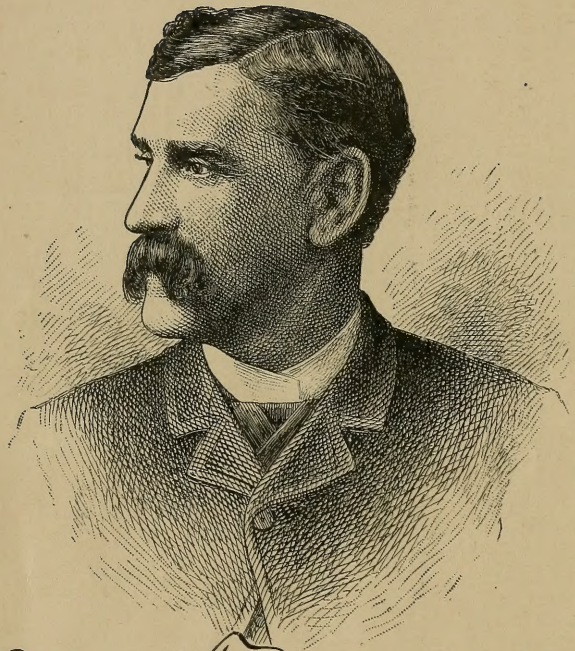

Yours Fraternally
A. Welch

POULTRY CULTURE.

HOW TO

Raise, Manage, Mate and Judge

Thoroughbred Fowls.

BY

I. K. FELCH,

Secretary Illinois Poultry Association.

CHICAGO:
W. H. HARRISON, Jr.
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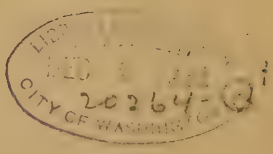

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PREFACE.

NOT long ago I took a journey with an old friend through the eastern portion of Massachusetts. The main purpose of our trip was to find out a suitable place for the establishment of poultry breeding on a very extensive scale. One day, in the course of conversation, my friend said to me: "Mr. Felch, if you will write a poultry book, telling what you know about the management of chickens from shell to griddle, giving a bill of fare, and showing how to care for them each and every day till they are four months old, taking nothing for granted, but giving the results of your own experience and observation, your book would be invaluable to every poultryman and breeder in the land."

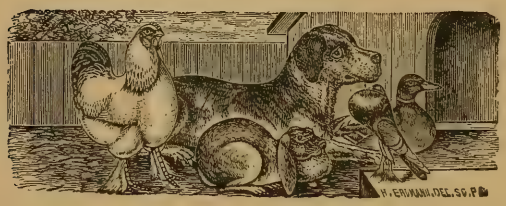
In addition to this flattering opinion I received about the same time a letter from a publisher asking me to furnish the subject-matter for a work on poultry culture. After due consideration I have resolved to

undertake the task, and I hereby dedicate this work to that friend and to the publisher, and I hope that some good, at least, may come of the venture.

It is a very grave consideration that there are eleven millions of families in America whose sons are growing up to find the avenues of trade and manufacture more and more crowded every day. If some of these should turn their attention to the business of poultry breeding and culture, they might find the occupation both pleasant and profitable. But it should be remembered that this business needs to be carefully learned, and it is my purpose to make this a thoroughly reliable hand-book for poultrymen everywhere. The work does not affect to be one of great literary brilliancy: my chief purpose has been to give the results of a life-long experience and observation with the feathered pets of the poultry-yard.

I. K. FELCH.

NATICK, Mass., September 17, 1885.



PART I.

CHAPTER I.

INTRODUCTION.

IN 1873 we made our maiden speech on "POULTRY CULTURE AS A FARM PRODUCT." We shall never forget the look of incredulity and surprise depicted on the faces of the four hundred farmers who listened to us on that occasion. The following is the substance of that speech:

Although the poultry interest of the nation has been considered of minor importance, yet when we investigate we find the egg and poultry product to be much larger than any other agricultural product or industry, and we become amazed at the amount of wealth annually accumulated by practical poultry keeping.

The census for 1870 informs us that the cotton crop was 3,011,996 bales; the corn crop, 761,000,000 bushels; the wheat crop, 288,000,000 bushels; the value of all the cattle, sheep, and swine slaughtered or sold to be slaughtered was $398,956,376; the hay crop, 28,000,000 tons, valued at $14 (a high estimate), was $384,000,000.

The assertion that the egg and poultry produce of the States exceeds either of these large products is

met with derision; yet it is true, and the produce finds no rival save in the entire meat and dairy products combined.

Compute the nine millions of families in the States as consuming but two dozen eggs per week, and twenty dollars' worth of poultry per year, and we have (computing eggs at twenty-five cents per dozen) over $405,000,000. Nor is this all. Large as it is, to it must be added the consumption by the saloons, restaurants, confectionery establishments, our thousands of hotels, together with the medicinal and chemical and exportation demands, which will swell the amount to not less than five hundred millions of dollars as the annual product of the United States; an interest worthy of our considerate investigation. When we commence to make figures, we become surprised at their magnitude; and that you may not underrate the hotel consumption, you have only to consult the encyclopedias to learn that the hotels consumed sixty-two millions four hundred and eighty-three thousand dollars' worth of eggs and poultry for the year 1879. There must, of course, have been a great increase since that time.

The consumption of meat to each guest per day at the Grand Pacific, the proprietor of the hotel informs us, is $2.50, and two-thirds of that amount is for poultry, game and eggs. Another item should be considered in this connection, and that is, thousands of prairie farmers, who live so remote as to make the running of meat-wagons unprofitable, are obliged to rely on their farms for fresh meat, and it is a fact that two-thirds of it is poultry and eggs. It is the custom with them in early winter to kill and pack in snow and ice the sup-

plies of poultry for home use. This, with the richer third of the population who consume far more than the estimate offered, will more than make up for the poor of our eastern cities, who consider poultry a luxury and seldom indulge in its use. With these items as data, we claim our estimate of five hundred millions to be far less, rather than more, than the actual yearly product, which, as we have said, makes the industry of poultry breeding and keeping one of the largest in which our farmers are interested. Like in comparison as the giant oak to its acorn origin is this large product, made up from the small collections from the small flocks of fowls seen about the doors of the hamlet and farmhouse in numbers of twelve, twenty, thirty and fifty, and where a larger number is seen so rarely that they become the exception. These flocks pay a large profit on their cost of production, as may be seen by consulting the different societies' reports. In 1858, we see that thirty-eight fowls, kept in small yards, under unfavorable circumstances, with a market at thirty-eight cents for corn, sixteen and two-thirds cents for eggs, and fifteen cents per pound for poultry, yielded a net profit of $1.38 per head. In 1861, Mr. Mansfield's experiment with one hundred hens, having a free range of the farm, consuming but ninety-three bushels of corn or its equivalent, produced one hundred and forty-seven eggs each (no chickens being raised that year), and yielded a net profit on eggs alone of $1.35 per head ; to which, had the value of the guano been added, the figures would have reached the sum of $1.60. These and other statements are to be found in the Middlesex South Society's reports, of $2, $2.25 and $2.50 per head

profit per annum; and last, but not least, the banner statement of Mr. Whitman in 1873. With fifty-one Leghorns, which laid two hundred and seven eggs each, which he sold for thirty-one cents per dozen, the cost of keeping the fowls being $1.13 each, he shows a profit of $4.04 per head, proving conclusively that these small flocks pay much better with care than do other farm stock.

We have no reason to change our opinion, for the amount must be increasing each year. We as a nation are consuming more poultry and eggs every year. We are not alone in our belief of the magnitude or in our faith in the future of this immense interest or industry, and we subjoin from the pen of the able writer, Captain J. E. White, an article on the future capabilities of the country in poultry breeding as compared with other countries.

POULTRY AND EGG PRODUCTION—A SOURCE OF WEALTH TO THE PEOPLE.

France is, perhaps, the only nation that recognizes the poultry and egg trade as a source of wealth to its people, and protects and encourages it as it would any other business which brings a revenue to, and betters the financial condition of, its citizens. Under this fostering care the poultry and egg trade of that country has grown year by year until it has reached gigantic proportions — not only meeting the demands made upon it for home consumption, but also supplying English markets with more than $13,000,000 worth of this class of food annually. The value of eggs and poultry sold in home markets and consumed by the

French people is estimated at $110,000,000; add to this the exports to England and we have $123,000,000, which represents an industry that is looked upon by too many of our farmers and business men as being "too insignificant to merit consideration." It must be borne in mind that this $123,000,000 represents only the eggs and poultry consumed annually—it does not include the stock carried over to begin business upon the following year. The value of the stock on hand—which is carried over for the purpose mentioned—is estimated at about $45,000,000, thus showing that the annual poultry and egg production of France amounts to $168,000,000.

Doubtless most of those who may read this article will conclude—when they reach this point—that no other nation is as productive in this particular as the French, but the facts, supported by reasonable estimates, demonstrate that the United States are vastly more so. "In 1878 a convention of butter, cheese and egg producers was held in Chicago; the most careful and reliable statistical reports that could be gathered relating to these products were placed before this convention; from them we find that the annual production of eggs was valued at $180,000,000, and poultry sold at $70,000,000." Thus, according to this report, which I shall presently show to be incorrect, $250,000,000 were annually realized from a business "too insignificant to merit consideration." To some it will sound like one of Munchausen's stories, but to those who are in the business and understand something of its magnitude, it seems like a too modest tale; it does not tell half the story. The population of the United States is more

than fifty millions. If each one of this population were to eat an egg to-day there would be consumed in eggs alone, at the present market price, $1,000,000; and if each one were to eat an egg each day for a year, the consumption of this one article of food would amount in the aggregate to $365,000,000; add to this the value of the poultry consumed, which is estimated at $121,-666,648, and it will be seen that the eggs and poultry consumed in the United States annually represent a money value of $486,666,648; add to this $45,000,000, the value of the stock carried over, and to this the sum realized from sales of fancy fowls and eggs, which is not less than $500,000 annually, and you have the enormous sum of $532,166,648, which is $32,000,000 more than the value of the corn crop of the United States for 1879, and $189 842,857 more than the wheat crop of the same year. But some "doubting Thomas" will say that there are thousands of our people who do not eat an egg each day. Granting this to be true, we must face the fact that many other thousands eat from two to four daily, and that eggs enter very largely into the composition of many articles of food which we consume each day, such as cakes, pies, salads, coffee, custards and puddings; and we must not neglect to include in our account the eggs used in saloons, and for medicinal and chemical purposes.

Perhaps there are few of our professional men, clerks and merchants, who, when they run like wild men to a restaurant and order a cup of coffee and a piece of pie, stop to think that when they have finished their lunch they have rendered unfit for incubation two or three eggs; but such is the fact. Then we are not

so certain that there are many thousands of our people who do not consume eggs or poultry in some form daily. We might jump to the conclusion that our poorer classes could not afford it; but it would be a jump in the wrong direction, for whoever has traveled and been ordinarily observant has noticed that the poor almost always keep poultry. This estimate is based upon the supposition that the average price of eggs, the year round, is but twenty-four cents per dozen; and this supposition, I venture to say, is not sustained by the facts, because at most times in the year—during the winter, fall and latter part of summer—they bring, in our own markets, from thirty-five to fifty cents per dozen, and in eastern markets from fifty to sixty-five cents, the price, of course, depending upon the supply and demand. Many of the eastern hotels make contracts with those who keep large flocks of fowls to furnish them so many dozen of eggs and so many pounds of dressed poultry daily, and pay for these eggs, in consideration of their being fresh laid, from forty to sixty cents per dozen.

STARTLING FACTS.

We are further indebted to Mr. James E. White for the following array of facts, which will be read with great interest:

If France, with an area of 204,147 square miles, of which only 98,460 is capable of cultivation, realizes more than $200,000,000 annually from her poultry interests, it can easily be seen that the United States, with an area of 3,587,681 square miles, of which 1,700,000 is capable of cultivation, should with the same care

and labor realize from the same source $3,264,000,000 annually. But, of course, in order to make the conditions equal, it would be necessary for the United States to be as densely populated as France.

The present population of that country is 38,905,788, which would give each individual—if an equal division of the land was made—two acres of soil capable of cultivation; whereas, the population of the United States is 55,000,000, which, under the same allotment, would give about twenty acres of good land to each inhabitant; hence, this country is as capable of sustaining a population of 550,000,000 as France is of sustaining her present population, and if the production per capita only equals that of France, the sum total annually would be $3,264,000,000. But it has been shown that the production and consumption of this class of food is much larger per capita than it is in France, and if each citizen of the United States consumes as much of this food when our population reaches 550,000,000 as they now do, the annual value of this industry will not be less than $5,596,000,000.

It will be remarked by those who have not given the food supply of this country thoughtful consideration, or the ultimate population and productiveness that attention which it deserves, that the writer of this article is visionary and enthusiastic; but, my friends, if you look over the figures carefully you will see that the probable extent of this industry, when this country is fully developed, is capable of a correct mathematical solution, and is made on the basis that if 55,000,000 people eat so much in one year, how much will 550,000,000 eat in the same time?

Belgium is one of the smallest powers in Europe; its area is 11,373 square miles, and its population is about 5,253,821. It is the most densely populated country in the whole world, and about 60 per cent of its area is under the most exhaustive cultivation, that being all of it that is capable of producing good crops. In order that the extent of the country may be more fully understood, it may be well to mention the fact that it is not nearly as large as the state of Georgia, while its population is more than three times greater; and this little country produces annually, as shown in the statistics of that country, 274,967,824 eggs—or forty-eight eggs for each man, woman and child in Belgium; and this is accomplished in a country "where the most persistent effort is made to cause the land to produce the food necessary for home consumption, and where a vast amount of labor and money is expended in the cultivation of the soil."

If such results are obtained under such unfavorable circumstances, what may not be accomplished in a country as favorably situated as ours?

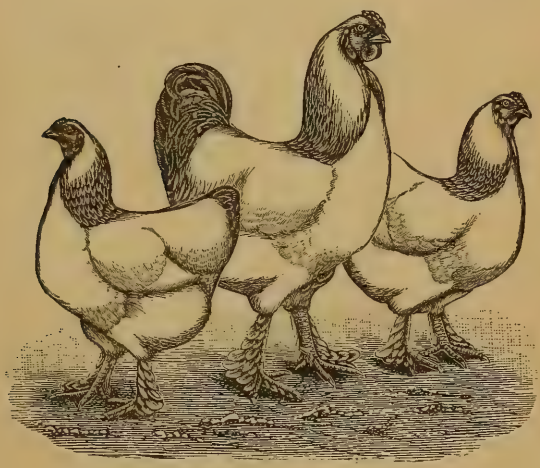
It is the duty of all men who have the development of this country at heart to encourage the greatest possible production of every commodity that we can produce with profit, and among other industries the poultry and egg business must not be neglected. The farmers must be made to understand that the thoroughbred fowls are as much superior to the barn-yard fowls as the Herefords, Jerseys and Anguses are to the common cattle that roam over our prairies; and when they understand this, they will improve their fowls.

Much more could be quoted to show the magnitude and the need of the development of this industry as a source of wealth to the nation, but above all this, farmers of America, remember that poultry keeping has more than a money value for you. Interest your boys in it, for thereby they learn many of the principles that underlie the successful breeding of stock,—fitting them, when older, the better to manage cattle and horses. The rapid production of chickens enables them to try as many experiments in a few years as would take a lifetime with stock. In the breeding of fowls they learn that like produces like more surely, and only, as a rule, where the stock is bred in line, and that to produce chickens uniform in type and color they must have, in both sire and dam, a preponderance of the blood of the desired type; they must mate kindred blood judiciously, avoiding too close relationship, —for by mating fowls of one blood for three generations we produce sterile eggs. They learn that prepotency of sire is more marked in the mating of kindred blood, and in the offspring of dams of weak constitution, and when appearing in the coupling of radically different blood, that it is an exception and not the rule. They learn that the blood most difficult to subjugate, in the end has more lasting quality, and does the flock the most good as a new infusion of blood; these interests, once awakened, cannot slumber; the boys become thoughtful, and as they grow older their assistance becomes much more valuable than any help you can hire.

CHAPTER II.

DESCRIPTION OF FAVORITE BREEDS.

WHILE we show several experiments in our introduction, we may affirm that all the different breeds will pay a handsome profit, if furnished quarters

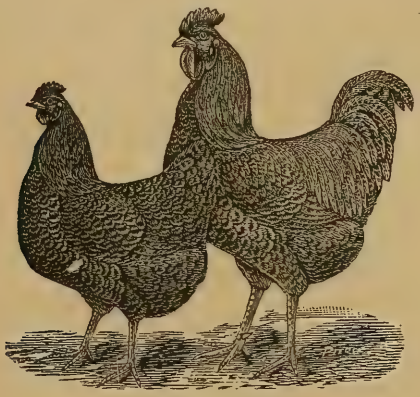


LIGHT BRAHMAS.

suitable for their condition, and properly cared for; and, generally, it is best for the breeder to make a specialty of the kind his taste shall dictate. But with our thirty years' experience with all the so-called thor-

oughbred varieties, we are led to advise, taking into consideration the individual merit and associate worth, the selection of Light Brahmas, Leghorns, Wyandottes and Plymouth Rocks, for they will be found to pay the best for extra care, for all practical uses.

