way.

The pullets must meet standard requirements as to shape, size, etc. They must be standard in color or a shade darker, if the cockerel is quite light. They must have the same color as the male, distinct barring to the skin, the feather tip ending with a black or dark bar. From this mating the cockerels

will be colored like the sire and the pullets like the dam. Remember that the tendency is for cockerels to come lighter than sire and pullets darker than dam.

Remember that blood must come first, color next.

STANDARD MATING.

A standard mating is a mating for both cockerels and pullets from a single mating. In a mating of this kind, select, as near as possible, both cockerels and pullets of standard color, with good legs and beaks. Select birds that have been bred in this way for as long as possible. Select those that come up to standard, both in shape and color. If you will do this you will get birds very much like those you breed from.

In buying birds buy both males and females from the same person, allowing him to mate them. He knows their breeding and can do it better than you can if he is honest, if not, he will "do" you anyway. This system, if followed up, will produce grand results.

SHAPE VS. COLOR.

BY D. J. LAMBERT.

THE tendency of Barred Plymouth Rocks since their creation to breed light males and dark females has absorbed so much attention that shape has often been sacrificed to secure good color. With the lighter colored or American Dominiques on the male side, and the darker or greenish, glossy Black Java on the female side, no wonder it has taken twenty-five or thirty years to draw these color lines nearer together and to bury the accusation that this American production is a great mongrel, so deep that we never hear it spoken of as such to-day.

In the early days, in the seventies, the Barred were the original and only Plymouth Rocks, and a bird of this color with good size, single comb and yellow shanks and feet would pass for the "clear quill," no matter whether it was Brahma, Cochin or Dorking shape. After a while experienced fanciers began to place shape before color, as I have done at the head of this article, and I consider the former more important every time. "Shape makes the breed, color the variety," and all varieties claiming to be Plymouth Rocks of any color whatever should be molded in the shape typical of the breed, or go under the class where they belong

It is to be regretted that judges too often shut their eyes at turtle backs, knock-knees, shallow breasts, high tails and narrow, fish-shaped bodies and go wild over the specimen because it is such "awful nice color." They forget that any one can get the color at such expense of shape, but it takes a breeder and fancier to bring out good shape with good color, and they are the ones who should be encouraged at least for their efforts. Surely the standard is as explicit in its demands for shape as for color, yet perhaps both are often misunderstood.

The popular fad for color demands two distinct lines of breeding for each sex—that is, to produce show color—yet some judges who actually condemn this method will favor color in both sexes that it is utterly impossible to reproduce by mating such birds together. Theories look all right on paper, but when it comes to backing them by facts or the birds, such proofs are not forthcoming. These single mating advocates are good buyers and never stop to ask whether the birds are bred by their rule or ours, so long as they get what they want, but when we double-mating sinners turn around and purchase "eggs from their best pens" and get chickens without one redeeming feature about them, in fact so pale in flesh and shanks that we are ashamed to turn them over to the market man, it is about time to ask them to hold up until they get something better to brag about.

Honestly now, the best breeders of all varieties, in solid colored breeds for shape or in the parti-colored breeds for both shape and color, will often admit that they can get better specimens of one sex from any particular mating than they can from another, and if this is true, why is it such a crime for us poor Barred Rock fanciers to do likewise? The standard describes the same color for male Barred Rock as for female. Either this is unjust or it is perfectly legitimate to breed two distinct lines of blood to produce them. Not that we must use females so dark on the cockerel side, or males so light on the pullet side, that we are ashamed to show them, but for the highest type of perfection, as the standard now specifies it, we must follow this cockerel and also a pullet mating.

For shape let us prefer a broad-bodied bird when viewed from the front; back broad and flat across the shoulders; tail carried moderately low, yet well spread, and sickles nicely curving around it; legs and shanks set up straight like two pegs driven squarely into the ground, leaning neither backward nor inward.

For color mark each feather with dark blue bars about the same width as the light or bluish gray which runs parallel between them; and leave both as clear and as well defined as possible. The bars should be nearly if not quite straight near the tips, but they will naturally curve more or less in the under-color. Give the preference to even barring and advise every Plymouth Rock judge with whom you are acquainted to favor a lighter if well-barred male and a darker if well-barred female, instead of the opposite, as many have done. If you can convert him to this way of interpreting the standard, you will do much toward verging these two lines of breeding together and help bury the bone of contention that we have wrangled over too long.

First Prize Barred Plymouth Rock Pullet; bred by Hackman Bros.

THE SINGLE MATING SYSTEM.

BY F. W. HITCHCOCK.

HAVING been requested to give my experience in the single mating of Barred Plymouth Rocks, I will say that I have followed this system for over twenty years with more than satisfactory results. I can conscientiously say that by the single mating system I can to-day produce more good specimens by at least twenty per cent than I ever could by double mating, which I followed during my first five years as a breeder. As for culls, or extremely poor specimens, I do not get one-half as many. To be sure, I get some dark females and some light males, but hardly any of the pullets come as extremely dark as pullets generally do from cockerel matings, nor do the cockerels come as extremely light as do a great many from pullet matings. Nearly all of the darkest of the pullets are distinctly and evenly barred, showing but little if any of that rusty or smutty color so often seen on specimens from dark matings. The lightest colored cockerels, too, are well barred, very seldom showing white under-color, or having that washed-out surface color with tail almost entirely free from barring as is seen on so many extremely light colored males.

Judge Hewes will remember visiting the "Woods Poultry Farm" at Goodnow, Ill., some four or five years ago, while I was in charge of it. After looking over some six hundred youngsters running about, he remarked that they were the most even lot of good chicks he had seen and that it was remarkable that so good specimens should have been produced in one year's time from the stock I had to work on. He further remarked that extreme colors were the exception and good color the rule. That winter I showed a few of the chicks at the big Chicago show. The honors I won there were not at all burdensome, a tie for third on pullet being my best. However, I was well satisfied with the honors (?) and the scores. My two cockerels scored 91½ and 92½, and three of the pullets were given 92 to 92½. This was from one season's single mating of stock of which I knew nothing.

SUCCESS WITH SINGLE MATING.

It will show the results of my early efforts at single mating when I say that in 1882, three years after my first attempt at this way of mating, I showed at Creston, Ia., winning, under Mr. B. N. Pierce, first, second and third on hens, the best scoring 94; second on pullet, with a score of 92 (losing two points on weight); second on cockerel, score 91½ (losing one point on weight); second on cock, and I was new in the show room then and had not properly looked after the weights of my entries. The next year I showed at the same place and under the same judge and won first on hen, 94; tied for first on cockerel, 93; second and third on pullets, 92½ and 92; also second on pen. The following year, 1884, I showed at Trenton, Mo., and won first on hen, 93½; first, second and third on pullets, best score 93; second cockerel, 92; and first and second on pens. In 1885 at Maryville, Mo., J. Y. Bicknell, judge, I won second and third on cockerels, with scores of 93¾ and 93¼; second and third on pullets, with scores of 94½ and 94. Again at Trenton, Mo., under Mr. Pierce, I won first, second and third on cockerels, best score 92½; first, second and fourth on pullets, scores 94, 93½, and 92½; first and second on pens.

The last important show at which I exhibited was at St. Louis during the meeting of the American Poultry Association. There, in competition with over 250 of the best Plymouth Rocks to be found east or west, I won first, second and third on pullets, with scores of 93 points each; first on hen, 92;

Feathers from Female used in Mr. Hitchcock's Mating System.

Feathers from Male used in Mr. Hitchcock's Mating System.

second and third on cockerels, best score 92 (losing one point on weight), and first and third on pens. Since the St. Louis show the judging of winter shows has taken all my time and I have had no chance to show the results of my efforts at single mating, but in the hands of customers my birds have kept right on winning their share of the premiums under judges such as Felch, Pierce, Hewes, Russell, Shellabarger and Browning.

To show further that single mating can be made a success I will give the results obtained by Mr. J. W. Talcott, of Denver, who has been breeding Barred Plymouth Rocks since 1875 and who is one of the best known breeders in the west. In 1892 Mr. Talcott showed the cockerel "Ned" at Denver, winning first place. In 1894 he showed a cockerel bred from "Ned," named "Ned, Jr.," winning second, score 92½, by Hitchcock, also second on pen, the pullets in the pen being bred from "Ned." In 1895 "Ned, Jr.," was first as cock, scoring 92½, under Felch. A cockerel and pullet bred from "Ned, Jr.," each won first place, both scoring 95. Mr. Talcott's first pen scored 188⅛. "Ned, Jr." was shown the following year under Felch and again won first at 92½ points. Three of his sons won first, second and third places as cockerels, scoring 94, 93½ and 93½. The first prize pen again came to Mr. Talcott. I have in my possession the records of other winners bred from "Ned, Jr." and from his sons, but enough has been given to prove that single matings were a success with Mr. Talcott.

CREATING A STRAIN.

When I started single mating I used line-bred females of standard color, bred from pullet matings. With these females I mated a male about two shades lighter than the standard requires. This bird, too, was bred from a pullet mating. The mating gave a fine lot of standard colored males. A large percentage were of about the same shade of color as their sire, but there were some extremely light males. The following season I used a cockerel from this mating, one more distinctly barred throughout, on the best of the females of the year before. This mating was more satisfactory, giving about the same percentage of good pullets and a larger percentage of good males.

For several seasons I thereafter used males of about the same shade of surface color, but as much stronger in undercolor as possible and stronger in color of wings and tail. During this time the increase in good females was slight, but the improvement in males was much more pronounced. I then began using males slightly darker in surface color, with results still more gratifying. The cockerels were much better and at the same time I fully held my own on pullets.

I have gradually darkened the color of my breeding males until now I am using males of nearly the color accepted as standard by most of the western breeders and judges. The dark males with metallic-black barring on back, flights and tail covers are gradually but surely losing favor in the west. When our down-east brothers discard them they too can breed good Plymouth Rocks without having to resort to two matings. Let me say in reply to a question, that I have little trouble in getting good barring in wings and tails.

In closing, let me say to the amateur—should you think of trying the single mating plan, steer clear of dark males with positive black barring in any part of the plumage. It is not recognized by our standard as the color for a Barred Plymouth Rock.

TWENTY-FIVE YEARS A BREEDER.

BY E. L. MILES.

HAVING been requested to give my experience in mating Barred Plymouth Rocks to get the best results in cockerels and pullets, I will say that I have no inclination to air my opinions in print, nor wish to get into any controversy or argument with those who differ with me as to the proper mating of Barred Plymouth Rocks. They are entitled to their opinions and I to mine.

But for the benefit of those who may like to know, I will give my experience with the variety in question. I began twenty-five years ago with stock from the original Spaulding cross. In those days the pullets came quite dark. They were shown in pairs, and the standard called for birds matching in the show pen. I soon learned they did not come that way. I tried birds from the Drake and Upham strains, and found it just the same.

It is true "like will produce like," and in nothing is this more true than in breeding Barred Plymouth Rocks. All know that this breed was produced by a cross of a light-colored male and a black hen. No matter how you mate them, every time the cockerels will come lighter than the pullets, from the same pair.

I concluded I must get my pullets lighter in color, for it is better to have one good cockerel in ten and eight good pullets in ten than the reverse, as to sexes. I selected the lightest males and females I could get. Soon my pullets began to win. In 1883 I sent a pair to D. A. Upham, one of the oldest breeders of Plymouth Rocks in the world. He wrote he did not see how I bred up to such pullets — "most all breeders can get good cockerels, but they cannot breed good pullets."

Most fanciers like to breed from a pretty looking, rich blue cockerel, but such birds will not produce high-class, light-colored, exhibition pullets. About thirteen years ago a breeder said to another whom he met, neither of whom I at that time knew: "If you want good Plymouth Rock pullets, send to Miles, on Long Island; he is famous for pullets, but his cockerels are too light for me."

I had seen by that time that if I wanted to keep the color of the cockerels up, and to match the pullets, I must make special matings for cockerels by using darker males and darker females until my cockerels came dark enough.

There is no need for me to give the shapes and points required in Plymouth Rocks, the standard does that. You must depend on the female for size and shape, and on the male for color and barrings.

I have mated a cockerel strong in tail and wing barrings, with a female fine in size and shape, but mossy in tail and wings. The cockerels from this mating were large and fine in shape, with splendid tail and wing barrings, like the sire. The pullets were mossy in tail and wings like the dam. You must balance cuts in comb, shape, etc., by using a bird that goes to the other extreme in those points.

When your pullets are light enough, you can bring the colors nearer together by using darker males, so as to produce good average cockerels and pullets from the same pen. I have produced prize-winning cockerels and pullets from the same pen, but never from the same pair. Even then it was under a judge who liked quite a dark female.

Some breeders who claim they practice the single mating system, claim in their catalogues: "A large per cent. of fine cockerels expected from this pen." That is special mating in a measure. Some claim we are making two varieties, and that they should be called "Cockerel Rocks" and "Pullet Rocks." There is only one variety of Partridge Cochins and Dark Brahmas, still the breeders whose stock win the most prizes practice special matings. Why is it, if you buy their prize winners, and breed them as shown, you cannot breed birds that will be prize winners in strong competition? Because the old birds were not bred that way.

It would be very nice to get high-class, prize-winning cockerels and pullets from the same pen. I cannot do it, and I breed what my trade demands.

MONTAUK VI—Bred by E. L. Miles; a fine, large Cock and Cockerel; elegant in Shape, Barring, and Color; a Winner wherever shown, and a Sire of Winners.

EXHIBITION COCKERELS AND PULLETS.

To get exhibition cockerels I take a medium large but active cock or cockerel of good shape and style, quite low on the legs. A full, deep breast and a rising saddle will give good shape of back. Have the tail broad at base, not pinched, quite short and strongly barred, the sickles and coverts making a nice finish. Have the entire plumage of an even shade, a rich, dark blue with no metallic black bars. Have plumage barred to skin in every section; wing, strongly barred and

free from mossy or smoky patches. Have him as good in all standard points as can be found. Have five broad serrations on comb. I prefer four to six on a breeder.

The female should be much darker than show or standard color. She should have large, broad, flat back, rising saddle, tail broad at base, short as possible and carried low; full, round, deep breast; legs wide apart, and big bone. Have her barred to the skin in all sections, at least eight bars on back feathers, the dark bars wider than the light; eight bars in fluff feathers, seven to eight in neck and six in breast.

For exhibition pullets take a cockerel as light as need be to bring your pullets to a proper shade, which, of course, depends on how light or dark your females may now be. It will probably require a cockerel three or four shades lighter than standard or exhibition color. He should show a clear-cut, narrow bar, extending as deep as possible. A cockerel that shows considerable cotton in under-color will breed fine colored and well barred pullets, if from a pullet-breeding line. He should have rich, yellow legs and beak, with shape and standard points like a cockerel breeder

The female in this mating should be of a light, mild blue, barred to the skin in all sections, each feather ending in a dark bar. She should have the same number of bars on feathers as cockerel breeders have—five bars on breast feathers are as many as is often seen. I like a wide, broad feather rather than a narrow one. The light and dark bars should here be of equal width.

Yellow legs and beaks are very desirable, but they are not the only things that go to make a chicken for use or beauty. It is shape, color and barrings that score. The first prize cockerels and pullets in New York and other large shows often show color in beak and spots on legs. If we get the dark pigment or coloring matter to the roots of the feathers it often shows in the beak. So do not condemn a bird, fine in every other respect, for a little bronze in legs or beak.

Good under-color gives a richness to a bird's appearance, and produces a nice-looking feather. I do not breed a bird in my cockerel matings that has not good under-barring, but I care more for a bar I can see than for one I cannot see. Few in the show room or yard can see the under-color of a bird. You see washed-out, splashed and blotchy birds with a blue ribbon, and ask why does such a bird win? "Oh! she opens splendidly." Under-color answers for a multitude of sins. Although I never exhibit except at our local exhibitions, to help out, hundreds of my birds have won in the hands of others.

Wing of a Montauk-Cockerel bred by E. L. Miles.

A SINGLE MATING ADVOCATE.

BY C. A. EMRY.

THE Barred Plymouth Rocks have made for themselves a name worthy of the grand fowl that they are. Their name is familiar to every one and their fame is national. Why this great popularity? Why the increasing demand for them? They hold to-day the love of more fanciers' hearts than any other breed. They please alike the true fancier and his friends. When bred for standard markings, they are a representative of dollars and cents, a reality that can be banked upon as certain as any other values or business. New breeds may come, but "America's greatest production," Barred Plymouth Rocks, holds the fort.

Standard colored Plymouth Rocks in their beautiful suits are a combination pleasing in appearance. They hold their beauty under varied conditions, upon the farm, the lawn or in the market stalls, and command the top price under all conditions. The ministers' eyes sparkle when they behold their "yellow legs," and our "colored friends" can select them in the dark with unerring certainty. They are truly remarkable in many ways.

How can they be bred free from that dingy, smutty, dark line of females, is the problem about which many are asking. Upon this point hinges the profits—a point upon which we wish to give a little of our experience.

Among a majority of breeders, double matings are practiced—a mating for finely marked pullets, and a separate mating for finely marked cockerels. Others mate for standard color in both males and females. Among this latter class we take our stand and are a firm believer that "like will produce like" in both sexes of Plymouth Rocks in the near future. Their tendency to breed light colored males and dark colored females can only become less and less by the slow and steady mating of specimens nearing standard color. To accomplish this, one must have good foundation stock. Carefully mate different yards. Do some inbreeding, and the line of progeny can be steadily placed upon a higher basis.

Our best barred birds in under-color are, as a rule, the cleanest in surface color. One must use well-barred under-color, as good under-color is the foundation of good Plymouth Rocks.

To mate for standard color select well-barred birds, nearing the true blue bar upon the grayish-white color; use no bird showing a bronze tinge and have males as free from any brassy coloring as possible. Look well to good bay eyes, clear yellow legs, and beaks of females as free from dark coloring as possible. Have clear yellow beaks on males. In shape select full, round, deep breasts, broad backs and full,

A Boston Winner, bred and owned by Wm. Ellery Bright.

well-rounded bodies of medium length. Study the typical shape for Plymouth Rocks, as illustrated in this book, and breed from good styled birds only.

THE FARMER AND AMATEUR.

The farmer or amateur breeder should study well his matings and work for improvement. Should your stock all be of a dark and smutty color, i. e., three colors, grayish-white, dark bars, smutty surface coloring, discard them and start anew. Purchase a trio of clear colored birds, free from brown or mossy color; give them a good yard and select your best specimens for future mating that are nearest to the true standard color.

Should your flock contain some well-colored females, select them, build a nice yard for them, purchase a clear colored male and care well for their progeny. Should your mating prove good, your pullets be large sized, with good shape and deep keel bones, select from them your best specimens and mate them next year with their sire. This is judicious in-breeding that will establish good markings, with strong blood lines of breeding. With this yard you should place a choice pullet of different blood relation. Select her eggs (place her in a separate coop until she has laid her eggs) and from this special pullet's progeny you can select cockerels for your next year's matings.

To select fine females, look for small, straight, five or six point combs; ear-lobes pure red; eyes bright bay; beaks, ground color yellow, with as little dark shading as possible; necks slightly arched; backs and bodies of medium length; breasts full and round; legs yellow; color of plumage, grayish-white, with bars of bluish-tinged black; evenly barred under-color; surface color clear and only showing the two colors.

In the best colored specimens the bluish-tinged bars are less in width than the grayish-white, and vary from five to nine bars to the feathers in the different sections. Do not fail to study the typical Plymouth Rock shape in your selections. Plymouth Rock symmetry makes a bird of beauty.

You will find by experience that blood line breeding has many advantages and it is not always best to add new blood through the male. Choice pullets often add much to the improvement of a flock.

All should remember that the breeding of standard colored Barred Rocks is the hardest task the fancier meets, and should your work fail to please you, "Try, try again."

The double mating Plymouth Rock fancier, from his mating for pullets fine in plumage, expects a lot of light colored, worthless cockerels, (and his expectations are realized), and from his special cockerel mating we get our dark, smutty, worthless females. Plymouth Rock fanciers should rise above this and by their work make like produce like in Plymouth Rock breeding.

At times we have felt a little blue when we have been told by some double mating crank "for the most profit" that "you cannot make single matings win, for I have tried it." But when these same "you cannot" fellows lay down good hard cash for their show winners, for specimens bred from single matings, we have smiled serenely and not lost even a small particle of our faith, firmly fixed years ago, that like will produce like in Barred Plymouth Rock matings, and that there are no such words as "fail" or "you cannot," in the determined poultryman's dictionary. The day will come when brother and sister in Barred Plymouth Rocks, typical in shape and color, will stand side by side and their blood relations will breed as true to color as a pen of well-bred Light Brahmas.

LINE BREEDING.

BY A. C. SMITH.

TO avoid any misunderstanding as to the meaning of the term line breeding, and to escape the adoption of many different interpretations, the writer will briefly define his idea of what line breeding really consists.

Line breeding, as generally understood and spoken of by the breeders of fancy poultry, consists of using certain types and methods from year to year which produce uniform results. The method in vogue with most of the leading breeders of that

variety in the breeding of exhibition Barred Plymouth Rocks, involving the use only of standard colored males and their daughters when breeding exhibition males, and of standard colored females and their sons when breeding exhibition females, is a good illustration of what the writer understands as line breeding. More strictly, it may be said to be mating of stock with relation to one phenomenal bird, so that the best qualities of that bird are reproduced in an appreciable percentage of the progeny.

This mating with relation to one bird, if that is wisely selected, is the most apt to meet with happy results. Line breeding is not necessarily in-and-in breeding, nor yet even in-breeding, though it will in all probability involve the latter principle. The writer has no hesitation in advocating it as the best and surest method, especially for a small breeder, even if it is not absolutely necessary. It has been a recognized fact for some years that the quickest and surest way of reproducing the characteristics of a male bird is to breed him to his own offspring, and in the case of a female the same law holds good. No process or system that was ever brought to my notice was half so efficient in stamping a flock with this or that characteristic. If by this means you can stamp a flock with one quality, why not two, three or a dozen? So you see, the nearer to perfection your foundation bird, the nearer perfection your flock at any given interval.

As I started this article with an illustration that mentioned Barred Plymouth Rocks, I will follow it throughout, though I believe the same principles are true in the breeding of any breed or variety.

It is possible to mate an exhibition male to females that were sired by other exhibition males, and thereby to produce exhibition males, even though none of the parent birds are related, but it is not a model mating under many circumstances. Such a mating has this disadvantage, that by the crossing of two different lines of blood the special characteristics of each will be modified and sometimes entirely obliterated. It has on the other hand this advantage, that the strong points of each may be reproduced to an extent that make such a move desirable.

In most instances, however, better results would be obtained by mating males and females that are slightly related. Many deem this unwise on the ground that it impairs vitality. Such is very apt to be the case if too close a relationship is too often chosen. But in the mingling of the different lines of blood lies the breeder's opportunity for improvement. A line of blood will have faulty characteristics as well as those that are meritorious, and there comes a time when one or another of these faults assumes such proportions that it must be corrected. When faults occur so frequently as to become characteristics of the strain, the surest and quickest way to correct them is by introducing new blood. This should be selected from a line which is designed to produce the same results as the line with which it is to be combined.

An experience of my own convinced me of the necessity of having "warmer blood," as it is called, in the mating. The old Barred Plymouth Rock cock "Rally," the bird to which this strain of Rock cockerels owes much of its merit—pardon me if I assume that it has some little merit—was a bird about which I knew but one thing, i. e., his sire was a remarkably fine specimen, whose breeding was well established.

The first year "Rally" was mated to females that promised to aid him in the production of some fine exhibition cockerels. They were from a cockerel line, but between "Rally" and these females there was not the remotest sign of any relationship. They failed to produce anything that was extraordinary, with one exception, and though he was a marvel in all respects except comb, that was so marvelously poor that I did not care to breed from him. That mating was a failure. Foreign blood that did not nick is the explanation.

The next year "Rally" was mated to females the sire of which was related to his sire, a distant relationship between male and females, and the results were decidedly more satisfactory. The cockerels from this mating received awards at Boston and won at some other shows. But the best results came later when the line had, by longer development, become stronger. It was "Rally's" grandsons that especially distinguished themselves. "Rally's" grandson tied for first at Boston, 1896, and lost the place by the weight clause alone. "Rally II," also a grandson of old "Rally," won the grand sweepstakes for best Barred Plymouth Rock male, and was at the head of the best exhibition yard at Boston, 1898. Both birds resembled the old king pin of the show ring, who also won at Boston in his third year. To show the strength of the line, it may be said that "Rally's" grandson was such through the female side of the family, while "Rally II" was sired by a son of old "Rally."

The breeding of Barred Plymouth Rocks as practiced by a

majority of breeders, and the writer believes by the best, has developed two distinct lines of blood, one known as the cockerel line and the other known as the pullet line. Some advocate single matings, but the following facts are enough for me. A standard colored hen when mated to a male that with her produces good exhibition females does not produce a single first-class exhibition male, and if by any chance she does produce good exhibition males, the converse is true, the females are not right good exhibition specimens. Neither have I ever known of a case where a standard colored male produced both good males and females from a single female. Many reasons have been and still might be advanced for adopting a double mating system, but for this article the foregoing will be deemed sufficient, and we will proceed upon the plan of two distinct matings

ESTABLISHING A STRAIN.

By far the most scientific plan, and consequently the surest, is that of procuring one phenomenal bird and upon the characteristics of that individual specimen to establish a line of blood which shall by the strength of its lineage furnish the breeder with a large percentage of exhibition birds of that particular sex. When breeding for exhibition females, an ideal female should be the foundation of the line, and when breeding for exhibition males the one bird upon which the foundation of your line is to rest, should be a male of the greatest exhibition merit. Starting with the right bird and by working the right methods, the breeder has every reason to expect ultimate success. A certain amount of time is required for all things, and as much in the breeding of fancy poultry as in anything else. Great improvement rarely comes the first year. Three to five years are required before the line becomes sufficiently developed to show its strength.

As to the selection of the one phenomenal bird, nothing should be said except that it should be one as near the breeder's own ideal as he can obtain either by breeding or purchase. His own ideal may not conform to that described by the Standard of Perfection. If he understands the difference between his own ideal and that pictured by the standard, he may choose which model he wishes to copy and abide by the consequences. If he has wrongly interpreted the standard, contact with other and more experienced breeders will soon apprise him of the fact. It must not be forgotten that the more breeding this model bird has back of it, the quicker will the results desired be reached. It is of vast difference whether this bird has been selected from a haphazard flock of thoroughbreds which by chance produced one extraordinary specimen, or from some flock which has reached a remarkable degree of perfection through years of systematic breeding and from which other specimens could be selected but slightly inferior to the first choice. The former may be of use and may not, the latter will be. To establish a line from the former, inbreeding will at the outset be inevitable and must be practiced in some degree for several generations.

Fortunate, indeed, would one be to secure a specimen which at once meets all the requirements of the eye—that is, faultless in shape and perfect in feather—a model of its kind. It would seem a pity that it had not the power to reproduce itself without the aid of a mate, which appears to us as an insurmountable obstacle in our path of progress But as perfection has never been attained, herein lies our hope of attaining it—by mating the sexes, we may, or we hope we may, produce a composite that is our ideal, and were the human mind but large enough it would be done.

This model having been secured, it then becomes necessary to select a mate. Two things should be then considered, first and most important, is the breeding of the bird, and, second, is the individuality. A thing that must not be lost sight of is the prevailing individuality of the flock, bird for bird. Are the characteristics of the flock the characteristics of the individual bird? If such is the case, the breeder may expect their traits to have their influence upon the progeny.

After the first year's breeding the model should be bred to young of its own. These should be selected for merit exclusively, except that they magnify the faults of the model bird. In that case the breeder should select, if it is possible, good specimens that do not follow the model in these faulty particulars.

If the model be a male, it is well to add a female to the breeding yard if one is found of foreign blood that is well

KING JAMES I

Barred Plymouth Rock Cock, bred by Jas. Corfman, specialty breeder, Leipsic, Ohio, winner of first prize at Leipsic Show, January 2-6, 1906, receiving a score of 92 in Competition—T. E. Orr, judge.

adapted to the purpose, and thus start a new line, but one that still holds a relationship to the first line. This will serve nicely for breeding in later years instead of introducing wholly foreign blood.

Following the supposition that our model is a male, the third year will afford an opportunity for many interesting variations. We have first the model mated to his daughters and grand-daughters of the first line, also to his daughters of the second line, and always the possibility of starting the third line, if we see a chance of improving the first or second. Then we have the possibility of mating the best son of each line to his dam and his dam's sisters, also to his full and half-sisters. In fact, the possible combinations here are so numerous that a general rule for mating as far as relationship is concerned is worthless. The breeder can best decide from the birds, for the

individuality of the birds has much to do with it, and these birds have both individuality and breeding back of them and can be depended upon as reliable breeders.

The same general plan may be followed in breeding a line for females when the model bird is a female. Should the females bred from this model during the first year prove good specimens, one of the sons should be mated to its dam, and the males thereby, being three-quarters the blood of the dam, should be of the greatest worth as breeders of exhibition females.

The writer of this paper frankly acknowledges that between breeding prize winners on paper and the same in reality, there is a vast difference. While papers upon the subject are often interesting and sometimes valuable, the breeder will find that close study of the parent and the chick coupled with good judgment, are a combination hard to beat

I am aware how trifling a matter the breeding of fancy poultry is to the great body of intelligent people uninitiated in its principles and its secrets, and yet I say that human minds have only begun to grasp the possibilities in this direction that should be theirs.

MATING BARRED ROCKS.

BY D. T. HEIMLICH.

I HAVE bred Barred Plymouth Rocks since 1883. The first two years I used birds bought of a local breeder which were bred from the first sent to the west some fifteen years prior. When I exhibited I learned that these undersized, "Dorking-bodied" birds were not of the type then recognized as the best, and the following season, 1885, I bought a sitting of eggs from the veteran Plymouth Rock breeder, I. K. Felch. From these I hatched seven chicks, four pullets and three cockerels. The pullets grew into nice, bright looking birds and were later scored by Messrs. Pierce, Felch and Comings from 91½ to 95. The cockerels matured into large birds of a Brahma type, light in color throughout. They produced a fair per cent. of good pullets, but no cockerels that were fit to exhibit.

In 1888 I introduced a cockerel sired by a bird medium light throughout, which was hatched from eggs purchased of Capt. Jas. E. White, of Waukegan, Ill. Mr. Felch scored him at 91½ points. This cockerel was of a fine type, having a good carriage, with low, four-pointed comb and bright plumage. He proved to be the equal of his sire as a breeder. In the show room he scored 92½. I mated this bird to females of the original Felch stock, placing him in different yards and mating the birds in such manner as my judgment and experience lead me to believe would give good results. I had control of several flocks and pens and so had the opportunity to place and mate the birds, and there was a decided upward tendency in the quality of both sexes. For fourteen years I bred one line of males, introducing from time to time from the yards of successful breeders, females that were superior specimens.

Being an advocate of the single mating method of producing exhibition birds, I endeavored to carry out the theory that it could be accomplished by avoiding extremes and by gradually overcoming the tendency to reversion of the male progeny to a light, washed out shade of color and barring by using males free from metallic black bars, but with the color going well down to the skin, and mating them to females that in color and barring approached nearest to the standard description

By this method of mating I have been able to produce a large per cent. of male birds fit to use as breeders, about twenty per cent. of them being exhibition specimens that have won prizes under competent judges, scoring 90 to 93½ points in strong competition. I have also obtained females scoring 91 to 94½ points and, in one instance, 96 points by a man who was competent as a comparison judge, but who had little experience with the score card.

I still adhere to the theory that the best results can be attained by using even, clear and deep barred males mated to females clearly and distinctly barred, having yellow skin and clear, or almost clear yellow legs and beak, because this theory with me has proved correct. I follow the single mating system, modified by avoiding extremes such as are used by the double mating plan. I cannot deny that the best results, so far as scores are concerned, have been attained by the double mating method. My observation as a breeder and judge of this variety leads me to confess that the advocates of the double mating method have the advantage of the argument, as more birds of high merit can be produced by the double mating than by the single, and so long as breeders mix strains this will be true. The few will prove successful, because they adhere to a sytem of selection and mating that is calculated to produce cockerels or pullets. The amateur loses nine times out of ten when he buys new blood every year, which is not suitable to properly mix with what he has in his flocks, or pen, or individual.

BELIEVES IN SINGLE MATING.

But having selected, mated and bred for the experience gained, as well as for best results, I believe that the single mating plan will eventually be adopted by all, as the only plan whereby a large majority of high-quality birds of both sexes can be produced. The reason that more have not succeeded by this method is that they have not followed up a well defined plan or sytem of mating the darker and more evenly barred specimens to the higher quality females and then inbreeding the best. Too many of them have quit after the first attempt, forgetting that two strictly first-class individuals bred from extremely mated individuals cannot and will not reproduce their individual qualities, because of the conflicting blood that must be neutralized, so to speak, by having a degree at least of the ancestry tendencies eliminated. After several years of inbreeding I can breed birds of both sexes in which the best qualities of the ancestors are fixed.