The Brahma is a superior winter layer, producing the larger number of her eggs from October to May. As poultry, the chicks have to be killed quite young,—say eight to ten weeks old, as broilers; the most profitable

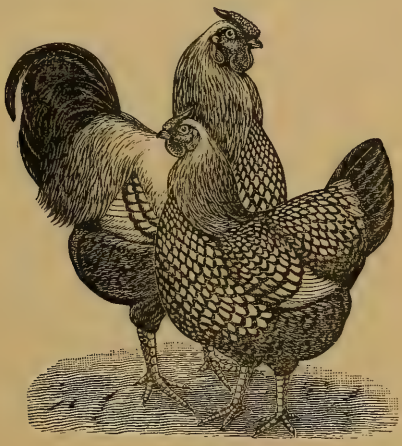


PLYMOUTH ROCKS.

time as roasters being at eight months. This makes them late as poultry, but to make up for it in a measure, the virgin cocks are tender enough for roasting at even twelve to thirteen months, more so than the native at seven or eight months. If the males be separated from the females when five months old and fed through till March, when poultry meat invariably advances in price, the breeder will find them sought for by hotel and restaurant keepers, to supply the place of

turkeys, and that they will sell at a price of only about five cents per pound less than capons.

The Plymouth Rocks are good average layers, and in them the poulterer finds an excellent breed from which to produce broilers and summer roasters for our seaside or all summer resorts. In round numbers, ten dozen eggs per year is about what they will each lay, and hatch and raise you a brood of chickens, and in this case



WYANDOTTES.

the brood is gratis, for they will lay less eggs, we think, if deprived of the privilege of indulging in the natural instinct of reproduction.

So long as the breeder of Plymouth Rocks will be content to have them occupy this middle ground between the larger and smaller breeds, and endeavor to increase by breeding to that end the production of large eggs, they will hold their position of favor against all rivals.

The Wyandottes of late have come in for public praise and patronage. They are in the same class with Plymouth Rocks, and become their greatest competitors. Their breeders claim for them *par excellence* as broilers, and the merit of being better layers. In this we would, perhaps, accept the fact that their eggs are larger, but we fear they will not lay as many. What they may develop into in the coming years cannot be foretold. While we would admit them as equals, we

BROWN LEGHORNS.

are not yet ready to accept them as superior to their blue rivals. They are shorter jointed, more blocky, in some cases, and if they settle down to this as a uniform type, and a close-feathered, fine-boned race, they certainly will deserve the boom they are at this writing receiving.

The Leghorns are a non-sitting variety, and one of the largest producers of eggs, being most prolific during the warmer months. Their chickens make nice early,

though small, broilers, and should be killed as such, for as roasters their skin is tough and carcass too small, their chief merit being in egg production alone. They are very quick growers, many pullets commencing to lay at four months and a-half old, and there are cases on record in our own yard where they have laid at three months and three weeks old. We have also started with eggs and produced three generations in three hundred and sixty-three days. This precocity

LANGSHANS.

enables one to raise his stock birds even after the season is too far advanced to rear successfully the larger varieties.

Of the above we consider the Brahma the best of all the Asiatic breeds. The Langshan will lay an egg as large, and perhaps as many of them, and of the same desirable color of shell, but their white skin drives them into a second-rate poultry, as judged by

the New England demand for golden yellow carcasses when dressed.

The Plymouth Rocks and Wyandottes, and we may add possibly for purely practical use the Dominique, are breeds to fill the middle ground, and from which to look for the broiler supply, and the Leghorns to give us the largest number of eggs in a year, and to produce them in the larger numbers at the time our incubating breeds are busy with the rearing of their chickens.

Thus you see how peculiarly adapted one to the other the four breeds are, and all of them are hardy, standing much neglect. With them the farmer easily caters to the wants of the markets the year round.

With the above breeds as stock the yearly product will average one hundred and fifty eggs and eight chickens to each hen, which will sell (taking Natick market for 1885 as a basis) as follows:

12½ dozen eggs, at 25 cents per dozen	$3 12
4 pairs of chickens, 28 lbs., at 25 cents per lb.	7 00
American guano	25
Total	$10 37

The cost of producing the same being:

Keeping of hen	$1 15
15 eggs for incubation	38
Cost of growing 8 chicks to 35 lbs. live weight, at 9½ cents per pound—	3 32
Interest on investment and casualties	60
Total	$5 45

These figures may seem high, but for the last ten years the same market has averaged from 31 to 32½ cents per dozen for eggs, and grain has ruled very much lower.

To notice some of the other breeds, we will say "the Hamburg family" is one of merit as egg producers, yielding about one hundred and sixty-five eggs per year, as a rule; and there is a case on record where a single hen of the Golden-Spangled variety laid one hundred and fifty-one eggs in six months. As poultry, the meat and bones are dark, so much so as not to be desired by market-men. The race is delicate, and hard to rear, but when six or eight months old seems to have become quite hardy, except it be a predisposition

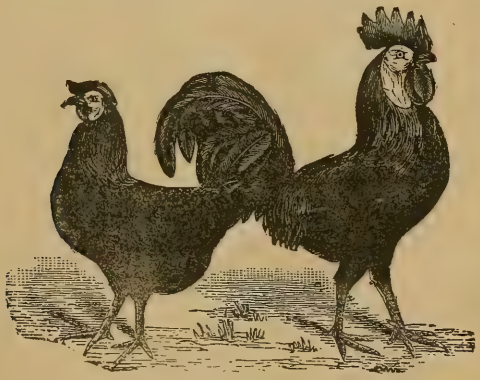
SILVER SPANGLED HAMBURGS.

to the disease called "black comb," but why the disease should be so termed we cannot understand. To be sure, the comb turns black, but the causes come from derangement of the egg-producing organs. We have seen them lie down, their combs become black, and they, to all appearance, dead, when all at once they would expel the egg, and in a few moments be singing about the yard as well as ever.

The different varieties of this family are Golden-Spangle, Golden-Penciled, Silver-Spangle, Silver-Pen-

ciled,—this last being the old-time Bolton Gray, under which name it was first imported into this country. The white and black varieties are of more recent date than the first four named; the black we think the most hardy and prolific of them all.

The Spanish was long known as one of the best layers, and in fact the old Minorcas were in every respect equal to the Leghorns, but the breeding of the white face upon this breed has resulted in the fact that much of their merit has been sacrificed. Their eggs

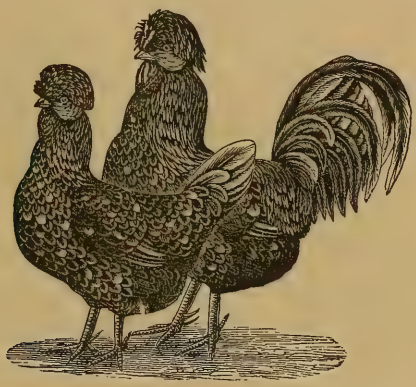


BLACK SPANISH.

are larger than those of any other breed, but in number they fall much behind the average. They are extremely delicate as chicks, but when once matured they seem reasonably hardy; and the contrast of a pure white face and ear-lobe with their metallic, green-black plumage makes them much admired. As poultry, here in America, we would not concede, perhaps, that they were up to the average. Their dark legs and white meat are not preferred by the masses.

The Dominique is every way equal in merit as to number of eggs, and in poultry equally as good, as the Plymouth Rock; it being rather under size compels it to take a second place. In all other points, what has been said for the Plymouth Rocks would apply to the Dominique.

The French class, comprising Houdans, LaFleche and Creve Cœur, while highly appreciated in France, have failed to give general satisfaction in New England. But Mr. Aldrich, of Hyde Park, has been



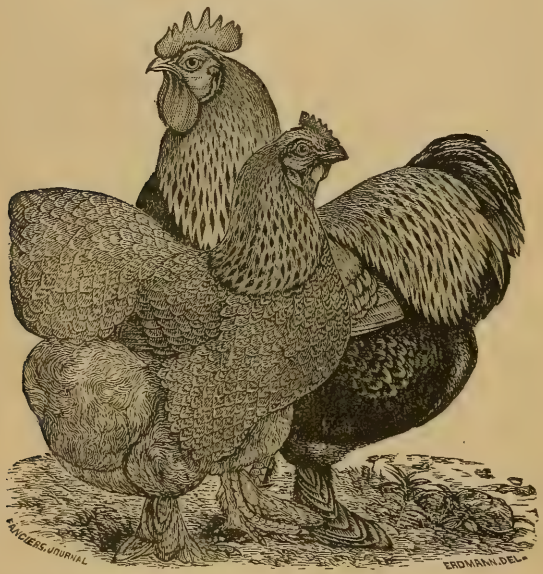
HOUDANS.

successful with the Houdans, and claims for them all that is excellent as table fowls, besides being a good average producer of eggs; they are more inclined to non-sitting than otherwise. But the Houdan and Creve Cœur require warm, dry quarters. They, like the Polish, are inclined to roup if confined in damp quarters.

The LaFleche are the most delicate to rear of the whole class, and in our northern climate are much

troubled with a weakness in their limbs. A good healthy hen of this breed, we believe, will lay more eggs from March to October than any other breed, not excepting the Leghorn.

The Cochins are, in England, much preferred. They are good mothers, being covered with long, fluffy feathers. They are hardy, and as layers in winter are



PARTRIDGE COCHINS.

hard to excel. Their eggs are furnished with a thick shell, and in closely bred birds are extremely hard to hatch. There are the Partridge, Buff, White, and Black varieties, all having their admirers, the Partridge being the most beautiful, while the Black has undoubtedly the most merit, for they are good layers and fine

poultry. For one dollar "The American Standard of Excellence" can be obtained, which gives a full description of the different breeds.

We shall give special attention to description, as to color and type, under the head of "Judging."

The game varieties find many admirers, and for a juicy broiler or a roaster under six months old, and as the mothers of chicks, they have no equal; for the latter, however, we think the cross of a game cock on

BLACK-BREASTED RED GAMES.

a Partridge-Cochin hen pretty and serviceable, as they are more apt to receive all chicks given them to rear. The pure game, while very jealous of the care of her own, is death to all orphans or chickens not hatched by her. The games cannot be said to be first-class layers, as 128 eggs is all we can concede they will produce in a year in small flocks, and if too much crowded they will fall short of these figures. The Bantams, many of

them, lay more and greater weight of eggs in proportion to their own weight than do the larger breeds. Were eggs sold by weight, as they should be, we believe the Brahmas and the Bantams would be better appreciated than now. These Lilliputian hens are nice mothers, and pay to raise for this office alone.

Speaking of the weight of eggs reminds us of seeing weighed the other day twelve taken from a basket of Brahma eggs that weighed two pounds and two ounces, and a dozen taken from a basket of them collected from the native farm stock on the Cape that weighed but one pound and two ounces, just one pound difference. Wherein is the justice of selling them by the dozen? Bantam's eggs will weigh fifteen to the pound, and twenty-two ounces is standard weight for the Bantam hens themselves, while the Brahma pullet of eight pounds was the producer of the two pounds two ounce dozen. Bantam eggs are the smallest in the list, yet they are the largest twice over in proportion to the weight of the producers. It matters not what the breeds are. One bushel of corn or its equivalent in other flesh-growing foods, will produce nine to eleven pounds of live weight in poultry, and one has only to weigh his fowls to approximate their food cost, for cost of care must be added.

When fowls are fed sparingly, being kept short, they become a bill of expense, for there are no stocks that pay so poorly if neglected. But if extra care be taken to furnish them all that nature lavishes in her bounty upon them, there are no creatures in the barn-yard will pay you so well for that care. A greater profit will be realized from all those breeds that hatch and rear their

own young if you allow them each to hatch and rear one brood of chicks during the season, for the incubating season gives the laying functions rest, and you get more eggs, we are confident, in the year, beside the care of the brood of chicks gratis; and as the chicks will pay one hundred per cent profit on their cost, you will find that many of the incubating breeds will pay as well, and even better, than some of the non-sitting varieties. In all breeds it will be found to pay to take pains to make your selections from the best laying families of the breed, for there is as much difference in them as there is in the Shorthorn breed of cattle for milk.

Whichever breed we may select to keep it will not be found well to keep them beyond the second season, as young stock do much better — such yearlings as molt early. One had much better keep thus selecting about a half to carry over into the third year; the balance of the fowls coming two years old should be sold as poultry just before chickens come into market, when they bring a much better price, and their value will replace them with young stock. If the young stock is to be reared on the farm, it will necessitate the rearing of as many chickens as the breeding stock number, for chicks hatch nearly equal as to sex, which only enables you to replace the two-year-old birds each year sent to market.

In nearly all the cases where we find people breeding in a practical way, we find them using only what we call native or mongrel stock. This, we believe, is a mistake, for the thoroughbred is worth as much, and many of the breeds far more, for this practical work;

and should all use the thoroughbred, killing, as they do now, one-third for poultry, using the larger number left to produce eggs for the market, using as breeders only the best they raise, selling only for breeding purposes when a fair price (say from two dollars and fifty cents to ten dollars each) could be realized, they would in this way raise the standard and come to learn that in every twelve fowls they kept they had the value of a cow, and caring for them as well they would find they paid as well.

Show us a farmer who is conscious of capital invested in his fowls and we will show you a farmer who makes money out of them. The greater the number raised, the higher the price you will be able to command for the best individual specimens. This has proved true in cattle. (See History of Shorthorn Cattle in America.) It is every day proved in the case of fowls. Twenty-five years ago we sold Light Brahmas at one dollar each, and the price was considered a fair one, the native then selling for thirty-three cents. When the price increased to twenty-five dollars per trio, it became the town talk; but in the past three years, when we have sold cockerels at one hundred dollars, and trios at one hundred and fifty dollars, it has ceased to be a surprise, and really it is not in keeping with bulls at seventeen thousand dollars each. We expect to live to see specimens of superior excellence sold as high as two hundred and fifty dollars. Already, in England, five hundred dollars a trio has been realized.

CHAPTER III.

TYPE IN BREEDING, AND STRAINS OF LIGHT BRAHMAS.

IN setting up your boys in the business of practical poultry keeping, or for breeding thoroughbreds for the market, it is well that they have a motive and aim in view,—something that will interest and instruct them as well as help them to make money. We will therefore give a rule to secure uniform type and color in breeding, or how to establish a strain of such blood, hoping by interesting them in the theory to interest them in the practical workings of it.

The American people are lovers of "beauty" in everything; a beautiful horse, a beautiful cow, all demand a price far above those of equal merit that fail in symmetry. Then in breeding aim to attain: first, beauty or symmetry; second, color; and both coupled with merit as egg producers; and as the first two are to be transmitted in a greater degree by the male, it becomes of great importance that he should possess those desirable features.

In selecting a sire be sure that he is *well-bred* and comes from a *line* of "*good ones*," a bird which is the counterpart of *his* sire, for then you have a double guarantee that he will control the offspring. As a rule, the offspring bred back to the grandsire—the sire and grandsire being alike—we start with almost a certainty

of success, if we do our part in the mating. Having made our selection, we must put our foot down and stand firmly to the rule of breeding to no sires but this one, or males of his get, and none of them that do not assume the likeness of the sire, thus establishing a line, or "strain of blood," which, in a single word, means uniformity.

In the hen secure first, productiveness as to eggs; second, a robust constitution, coming from a long-lived race; third, color; lastly, symmetry; and from this mating select the large pullets that most resemble the sire, and breed them back to the sire. This second crop of birds will be three-fourths the blood of the sire you selected as the founder of your strain.

Now the more stubbornly the blood of the first dam gives up to the blood of the sire, the more good it will do us when subjected properly to him.

Many select well bred hens of a weakly constitution to make the first cross, for they assert, and truthfully, that the sire, being so robust and strong, nearly all the chicks favor the sire. This is all true, but it is also true that the blood used in the hen is weak and will fail in lasting quality. We like strong blood; that which in the first cross seems to fight for the breeding influence; that which has got to be bred back to the strain desired, and the control given if only by a preponderance of blood. We then get a lasting good from the cross. Constitution and vital force must come from the dam, form and color from the sire; and in all the matings the introduction of new blood must be with a thought to that end.

The crossing of two well bred strains oftentimes pro-

duces a distinct and new type which is very beautiful. To secure this new type (which is in itself a fact that the two elements producing were of equal strength, as neither controlled the breeding), and to perpetuate it, it would in that case be wise to select a dam of delicate though pure blood, thus giving the sire all the chance possible to stamp his offspring; then by breeding his pullet back, to concentrate his breeding in his grandchildren, they also being his children; then we could go on, by selections of coarser or stronger dams for new blood for the strain. The American breeder is of a restless nature; he wants something that is peculiar to himself, something in which he can be identified. You find them all over the country chopping up the blood of their birds by the introduction of new sires, first from one flock, then from another, hoping thereby to have something different. They succeed; but when they have got it they are disappointed that no one else wants it. They think the bottom has gone out of the chicken business, and they curse the business and retire. Of such we will say, the business is better off when they do retire. Now there is but one way to reach uniformity in breeding, no matter whether it is horses, cattle or fowls, and that is by "in-breeding," and like poison, it may kill or cure, just according as we display good judgment in its use.

Whenever we introduce new dams to a strain, breed their progeny back to the sire of the strain, and never use sires from this new introduction of blood until the blood has become thoroughly subjected to the strain.

To explain: If the chicks of the mating of the pullets to sires of the strain are not all in type like the

strain, then breed back again, and do not use a male as a stock bird until the desired affinity of the blood has been accomplished. As a rule, use no male with less than seven-eighths of the blood of the strain, nor females with less than three-fourths of the blood of your strain as stock birds.

If all the breeders would adopt this plan of breeding, and would keep a record, they would then see the importance of pedigree, and how beautifully all these things are governed by a natural law. We can mix the blood of our birds as easily as we mix the paints that give us different tints in color. By adhering to this mode one breeder becomes of benefit to his neighbor breeder, for by crossing strains the pullets become of equal value to each; each breeding back to his respective strain makes the blood of his neighbors' strain feed the blood of his own. When breeders learn this, and work together, they will all be better off, and may become founders of families in fowls, as now breeders of Shorthorns become in cattle. We will follow out this subject by considering

THE STRAINS OF LIGHT BRAHMAS.

We speak of fowls as being of such and such a person's strain, but with no significance in the sense of individuality. Fowls cannot be said to be of a strain unless it can be shown by history or pedigree of blood that they possess fifty per cent or more of the blood of the strain. A type that reproduces itself is simply the result of an established strain.

It is proper to speak of Williams', Gilman's, Buzzell's, Dibble's or Bacon's stock, but to speak of strains

of blood in this connection is all wrong, for there does not exist, nor has there ever been more than four strains of Brahma blood brought to the country, and we have to number the birds Mr. Burnham calls Grey Shanghais, to reach even that number.

If A purchase a cock of B, and the second year purchase one of C, to follow it upon his flock, the chicks cannot be called A's strain; nor can it be called A's stock, only in the sense of ownership, for the blood is one-half C's, one-fourth B's, and only one-fourth the original blood of A's stock, C's stock being the more proper name, since it has twice as much blood of that strain as either of the others.

The word strain implies, in breeding, a strict adherence to the blood of a particular family or importation, admitting no more foreign blood than is necessary to sustain the health and vigor of the race.

In this chapter it is our purpose to show what strains have been received and to what extent they have been retained, showing as far as possible what the principal Light Brahmas of the country are made up of; for the time has come when information showing that a recorded history of blood and breeding of both sire and dam is needed.

One may have females of one strain and purchase a male of another, and by in-breeding secure both in their purity, for there is a constant waste going on in the blood, which must be replaced; and we think it can be demonstrated that more than one-eighth of foreign blood has to be introduced before the original suffers any organic change, and that this one-eighth is consumed by the original in supplying this waste

spoken of. To illustrate our position, we will mate the strains as we would a pair of chicks of one strain, and show that the same rule of in-breeding applies to them as to the fowls of an established strain. We mate a Felch sire to an Autocrat hen; the first season the progeny is one-half Autocrat and one-half Felch. In the second year we mate these pullets to this same sire, No. 1 Felch, and produce chicks that are three-fourths Felch and one-fourth Autocrat. We also mate a cockerel of the first cross to the Autocrat dam, and produce progeny three-fourths Autocrat. The third year we mate the three-fourths Felch pullets again to the original sire, and we produce seven-eighths Felch birds, while again mating a three-fourths Autocrat cockerel to the original dam, we produce a progeny seven-eighths Autocrat. We have now produced the two strains from a single pair, and we claim them to be in their purity, for the blood of each has been gradually reduced in each family until entirely consumed. Beyond the point named it will not do to go, as further in-breading would result in sterility; yet we can take birds from each of these families of the third year's breeding and repeat the same process "ad libitum."

We can vouch for this experiment up to this point of seven-eighths. It is on this principle that we have the pure Duchess and pure Princess cattle; and although we may say a cow is one one-hundred-and-twenty-eighth Old Favorite, yet is purely the blood of Old Favorite of Shorthorn fame, we are consistent, for this infusion of one-eighth new blood but supplies the waste in the original; consequently nothing is added, and the blood remains pure.

Among horsemen the rule generally followed is to breed out, as they term it, once, and breed in twice, by which process they reach only the three-fourths rule, which is hardly enough to secure against loss of type and color in poultry, for we have demonstrated that one-eighth is the amount actually consumed, and if we do not breed in to that extent our flock gradually changes in type and color. If with a strain once established we make a cross, and breed back to sires of the strain having out-crosses other than the ones we have described above, we can breed in so far as to produce chicks sixty-one sixty-fourths of the blood of the original strain. Males of such production are valuable, but the females are generally poor layers and poor breeders, producing small, tough-shelled eggs, which seldom hatch.

The matings that produce birds three-fourths and seven-eighths the blood of the original strain (this being the prolific stage of in-breeding) have the most merit as egg-producers and show-birds. Pride in one's strain, and a desire to keep up the prepotency in the male line, should be the only inducement to breed beyond the seven-eighths cross.

To do this work of breeding, and the more easily to control it, a record or pedigree should be kept by every breeder; and all males and pens of females used as breeders be named, if for no other reason than to give them an individuality, and to fix them in memory.

All breeders should keep a pedigree-book. The time has come which compels us to do so for self-protection, for the prominent strains are becoming more or less intermingled. The Standard by its influence

is converting the different strains into one common type and color. Since there is no outward indication of difference of blood, one can see how essential a pedigree is, so that in mating we may be sure of a cross when we purchase a sire or dam. One hardly wishes to send one thousand miles for specimens to put into his flock and find them identical in blood with his own.

The cattle-breeder, in purchasing a bull to stand at the head of his herd, looks up his pedigree, and by that pedigree is enabled to select one that is bred in line with his own stock, yet with a cross of blood that will by its introduction improve his herd and be consumed by it, without changing in any way the individuality of the strain of blood he takes pride in breeding.

This introduction of new blood is but the feeding of the strain, and it is of as vital importance to know that we feed the blood as to know what we feed in the manger to support the life of the organism.

A truthful record or pedigree would crush out the existing jealousies and restore harmony, for it compels breeders to stand or fall upon their own merits, and makes the blood and the specimen of a strain worth as much in one man's hands as in another's, as we now see demonstrated in Shorthorn cattle.

None can fail to see what a benefit it would be if a printed record or history of all the Light Brahmas now bred in the States could be made as a basis—a foundation-blood from which to obtain a pedigree, or to use in mating, and what an influence it would have on the same by bringing such strains and sub-strains into notice, and as a result furnish a ready market.

The real strains being once established, and the situation understood, the breeder would be relieved of the annoyance of having inferior stock palmed off as his strain by irresponsible parties, and the blunders in mating made by purchasers would be prevented. The pedigree discloses the breeder, and the assertion that such are Felch, Autocrat or Philadelphia birds, if proved by a pedigree, has a meaning, and protects the honest breeder. We know many are opposed to pedigree, for it prevents the selling of superannuated hens as yearlings, and presents to the amateur too sure a rule for breeding; for the selfish say, "Let the beginners do as we did, and work out the problem for themselves by experience."

In looking over the winning birds for the past ten years it is surprising to see how universally it is true that they are the result of uniting two strains, and breeding back to one of them. As we present the history of the different strains and sub-strains, or flocks composed of two or more strains, with statistics as to their breeding, the rule will be apparent.

THE BURNHAM STRAIN.

This strain was, as he affirms, and as we understand the matter, the Gray Shanghai of 1849–50. From this blood was produced the fowls presented to the Queen. In 1866 the purest blood of this strain was found in the possession of Mr. Phillips, and was known and handled by Mr. Williams and Mr. Comey as Phillips birds. Mr. Phillips, just before his death, in conversation with Mr. Comey, asserted that his flock was from the birds sent to the Queen by Geo. P. Burnham, that

he had bred them as closely as he could, using but one or two top crosses, and breeding back in a general way. He did not preserve the strain by any fixed rule of in-breeding, yet he must have preserved to a large degree the original blood, as his birds, to a large extent, come with single combs. They were dark in blood, preserving the Chittagong characteristic of dark undercolor. The blood of this Chinese strain has been used to a considerable extent by breeders of other strains, as we will show anon. Until 1856 or 1858 these birds were known as Chittagongs, or Single-Combed Brahmas, as was also the Rankin strain.

THE RANKIN STRAIN.

The original birds of this strain were from India. This Mr. Rankin can clearly show. They were large in frame, had low single combs, dark undercolor in back, and large, lemon-colored legs with a prominent greenish-blue vein down the inside. The last feature seems to have followed the crosses of this strain with other strains, and seems to have been transmitted more readily than any other. Up to 1866 this strain or importation was kept pure. About that time the different exhibitions ceasing to give prizes to Single-Combed Brahmas, Mr. Rankin was compelled to use top crosses of pea-combed sires from the Chamberlin strain, and other sub or mixed strains, to secure the engraftment of the pea-comb on his strain; and as breeding back so as to retain the pea-comb would be too discouraging a process to accomplish his purpose, it is more than probable that the race hardly held its own as a strain,

for it would be obliged to retain fully fifty per cent of the original blood to be called a strain now.

These birds, however, have been largely used by the breeders of other strains, for Mr. Rankin shipped large numbers of them to Connecticut, and to and about Philadelphia, which, with the Dr. Kerr birds, have largely entered into, and, being subject to top crosses of the Chamberlin strain, have become the origin and foundation-blood of the Philadelphia (Tees) strain.

THE PHILADELPHIA STRAIN.

The Philadelphia strain was known as Kensington or Tees stock about 1867 and 1868. While these birds can hardly be called a distinct strain, yet as such they have been used, in connection with those of the Rankin strain, by the breeders of the Autocrat and Chamberlin strains, and the crosses have proved of the very best, and as auxiliaries deserve a notice in this connection.

This sub-strain (so to speak) which comprised the Brahmas in and about Philadelphia in 1866, were the winners in the Philadelphia and the New York exhibitions in that year, and were called the "Tees" birds. In conversation with Messrs. Henry, Tees, Sharpless and Herstine, we learned that the foundation-blood was originally from India and the Dr. Kerr birds which were from China. Whether they made allusion to the birds sent to Philadelphia by Mr. Rankin or to birds direct from Chittagong we cannot say, and it makes but little difference, for, as they affirmed, they were single-combed as a rule, and large of frame, with pale yellow legs.

From 1863 to 1868 these birds were converted into pea-combed stock by top crosses of birds from Connecticut and New York, which were probably from the Chamberlin strain or birds of like origin. At least we know this to be true in the case of the bird known as the fourth-prize cock of New York, in 1868, at the rink, he being from a cockerel bred by Mr. Pool, of New York, and out of hens by Baron Sanborn 302, bred by I. K. Felch.

We have spoken of the peculiar color and vein in the leg of the Rankin strain, and the power with which the race transmitted it.

The fact that this feature, though in a milder degree, was apparent in the crosses of the Philadelphia birds with those of the Felch, also with the crosses of the Autocrat strain, seems to indicate that the Rankin or similar blood entered largely into the foundation-blood of the Philadelphia birds of that period, as the parties we have alluded to affirm. Again, the birds brought from Philadelphia in 1868 and 1869 had the color of the Chamberlin leg, yet they still retained the Rankin shape of bone, being more round in its formation than that of the Chamberlin stock. It will be seen that all the birds purchased of Mr. Williams from his so-called "Favorite Stock" did not materially alter the blood, for they were but the result of mingling the blood of the Rankin, Burnham (the Phillips Stock), and the Chamberlin strains, which is like the blood of the Philadelphia strains, for Burnham's and the Dr. Kerr birds they affirm were alike and from China.

These birds were quite short in the back as compared to the Autocrat or Chamberlin strains.

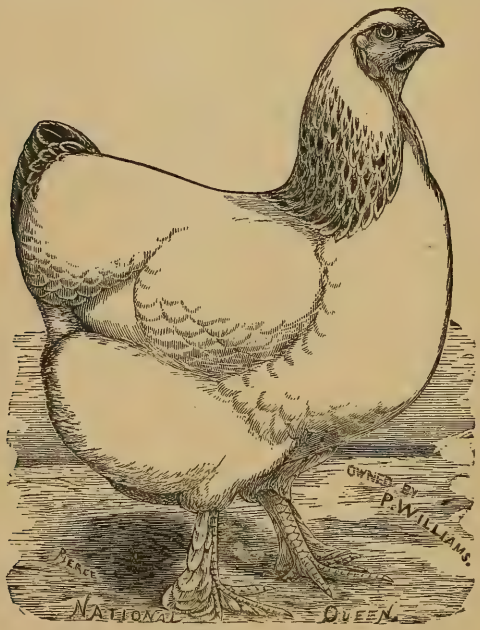
One fact worthy of note here is, that the old hen exhibited by Charles Tees in 1867, then eleven years old, was as fine a Light Brahma hen in color and size as has been shown since, and her beautiful pea-comb shows that there were pea-combs and bluish under-colored specimens bred in 1856. She weighed fourteen pounds and four ounces, a larger weight for a Brahma hen than has since been bred, thirteen pounds and fifteen ounces, and fourteen pounds being the best weight for a Felch bird, and fourteen pounds, and two ounces the largest Autocrat hen on record. The writer fails to see that the Almighty has suffered man to increase the size beyond that of the original.

There were several breeders of these Philadelphia birds of 1868, and if they have kept a record of the top crosses used since that time that have been of a different strain, it will be of much interest to others; for, as breeders, we are compelled to breed to that form and color defined in the Standard of Excellence, and our strains constantly needing blood-food, it makes it necessary that the blood of each strain be different, and thereby does it become more valuable.

All the strains are dependent one upon the other for this blood-food, and not only is it a personal interest to preserve these distinct types of blood, but it becomes a general necessity, for a strain that is isolated soon runs out; the loss of color and vitality soon works its own ruin.

The top cross of Beauty Duke upon the Philadelphia birds, as Mr. Wade and the writer understands the matter, was simply adding a new top cross to the amount of one-fourth the blood of the Chamberlin

derived from the cross of the fourth-prize cock of New York, 1868, with Felch hens. But if, as it has been claimed, he was the progeny of a son of Duke of York and a Philadelphia hen, upon a Felch and Philadelphia hen, then he carried into his Philadelphia harem one-eighth the blood of Old Autocrat and one-eighth Chamberlin blood, as a top cross upon the Philadelphia birds of 1868.



LIGHT BRAHMA HEN.

THE AUTOCRAT STRAIN.

The history of this bird, Autocrat, is well known. Mr. Estes purchased the bird in Fulton Market, New

York, the seller avowing that he was imported. The subsequent history of this bird, his strong breeding qualities, the fact that when the blood was crossed with other strains it produced new types, this, with the pearl eye so different from the prevailing bay eye in other Brahmas, to our mind presents grounds for believing the assertion that he was imported, although there is no proof to that effect.

This bird was bred one season to females whose foundation-blood was the George P. Burnham birds, being the progeny of the stock sent to the Queen by that gentleman, the birds being "Phillips Stock," so called by Mr. Williams, who sent them to Mr. Estes. In 1866 Mr. Estes presented Autocrat to Mr. Williams, who bred him to the best birds he could procure from several sources.

The better to understand the advantages received by the breeders of Light Brahmas through the advent of "Old Autocrat" it is necessary to say that before the war Mr. Williams' stock of Light Brahmas consisted of the Chamberlin blood, through purchases of them at Valley Falls, the Burnham blood and the blood of the Rankin importation. When Mr. Williams returned from the war, his old love clinging to him, he commenced again by purchasing the best stock he could procure in his locality, the same being descendants from stock he bred before going south; also birds of Mr. Strout, of Framingham, that were from a cock purchased in Abington, mated to a Felch hen by a son of Baron Sanborn 302; also, hens of H. G. White, which were pure Felch, by Baron Sanborn 302. Birds bred from these elements were the foundation-blood in

Mr. Williams' yards, and out of which came his "Favorite Stock," and the same were in his possession when Old Autocrat appeared on the stage. Autocrat was mated to the best birds to be found in all these elements, and the male produce was Autocrat 3d, Eaton's Autocrat, Lord Berkeley and two other sons.

Old Autocrat died early in the season. Lord Berkeley was a dark-plumaged bird, and as he bred very dark he was sold to go west.