These facts are proven to me very often. A would-be breeder buys a pair of birds or a sitting of eggs from yards where the double mating system is practiced intelligently and properly to obtain the best results. The buyer may hatch, raise and exhibit a cockerel correct in type and color, evenly barred throughout with narrow bars. He scores 91 or more by several judges, thus proving himself well worthy to be called first-class. The females will prove to be large, good shaped birds, bright in surface color and wide in barring of plumage, giving that desirable effect that pleases the eye of the fancier. They score up in the nineties and he believes that he has that which will produce for him grand results; but do they? No, they do not. The sire produces

A Madison Square Garden First Prize Exhibition Pen, owned by C. H. Welles.

his male progeny just opposite to himself, many shades lighter, just what the sire, grandsire, or great-grandsire of the females were. The pullets he produces are of his own type of barring, but just as much too dark as the females from which they were produced are too open, and they are cut for defective spacing of the bars. What should he do in this case? Mate the sire to the choice of the pullets, and the evenest and narrowest barred cockerel to the hens. Record the eggs of two of the best hens and when hatched and matured, select and mate such as are, in plumage and barring, the modified extremes of the parents. By such a method where clearness of color, well defined barring and a good skin, beak and leg color have been considered, a combination is made that will stand and will prove satisfactory as a single mating. But such results are and can only be obtained by careful selection of the choicest. By inbreeding no harm is done unless unsuitable fowls are mated.

By the lack of skill and judgment in the selection of a pair or trio as foundation stock, all the latent defects of past generations are brought out and intensified and the birds prove worthless to the owner and are fit only for market poultry. But on the other hand, by the use of skill and judgment in the selection of the foundation stock, all future generations can be built up and each season further improvement and beauty appear with each generation because the right foundation underlies the whole structure. The true fancier admires this variety because they are so difficult to breed. He delights to give credit to any and all whose aim is to help perfect them, whether it be by the single or double mating system. Either plan will prove worthy of the best thought, providing it is intelligently followed, and all breeders should be encouraged in the achievement of the goal, which is the production of a Barred Rock that shall in all details fill the demand of our standard and coincide with the ideal of the fanciers of this variety.

ADVOCATES THE SINGLE MATING.

BY I. K. FELCH.

I BELIEVE ornithologists tell us birds of blue plumage have very little color pigment in their plumage, and so are far more susceptible to climatic influences than other colored birds. We are all aware that the mating of birds or fowls is for color, for perfect shape in both male and female must beget perfect shape, but to control the color is a different matter, and it is only when previous breeding has been on a line with our recommendations that we can expect good results.

Soil and climate play an important part in the coloring of the plumage of Plymouth Rocks, and they should be taken into consideration by breeders. Birds raised on a soil which contains a great deal of iron (the waters of which are charged with iron) will have very dark plumage. Care should be taken to given such flocks only filtered cistern or rain water to drink. Ground which has a gravel sub-soil, free from iron deposit, is most suitable for raising Barred Plymouth Rocks. Since both soil and climate have so strong an effect on the plumage of birds, one who writes on mating in a general way is liable to be criticised in one section of country and applauded in another.

The term single mating is misunderstood by many amateurs. Let us see if we can throw any light on the problem. Suppose one selects the best half of his cockerels and discards from them any specimen whose plumage shows absolute white and positive black bars. The plumage of those that are left will be found to be bluish gray, barred with darker blue—but even in the darker specimens the bars must stop short of black. Now if one selects from this limited number males to score 90 or better, he is mating on the single mating plan, because he is using only strictly first-class, standard-colored specimens.

Follow the same plan with the pullets. Select the best half and discard from them all specimens that show positive black bars in the plumage. From these select pullets that score 92 and upwards, or hens that score 90 or over. Such birds may be pronounced standard specimens. Now if the darkest of these males are mated to the lightest of the females, and the lightest males to the darkest females, then those left —the middle mating, so to speak—will be a strictly standard colored mating, if the flock is a first-class one such as we shall describe under "Pen Number One."

A pen picture is the most strictly truthful way of describing a bird. Artists as a rule overdo the work. Illustrations which exceed the actual beauty of specimens have caused many amateurs to become disheartened and retire from the business. Exaggeration is harmful and unnecessary. There is beauty enough in the actual lines and color to satisfy the sensible breeder.

If we mate a standard male to females blue in ground color and barred with black, in order to produce a standard colored male, and mate a barless, grayish-white male to standard colored females in order to produce standard colored pullets, even though they be standard colored pullets, and then should mate such a begotten cockerel to such pullets, even though they be standard color—we are mating extremes in blood just as much as if the male were a faded out, barless specimen and the females dark, smutty, worthless pullets, and they are worth only as much as market fowls. When sound and healthy rules of breeding have been observed, and standard males and females have been produced from the same pen, such specimens will bring high prices, causing the best mating in Plymouth Rocks to be a very high-priced pen, that is, one such as should be for the male line in our breeding.

PEN NUMBER ONE.

The male shaped as in our pen picture. Quarter muscles large and firm; a well-cupped wing; the muscle along the keel bone full and firm, giving a full, round side; back wide at cape, flat to hip; a pure concave sweep of saddle to tail, with saddle hangers long and finely barred. Color, a pure bluish-gray, barred with dark blue, the saddle hanger being a silver blue, barred with a darker blue. Breast plumage with five bars so arranged that when the head is lifted the dark bars show in rings about the breast, body and thighs. Full, or above standard weight; a cock preferred.

Mate with such a male pullets well grown, full and round in breast; back slightly puffed just in front of the tail, thus destroying a pronounced concave sweep; wings well cupped, tail medium in length. Plumage of back and breast having

five or more bars across the feather. Color, same as in breast of cockerel— a "pure bluish-gray with dark blue bars," free from white or positive black in either sex. Nature's best in both sexes will be the best obtainable and there will be wasters of both sexes. There will be light culls among the cockerels and too dark pullets, but the number, counting both sexes, that will score 90 or more points, will be greater than from any other mating. We pronounce this to be the best mating.

PEN NO. 2.

A well-grown cockerel with shape as near that of the cock described as his age and development will admit. Color, even from beak to extremities a light bluish-gray with slaty blue bars. Would be many shades lighter when standing beside the male in Pen No. 1. To him mate hens that as pullets were of the color described for Pen No. 1, but which molted a trifle darker as adults, discarding all that do not molt clear, for it may be that your climate has affected them, but the general results will be good from this pen also.

PEN NO. 3.

Male as near perfection in shape as possible; a decidedly blocky specimen with light yellow beak and legs; of great size. Under-color and ground color of web gray, having a blue tinge, barred to the skin with dull blue, or it might be called slate color of a light shade.

To this male mate standard colored females or those that might be said to be whitish-gray barred with sky-blue if a single feather were held up. This mating is for pullets that will become fit mates for the dark cockerels that came from Pen No. 1. The males from this pen that come like the sire are to be used with the darker average of the pullets from Pen No. 2, while the females in Pen No. 3 that molt into hens of standard color, "bluish-gray barred with a darker blue," may be used in their second year in Pen No. 1, using a cockerel as the head of the pen.

Black, smutty females should have no place in a breeder's or fancier's yards as thoroughbreds. Incubator men and poulterers who want brown eggs for market purposes can use such birds. Barless, gray cockerels should be killed for broilers, where they will be appreciated and in that capacity never disappoint you.

While by the general application of the above rules we may hope predicted results will follow, it would be folly to say they will follow, for mixing colors in these living vessels is far different from mixing mineral paints, each of which has a fixed value and effect. In these living specimens there come in the influence and prepotency of several generations and the breeder has no knowledge of them. This may have an effect that will disappoint him. The influences that produce too light or too dark a color are to be noted as guides for future matings.

FUTURE OF BARRED ROCKS.

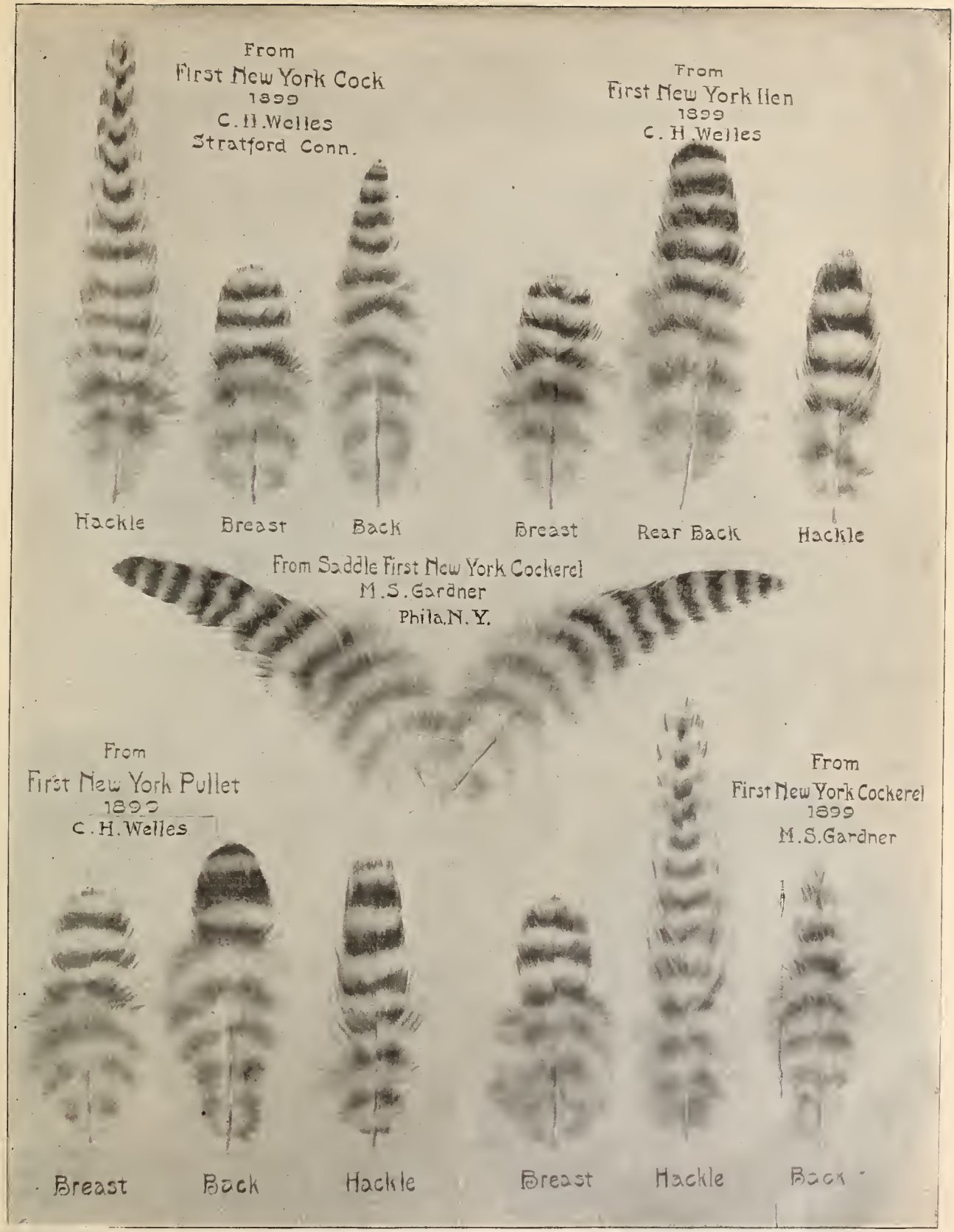
BY MRS. BERT H. WHITE.

BEING of purely American origin, we justly claim the Barred Plymouth Rock as our very own. Its origin is not traditional, but is a well-known historical fact. It is a far reach from the specimens produced from the first mating of the Dominique male and the Black Java hen a half century ago, to the specimens of Barred Rocks exhibited in the show rooms of to-day. What aspirations, what disappointments, what failures, and best of all, what successes are embraced in this fifty years. The fact that it requires much thought and care in mating this breed in order to produce even an ordinary degree of good quality, has caused the Barred Rocks to suffer a little in popularity with a certain class who desire success without the studied effort that makes success sweet and worth having. Had the Barred Rock Adam and Eve been of the same color and race, I can see how much trouble would have been saved to latter day breeders of this beautiful fowl. The path of Barred Rock breeders for the past ten years has not been strewn with roses, for just so sure as there is no substitute for hard work in winning success, just so sure is it that only the hard working, thoughtful few have made a record on the page of success in the Barred Rock history.

A common idea has existed among new breeders that there is an element of chance embraced in the mating of this variety that does not exist in other varieties. This we believe has been the cause of much discouragement. When mating good specimens of Barred Rocks together there is no chance involved in it, and while there may exist a degree of uncertainty—which is very interesting—almost as much depends upon the breeding of their ancestors as on the specimens themselves.

In regard to the double vs. single mating question, we think it is as yet an unsolved problem. We believe in single mating and also that breeders are getting their matings less extreme every year. Although we have always practiced double mating, our matings the past season were several degrees nearer the same color than they were two seasons ago. We have had the child's excuse in years past, that "we didn't know any better," but we do know better now and each succeeding season finds our breeders nearer the same color. We believe that all Barred Rock breeders are working along these lines, or rather, with this end in view.

It seems to us from our experience that since the double mating blood is so diffused among Barred Plymouth Rocks, the only way the single mating system can ever be established is for each breeder to select birds nearer alike in color, noting the defects of each and the effect of one on the other, and carefully but slowly proceed along this line until we can produce males and females alike in color. Much has been done in this direction and there is a world-wide chance for more to be accomplished. When we can produce brothers and sisters from the same mating that can stand side by side in the show room and win first place, then and then only will we have established a single mating system for Barred Rocks. But that time has not yet arrived and when it does come, the fun will have only just begun and will not be over, as some one has suggested. It will take years to accomplish this, years of patience and perseverance. We all know what has been done with the Barred Plymouth Rock, but we do not know what more can be done toward improving this best of all varieties of fowls. It will have to be, as some one puts it, a labor of love. Success to all breeders of the general favorite, the Barred Plymouth Rock. It is at home in every farmyard in America, it is the first in the Standard of Perfection, it ranks first in numbers produced, and it is first in the heart of the American fancier.



Specimen Barred Plymouth Rock Feathers plucked from the Four Prize Winners at the Madison Square Garden Show, held at New York, Jan. 31–Feb. 4, 1899. These feathers were arranged by the editor of the Reliable Poultry Journal and photographed under his personal supervision. Not one of them was "touched up" or retouched in any way

JUDGING BARRED ROCKS AT NEW YORK.

Mr. H. Scudder, Who Occupies the Unique Position of Being Selected Year After Year to Judge This One Variety at the Great Madison Square Garden Show, New York City, Tells in Detail How He Proceeds with the Work, and Why He Does Thus and So—Demonstrates the Value of the Score Card.

BY H. SCUDDER.

I HAVE been greatly interested reading in the various journals sent me the views pro and con of different breeders regarding the breeding and judging of Plymouth Rocks. I think I may venture to say that the vice of failing to agree as to what is standard shape, color and carriage, is not confined to the judges of the Plymouth Rock class alone. A perusal of the many scholarly contributions of both breeders and exhibitors will at once demonstrate that both breeders and exhibitors are as far, if not farther, from being of one mind as to what constitutes perfection of form and color as are the judges. I have no desire to attempt to lay down the law. I do, however, desire to bring to the attention of every breeder and exhibitor of Plymouth Rocks the principles that I have endeavored to follow in awarding the prizes at Madison Square Garden for many years past.

I would also like an opportunity to say a word in defense of the application of these principles. I have studiously endeavored to apply the same principles in making my awards as I like to see applied by the best jurists in our courts. First, however self-sufficient this may seem to those who ascribe to me prejudice in favor of different fads, I firmly believe and as strenuously endeavor to practice my belief that no judge has any right to arrogate to himself such an interpretation of the standard as will permit him to ride hobbies. It is not what a judge likes that is the law of chickendom, but it is what the standard says that counts. The personal equation must, perforce, so long as men are men, enter into the interpretation of any written law, but beyond those modifications, which are the fruit of the action of the individual mind in interpreting written language, no man who aspires to the position of judge should permit himself to go. In a word, a man who has not the judicial temperament, or having it has not the brains to apply the law as laid down, should be relegated to the spectators' bench.

Barred Plymouth Rock, "Island Belle III," a First Prize Pullet, scoring 94. Bred and owned by R. L. Miles, Sag Harbor, L. I., N. Y.

How often have we heard men clothed with the ermine uttering such sentences as these: "When I see a good bird I cannot score her high enough, and when I see a bad one I cannot hit her hard enough." The practice in small local shows of scoring the winning birds at 94, 94½ and 95, no matter what their actual quality, is a most fruitful cause of bickerings. The vulgar, every-day form of trickery, such as taking care of one's friend at the expense of one's enemies, I may with perfect truth say I have never seen at any of our poultry shows. But we do see, and see every day, specimens whose actual value is not a point above 90 scored away up into the middle nineties. Were those specimens to be placed that self-same day in New York in competition with the birds that gather there, and the same judge called upon to officiate, those very birds would not go above ninety or ninety-one; and right here let me add a word, there is a greater difference between a ninety-four and a half point bird and a ninety-five point bird than there is between a ninety point bird and a ninety-three point bird.

VALUE OF THAT LAST ONE-HALF POINT

A mathematical comparison of the values of the two classes of birds is of but slight value unless we analyze what such a comparison means. A man who can turn out a trotting horse that can go in 2.03 can get his own price. The half-dozen horses with records ranging from 2:05 to 2:06 together can hardly command the price the one phenomenal animal capable of the mile in 2:03 would command. Every fraction of a point increases in value in geometrical ratio as one approaches perfection.

The New York Show is the rallying ground of the birds

that have won the highest honors in their local exhibitions, and many of them have had further stamped upon them the approval of Boston, Washington, Chicago, St. Louis and other great shows before finally assembling at New York. The Plymouth Rock class presented for the consideration of the judge is not an indiscriminate selection from a thousand poultry yards, but is the concrete expression of the efforts of the most skilled breeders in the country after having been

Well Barred Feathers from a Barred Plymouth Rock.

passed in review before a trained body of inspectors who have winnowed the wheat from the chaff and selected what in their opinions were the plumpest and finest grains.

I have often thought a lack of uniformity of type in the birds picked out by me as the winners at New York has been due to the lack of uniformity in the type of the winners selected by other judges in advance of the New York show. Has it ever occurred to my kindly critics that the birds placed before me are the selections made by the best judges in the land in a hundred hotly contested exhibitions, and that such selected birds should so nearly approach a uniform type as to leave me no opportunity for such a diversion from that accepted type as would cause comment, unless I deliberately sacrificed truth to rascality? Yet consider what does confront me! Twenty-five selected females, we will say for example, in the pullet class, every one of them a winner in former shows; ten other pullets, either held in reserve by their owners or selected by them as equal or superior to the birds that have passed through the ordeal of the show room.

Are these thirty-five birds of one settled type? Not at all. Do they approach any one fixed or settled type with merely such modifications and variations as the individual always displays in a state of nature? Still less. The fact is that every conceivable type of bird as regards shape, carriage, color, style and size is presented for me to select from; and yet the men who judged them at former shows are presumed to have no less a knowledge of how to apply the standard than have I. Were the standard applied in an ideal manner, the tendency of the selections made at the minor exhibitions would be to conform to one type, and the judge at the big final show of the season would then only have the task of making his selection of the best from the many specimens approaching more or less near to that one type already defined by the judges at the preceding shows.

Now let us take these birds up as individuals and what do we find? Probably twenty of the thirty-five have won at some one of the smaller shows scoring 93 1-3 to 94 points. The other fifteen run from 94 to 95, as birds are scored at such shows. Now one of two things is the case—either the men who scored these birds at former shows did not know their business, or I (to be logical in my work) must put these birds all on an even plane and say that they are all alike and all equally worthy of a first prize, that is, to say that all those which scored 95 in the past should have a first, and so on down the list.

To do that would be a very easy way out of it for me, but I fail to see how it would be of any great value to the exhibitor. The only other course open to me, therefore, is to examine and see how the gentlemen who handled these birds in former shows did their work. Now, good brethren, nothing personal is meant by this. I have no axe to grind. I am seeking no business judging shows. I am pushing no strain of birds, and those who have seen me work will at least credit me with doing what I do thoroughly, and herein lies what I think is the cause of much, if not all, of the adverse criticism on the results achieved in New York.

ONE FORM OR STYLE OF SCORE CARD.

Well, here we are with fifteen birds that under ordinary circumstances would score from 94 to 95 points in any local show, and of which probably ten have scored 94½, 94¾ and 95. What is the first thing I do in the class—I start at one end and look over every bird without annoying them or in any way disturbing their natural position. Birds with smutty tails, a dozen black feathers appearing on the surface, white in the ear-lobes, absolutely no form or shape resembling that of a Plymouth Rock, barring that is full of black and brown spots, are thrown out at a glance. It is not necessary to examine such birds with minute and careful attention, no more than it is necessary for a judge in a trotting race to consider whether a horse a quarter of a mile behind the flag should be assigned a position in the scoring for the next heat. Assuming that we have eliminated from the list all the birds that upon the surface have absolutely no claims to recognition, I then tie a piece of red or white braid to the front of the coops containing those that seem worthy of further consideration. I have a large sheet of white paper and divide it into heads as follows:

Coop No.....

		Form, Size	Color	Useless Parts
Form	10	10		
Surface color	10		10	
Under-color	10		10	
Comb and Wattles	10			10
Head	5			5
Neck	10	10		
Back	10	10		
Body and Breast	10	10		
Wings	10	5	5	
Tail	10	5	5	
Legs	5			5
Totals	100	50	30	20

It will be noticed that form, shape or carriage, style it what you will, commands fifty points; color, as color alone, 30; and

the useless parts from a utility standpoint, 20. Now if solid black feathers appear in the neck, back, body and breast they are cut accordingly, and a note (B. F.) made in that section.

I go over the entire lot of selected birds, which we will say numbers fifteen, and after looking them over carefully and comparing one with another, I mark that one which nearest approaches a perfect form, say 9½ in the proper space indicated under the head of form on the memoranda sheet; and then without disturbing them I go over the entire lot and select that one which seems to me to carry the best surface color and mark that one 9, 9½, 9¾ on my memoranda sheet, as the quality of the surface color would seem to warrant. All birds inferior in form and color to the two selected as best in form and color are marked respectively 9, 8½, 8 and so on as they severally would seem to be worthy. I next take the shape, the color and the condition of the comb and wattles, marking the best one in the class whatever it is worth and the others accordingly. I next take up the head, including eye, beak, and face, also ear-lobes, and mark the bird having the best of those qualities the highest, and the others in proportion.

THOROUGH WORK NECESSARY.

I now take each one of the fifteen selected birds out of its cage, one after the other, and examine their under-color from top to bottom, that is to say the neck, back and body under-color. To that bird having the best I again give the highest mark, and so on down the list. I now take up each separate section, neck, back, tail, wings, body and legs. I pick out the one having the best shaped neck. This does not mean the best shaped neck as it would appear if cut off from the body and considered by itself, but the best shaped neck considered in its relation to the manner in which the head is attached to it and to the manner in which it, the neck, in turn is attached to the body.

I go through the same thing as regards the back, looking for a roached back or a dropped thigh or any other deformity, and mark the back in proportion to its approach to an ideal form considered as before with regard to the joining of the back with the other parts of the body. I then pass to the tail, and here, as we have not considered the under-color, I examine the entire tail for discolored feathers in any part of it, breakage or loss of feathers, and mark it accordingly, counting five of the ten points for color, and five for the shape of the tail, both as regards its shape itself and especially as regards its attachment to the body proper of the bird.

The same thing again is done with the wings as with the tail, and the same with the body as with the neck and back. The ten points of the body are entirely given to the shape of the individual parts, as the color of the body is taken care of under the heads of surface color as a whole and under-color as a whole, unless I find hidden black feathers, in which case the section containing the same suffers pro rata, and a note is made that it is not the shape, but the black feathers that caused the cut. The wings and tail I think should be in a separate class as regards under-color.

OBTAINS "COMPLETE AND DETAILED MEMORANDA."

Now you have my method of scoring, or rather of making what is for me a complete and detailed memoranda of the different parts of each and every one of the birds that passes through my hands. I make no claims of superiority for my method. It covers the ground more satisfactorily, and, to my mind, more fully than the standard score can, and discloses at a glance what I have found in the nature of defects, such as black feathers, bars more nearly approaching the nature of spangles than of bars that meet standard requirements, bars indented on both their upper and lower edges with saw teeth indentations wherein the white of the bar almost breaks across the darker portion, and bars with a black sheen or glint such as we find in the Langshan.

To cite a peculiar incident of last winter's show—a bird about which there was always a crowd was peculiarly flecked with white all over her neck, breast and body. Every feather at about one-half an inch from the tip when examined by itself looked as if some one had taken a very fine camel's hair brush, dipped it in white paint and imprinted a little round moon mark right in the center of the second bar from the tip of the feather. Like many others I saw something peculiar about the bird, but her beautiful form, almost perfect legs, beak and comb captivated me, as they did nearly every fancier present. I could not understand what it was that marred her charm, yet felt there was a something which finally disclosed itself on careful investigation. When I pointed out the defect, as I did afterwards to a dozen or more prominent breeders, all of whom "could not understand why this bird did not win," each and all exclaimed, "By gracious, that's so! I knew there was something the matter with her all the time, but I just could not quite make out what it was." And yet, before pointing out this white flecking, I was soundly berated by a gentleman who knew it all, for not placing this bird higher than I did.

Friends, the truth is, that all of us fail more or less to see what we look at. Put the city man in the bush and a thousand signs and indications that are like an open book to the woodsman are passed unnoticed. It amounts simply to this, the things we see do not impress themselves upon our brains, and so I have found it to be with dozens of my friends in the poultry world. How many hundreds of defects I have pointed out to men who ought to have seen, but did not see, I cannot tell. I have done it, and have done it so long and so often that my spectacles have become a sort of a standing joke among breeders and exhibitors where I have had the honor of judging.

EVERY HONEST, CAPABLE JUDGE WILL DO THIS.

Another rule that I do my best to live up to is to give, when scoring, absolutely the same score to birds in a small show that I would give to them if put before me in Madison Square Garden. Not only do I not think it any kindness, on the contrary, it amounts almost to a crime in my estimation, for a judge to give to 90-point birds scores of 93 and 94 in small local shows simply because the boys do not like to have the scores of the winners down low. How often have I been applied to with the request that I score the winner as high as I can, and the next prize birds in proportion, so that they can have something to "whoop it up" over in their advertisements. I do not do that way, and as a consequence I am not a popular judge, as popularity goes. I am not seeking engagements to judge and do what I do of it solely for amusement, giving the best there is in me of brains and heart to my work. The first great reform and the best cure for most of the differences existing to-day in Plymouth Rock circles is for all judges to resolve to give only such scores to each individual, as the individual would get in the hottest of hot competition, where the best of the breed are assembled.

One last word as regards the work in New York. Where there are fifteen or twenty birds in a class and all of them have scored at minor shows within one point of each other, it is not within the range of probability, nor within the range of possibility that when a winner is selected out of the lot the score of the first, second and third should differ more than one-quarter or one-half a point. In the eyes of the on-looker there

is always a great gulf between the bird given first and the bird given second, yet in reality, as my notes show, there is often times less than three-quarters of a point between the first and the third or fourth prize birds. Were it otherwise it would be an irrefutable proof of the most flagrant ignorance on the part of the men who award the prizes at the minor shows.

There is no such ignorance. Every one of those men does his work as thoroughly as he can and does the best he can, and he does it well; but he in turn must pick from the material before him that which, when all the defects are balanced, comes nearest to attaining what he believes to be an approach to the ideal described in the standard. What can I or any other man do when two birds are placed before me—one of surpassingly beautiful form and poor color, the other of poor form and perfect color, both the same size, the defects of one balancing the defects of the other? Upon close examination I may perhaps find that the bird with the perfect form has ten black feathers scattered through its neck, back and breast. No matter how much I may want to give the bird with the perfect form first prize when in competition with the bird of poorer form and perfect plumage, how can I do so in the face of those ten black feathers, assuming always that the weight of all the other defects in one balances the defects in the other?

The highest type of judge is the man who judges things as they are and not as they would seem to be. Many do not take the time, or, to be more charitable, they have not the time to see things as they are, and so take the easiest road, which is to believe that things are what they seem to be, and thereby fall into the most serious of all errors, when judged from the standpoint of one who is charged with the duty of weighing the good and the bad, to wit, that of mistaking the semblance for the reality. My utmost endeavor has been put forth to have a reason, not a flippant, off-hand reason, but a reason founded on good, sound, solid facts for every award I make. But once have I been tripped, and then I neglected to show foul feathers I had found to a third person before leaving a disqualified bird. On that occasion I signally failed to demonstrate the why and the wherefore of the awards made.

If any one can devise a more thorough method of weighing the defects and estimating the value of the good qualities of the great breed of fowl that has been my special delight, I shall be pleased to sit at his feet and learn.

PLYMOUTH ROCK SHAPE—MALE.

Criticisms of Foremost Poultry Judges on "Composite Ideal Plymouth Rock Male Shape, from Live Models," as Drawn by Artist Sewell.

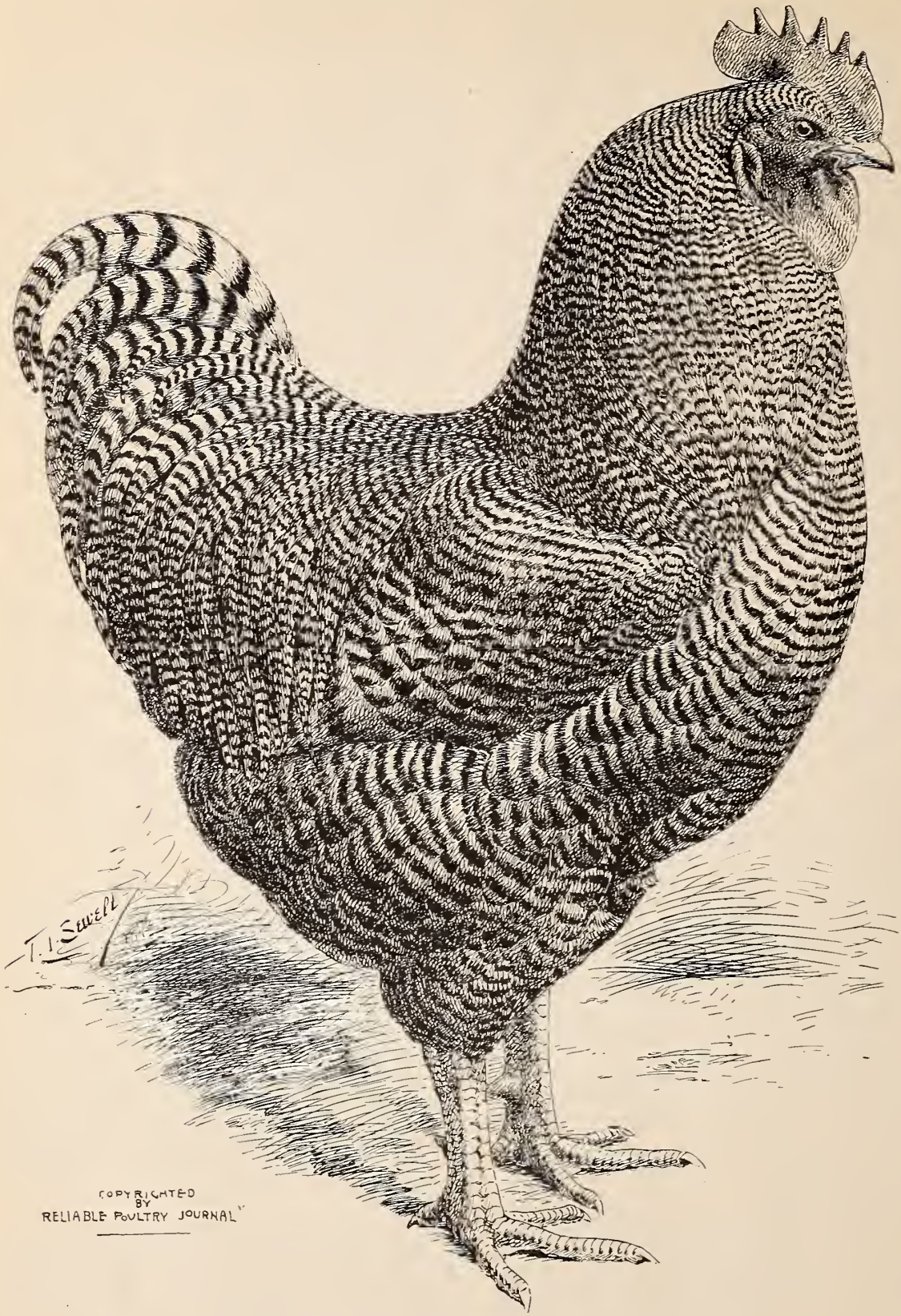
THE RELIABLE POULTRY JOURNAL, during the closing months of 1896, arranged with Mr. Franklane L. Sewell, the world's greatest poultry artist, to make a pair of drawings, showing, to the best of his ability, correct Plymouth Rock shape, male and female, as required by the American Standard of Perfection. [Note.—For the benefit of the beginner, permit us to say that all Plymouth Rocks, including the Barred, White and Buff varieties, are required to be alike in shape; hence, what is perfect or standard shape for the Barred variety is also for the Whites and Buffs.—Ed.] Exact proofs of these drawings were then sent by the Reliable Poultry Journal to the best-known poultry judges and the foremost Plymouth Rock breeders of America, with the request that they approve or disapprove of same, according to their interpretation of the standard. Nearly one hundred of the judges and breeders favored the Journal with replies. After reading these criticisms, Artist Sewell, by previous arrangement, proceeded to modify his drawings, the result being a pair of Plymouth Rocks that come nearer to representing the accepted ideas of correct standard shape for this breed than have ever before been presented—see corrected drawings.

Following are the criticisms of the judges on the drawing of the male as first submitted:

H. S. Babcock, Providence, R. I., judge and breeder: "The illustration of Plymouth Rock cock, while excellent in many ways, seems to me to be open to the following criticisms. First, the neck is too heavy, especially at its junction with the head; second, the fluff is too heavy and too much conceals the outline of the hock; third, the bird throughout has too strong a suggestion of the Cochin, especially in being too feathery; fourth, there is a lack of sprightliness about the bird which we expect to find in a Plymouth Rock; fifth, the color is represented as too dark. I am perfectly aware that birds of this type exist—have produced them myself, but they are not my ideal of what a Plymouth Rock should be. I prefer a more closely feathered specimen, finer and cleaner in neck and legs, because I believe such a bird is a better general purpose fowl. A bird after the type represented would be likely to be a better breeder of table fowls than of extra layers, in my opinion."

Charles McClave, New London, Ohio, judge and breeder: "Symmetry almost perfect. Head, good, but a trifle small in proportion to size of comb and wattles. Comb, ideal, except a trifle too far from beak to first point, however, this is a matter of fancy; balance of comb faultless. Neck, front line good, back too much curve; should be more straight from side view; is also a trifle too wide through center, which should not be wider than through base of tail. Back, shape good, except a trifle too short from base of hackle to base of tail; concave sweep perfect. Breast, good enough. Wings, ditto. Tail, shape good, but plenty high. Sickles, good, but a trifle long. Coverts, good. Legs and toes, shanks too short in proportion to length of middle toe, otherwise shape good. General shape, the best all-round cut of Barred Plymouth Rock male ever produced."

Theo. Hewes, Trenton, Mo., judge and breeder: "Mr. Sewell's work is fine, and we should like to have a lot of birds in our yards just like these, but as to our ideal, these illustrations do not fill the requirements. The color of plumage is away off, but that is not under consideration now. This zebra barring is overdrawn, especially in the female. You can get zebra barring in each section, but not a zebra bird—nor do we want a freak of this kind. In the male we have the same



STANDARD PLYMOUTH ROCK SHAPE—MALE

"A composite ideal from Live Models"—As first submitted by the Reliable Poultry Journal for Criticisms of Judges and Breeders.

defect in plumage—too much 'ring around the roses' business. He is feathered too loosely all over; looks as though he had just got through dusting himself. His legs are too short and feathered too far down. The neck is too thick, making him look bull-necked. Shape of back and tail very good, but too much white in color of tail. Breast and body would no doubt look all right if the Cochin feathers were omitted."

I. K. Felch, Natick, Mass., judge and breeder: Mr. Felch returned the illustrations after he had trimmed them away with his scissors. He cut away a large slice of the lower breast and took a quarter moon out of the back. Commenting on the Sewell drawing, he says: "This cock is too high from ground at back. Neck is too short and tail too small in original. Mr. Sewell's bird is too short in body for height at back, too thick-necked, and the arch of the neck is too far back. Shanks are too large. This bird, as Mr. Sewell has him, represents a specimen with six and one-fourth inch shanks, twenty-one inches at back and thirty-three inches at comb. Did you ever see one that tall, or of those proportions? I have (in trimming) done what I could by dropping the back line, thus giving longer appearance to neck and tail. As changed, a breeder may be able to get a few like him."

W. S. Russell, Ottumwa, Iowa, judge and breeder: "I like to see a well-arched neck, but I think Mr. Sewell has overdone it a trifle in his drawing. If he would shear the neck arch a trifle, invert same and add it to the breast, I think this would give the specimen a better appearance. Shanks and thighs are too short. If we should continue to breed from males so short in above sections, how long would it be before our females would be down on the ground or duck-legged?"

George O. Brown, Baltimore, Md., judge and breeder: Mr. Brown sends back the illustration of male with fully one-fourth of an inch of the arch of neck trimmed away (one-fourth inch as per size of picture). He also cuts away three-sixteenths of an inch of the middle breast and trims away some of the fluff immediately back of near shank. Says he: "I have cut or trimmed away certain sections which makes the cut nearer to what I think it should be as an ideal, though there is still something lacking. The legs are too short and a trifle too thick on both specimens. The tail is also a trifle too high on the male."

F. J. Marshall, Middletown, Ohio, judge and breeder: "Comb suits me to a dot; all such combs go uncut by me. Head is good shape, but beak is pointed a trifle too low, causing the rear of the comb to stand a little too high, otherwise good. Wattles and ear-lobes all right. Neck is arched a little too much, although I am a great admirer of a well-arched neck on a Plymouth Rock male, otherwise it is good. Back I would not change. If I can get such backs on all the male birds I raise I will think half the battle is over. Breast is also just to my liking. Body, good. Tail, I should want the sickles raised a very little, keeping the same general shape and perhaps a trifle longer, the ends extending a little farther back and the lesser sickles carried back a very little farther, giving the whole tail a wider appearance. Legs and feet good, except the shanks should be a shade longer."

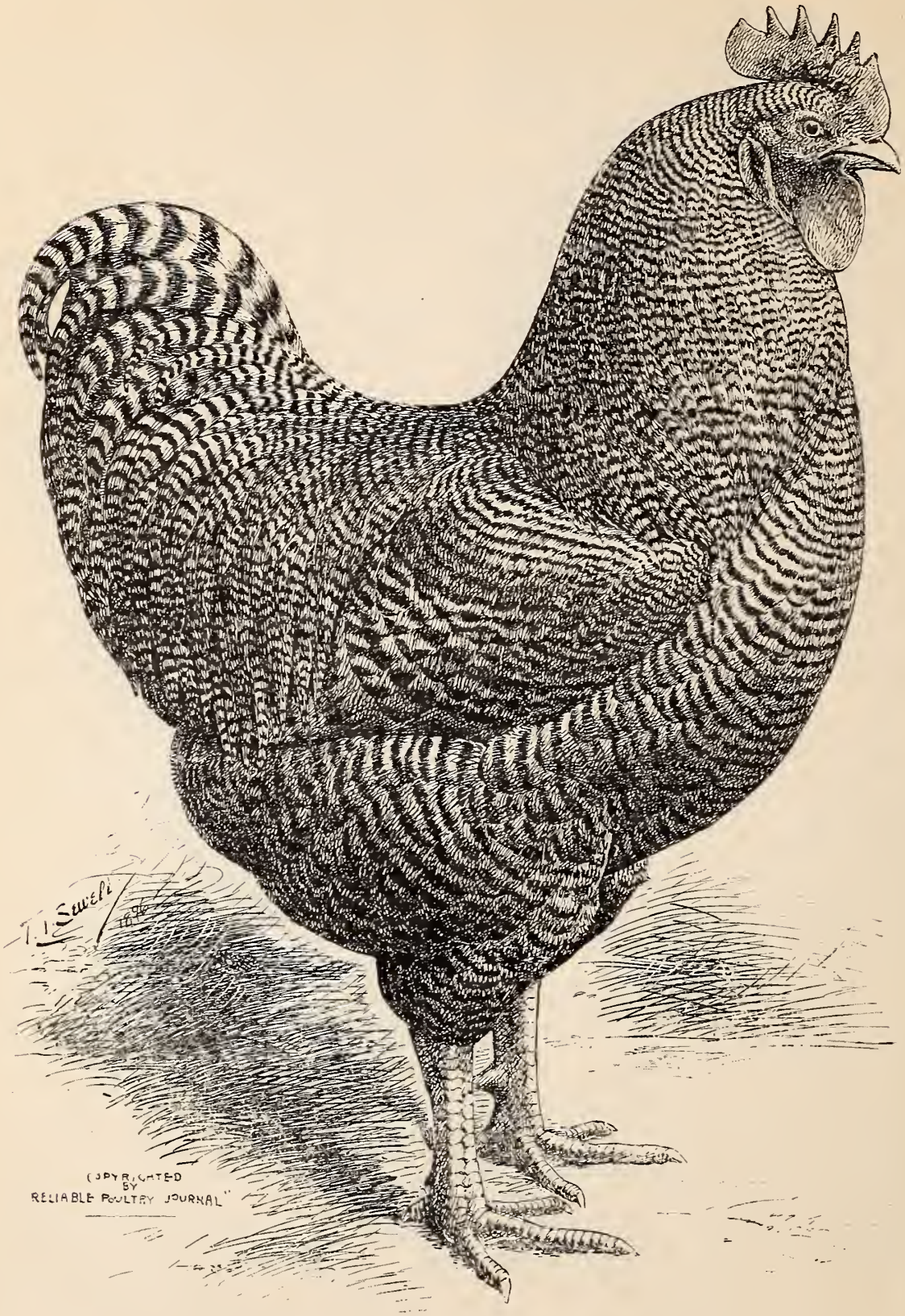
F. H. Shellabarger, West Liberty, Iowa, judge and breeder: "Referring to the cut of the male, will say, it conforms closely to my understanding of the standard requirements except in two sections, that of the neck and legs. I think the neck is overdrawn and does not taper as it should. It shows too broad on a line with the lower part of the wattles. The legs are too short to be in harmony and in proportion with the other sections. The standard calls for shanks of medium length on a Plymouth Rock, while it calls for short shanks on a Cochin and long ones on a Black Red Game. There should be a happy medium somewhere between the Cochin and Game as to length of legs, which medium is supposed to exist in Plymouth Rocks, Javas, Light and Dark Brahmas and Langshans. Other than these two mentioned defects we consider the outline all that is required, and, as a whole, superior to any we have yet seen."

C. A. Emry, Carthage, Mo., judge and breeder: "The male from feet to beak and from feet to tail suits me. Comb is set too far over beak, i. e., too full in front. Serrations are a trifle too shallow, one-half cut. Neck, too much arched and too full, one-half cut. Length of back and length of body would be O. K. if the fullness of neck were remedied."

D. T. Heimlich, Jacksonville, Ill., judge and breeder: "I can only say as to the male, that, aside from the overdrawn arch of neck, it suits me to perfection, as the only other faults (if faults they be) would be the shortness of shanks and the main tail feathers being drawn in at the top, instead of spreading to a perpendicular line. The neck section on the ideal, as adopted by the American Plymouth Rock Club, is preferable to the high arch here presented."

D. J. Lambert, Apponaug, R. I., judge and breeder: "Male, head too low, front should be carried up higher to give the bird a brighter or more wide-awake appearance. Comb, a trifle coarse; both serrations on end should be a little more defined. Neck, too full at back; ought to be more tapered for a Barred Plymouth Rock. Back, looks as though it ought to be broader, yet the concave sweep is as good as could be attained. Breast should be a little broader and fuller. Body, a little longer and inclined more forward. Tail, good, except the main feather should be more developed to correspond with sickles. Legs and toes more even and smooth for an ideal. I will admit the cuts are good, yes, very good, yet I like to see a male, when in the best condition, of a more business-like appearance, full of vim, and when put into a show pen look as though he had just come out of a band-box, so to speak."

E. B. Thompson, Amenia, N. Y., judge and breeder of Barred Rocks: "Plymouth Rock drawings received. They represent pretty nice chickens, and nobody need be ashamed to use them as ideals to breed to. It is easy to criticise in such matters and no artist ever did nor ever will make a picture of a bird that will suit all hands. I had the ideals of the American Plymouth Rock Club made and they have proved popular targets ever since. There are things about these club ideals that I do not like now, neither did I like certain features of them when I accepted the work from Mr. Sewell; yet the very 'zebra striping' that I so admire is one of the main faults the critics find in the cuts. 'Unnatural and beyond reason,' etc., some say, but I say, and am perfectly rational, too, that there are barred Plymouth Rocks alive and well to-day that show these 'ringlets' in a marked degree, not in one solitary section of the plumage, but throughout nearly the whole body. Now, what is the reason this distinctive, handsome feature in the breed cannot be developed and perfected as well as straight bars, blue color, grand shape and all that? Others can breed for or against the 'zebra



STANDARD PLYMOUTH ROCK SHAPE—MALE

As corrected to Meet the Criticisms of Judges and Breeders.

lines,' as they choose, but the more I can see of them on my Rocks the better I will be pleased. If the neck of the male in your drawing had a little less arch the picture would suit me well and be about as near the American Standard of Perfection as wanted."

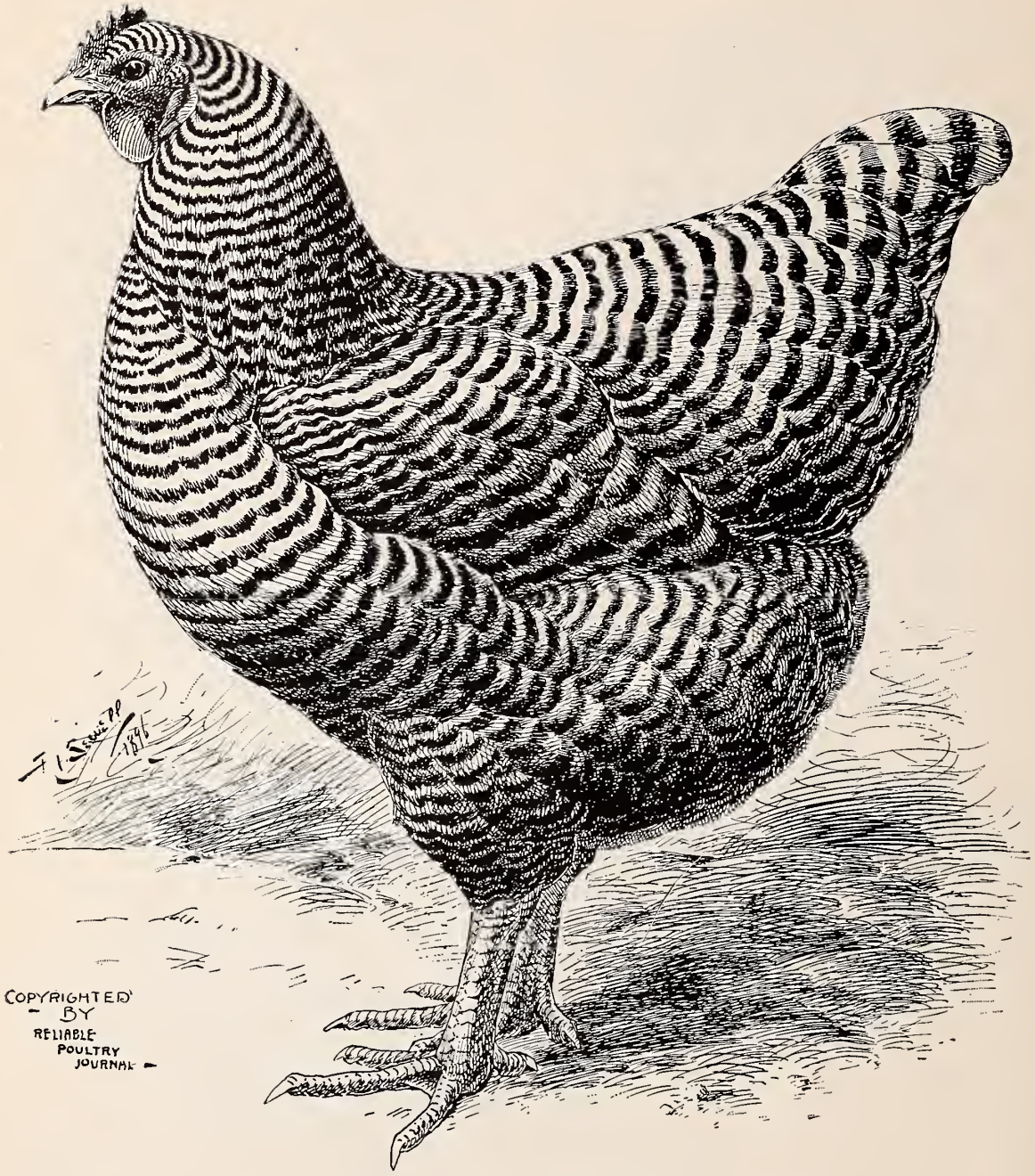
A. C. Hawkins, Lancaster, Mass., judge and breeder of Barred and White Rocks: "Concerning the cut of male bird, I think it the best in form I ever saw, and I would not change it in any way. Mr. Sewell has done himself much credit, and the American Barred Plymouth Rock Club can do no better than take it for a standard for form."

D. A. Stoner, Rendsselaer, Ind., judge and breeder of Barred Rocks: "I am much pleased with the cuts and wish I could raise birds as fine in shape as those represented. I think if the arch of the neck of the cock were cut down a little, it would improve shape of neck and lengthen the back a trifle, which would bring the center of back nearer even with the center of body. To draw a line from center of back down to the shank as the bird now stands, leaves the back portion of the bird looking too light, or rather too short to balance the heavy breast and neck he now carries."

Bradley Bros., Lee, Mass., breeders of Barred Rocks: "Both of these cuts, in our opinion, show great improvement in form and marking over the ideal cuts of the American Plymouth Rock Club. In the smaller head appendages, the longer neck, medium length of back, with the flat at the shoulders before it begins to rise and then rising with slight sweep to the tail, also in added depth of breast and moderate fluff, the cut of male bird is far ahead of the club's ideal. The shanks should be longer in order to be 'medium' length, and the eye should be a trifle larger. These, however, are minor defects and not important. If the bird could show a trifle more activity and sprightliness in appearance it would be an improvement. These are the qualities which make the useful Plymouth Rock. Whether or not they could be introduced without losing the present beauty of form is a question. Any ideal cut should be considered as a general representation, not a rigid type to breed to exactly. There are many strains and many breeders, each with his individual notions of what make up a perfect Plymouth Rock, and the standard description is and always should be general, in order to give every one an equal chance. Mr. Sewell has recognized this variableness of type and has given us a cut that is truly wonderful in its standard beauty, and yet represents no particular breeder's bird or strain; therefore, we may say it can safely be taken as a model. Some of the variations from the cut which we would consider allowable are as follows: The hackle might be reduced a little on top, thus making the back a trifle longer, and we would still have a standard neck and back. The back could have a little less rise and still have the 'slight concave sweep.' The tail could be larger and yet be 'medium length.' The fluff could be less and yet be 'moderately full.'"

C. H. Latham, Lancaster, Mass., poultry delineator, judge and breeder: "In commenting on shape of the male bird, I would take first the pose of the head, which is bad and incorrect for a good Plymouth Rock male that is in the best of condition, and is standing to show off his good points to the best advantage. The bird in the drawing has his head cocked down and his wattles partly buried in his hackle feathers, which, with the high bend in the neck, give him a look as though he were out of condition, or as he would look in a show when he is tired. The head, to be true to nature and the standard, should be 'carried well up,' with a bright, alert and animated look. The beak is not stout enough, nor is it curved enough in upper and lower lines of upper mandible, and is just a trifle small. The eye is too small when the standard calls for a 'large eye.' The comb has too much meat between the head and base of the serrations. Front of comb leaves the beak at too sharp an angle and is a little too high from beak to first serration. If the head were up where it belonged, and the beak curved more, the angle would not be so bad. The rear of the comb is a trifle long and should not have so sharp a point, but be rounded a little. The whole neck is much too thick. The hackle is too heavy and carried down too far onto the wings. The outline of the back of the neck is nearly of the right length to be Plymouth Rock, but with the high bend and the head carried so far forward it is decidedly Wyandotte in shape. The neck should be 'tapering,' and if the head were 'carried well up,' the distance between the ear and the back of neck would be much less, the 'bicycle hump' would be gone, the wattles lifted out of the hackle feathers and the hackle raised up somewhat from the wing. With the head and neck drawn as I have described, the outline of the neck would not drop to the back quite so near a perpendicular line, and the curve where the neck meets the body would not be quite so sharp. The body of the bird is too short, the back should be a trifle longer, with more saddle before the sickles appear.

"I feel that the tail of this bird should be sharply criticised. Although more or less of the cockerels and cocks that are exhibited at our annual shows have tails very much of this style, it is to be deplored, for it is not true Plymouth Rock shape, nor is it standard requirements. Pluck the main tail feathers of a cockerel and let them grow out new to about the length as shown in the drawing and then remove the main sickle feathers and you have a tail of just this style. This is done for various reasons, viz., Main tail feathers too long, or carried too high, sickle feathers carried too high or perhaps 'squirrel tailed,' or white in main tail feathers or sickles. In this bird with so much light barring in tail, I think the reason for the 'doctoring' was for 'white in tail.' I think Mr. Sewell has made this mistake in the shape of the tail from drawing so many sketches of crack birds in the show room where the tails have been in 'show condition,' and he has evidently honestly drawn them as he saw them. Now take this tail and start a sickle feather so a very little of it will show in front of the secondary sickle, and as the sickle rises and turns let more and more of it show till the feather has reached the top of curve, then let the feather clear itself and as it turns and curls down let it be carried about half the width of itself beyond the secondary, but with the end not curled in quite so much as the secondary is drawn. Both the main sickle and secondaries should not have quite so sharp points nor be quite so wide at the base as are drawn, and while the base of these feathers is wide, the wide part of the feathers is hidden by other feathers overlapping them. Let the main tail feathers show under the sickle after it leaves the secondary, and let the balance of the main tail feathers show their tips beyond the tail coverts, this will bring the tail up and out where it belongs, and also help to give length to the body, which is needed. The breast is not round nor full enough, having a flatness from front of breastbone up about half way to the hackle. The body is not deep enough in front of the thighs, nor quite long enough in the rear of the thighs. Here we have a decided Cochin tail and a Cochin-shaped bird. The Plymouth Rock has enough merit to have a decided shape and type of its own and should not



STANDARD PLYMOUTH ROCK SHAPE—FEMALE.

"A Composite Ideal from Live Models"—As First Submitted by the Reliable Poultry Journal for Criticisms of Judges and Breeders.

pattern after any other breed. The type should be so strongly its own that any section of the true outline seen by any breeder could be said to be a 'Plymouth Rock neck,' or 'Plymouth Rock back,' etc., as the case may be.

"The shape of the bird, both male and female, of the Plymouth Rock should be such that a rectangle could be placed inside the outlines with one corner on end of breast-bone; upper corner from there at a point a little back of the middle of the neck and above the line of the back; other upper corner at a point near the outline of the tail coverts, and fourth corner on outline of body at a point just below midway from the thigh to the vent. The outline from a point just back of the wattles should be a long, easy curve to a point just in front and above the breast-bone, then as the curve turns to continue on the body, the curve is a little sharper and from there to the thighs the line should be a little curved from a straight line. The body in the illustration is really a little too 'short at both ends,' that is, the breast-bone is a little short and the body in the rear of the thighs should be a very little longer and rounded out so there will be a nice curve from thighs to vent. For a body lengthened in every section as I have described, the thighs and shanks as they are would be too short. I think the thighs should show more, even for the bird as he is drawn, and to be lengthened out as I have described he would have to show a good deal more thigh. The wing is not carried high enough. Top of the wing should be nearer on a line with the back (it is covered up in the drawing by the long hackle). The wing should fold higher, so that the point of wing will come above the vent. The toes are a little crooked; the standard calls for them to be 'straight.'"

PLYMOUTH ROCK SHAPE—FEMALE.

Criticisms of Foremost Poultry Judges on "Composite Ideal Plymouth Rock Female Shape, from Live Models," as Drawn by Artist Sewell.

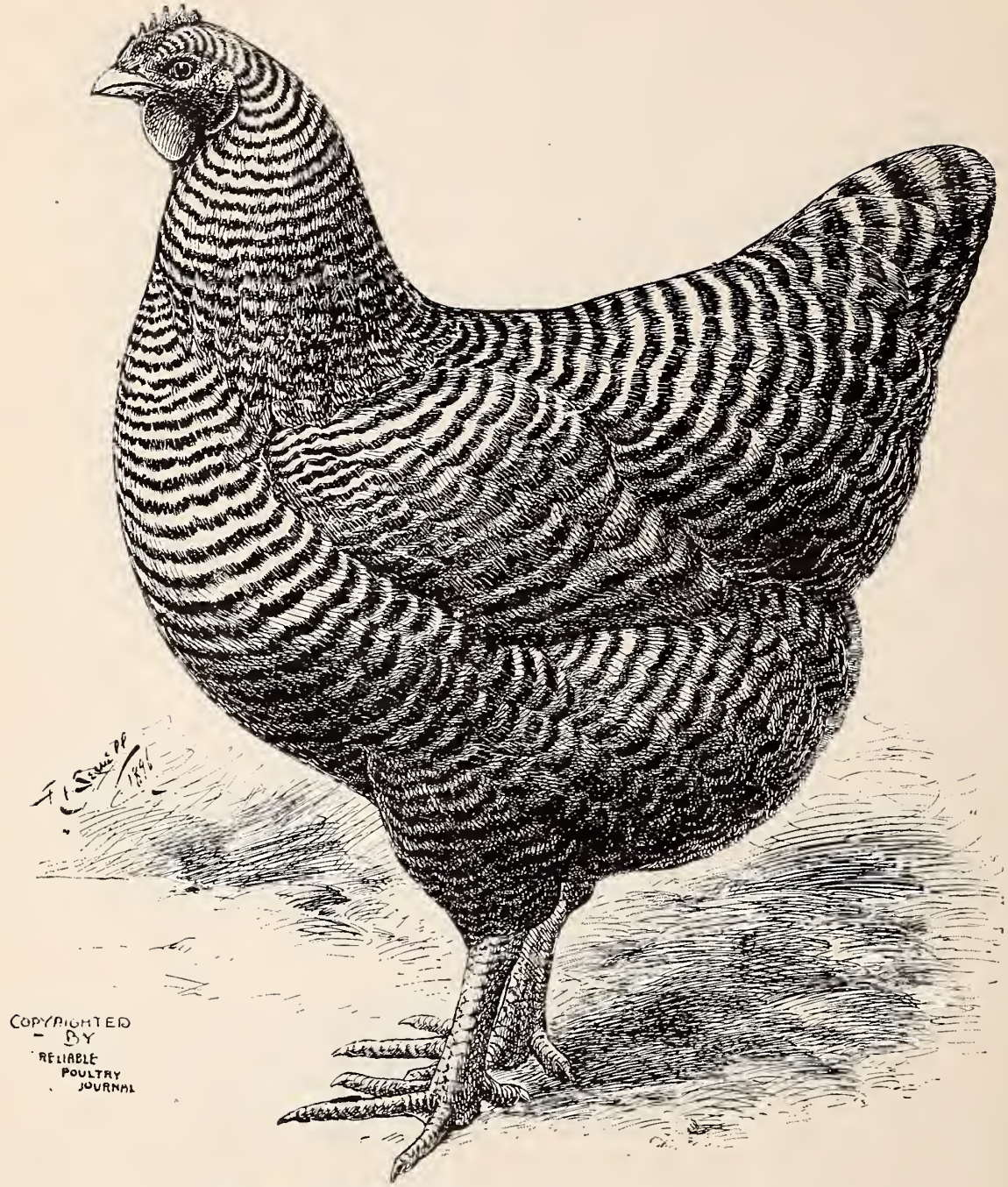
FOLLOWING are the criticisms of the judges on Mr. Sewell's first drawing of the female Plymouth Rock shape. An examination of the two drawings—as first submitted and the corrected one—will show how well Mr. Sewell was able to produce a composite type which has approached closely to the individual ideals of his critics.

H. S. Babcock: "The illustration of the Barred Plymouth Rock female is, in my opinion, much better than the male, but not without faults. The breast is a trifle deficient in fullness; the neck might, with advantage, be a shade longer; the rise of the cushion in the back starts too quickly and abruptly; the fluff is too full, not giving the necessary cleanness to the hocks; and the color is represented as too light. Barred Plymouth Rock females with as wide white bars as this one is represented to have would be likely to be deficient in the number of bars upon each feather, and would also probably have very light, cottony under-color. We are strongly of the opinion that Plymouth Rock breeders have pushed the extremes in color too far, that the dark males are bred too dark and the light females too light. The natural breeding tendency is in the opposite direction, and when males are shown darker than the females—as these cuts represent them—there is a clearly defined violation of natural tendencies. There is no breeder who would not be glad to be able to breed his exhibition birds from a single mating. The breed would receive a tremendous impetus if this were possible. But it never will be possible to do this if the males must be darker than the females. In our opinion it would be of a decided advantage to the Barred Plymouth Rock if the winning males were required to be a shade or two lighter than the females. If such birds were recognized as the ideal of the standard, the long-looked-for, greatly desired possibility of breeding winners of both sexes from a single mating would be realized. We have written about what we consider the defects of these illustrations, because the excellences are apparent and need no pointing out. Every one will see the latter, but the former may not be so noticeable to the many. We desire to add that the remarks on color were not called for in the editor's request for criticisms, but there seems to be a great need of giving 'line upon line and precept upon precept, here a little and there a little,' upon this question, and we could not resist the temptation to do so. The real interests of this variety are at stake in this matter of color, and we know that the intelligent readers of the Reliable Poultry Journal will not be confused by our dissertation on color and thus be led to forget that the Journal's main effort is to get a correct idea of shape, and so secure greater uniformity in breeding and judging."

Charles McClave: "Symmetry, good, except the tail is too low. Head, good, but beak is a trifle too long. Comb, good enough. Neck, outlines good, but pretty short. Back, concave sweep perfect, but too long when compared with that of the cock. Breast, shape perfect. Wings, good. Tail, shape good, but carried back too far, giving the back too much length. Legs and toes, shank short when compared with length of middle toe. General shape good, and it cannot help but please the best judges, breeders and exhibitors."

Theo. Hewes: "In the female I would prefer a little more of a Cochin shape and less concave to the back, also a more prominent tail, legs a trifle longer and the plumage lying close to the body and looking more like feathers. There are no feathers in the breast and back, just black and white lines. There is entirely too much white in the specimen. We do not want those great white bars that make a bird look as if it were whitewashed. We want a bird to show the barring in every section, but still to have a nice blue tinge to the entire surface. The sections do not feather so as to make the barring on one section meet the barring on another in the proportion shown in this cut. The comb is a trifle small for so large a bird and is too thin. The legs are rather coarse, but the cut is intended to represent a large bird."

I. K. Felch: Mr. Felch returned the cut of the female Rock with a slice cut out of the back, the top feather of the tail shortened, and a large slice taken from the fluff. He



STANDARD PLYMOUTH ROCK SHAPE—FEMALE.

As Corrected to Meet the Criticisms of Judges and Breeders.

writes: "This bird is too long from hip to tail. Throw these birds up to life size and each would stand fully two inches too high at back, and the legs would be over one inch through."

George O. Brown: Mr. Brown trimmed an eighth of an inch from the fullest part of the breast of the pullet, also from the front of the shanks, and from the fluff. He lowered the back about three-sixteenths of an inch. He also lengthened the feathers in the tail just under the top feathers, filling out the outline of the tail. He says: "I have cut away certain sections which makes the cut nearer to what I think it should be as an ideal, but there is still something lacking. The legs are too short and a trifle too thick. The top feather of the tail takes too much of a downward sweep."

F. J. Marshall: "Head a little too slim and small, looks delicate. Such birds usually lack stamina. Comb, with a trifle larger head, should be just a little longer. Neck, in proportion to body, is a little small in every way; general shape is first-class. I would cut the back slightly lower just where the tail comes out, giving it a slight cushion. Breast and body are good enough. Tail will be all right when it grows out full, the main tail feathers extending back to a perpendicular line with the top or deck feathers, in other words, what we sometimes call a full tail. The legs are good. When I have done I cannot but think how very easy it is to criticise, and what a task it must be to execute such work as we have in these cuts, which leaves so little room for fault-finding. I do not feel like criticising just for the name of it, therefore I am obliged to say that with the single exception of the tail on female, I would be willing to breed strictly to these drawings if I could, and I think I would have but few complaining customers."

C. A. Emry: "Head a trifle too small and too far forward. Enlarge the head and set it back on the neck, curve the beak more and you will have the typical head and neck of our standard. We would cut head shape one-half point. Breast, too narrow from base of neck to upper point of breast-bone, making the lower breast not round enough, one-half cut. Tail too pinched and carried too low, one-half cut."

W. S. Russell: "I consider the breast too narrow from base of neck to center of breast. If the tail were raised a trifle it would make the back look shorter."

D. J. Lambert: "Head too long, beak should be shorter; comb very small compared with size of bird; lobes and wattles very good, in fact, these if bright red and fairly smooth and rounded are rarely cut. Neck would look better if a little longer. Back is too round from side to side, also rather long. The breast should be broader and deeper. Body and fluff are are good. Wings are rather too small. Tail should be more pointed and upright. Legs and toes are a trifle long and irregular; they would look better if set further apart. It is difficult to decide fully as to a bird's shape from a side profile. We want to look at them squarely in front for breadth of breast and body, spread of tail and breadth between the thighs and shanks. A narrow, fish-like body will often look long and scrawny from a side view."

Bradley Bros.: "A life-like representation and in almost every way ahead of the club's ideal. The shanks should be finer in bone and the beak a very little shorter. These are minor defects and scarcely to be noted in the general excellence. As we stated in regard to the cut of the male, in our endeavor after uniformity we should never lose our hold on flexibility and a type could be slightly different from this in some particulars and still be recognized as standard. View the cut from a distance with half-closed eyes. The pullet will be seen to raise her right foot and scratch her ear, the pose and poise are so perfect. The cuts far surpass our expectations, they delight us."

A. C. Hawkins: "The head is too angular; has too much fluff and is not quite deep enough in breast. Head is rather small and legs too coarse and clumsy. Neck, back, and tail good."

E. B. Thompson: "The female is first rate."

F. H. Shellabarger: "Referring to the cut of the female, will say that it strikes me as being all right in every section, except it is a trifle short on shanks. It will, in my opinion, afford a good outline to go by for typical shape, if a little length is added to the shanks."

D. T. Heimlich: "The comb, head and neck of this female are preferable to those of the ideal of the American Plymouth Rock Club, otherwise this cut does not equal the ideal in detail of sections. It is too long in back; tail is too scant and drooped; not full enough from base of neck to center of breast. If we are to breed short-backed males, the females' backs must be in harmony, else we will have, as now, too long backs in both sexes."