Autocrat 3d was a very large bird, but did not prove a good sire, many of his chicks coming single-combed. The greenish-blue vein was prominent in the leg, which strongly indicated a Rankin cross in his dam. He was lost by sickness, and his place filled by Eaton's Autocrat, who proved a good sire, but the plumage of his chicks was dark. In all these Autocrat crosses the dark undercolor prevailed.

One of the other sons was sent to Mr. Estes, of North Carolina, where he was bred to birds of the year previous, out of the Phillips birds by Old Autocrat, producing the birds Colossus, Apollo and Triumph, all of which were purchased by Mr. Williams. That the blood of old Autocrat was radically different from other established strains is apparent in the fact that whenever crosses were made with it they proved good, showing increased size and producing new types, which had equal strength in breeding with other established strains.

The friends of the old bird express a regret that he could not have lived, and his progeny bred back to him, thinking that the results would have been astonishing, and they consider his death a misfortune.

Now we do not concur in this opinion, although friendly to Old Autocrat, for his progeny bred too dark. It may be said that this fault of the progeny was derived from the Phillips hens. To this we cannot assent, for to admit this is to concede the merit of breeding to the Phillips stock, and to admit that Old Autocrat was weak in breeding qualities, and as all breeding tends to grow lighter it is this very dark breeding that has made his blood so valuable to breeders of other strains. The whole rank of breeding within two years will hail the advent of another such bird with joy. To prove that this dark blood and breeding is the work of Old Autocrat we will say that all the crosses of the old bird with the Felch stock resulted in dark-plumage birds. The progeny of Autocrat 3d, whose breeding indicated so strongly the Rankin descent, bred even darker than the others; the cross of Son of Colossus with the Felch hen Penelope was also dark. A son of Duke of York out of a Tees hen, even-mated to Felch hen, bred dark; yet the Rankin blood bred to Felch did not breed dark, nor did the Tees hen bred to Natick, the Felch cock, prove dark. We could cite other cases of like breeding, all of which goes to prove Old Autocrat to have been dark in blood, and in our judgment, had he lived to have been bred to his own progeny, they would have been so dark that he and his descendants would have been abandoned. As it is, he and his blood have proved a blessing, and where breeders of other strains have had the patience to wait and breed back have been very much appreciated. The fact that the hens he was bred to in Mr. Williams' hands were of a mixed strain of blood made his prog-

eny of far more value, for it gave the power of breeding more readily to his influence, and they being thus made up, gave the preponderance of blood to Old Autocrat, which with this great strength of breeding which we have shown entitles the blood to the name of a "strain." One thing is certain, his blood has been the only competitor the Chamberlin-Felch strain has ever had, and surely the Felch and the Autocrat birds have done more to make the interest in light Brahmas what it is in America than all other causes combined.

So thoroughly has Mr. Williams become identified with this strain that to a great extent it is quoted as Williams stock. But there are others in a like manner quoted, which makes it fair to state that Mr. Comey, of Quincy, Mass., as well as Mr. Williams, its principal, is breeding the Autocrat strain, fed by the blood of the Felch and the Philadelphia strains, and that of other sub-strains, to maintain its vitality.

DUKE OF YORK.

Mr. Comey's Duke of York was a grandson of Old Autocrat in a double sense, for both his sire and dam were the progeny of Old Autocrat out of the Phillips hens, bred by Mr. Estes. The Phillips hens, as we have described above, were in foundation-blood the same as the stock sent to the Queen by Mr. Burnham. The Duke of York was a vigorous bird, and lived to be bred to his own progeny, and also to the Philadelphia hens purchased of Chas. Tees by Mr. Comey, and to this mating we believe should be given the credit of bringing out in its best form the breeding qualities of the Duke, for sons by the Duke out of his daughter, mated

with the pullets by him out of the Philadelphia hens, proved excellent birds; but the first cross with the Philadelphia hen developed poor combs, as did the Philadelphia stock with the Felch hens.

It may be asked by the friends of Philadelphia stock where the progeny of Colossus got their faulty combs. We will say, just where the Tees stock got them,—from the Rankin. The blood was there, and large birds could not be forced without its development.

Mr. Comey made crosses of the Rankin strain, which, as he informs us, he abandoned, as it with the York blood developed nothing desirable but size. Since 1869, Mr. Comey has confined himself principally to different Autocrat crosses, as can be seen in the Duke of Norfolk, Duke of Springfield, etc., descendants of Colossus, Apollo, and Triumph. He has adhered more closely to in-breeding than most other friends of the strain.

In closing our remarks upon the blood of Autocrat we will say that, so far as they allude to Mr. Williams, they were submitted to him, and after examination by that gentleman we received the following:

MR. FELCH:

I have your manuscript, and have carefully read it. I cannot see that you have made any mistakes or said anything that is not true; neither could I add anything that would make the history more complete. Wishing you success, I am, Yours truly,

P. WILLIAMS.

THE CHAMBERLIN STRAIN, NOW SO WIDELY KNOWN AS THE "FELCH STRAIN."

This strain is well known as coming from the birds that were found by Mr. Knox in the India ship in New York city in 1847. The first to breed these birds were Mr. Chamberlin and Mr. Cornish, of Connecticut, and Mr. Smith and Mr. Childs, of Rhode Island, the last-named individual winning the Albany and Barnum exhibitions of New York. The strain was in but very few hands up to 1852, at which time at Boston it created the sensation which gave to the breed an identity and a name. For several years it went by the name of Brahmas or Short-Legged Chittagongs, the breeders clinging to the then good reputation of the Chittagong. But from 1857 to 1865 we see the Chittagong conceding the palm to the Brahma, by returning the compliment and being exhibited as Single-Combed Brahmas; and finally, in 1865 we find them discarded altogether as a race—the edict that all Brahmas should have a pea-comb sending them into oblivion.

This Chamberlin strain from its advent has bred, as a rule, pea-combs and orange-yellow legs. The early specimens being creamy white, and the prevailing undercolor bluish-white, it has been a struggle to keep this bluish undercolor, for all strains grow lighter, and at the present writing, with all the care to retain it, one-half of the specimens will come white in undercolor. To secure fine neck-hackles and dark tails and wings, this bluish-white undercolor is absolutely necessary; and in introducing new blood into a strain one can see how important it is that a dark specimen be chosen.

FELCH LIGHT BRAHMAS.

FELCH PEDIGREE STRAIN.

From the original birds bred by Mr. Chamberlin came the cock Imperial 300 (the male that has been facetiously mentioned as the bird Mr. Felch bought for a dollar or two out of a hen-cart), the founder of the well-known Felch strain of Light Brahmas. The female to which Imperial 300 was mated came from eggs bought from Mr. Childs (alluded to above), and were from Virgil Cornish, being in blood the same, and the name of Chamberlin strain would be far more appropriate as indicative of its origin; but as the breeding world has seen fit in its generosity to know the strain by the name of the writer of this work, he can only accept the situation.

The writer is well aware that but for his love for the breed during the lull in the chicken fancy, from 1855 to 1864, when nearly all the fanciers allowed their fowls to run out, so to speak, and accidental good luck in the way of an egg laid by Old Princess, out of which Honest Abe 307 was hatched, he too would have lost his interest, and with it would have been lost the pedigree and proof of blood that has preserved the identity of the strain.

The writer would prefer that the strain should be known by the name of its original founder rather than to have it as it is, for he is now made responsible for the breeding of the strain, it matters not who mates them nor how far they are removed from his breeding, for then he could stand or fall on his own merits as a breeder, and his reputation would only be affected by the specimens bred by him and sold by himself. In speaking of the management of the strain, we will do so in the first person, submitting the following:

Since the purchase of Imperial 300 and the egg out of which I produced the hen Lady Childs, I have kept a true record of blood and breeding of all the families of the strain. This discloses all the introductions of new blood, and from what source it has come. These introductions of new blood have been made on the principle that all animal life is suffering a continual waste, and is in as constant need of blood-food in a reproductive sense as it is of daily food to supply the waste in the individual, and experience teaches that no strain can be sustained without this supply.

The blood used to vitalize the strain in my hands has been: First the blood in the old Nanturier hen, as seen in the use of Duchess, in 1858, being used as stock in my pedigree fowls in the hen Princess 362, which was one-eighth Nanturier blood. The next cross was Lady Mills 364, she being three-fourths Chamberlin and one-fourth Burnham blood, her one-fourth foreign blood being derived from the then so-called Chittagong or Gray Shanghai, from the Burnham Queen strain. Since 1865 all new blood has been drawn from the Autocrat strain, as seen in the following birds (see my pedigrees in the World's Pedigree Book):

Autocrat Belle 392, Eaton Belle 407, Lady Ipswich 1022, and Maud Williams 4146, and the cocks Experiment 337 and Ned Williams 4145, a brother to Duke of Springfield. The crosses from the Philadelphia birds being Chicago Belle 382, Mrs. Strout 404 and the cockerel fourth-prize cock of New York, 1868.

By the tracing of these pedigrees it will be seen just how much blood other than the Chamberlin (the orig-

inal blood) is now represented in the Felch birds, or strain now bred by me. I will speak of some of the characteristics developed by these crosses.

While it was asserted at the 1852 Exhibition at Boston *that this was* a breed that would never run out, and although there has never been a breed so severely in-bred, yet all this introduction of blood was necessary to preserve the original type and color, for if continually in-bred a loss of constitution, a change of type, and a reversion to white in color would have followed, while the third in-breeding of new blood to a strain will invariably result in fine specimens.

In the early crosses of Autocrat blood with the Felch the progeny was invariably too dark in plumage, and although oftentimes developing new types, the first in-breeding would restore three-fourths of the progeny, while a portion of the males would revert to light color, as in the case of Moses 327. The third in-breeding to the strain was necessary to a full restoration to the Felch type and color. (For my reason for that, see notes in history of Old Autocrat.)

The cross of Experiment 347 (Autocrat) with Columbia 386 (Felch) produced chicks of the same character, which took two in-breedings to restore.

The cross of Son of Colossus (Autocrat) to Penelope 1019 (Felch) presented the same feature, but the third in-breeding to the strain produced birds scaling 92 to 94 points, and many won first prizes. I think that had Old Autocrat lived to have been bred to his own progeny, his blood, so highly prized by breeders of other strains as new blood, would have been discarded. As it is, I presume Mr. Williams and myself have often-

times been censured, or at least the stock has been, for this very virtue—strength of breeding—by those striving to cross the strains, and many a good bird abandoned, which, had it been bred back to either strain, would have developed fine stock.

The tendency to breed dark when the Autocrat and Felch crosses are made still exists. The cross of Phi Beta 5876, with Juno III 5879, produces a fine lot of females, but males too dark in some cases. These pullets known as Juanetta 5994, mated to the Felch cock Daniel Webster II 5999, continued to breed dark enough to produce fully eight per cent of the chicks with slate-colored backs. These birds are generally males, and grow up to have fine hackles, wings and tails, with quite dark undercolor to backs, and when they prove females they are, as a rule, too dark for exhibition purposes. While this is on the dark extreme, it is better than to have all hatch absolutely white, for then there is more or less loss for want of color in neck, wings and tail. One such cross is, however, worth three times a cross that resulted in all chicks hatching pure white.

The believers in dark undercolor, with myself, would approve, while those so strenuous in their belief in the white undercolor of back in breeding stock would condemn.

The early crosses of the Philadelphia birds with the Felch invariably produced lopped combs, and many that maintained their upright position had the middle division much too high. This and the development of the greenish-blue vein on the leg show clearly the India cross in the blood of the Philadelphia birds.

The color was easily controlled, and although there was seemingly no difference in the size, yet the progeny were much larger in the first cross, and were longer in arriving at maturity. Chicago Belle 382 weighed twelve pounds at twelve months old. This cross, as developed in Prince 321 by Honest Abe 307, proved a very desirable one, as can be proved by H. S. Ball, T. L. Sturtevant, and Mark Pitman, all of whom used him in breeding. Again Tees Duke (Philadelphia blood) bred to Lady Fay (Felch) by a son of Honest Abe 307 produced the sire and dam of the two hens known as Sturtevant hens, each weighing thirteen and one-fourth pounds, which were never exhibited without winning a prize. Their sire and dam were not large, as Mr. Strout, of Framingham, Mass., their breeder, can testify.

The fourth-prize cock of New York for 1868 was one half Philadelphia, one-fourth Felch, and one-fourth the blood of fowls bred by Mr. Pool, of New York. This cock bred to Felch pullets, daughters of Honest Abe 307 produced Lady Rice 405, out of which, by a son of Honest Abe 307 (Optimus 315) was bred Cœur de Leon 326, one of the best Light Brahma cocks ever bred in America, and the sire of many prize chicks, among which was Poqonnuck 999, Ben Lidi 2777, Cœur de Leon VI, Leo 2776, and others, selling from $25 to $100 each, producing $1,425 worth of chicks in a single season. All these crosses of Philadelphia blood were controlled in color, which leads me to consider the top crosses of the Philadelphia birds to be Chamberlin blood, or that of a kindred nature. I speak of these crosses to show how dependent the breeder of one strain is upon those breeding another, and that whenever new blood is

taken into any strain of well-bred birds, when it is reduced by in-breeding to that quantity which will soon be consumed by the strain, the best results are reached. This constant feeding of the blood is necessary, and without it no strain can long survive. By one systematic rule we can keep repeating results year after year.

Science tells us that we are changing constantly; the waste in our blood is renewed by new blood, yet the blood in breeding type is the same. So is it with strains. The new blood by in-breeding becomes the weaker and the prey of the original blood that consumes it, constantly invigorating the original and not changing it in the least in type and color.

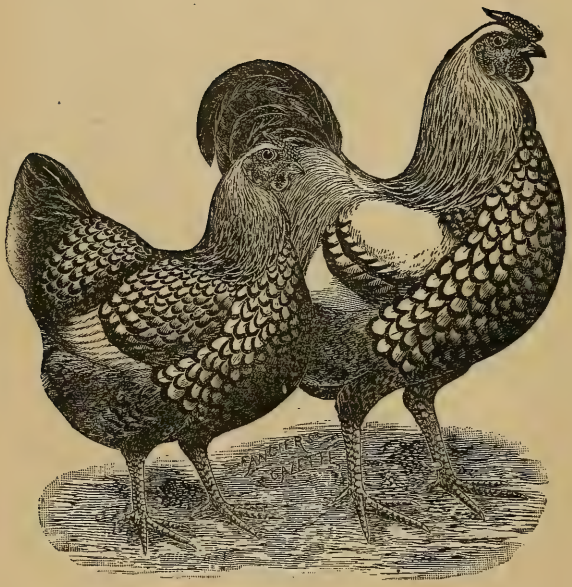
The stock known as the "Sturtevant birds" were in the main Felch blood, and after the first year's breeding remained three-fourths Honest Abe blood and one-fourth that of the fourth-prize cock of New York in 1868, the former being Felch, the latter one-half Philadelphia, one-fourth Felch, and one-fourth Pool blood. Cœur de Leon 326 was bred by T. L. Sturtevant, thirteen-sixteenths Felch blood, and as I have said, was one of the best birds ever bred in America. Mr. Sturtevant did not appreciate him, always supposing his best birds came from a bird which has many times won at the Boston Exhibitions. That Mr. Sturtevant was honest in his belief is apparent in the fact that he loaned Cœur de Leon to H. F. Felch for the season of 1874, with the results previously described.

The cross of the Philadelphia blood with the Felch, as developed in the breeding through Prince 321 and Cœur de Leon 326 in the yard of Thos. L. Sturtevant, and later in the mating of Cœur de Leon 326 with

Parepa 395 by Moses 327, by H. F. Felch in 1874, was no doubt the best coupling of two strains ever made. Had Mr. Sturtevant's zeal for poultry culture been as lasting as it was fervent at times he would have led the van. But his greater love for his dog and gun, and the pressure of business, have led him to abandon the breeding of poultry for the present.

To review the subject of strains, we come to this fact: that there are but very few strains and very few marked specimens from which originality of type has been established; and when we indulge in top crosses we destroy the strain, unless we resort to in-breeding to secure the benefit of the cross, and to insure the type of the strain.

We find also that all the strains or subdivisions of strains were, in their origin, dark in undercolor, and that with age they grow lighter, and if left to themselves they may lose their original type, change being written on all, and only by persistent effort can these original types be retained. We should feel that as long as we deliver up into other hands these strains as good as we receive them, we have been equal to the task of breeding them, and should be considered breeders; and that if we can improve a breed, surely we deserve praise. I am one of the few that say there are no better specimens exhibited to-day than were exhibited years ago. But I do believe the general average is far better. The excellence of the few is controlled by a fixed law, viz.: The eternal fitness of things, which says, "Thus far canst thou go, O man, and no farther." We are not endowed with the infinite, and our matings are sometimes blunders.



WYANDOTTES.

CHAPTER IV.

DISCUSSION OF MASSACHUSETTS BOARD OF AGRICULTURE AT THE CLOSE OF THE ESSAY ALLUDED TO IN OUR INTRODUCTION.