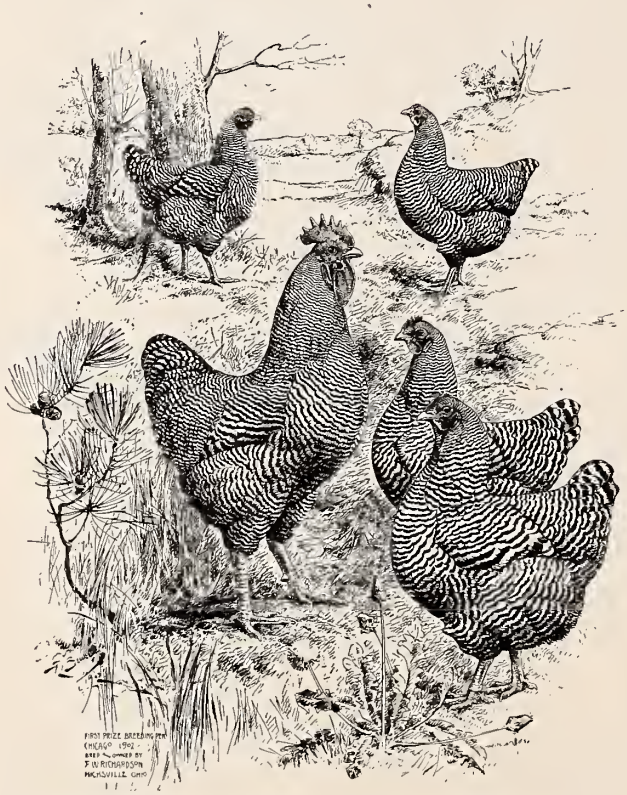
C. H. Latham: "The plumage of the female has barring very much too open. A female Barred Plymouth Rock could not have such open barring with so white a bar and have any under-color at all, and could not, as she is drawn, have more than half as many feathers as nature intended she should be covered with.

"To me the head seems a trifle small. Standard requirements are 'medium head carried well up.' The head is always naturally carried more forward than the male, and this the artist has done. The poise of the head, and in fact the whole bird, is too low, and has a slouchy, lazy look. The head should be carried well up so the wattles will clear themselves from the hackle feathers, and the bird should have a bright, wide-awake expression. The beak has too sharp a curve just midway from point of beak to comb; the under curve of upper mandible has some of the same fault; the upper mandible should extend back a trifle from the wattle. The eye should be set up a little, about the width of a line. The space between the eye and under part of upper mandible, as it is drawn, is a trifle narrow. The comb should have the serrations cut a little deeper, and rear of comb should not end in so sharp a point, but be rounded a little. Ear-lobe is drawn too large and comes too near the wattle; when the head is carried well up there is more space between the lobe and wattle; the lobe and face should extend in a narrow line and meet round the ear.

"The wattles are too long and not carried forward enough. The neck is too thick between the wattles and back of the neck. If the head were carried more upright it would help the shape here. The standard calls for the neck 'comparatively small at the head.' As it is here represented we have the Wyandotte neck instead of the Plymouth Rock neck. The line from rear of comb to the tail should not be straight in any part of it, but graceful curves from one end of the bird to the

other. The outline of the neck, beginning about half way from comb to the back, instead of going in a straight line to the back and then turning at a very sharp curve and going the length of the shoulders in a straight line and from that point in a straight line to the tail, should be a graceful curve, making the neck a little thicker at the shoulders, which would give more depth of body at this point, which is needed. And there should be a long, easy curve, just enough to take the straight line away. We will then have a graceful line from head to tail. The standard allows the back to be 'slightly cushioned,' but this gives the bird a Cochin and Wyandotte shape, and to my mind should be avoided. I know some breeders like to see the cushion and will call your attention to the 'nice cushion she has,' but if the shape of the bird is carefully noted it will be seen to be short bodied like the Wyandotte and not a true Plymouth Rock shape. I think the Plymouth Rock to-day would have more style and individuality if the term 'slightly cushioned' had been left out of the standard. The standard requires the male to have a back 'with slight concave sweep from termination of the cape to base of tail.' Now, if we breed from a female with the back all angles and straight lines, the tail coming out of the back at quite a sharp angle as in the drawing, what style of males will we get? Will they not have a straight back with a tail coming up out of it at a very sharp angle like the Leghorn tail? Does any breeder like such a back and tail on a Barred Plymouth Rock male?

"The tail has a pinched look and is too pointed; it should be more spread so as to show the tips of the main tail feathers. The angle where the outline of the tail meets the body at the vent should be a trifle lower, and the tail more spread to give a nice rounded outline till it meets the vent, instead of the ragged, irregular line. The breast is not round and full enough, nor deep enough just in front of the thighs; the outline beginning at the base of the wattles should at first be a slightly concave line, then, as the hackle meets the breast, the curved line gradually rounds and should be a continuous curve till it meets the thigh, with the line gradually nearing a straight line after it passes the breast bone. The body is too deep just back of the thighs which makes the shape of the bird a triangle, as shown also in the drawing of the male. The shape of the female should, like the male, be a rectangle. The toes can be improved as they are not smooth enough; the middle toe especially is bad. It looks shrunken.



First Prize Pen, Chicago, 1902; bred and owned by F. W. Richardson.

SINGLE OR DOUBLE MATINGS—WHICH?

A Canvass of Prominent Barred Plymouth Rock Breeders to Learn How They Stand on This Much-Debated Question—Interesting and Instructive Replies—A Number of Successful Fanciers Tell How and Why—Single Mating Plan Not New.

[Note.—In the second edition of the book, "The Plymouth Rocks—Barred, White and Buff," published March, 1898, by the Reliable Poultry Journal Publishing Co., there appeared reports from a considerable number of the breeders of Barred Plymouth Rocks stating their preferences as to the method of breeding, whether by the single or double mating plan. When new copy was obtained for a third edition of this popular book on Plymouth Rocks, it was decided to bring down to date the opinions of Barred Plymouth Rock breeders on the question of single or double mating. Reports and expressions of opinion were requested. Following appear the replies received from the breeders of Barred Plymouth Rocks, stating where they stand to-day on the question of how to mate their favorite variety for the best results.]

PREFERS DOUBLE MATING SYSTEM.

Frank A. Quimby, East Rochester, N. H.—"Double vs. single mating seems to be the bone of contention among the Barred Plymouth Rock breeders of this country. My first experience with this variety dates back to my boyhood days, but it was some ten years ago when I first began breeding them with the determination to produce first-class show birds. At that time I adopted the double mating system and to-day I still believe that this method will give the amateur or the experienced breeder the best results, if his birds are bred in line. For the past six or seven years I have not failed to exhibit at some of our leading shows, including Boston, and I have won many first and second prizes under some of our best judges, with scores running from 91 to 94 points. I have bred and sold some of the birds that have won the highest honors at New York during the past five years and all of them were produced by the double mating system. So long as the standard remains as it is and the demand continues for feathers showing straight bars to the skin in all sections, I shall breed in this way, for I think it is the system that will produce the best birds."

USED SINGLE MATINGS FIRST.

J. M. Holt, Marshalltown, Ia.—"I have bred Barred Plymouth Rocks for nearly twenty years. I originally started on the single mating plan, but experience taught me that after a time the females would run too dark in color as a rule, many of them having smoky surface plumage on the back, which was also the case with the darker colored cockerels. Later I adopted and still practice the so-called double mating system.

"To produce cockerels I select a standard colored male, one that is fully up to standard weight or over, rather low and blocky in shape, with yellow legs and beak, and low, straight comb with five or six points, the barring of the feathers being clear and distinct. To him are mated females medium dark in color, low and blocky in shape, with yellow legs and beaks, and low, straight comb with five or six points, the feathers showing narrow, well defined bars extending to the skin.

"To produce pullets select a heavy, blocky, active male with nice yellow legs and beak, low, straight comb with five or six points, deep bay eyes, in color medium light, feathers finely and evenly barred on the surface. The barring in under-color is not so particular, except that the bars must give a blue tinge to the feathers. To him should be mated standard colored exhibition females.

"Do not use individual specimens of extreme color in either of the above matings. Select birds that are uniform, neither extremely light nor dark. Let each mating match in color as far as possible. From such matings I have produced many exhibition specimens, scoring from 92 to 94 in the show room under Messrs. Felch, Barker, Russell and Shellabarger. Such matings may be depended upon to produce a reasonable number of exhibition specimens, a large per cent. of nice breeders and very few culls."

TEN YEARS WITH SINGLE MATINGS.

J. A. Bailey, Denver, Colo.—"We have employed both methods of mating Barred Plymouth Rocks, the single and the double. The latter has been in an experimental way, our efforts having been given to the single mating system, as we believe that method is the only one that can be satisfactory to both breeder and customer. We admit that our matings are not always satisfactory, but who can say he is making an unqualified success with the double mating system? We believe that one can achieve pronounced success only by using the single mating system. We have bred Barred Plymouth Rocks about ten years, using the single mating system almost exclusively, and the results, as judged by the scores given our birds in competition, tend to increase our liking for the selected method.

"We have experimented with the double mating system, having bought birds that were from stock bred in that way, and we have been much disappointed in the results. A haphazard way of mating by either method will not result in building up a strain. No one can be sure what his birds will do until he has hatched several sittings of eggs from one hen mated to the same male during the whole season. He will be surprised to see the diversified types that appear. If more breeders would make this experiment and then neglect the unreliable breeders and keep as long as possible the best ones, there would be more breeders in this country with I. K. Felch's reputation than there are now."

E. L. MILES TRIED SINGLE MATINGS.

E. L. Miles, Sag Harbor, N. Y.—"I began to breed Barred Plymouth Rocks twenty-six years ago by the single mating method and continued doing so for about five years. I could get good cockerels for those days, but the pullets came dark, with dark beaks, bronzy legs and black wings and tails. When I mated them to lighter pullets the cockerels showed white in the wings and tails, so I adopted the method of making a special mating for both cockerels and pullets and I

got them to match in the show pen. They were shown in pairs at that time. In December, 1882, I sent a pair to a customer to show at Chester, Pa. They were so much of a surprise to the judge that he did not know what to do with them. After going over the cockerel and finding that his score counted up to 99, the judge said: 'That will never do,' and so he cut the wing one-half point, saying, 'he might fold it better,' thus making the score 98½ The pullet was scored the same, making the pair score 197 points, a pretty high score for 1882. After scoring them the judge remarked: 'If ever there was a perfection in a Plymouth Rock it is in that coop of birds.'

"I believe I was the first breeder in America to practice and advocate the special or double matings for high-class, prize winning Barred Plymouth Rocks, and I claim that all breeders of such birds use special matings in a measure. It is done in breeding Brown Leghorns, Dark Brahmas and some varieties of other breeds. I have and can get winning cockerels and pullets (that will win in any ordinary show) from the same pen, but not from the same pair. I have never seen a high scoring cockerel from a pen that would produce a large per cent. of good pullets."

DECIDED IN FAVOR OF DOUBLE MATINGS.

A. L. Pedrick, Ottumwa, Iowa.—"For the past ten years I have bred Barred Plymouth Rocks, using the double mating system with good results and see no cause to change my method. I have traveled all over Iowa and part of Missouri, and the only good exhibition stock I have seen is bred by the double mating system. My experience as a judge during the past five years has taught me that the best exhibition Barred Plymouth Rocks cannot be bred by the single mating system."

"BARRED TO THE SKIN" A MISTAKE.

S. S. Noble, Bloomington, Ill.—"I am still a believer in the use of the double mating system to produce extra fine Barred Plymouth Rocks. I feel sure that breeders have made a great mistake in breeding for under-color. Surely it is not natural for a bird's under-color to be barred like the surface, no more than it is natural for it to be as bright in color. I claim that if we let under-color alone we shall have much less trouble. We should care no more about the plumage of the unexposed parts of the Barred Plymouth Rocks, and we have no right to know any more about it than we do about the color of his heart, or how often it beats."

DOUBLE MATING SYSTEM SEVEN YEARS.

F. S. Nicholson, Cambridge, N. Y.—"I practice the double mating system principally because that system gives me the best results, as far as my experience goes. I get no more culls than I did by the single mating method and I do get birds that will win in the hottest competition. Single mating advocates admit that the pullets will be darker than the cockerels from the same mating. The standard calls for birds of the same color. How then are we to mate them by the single mating method? We hear much about the Partridge Cochins being bred to a high standard by that system. It is true, but does the standard call for the same color in male and female? I have used the double mating system for about seven years and feel better pleased with it each year. I do not go to extremes, females from my male line having won in hot competition under the best judges; but still I believe in double mating."

SINGLE MATING SATISFACTORY.

W. T. White, Milton, Tenn.—"I have bred Barred Rocks for ten years, using the single mating system exclusively, and have produced as fine Barred Rocks as any breeder in the south. I shall continue breeding in this way until I am convinced by experience that I can breed better ones by the other method. Experience still is the best of teachers."

BETTER SPECIMENS FROM DOUBLE MATINGS.

T. L. Norval, Seward, Neb.—"Perhaps I may not be deemed competent to express an opinion on the subject under discussion, since I have bred this variety of fowls only about six years. I have and do now practice both systems of mating, the birds in each being bred in line and those produced by one system are not used in the breeding pens that are mated according to the other method. Experience has taught me that I can obtain a fair lot of birds, taking them as a whole, and some choice exhibition specimens, by the single mating method. There are a less number of light colored cockerels and dark colored pullets than when the double mating is practiced. By the latter method, by careful breeding, selecting only the best specimens for that purpose, I have been able to obtain much better and higher scoring exhibition specimens and more of them than from my single mating pens.

"Of course in the pullet line of breeding the cockerels are bound to come light in color, and in pens mated for cockerels the pullets will surely be too dark. These light cockerels and dark pullets are called culls by some writers, but they are just what the double mating fancier needs in making up his breeding pens for another year. So long as the standard requires the Barred Plymouth Rock male and female to be of the same color, it will not be possible for a breeder to produce a large per cent. of choice exhibition specimens by the single mating system, although a limited number of fine birds may be produced that way. Each system has its advantages and disadvantages. For the farmer who usually has one pen, I should advise the single mating method and for those who desire exhibition birds, the double mating method."

BRADLEY BROS. PRACTICE BOTH SYSTEMS.

Bradley Bros., Lee, Mass.—"We practice both ways of mating. We cannot give details of scores, etc., as it would interfere with the interest of our customers. For general statements on that subject see our advertisements.

"Our best cockerels have always come from moderately dark matings. The single matings in our yards have generally excelled in their pullet production. Some of the best females we have ever bred were sired by high-scoring medium colored males mated to exhibition colored females.

"A notable example of the result of moderately light matings was seen in our 1896 New York pullets, which took four of the five prizes, including first. We are pedigree breeders and for good reasons. We never have bred anything nice in either sex that did not come from a male with good ancestral backing."—Written in March, 1899.

'December, 1901—We have no alteration to make in the above."—Bradley Bros.

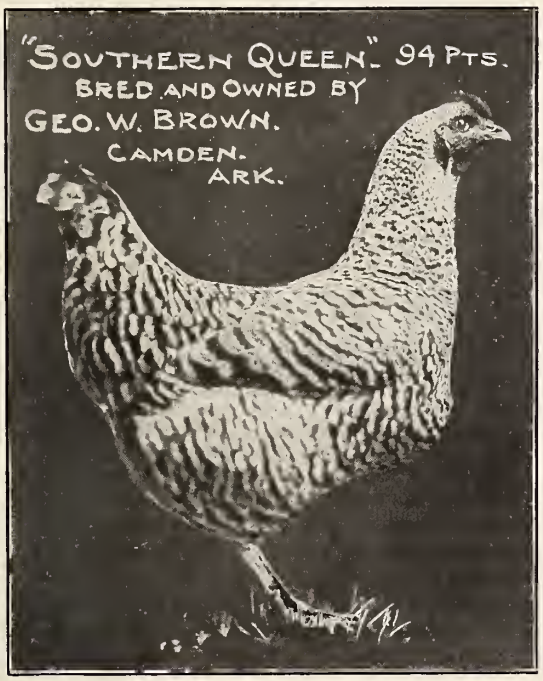
AFTER SIX YEARS TRIES DOUBLE MATING.

J. E. Conklin, New Lenox, Ill.—"I have been breeding Barred Plymouth Rocks for the past six years, using the single mating method, until this year, when I tried the double mating, from which I have had the best results I ever obtained. I have not had many of this year's birds scored yet, but did have a few scored before they were fully matured, the highest score for a cockerel being 92 points. The judge told me that this bird would score 94 after he was matured. The highest score on a cockerel from a single mating pen was 91¾.

Most of the birds I have sold this fall were from my double matings and judging from what the customers say the birds from these matings are giving the best satisfaction. I shall practice both matings from this time on."

TRIED BOTH; PREFERS SINGLE MATING.

A. L. Gierhart, Baltimore, Ohio.—"My first experience in breeding Barred Plymouth Rocks dates back to 1884, when they were in rather a crude state, as compared with the Plymouth Rocks of the present day. They were too dark in color, which seemed to run together, presenting a smoky or smutty appearance. They had the size, but were imperfect in symmetry or shape. After putting in about six years with these fowls, trying to bring them up to a better grade by selecting the best specimens and carefully mating for the best results, it began to appear that the advancement I made did not compensate for the time that was being spent upon them.



So I decided to dispose of the entire lot and start anew, accepting as pay for time and trouble the experience I had gained and a knowledge of the fact that they were truly a general purpose fowl and entitled to a place at the head of the utility class.

"After consulting the most reliable poultry journals (of which there are a few on which too much praise cannot be bestowed for the part they play in the advancement of 'better poultry and more of it'), we selected our man, made our purchase, paid the price and in due time the stock came to the satisfaction of all parties concerned. Having obtained a history of the breeding of the stock, I concluded to try the double mating system and followed it up for another four or five years, during which time I succeeded in producing some birds that won first prizes in the hands of my customers in 1895. But I found by this time that the per cent. of culls from my matings was too great, about 75 per cent. being good only for market purposes. In the meantime I kept trying, adding new blood from time to time, and pulling on toward the single mating system to regain what I had lost in double mating, until last season (1897-1898), my son, C. L. Gierhart, exhibited some Barred Plymouth Rocks from our yards, winning first on hen, score 92 points, by H. A. Bridge. The same hen won first, score 92½ points, by B. N. Pierce. We won second on cock, score 90½ points, cut one point on condition, making 91½ points, by I. N. Barker. Pullets at the same time scored 90 to 91½ points by the same judges. These birds, while they are not record-breakers, were produced by the single mating system and they are now in my pens mated up with other choice specimens upon the same line of breeding from which we expect good results." (March, 1899.)

December, 1901.—"I still practice the single or standard mating, as I understand it, avoiding extremes. I prefer birds showing some under-color and barring, to the cotton back. I should like to have a happy medium if possible."

BELIEVES IT THE ONLY SAFE WAY.

H. Tibbetts, Neponset, Ill.—"I practice the double mating system and believe it is the only safe way to breed exhibition Barred Plymouth Rocks. I have been exhibiting my birds for the past six years at the leading shows in the west under the most competent judges and have always won a fair percentage of the best premiums."

NOT EXTREME DOUBLE MATING.

E. H. Watson (Watson's Poultry Farm), Caro, Mich.—"I practice the double mating system and have produced birds scoring 93 to 94 by such judges as Messrs. Bridge and Butterfield. I do not use extremes in mating, the pullet breeding male that I use being one shade lighter than standard, the cockerel breeding female one shade darker than standard. I have seen birds win in the show room that were as light as my pullet breeding males and as dark as my cockerel breeding females."

PREFERS THE SINGLE MATING.

F. N. Rood (Maplewood Poultry Yards), La Rose, Ill.—"I practice the single mating method for the following reasons: First, I find I get less culls and very nearly as many standard birds. Second, while I cannot get as many excellent birds from the single mating as from the double, still I believe that I have more real value in a flock of single mating birds, because I get so many more culls from those produced by the double mating method."

STANDARD REQUIREMENTS ALL RIGHT.

L. H. Edwards, Mulberry, Ind.—"Thirteen years ago I mated up my first pen of this variety, using a male and female of the same shade of color, hoping that they would reproduce themselves, but it is needless to say that the cockerels came light and the pullets dark. Next I tried a mating with females rather light in color and the male decidedly darker, hoping to offset the tendency of the progeny to run light in the males and dark in the females. This mating, however, produced the poorest lot of chicks in color that I had ever seen. I became convinced that the law of reversion was here to stay and that in order to establish a strain of Barred Rocks that would breed satisfactorily from the single or standard mating, the variety would have to be remodeled.

"I began by mating a good Barred Rock hen to a Black Cochin male. From this mating came pullets with some barring and cockerels which were mostly black. For three generations I selected two of the best pullets and mated them with good Barred Rock males. Some improvement was noticeable, but I could not get away from the feathered shanks, the raised cushion and the feathered hocks. Finally all of these birds found their way to the kitchen.

"Next I tried mating a Black Java male to a Barred Rock hen. This gave me cockerels with about every fourth feather solid black, while those that were barred at all were only so at the tips. The under-color was almost solid black. Pullets from this mating had a foreign appearance that I did not have the heart to try to breed out and I threw up both hands and quit single mating experiments. I am now using the double or special mating system with results highly satisfactory. I do not exhibit, but furnish winners to many who do. Birds of my yards have won for my patrons in the best shows in Pennsylvania, Ohio, Indiana, Illinois, Missouri and Michigan, winning pullets having scores ranging from 92¾ to 94¼, and winning cockerels scoring from 92 to 94. In conclusion I will say that the American Standard of Perfection suits me as it stands."

TELLS CLEARLY HOW IT IS DONE.

Kraft Bros., Hornellsville, N. Y.—"We began breeding Barred Rocks in 1884, but it was not until 1898 that we went into the fancy. Prior to the latter date we mated entirely on the single mating plan and invariably the males came considerably lighter in color than the females. Naturally, when we began to breed for exhibition points we had to use the double mating in order to get males and females of standard color, and until the standard is changed to permit the males to be lighter than the females, so long shall we use double matings.

"We do not use extreme matings. We like our cockerel bred females to be well barred and as clear in color as possible, the only difference between an exhibition and pullet breeding female and a cockerel bred female being that the latter is too dark in color for exhibition. With these dark females we mate the best exhibition colored male we have, with the result that our males have scored to 93¾ in competition, by Judges Butterfield and Zimmer, two of the hardest cutters in the business.

"In our exhibition pullet breeding male we want a bird well barred in every section, the barring to be as sharp as possible. No washed-out males for us. With this male we mate the best exhibition females we have, and that our method is good is shown by the fact that the above named judges have scored our exhibition pullets to 92½ and 93 in competition.

"Occasionally we get an exhibition cockerel of high merit from a pullet mating and an exhibition pullet from a cockerel pen. In 1898 we exhibited at Elmira, N. Y., a cockerel whose sire and grandsire and dam and grand-dam were pullet breeders, in all that the words imply, and this cockerel won first under Judge Brown, with a score of 92. We frequently have been told since by Rock breeders that he was one of the best males they ever saw.

"One of the chief arguments of the single mating breeders is that while they cannot as yet breed as high scoring birds as by the double mating, still they have a better average flock. We doubt this, but even if true, buyers of exhibition stock do not want birds of average merit, but birds of the highest grade of merit obtainable.

"These high scoring birds can only be produced by the double mating system. Single mating men, however, promise us that in the years to come they will be on top, that every year there is a great improvement in their stock; but while consoling themselves in this way they lose sight of the fact that birds raised by the double mating system also are improving and that the birds exhibited five years ago could not, generally speaking, get a place in the show room to-day, and that five years from now the advance will have been as great. It is true that scores do not run any higher now than they did, but this means only that judges and breeders alike are being educated to a better Plymouth Rock, and the nearer we approach the ideal the more we realize how far away we were when we started."

TRIED BOTH; PREFERS DOUBLE MATINGS.

J. T. French, Toledo, Ohio.—"I am strongly in favor of the double mating plan and have been breeding in that way myself for the past six years with good results. Stock of my own raising was scored up to 94 points by Mr. S. Butterfield, in competition. The single mating system has never proved satisfactory with me, and I doubt very much if really first-class show birds of both sexes can be bred from a strictly single mating, that is, a male mated to females of the same color as himself, at least I have never seen good show birds of both sexes produced in this way." (March, 1899.)

December, 1901.—"I have had no reason to change my opinion in regard to breeding Barred Plymouth Rocks. I know stock which has been bred from single matings year after year and it did not produce one really good show pullet. The cockerels were good, but the pullets were all too dark to make even fair show birds. I do not say that really good show birds cannot be bred from a single mating. I would not go that far, but I will say that I have not been fortunate enough to see any of them. All of the winning birds I have seen and all those I have bred have been produced by the double mating system."—J. T. French.

WINS WITH SINGLE MATING BIRDS.

John W. Tanner, Paris, Ky.—"I employ the single mating method of breeding Barred Rocks. I have bred this variety ten or twelve years and the results have been satisfactory. I have won a majority of the premiums at our state poultry show for several years."

TRIED DOUBLE MATING, PREFERS THE SINGLE.

J. R. Fry & Son (Locust Poultry Farm), Springfield, O. —"We have been breeding Barred Rocks since 1889. For two years we used the double mating system and produced birds with fair scores. We then changed to the single mating system and found it was a change for the better, obtaining results which we thought were impossible. While using the double mating system our birds never scored over 91½ points, but since breeding by single matings they have scored from 92½ to 94½ points and never lower than 90½ points, by such judges as Messrs. Bridge and McClave."

GRADUALLY DRAWING MATINGS TOGETHER.

Mrs. Robt. Waldron, Rockhaven Yards, Minneapolis, Minn.—"We have bred Barred Rocks eight years and all our best exhibition birds and winners have been bred by the double mating system, without exception. We have been able to gradually draw our matings nearer together, but the best female breeders in our cockerel matings are still much too dark for exhibition, that is, much darker than standard color, though many of them are beautifully barred, even the flights, and are most pleasing in appearance to the eye of an amateur. We do not use extremely light males any more for pullet matings, but males from pullet matings that are themselves as near standard color as possible. By this you will see that while we believe in and practice the double mating system at present, we are looking forward to the ideal mating and hope and expect that we may live to see the time when an own brother and sister bred in one yard and shown at the same time may win first prizes at some good show under one judge.

"Our progress in this direction, especially with our pullet matings, has been encouraging and we can say that very few culls come from pullet matings this year under the above plan, but if we ever enter the ranks of the single mating advocates we shall arrive there by such an easy and gradual approach that we shall scarcely be able to fix the time of our arrival. We do not by any means despair of some day arriving, but for the present please write us down as advocates of double mating."

PRACTICES DOUBLE MATING.

H. H. Loutzenhiser, Danville, Ill.—"I have been breeding Barred Rocks for five years and practice double mating and believe it is the proper system. My chicks are all marked and I know their ancestors. I have gotten a fair share of the ribbons under such judges as Messrs. Ben Myers and Chas. McClave."

MATINGS ARE NEARER TOGETHER.

W. W. Kulp, Pottstown, Pa.—"To state that sure winners in Barred Plymouth Rocks will never be bred by the strictly single mating system would be saying a great deal in this time of wonderful achievement, yet so long as judges, especially our eastern judges, award prizes to very dark birds as they now do, it seems as if one could safely make the prediction.

"I have never exhibited in the New York show, but I have had years of experience and birds bred in one of my yards were so good that one of the best New York judges bought more than one for his friends, and for years they beat some of the best birds. In strong competition at Reading, Pa., I took first cockerel and first pen, by comparison judging. I know that the female line has always been much the better. The great beauty of the females would carry the pens. Although a number of my male birds have been winners, their size and early hatching had something to do with it, and we were finally obliged to make a mating of darker females. Last year I raised a male that is light outside and barred all over to the skin. He sired pullets that are as light as Mr. Latham's, yet he breeds good exhibition cockerels. His get won first and second at Sanatoga in the pullet class. They were not scored, but one of them will score fully 94¼ or 95—if any Barred Rock is worthy of that score. An old breeder advised me to show her at the large shows, as she is equal to the best. Once we had a pen scoring 95 points, all five birds averaging that, but the score was too high.

"I know that matings are now nearer together than they were some years ago, and they will draw still nearer if judges will confine their awards to good, clean, bright outside color. I have just seen an ill-shaped, ugly, smutty, run-together colored cockerel placed first because of his wonderful under-color. I would not use him as a gift, but his under-color placed him at two shows. At one of them two birds were placed over him, but good, clean birds were lower than he. This is wrong and is a harm to the breed, for now he can be sold at a good price and spoil some one's flock."

FIRM BELIEVER IN SINGLE MATING.

F. H. Jackson, Rutland, Ill.—"I am still a firm believer in the single mating of Barred Plymouth Rocks, as I get more good birds and just as many good exhibition birds, of greater size and vigor than by the other method. I will mate my birds in this way for 1902. I always cull my hens closely and use high scoring males."

GREATER SUCCESS WITH SINGLE MATING.

R. G. Buffington, Fall River, Mass.—"I have bred Barred Plymouth Rocks in a small way for thirty years. I used to think they must be bred by the double mating method, but have had better success with the single mating."

PRACTICES SINGLE MATING SIXTEEN YEARS.

Ed. B. Murphy, Carmel, Ind.—"For more than sixteen years I have been breeding Barred Plymouth Rocks by the single mating system. In the past few years I have made several exhibits, putting my birds up against birds produced by the double mating system, and have never failed to win many good prizes, the scores running from 90 to 94 points.

"My customers report themselves pleased with my birds, so I shall continue practicing the single mating system so long as I can please my patrons and win against the double mating birds. Mr. B. N. Pierce for several years has scored my birds from 90 to 94 points and each time he has advised me to go ahead, so long as I could produce so good birds. I should advise beginners to use the single mating system, selecting birds with clean yellow legs and beaks, and strong in muscle and bone. Never use birds for breeding that have brassy or dingy plumage. They should have broad, deep bodies and broad, deep and full breasts. I prefer them to be a little blocky. Let the bird be plainly and distinctly barred in every section, for the real beauty in a fowl is in its symmetry and surface color."

BIRDS IMPROVE UNDER SINGLE MATING.

Mrs. Minnie Liebengood, Woodlawn, Ill.—"I have bred Barred Plymouth Rocks six years and favor and practice the single or standard mating. I mate males and females of medium color and as near standard shape as I can get them. The result of these matings is that my birds improve each season in uniformity of shape and color. Visitors to our place always say it is the finest flock of Plymouth Rocks they have ever seen."

DOUBLE MATING, BUT NOT EXTREME.

I. O. Tritt, Urbana, Ohio.—"I have found the double mating system more satisfactory, although I do not go to extremes in mating. I use a cockerel standard in color, finely and evenly barred to the skin, with dark, but well barred females for nice exhibition cockerels, and I get them to score from 88 to 93 points. For exhibition pullets I use a light, but evenly barred cockerel with light, well barred females. The result has always been satisfactory, as I get pullets that score 90 to 95 points."

STANDARD MATING AND LINE BREEDING.

S. M. Williams, Monroeville, Ind.—"We all believe that like will beget like, at least to a certain degree. Believing this, what is the first consideration of the experienced breeder when mating up his fowls, whether he does it by the single or double mating? Does not his ideal of standard color claim his attention first? And right here trouble begins. Our judges are principally to blame for the wide difference in the color of winning Barred Rocks. Scarcely two of them can be found who agree upon what the standard color is. For some years light females have been the craze, with very dark males for the yard. In the writer's opinion this is contrary to nature. As I understand color, it means even barring throughout the entire specimen, the lacing narrow, or medium, or wide, in the different sections. The colors must be distinct and not run together as we find them in all light specimens. In the former specimens you find the color stops short of a positive black.

"How shall we obtain the best results? You will get the most satisfactory results from the standard mating by line breeding birds of whose blood you are absolutely sure. Use a

male as dark as possible, yet bright in color; and one that is barred down to the skin is to be preferred. He should not be over weight or coarse, and his shape should equal his color. In double matings the same rule applies, except that you must have two matings to produce the same results. Personally I prefer the single mating, believing it will win out in the end, when breeders get enough experience.

"Why do so many of our breeders of B. P. Rocks want to be always crossing their stock? It must be that they have no confidence in their own birds or their own judgment. Will they never see that this crossing is keeping the breed in the semi-mongrel state? Experienced breeders of other kind of stock have learned better long ago."

SINGLE MATING FOR CUSTOMER'S SAKE.

A. W. Graham, Cortland, N. Y.—"I practice the single mating method of breeding Barred Rocks because I think just as good birds can be produced by this method, and the purchaser of a pen of Barred Rocks bred in this way will get more satisfactory results than he can from one pen produced by the double mating."

BELIEVES IN SINGLE MATING.

D. D. Lautzenhiser, North Manchester, Ind.—"When mating for cockerels by the double mating system, there are always a lot of cull pullets, and in the pullet matings there are a lot of cull cockerels. In the single mating there will be culls of both sexes, but not any more than when we use the double mating system. Now if the best birds are selected from the single matings and carefully mated and bred in line, with no new blood unless absolutely necessary, finally like will beget like and we shall have done away with the double mating system."

GOOD RESULTS FROM SINGLE MATING.

Bert H. White, White's Feathered Stock Farm, Battle Creek, Mich.—"We have had very good results with our single matings. Have produced pullets that have scored 94 by Felch in 1898. In 1899 Mr. Pierce scored our pullets at 93½ and 94. In 1900 we had cockerels and pullets that scored 93½ and won first and second at the Indianapolis show under Mr. Hewes. These birds were all produced by the single mating system as we practice it. Last season we purchased eggs from one of the prominent advocates of the single mating system. The stock we got showed greater extremes in mating than we practice, the pullets being fit for nothing but the market.