SECRETARY FLINT: I have been exceedingly interested in the paper which has been read by Mr. Felch. I am sure he has come up to the expectations of those who had so much confidence, when they invited him to prepare this paper. Mr. Felch has had many years of thorough and careful experience and accurate observation, and I am sure the principles which he has enunciated in his paper will be of great interest and great value to the large number of poultry breeders in this state.

I should very much like to hear the experience and observation of those who are now engaged practically, every day, in poultry breeding. There are a great many questions, I know, that many persons wish to hear discussed, and there are others here who can discuss them better than I can. I have been a somewhat extensive poultry breeder in the course of my life. I have kept a great variety of fowls; too great a variety, altogether, I am sure, for profit. I have generally come to the conclusion that where profit, for poultry and eggs together, is concerned, the Light Brahma is the

best breed, but as egg producers the White Leghorn, and perhaps one or two other breeds, greatly surpass them.

So far as the feeding of poultry is concerned I am pretty well satisfied that farmers and those who keep poultry are inclined to feed too much corn. Corn, as you all know, will induce fat, and when poultry are to be fatted for market they can be fatted probably quicker and more economically upon corn or cornmeal, heated, than upon any other substance; but as far as my experience has gone, it is not advisable to feed corn if you wish to get the largest number of eggs; it induces too great fat, especially if the hens are kept in some confinement. Hens that are allowed the whole range of the farm may be fed upon almost anything. They run off what little extra fat they get, perhaps, by eating too much corn; but poultry that are confined, or partially confined, ought not to be fed too much upon corn. Oats, or any of the smaller grains, and vegetables, potatoes, fish, and that class of food, it seems to me, are very much better.

As far as the feeding of fresh or cured rowen or young clover is concerned, I have no doubt that what Mr. Felch has said is correct.

QUESTION. Is there any danger of making White Leghorns so fat by feeding them on corn that they cannot fly?

MR. FELCH: I don't think you can give them anything that will fat them so that they cannot run or fly. But as egg producers there is no question that the White Leghorn family is the best. They will forage for themselves, and pretty thoroughly, and they are

stronger in their feet than the Asiatic breeds, if we are to judge by the damage they will do in the garden.

QUESTION. Do you have bottoms to your coops?

MR. FELCH: I do not. I have simply platforms for early spring, on which to place the coops, in the summer allowing them to set upon the ground.

QUESTION. How do you feed the clover rowen?

MR. FELCH: After curing it becomes brittle; simply feed in a rick, as to stock. If it is cut up too fine, and fed carelessly, they will waste it.

QUESTION. Which is the best, the Brown or White Leghorn?

MR. FELCH: I would not say one was better than the other.

QUESTION. Do you have any difficulty in hatching chickens from the eggs that are laid by the Asiatics?

MR. FELCH: That is the danger of the whole business. They sometimes become so very fat that it will be almost impossible to hatch an egg from them. Turn them right out and give them food that will not fat them, and you will find that the eggs will hatch well.

MR. HERSEY, of Hingham: Mr. Felch says that close breeding in-and-in tends to sterility. I would like to inquire if he has had any actual tests of this, and if so, what difficulties he has encountered?

MR. FELCH: What I mean by in-and-in breeding is breeding birds of the same blood or pedigree together. I always take pains when I am breeding in line, "breeding in," as I term it, to so mate that there will be a change of blood, and secure the chick in blood different from sire and dam. It is always better

to breed back to the sire than to breed the chicks together. When introducing a new element of blood, I find oftentimes that this works well. This is a rule I have followed for twenty years. I believe I was one of the first to adopt this course. I never buy a male bird, and consequently I have been obliged to make this new blood for scores of others; and when I buy a new bird, I treat it in that way, breeding the pullets of the first cross right back to a sire of that strain, and never use a male bird until I have reduced the foreign blood to one-fourth or one-eighth. Now if you breed in-and-in for three generations, that is, breed brothers and sisters, in three generations, it will be almost impossible to hatch an egg.

MR. HERSEY: Have you had any actual tests of it?

MR. FELCH: Yes sir; I believe, as a rule, the statement I make will hold good. There may be exceptions; there are exceptions to all rules. But I think if any one follows that rule, so that he will know exactly what he is doing, he will find that I am correct. But the fact is, a great many do not know. They will have a flock of birds, and they will save a young cockerel from them and breed from them, thinking they are all of one blood. If they will start from one single dam and breed her chickens together, and their chickens and then a third lot, I am quite sure they will reach a point where the eggs will not hatch. Unless you have a flock of hens in one enclosure you can see how easily you lose track of them. You cannot get uniformity unless you breed your line of sires to the same strain of blood. I think any one who has tried it will agree with me in what I have said on that subject.

MR. HERSEY: I suppose we meet together here to gather facts, and whatever the result of our experiments may be, it is for our interest to know about them.

Twenty-five years ago I started for the purpose of demonstrating, one way or another, whether we should be able to breed in-and-in or not. I took a white native, and from that white native I have bred for twenty-five years, and still the eggs hatch. During the twenty-five years only three times have I introduced anything different, and those three times it was done by eggs and eggs only, and the male birds were not kept, only the females. But during the last two years no new blood has been introduced into my flock, and I have bred in-and-in as closely as possible. My poultry yard is so situated, and so fenced in, that no other poultry can come near them. Now the result is that my eggs hatch a great deal better than my neighbors'. Three years ago (which was the last year I had the care of them myself) I set four sittings of thirteen eggs each, and every one of them hatched; and of four others, eleven hatched. I think there was not a single sitting that year that gave less than six chickens from thirteen eggs.

Now I admit that I have been careful in breeding to take only those fowls which were physically strong and perfectly healthy. I think that this is a point to which we must look carefully. I believe that healthy birds will bring healthy offspring. But perhaps I ought not to say what I believe. I only rose to state these facts. It is an isolated case, covering a period of about twenty-five years. If there were twenty-five

other individuals here who could stand up and say that they had tried the same thing, with the same result, we might be able to come to some correct conclusion. Perhaps a single experiment is not sufficient.

Now if other people have tried the experiment of in-and-in breeding, and failed,—if they have really tried it, and not guessed at it,—of course that must count against the experiment which I have made. But I hope that if this Board shall meet in this or any other hall ten years from this time there will be many individuals who will be able to rise up and say, "I know from practical tests what the result is of breeding in-and-in."

MR. FELCH: The gentleman who has just taken his seat says that the introduction of blood was by eggs, saving the females. That does not meet the case, for he put half a dozen new elements into his stock every time he introduced the eggs, which might have helped him out. I do not see that his case touches the point which I advanced, for one introduction of six pullets would have carried him through the whole twenty-five years, and the eggs would have hatched well.

MR. BILL, of Paxton: I have had some experience in keeping hens, but I rise chiefly to add a word to what was said on one point by the gentleman who gave us the very instructive and interesting essay, and that point is this. He spoke of hen-houses in the sides of hills, near our farm buildings, so that the fowls might forage in the pasture with the cattle. Now he did not state what breed of hen would be the best for that purpose, but I judge from my own experience that

a kind of hen not much in favor, perhaps, with most hen fanciers,—I mean the Black Red Game,—is the one best adapted to that purpose.

There is an impression abroad among hen dealers, and those who have not inquired into the matter, that the Black Red Game, or Game hens, are of little value except for their fighting qualities, but with all my keeping of the Games, I never have seen one fight but once, and that was with a White Leghorn, and he got awfully thrashed, so I am not keeping him for that purpose. But I find that in the pastures the Games have the foraging quality, and that is the point I rose to make. I know tolerably well four or five kinds of Game birds, and any of them will walk off and feed by themselves several hundred rods,—almost a quarter of a mile.

Another notion that is prevalent about them is that they are quite wild. That comes partly from the name—*Game*. But I find that the Games are as gentle, if you treat them gently, as any hens I ever had anything to do with. As to their laying qualities, I have kept them several years and I am confident that they do lay well. I would not say that they are as good layers as the White Leghorn or the Brown Leghorn, but I do not know any other family, except the Leghorns, that excels the Game in laying qualities.

Another point about the Game is, that their eggs are from a quarter to a third larger than the Light Brahmas', or than almost any of the pure-blooded hens with which I have had anything to do, except the Leghorn.

I would like to ask a question about the Black

Spanish. What does Mr. Felch know about them, as to their laying qualities, constitution, etc.?

MR. FELCH: The Black Spanish, before the Leghorn came into notice, was considered the best laying fowl. They lay large eggs, but they do not lay a large number of them. I think that a full-bred Black Spanish will lay about one hundred and twenty-eight eggs in a year,—about what our native fowls will do. Probably there is not half a dozen eggs a year difference in what the Black Spanish, the Game and native fowls will lay, and as a rule the Game eggs are much smaller than the Brahma.

QUESTION. How do the Black Spanish stand the cold weather in the winter?

MR. FELCH: Poorly. A Black Spanish chicken is a miserable thing while growing, but when once grown the fowl seems to be quite hardy. It is a beautiful bird to look at—there is no question about that. If a man does not care how much it costs him to produce and keep a flock of Black Spanish birds he can have them and they will do very well, but they are not profitable managed in a practical way. I tried to find the breed that a person with the least experience could do the best with, everything considered, and that is why I selected the Leghorn, Plymouth Rock and Light Brahma; and here let me say that no matter what the breed is, the Almighty has so fixed that thing that they will all pay a profit, if properly managed. A man wants to take the breed that pleases him, and if he does that he will be likely to take good care of it and make a profit. One man likes the Black Red Game, another the Brown Leghorn, and another the Brahma. I do

WHITE CRESTED BLACK POLISH

not agree with those who say that the Buff Cochin is the best bird of the lot. The Buff Cochin is a splendid hen to raise chickens, and they are handy to have for that purpose. They look large, but they are not really so. They are very full feathered, and their feathers make them look large.

MR. VINCENT: The Black Spanish do not want to sit.

MR. FELCH: No; but they are of weak constitution. Still, I can hardly say that, because, when once grown, they seem to be hardy, if you can keep them away from the frost. Their wattles and combs are easily chilled, and that seems to take all the life out of them until spring.

QUESTION. What do you consider the best cross?

MR. FELCH: I consider the best cross in the world is the cross of a White Leghorn cock on a Light Brahma hen. I say a *White* Leghorn, because that cross will produce a uniform white color. There will be no parti-colored feathers, which is an advantage in preparing poultry for the market.

QUESTION. What would be the quantity of eggs produced by that cross?

MR. FELCH: They will produce as much as either of the thoroughbreds. I have birds in my family of Brahmas that have laid for twenty-three successive months without sitting; but that is unnatural. I have received several letters this season from parties to whom I have sent birds of this family stating that their birds have laid the entire season without wanting to sit. The Brahmas, both Dark and Light, do not lay in that way as a rule.

The Leghorn I call a hardy bird. The Black Spanish I call a delicate bird, because they are predisposed to disease. The whole Spanish class must have dry, warm quarters, or they will have the roup. They will have catarrh in the head, and roup follows, and all the attendant diseases. You cannot put them in a damp place with impunity.

MR. CHEEVER: Is there any limit to the number of eggs that any one of the breeds of hens can lay? I think I have seen it stated in some paper,—from a French authority,—that the ovaries are limited. Do you know anything about that?

MR. FELCH: I do not feel competent to answer that question. I have seen it stated that a hen will not lay after she gets to be four or five years old. But two years ago there was a light Brahma hen at the Exhibition in Boston that was twelve years and three months old, and she laid three days out of the week. I have had a Light Brahma in my yard this year eight years old, and she laid some forty-odd eggs. I believe, therefore, that hens will lay until they are pretty old. I do not believe, as some do, that they will cease laying at four or five years of age, but as a rule, birds after they are three years old begin to fall off in the production of eggs.

QUESTION. Are not pullets the most economical kind to keep for eggs?

MR. FELCH: The second year appears to be the year of greatest profit. You may raise two chickens,—a pullet and cockerel,—and the day they are twelve months old the pullet will have supported herself and the cockerel, and if sold at the end of twelve months

that cockerel is net profit. You may base your calculations of profits upon that and you will find it to be true. A Leghorn, when she commences to lay, will lay usually until she molts, and generally will not commence to lay again until the next spring. But you get the start of a year, or longer, before it comes to that, if she has good blood in her.

QUESTION. If you were only keeping a few hens for eggs, what kind would you select?

MR. FELCH: If I were keeping hens for eggs alone, I should most certainly keep the Leghorn breed in preference to any other. Keep the pullets up to the time of molting, and then sell them and replace them.

QUESTION. Have you had any experience in regard to the laying qualities of the Hamburg?

MR. FELCH: The Hamburg family will lay as many eggs, probably, as the Leghorn. They are handsome birds, and if any one has an eye for beauty, and wants a few handsome birds for eggs alone, I should recommend the Hamburg family. They are a little tender in raising, but like the Black Spanish they seem to become hardy afterward. They lay well. I have had Hamburgs that laid one hundred and fifty-one eggs in six months. That is recorded in the report of the Middlesex South Agricultural Society for the year 1858, and it is also reported, I think, in the State Agricultural Report of that year. The Black Hamburg is, I believe, the best of the family, for their chickens are easily reared, and that, perhaps, is attributable to a cross. I think there is a Black Spanish cross that went into the original Golden Hamburg, that produced the Black Hamburg. The other varieties of the Hamburg

family are the Silver and Golden-Spangled and the Silver and Golden-Penciled. The white and black are two varieties of that class produced within my recollection.

QUESTION. How long do you allow your chicks to run with the hen? Do you have many deformed, one-sided chickens? I am troubled that way.

MR. FELCH: I do not take the hen away until she weans the chicks herself; yet it is as well to remove her to the laying house when the chicks are from five to seven weeks old, according to the season. I have the partings, or slats of my chicken coops, three inches apart, and when my Brahma chicks raise one or both wings to go in or out of the coop, I leave the door open, for in squeezing in and out through the openings between the slats they easily slip their hips down, thus making them one-sided, or deformed, as you have spoken of. I have seen an entire brood ruined by being reared beside a picket fence of one and one-half inch spaces.

The foregoing discussion clearly shows the interest the farmers of the country are taking in this great question of poultry culture. They look upon it from a money point of view. They want to know how many eggs can be produced, and at what cost, and demand practical worth with exhibition excellence.

The rule with all breeds should be to kill all the inferior specimens, whether they be male or female, and demand that the beautiful specimens be so in a double sense, "Handsome is as handsome does."

If we breed from none but the most prolific layers we shall the more surely improve our stock in laying

qualities. The policy of keeping all the females is a bad one; they should be weeded out if they are poor layers.

While the results quoted in the essay have been accomplished, and can be again, we can cut down the figures to a net profit of one dollar per head, and the margins are then even better than can be realized upon cattle or horses.

There is no danger of over-stocking the market, for poultry seems to be a necessity. Our southern brethren are in a large measure dependent upon it in warm weather. In all seasons it is to be preferred to beef or mutton and it always rules higher in the market.

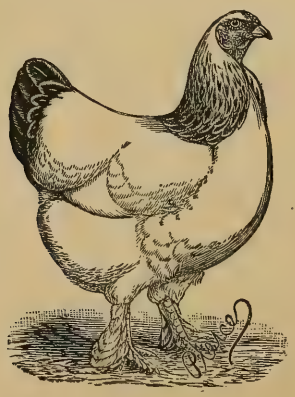
So long as beef, mutton and pork remain at their present prices, and when (as is the fact) a pound of poultry can be raised for the same price per pound, we see no reason why it will not be a profitable business. Even in this season of low prices in other provisions we find fresh eggs quoted at twenty-seven to thirty cents per dozen, in August, and corn but seventy-five cents per bushel at retail.

A bushel and one peck of corn, or its equivalent, will support a laying hen one year, and if she produces but eleven dozen of eggs, no more than is obtained from the unimproved sort, it will leave a margin of two dollars and thirty-six cents per head for the care of the flock, which would pay, we opine, as well as the majority of the professions.

We would not counsel the use of mongrel stock, as breeders, under any circumstances, nor the use of deformed specimens, only in the case of necessity. Even deformity caused by accident may have so shocked the nervous system as to affect the breeding.

We know of a case where a hen had her foot caught in a steel trap and, being in it some time before being liberated, had her nervous system so shocked that after the toes were amputated five-sixths of the chicks hatched from her eggs the following season were club-footed in the limb corresponding to the one mutilated on the dam. We know not all, nor even a small number, of like accidents would produce a similar effect, but we cite the case to show that if an accident can affect the breeding how much more an hereditary deformity would affect it.

Cross-bred fowls are, in the majority of cases, far more prolific as egg producers than the native, or even the thoroughbreds from which they were bred, and in all animal or vegetable life this will be found true. Therefore we must always produce them from the two thoroughbreds, for to breed from the cross will be to deteriorate.



CHAPTER V.

ON THE TREATMENT OF BREEDING-STOCK.

A FEW general remarks as to repairing diseased or broken plumage, etc., may not come amiss.