"Personally we do not favor the standard mating, except in regard to the extreme difference in color. Standard mating is a very broad term. What one breeder calls a light male, another would pronounce a medium colored male. In our opinion it is not reasonable to expect to produce males and females from the same mating, when the cockerels and pullets demanded by judges are of such different color. For example, the kind of pullet in demand and the one that gets the highest score is the narrow barred bird with clear black and white bars; with the males, a soft, blue-gray color is correct. The Barred Rocks are our first love and so long as there is a White's Feathered Stock Farm we shall breed them, and we are willing to do anything to improve the breed and keep them where they belong, in the front rank."

TIRED OF SINGLE MATING.

R. W. Duryea, Great River, L. I., N. Y.—"Have been breeding Barred Plymouth Rocks for thirteen years. The first four years I practiced the single mating system, that is, I used to mate the best exhibition colored male and female together. And my experience was not satisfactory, as the offspring from this mating did not produce birds of both sexes which in any way matched in color as the standard requires. I then tried the extreme or double mating method with much better results, and I have no desire to revert to the former. Birds I have bred have been scored to 93½ points by our best and ablest judges in competition, and in many instances they have won first honor."

A Young Dark Cockerel, suitable for a Cockerel Breeder; bred by Craig Worth.

RETURNS TO DOUBLE MATING.

Mrs. Charles Jones, Paw Paw, Illinois—"In 1900 I mated a number of my yards by the single mating method and the results were not satisfactory, so in 1901 I used the double mating system in all my yards. The result was I raised the finest stock I ever did, with the smallest per cent. of culls I have ever had. My birds have scored as high as 93 points. I shall always mate up part of my yards according to the double mating system. In taking up the single mating method I got off the track and was forced to go back to double matings. While I do not get my cockerels hardly dark enough for exhibition color, I never saw so uniform a lot of cockerels in color. I have each pen marked and can tell the exact result of each mating. I have much better pullets this year from the double matings than I ever raised before."

NOW PRACTICES SINGLE MATING.

S. B. Johnston, Boggstown, Ind.—"I have been breeding Barred Plymouth Rocks for the past ten years. At first I practiced the double mating, as I was told to do, with the birds that I bought, but I believed then that they should be bred as the wild birds are, that is, birds of standard color should be bred together. For this reason I never have used as extreme matings as some breeders, and I have gradually brought them closer together, until for the last four years I have used nothing but the single mating system with the best of success. I have produced a much larger per cent. of good even colored birds than when I used the double mating system. I expect to breed Barred Rocks as long as I am in the business, and I expect to live long enough to see them bred in no other way. When one wants to introduce new blood into his flock and buys a bird bred from the double mating system, he will get one just as liable to breed a mongrel as a show bird, but if he practices single mating and buys of a breeder who practices the same method, he will have no trouble to produce exhibition specimens."

ALWAYS FAVORED SINGLE MATING.

D. F. Palmer & Son, Yorkville, Ill.—"We have always favored the single mating system, as we think we get a better class of birds, taking them as a whole. We have sixty

cockerels scored by Mr. F. H. Shellabarger from 90 to 92 points and quite a per cent. of them were not in their prime. In competition our birds have scored 93 points."

PREFERS SINGLE MATING.

Mrs. R. H. Bell, Woodlawn Poultry Farm, Knoxville, Tenn.—"During the twelve years I have bred B. P. Rocks I have used both the double and single mating systems, but much prefer the latter, because I believe it is the only way in which they can be bred, so that they will give good results to the persons who buy our stock. I have found that I get a smaller per cent. of culls from the single mating. Most of my cockerels and pullets are of the same color, and will reproduce the same color in their offspring. When I used the double mating I felt uncertain about the results I should get when I mated up a pen of birds taken from two different pens of birds mated according to the double mating system. Where will the complications end if the double mating system is continued. It certainly is not practical, nor is it natural, and we all know what trouble there is when we go against nature. If standard color cannot be produced by the single mating system I think the time has come when the standard should be changed."

SINGLE MATING NOT SATISFACTORY.

W. M. Green, Lockport, Ill.—"For the past three years I have bred B. P. Rocks by the double mating system. I tried the single mating method for several years, but the results were not satisfactory. I am well pleased with my present method of breeding, as every year my birds in competition show improvement in their scores given by our best judges. I think the double mating method is the only way to mate them under our present standard."

DOUBLE MATING PRODUCES FINEST BIRDS.

E. B. Thompson, Amenia, N. Y.—"I have tried both the single and double mating methods and have found that the double matings as a rule produce the finest and highest scoring birds. I have bred New York winners by the double mating that have scored 95 and 95½ points. I have bred Barred Rocks nearly twenty-five years and practice principally the double mating, although I use some single matings to accommodate customers who desire eggs from stock from such matings."

SINGLE MATING A FAILURE.

J. W. Hodson, Manager Huddleston Poultry Farm, Winamac, Ind.—The double mating system of breeding Barred Rocks proved much more satisfactory to us than the single mating, which so far as we are concerned was a failure. We got nothing in the way of good colored birds from any of our single matings. One may get a few exhibition colored birds by this method, but the number of culls will be too great for any one to adhere strictly to the single mating method and make it a success. At least, such has been our experience."

THIRTY YEARS A BREEDER.

C. L. Hogue, Battle Creek, Mich.—"I have bred Barred Plymouth Rocks for the past thirty years and have been a successful exhibitor. I never exhibited that I did not win some of the best prizes. I have used both the single and double mating systems, and for the past ten years have used the single mating system with success. This year I have better birds than ever. With the pullet matings we get a great many cull cockerels, but from the single matings nearly all our birds are good and can be sold for good prices."

TWO MATINGS ESSENTIAL.

Ed. Isley, Hope, Ind.—"For several years I have followed the single mating system of breeding Plymouth Rocks, and was then obliged to sell out my birds and begin anew. I firmly believe it is essential to make two matings in Barred Rocks, so long as the standard requires them to match in the show pen, for we know from actual experience that the males breed lighter than the females."

USES DOUBLE MATING SYSTEM.

"F. W. Richardson, Hicksville, Ohio.—"Our method of breeding Barred Plymouth Rocks is by the double mating system. I use one mating to produce exhibition colored cockerels and another to produce exhibition colored pullets. In my cockerel matings I use a standard colored cockerel mated to females three or four shades darker in color. In my pullet matings I use standard colored females and mate them to a male three or four shades lighter in color than standard. By so mating I have produced many cockerels and pullets that have scored 93 to 94¼ in hot competition."

MUCH PREFERS DOUBLE MATING.

Mrs. J. M. Randolph, Kenney, Ill.—"I much prefer the double mating system of breeding Barred Rocks, having practiced this method for a number of years. The results have been very satisfactory and my birds score well by good judges."

AN ADVOCATE OF SINGLE MATING.

Sid Conger, Shelbyville, Ind.—"I use the single mating system of breeding Barred Rocks. I have bred them continuously since 1876, and have bred and exhibited a great many prize winning B. P. Rocks. I have had scores as high as 95 by Messrs. Felch, Bicknell, Pierce, Brown, Hitchcock, Hewes and others, and they were all bred on the single mating system. Barred Plymouth Rocks are an old established variety, and like should produce like, and it will if mated according to the single mating method. Single mating people have the best of the argument. They have only to breed half as many birds, have half as many houses and yards and half the amount of feed. When one buys a pen of single mated Barred Plymouth Rocks he knows he has only to buy one pen to get both cockerels and pullets, while the double mating advocates have to buy two pens, and the cost of care and feed must be twice as much, with the loss in culls double what the other system

A Young Light Cockerel, suitable for a Pullet Breeder; bred by J. M. Holt.

produces. Why should chickens be bred according to the double mating plan? We do not breed horses, nor cattle, nor hogs, nor sheep in that way. There are fads in Barred Rocks. At one time all attention is given to yellow beaks, then it is yellow legs, then it is feathers barred to the skin. Again it is bay eyes, or every one wants a light colored female and next season she must be dark, with dark bars, and still another time every one is paying great attention to the comb. If breeders will adopt the single mating system and get a uniform standard colored female and male as near alike in color as it is possible to get them, and will not become a "faddist," I venture to say that the customer will not care much whether the Barred Rock has anything but good size and form and a general good, even color to show that it is a Barred Rock. They will not care for the color of its eyes, legs and beak, or if the bars run down to the skin or not. The edibleness of the bird is the test and we do not eat the beak, comb, legs, eyes or brass. The plumage is simply to catch the eye."

"BY THEIR FRUITS."

A. C. Hawkins, Lancaster, Mass.—"I have always bred Barred Plymouth Rocks by the double mating system and have bred cockerels and pullets that have scored 95½ points in strongest competition in the largest shows in America."

DOUBLE MATING THE BETTER PLAN.

Geo. Muck, Edinburg, Ind.—"I have made a study of Barred Plymouth Rocks and bred them for eighteen years. I use the double mating because by so doing I can produce a larger per cent. of strictly high-class birds than I can with the single mating method. I experimented with them for eight or ten years, until I was satisfied that the double mating was the better plan. I could produce but a small per cent. of high-class birds by the single mating and could not depend upon it. I am now satisfied that double mating is the only way to produce high-class exhibition birds in large numbers."

SINGLE MATING BIRDS SCORE HIGHER

Jacob Bassinger, Columbiana, Ohio.—"We have practiced the single mating of breeding Barred Rocks for about fifteen years and we think we can produce more good birds out of the number raised than we could by the double mating system. We are furnishing a good many winners to our customers, which shows that good birds can be produced by the former system."

SINGLE MATING PRODUCES GOOD BIRDS.

H. Shivvers, Knoxville, Ill.—"I have tried both the single and double mating methods of breeding Barred Rocks, and decided that I can raise better birds by the double mating system, or at least, my birds bred from the double matings get higher scores by such judges as Messrs. Hewes, Russell, Bicknell and others. I have practiced the double mating for the past eleven years and expect to continue it until I find a better way than the present single mating method. I have a friend who has used single mating exclusively for the past ten years, and I have watched his stock closely. He gets a few good pullets, but it is a rare occurrence, though he will have an even lot of fairly good cockerels "

FAVORS SINGLE MATING.

D. T. Heimlich, Jacksonville, Ill.—"I favor the single mating method because it is the simplest for best results. The best scores that I ever received on my Barred Plymouth Rocks by competent judges, such as B. N. Pierce, I. K. Felch and E. S. Comings (on fowls and chicks mated and bred by the single mating method) ranged from 90 to 95 points. Under less competent judges, pullets have been scored as high as 96."

DOUBLE MATING RESULTS ENTIRELY SATISFACTORY.

John K. Ottley, Joyeuse Farm, Atlanta, Ga.—"My first experience with Barred Rocks was some twenty years ago, at which time I practiced the single mating method, but since that time wonderful progress has been made. Four years ago I bought Joyeuse Farm and took up the breeding of Barred Plymouth Rocks for the second time. I used the double mating system with results entirely satisfactory. During the past year my birds have won high honor at Macon and Atlanta, Ga., and Troy, Ala. I have no quarrel with those who advocate the single mating system and am willing to grant that a given number of birds under this system may produce birds that will average with, or even surpass in grade a like number of birds produced by the double mating system. I believe it is a certainty that from the double mating system there will be produced cockerels and pullets whose individual scores will be higher than those produced from a single mating yard. It makes no difference what the quality and color of the birds in

"Barred to the Skin"; bred by W. A. Irwin.

the single mating yard may be, only it is assumed that the quality and color is the same, or nearly so, whether the birds score high or low. It would seem to be a more simple as well as a more sure proposition to produce the dark color on cockerels expected, and in most cases required in the show room, from a pen mated specially for the purpose and to get the bright, light color in a larger percentage of females that win in the show room from a pen of birds mated for this purpose than to expect to get both of these—one might say distinct types—from one pen of birds of an even marking throughout. It would make no matter what the color or the quality was, so that the birds matched. I breed them primarily for the love of it and would rather breed half a dozen stars and a large percentage of culls, if necessary, than to breed an even lot of birds, none very bad and none very good. Quantity will not win in the show room, but a few birds of the right quality will make a clean sweep."

STRONGLY IN FAVOR OF SINGLE MATING.

Henry T. Reed, Camp Point, Ill.—"I favor and practice the double mating plan in breeding Barred Plymouth Rocks and have never failed in producing good, evenly barred birds up to standard requirements.—March, 1899.

December, 1901.—"I am strongly in favor of the single mating and would never practice any other system, unless I wanted more culls."

STANDARD MATING BOUND TO WIN.

Chas. B. Sayers, Waynetown, Ind.—"I am a firm advocate of the single mating system, having practiced it for the past five years with splendid results, producing fine birds of both sexes from the same mating. These birds have been winners in competition with those produced by the double mating system. I find that my birds are getting better each year, are more uniform in color, and there are fewer culls. There is less tendency to brassiness in the males and the colors are clearer in the females. The standard mating is bound to win in the end."

FAVORS DOUBLE MATING; USES BOTH.

A. N. Harlow, Square Deal Poultry Farm, Winfield, Mo. —"During the past five years I have tried both the single and double mating and I favor the latter method, as the best birds are produced by that system and I find I raise a greater per cent. of good birds than from the single matings, still, I keep a pen of birds mated according to the single mating method to supply customers who wish birds bred in this manner."

PRACTICES BOTH, ADVOCATES SINGLE MATING.

G. W. Brown, Ouachita Valley Poultry Farm, Camden, Ark.—"I have bred Barred Plymouth Rocks for twelve years and I believe my show record excels that of any other breeder in the whole southwest. I have refused as high as $100 cash for the first prize cockerel, which I believe is the highest price ever offered a southern breeder. At the Texarkana Association show I won first cockerel, first pullet and first hen, the cockerel and pullet being first brother and sister and the hen mother of both. The cockerel is an honest 94 point bird, the pullet 93⅓ and the hen 94. This looks as though the single mating can produce winners. My second prize cockerel was a double mating bird. While I advocate and believe in the single mating system of breeding as the natural way of breeding for best results to all, still I also breed according to the double mating and keep the birds pure and distinct, so that I may supply the demand for birds bred either way, yet when I consider the general good of all and how to produce a greater per cent. of choice birds, I wish to go on record as a judge and breeder, as an advocate of the single mating system."

WHY DOUBLE MATING IS PRACTICED.

C. A. Damon, Morgan Park, Ill.—"After all that has been written about double and single mating, a great many are still in the dark as to what it is all about. It is no unusual thing to receive an order for eggs which states that the writer wants most of them out of a pullet pen because he is desirous of having as many females as possible. For the benefit of those who are new at the business, it may not be out of place to state that double mating is not used to influence the sex of the chick, but to produce both males and females of the proper color for exhibition purposes. This is necessary, because the Barred Plymouth Rocks, like a number of other varieties, are governed by an unnatural standard. In other words, the Standard of Perfection requires that males and females shall match in color in the show room. Because the crosses from which the Rocks were produced were darker on the dam side than that of the sire, the offspring invariably come that way—the females a number of shades darker in appearance than the males.

"The single mating advocate asserts that by breeding from birds of the same color year after year this difference in shade will be overcome. You have probably heard the old story about Mary and John. At one time John was three times as old as Mary. Five years later, only twice as old, and at the end of ten more years, one and one-half times as old. The problem is to figure out how many years will elapse before they are both the same age.

"Our single mating friends are confronted with the same proposition. After laboring in vain for more than twenty-five years, they find themselves the small minority, still claiming they can overcome the laws of nature, while the double mating army is constantly increasing and includes on its roster the names of practically all the leading breeders of the variety. Does this inability to get the very finest specimens of both sexes from a single pair spoil the breed as a general utility fowl and make it unsuitable for any but the fancier? Certainly not. If you are keeping poultry for pleasure only you certainly will be satisfied with what pleases the single mating breeder so much—a little short of the best. The latter is not the only one who can furnish you such birds. A male just a trifle too light to be of ideal exhibition color, mated to a female a little darker than standard color will produce a large percentage of really good birds of both sexes. Such stock can win at a good many shows, but when it comes to really hot ones, they fall by the wayside. The single mating men, you will notice, generally win on one sex or the other, and very seldom on both. It is a well known fact that some of those who talk the loudest in favor of the single mating strain a point or two when it comes to selecting their own breeders.

"The writer is not an extremest and believes that much harm is being done the breed by those who use washed-out males in their pullet pens and smutty pullets for cockerel breeders. A prize winning male will reproduce himself if mated to distinctly but very closely barred females, and a large percentage of exhibition colored pullets will result from a mating of standard-bred females and an open barred male, where the past breeding is along the same line. It is the difference in the width of the light bar that gives a Rock the appearance of being dark or light, and not the intensity of the color itself. It is just this fact that makes it impossible breed both from a single mating. A closely barred male and an open barred female will not reproduce themselves. The subject therefore resolves itself into this question: Are you going to aim for the highest quality of exhibition stock, or will you be satisfied with something a little short of that? When your mind is made up on this most important point, your course is laid out for you and it is easy to follow."

STRONGLY FAVORS SINGLE MATING.

Geo. M. Leffel, Springfield, Ohio.—"For thirteen years I have bred Barred Rocks and have practiced the single mating, and I believe I can display as good a show record as any breeder who exhibits at score card shows. I. K. Felch scored one of my cockerels as high as 95, the highest score he ever gave a Barred Rock cockerel in all his judging. Mr. B. N. Pierce cut one of my cockerels only one-half point for color. F. J. Marshall gave twenty-three out of twenty-five birds 93 to 94½ points. During the eight years that I have exhibited I have never failed to have birds that scored as high as 93½ under Messrs. Pierce, Bicknell, Jarvis, Bridge, Marshall,

Felch and McClave. These men are among our foremost judges, and under them I am proud to say I have never failed to win first on cockerel, or its equivalent, and only once did I lose on pen and pullet. All this has been done by birds bred by the single mating system. It makes one laugh to see eastern breeders claiming that they practice both ways of breeding. I have never bred anything nice in either sex that did not come from a male with good ancestral backing. My birds are all pedigreed and I can tell the ancestors of all the birds I ship, and I also keep a record of the eggs from the different pens. I am willing to compare scores I have made under foremost judges with those won by the birds of any double mating advocate."

SATISFIED WITH DOUBLE MATINGS.

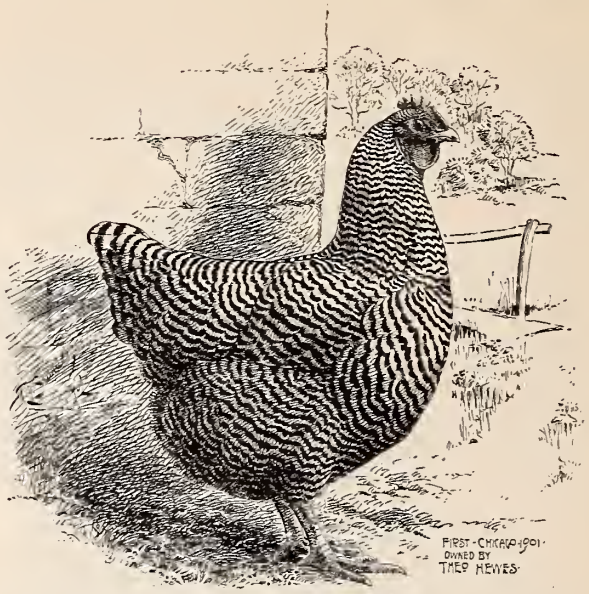
Wm. B. Kendrick, Urbana, Ohio.—"I have been breeding Barred Plymouth Rocks for eight years and advocate the double mating system. So long as I can produce birds that score 91½ to 94½ under Messrs. Marshall and Felch, I shall be satisfied with the double mating system. You have to use good birds of both sexes to produce good birds. To produce pullets, I use light colored exhibition females of standard weight or over and mate them to as light colored cockerel as I have that is bred from a pullet mating. He must be well barred in all sections, of good shape, with yellow legs and beak, his plumage free from brass or smut. To produce cockerels, I use hens or pullets bred from a cockerel mating. Care should be used to select the lightest. If my females are weak in any section, I try to breed out the defect by using a male that is strong in that section. I use a dark, finely barred bird with yellow legs and beak in the cockerel pen. The straighter the barring is, the better the young birds will be."

BEST RESULTS FROM DOUBLE MATINGS.

Craig Worth, Indianola, Iowa.—"I have been breeding Barred Plymouth Rocks six years, using both the single and double mating systems and have both matings in my pens at present, but I am better satisfied with the results from the double matings. In the double mating I use, the male birds are near the same shade of color, the pullets being darker in the cockerel mating than in the pullet mating, but neither is an extreme mating. The best exhibition cockerel I raised last season, and one of the best exhibition pullets, were bred from a single mating pen that I have been breeding as a single mating for five years. I have placed more faith in line bred birds with a long ancestry of high quality than anything else. Since the open barred females no longer win under our best judges, it has become easier to produce good birds of both sexes from one pair, but my experience has been that I can produce more exceptionally high quality birds from the double than from the single mating."

DISCARDED SINGLE FOR DOUBLE MATING.

E. C. Awkerman, Bluffton, Ind.—"For the past ten years I have bred Barred Plymouth Rocks exclusively and for six years I employed the single mating system, not caring much about producing show birds, but as the demand grew greater for my stock, and I became more enthusiastic, I wanted the best to be had, because they do not have to be fed any oftener, nor do they eat any more than do low grade birds. During the last four years I have furnished many show birds that have won prizes, that were bred by the double mating system. I do not exhibit my own birds very often for two reasons: First, I do not like to show in competition with my customers, and, second, I have been able to sell all the stock I could raise, and I have never been able to supply the demand



A Chicago, 1901, First Prize Barred Rock Hen, owned by Theo. Hewes & Son.

for eggs, besides, it takes special work and care to put birds in condition for the show room. While my experience may be termed limited, still I will say that for producing high scoring birds I will employ the double mating system, first, last and all the time."

SINGLE MATING WILL ATTRACT AMATEURS.

Alma S. Green, Ripon, Wis.—"I have bred Barred Plymouth Rocks for four seasons and have used the single mating system. Last season, 1900, my flock was very even in quality and they were bred from layers of good size. The average score was 88. This season I believe my birds will average one or two points better. They have not yet been scored. The Barred Plymouth Rock is and should remain the choice of the largest number of breeders, for its qualities commend it to the breeder desiring beauty, meat and eggs. I believe these qualities should become fixed by the single mating if we desire this variety to remain the choice of the amateur. Comparatively few owners of a flock of fine birds wish to be troubled to study the principles of double mating. They will not be proud of the different shades of markings and will turn to a variety of solid color in place of the parti-colored Rocks."

IN FAVOR OF DOUBLE MATING.

Leroy S. Derrick, Center Brunswick, N. Y.—"I am in favor of the double mating system because I think one can get more show birds than by the single mating system. Even from a cockerel mating one will get a number of cockerels that are too light to make first-class show birds and it is the same way with the pullet mating, that is, there are some pullets too dark for show birds. For my pullet mating I use a cockerel as light in color as I can get and still have him well barred, and I very seldom have a pullet too light in plumage. I think it is advisable for every Barred Plymouth Rock breeder to have a single or general purpose mating, as some people call them, for customers who want medium colored birds of both sexes to be mated together."

STILL PRACTICES DOUBLE MATING.

Mrs. Della Maxwell, Fayette, Mo.—"I still practice the double mating system with better results than ever. I have

never failed to win my share of blue ribbons, so I will continue to use this method until I am thoroughly convinced that the single mating system will produce as good males and females and as large a per cent. of good birds as the double mating system. You will notice in all the leading shows that the majority of first prizes are won by birds bred by the double mating system."

THEORETICALLY BELIEVES IN SINGLE MATING.

Henry M. Ladd, Prop., Crescent Farm, Kent, Ohio.—"Theoretically, we believe in the single mating for Barred Rocks at Crescent Farm. It seems to be the ideal at which we should aim in any breeding. We are conscious of the great difficulties to be overcome, but believe in working toward the ideal. The Crescent Farm $50 Silver Cup has been awarded to birds bred from our stock in the hands of our customers, mated according to the single mating method. We do not exhibit Barred Rocks, but furnish winners to our customers, and we are better pleased to have them win than to win ourselves."

PRACTICES BOTH METHODS.

Harry M. Lamon, Watertown, N. Y.—"In breeding Barred Plymouth Rocks I practice both the double and single matings, but get more first-class exhibition birds from the double mating. The flock resulting from my single matings run very even in color, but at present the birds lack the sharpness of barring that is to be found on birds from the other mating. But believing that good birds can be produced by the single mating when properly mated, and not wishing to be out-done by my competitors, I shall pursue the single mating plan along with my double matings until I am convinced by success or failure as to the best method of producing the greater number of high-class specimens."

WILL CONTINUE TO USE DOUBLE MATINGS.

M. S. Gardner, Sterlingville, N.Y.—"I bred Barred Rocks several years by the single mating method before learning that there was a better way. A large percentage of the cockerels were too light for exhibition and of no use as breeders to a man who used single matings only. Fully fifty per cent. of the pullets were darker than standard, and so of no use in the standard mating. About four years ago I began to use double matings and find that I can breed more extra fine exhibition birds in this manner, and that I have a much smaller proportion of culls. I seldom get a female from my cockerel matings too dark to breed good cockerels and get very few cockerels from my pullet matings that are too light to breed from or to sell. The mating that produced for me the first and second New York cockerels, 1901, did not give me a male bird that would score less than 91 points and not a female that was not worth $10 or more as a breeder. Other cockerel matings have done nearly as well for me, giving me higher scoring males and less culls than any single mating I have been able to make. Cockerels bred by me last year scored to 94½ points under several prominent judges in as many states. Among this number was a cockerel that won first at the Missouri State show and at Kansas City, Mo. This bird scored 94½ by Judge Wale, the highest score he ever gave a Barred Rock cockerel. Until I can breed better birds in some other way, I shall continue to use double matings."

BOTH SYSTEMS OF MATING HAVE THEIR ADVANTAGES.

Reliable Poultry Farm, Quincy, Ill.—"We have had years of experience with both systems of mating and like both of them, judged by actual results. For eight years we have bred an established strain along the lines of single mating and have succeeded in producing cockerels that scored 92¼, 92½ and 92¾ by judges Hewes, Emry and Heimlich. We are still continuing this line of breeding, in fact, the majority of our stock is bred this way. Some four or five years ago we paid $65 for a trio of pullet-mated Barred Plymouth Rocks and $100 for five cockerel mated birds, a cockerel, two pullets and two hens, one of the hens being the mother of the cockerel. From these matings, the pullet-bred trio and the cockerel-bred pen, we have produced pullets scoring up to 93 points and cockerels scoring 93 and 93¼. We expect to continue to breed by both the single and double mating plans. We should not like to give up the position of advantage we have secured during the several years of experimenting. It takes time to establish strains that will reproduce themselves along standard lines, and once established, these strains are of special value, in fact, become one's stock in trade. Both systems of mating have their advantages and advocates. Our trade calls for the produce of both systems, and we are in business to cater to the wishes of our customers to the best of our ability."

GOOD RESULTS FROM SINGLE MATINGS.

Mr. and Mrs. M. M. Smith, Montgomery County Poultry Farm, Farmersville, Ill.—"Our preference is for the single mating system, but we mate a few pens of Barred Rocks according to the double mating system for customers who prefer birds from such matings. For over twelve years we have practiced the double mating system and raised some very good birds, but there were a great many culls and we came near discarding the Barred Rocks. As an experiment, we changed our way of mating, being very careful in the selection of the birds the first year. From the resulting birds we made a second mating, selecting the best, and did the same the third year. We thought we were raising some good birds and went with them to the Illinois State Fair, where we won third cock, first and second pullets and second pen. Judge Russell said the pullets were beauties and also said that our cockerel was the best by two points. The two pullets won in first and second pairs of chicks at the St. Louis, Mo., fair, in 1901; and we won eight ribbons at the State fair at Springfield, Ill., receiving a score of 94 on cockerel. We mention these scores to prove what can be done by the progeny of one pair of birds. Judge Russell (although he is a double mating man) will tell that our first and second pullets and the 94 point cockerel and their mother were so nearly alike in color and barring that he picked their mother from the rest of the hens. We did not

A Chicago, 1901, First Prize Barred Rock Pullet, bred and owned by D. F. Palmer.

have a single cull from their mother, but all were evenly and clearly barred to the flesh. Experience has taught us that we cannot get something for nothing. In other words, you must have a hen or pullet that is just so. The bars of her feathers must be narrow, the same as the cockerel, and the more perfect in color they are the better results you will have. The birds must be pure and line bred. While we can raise such birds as we have this year, we shall not want to follow the double mating system which gives us so many more culls."

SINGLE MATINGS A FAILURE.

Eugene W. Harrington, Buffalo, N. Y.—"It must be apparent to any one who will give the subject a particle of thought, that any breeder of Barred Rocks would gladly adopt the single mating system if he could be sure of results. Gladly would I do so, did I not know from actual experience that my best efforts in this line always proved a failure. I am of the opinion that exhibition males and females cannot be produced from one pen of birds mated according to the single mating system. I desire to state further, that it is my judgment, based upon the results of various experiments, that it is impossible to produce exhibition males from exhibition colored females."

DOUBLE MATING NECESSARY.

Francis H. Foster, Andover, Mass.—"I have always mated up my stock by the double mating system, for with Barred Rocks like does not produce like in one sense. We want darker males than they naturally produce, and lighter females. Occasionally a standard colored bird will be produced by mixing together all the shades we have in one pen, but so long as nature produces dark females and light males, I cannot see that we can produce what we want, except by the double mating system."

A winning Barred Rock—Male

FINDS NO FAULT WITH DOUBLE MATING.

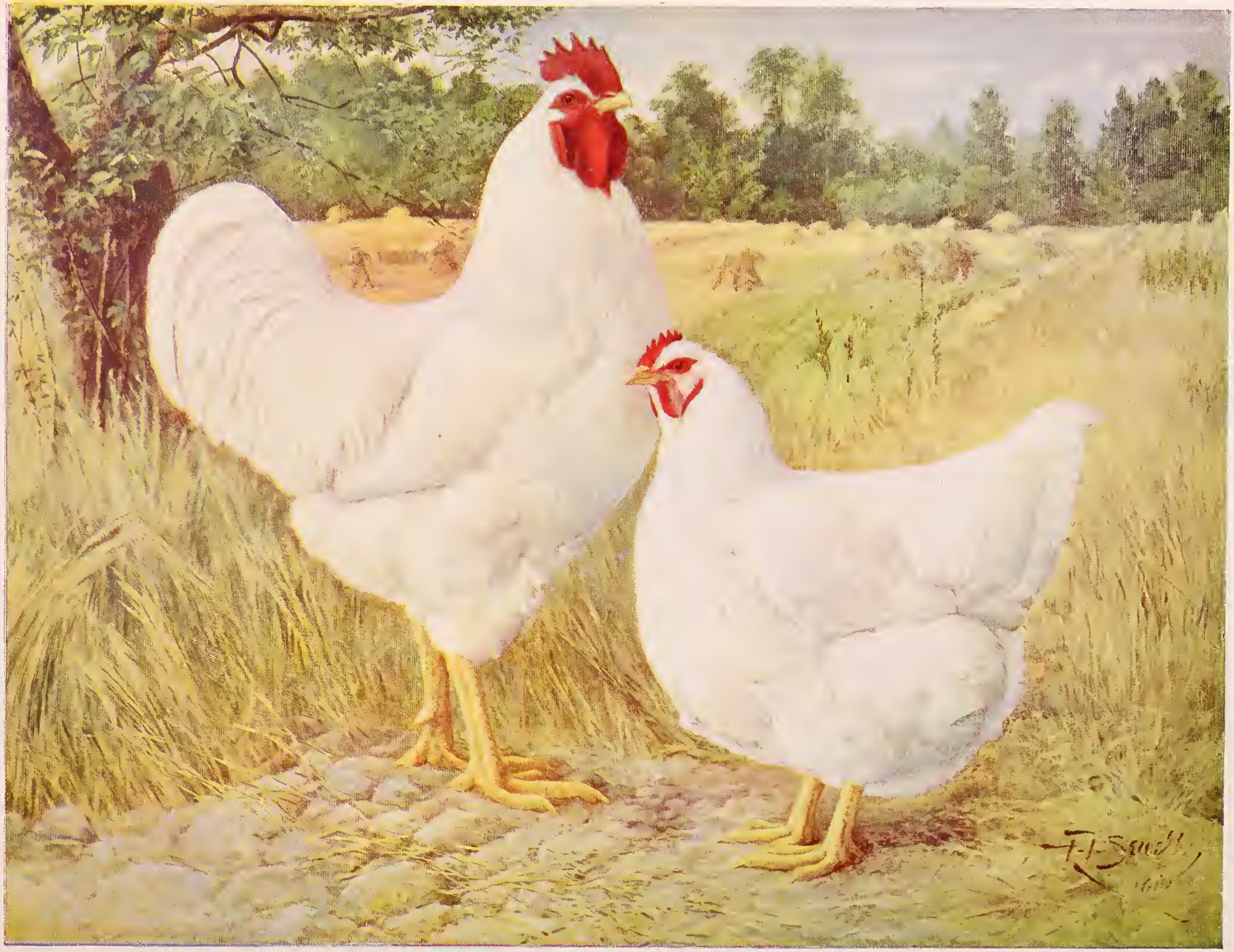
C. H. Welles, Stratford, Conn.—"We frequently receive letters inquiring whether in the breeding of our Barred Rocks we employ the single or double mating method. We frankly state that we have a light mating for pullets and a darker one for cockerels, which method we find is employed among the most successful breeders in this locality. It is a well-known fact that nature gives a lighter color to the male than to the female. If we were to breed from the standard colored pen as some propose, expecting to get the same shade of color in male and female, it would hardly be in accordance with nature's plan. There is no doubt that fine birds have been produced from tnis even colored mating, but to conform wholly to this method would, in our opinion, be detrimental to the grand old variety. There are always any number of critics who know just how a thing ought to be done, but the man who can do it is the one who succeeds, and we are too glad to get the good results to find any fault with the prevailing method."