If in white birds, or in the white in parti-colored specimens, colored feathers appear, especially if black feathers appear in white, they will oftentimes, if pulled, be replaced by feathers true to the color of the breed.

Young cockerels are often attacked by older birds and their plumage marred, in which case the feathers so injured grow slim and longer than the others. We have seen sickle feathers, corrugated along the quill and white in a black tail, removed, and afterward replaced by a perfectly black pair. We should not despair of an otherwise exhibition bird till we had removed these diseased and faulty feathers and given time for them to grow anew, for the majority of cases prove their restoration true to color.

The only way we can keep our stock in presentable plumage during the breeding season is by watchfulness, and by removing all diseased and broken feathers, which will be replaced by new ones; otherwise the fowls must wear their broken plumage till the molting season, and look badly.

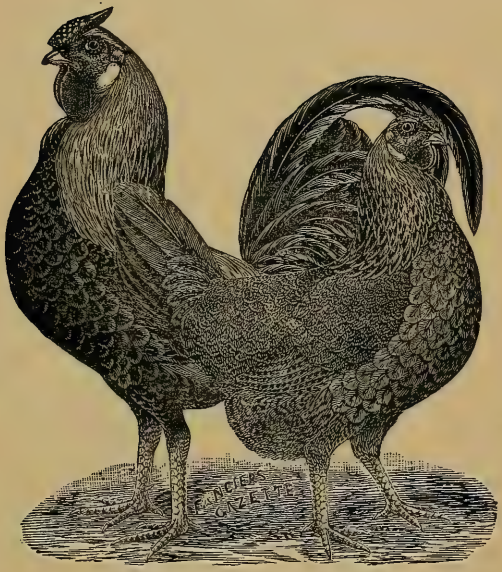
A Light Brahma having say from two to twenty black-tainted feathers in the back, if they are pulled, will often replace them with white ones. The process can be repeated till all are secured true to color.

The best time to hatch the breeding-stock we believe to be from May 20 to June 10. Such birds come in the time of year when they do not suffer from cold, and they grow rapidly and continually till mature.

Cold weather comes on just in time to check their laying, and generally they will not have laid more than ten or twelve eggs before we are ready to use them, and we get them vigorous from the freshness of young productive life. Again, the adult fowls molt and rest, and generally have laid but few eggs before their eggs are needed for incubation. From such pullets, and these rested hens, we believe the best eggs for incubation are procured. Early pullets that commence laying in the fall, and lay through to March, sustaining a strain of six months' laying, we do not consider as good for the breeding-pen as the pullets named above. We believe the time and the way which approaches nearest nature's fitness of things the best to produce our breeding stock.

The first forty eggs laid by a hen after molting, or the eleventh to the fiftieth egg laid by a pullet, are better, and the chicks from them prove larger and finer, than those laid afterward during the same breeding-season.

Cockerels are the safest for winter breeding. A good plan is to use a cockerel till April 1, and then turn the harem over to a young male coming two years old, from which to raise your breeding-stock, thus pro-



ROSÈ COMB BROWN LEGHORNS.

ducing them in the time of year nature intended. Such birds generally have more symmetry and merit than those unnaturally produced.

There can be no definite rule for number of females to one male; this the breeder's good sense must determine. There must be enough so that copulation will not be accompanied with coercion. This number will be found to be in Asiatics, from eight to fifteen; in Plymouth Rocks, ten to twenty; Houdans from ten to fifteen, and in Leghorns the number can still be increased. Where less numbers are kept the male should not be allowed to run with the females constantly.

Experience teaches that twenty are better than two. Two years ago we had birds penned in numbers ranging from six to eighteen, and in every case the eggs from the larger number hatched the best. In one pen they utterly failed, and when we increased the number to fifteen birds nearly all the eggs hatched, and the progeny were largely female.

The feed while the plumage is growing, both in chicks and molting fowls, has much to do with its color. Writers affirm that the reason wild birds are so stereotyped in color is because of their freedom to select just what food they need. We do not think it so much the kind as the supply of it, and protection from the injurious effects of the sun, that controls the color; nor do we acknowledge that the wild partridge is any more stereotyped in color and form than Partridge-Cochins. This question was raised at the Connecticut Poultry Exhibition, when H. F. Felch and H. S. Ball retired to the market and plucked feathers from different partridges and brought the same to compare with the

Cochins then on exhibition, which showed them to be no nearer uniform in plumage; another fact, the partridges had both smooth and feathered legs.

If a chick be starved, it will not only be dwarfed in stature but will fail in color. We have seen speckled half-starved Light Brahmas when put on generous diet slough their objectionable coats and grow plumage true to their kind.

The finest specimens are those that do not cease to grow from the time they hatch till full maturity. A chick that suffers a severe check in its growth while young seldom proves a prize bird, and when hatched in winter provision should be made for producing green vegetable food in the way of green oats, to carry them through till the grass comes in the spring.

The care of the flock does not consist entirely in furnishing it enough to eat, but watchful oversight, seeing to it that they do not huddle in large numbers in one place at night. We used to think that it was injurious to allow them to roost before six months of age, but we have altered our opinion and recommend it at the age of sixteen weeks. They should be induced to occupy low perches two inches wide, for there will not be one-half the injury arising from this as from the poisonous influences of their exhalations when crowded into small coops.

If we take pains to cover the chicks whose weaning comes in a cold season of the year by throwing a blanket over the coop to keep off the cold night air, or to coop the broods in the afternoon when cold east winds are blowing, we many times secure the season's success. By these little attentions at just the right

time we enhance our chances of winning at the winter exhibitions.

We can assist nature to do her work perfectly. We do not consider it a sin to straighten a hare-lip or crossed eyes in our children, or, if the muscle of the leg be contracted, to use the knife, that they may walk without limping the remainder of their lives, nor do we consider these things injurious to reproduction. And taking this care of our own offspring wherein is the sin if by judicious means we secure perfect development in our chicks? In nine cases in ten chicks hatch with a perfect organism ; now is not any work legitimate that secures its perfect development? Should a chick hatch web-footed the web should be cut back to its proper structure, thus liberating the toes to grow in their legitimate angles. While the comb in Light Brahma chicks will hatch perfect, its peculiar shape makes it less likely to develop properly than a single comb. In many cases bad combs can be prevented by proper treatment.

The first thing that nature does in case of a wound is to repair it. Therefore, if the middle division is seen to be growing too rapidly, the serrations of this division should be pricked with a sharp instrument so as to make them bleed. This process will check the growth of this division and allow the side divisions to grow into proportion with it. If the middle and one side seem to be growing faster than the other side, the same process of treatment applied to both will allow the weaker division to grow into proportion with them. An old cock may give a chick a severe peck on one side of the comb so as to turn it to one side. A cor-

responding wound on the other side will maintain it in its proper position. By this means we succeed in making the comb *grow* into proper shape. Is it not better to do so than to let it grow into an irregular, deformed mass, and then turn butcher and cut and slash the comb, making a bad job of it, and receive the just censure of our fellow-breeders? Three-fourths of all the bad combs are the result of external causes and unnatural feeding to produce very large birds.

The leg-feathering can be wonderfully assisted in its growth, and many a crooked toe saved, by pulling all foul feathers. The skin of the foot and leg is tough and the feathers oftentimes grow along under it from one-fourth to one-half an inch before penetrating the skin, thus causing the toe to turn in. We have pulled these feathers four times before succeeding in making them grow properly.

The breeders and amateurs as a rule are too lazy to attend to all this minutiæ (and the writer is as guilty as any one he knows, yet a guide-board may tell the way, if it does not go itself).

CHAPTER VI.

LOCATION.

WE have in our introduction endeavored to show the magnitude, and create an interest, in the poultry culture of our country. To such as intend to make it a life business the selection of a location becomes one of vast importance. Where man finds a healthy abode poultry may be expected to thrive. Yet a clay subsoil, unless the land be very rolling and all surface drainage complete, should be shunned; when flat and marshy, with no retreat from it, will always bring failure. A clay subsoil, if it be a slope to the southeast, south or southwest, terminating in a meadow lot through which a stream may run if underdrained, becomes one of the very best of situations upon which to raise poultry. All houses upon such land should be floored over, leaving an air space between it and the ground. At the very top of the elevation, if the land be trenched for 18 inches in depth beneath the underpining, the same terminating in a drain, would enable you to dispense with the floor. Yet safety upon such soil demands a floor to all roosting and laying departments. Such underdrained lands are strong, producing heavy crops of grass. Therefore they will support much larger numbers to the acre, and their heavy grass crops,

while they furnish the forage for the fowls, consume more completely the dropping as plant food, and secure a healthy condition of things. A constant supply of grass does much more to keep the egg-basket full than many are willing to concede.

Light soils are good, but demand far more work in cultivation, or the number kept upon the acre must be far less. We believe it far better to keep no more upon the land than it will furnish green food to than to confine large numbers and furnish the feed from other lands. If the land be light, oats must be cultivated for green food (we say oats, believing them best for this reason: they contain twenty-two per cent of muscle and three per cent of bone).

The land needs cultivating also by the use of the horse-hoe to keep the surface fresh and clean from the collection of the dropping. This hoeing should be done regularly. When the vegetation fails to assimilate the dropping it generally kills out all vegetation. The surface becomes hard and sour. Cut into it and you discover a thin green crust. Long confinement of fowls on such inclosures is fatal to a healthy condition and a high state of productiveness, and eggs laid by these fowls are to a large extent infertile.

The old idea that any land is good enough to raise chickens on is a fallacy. Let one flock be grown on a rich soil, abundant in honeysuckle clover, and note the health and prime condition of plumage, the molting always complete. In contrast to this, see the occupants of a sandy hillside, where the grass crop is meager and sorrel abounds, in their faded spotted plumage, which indicates incomplete molting and light, thin condition.

In the one case they get insect life and vegetable food in abundance. In the other they depend upon their attendants to furnish it, which in many instances is not forthcoming. If this difference is discernible in the plumage, there will be equal difference in muscle also. We know this difference exists, and following it one gets less eggs by full twenty per cent from fowls grown on poor sandy soil. Land that will produce three tons of hay to the acre will support four times as many fowls as will an acre that produces but one ton. Land on which water stands should not be used except for geese and ducks. For them even a meadow lot, where the water does not reach the magnitude of a pond, is far better, for constant indulgence in water is by no means advantageous to ducks till six weeks old. When nature gives us a hillside of loam with gravel subsoil, inclining south to heavy soil, and terminating in a meadow lot there, in such we have the best of all locations, for in such we have instant drainage from about our buildings, yet a soil that brings to the surface the earthworms every night, and as the season advances, even in summer, the fowls find in the meadow a cool forage ground rich in slugs and insect life.

Have any of my readers watched from their chamber windows the chickens as they come from their coops at half past three in the morning, and deploy out into a skirmish line that sometimes covers acres, leaving the feed laid out for them the night before? See them return to the coop and a short season of brooding under the mother-wing, and wait the daylight to come out to their breakfast of grain. Why do they do this? Take your lantern some morning and take a

stroll with them, and see on your walk the earthworms laying at full length on the surface, also the insects, the beetles, the grasshoppers, cold and stiff in the cold dew, at the mercy of your flock of chicks. Kill some morning a cockerel that has taken this morning walk and you will find his crop well filled, and you will have the solution of the mystery and the origin of the old saw that "the early bird catches the worm." Again, watch just at twilight, after the chickens have eaten their evening meal of grain. All go on a grazing expedition, feeding upon grass as regularly as possible in your pasture lot. With these things before your very eyes you no longer hesitate as between rich and poor land as a location.

If compelled to raise on poor land, then keep the horse-hoe at work. Sow the oats for green food, furnish fish and flesh and grain in abundance. Fowls will consume what is equivalent to twenty pounds of hay a year, and the acre that produces three tons, with the fall feed taken into account, will support four hundred fowls and keep green. Such luxuriant growth would consume all the dropping and save a vast amount of labor in cultivation of a soil so light as to support one hundred fowls only. To keep fowls without cultivation involves much more labor in the distribution of the food, for to feed ten thousand fowls on one hundred acres, or on twenty-five acres, will make quite an item in the labor account. Yet there are locations where a loam soil, having a subsoil of gravel, with sand beneath all, would admit of houses as described below,—these houses the ends and back of which could be made with cement.

In most of our pastures there are dry knolls and

southern sloping hillsides, in which excavations could be made fifteen by twenty-five feet, the ends and north sides walled up, leaving but the one side of the laying room and roof to be built of lumber; even the roof could be thatched, or earth-covered. All of which could be home-constructed, or by the employment of cheap labor. These habitations would be warmer in winter and cooler in summer. These quarters, located far enough apart to save the expense of fencing for yards, would save the labor of forage crops and all meat-food till the frost cut off the natural supply.

No farmer should be excused from utilizing all such facilities adjacent to his building, which, with the barn-cellar and orchard, would in most cases enable him to keep at least two hundred and fifty fowls, all of which could be cared for by the younger members of the family, and the profits would secure older and abler help for the heavier work of the farm, while many a boy would be made a thinking, practical farmer, happy in his lot, who is now chafing under his hard home-life, waiting only for age to liberate him.

The effect of geographical location we should not forget in this connection. He who thinks to succeed in poultry culture without almost eternal vigilance, and the practical application of the doctrine that prevention is far better than cure, had better never commence. Yet one who will put the same care and study, the same close attention and watchful business energy, into this calling as are employed by our merchant princes or bank presidents in their calling will surely succeed. He who trusts to luck in the majority of cases fails. We therefore do well to consider the

fact that the northern, middle and New England states are exempt from cholera, but that her cold, flat, wet lands engender roup and catarrhal affections. That along the shores of the Atlantic and Pacific oceans cholera is the exception and not the rule, and that there high lands are exempt in a large measure from roup. Where cleanliness in the quarters is maintained the salt sea breezes seem to have a salutary effect. The short intervals of snow in these reigons all help in the preservation of health and profits of the business. The balance of the states being not free from chicken cholera the breeders have to watch and strive for health by greater care, by keeping fewer fowls together, and by more cultivation and the feeding of less corn, and free use of sulphur, to fight the competition of the other states having only the longer seasons, whereby to compete successfully. In fever and ague districts, fowls are more liable to suffer from cholera than in sections of the same county even that are free from it. Thus to him who would make poultry culture a business the question of *location* becomes one of the greatest importance, and failing in a perfect location we must by artificial means and man's device convert it into such to a certain degree before we can hope to be successful.

CHAPTER VII.

BUILDINGS AND FURNISHINGS.

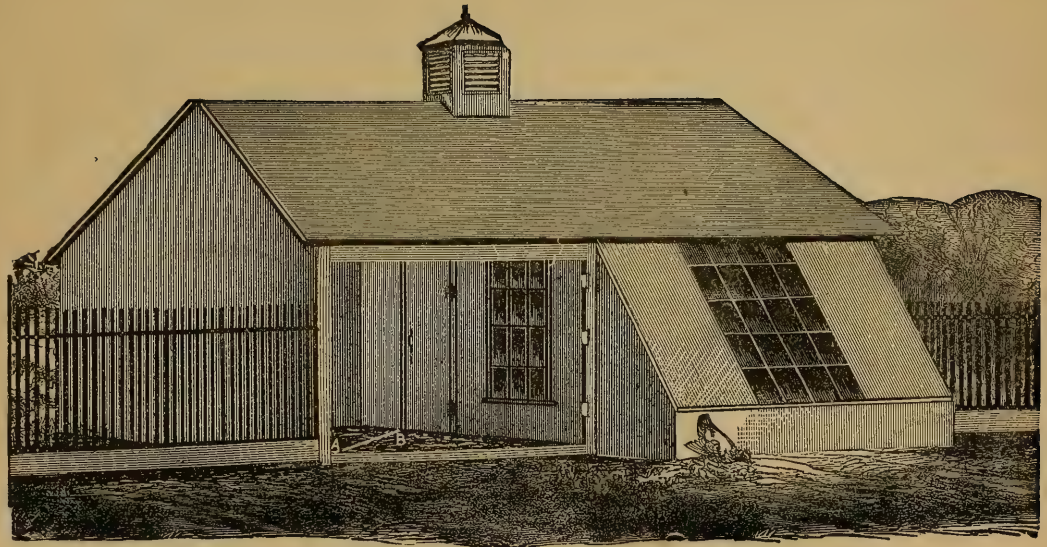
IT is no part of our purpose to present plans which we would not use ourselves, but rather to present that one which we deem the best for all practical purposes. All buildings must in a measure conform to the necessities of the locations upon which they are reared. Therefore we can only present our theory, and leave the reader to use it as best he may, by remodeling his old houses or using our plan in his new structures. It has become a necessity that fowls must have exercise in the open air each and every day if we would be certain their eggs will hatch in the winter months. And all broilers for the months of February to July must be hatched in the cold months of the year. One-half of the cause of eggs hatching poorly in March and April is the fact that the fowls have been housed closely all winter.

Our cut represents the best and only plan so far published in which with the least trouble, in the warm portion of each day a sun and dust bath in the open air can be enjoyed by the fowls, and the balance of the day the same space can become additional house room. An open shed protected from wind and storm is the place of all others a fowl will select for the purpose. The cut we take by permission of the Ferris Publishing

Co., from their work, the *Wyandotte Fowl*, it being our original idea. These open sheds, having a southern exposure protected from wind and storm, enable the fowls to enjoy the open air each day, by the attendant at 10 A. M. opening the front by swinging it inward, and thereby completing the partition which makes the inclosure of the laying and roosting room, while the balance of the house becomes an open shed, which as such the fowls enjoy until the sun begins to get into the west and the air becomes too cold, when the keeper returns the partition to the front, and our building becomes a house entire. In mild weather the partition can stand ajar, the better to air out the whole building.

This plan represents a building 13x25, which, so far as the laying room goes, having the two-foot projection, makes that room 15x15, and a shed 10x13. The front posts 7 feet, rear posts 5 feet, front roof 8½ feet, rear 11½ feet, the smaller door being hinged to the swinging front, the two covering ten feet, leaving three feet of stationary partition, which completes, with the door, the partition, when the building is divided into shed and house. This arrangement saves a vast amount of labor in shoveling snow or littering down in front of the ordinary fowl houses, and the fowls may enjoy the air, for they will not travel on snow if they can avoid it.

Fowls may be housed closely all winter, and by high keeping be made to lay a large average number of eggs, but not one of them will hatch. This is why we urge this plan. If you are in the egg trade it will save you hundreds of disappointed purchasers. It will



POULTRY HOUSE.
(Described on opposite page.)

insure you a larger brood of chickens from the eggs you set at home. This is but the repetition of advice given ten years ago. In severe cold weather the plan gives us the whole in enlarged quarters made secure from the weather. In heavy rain storms the fowls are no longer forced to take shelter in the fence corners or under the cart, which only form a poor protection. Again, this plan puts the breeder in a position to sell eggs that will hatch all the winter through. There are many inquiries for eggs for the incubator trade during the cold months. If you anticipate running incubators yourself, to raise broilers by artificial means, then you cannot do without such a building.

These houses can be built double, the whole being 15x50 feet, a solid partition in the middle making two laying rooms 15x15 and a shed of 10x15 feet at each end of the house. Such houses built in rows, with a fence running from the front of the one to rear of the other, would secure the fowls in colonies of fifty each; the buildings being ten roods apart would secure their returning to their own quarters to lay and roost, —the plan we deem the best of all with which we are acquainted. If you desire others, there are works at twenty-five cents each in which you can have your choice of a hundred styles in architecture. But we present no other plan, for we know this will secure the best results.

In the coldest sections of the country we would recommend they be constructed and finished by tacking tar felting on to the frame, then board in, and from the inside tack the lapped edges of felt to the boarding. This would make it wind tight and warm enough

to defy an arctic winter. Built of matched spruce, the cost single is $85, and double $160 each. But as different localities will vary in cost we refrain from giving specifications; each tenement will house fifty fowls in health and productive condition.

The droppings from fowls are very poisonous, and it is very essential that they have thorough ventilation. At the same time we must not expose the flock to a direct draught of air. Fowls left to themselves will not stand in a draught, and when compelled to, they take cold as easily as does the human family.

The ventilators should reach the floor. In winter, ventilate from within three inches of the floor, and in summer from both top and bottom of the room. The bad air falls and is drawn off from the bottom, and saves the heat made by the solar action by your glass fronts, and as the warm air rises for the same reason to ventilate from top we lower the temperature and make the room cool and comfortable. In the winter, when dull cold weather at times collects the congealed respiration from the fowls in an anchor frost, this is soon disposed of by burning a kerosene light for a short time, and the opening for a short time of the upper ventilation, and all that damp, chilly sense of feeling when visiting the house will be disposed of. Remember this and see to it in time to save you many cases of roup, and thereby keep up the egg production. A window 4x6 feet in the extension front and one 5x3½ in the swinging front, the sill eighteen inches from the floor, will warm and light the rooms, dry out the gravel loam, which will help in the work of deodorizing the dropping, enabling you to keep a larger num-

ber on the same space than otherwise. The plan of having the whole front constructed of glass is bad, for in that case the house becomes too warm in the day-time and cools rapidly at night, making so much change in the temperature as to work disastrously. Even with the windows we recommend if in winter shutters were used to close over them they would make the house much warmer through the night.

Avoid all permanent or box-made nests, which become harbors for lice. Avoid also the old plan of an inclined plane for roosts, for all the fowls will strive to occupy the highest perch, and many a fight and fall will be the result, which will vastly increase the list of casualties, while the low and level plan saves many from lameness and internal injury; for while a hen will walk up to her perch, if she has the chance she will invariably fly down. Roosting low makes them less breachy; even the smaller breeds, if reared on low perches, will not require a fence more than four and a half to five feet high to fence them in. The floor of the house should be kept covered three to four inches deep with a coarse-fine gravel, not so fine as to be called sand, yet having a loam mixture in it. This will deodorize all the filth and stench, besides making a loose and soft substance to alight upon in descending from the roosts

Across the rear of the laying room construct a platform three and a-half feet wide, thirty inches from the floor, and one foot above the same make the roosts by having them extend from back to front across the platform, eleven short roosts three and a third feet each. This can be done by two stringers, one at the back,

hinged to the house, the other thirty inches forward furnished with legs one foot long, the whole to swing up while cleansing the platform, which should be done every morning where fifty fowls are kept in a flock, and not be left till afternoon.

Why do I not have the roosts longwise? A boy would say "Because." I say so to, for fowls will crowd and will roost very near the same place in the roost each night. These short roosts will hold but five birds. If two long roosts were put in longwise, they would all crowd for the back roost, and the front one would be used by those unable to get a foothold on the back one. Can you not see that such a plan is best? Fowls are more sensitive than they are credited with being. This crowding will effect the egg-basket. One of my breeders who has bred Light Brahmas for me twelve years says: "When you come over here leave the dog at home, for the excitement *caused by him* among the hens costs me *a dozen* eggs every time he comes, and some soft-shell eggs laid at night upon the roost." So everything about your building that will conduce to a quiet and comfortable life means a gain for you in eggs. The width of these roosts should be about two and a half inches, the sharp corners rounded off.

Under the platform it would be well to construct a rack to hold common nail kegs. Let them be laid on their sides with a stringer three inches wide against which the open end of the kegs may rest and face inward, so that the fowls will approach the nest from under the platform. The fifteen feet will enable you to get in twelve kegs, or nests. Make holes in the bottom large enough to admit the hand to gather the

eggs. The rack being portable the kegs can be removed at will to be scalded or lime-washed, to prevent lice from infesting them. The nests will be just high enough to cause the fowls to take a short spring to approach them, and as they step in they cover the nest; having laid, they jump down and are away from them. Nests so low and easy of access that a fowl can stand upon the floor and reach the egg are conducive to egg-eating, while this plan, with one or two earthen nest eggs kept in the nest, will seldom bring about the evil. The plan gives a sense of security and secrecy. If you have only a village lot, and are limited in space, and the flock has from necessity to be confined upon the least possible amount of ground, each house and shed should have two yards, that one may be sowed with oats while the fowls occupy the other—and when the oats are four to five inches high, let the flock occupy this yard while the other is treated in like manner, thus furnishing the raw vegetable food so necessary to them. Besides, this treatment keeps the yard clean and sweet. These fowls, so yarded, will eat all, even scratching the roots out of the ground, giving them a needed exercise.

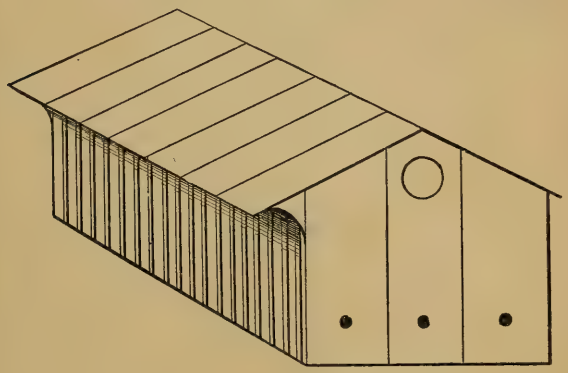
Do not forget that if you would reap the best results in eggs, and eggs that will hatch, that the closer you follow our advice in this matter the better you will be off. If you sow these yards but once in a season you may fairly calculate that your profit will be fifty cents on the dollar, and the death rate in your flock large. Go into a hen yard that is so small as to be barren, and cut down with a spade, and for about an inch of the crusted top you will find a dirty green mat-

ter, full of poison to the fowls. Do you wonder that they die of cholera or suffer from scurvy legs when confined for months in such yards with no green food? Why should they be otherwise? And yet we keep them there and eat the fowls so confined.

We are aware that small flocks give the owner a greater individual yield in eggs, but when we are building for their sole use, and catering for large numbers of them as a business, we can best do this in houses of two tenements for fifty each. Poultry-raising must of necessity become of more and more importance, and in view of all this we have recommended the building to that end. If 5,000 fowls are to be kept, it is an easy matter to construct fifty such houses. If you wish to limit your operations to a home flock, then build a small house on the same plan.

To build for the use of growing chickens on the farm, or wherever the natural way is adhered to, which is of course the best way, we have but one plan to offer. We have to nearly grow the young stock to replace the old before we are ready to kill off the old fowls. These chickens from this necessity have to occupy their chicken quarters into the fall of the year; at least it is most convenient for us that they should. Many a breeder uses old three-cornered coops because they used to do so in old times; many know better, and are aware that the extra growth and merit in one season's crop of chickens would more than pay the cost of new ones, yet he will keep on making them do, knowing that the sooner he shall resort to comfortable quarters that all subsequent seasons the change will bring him a profit.

Our plan is to hatch enough chickens at one time that we may double up the broods and give twenty chicks to one hen to occupy the coops, as per cut below, being three feet wide at the base and five feet long, with thirty-inch posts, with a paling frame, the paling being three inches apart, used in the front while the hen is confined therein with her brood, the same being removed at weaning time and three roosts put in,



MODEL COOP FOR TWENTY CHICKENS.

as indicated by the three dark spots. In this house the twenty chickens can harbor till the fall. Five such coops as these would serve a colony of one hundred chickens if placed twenty-five feet apart, say upon a square, 30x30, with the odd one in the center. When the males are removed, at twelve weeks old, to be shipped as broilers, two of the coops could be removed to serve a later hatched colony, the three coops remaining would be sufficient to accommodate the pullets till they were removed in the fall to the winter quarters made vacant by the killing of the old stock.

These quarters should be thoroughly cleansed with lime-wash, and fresh gravel and loam supplied to the floor to the depth of four inches, when they would soon repay your outlay by discounting in the shape of eggs.

A single brood of chicks will thrive and take care of themselves. With care, one hundred can be reared in a flock, and all do well. But if more are to be reared care should be taken to confine those of the same age together—the February and March chickens in one field, April and May chickens in another, and those hatched later in a third. With such care each lot will be found to do well; but if running all together the young ones will get trampled to death by the older ones. One hundred chickens hatched the same week, colonized upon one feeding lot, would all grow up an even lot. These colonies could be located so as to feed four hundred upon an acre of land, and the result be good.

Smaller coops for village use, where one or two flocks are reared for home use, can be made thirty inches square, sides fifteen inches high, double roof, sides, end and roof made of matched board, except the front end, which may be palings three inches apart; these will accommodate twelve to fourteen chickens till the fall. Many think anything will do for a chicken coop, and stakes driven in front of a barrel are resorted to regardless as to how near one paling is to another. In confining hens with their chickens the distance between the palings should be no nearer than to confine the hen, and when she weans her brood the door to the coop should be left open. The nailing on of the slats so near as to make it difficult for the chickens to squeeze through

is the fruitful cause of so many crooked, ill-formed fowls. We have seen an entire brood so deformed from being reared beside a picket fence. It is pleasant to see a bird grow up perfect. But this deformity many times makes a difference of ten dollars in a man's purse at show time. Keep this in mind, my amateur reader, when building for the chickens.

In these larger coops it will be seen they are fashioned with an awning front. The natural tendency of the chickens to stand outside the palings to feed makes this a necessity in wet weather, and it prevents the hot sun from making the coops uncomfortable in hot weather. He who looks out for these little comforts in building does more than he thinks toward filling his purse in the fall. It is the last point that wins the prizes. In the use of the same coops spoken of, if they can be placed under a shed it will pay. We may have four birds to score ninety-two points and bring us ten dollars each, but if by care and these little attentions we bring one up to ninety-five points and win over all, the price oftentimes reaches *ten times that sum.* One such bird pays for this extra care and building for their comfort. One thing is certain, we never reach this excellence when we are careless of the well-being and comfort of our growing stock. And it is fair to say the whole flock is correspondingly better if your best one has beaten in a fair competition your neighbor's best.

We have no sympathy with the breeder who stands under a sun umbrella and watches his hens with their extended wings gasping for breath when he complains of the death-rate in his flock. Watch at ten to eleven

o'clock in a warm day and see the chickens and fowls retire to a shady spot and remain till four o'clock in the afternoon. If your yards are not furnished with shade trees then provide for shade by building open sheds. The expense will not be great and will prove to be most economical in the long run. In all buildings for poultry it is not the question what a coop costs, but what is the difference between what good coops and the *very best* coop will cost. *A coop is a necessity.* If the better one will secure you ten more eggs in a year from each hen, then in building for fifty hens it is policy to build the best one at an additional cost of fifty dollars. For the investment brings a twenty per cent income on the same. We believe the best is the cheapest in the end.

A building set apart for incubation is one of importance, yet it can be used for wintering males when not in use for hatching chickens. This can be any size one cares to make it, but it must be heated in winter to sixty degrees if you are to reap the best results. To build one convenient, and to accommodate the largest number possible, I should build 18x36 feet, with 7-foot posts, leaving a walk around the entire room 2½ feet wide, and a 3-foot walk down the middle. Between these walks I should build two tiers of setting rooms, which would give me 120 feet in length and 5½ feet in width. This would consist of a shelf on which to set the nest, and yard or dust-room to each of four feet. The room can be made in sections 4x4, in which three hens can dust as they leave the nest they occupy on the shelves spoken of, or one can carry the plan further and by partitions make each

hen a dusting room of fifteen inches wide and four feet long. Let the breeder do as he pleases in this. The plan gives space for setting ninety-six hens at one time. The lower tier can be upon the ground, the tier over it, the platform could be covered by earth four inches deep and by sprinkling down these runs occasionally the heat of the room would preserve a humid atmosphere. The nest boxes should be fifteen inches square. Being portable, they can be taken away at will to be cleansed and made up new. If the house be nine-foot posted a third tier of these nest accommodations could be added. Let the building end to the south, and glass four feet wide extend from sill to gable, the door in the north end. For a short time each day open door and window and have a draught of air through. To air it out in summer they could be left open and the room kept comfortable. In winter ventilate from the bottom, your ventilations reaching from floor to cupola. In heating this house let the temperature be forty at the bottom and sixty at the height of a man's head, which would be two feet above the second row of nests. If three tiers were put in we would let the temperature run down so that sixty degrees would register at the height of the third row of nests.

If only the ground was used one could build the rows by frames of wire eighteen inches high only, and all in portable frames to hook together. So, also, can the partition be portable, where two tiers are in use, and when you had hatched all the chickens for the season they could be taken down and packed away. This house in winter is a necessity if broilers are to be the business of the breeder. This house must be

warmed. Why, there are not three hens in five that show a disposition to set before April 1st that will hatch a chicken, for the reason they have not heat enough to counteract the atmospheric influence and to hatch the eggs. The warming of this room reduces the atmospheric influence to summer heat, and leaves the heat of the hen to do the work. Nature times the incubating inclinations of the fowls and birds at a season when sixty degrees of Fahrenheit heat is the average temperature. This plan is the best as a saving of labor. If you will carry it out to setting two hens in one yard, dividing into thirty inch by four feet yards, there will be no trouble, and when they come off with their broods, as a rule, will agree. We would heat the house by means of a common hot-house boiler, running the waterpipe around the entire room, the boiler being stationed in the north end, at the door, and passing the pipe down the west side and returning on the east.

These nests I would make up by a layer of carbolic lime in the bottom and hay chaff above, with as little hay or cut straw as would nicely form a nest, which should be made flat on the bottom (and by watchfulness be kept so), the nest being large enough for the eggs to lay without crowding, the shape to be as near the shape of a well formed egg cut through from end to end. If there is a raiser who does not comprehend my meaning, let him boil an egg hard and cut it in two, longways, the flat side will be the shape of the bottom of the nest, in miniature. If chaff cannot be had, then fill the boxes up with sandy loam two inches, and sprinkle the earth well with water, and spread a handful of carbolic lime over it and build the nest of

hay or straw, not using a large amount. The heat will draw the moisture—the moist heat so necessary for success.