DOUBLE MATING EXCLUSIVELY.

Grove Hill Poultry Yards, A. C. Smith, Manager, Waltham, Mass.—"Double mating is used exclusively at Grove Hill. This is proof positive that I believe in that system of breeding. The reason is that within the observation of the writer a really first-class exhibition male and female were never known to be the produce of a single pair of birds. The system that some breeders have of mating a medium male to both dark and light females is not a single mating, but goes far enough toward a double mating to become an admission in itself of the necessity of the double mating system. In regard to the scores of birds produced by the double mating plan, we are manifestly at a disadvantage, as our shows of late have been mostly comparison shows. However, we have had females score as high as 95 and males as high as 94. This we consider to be about the limit when birds are honestly scored."

LIMITED DOUBLE MATINGS.

W. B. Gibson & Sons, West Alexander, Pa.—"During our twenty-one years experience in mating and breeding Barred Plymouth Rocks, we have practiced a limited double mating, as this was the only way in which winners, according to the standard, could be produced. While it required a very open barred female with a dark male to win, we were compelled to breed these or be 'left,' but for the past three years the very open barred females have not been winning, which is right, as the standard description, strictly interpreted, means a darker female and this style of narrow, close barred females has been winning. We cannot yet breed winners which are full brothers and sisters. Why? Because, while the darker female will now win, it also requires a darker male to win first place. Whenever we allow the present popular style of female and a lighter colored male to win, then we can produce brothers and sisters that will both take highest honors, but not until then, is our humble opinion. We have talked with the most zealous and sensible advocates of the 'straight-mating' theory and they all have admitted the truth of this. We believe that the best interests of this noble breed demand that the standard shall be so changed that a slightly lighter male may win, then our matings may be drawn together gradually until winning brothers and sisters can be produced, but until this change is made, we shall continue to breed by limited double matings what our customers want, which is winners."



PRIZE WINNING WHITE PLYMOUTH ROCKS.

First Prize Cockerel and First Prize Pullet (now a hen) at Chicago, Jan. 1901. Bred, owned and Exhibited by U. R. Fishel, White Plymouth Rock Specialist, Hope, Ind. Painted from life by Franklane L. Sewell.

THE WHITE PLYMOUTH ROCKS.

Their Superior Merit as Utility and Fancy Fowl—For Market Purposes They Have No Equal and But Two Rivals, the Barred Plymouth Rocks and the White Wyandottes—Very Good Layers—Decidedly Popular with the Fanciers.

BY GEO. H. POLLARD.

WHAT is the reason that nearly all breeders of any kind of stock see little value in other kinds when directly compared with their own favorite breeds? At least they seldom acknowledge superior merit in a rival breed or variety. Probably this comes from the same feeling that makes the family baby the best and all others only bearable. It is proverbially the fact that other people's dogs and cats are always the most troublesome, and it is the neighbor's hens that are the hardest scratchers in the family garden.

Again, there is a disposition generally to crowd the good qualities of all other breeds into the make-up of our own particular favorite. Even though we admit that some other breed may possess certain characteristics not altogether bad—have not our pets the same qualities in a much more perfected state? Ready proof is offered and records are ransacked, and figures given to show how much they lead, and how far above all competitors our fowls roost. It may easily remind us of a recent procession through our city streets of two purveyors of garden produce. The leading wagon was driven by a lusty-lunged son of trade who loudly called his wares. Following shortly behind was a second, less lunged and less brawny, who shrilly piped, "Same in this wagon; same in this wagon," and thus sought to gather his share of the harvest produced by the more vigorous lungs of his competitor.

It is much the same in the poultry business. One breed of established worth will be loudly cried by its breeders and champions. Along will come a more or less unique candidate for honors, and whether or not its worth is established, regardless of past facts and future probabilities, a latest "wonder" is shouted to the waiting world. Straightway it is adorned with all the virtues, and declared to be free of all the faults of the tried-and-true breeds of established excellence.

Fortunately for us who breed the White Plymouth Rocks they need no indiscreet boosting by artificial methods. They have been bred for years, and always with growing good to the breeder. They do not reach perfection except in some parts of New England, and other varieties are conceded to have some good points by those of us who breed the White Plymouth Rocks and know their value. The White Rocks do possess, however, in a large measure, the qualities which go to make up a variety of fowl that will be always in demand in all sections of this and other countries. No variety that is trying to push its way to the front can hope ever to reach that position unless it possesses the number and completeness of good qualities which together make a fowl fit for pleasure breeding, for the show room, or for market and table consumption.

It is hard to find all the good points in one breed or variety. Two only, so far as the writer knows, have them in sufficient degree to entitle them to any sure standing on this level. They are the White Plymouth Rocks and the White Wyandottes. With many it is an even question which of these two varieties leads. Certainly it would be a narrow stand to take were we to deny that there is a decided difference of opinion on this question. We prefer not to boost the standing of the White Rocks by denying the value of other breeds, all of which have certain points of excellence.

The White Wyandottes are a remarkable variety. They probably are second to only the Barred Plymouth Rocks in popularity, and another five years will, we believe, see them considerably in the lead of that deservedly popular variety. We have bred the White Wyandottes for years side by side with the White Plymouth Rocks. Previous to breeding the White Wyandottes, we bred the Silver Wyandottes, Barred Plymouth Rocks, and Light Brahmas. Conditions made it advisable for us to grow that variety or breed which would be best for egg production and sell best as market poultry. With this object in view we tried first the White Wyandottes, and next, only a year later, the White Plymouth Rocks. We have kept these varieties side by side during the last five years, owning at no time less than one hundred and fifty of each, and from this up to four hundred of each, not including the young stock. These birds have been bred along general utility lines, while sight has not been lost of their value from the fancier's standpoint. Direct connection with the most fastidious markets, demanding and using immense numbers of eggs and great quantities of poultry for the supply of a select family trade, gave us the best measure of the quality of both eggs and meat.

Nothing need be said here of the reasons which led to our discarding the other varieties. This article purports only to tell why the White Rocks are good—not wherein the other breeds or varieties are less so. We use the White Wyandottes for the purpose of comparison merely because we have bred and studied them during several years. and because the White Wyandotte to-day is the almost acknowledged leader as an all-purpose fowl. If we can show that the White Rock is not only its equal, but in several respects its superior, we shall have established beyond question the worth of the White Rock.

Some years ago there was a growing boom for White Plymouth Rocks. It grew rapidly for a time and then seemed to fall away. There developed a general feeling, entertained by the ordinary run of poultrymen, that the White Rocks were "tender," that they lacked stamina and were subject to all sorts of distempers and diseases. This was before the

A First Prize White Plymouth Rock Cock at Philadelphia, 1900; bred and owned by Pollard's Poultry Farm.

reign of the White Wyandotte. Later, when this new Wyandotte began its ascendant course the same objections were raised. There was a general prejudice in the minds of poultry keepers that white birds and white animals were not as strong and hardy as the colored. Traces of this same sentiment still linger in some of the back and dark corners of the country. The only wonder is that it is not applied with equal zest to the human race. This idea probably had its rise in some old-folk saying or sentiment similar to that which, in the minds of a certain class of persons, condemns the worth of a horse having "four white feet and a white nose." This bit of nonsense, which doubtless had its origin in a popular, old-time nursery jingle, at one time was so firmly entrenched in many minds that the sale of white-footed horses suffered a severe set-back. Were it known, probably the origin of the lack of confidence in the stamina of white fowls could be traced to some similarly "reasonable" source. In fact, at the present day, the Oracular man will give his eyes a knowing roll while he tells of the susceptibility to disease of all "albinos" either fowl or human. Ask why, and the reply will be a curious jumble of accumulated misinformation.

As a matter of fact, white birds are as strong and healthy as any. There is no reason why they should not be. The fact that a variety has been bred by selection to an all-white plumage no more reduces its strength and vitality than breeding to black plumage would increase the vigor. Where the trouble probably arose, in the case of both varieties of which we write, was in the close inbreeding that was resorted to in producing the earlier strains. In the endeavor to quickly perfect the plumage and shape points, poultrymen inbred to an extent which reacted on the progeny and robbed the stock of its natural vitality. The results of this treatment are the same invariably in all branches of the animal world. Later, as the fowls became more widely scattered, they profited by new environment and an infusion of new blood from alien breeds, until this fault or effect disappeared, and at present the White Rocks and White Wyandottes stand forth as hardy and as strongly vitalized as the best of the other breeds. This fact established, the only serious objection ever urged against them was overcome. It only remains to be proved that the White Plymouth Rocks are highly profitable as market poultry to put them on the highest plane of value.

AS A MARKET FOWL.

No one who is well informed on market poultry requirements will question the superiority of the White Rocks to the other varieties of Plymouth Rocks as market fowl. Their white plumage and yellow legs and skin make them most desirable. When to these qualities we add an entire absence of colored pinfeathers at all stages of growth from the shell to the shop, we still further prove the excellence of this variety. In this respect white birds excel all varieties of colored fowl. This fact is not so apparent in old fowl in full feather as is the case when they are in molt. It is also made plain during all stages of the chicken period. There is a certain class of restaurant and hotel trade that cares little for the presence of colored pinfeathers in the carcasses of either broiler or roaster chickens, but unfortunately these purchasers do not buy the best grades of either, and they help the best market only as they consume the poorer grades, and thus in a measure take them out of competition with the better. The best family trade draws a strong mark against pinfeathery specimens, and very often the sale of a dressed fowl is decided less by its tenderness and eating value than by its clean appearance. It is to this fastidious, profit-paying class of trade that the White Rock directly appeals.

There is no other variety or breed that makes a quicker growth than the White Plymouth Rocks, or that will stand harder or more concentrated feeding. They are good as squab or chicken broilers, good as roasters, and good as fowl. Through the whole range, from earliest broiler age to that

final fricasee which generally follow old age, they excel. The carcasses range at the best weights for roasting chickens, and are not overly heavy and fat when dressed as yearlings or older. It is admitted, and with regret, that some breeders are making the common mistake of trying for too large size, and are in this way helping to impair the value of this variety, both as egg producers and market birds. Breeding for extreme size results in lessened egg production, weaker fertility in the eggs, and a less profitable maturity. We believe this is true of all breeds, and especially so of the Plymouth Rocks. Indeed, along the whole line of animal life we find the medium size to be the most vigorous, prolific and profitable.

AS EGG PRODUCERS.

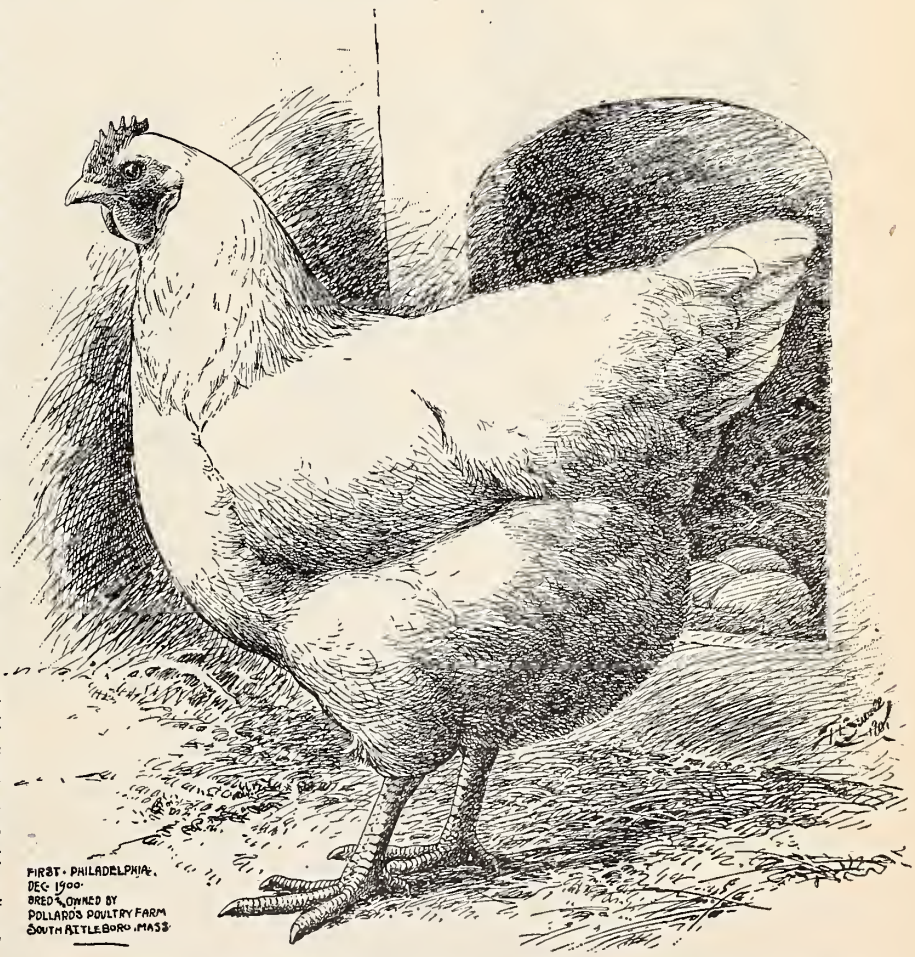
As egg producers we have never seen the equal of the White Rocks. They lay at an early age and keep it up persistently. Doubtless with this as with other varieties, much depends upon the family or strain, and whether or not the fowls have been bred to the laying habit. We have shipped White Plymouth Rocks to all parts of the country, and as far away as Germany, and in every case they have been reported satisfactory as layers. In this specialty they easily outclass any other breed or variety in the American class. The eggs vary in color according to strains and individuals. We have no trouble in making them average from creamy to deep brown, and none are absolutely white. In size they are about the same as those of the Barred Rocks and the Wyandottes. While the pullets are phenomenal layers, the yearlings and older hens are nearly as good. They are almost non-sitters, and are easily broken up when they do want to sit. One of their good features is their gentle, tractable disposition. They are easily tamed, and on this score rival the Brahmas and other Asiatics. This disposition makes them particularly desirable as village and town-lot poultry, as in these places, under the usual conditions, nervous and flighty birds quickly become a general nuisance.

At the present day it is not enough that any breed of poultry shall be productive of profit merely along the line of market culture. They must have such beauty of formation and perfection of plumage as will appeal to the sense of symmetry and delight the eye, thus satisfying the æsthetic fancy of the breeder. In proportion as the variety meets these needs, it will grow in popularity.

The White Plymouth Rock is truly a fancier's fowl. It is a pretty general conceit with theorists that it is easier to produce approximate perfection in feathering and plumage with solid white than with colored or parti-colored birds. One or two trials will serve to destroy this notion. Nothing is harder to produce, and having produced, to keep, than the immaculate purity of surfaces, whether of fabrics or of feathers. The tiniest spot or merest taint of smut will stand out as plainly as the proverbial "nose on a man's face." The details of form and shape are of equal difficulty, whatever the color, and are substantially the same as in the other varieties of this breed.

The popularity of the White Plymouth Rocks as show birds is rapidly increasing. This is proved by the growing size of the classes devoted to this variety, in not only the leading exhibitions but also in the smaller shows. To-day the highest class show birds of this variety range in value close beside the highest quality of any other variety or breed. The demand grows with the increasing popular call, and the prices keep step with the augmented popular demand.

In writing this brief article our desire has been to tell something of the many good qualities of a variety with which we have had years of practical experience. They have proved to be profitable in all points, and by their numerous good qualities have earned the right to earnest commendation. Nothing need be said of their origin. Except so far as the curious or historically inclined are concerned, it makes no difference whence they came. The interesting point is that they are safely here. The question is, what about their worth? Present worth determined, the past and the future will take care of themselves.



First Prize White Plymouth Rock Pullet at Philadelphia, 1900; bred and owned by Pollard's Poultry Farm.

VALUE OF WHITE PLYMOUTH ROCKS.

BY U. R. FISHEL.

IT is a pleasure for me to state that at the present time the White Plymouth Rock seems to be the most popular variety of the Plymouth Rock family. It was said that when they first made their appearance there was "a great stir" among poultry fanciers, and we are glad to note that the great stir increased with the improvement of the variety. I believe there are more White Rocks being bred and sold than there are of any other variety of Plymouth Rocks. The demand is simply enormous. Price seems to cut little figure, so long as the quality desired can be furnished.

"IVROLETT"
WINNER OF GOLD SPECIAL-NEW YORK 1906
MOST TYPICAL AND BEST SHAPED W.P.R. MALE
BRED & OWNED BY GEO. W. HILLSON AMENIA-N.Y.

There must be a good cause for this wide-spread popularity, and I believe that cause or causes may be found in the following:

The Whites are easier to breed true to color, and the official records show that they are the best layers. They mature quickly, and their white plumage adds one cent more per pound to their value as market poultry over the price paid for parti-colored birds. The feathers from a well-bred, modern type of White Plymouth Rock can scarcely be told from the feathers of the Embden goose, and the market value of white feathers is higher than that of colored ones. Furthermore, the White Plymouth Rock, as now bred by all down-to-date breeders, is of a larger size than the other Rock varieties. This does not injure their fancy points, nor their egg production, but it does improve the variety as a market fowl.

When the writer first began breeding White Plymouth Rocks, the winners were birds of a type shown in cut No. 1. You will note the narrow body, high carriage of the tail and general make-up, all denoting a bird of small bone and body. When this type of a Plymouth Rock was placed in the show room beside their large, square-built cousins, the Barred Rocks, but few visitors paid any attention to the white birds, no more than a casual glance that noted the difference in color; while the large size and plump forms of the Barred variety fixed their attention and the Barred Rock breeders got the business.

A NEW TYPE OF WHITE ROCKS.

I realized early in my career as a White Plymouth Rock breeder that something would have to be done to improve the size, or I might just as well give up breeding White Rocks. Accordingly, I formed my plans to produce a larger and better bird, and of an entirely different type than that which was then winning the prizes. I decided that if the Barred Plymouth Rocks could be bred and made attractive in the show room, the Whites could be also, if the same intelligence were used in their mating. My first aim was to breed birds with short, low tails, broad backs, and deep breasts. This was done to a reasonable extent in a few years by selecting females with low, well-spread tails and broad, cushioned backs, and mating them to males with short, well-spread tails, with good concave sweep to the back, and as large a bird as I could get. This was the style of bird shown by me at Chicago in 1899, the first prize cockerel being especially good in these particulars. Some of the old-time breeders of this variety made light of our short-tailed males, calling them Cochins, and warning us that we were simply killing time and never could make a bird of this type popular. The public was the judge, and our readers know whether we have made them popular or not. The old type of bird and the old breeders who warned us against the modern type of White Plymouth Rocks are standing just where they were in 1899.

When I had gotten the shape of the males so that I believed it would be reproduced in a large number of the progeny, I devoted my entire attention to size, for I had decided that I could at least equal the Barred Rocks in this respect, and I wished to pass them if possible. My success depended upon a selection of females that were over standard weight, with good, deep breasts, broad backs, short tails, and low combs. Birds of this kind were worth to me whatever the owner asked. Let me here speak a word to the amateur. When figuring on the foundation for a strain of birds, do not consider the price if you can get what you want. If you have not enough money to buy six birds, then buy three or two, as the case may be, but get the best and start right. Certainly no better example can be shown than in my own strain of White Rocks. I knew what I wanted and was not afraid to pay for it, and the result is that in three years I am where a close-fisted man would not get in less than a lifetime.

In following up the system of breeding as outlined here, I met with such flattering results that I have been able to use only birds of this type in my breeding pens for the past two years. I have found the chicks from such matings to be hardy and quick to mature, especially so when one considers their remarkable size at maturity. The best part is that in getting size I have in no way injured their egg production. The large fowls lay a larger egg than the fowls with which we started.

IN THE SHOW ROOM.

Seeing the great improvement in my birds, I decided to make an exhibit at the New York State fair held at Syracuse in September, 1900, in order that I might compare them with the birds on exhibition there. I was very fortunate at this show, so much so that I decided to make a still larger exhibit at Chicago in January, 1900. I exhibited at Chicago over sixty birds, not one in the exhibit being under weight, and many of them being from one to three pounds over weight. I feel that my exhibit at Chicago was the best advertisement for the White Rocks that they have ever received. Visitors crowded the alleys from early morn till late at night, and everybody talked White Rocks. Others as well as myself

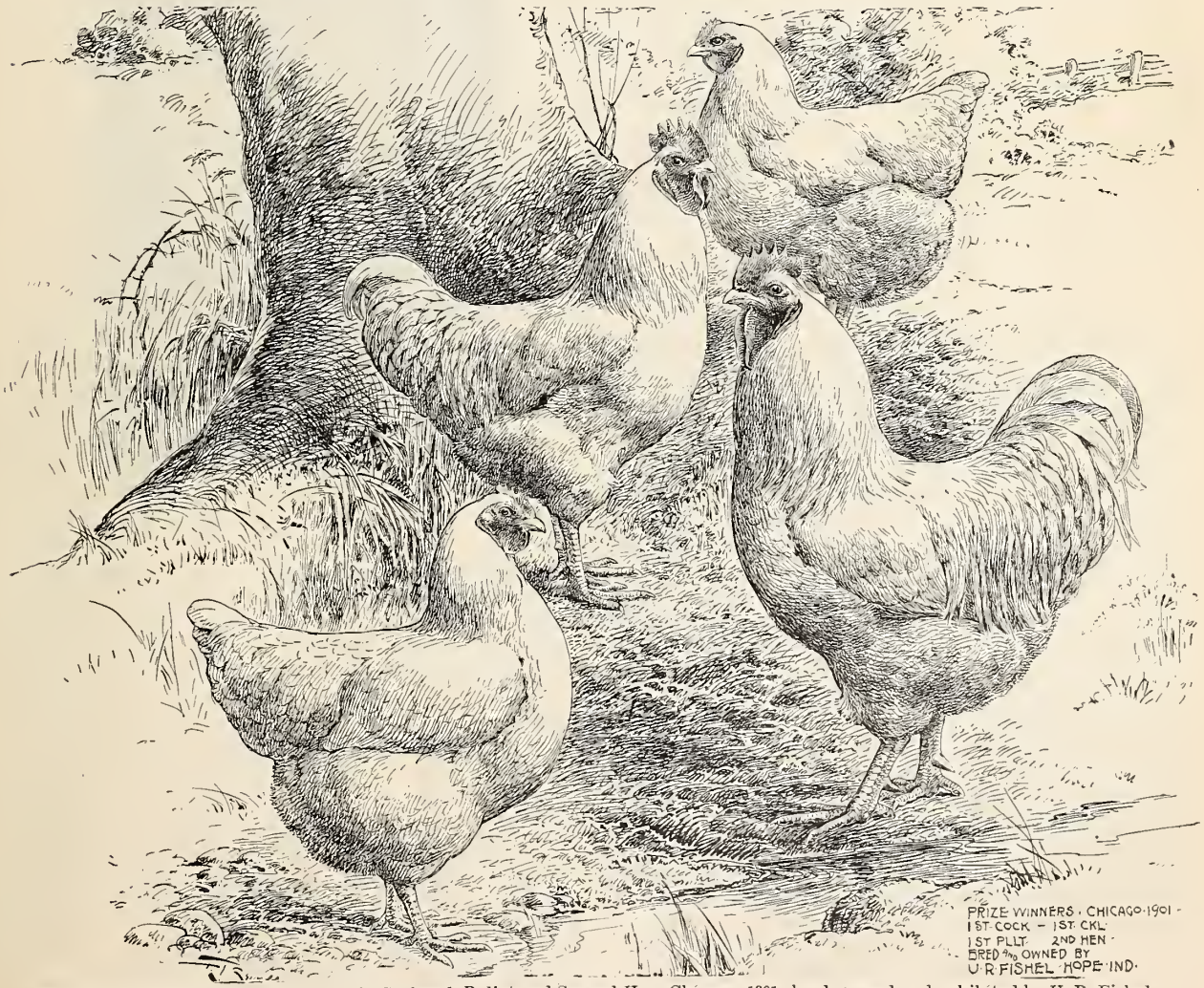
received the benefit of this advertisement of our favorites, not alone at this one exhibit, but all over the country. For the first time visitors had an opportunity to compare the shape and size of the up-to-date specimens of the Whites with prime specimens of the Barred and Buff varieties, and these two varieties were well represented at this exhibition. Perhaps so large and good a show had never been brought out in the west before. We believe that every White Rock breeder in America has a certain amount of pride in our winning the American Poultry Association cup for the best eight birds in the American class, all varieties of Rocks and Wyandottes competing. This record made by White Rocks justifies the high value placed on them by their friends, and it further shows that if we have a fixed object in mind and work intelligently along lines of improvement, we shall eventually realize that purpose.

STAY-WHITE BIRDS.

Color has been a serious drawback to the White Plymouth Rocks. In fact, several years ago it was almost impossible to get a pure white bird that would remain white all the year around, in all kinds of weather, and retain the rich yellow of shanks and beak and bright bay eyes. I used to think it was impossible to breed such a bird, but I find there is nothing impossible if we are persistent enough and work intelligently with the right object in view. We have been able to breed this type of bird, not in great numbers, we are perfectly willing to admit, but in sufficient numbers to convince us that it is only a matter of time until a large per cent. of the Rocks will come absolutely white in color, with good beaks, legs, and the right color of the eye. The most severe stumbling block we have had to contend with is the barred, or partially barred, feathers that will persist in cropping out at different times in some of our best specimens. Of course it is only a mark of the purity of the breed, as they are albinos, or sports from the barred variety, and must have some of the black blood in them; still it is aggravating to find these defects in some of our choicest birds, but a careful selection of breeding birds will in time eliminate this defect.

I noticed quite recently in some poultry journal a claim that Cochin blood has been introduced into the White Plymouth Rocks to give them size. This we state emphatically is not correct, so far as our own strain is concerned. We breed some of the largest birds of this variety in America, but we know positively that there is no Cochin blood in them.

The White Plymouth Rock, as shown in the color plate, is a fowl for the fancier as well as the market poultryman. The recent action of the members of the White Plymouth Rock Club, at their meeting in New York, "to disqualify birds above standard weight," was certainly a step in the wrong direction. We cannot understand why a club of intelligent fanciers should ever recommend a system of breeding that would eventually be the ruination of the breed. However, it



First Prize White Plymouth Rock Cock, Cockerel, Pullet and Second Hen, Chicago, 1901; bred, owned and exhibited by U. R. Fishel.

was only a few that suggested this, and those few have really opened the eyes of eastern fanciers, until to-day the demand for up-to-date, over-weight birds of this variety from that section of the country is simply enormous.

To show that White Plymouth Rocks may be said to be the variety of to-day, I will state that $400 was offered and refused for the cockerel illustrated in the color plate in this book, while the first prize cock at Chicago and six females, seven birds in all, were sold for $500, which is the largest price, we believe, that was ever received for seven birds of the Plymouth Rock family. Such prices asked and received certainly show which way the wind blows in poultrydom.

WEIGHT OF WHITE PLYMOUTH ROCKS.

BY JOHN L. SMITH,
Mgr. Hazelwood Farm.

THE growing popularity of the White Plymouth Rocks speaks more emphatically for their good qualities than anything one person can say or write. Further praise seems unnecessary, so we shall write of our experience in regard to size of birds of this variety.

We note that some of the eastern breeders are condemning the over-weight specimen, and pronouncing them not typical White Rocks. Our experience has been just the reverse. We have found the smaller, under-weight birds have been inclined to pinched backs and no breasts more often than the over-weight birds are Brahma-shaped. It is a great mistake to cut them for over-weight. It is almost impossible to have them the exact weight demanded by the standard, and they must incline one way or the other. As a rule, the large, over-weight birds will generally be more vigorous than the smaller ones. Let it be understood that we would not give prizes to over-weight birds that are not Plymouth Rock in shape, but we think that an over-weight bird can be typical in shape, and as proof of what we claim, see cut of a pullet weighing nine pounds that was cut only three-fourths of a point on typical shape. The judge said he did not expect again that year to see a Plymouth Rock so nearly perfect in shape. The way she stands in the cut does not permit her back to show well. It was simply perfect in the slope to the tail, and she was not of a heavy Cochin type, but was trim and well built.

The size is governed to a great extent by the feed. We aim to keep our birds growing without fattening them, and so get a large frame. This makes the birds look rather ungainly while growing, but when matured they make trim, shapely birds, well up in weight without being over-fat. We select large, vigorous hens for breeders, but have used very few cocks that weighed over nine and one-half to ten pounds, and we have used those that were a little under-weight when they were extra good in other points.

Color of plumage always has been the first consideration with us in our show birds, then shape, and after that the minor points, among which we place color of legs. A bright yellow leg is desirable, but when the whiteness of the plumage must be sacrificed to get the deep yellow of the legs, then we are content with paler legs. There are six places to cut a bird for color of plumage, and if you lose one on every place it makes only six points, and a fowl will have to have more than one pair of legs to lose so many points on that section. In the show room we have not lost more than two points on account of light colored legs, and rarely that. It is generally one and a half. That was when we commenced showing, but now we lose very little. The pullet shown lost nothing on color of legs, and only one and three-fourths on color of plumage.

We had a cockerel last winter that lost nothing on color of legs and one and one-half on plumage, so we have gradually worked up the color of legs without sacrificing the whiteness

of the plumage. It can be done, but it takes time, and one must not try to do it in one year. The pure bright yellow that the standard calls for is our preference, and not the deep orange which some breeders like. Plenty of green, succulent food helps the color of the legs very materially. Our birds are never kept in out of the sun and rain, but have the run of the farm. If their plumage cannot stand this treatment, they are never put into our breeding yards. One thing more in regard to the complaint that the large, over-weight specimen wins over the smaller but better shaped bird. If the judge knows his business it never does. The experienced judge will soon place a big white bird of no particular type and it can never win, but we claim that a large, typical bird should win over a smaller one equally good in shape. With us it is the large bird that is making the breed so popular with the general farmer. A large bird, with the laying qualities of the White Plymouth Rock, is just what they want.

BREEDING WHITE PLYMOUTH ROCKS.

BY JOHN HUGHES, D. D.

THE White Plymouth Rocks are undoubtedly related to the Barred Plymouth Rocks, though in my judgment they are not lineal descendants of that variety. However, it makes but little difference to the present breeder what was their origin, provided they are possessed of the qualities which make them the equal, if not the superior of any other all-purpose fowl. Certain it is that from some source there has been an infusion of blood which makes them the superior of the Barred variety in the production of eggs. In all other respects they are fully the equals of the Barred variety, and all of these admirable qualities have become well established by long and careful breeding. It has always seemed to me little short of the ludicrous, and false in logic, to claim the White Plymouth Rock to be the fowl par excellence because he is a descendant of the Barred Rock—a sport, forsooth! Each variety must stand on its own merits, on qualities which have become fixed and which we have a reasonable assurance will be imparted to the descendants. Did I not feel certain of the unexcelled merit of this variety I should discard it for something better. Many years of experience have convinced me of its superiority.

The standard requirements for the White Plymouth Rock are exactly the same as for the Barred and Buff varieties, with the exception of the color of plumage, which must be pure white. They are easily bred to standard, and are especially the fowl for the amateur. Still, there are enough difficulties in breeding them to call forth all the skill of the fancier. A rule that must be adhered to rigidly is, use the best specimens only, those that are best in all required points. Remember that in breeding for pure white plumage only, there is danger of losing the bay eye and yellow skin and legs, and if one breeds for the deep yellow in the required sections there is danger of getting cream colored feathers with the despised brassy color on the surface. There seems to be some connection between the deep yellow in the skin and the straw color on the back of the wings.

It is doubtful whether food or sunshine has anything to do with that unsightly surface color. I have had specimens maintain the purest white surface color for years, and they were fed on a corn ration and were exposed to the sun, yet some birds that I let out to be raised on farms, where they had an abundance of corn, showed more of the straw color than those raised at home. A larger experience leads me, therefore, to recommend a white corn for white birds instead of yellow corn. This much is certain: corn produces fat, and fat fowls when they molt will produce cream colored feathers, therefore, I should advise limited corn. The brassy color will not fade out in the shade for me. Weed it out, therefore, by breeding more males which show none of it.

It should be remembered, also, that good care has much to do with the production of fine fowls. Judicious breeding and proper feeding have made high improvement in our birds so far, and it must be kept in mind that neglect and half feeding will cause them to degenerate, and scrubs will be the inevitable result. Be equally careful not to overfeed, for while perhaps half of the diseases of poultry may be charged to lice, overfeeding may be held to account for the other half. An active, stirring bird is a healthy one, and it should not be allowed to become over fat. Let them have food enough to keep in good flesh, but no more, or they will grow indolent, and finally sick. The young stock should be fed enough to keep them growing and in a thrifty condition. No matter how good their blood, such treatment is essential to the perfect development of the bird, however great its inherited excellence is. The amateur should bear in mind, whether he starts with fine fowls or with eggs, that they are from stock that has been used to high living, and neglect of his young stock will bring a sure penalty, for which he only will be to blame.

POINTS TO REMEMBER.

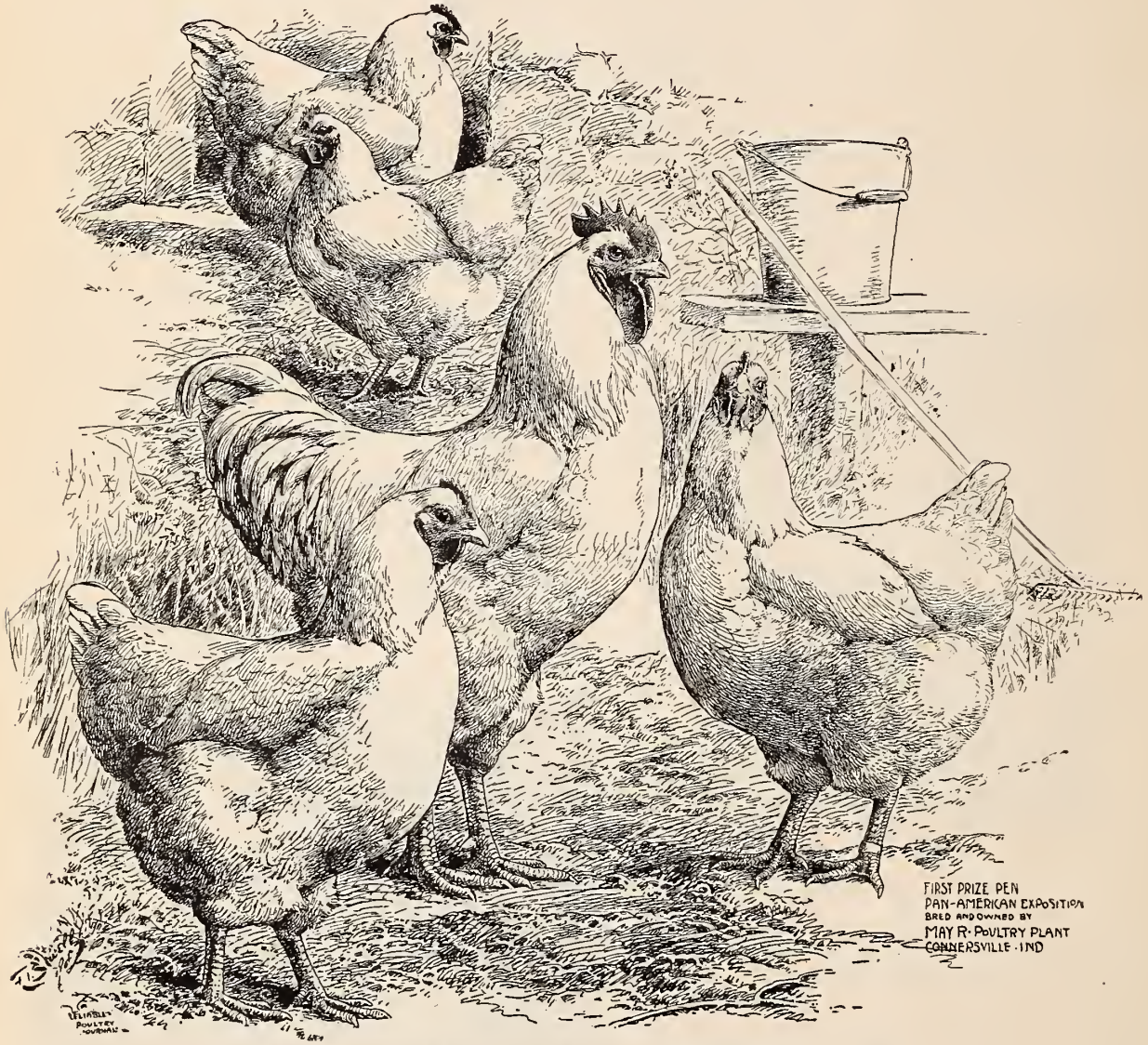
It should be well understood that breeding in line is no foolish fad, and that the introduction of new blood is dangerous to success. That which has been attained in a strain having fixed good qualities, may be all lost by the introduction of foreign blood. A fancier of experience will not be found endangering his success in this way, because he will not introduce new blood until he has learned its qualities and tempered it by the blood of his own flock.

Many purchasers of eggs have been disappointed because the young White Plymouth Rock chicks were not pure white when hatched, and they have thought that they had been imposed upon when they saw the mottled group of yellow-white, blue, and brown chicks. The writer has been roundly abused several times for this kind of a hatch. It is the way they all come, and it furnishes a hint of their original parentage. The darkest chicks will probably make the whitest fowl, the dark color shown in the little chicks being only a reminiscence of the color of the Barred progenitors. A little patient waiting

LADY MARY—Second Prize Pullet at the Pan-American, bred and conditioned by U. R. Fishel.

until the first feathers grow will prove that the fancier is not a rascal, and that the purchaser should beware of drawing hasty conclusions.

Let the breeder who has selected the White Plymouth Rock as his favorite direct his efforts toward producing the very highest excellence in his birds. Let him be patient and painstaking, and his reward will come in due time. There is no longer a question about the practical qualities of this variety. It is a "utility bird," and one who invests in them is making no venture in the dark. With good stock or eggs he has but to observe the rules which one must follow to secure success with any other variety.



[The stock of the May R. Poultry Plant has since been purchased by U. R. Fishel.]

WHITE PLYMOUTH ROCKS.

In Shape They Are Identical with the Barred Variety—Something About Combs—Cuts for Defects in Color and Disqualifications.

BY THEO. HEWES.

WHITE Plymouth Rocks have settled forever the theory that solid colored fowls are not popular. No variety has improved faster from a fancy standpoint, and but few if any can equal them as a market fowl, while as egg producers they hold the world's record, winning even over the non-weight and non-sitting varieties. With these points in their favor, it should cause no wonder that the White Rocks of to-day are one of the most popular varieties, and fancy birds command as high prices as any other variety recognized by the American Poultry Association. Not a little of their popularity is due to the efforts of the White Plymouth Rock Club, and its persistent work in keeping them constantly before the public, but to the wide-awake individual who keeps making improvements in his birds and advertising at his own expense, is due the greater part of the honor of making this breed as popular as it is.

For a time there were a great many brassy birds in this variety, but to-day stay-white birds are bred in large numbers that show clean white plumage the year around, and which are not affected by any sort of weather. In shape, so rapid has been their improvement that we can find scarcely a fault with them, in fact, we are constantly meeting specimens in the show room, both male and female, that are so near perfection that the judges are almost afraid to sign the cards. The color of the eyes and legs is the thing that is now worrying the fancier. In getting feathers that stay white we seem to run short of color matter, so that the legs come a light straw and the eyes in many instances are pearl or dish colored. This is especially true in the females. However, the same persistent effort that has made this breed so remarkably white in color will give us in time the beautiful yellow legs and bay eyes that are so much admired in this variety.

The system of bleaching the plumage, or butter-coloring the legs, as practiced by some breeders of this variety a few years ago, is entirely unnecessary to-day, and the breeder who depended on this means to win prizes is now awake to the fact that honest methods have won out, and he is now out of business. There is a way, a right way, to do everything, no matter what business you are following, provided it is a legitimate one. Honest methods will win out in the long run, and the real credit will go to the right man or woman, while the fakir will sooner or later come to grief. This fact has been demonstrated so often that the reliable men in the fancy now calmly wait for the dishonest breeder to die a natural business death, for this he will surely do in time.

STANDARD SHAPE.

The chart we used in connection with the Barred Rocks furnishes us the ideal, or standard outlines for the White variety. The description of shape for both male and female is alike in all varieties of the Rocks, and what we have said in regard to discounts for shape in the Barred variety applies equally to their white cousin, so we will not repeat the cuts for off shape here, as they can be learned by reference to the preceding pages. The long-legged, knock-kneed, narrow, contracted specimen of this variety that was winning prizes five years ago, is as much out of date to-day as the wide-barred female Barred Rock, and birds with big, well-rounded bodies deep breasts, short tails, and low combs are much in evidence in fact, such wonderful improvement has been made in every fancy point of this variety during the past five years that could we compare the winners of to-day with those of that day, we should be surprised indeed to note the rapid strides we have made toward perfecting it.

However, in combs, it is a question whether we have made as good a showing in the White as in the Barred variety, because other and more important sections have taken the time of the breeders, and it is only within the past two years that our best western fanciers have been able to devote especial attention to this section. They have shown some remarkably fine combs the past season, both on males and females, and it is worth noting that the birds with good combs were numbered among their choicest specimens, which showed that the breeders have not sacrificed any of the other important sections in order to gain this one. Many other breeders are making improvements along the same line, and good combs will soon be common. We believe if the breeders of this variety will take our chart as an ideal for male shape and comb, and will breed as close to it as they can, in three years low, stiff combs will predominate in their male birds, and low, evenly serrated combs in their females.

COLOR OF WHITE ROCKS.

Remember always that every feather should be white, both in the web and the quill. If positive black spots appear in any part of the plumage the specimen is disqualified. Slight streaks in a feather, termed by the judges "ticking," will be cut as a defect, from one-half to two points in every section in which it is found.

Where brassy or straw-color appears on the surface the cut is one-half to two, according to the degree of the defect. Remember always that each section has only so many points allotted to it by the standard, and you can only cut that section in proportion to the number of points it is allotted. As an illustration, we will take the section of wing, which is valued at eight points, four for shape and four for color. If the wing is all white except the quills of the flight feathers, the cut is one-half point, which is one-eighth of the entire valuation. If all the quills are yellow, or of a creamy cast, the cut is one, which is one-fourth of the whole valuation. If there is a slight trace of straw color on wing bow, the cut is one-half. If this defect is coupled with yellow quills, the cut is one and a half. If the wing-bow is quite brassy, the cut is two. If the back shows a trace of yellow or straw-color, the cut is one-half. If it is bad in this section, so that the specimen has a decidedly

yellow cast, the cut is from one and a half to three, and it should be discarded from the breeding yard as useless, so far as breeding fancy colored birds is concerned.

The cuts on color, both male and female, are alike, and it is useless to give the cuts on all sections, as a clear understanding of the two given will enable you to judge of the others. I will call attention, however, to the sections where we find the most of this off-color, so that amateurs may be more careful in selecting their breeding birds. In the males the neck, back, and wings are the most important; in the females, the neck and wings. Get the above sections right, with good, white quills to the feathers, and you have little to fear in the color line.

There is one color point which I wish to discuss at this time, as I believe it is of great importance that every breeder should understand it. The matter I refer to is the barred or partially barred feathers we often find in this variety. They are found in both sexes and in different sections, but most generally in the neck of the females. Sometimes this barring is clear and distinct, showing black and white as regularly as the Barred variety. At other times it is so delicate that one can scarcely trace it on the feathers. The standard is explicit on this point, and says it disqualifies, but it is a question in my mind whether I should discard a specimen from my breeding pens that showed only one of these barred feathers, providing the bird was otherwise good, for it is only a trace of the pure blood of its ancestors that has cropped out, and it will be many, many generations before this blood is entirely eliminated. While we do not advocate the breeding of disqualified specimens, at the same time it is well to remember that black crops out from generation to generation, and may show in the tracing of one feather, or even more, in a single specimen, but if the bird is bred the chances are that not a trace of off-color will show in its offspring.

Photo-Chromotype Eng. Co., Phila.

BUFF PLYMOUTH ROCKS

A typical pair of the famous strain of W. H. Overbaugh, Hanover, Pa.

STANDARD AND LINE-BRED BUFF ROCKS.

An Illustrated Article on Standard Requirements in Shape and Color—Several Interesting Experiments in Line Breeding—Necessity for Supplementary Lines—Results of Mating Various Shades of Buff—Influence of Black and White in the Plumage of Breeders—Surface and Undercolor—Description of Defects to be Avoided—Some of the Conditions that make Good Birds High-Priced.

BY ROBT. H. ESSEX.

HAVING bred Buff Plymouth Rocks ever since their admission to the standard, I believe I am justified in expressing the opinion taken from a utility point of view that this variety has no superior among fowls. It appeals very forcibly to fanciers no matter what their hobby may be. To color fanciers it affords great opportunities for experimenting, interesting hours of study, and a remunerative pleasure. To the breeder who has an eye for symmetry, and who believes (as I do) that a misshapen Plymouth Rock is no Rock, it opens a great field for molding a formation that meets his ideal. The broiler raiser laughs in his sleeve as, day by day, he handles the rounded breasts, glances at the yellow legs and anticipates the enjoyment of his customers who select the rich looking morsel that has developed beneath a plumage which tends to perfect the yellow skin so much desired. Finally, to the poultryman who wants a big bird or nothing, it presents a frame that of itself, without the prevalent fattening-for-show process, is naturally up to standard weight.

The ability to breed winners is not rare, but the persistency which commands success is frequently wanting. Many a man has headed the list of winners in a lucky year, only to be disappointed with the class of stock he has produced the next. An accidental mating may favor a breeder once by supplying him with superior stock, but want of method invariably causes a set-back the following season. To obtain lasting benefit from accidental productions the fancier must either know enough of his breeding stock to identify the winning strain of blood so that he may utilize it, or he must continually and methodically experiment until he discovers it. Then his business is to impress it on the flock. That is done by line-breeding.

Years ago, theory and the example of successful stock breeders led me to attempt the improvement of my flock of Buff Rocks by line breeding. At the end of those years, practice has convinced me that it is the most satisfactory way of producing desired results.

By the way, let me say to the budding fancier that in Buff Rocks, as in any other fowl, more than half the battle of breeding winners is won when you have mastered the art of bringing your birds along. Health, continual health, secured, then it is merely a question of time and a selection of the best, that is, speaking generally. Health means color, not merely an enhanced glossiness, not merely a brighter plumage, but actual color, the difference between buff and white—the difference between buff and black—in fact, the difference between buff and whatever color defect the parent birds may have had. The color of the weakly bird is partly governed by the color-transmitting proclivities of its stronger (because more healthy) ancestors, while its ill-health renders probable a lack of life in the plumage and a departure from the true buff. The color of the vigorous bird is controlled partially by its parents, but principally by the mating of its sire and dam. If the mating is not a correct one it leads to the resurrection of defects. Assuming that a flock is vigorous, the longer it is bred in line the nearer it approaches perfection, if mated intelligently.

I will give my experience in line-breeding Buff Rocks, but before illustrating my method of breeding will describe the Buff Plymouth Rock I have been striving to obtain—the standard-bred bird.

Figure 1.

TORONTO MAID—Six years old. A hen that for five consecutive years has been bred back to her male produce. This hen gives an exaggerated idea of the style of Buff Rocks exhibited five or six years ago. The insecurity of the small table upon which she is standing caused her to dip her tail more than usual, yet it is evident she is far from possessing the shape of a present-day Buff Rock. Her color when through her molt is fairly even, but of a darker shade than is required. From this style of female many good shaped birds have been bred by following a correct system of mating. Size she possessed above the ordinary, and has transmitted that quality.—R. H. Essex.

Figure 2.

MISS SHAPELY II—Breeding for shape and size has been effective in the production of birds of the above type. This hen, not being through her molt, is deficient in feathering at junction of neck and back. A few old feathers too are visible throughout plumage. She is in good breeding condition and weighs over eight pounds —R. H. ESSEX.

NO SHAPE—NO BREED.

Shape will be my first consideration, it being the most important.

Buff Plymouth Rocks, in many instances, partake of the Wyandotte shape, having short backs, with more abrupt curves than are desirable. The Wyandotte tail often accompanies this defect, as well as short legs. It would be well for breeding purposes to discard such birds unless they are especially good in other respects. The other extreme is sometimes met—a leggy bird, deficient in breast and body filling. Often there is the conformation of the Cochin, which is chiefly evidenced by a full cushion on the female. One strain partakes of the characteristics of the Buff Leghorn and the Rhode Island Red and we have been informed that the originator acknowledged having used these breeds in its formation. The birds are distinguished by a lack of size, while possessing good color. They are naturally subject to white in lobes, which defect must be strenuously fought against. When a strain is once established, these troubles are few. New blood causes deflections. Care in mating, and pedigree breeding stamp them out.

To illustrate what can be done by line-breeding, I first present a photograph of a hen, Toronto Maid (Fig. 1), which is now nearly six years old. She is full feathered and full cushioned. During her show days she was a continual winner as was her mother before her. That was four or five years ago when Buff Rocks were less shapely than now. She is far from being a typical Plymouth Rock. Judges were easy on Rock shape in those days when judging Buffs. This hen is nearly identical in shape with her dam (Toronto Miss). The similarity in shape is accounted for in a way by the fact that her sire was a full brother to her dam. Toronto Miss was the mother of my flock. She was a dark pullet, approaching cinnamon in color, with wings and tail nearly clear. She was big, and it is chiefly from her that my birds derived their size and their strength of color. To this female I separately mated four cockerels, and this was the basis of my Pedigree Strain. The produce of two of these cockerels were of little account. The third cockerel produced large stock. This line has been maintained and the birds are easily identified by their size and shape. An idea of their size may be gained when I say that at the Ontario show in 1897 (held that year in Guelph) one of the pullets from this mating was mistaken by the judge for a hen. She was up to hen's weight, and that was the first or second week in January. She was named Miss Guelph to commemorate her winning. The shape of this female was not altogether satisfactory to me. I wished to get the true Rock shape, and based my ideal upon that illustrated in the Reliable Poultry Journal in the year mentioned. Being always an advocate of size, I aimed to produce a longer body rather than a shorter one. I had in mind, too, the desire to keep away from the Wyandotte shape then prevalent, and which even now has not disappeared entirely from the show room.

I have no photograph of Miss Guelph, but remember her as one of the biggest females I ever owned; long in back and standing well up on her legs. Her sire was possessed of a long back, a drooping tail, and an even, medium color.

I wish to show the mating I adopted to produce the desired shape. Miss Guelph was mated to Emerson (Fig. 3), and this mating produced a hen of good shape, having better head points than Miss Guelph, and being less coarse throughout, That hen was mated to Emerson's Son, one of the best shaped males I have bred. He was well balanced, medium in length of back, breast full, a bird in fact whose shape caught my eye from the time he began to round out as a cockerel. The result of this mating was the hen shown in Fig. 2. In producing

Figure 3.

Buff Rock Cockerel EMERSON, used as an out-cross on account of the death of the head of the male line. This bird was nearly pure buff, the main tail showing less than fifty per cent. black, the primaries being pure. This photograph was taken five years ago—in 1897.—R. H. ESSEX.

Figure 4.
Wing and Tail of Buff Rock Cock SUCCESS, illustrating result of inbreeding for a period of five years. Notice the row of small feathers at the base of the primaries—they too are solid buff. The main tail feathers are also shown For full illustration of this bird, see Fig. 9.—R. H. Essex

this hen the male line has certainly modified the shape of the female line, although it is generally claimed that the female governs the shape.

The fourth male was the best pullet breeder of all, and I obtained from Toronto Miss, when mated to him, a pure pullet, light in surface color. Toronto Miss transmitted both size and shape to this pullet, and I named her Toronto Maid. Her sire was named Toronto Master. That pullet is now the old hen shown in the illustration Fig. 1. Toronto Master unfortunately died leaving no male produce to suit my requirements. I therefore had to introduce outside blood to mate with Toronto Maid. It was a long time before I got a bird to suit, but finally I secured a young cockerel which I thought would suit my purpose. He was medium in surface color with wings nearly pure buff. At that date (1897) he was considered an extraordinary bird. His chief fault was want of fullness and depth in the breast. He was leggy. It was, however, not such a serious fault in this instance, as he was to be mated with a pullet which possessed the opposite formation. This male I named Emerson (see Fig. 3).

RECOVERING A LOST MALE LINE.

Let us make a start with this introduction of new blood. The object is to get back into my flock the blood of the cockerel Toronto Master, he having left no male produce. How is it to be done? By securing it through his daughter, Toronto Maid. But remember it had to be done with the aid of strange blood—the cockerel Emerson. Let us go back to him. I bred him to Toronto Maid in 1898, and obtained a good Rock-shaped cockerel with a medium sized comb, slightly lighter in color than his sire. This cockerel inherited one-half the blood of Toronto Maid, and she being identical in blood with Toronto Master, he therefore inherited one-half the blood of Toronto Master. He was named Emerson's Son. In 1899 this son of Toronto Maid was bred back to her and from the mating I obtained Maid's Son. He possessed three-fourths of the blood of Toronto Maid (one-half direct, one-fourth through Emerson's Son); that means he possessed three-fourths the blood of Toronto Master. Carrying out this plan of inbreeding to recover the blood of Toronto Master, I mated Maid's Son to his grand-dam, Toronto Maid, that being the third year I had used her as the central figure in my breeding operations. That gave me a cockerel having seven-eighths blood of Toronto Master—three-eighths through the sire, and four-eighths through the dam. During these years I had been selecting cockerels lighter in surface color than my original stock. The persistent selection of cockerels of one blood has had the effect of strengthening their color producing power, and each year the proportion of good colored stock has increased. It has ever been my endeavor to retain the size and improve the shape. Selection for color has been a secondary thought. Several pure buff females have appeared from time to time, the males too have been good enough to win, but until 1900 I had not been successful in breeding a clear buff cockerel. (By clear buff I mean clear throughout; and the word "throughout" as I understand it does not apply only to the surface. It includes wings and tail; not simply tail coverts and sickles, but main tail—not simply wing primaries, but the whole of the wing. The words "pure buff" and "buff throughout" have been bandied around too freely, and need to be more clearly defined.)

The mating of Maid's Son to his grand-dam produced a bird I have named Success (see Fig. 4). He is the pure buff cockerel (now a cock) I have referred to. He possesses seven-eighths of Toronto Master's blood—seven-eighths of the blood of a male that has been under the ground five years, and the whole of this blood has been regained from the female side.

Success in 1901 was mated to his great-grand-dam, but I have only one pullet that I can identify with certainty as the produce of the mating. My calculations were knocked out by the old hen frequently becoming broody, and laying but few eggs. Twice in the season I coaxed her to take chicks that were hatched by other hens, and that method

Figure 5.
Wing and Tail of SUCCESSFUL, a son of Success, out of a female distantly related. Illustrating the strong color-producing power of line-bred stock. Not a white or black feather in the bird, although not closely inbred.—R. H. Essex.

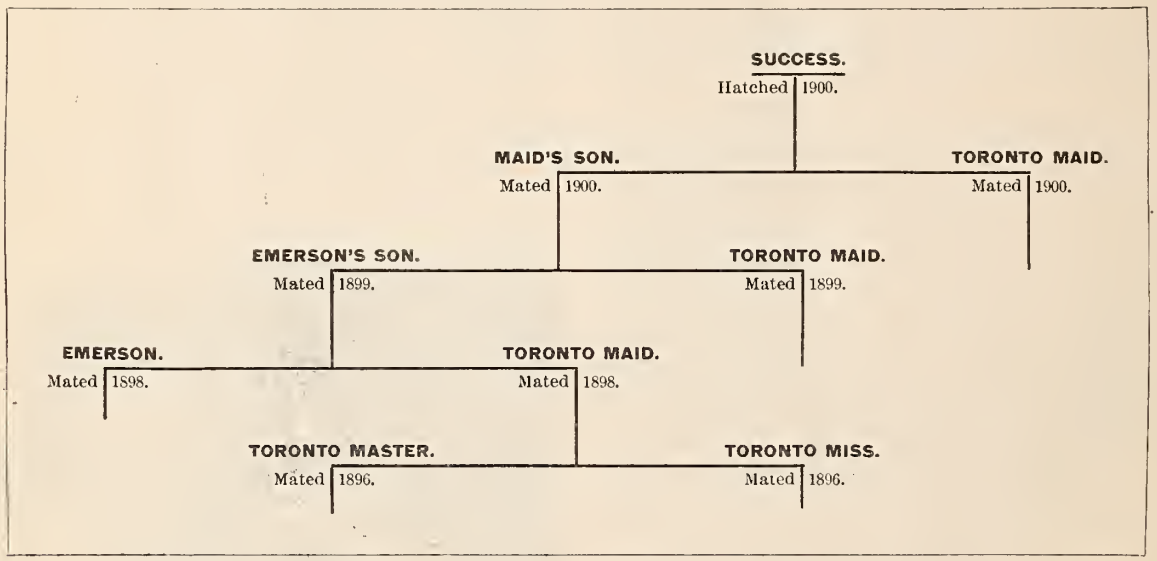
served to keep her from the nest, but so far as being an inducement to lay eggs, it was a failure. For all practical purposes, however, the strain of blood of Toronto Master has been restored to the male line.

This line breeding has produced the best Buff Rocks I ever owned. It has given a strength to the blood that is invaluable and its effect can be seen by examining the accompanying illustrations. Figure 5 shows a young son of Success which has been named Successful. He is nearly as pure as his sire, although his sire and dam are not closely related. Of course his dam is in a degree related to his sire, my whole flock is, but the relationship is not so close. I believe that such strength of blood will overcome the results usually produced when two distinct strains are mated. Both lines being equally well bred the outcome is uncertain, but a line possessing strong characteristics induced by a long term of inbreeding will dominate opposing blood of less intense character and will enforce its strong points whether good or bad.

PEDIGREE OF A LINE-BRED MALE.

We present herewith the pedigree of two-year-old cock Success, illustrating the recovery of the blood of a male line by the aid of a female.

The original male Toronto Master and the original female Toronto Miss were brother and sister. Toronto Master died, which necessitated the introduction of new blood. This was done through Emerson. By mating Toronto Maid to her own sons for a number of years the original blood has been renewed in the male line, Success possessing seven-eighths of the blood of his ancestor Toronto Master.



SUPPLEMENTARY LINES.

This all reads very simply, and an inexperienced person may think it is only a question of mating the birds, marking the eggs, punching the chicks and re-mating them at maturity. Then, after a year or so, he has only to pick out the winners A breeder who has been long in the business will know that contingencies arise for which we are unprepared. Accidents will happen. Male birds fight. They get over fences into adjoining pens. Then all is uncertainty. No use punching the chicks; no use marking the eggs. If the breeder is in earnest a couple of weeks or so are allowed to elapse before starting afresh. Then perhaps egg orders come in thickly, and customers must be satisfied. Hens get broody. It is late summer before there is an opportunity to hatch chicks from the required mating. The next spring cockerels from this hatch are not old enough for breeding purposes and another delay is occasioned. It is all very well to say "be careful"; these things occur; they delay operations, and where to the beginner there seems to be nothing to prevent every cock, hen, cockerel and pullet in the yard being tagged with her number signifying everything that one wishes to know about them, the experienced fancier is content to go very much slower than that. These little troubles are aggravating beyond their size. Take the case of delay after two pens get mixed—a door having been accidentally left open. Say we are breeding from two males, one in each pen. We lose two whole weeks because we are not certain which male has fertilized each individual egg; and my! how those eggs do hatch. The next season we have hundreds of first-class fowls running around, bred, we know from those two cocks, yet we are unable to band them because we can't tell "which is which." What makes it even more aggravating is the fact that we know in our minds "that cockerel is the son of that cock; so is that one, and that. Look at the similarity in shape. We feel sure of it." It's quite clear—yes, but not clear enough for line breeding.

The recital of a few mishaps such as these illustrate the necessity of breeding in more than one line, so that in case accidents cut short the experiment in one line the work of years will not be altogether lost. My practice has been to breed in two or three lines, occasionally introducing the blood of the main line to the auxiliary flocks; at other times following up some quality peculiar to one of these flocks. For instance, in one of these side lines Ontario Miss, a prominent winner at Ontario Show and at Toronto during 1897 to 1899, an old time hen of superior surface color (a color that never failed her even when aged), by reason of her color-retaining quality, was made the central figure. To secure in this flock the quality peculiar to her, she was bred to her son, who, on account of her quality, was named Colorfast. He was by Emerson's Son. The produce from this mating possessed nearly one-half blood of the main line. This would be a great advantage and a time-saver—a year gained in case it was desired to bring some color making material into the main line.

Figure 6.

To the right is shown the wing and tail of a clear buff hen. Her surface is of a light shade throughout. To the left the wing and tail of her son are illustrated. The sire of the young male is the cock Success. The young cockerel possesses a little black, but no white. This is given as proof that the mating of two pure buff birds does not necessarily produce white in plumage, as is sometimes stated.—R. H. Essex.

These side lines, if they may be so called, have been continued from year to year. Short descriptions will show the property peculiar to each, which, although a secondary consideration, is important.

Out-cross No. 1. Centered around the male Colorfast a color producing or rather color-retaining line related to the main line in a proportion of nearly one-half.

Out-cross No. 2. Represented by a cockerel Successful, by Success. His dam is unknown, but is related to his sire. This might satisfactorily become the main line in case of accident to its head.

Out-cross No. 3. Half brother to Success on the male side; dam related. Line is maintained for superior tail furnishings and a richness of color in the wings and tail.

I have before said sufficient to show the advantage of having ready to mate birds partially related, and these few references to particular out-crosses illustrate that any superiority which may appear in these side lines should be kept in view and made the most of in subsequent matings; then while the main line is speedily moving along towards perfection, the side lines are also progressing in at least one important section aside from its general improvement.

DOES MATING PURE BUFFS PRODUCE WHITE?

The possession of Success has enabled me to conduct other experiments.

It has been so often theoretically said that the mating of two clear buff birds will produce white in plumage that I thought it well to test it.

As I wished to leave no doubt, I selected the lightest colored pure buff hen I had and mated her to Success. It was late in the fall, and I saved from the hatch only two chicks—a cockerel and a pullet. Now I have only the cockerel. Although he is yet young his plumage is far enough advanced to decide what he will be when matured. He certainly shows no white. His primaries are pure buff. The small feathers at their base possess some black. His surface is even; tail coverts show clear, and his main tail is about 75 per cent. buff. I do not wish to argue that in no case will such a mating throw birds with white in plumage—simply that in this case it did not. This instance is certainly evidence that a line bred pure buff male will hold the color in his get, even when mated with a hen that is deficient in strength of color (see Fig. 6).

DOES PLUCKING FEATHERS CAUSE WHITE?

Here's another point that has interested me. Does the plucking of a wing or tail feather necessarily cause white in the feather that replaces it?

No.

Did you ever notice that the best bird most frequently gets into trouble? By some means unknown to me, Success, my best cock, lost the whole of one side of his main tail. Late in the summer I noticed his tail seemed an odd shape, and upon examining him found that one side of it had been plucked clean out from top to bottom. I attributed it to a "bird dog," as they are commonly designated in the west—a setter, that had "nosed" his way into my yard. Anyway, one side of the tail was gone, and I shivered as I anticipated the white feathers that would grow in place of the old ones. The illustration shows that they grew in as good a buff as ever. The feathers plucked were new, the tail being only half grown after molting (see Fig. 4).

BLACK AND WHITE IN BREEDERS.

One other experience in breeding Buffs, I will give. I might add several, but want of space forbids.

It does not necessarily require a pure buff male to produce clear buff progeny. The rule that demands a breeder possessing

no white is not invariable; and my own greatest objection —a mixture of black and white—at least once has proved erroneous. A male now in my yards is the sire of as good stock generally as I have bred prior to this year. He possesses both black and white in his make-up, and although this old veteran has now only one eye, that doesn't figure in my calculation that he will again head one of my breeding pens.

Figure 7.

Wing of a cock possessing both black and white. The white is visible in the primaries. Fifty per cent. of the primary coverts is black, also a small proportion of the primaries. This cock is a sire of birds possessing neither black nor white in plumage, which proves the value of line breeding. It shows that the color-producing power remains strong, even though defects may crop up for a generation, as they frequently do in new breeds.—R. H. Essex.

[Since writing this the bird is dead. My calculations did not "pan" out.]

The wing is illustrated in Fig. 7. I saved it for the benefit of readers.

SURFACE AND UNDER-COLOR.

There are many shades of color that go under the name of buff. They range from a dark cinnamon to a light lemon. In hens, what has been a lemon buff in their young days frequently bleaches until there is no resemblance of buff left. We see it in the show room, a lifeless, colorless plumage that is neither white nor buff. These are the hens from which are produced lemon buff males—males which as cockerels possess a bright, perhaps even plumage, often with superior wings and tails, but which never regain their color once it disappears. The breast becomes light, the back becomes lighter, and after they pass the age of maturity, they are not what I consider a success in the show room, and are generally relegated to the breeding pen to breed some more washed out specimens. Years ago the prevailing color of males was much darker, and the females as hens held their color far better than now. Then the show males possessed reddish wing-bows, but aside from this defect the better class of birds were golden buff.

Gradually we are coming back once more to the golden buff. It has been found that the lemon buff male not only loses its color at the end of the first year, but produces young that inherit a similar defect. The golden buff that is exhibited in the best Cochins is the color we are after, and when the Buff Rocks become settled down, that is the color which will govern and stay with them, if they are to continue a favorite variety as they are now. It is not very difficult to secure the male and female so nearly alike in color as to afford no contrast when exhibited in the same pen. The color that is exhibited on the best pullets these days will eventually also be exhibited on the best hens. When breeders generally make up their minds that the rich buff is the color that will do their favorite variety most good—that it produces hens that hold their color no matter how old they may be—then they will breed for this sound golden color, and it will become the general thing to see golden buff predominate in the show room. It is coming, and the breeder that possesses it will stand at the front while the others look on.

SOME OF THE DEFECTS.

The mistake of introducing a dark male to a light female, or *vice versa*, is often made. Sometimes it is unavoidable. The first results of such matings are generally disastrous, although a foundation for experiment may be obtained in this way. As a rule, the female produce of such a mating will be mottled or mealy; yet there are exceptions. If the male birds have been bred in line for years, they will possess great color-transmitting power and many of the chicks will partake of their sire's color; then by breeding back, the color may be incorporated in the stock. The mealy birds usually excel in under-color, inheriting this quality from their darker ancestors. On some occasions when the defect has not been too great, I have bred such birds back to a male of the same blood, so as to retain the superior under-color which is apt to breed out as the birds become lighter on the surface; and as some judges pronounce under-color equally as important as surface color, it is necessary for the exhibitor to consider this. Frequently these mealy females possess pure wings and tails (see Fig. 8).

In both Barred and Buff Rocks, I think the requirement of under-color has gone too far. "Barred to the skin" and "buff to the skin" are pet sayings that make me tired. The surface color of a fowl is all that is visible without handling, and if this is sufficiently beautiful, why go deeper? If it is because these faddists consider under-color requisite in breeding for retention of surface color, why not let the matter rest altogether with the breeder? He will get the ideal surface color in some way if he wants to win, and why should his route be undeviatingly mapped out? If the ideal color can be maintained on the surface without the addition of a corresponding under-color, then it is arbitrary to demand that the under-color shall be a specified shade. Is the beauty of a wild bird any the less gratifying because we cannot fumble with its under-color? I think not. Under the standard, however, we must breed for buff under-color.

A very serious defect in color of Buff Rocks has been black

Figure 8.

The chief defect which appears in a flock when, after years of endeavor, they are approaching solid buff, is a mealiness or dusting of light color upon the surface of the wings of females! This photo was taken in absence of the writer, and gives more importance to the primaries than to the wing surface. Upon close examination near the top of the wing, however, the light color referred to will be seen. If the primaries had been closed and the wing drawn down, the defect would have been visible upon nearly the whole of the wing surface. Frequently such birds have pure wings and tails, as in this case. The defect increases with age.—R. H. Essex.

in the hackles of females. It seldom appeared in male birds. Having been early impressed with the prevalence of this trouble, I have watched closely to prevent it. Many birds so affected have otherwise superior surface color, and I was once tempted to breed from such a hen. She transmitted her beautiful surface color, and, in most instances, the faulty hackle.

At the annual show of the Buff Plymouth Rock Club, held in connection with the Buffalo, N. Y., show in 1898, there were, according to the show catalogue, twenty-five pullets entered. I examined those on exhibition very closely. Only fifteen were what would then be considered first-class, and my notes tell me that of those fifteen, four possessed black in hackle. I mention this to impress upon the reader the necessity there was for stamping out such a general defect. There has been a great change in three years. At Buffalo, 1901, Pan-American show no such pullets were shown, and although I examined the stock closely I could not detect this defect in the least degree.

Figure 9.

In evidence of the fact that while breeding for color, size may be maintained in line-bred stock, we present an illustration of Buff Rock cock SUCCESS, which is buff even to the main tail. His ancestral line will be found in these columns. SUCCESS is eighteen months old. The photograph gives an idea of his size, but does not do justice to his shape and head, by reason of his motion when photo was taken. He has pure buff wings and tail; even, medium surface, and the best male I have yet produced.—R. H. ESSEX.

CONDITIONS THAT MAKE GOOD BIRDS VALUABLE.

Feathers on shanks of Buff Rocks frequently cause trouble, as is to be expected in some strains by reason of their origin. The new standard is more severe than the old with reference to this; and many birds which formerly won would be disqualified if now shown. Selection of breeders is the only method of counteracting this failing, though I do not advocate the exclusion from the breeding pen of birds that are otherwise excellent, unless the fault is very pronounced. Many chicks will be free from stubs, even though their parents were so disfigured; and many hens will have stubs, although as pullets their shanks were free from them.

One more warning, and that with reference to ear-lobes. White in ear-lobes sometimes appears, and this is a failing that the standard considers of the utmost importance Unlike the black in hackle, this affection is not confined to females. Watch for it and fight it. Pale lobes are not necessarily white. Birds in ill-health, or long confined in show rooms, frequently exhibit pale lobes, but as health and freedom return, so does the original color.

Changes occur with age in Buff Rocks. Defects arise in matured fowls which did not appear in their younger days. Similarly faults disappear which were formerly obvious. We sometimes, therefore, have pleasant surprises as well as disappointing experiences.

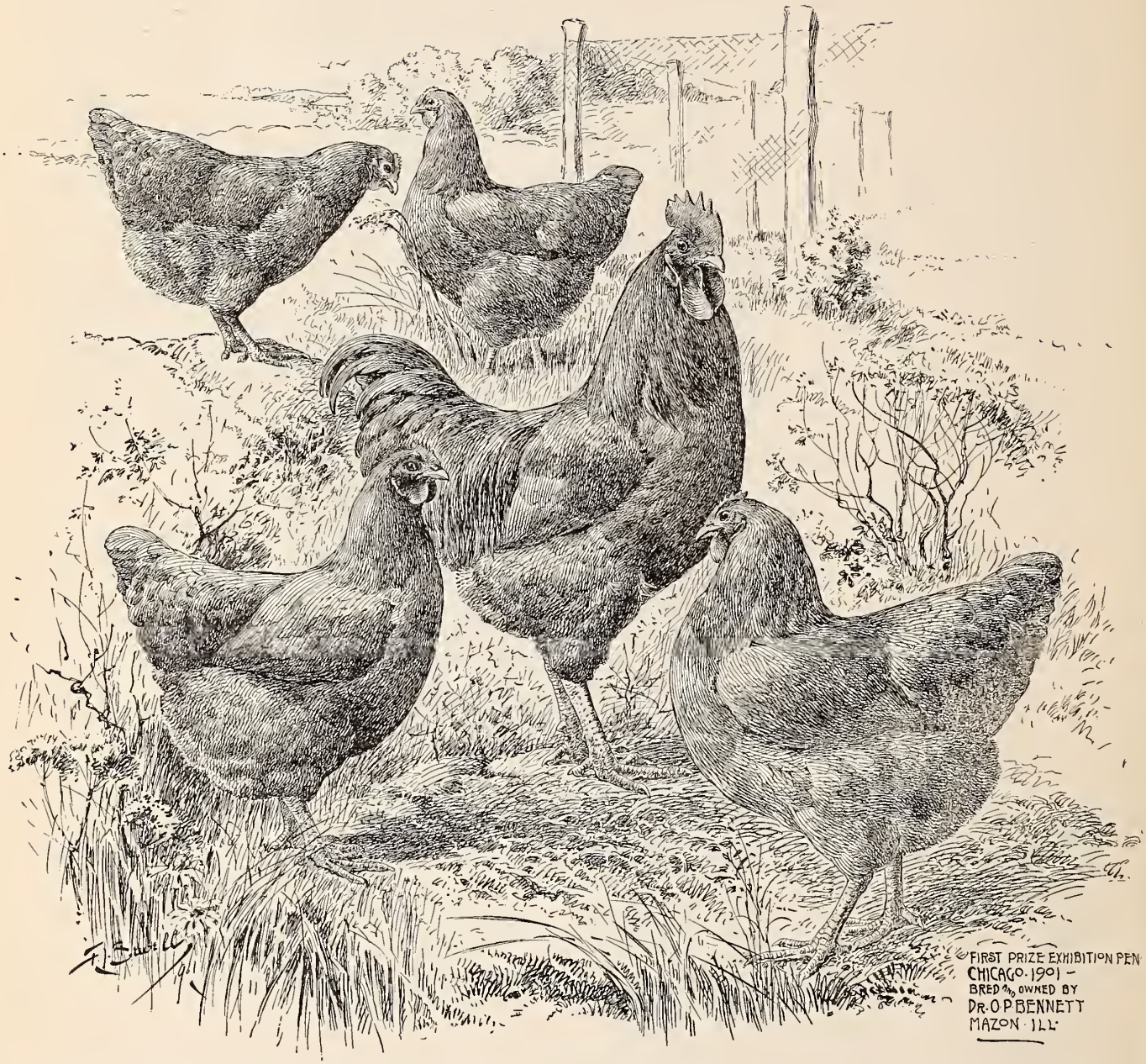
This long list of troubles may scare the intending fancier of Buff Rocks. Let it not be so. The greater the difficulties, the greater the field for the expert; the more difficult the task, the higher the reward. Even now the best strains in the country have comparatively few of these troubles to contend with, and the good birds sell freely at high prices. During every year of my experience in breeding Buff Rocks the demand for high-class birds has exceeded my supply.

In conclusion let me advise especial care in recording the results of breeding with individual birds. It is not always the best show bird that holds the record in the breeding pen, but as your birds become more and more line bred, so will the better show birds become more and more the better breeders.

MATING BUFF ROCKS.

BY O. P. BENNETT, M. D.

THE proper mating of Buff Plymouth Rocks is one of the questions about which few can agree. In this article I shall give my ideas of the subject in as plain a manner as possible. I do not claim originality for all of them, for much was gained through my acquaintance with the late Mr. Burdick, whom I was pleased to claim as one of my most intimate friends. However, five years' experience with mating this variety and my show record should entitle my opinion to some consideration. I like to think of this great unorganized poultry fraternity in the same way that I do of the medical profession—that we labor for the good of the entire fraternity and have no secrets one from another.



The Pen of Buff Plymouth Rocks which won First Prize at Chicago, 1901; bred, owned and exhibited by Dr. O. P. Bennett

If I am able to benefit Buff Rock breeders only by the discussion which this article will bring forth, I shall feel well repaid for my efforts.

It should be borne in mind that buff color is man-made and unlike the natural colors, white and black, will reproduce itself only to a certain extent, and a man must use a great deal of judgment and limit his desires if he mates birds of the color he fancies and expects them to reproduce that color. Almost any mating in which birds of good color and good ancestry are used will produce winners here and there the first year, but unless they are properly mated they will go all to pieces the second or third year and scarcely one decent specimen can be found among their offspring.

Our best birds properly mated will produce only a limited number of choice exhibition specimens. Were this not true of all breeds, the business would be killed in a few years, but it is from our best birds properly mated that we expect the largest number of good specimens and the smallest number of culls. In order to understand what follows we must agree on some shade of buff as being the rich, golden buff of the standard; personally, I think it is that shade of buff most like a twenty dollar gold piece and for our purpose I will call it standard buff; one-half to one shade lighter, lemon buff; one-half to one shade darker, orange buff; one and one-half to two shades darker, reddish buff. By the latter I do not mean red in color, but a buff in which the red predominates. Then we may have different shades of each of these, for instance, light or dark lemon and light or dark orange buff.

THE IDEAL MATING.

My ideal mating is that in which a male of standard color, one as nearly the same shade from tip to tip as possible, is used. He must be rich in under-color, with wings the same shade as the surface and with absolutely no white, but with perhaps one-half of the secondaries dark or bronze. The tail coverts must be buff and from one-half to two-thirds of each main tail feather must be buff, the balance being dark or bronze. To him should be mated orange buff females that are one-half to one shade darker. They must also be even in surface and rich in under-color. Females of this color will usually show some quite decided dark in the tail.

I believe matings of this kind, if the birds are properly bred in line, will produce more good specimens of both sexes and fewer culls than any other mating that can be made. Unfortunately, we do not always have such colored specimens to mate and we have to use such material as we have, but no matter what shade we have in our birds, they can usually be mated so as to produce chicks of standard color.

WILL ALSO PRODUCE GOOD BIRDS.

Females of standard color mated to orange or reddish buff males will nearly always produce wonderfully good pullets of standard shade, rich in surface and under-color, but the males are usually too red to use for breeding purposes. Lemon buff females, uneven in color, the hackle being two or three shades darker than the body, but rich in under-color and having very little dark in the wings or tails, should be mated to bright, golden buff males of standard color. I believe that these uneven females already have too much red in their make-up with no tendency to white at all, and mating them to a dark or reddish male is wrong. These females so mated prove good breeders for me, and from them one will get excellent, even and medium colored cockerels and scarcely any of the pullets will be like their parents, but they also will be soft and even in color.

Light lemon but even colored females, with hackle of the same shade as the body, are lacking in color and must be mated with deep orange or reddish buff males. It is true that such extremes often produce uneven or spotted chicks, but the depth of color can be increased and I know no other way of doing it except by using a darker male.

Under-color, from a breeding standpoint, I believe to be fully as important as surface color. Birds sound in under-color make much better breeders than those lacking in this respect.

The plan used for years by the late Mr. Burdick, and one which I have tried successfully for two years, is as follows: select females of the same characteristics which vary not more than one-half to one shade in color and place them in three pens. Mate with them three males, either full brothers or cock and sons, one a light standard in color, one light orange and the third dark orange, and change these males in the three pens in rotation every third day.

Mr. Burdick's theory was that mating among domestic animals, as well as among wild, is by natural selection. Man has not been able to equal nature in the brilliancy and pureness of colors in wild fowls, not even in buff color, and from the past two years' experience I believe the plan stated is thoroughly scientific and practical. One thing is certain, eggs from these matings are more fertile than when only one male is used in the pen.

Do not be in a hurry to breed out the black found in the wings and tail. That it can be done, I do not doubt, but the man who goes at it in a hurry will breed in white, which to my mind is ten times worse. Each year of judicious line breeding will make it more possible for Buff Rocks to reproduce themselves, both in shape and color. Now occasionally we find solid, or entire buff specimens, but nearly always they are lacking in depth and brilliancy of color, or in size, being small and undeveloped.

All of the prominent breeds are being kept to the front by clubs organized for that purpose. The American Buff Plymouth Rock Club is doing all in its power for the advancement of this variety, and as president of the club I extend a cordial invitation to all who are not members to join with us and by their efforts and support enable us to keep our favorites in the front rank where they now are.

BUFF PLYMOUTH ROCKS—THEIR ENEMIES.

BY B. E. JOHNSON.

FOLLOWING I give to you, the readers of this book, some of the information I have gained by seven years' experience with what I consider is to-day our best all-purpose fowl. If this information will enable you to pass easily over the many obstacles I met in the pursuit of the best knowledge and start you on the right path in the breeding of Buff Rocks, I shall consider myself well paid.

Buff Plymouth Rocks were admitted to the standard in 1893, hence as standard bred fowls they are only eight years old, one of our youngest breeds; but note what wonderful

strides they have made in these eight years. They were then almost unknown except to a few fanciers, hence their future was uncertain. To-day they are one of the most noted of all varieties, possessing great merit, and many of their friends believe that they will in the near future rank first as the most popular of all varieties.

At first they were ill-shaped, varying in that particular from the Leghorn with its large, turned comb, to a great, clumsy Cochin with feathers on its shanks. Then, too, the word "buff" seems to mean anything from light lemon to cinnamon and often a combination of these colors, with all intermediate shades, each shade having its advocates and each advocate claiming his to be the correct color. It was a difficult matter to harmonize these different interpretations of the word "buff," but now the standard defines the true color as a "rich golden buff" and the prominent breeders are getting nearer to a uniform shade. In shape the Buff Rock is rapidly losing the Leghorn and Cochin tendencies and is assuming more nearly the noble Rock shape. However, there is much to be done before this grand variety reaches the degree of perfection which all its friends are striving to attain for it, but eventually this will be accomplished in the same manner that other improvements have been made up to this time, namely, by a judicious system of mating.

Each year proves some theories of mating faulty and others correct, and if we plan our course after a thorough study of the past, we shall make not only fewer failures but greater improvements.

THE MATING OF BUFF ROCKS.

Formerly it was the practice to mate dark males with light females, or vice versa, to produce birds of a medium shade, but this theory is faulty, because while we may get an intermediate color, as a rule it will not be uniform, but will present shades of the color of both parents.

The present theory, and I believe it to be the correct one, is to breed males and females of as near the desired shade as possible. Let the breast of the male be as near the body color of the female as you can get it, and you will find this particular color transmitted to the chicks. But if you mate extreme color, all the shade between both extremes are transmitted and you will have not a flock showing one uniform color, but chicks varying in color from one extreme to the other.

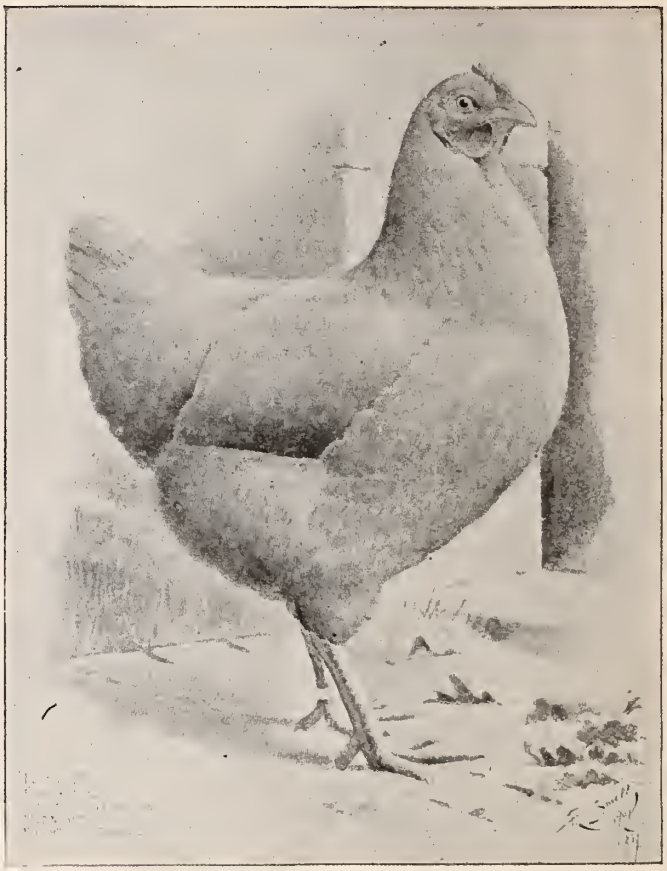
A COMPOSITE BIRD.

Buff being a composite color, so to speak, is much affected by climatic changes. The extremely hot weather of summer bleaches out the specimens until what at first appeared to be a beautiful, fresh golden buff becomes so faded that it is hardly recognizable, hence it is claimed by many buff breeders, and I believe justly, that the handicap on solid colored specimens as against parti-colored fowls, in our Standard of Perfection, should not apply in the case of Buff Rocks. It is harder to get a correct buff color and hold it than it is to get a parti-color.

Not only is the buff color a composite one, but the Buff Rock is a composite bird, and the different elements in its make-up are responsible for all the defects of the variety. For instance, a large comb, often drooping to one side, is inherited from the Leghorn and the feathers now and then appearing on the shanks come from the Cochin blood. The black in the wings and tail and the slaty under-color that is occasionally found is inherited from the Barred Rocks. A close scrutiny of this slatiness will often show as distinct bars as are found in the Barred Rocks themselves. The red in the wing-bows of males comes from the Rhode Island Reds and the tendency of these specimens to get lighter as they grow older comes from its more direct ancestor, the White Rock.

So I say that all the defects of the Buff Rocks are directly traceable to the breeds used in their production, and these defects by judicious breeding will be entirely eliminated in time, leaving one of the best all-purpose fowls in existence.

No other breed or variety can offer such good qualities as the Buff Rocks do. They are hardy, both as chicks and adults. They make the best table fowl, being of the size most in demand, and when dressed they present a beautiful yellow appearance, free from the dark pin feathers so objectionable in many other varieties. As mothers, they have no equals, and as winter layers, when eggs are eggs, they have no superiors.



"An ideally smooth surface of a very correct and pleasing shade of rich buff, as seen on the first prize Buff Rock pullet exhibited by F. C. Shepherd. We doubt if in all the Rock classes was shown a finer modeled pullet. There is something about her smooth outline that looks as though an extreme idealist had modeled her—not that she was without criticism, but her form was so well defined, the lines so exactly turned, as though she had come from a mold, long studied by a master breeder."—F. L. Sewell, January, 1902, R. P. J.

Later Mr. Shepherd wrote: "I consider the sketch one of the handsomest pieces of work I have ever seen from Sewell, but handsome as it is, it does not flatter her, for she is a bit finer in head and a trifle longer in back, with just the slightest bit of a cushion at the rear of back. I am proud of Mr. Sewell's comments on her. This bird was not an accident. I knew what I was doing when I mated for her. She was not bred in one year, nor two, but is the result of years of mating and breeding along the lines advocated by me in my article in the first Plymouth Rock book (reproduced in this edition). She is the result of eight generations bred in line, five of which I still own. I can reproduce her, but shall not be satisfied until I improve her. Her full brother won second prize at the Pan-American, hence I know there is no need of any double matings in my way of breeding Buff Rocks."

ENEMIES OF THE BUFF ROCKS.

Now, would you know who are the greatest enemies of the Buff Rocks? I will tell you. They are some of the Buff Rock breeders themselves. For instance, Mr. A, a Buff Rock breeder, advertises "solid Buff Rocks" at ridiculously low figures. Mr. B advertises having raised a great many chicks with only two or three culls in the lot. These advertisements reach the eye of some one who has become interested in Buff Rocks and he concludes, after reading a number of advertisements, that these undoubtedly must be the persons having the best birds, and sends an order to each of them.

In due time he receives his birds. From Mr. A he gets birds with black and white in the wings and tails and probably a mottled body color, when he should have had, according to the ad., solid buff specimens. From Mr. B he gets the colors that Mr. B failed to find when he wrote his ad. What is the result? The purchaser becomes disgusted and instead of retaining his interest in Buff Rocks, he loses it. Had Mr. A and Mr. B advertised just what they really had for sale, pointing out the defects as well as the good qualities of their birds, the Buff Rocks would have gained another friend instead of an enemy. To this class of breeders I would say, do not advertise what you have not, nor try to work off your poor stock by deception. You make a few sales, but you also make disgusted purchasers and lose good customers when you might, by honest statements, have gained and retained them. Nor is this all. By your misrepresentations, you rob honest breeders of a customer who would have been satisfied with the stock received under honest statements.

Remember, Buff Rock breeders, and you who contemplate going into the business, let me entreat you to be honest in your dealings. Do not sell a 90 point bird representing it to be a 95 point one. In other words, do not under any circumstances misrepresent your stock. It not only injures you, but it does the Buff Rocks an irreparable wrong.

INBREEDING BUFF ROCKS.

BY F. C. SHEPHERD.

THE breeding and bringing of the Buff Plymouth Rocks to their present state of perfection has taken more time, thought and skill than a majority of fanciers believe. When you stop to consider the years of study and patient work that have been spent in perfecting the color of the Buff Cochin, and then recollect that the same color has been produced on the Rocks, you get some idea of what has been accomplished.

You have requested me to give you a short article on how I have succeeded in producing my own. At the start I wish to state that I am aware of the fact that the plan I have pursued is in direct opposition to that advocated by many, I may say, perhaps, a majority of breeders, but it is the only way in which I knew how to breed, and the only one in which I could see (when looking at their future, years ago) how they were to be improved in color and shape. I thought then, as I am convinced now, that it would be waste of time for me to try to make any improvement by buying the best I could find each year and mating them to my best, for, bear in mind, in order to be successful we had more to do than to merely reproduce. We must improve. Reproduction without improvement was time lost. I had had experience enough in breeding other varieties to know (or to believe I knew) that in mating the best to the best, with no idea or regard as to their blood lines, or the breeding back of the individual, if I got a good specimen it was a mere chance or a good one "by luck."

I began my strain with four birds, a cock, hen, and two pullets, or, I might more properly say with three, for the mating of the cock and hen produced nothing that was worth saving; so she, with all her progeny, was destroyed. From the cock and two pullets all of my birds are descended. At the beginning I purchased two pullets (sisters) that were as near what I wanted as I could find, and later I found a cock that suited my idea, from an entirely different strain. He was as good in color and shape as it was possible to find at that time. These were mated, and my work began.

The eggs from each female were kept separate, and when hatched every chick was marked. When they matured I found that the chicks from the hen referred to were a mixed lot of about everything, and they and the hen were discarded. Of the other two, which we will call No. 1 and No. 2, I found that the pullets from No. 1, as a rule, were much better than the cockerels. In fact, she produced two pullets quite the equal of herself. The chicks from No. 2, as a lot, were better than her sister's. I selected two of her pullets nearly as good as she was and a cockerel that was much better than the cock.

Here was a case of three "haphazard" matings. One had proved worthless; with another I had about held my own by producing two pullets the equal of their dam; and from the other I had two pullets the equal of their dam and one cockerel better than his sire. It was a very "lucky" mating. The question then was, how not only to hold my own, but how to keep up the improvement.

The following season the matings were made up thus: With the cock I mated No. 1, her best daughter, and the poorer of No. 2's two best daughters, thus giving him his old mate and two of his best daughters. In the other pen I placed the best cockerel (son of No. 2) with his mother, his best sister, and the poorer of the two best pullets from No. 1; and again I kept all the eggs separate, marked all the chicks, and awaited results. From these matings I became more convinced than ever that direct inbreeding, using proper care and judgment, was the only way in which I could breed with any degree of certainty of what the result would be.

From the cock and No. 1 I again held my own by reproducing one or two pullets about her equal. From his best daughters I got several pullets better than their dams, while in cockerels from the daughters I had quite a number that were the sire's equal or better. But two years had now passed and the cockerels that were no better than the best two years previous were considered of not much account, hence my matings with the cock this season had advanced me but little.

With cockerel mated to No. 2 (his mother), I found I had made more rapid strides. Not only did the pullets come better than the previous year, but the cockerels had improved. A majority were equal to their sire, while two or three were far superior. From his own sister he had a number of good pullets and cockerels of about his own standard, while with the pullet from No. 1 (his cousin, so to speak), he did only fairly well, and none of the chicks showed any improvement.

It would become tedious to go on with the following years in detail. This brings the breeding down two years, and that will suffice when I say I have continued along the same lines since. It is inbreeding in its closest form, and I repeat it is the only way that I know how to breed them. Aside from the first pair of birds which I bought, I have never bought or added new blood to my strain, except in one instance. I once bought a pullet which was bred from a pullet which I sold the year previous. With this exception, all the birds I have ever shown were descendants of the three first mentioned.

I am aware that many will disagree with me on this subject. I have heard it argued pro and con. I know many of the arguments that can be brought and facts that can be stated to show that I am wrong. To it all I have no reply to make. I simply point to my poultry yards. If you will show me there specimens with any symptom of loss in vitality, vigor, size or beauty, then, but not till then, will I try to breed them some other way.

ORIGIN OF ONE STRAIN OF BUFF ROCKS.

BY J. D. WILSON.

IT was reading about the new variety of Buff Leghorns in the Fanciers' Gazette, London, England, that strongly suggested the possibility of producing a Buff Plymouth Rock fowl, too. I was at once vigilant looking over the various yards in this vicinity. After many disappointments in my researches, I was fully successful in finding in a relative's yard a male bird that gave me great joy from seeing so typical a Rock. It was the result of a cross between the American type of Buff Cochin and a Light Brahma. He was a beautiful, even, golden buff color throughout, except his tail was nearly black. He had clean, yellow legs, small comb, etc., and weighed twelve pounds. I selected from the same yard two of the best hens, having an even surface color and the least feathering on legs. From these birds the foundation of this most popular variety of the Rock family was produced.

I raised that year about forty chicks, the result being beyond my most sanguine expectations. I selected two yards of very creditable ones from these. I was puzzled over the amount of ticking that showed on their hackles, as the parent birds were perfectly free from that defect. However, I came to the conclusion that it was possibly the result of the Light Brahma blood they contained asserting itself.

The next season brought about a more satisfactory outlook, and they continued to improve until the World's Fair first prize cock, hen, cockerel, pullet, and pen were produced. Not any of these birds were ticked, and two hens were nearly solid buff. Of course they had their defects. Some excelled in one section and some in another, no one specimen having the much-desired whole that was close to the enviable ideal. The advancement since their creation, reaching a point in breeding where not a bird shows any ticking or feathers on legs, with a uniform covering of golden buff plumage, is certainly phenomenal in so short a space of time as ten years.

In the World's Fair collection were several that now would hold their own against strong competition. The first prize hen continued to win at Madison Square Garden, New York, until her death in 1897, and several from the pen were sold to an English breeder. Had I been told by some old reliable Buff Cochin breeder at the commencement so as to have strengthened my own convictions, to breed to the Buff Cochin color solely, the present color lines in the variety would have been established two or three years sooner. Unaided by experience in breeding the buff color, I was obliged to grope my way along with but weak light on the correct color lines. After placing them in show rooms, the judges, critics, and breeders so differed in their ideas as to bewilder. No harmony seemed to exist between them on an established shade of buff color.

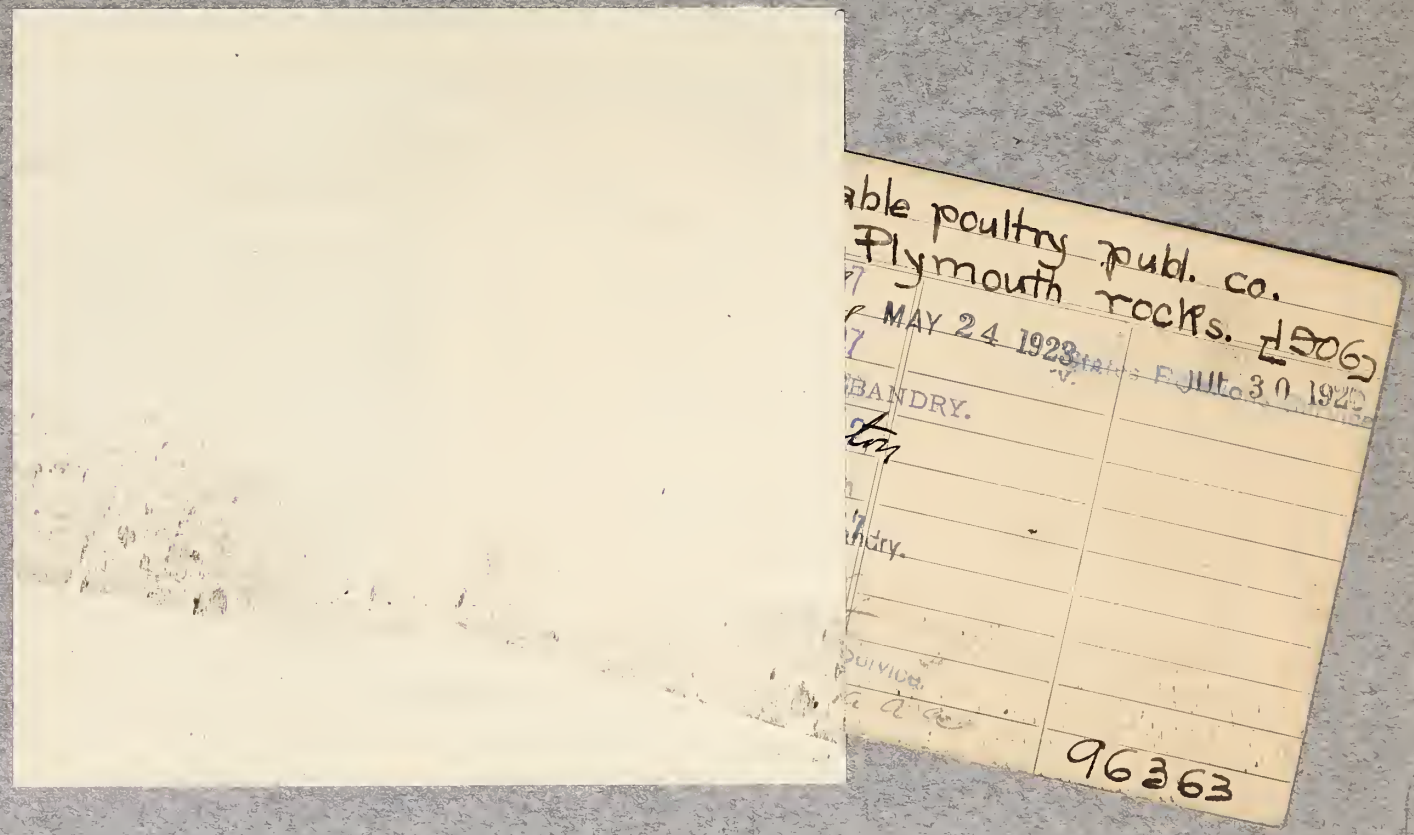
Is it not gratifying to know that they possess sterling qualities beyond any other new variety? I will now call your attention to what I have learned in my study about color, and how I have mated for best results. From my present experience I would suggest that you do not use male birds in mating that are too deep in color, nor those containing solid white feathers in wings or tail. An orange tint of buff is sufficiently pronounced to correct any tendency to a pale lemon shade, and this is true after breeding for several years the standard golden color. Nor would I advise the use of a male with red wing, bows, or coverts. I find male birds that carry a slightly deeper colored hackle, back, and saddle than breast and thighs make very strong breeders. My preference, however, is for a male with continuous golden buff color throughout every section.

I would also discourage any attempt to make two separate matings to bring about a male and female standard in your yards. My strain has not been bred on those lines. They are line bred and will show strong and recognizable features in their progeny. I have also profitably used males one shade darker than the females, or females one shade darker than the males, as the case might be, whichever one of them possessed the standard golden color.

Until recently solid buff male birds were unheard of. And it is very questionable whether there is one now good in other desirable sections. I have raised solid males, but they were too faulty in other particulars to be of any value other than to experiment with. In my matings of males and females that were perfectly solid in color, the result was very disappointing. The tendency was to white on wings and tail, with almost white shading to quills, and also quite far up the shaft of the feathers, destroying the much-desired soundness of good buff under-color. I feel, however, confident that by the time the next standard is published this feature will be under sufficient control to produce satisfactory results from just such matings. I have found it impossible to correct any defect in one or two seasons' matings; all is reached gradually with patience and perseverence, which are the only safe lines to work on to establish strength in any direction in breeding.

The females in your matings are really the most important for obtaining size. Use large hens with full breasts. To modify the plumage trust the male bird. Over large male birds are not desirable. As a rule they are deficient in Rock shape, resembling the Java in type. Birds of the grade desired for the show room are very scarce. Only very few crop out in a season's breeding, although a majority of the others are creditable. It is on account of the scarcity of such specimens that makes the demand far beyond the supply at extremely long prices.

In conclusion, I must caution you not to be discouraged with a poor season's result. Especially so if you have been working with the belief that it is necessary to introduce a new line of blood. When it does become necessary be sure you are obtaining the same strain from a distance for safety. Keep your line strong and intact.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