From November to March, even in these warmed houses, put but eleven eggs under a hen, unless she be of good size, when thirteen may be the number. After April 1st thirteen may be the uniform number used. Place all the nests on the outside, and feed from the middle passage, water and feed arranged so they can run their heads out through the slats to obtain it. These birds will invariably feed and drink before nine o'clock each morning, when all the droppings should be raked off by means of a fine rake and taken away, and the house have the airing out spoken of above.

After April 1st the chicken houses designed for twenty chickens (see cut) could be utilized by putting in a row of three nests on the back side, making the nests on the ground, and a portable yard for dusting be attached, all being outdoors. When they hatch, the house should be thoroughly whitewashed and one of the hens left with twenty chickens, before spoken of.

A very good mode of setting hens is to sink a barrel on its side one-third into the ground, filling up with earth even with the earth on the outside, using a small quantity of hay to form the nest, especially in early spring. This, you see, will prevent the cold air from reaching the eggs through the hay from the under side and chilling them, while the earth in the barrel becomes heated by the hen, which increases your chances for an early brood. Place one of the small chicken-coops described in the front of the barrel, and by the means of a slide-door admit the hen to and from the nest. The

coop becomes a feeding and dusting yard for her while sitting, and a home for her and her brood when hatched, besides preventing her from deserting her eggs. As the season approaches June and July pour into the barrel, before putting in the earth, a half-pailful of water. The heat of the hen will draw the moisture up and prevent too rapid evaporation in the eggs, and secure for you a better hatch.

By setting an even number at a time and doubling up the broods you can reset the hens thus released (which generally do better the second time), by which means you secure eighteen clutches of chickens from twelve incubating hens, which will produce, as a rule, about one hundred and twenty-five chickens that will be marketable. The overplus will be found to not more than make good the casualties and deformities.

This plan of hatching and rearing the chickens away from your fowl-houses releases them from and prevents the incubation of millions of lice, which are generally produced by setting the hens where they are in the habit of laying. If you wish to see every louse and red-spider louse, which is the same as the bed-bug for the human family, concentrated into twenty inches square, just allow a few hens to incubate in the laying room of your hen-houses. The day before the hens are to hatch, let the place of setting them be what it may, it will pay you to sprinkle the eggs and wet down about the nest, and to make sure that the nest is perfectly flat. At this time the egg-shells are very brittle. If the nest is hollow, so all the eggs press toward the center, the chances are that there will be more or less killed in the nest and more or less eggs will be-

come crushed in, and the chicken prevented from liberating itself. The chicken first, by aid of a little cone-shaped nib on the beak, presses against the shell and chips a hole. Air begins then to inflate its lungs, and he in his struggle begins to turn in the shell, he all the time pressing this nib against the shell. In this way he cuts a seam around the shell, and when this is accomplished the shell falls in twain and the chicken comes to the outside world independent of all else but warmth and feed to secure its growth.

If these shells become crushed in, then the chicken cannot turn in the shell, and it dies. The same is the result if the hen has set too constantly, and the chicken is dried in the shell, as it is called. The last is helped by immersing the egg in warm water for a moment the day before they are due to hatch. Sometimes breeders chip a hole in the shell and thus remove the chicken. When this occurs the keeper should break the shell away from the opening, and if where the chicken has broken through the inner lining looks dry for about a circle of half an inch down then the chicken must be liberated. This is best done by crumbling the large end of the egg, then rupture the skin and roll it toward the other end to prevent bleeding; liberate the head only and leave the chicken's body in the other half of the shell and place it under the hen again. If the hen has covered her eggs in a proper manner for twenty-one days, the morning of the twenty-second they should be examined and the shells broken, and if the chickens are alive they should be helped out, but as a rule those helped from the shell on or after the twenty-second day seldom live to amount to anything. The hen as a

rule will remain on the nest after the chickens are hatched for twelve to twenty hours, or till the chickens nearly all come out from under her and show a disposition to eat. Then she will leave her nest with her brood. If the hen is to be reset the chickens should be taken from her as fast as hatched and passed under the hen we intend to rear them, for when a hen once calls her brood from the nest she will seldom submit to be reset.

Many rear their chickens artificially after hatching them by the natural means, and make each hen set for six to nine weeks, and even for twelve weeks has a hen been induced to remain on the nest. Turkeys are easily taught to do the work of incubation; they are easily managed for that length of time. We think that even where artificial means are used no one should buy an incubator till they have first learned the lesson to rear artificially the chickens. This can be easily done by taking care of a season's flock hatched by hens, by the use of brooders, and buildings for their use, and as the broiler business commences in October one is ready for practical operation when chicken-hatching by natural means has closed.

We have known of instances where hundreds of chickens have been reared during a winter when the only brooding facilities afforded them consisted of several wooden boxes lined with flannel or woolen carpet or old buffalo skin, the boxes being placed near a stove at night and in severe weather. There are many farmers who rear all their spring chickens in this way, and some of them sell several hundred dollars' worth every year. There is absolutely no obstacle to the

successful prosecution of this work, provided always that the chickens are given the proper treatment. *If they have warmth, fresh air, cleanliness, freedom from vermin, gravelly sand to run on, a variety of food and a daily supply of either chopped grass, oats, cabbage or lettuce, they may be raised in any number desired.* These conditions are absolutely essential.

There can never be an artificial mother invented that will equal the mother hen, and when we consider the many failures of the hen to hatch her eggs in the early part of the season we can see of what value an incubator perfect in its work would be, for it makes every hen, inclined to sit, of far more than double her original value, for she can be furnished chicks to rear of double the number she would be able to hatch, and in cases of failure to hatch a full brood of twenty to thirty chicks can be supplied for her to rear. There is no artificial heat to compare with the breast and feathers of the hen. Yet the farmer's plan awakens an inventive genius for a brooder, and teaches us a lesson of not relying too much upon the brooder itself. We are aware that hens crush quite a percentage of the chickens in the nest. To obviate this all hens that have been sitting sixteen days on eggs can be relieved of them and the eggs placed in the incubator during the last three to five days of incubation, and that percentage saved, thus making a good incubator of far more value as an auxiliary with the hens in this important work of reproduction. Our plan for a chicken house is different from all others we have examined, and our brooders different. But Mr. Tribon, of Brockton, Mass., has the same thing, to all intents and purposes, only he

uses a plain sheet of zinc instead of the water pans, relying on dry hot air, which we are not sure is just as well in the winter as to secure the moist heat over hot water, as per our plan of brooders.

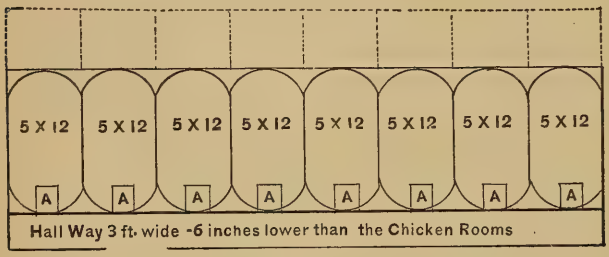


Fig. 2

GROUND PLAN FOR CHICKEN HOUSE.

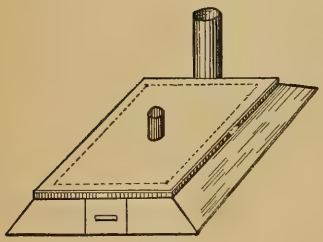


Fig. 3

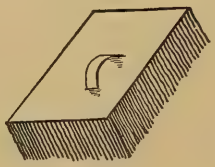
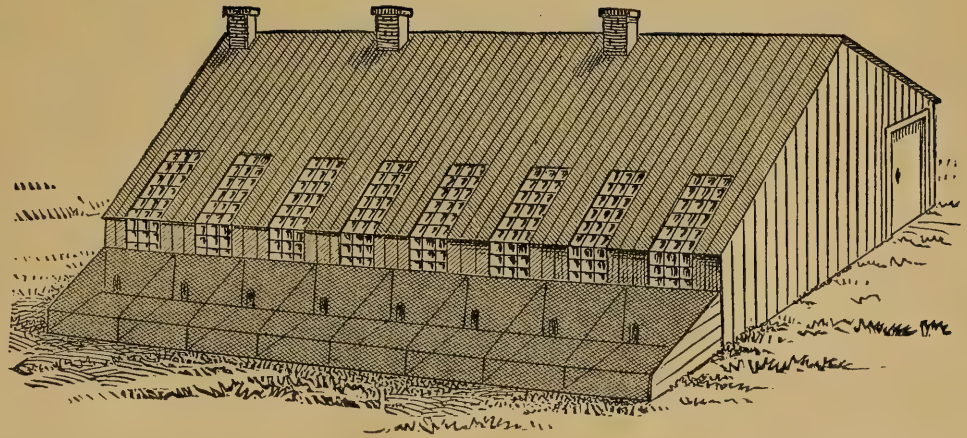


Fig. 4

A BROODER.

Our chicken house is 15x40 feet in the main building, cut up into a hallway (see ground plan), 3x40 feet, and six inches lower than the chicken rooms, eight in number, matching the eight wire projections 5x4 in front to enable the chicks to take the air at will. They should be induced to take advantage of them by feed-



CHICKEN HOUSE. FIG. I.

(Described on opposite page.)

ing them meat, exciting them to exercise while enjoying the tidbits of their noon meal. Each of the 5x12 foot rooms is furnished with a brooder (see Figs. 3 and 4), the base (Fig. 3) being made square in front with a door to admit the lamp, the two sides and rear end being cut mitering, so as to have a base nine inches high. On this base rests a galvanized iron pan three-fourths of an inch deep, the rear flange wide enough to let through a tube of tin one and one-half inches in diameter, that all smoke may escape from as well as give draft to the lamp. Above the flange of the pan (by which means it it is held in its position) a strip one-half inch, or say three-fourths inches thick, and one inch wide is nailed, except on each side and end is left a gap of one inch, making an air-hole three-fourths by one inch (see Fig. 3.), and upon this rim rests the floor of the brooder one-half inch thick, thus leaving between the floor and the water in the pan an air-space one inch in height. In the center of brooder floor see tube two inches high and one and one-half inches in diameter that draws the hot air up from over the tank as it becomes warmed in its passage from the sides through the air-hole over the water, and it is radiated out over the chicks and escapes through the fringe of the brooder cover (Fig 4), the cover resting on the base (Fig. 3), as indicated by dotted lines. The brooder is heated by a kerosene lamp of the Diamond burner style. The base of brooder is 45x48 inches when it rests on the floor, and 30x36 on the floor of the brooder, the cover being 22x30 inches long. On a warm night the chicks will lay all round the cover on the rim of the floor outside, and for this reason we

make the cover smaller than the floor of the brooders. By our ground plan you see from the hallway these brooders (Fig. 2, A) are fitted into the chicken rooms so the floor of the brooder only rises two inches above the chick's earth floor; this gives them easy access to the brooder. This we believe the best and cheapest brooder one can build, except Mr. Tribon's, of Brockton, spoken of. In winter we see no reason why it would not work as well, and come a trifle cheaper.

These conveniences with the house is sufficient to rear four hundred chickens to four weeks old, when they can be removed to a house of like dimensions, which may be heated by a stove, and the chicks taught to go to roost on low roosts, as we do not believe in the use of the brooder more than four weeks. At the end of the four weeks in their second house they can be removed to the houses described before for growing stock and laying hens, with three houses like the one illustrated, using the brooder for four weeks in one only; one has accommodation for the growing of twelve hundred broilers all the time, as at twelve weeks the males are ready for market and the females should be taken to their laying quarters. Fifty are kept in a colony through all these stages of growth.

EVERY CORNER A DEATH TRAP.

Print this in large letters and post it up in every house used for chicken raising. For this reason we represent all the chicken rooms with rounded corners, made so by sheet tin or straw board or leather-board or tar felting. Let the circle be as large as the middle of a flour-barrel. Chickens will huddle in a corner, and a

corner is a dangerous place to be crowded into; being unable to liberate themselves they go down and under, being deprived of air, and many are trampled to death. The care to dispose of the corners in these rearing departments will save you many dollars in the course of a year.

These brooders will not do all the work alone. The house must be kept warm enough to keep the chickens from crowding the brooders. When the house is cool they will cling to the brooders. This cannot be a healthy condition of things. A stove will answer all purposes, for the brooders themselves will do much toward heating the house if the ventilation be properly cared for. The house should be ventilated from the hall-way, it being the lowest place; yet it should be furnished with ventilation at the roof in seasons of wet, cold weather, that all dampness from roof by frost may be carried off. Keep the house at fifty degrees six inches from the floor. This would be sixty-five to seventy degrees at the height of a man's head. Remember the chickens are compelled to stay on the floor. If this is done they will not use the brooders except as they come in from their outdoor noon runs and at night. Thus they escape the unhealthy conditions that follow huddling, which is increased by a cold house. Two houses such as we have described, with an incubator of five hundred and sixty egg capacity will enable a breeder to hatch and rear one hundred chickens a week. This will give him four weeks for each incubation, and only the hatching of about seventy-two per cent of reasonably fertile eggs—those that stand the tenth day test. This, it will be seen by

our experiment in the foregoing chapters, will be far below the work that others have accomplished, but a reasonable average and about that of the natural way experienced by the fowls themselves.

All this care you must learn by experience, and, as we have said, it will cost you less for this experience if you furnish yourself with all these conveniences before buying the incubator. This getting experience with large numbers of chickens before we know how to creep has driven three-fourths of all who have undertaken it out of the business, and poultry culture has been condemned by them when it was owing to their own incapacity or want of experience that led to failure.

My reader, if you have no money to put into the business, keep out of it, for poultry keeping is not a business to be run successfully without capital. When we say that poultry will pay the most for the amount of capital invested we do not mean it to be understood that you can make poultry pay with no capital. Constant watchfulness does the work. We have catered for fifty chickens in a brooder, because we think a woman can take care of twice if not three times as many as she can in larger broods, where five times that number run together. We believe also that the chickens will be larger. For the food consumed at the end of four months of age, if the increase of weight should be but one ounce each, how long will it take you to pay for the extra cost of building? Take your pencil and see what an item it will be to a man who rears but five thousand chickens a year. Three hundred and thirteen pounds of poultry meat per year will build quite a village of breeding-houses in the course of ten years.

CHAPTER VIII.

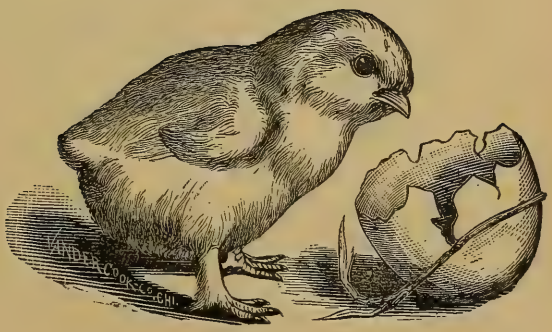
FEED AND CARE OF FOWLS.

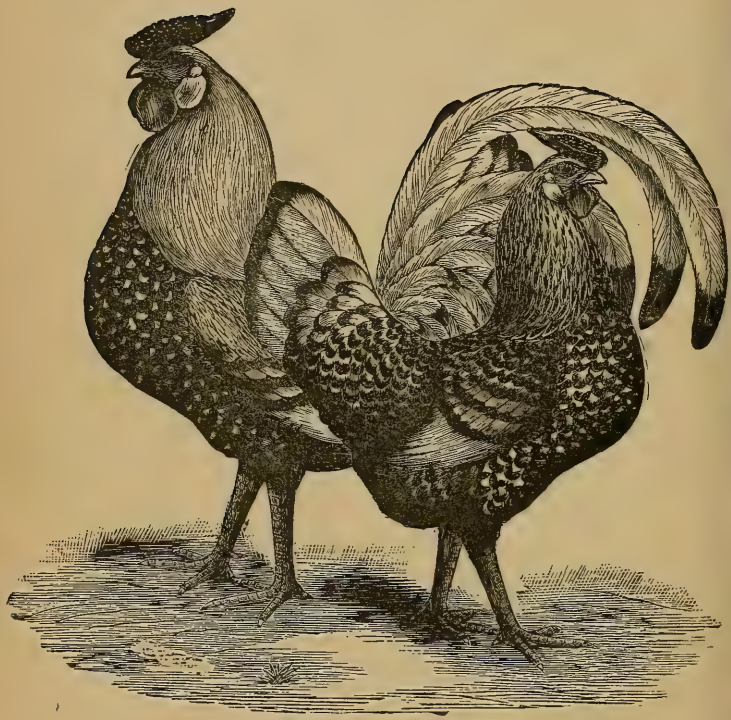
IN the closing of a previous chapter we left our reader with the chickens to be taken from the hatching quarters. But we go back a step to consider the feed and care of the fowls to produce the eggs in the shell fit for incubating. We have given you our plans for houses. The fowls who occupy them may be fed with boiled vegetables (purslane, cabbage, squash, seed-cucumbers or potatoes), mashed with wheat-bran and cornmeal while hot, feeding the same at the morning meals in such quantities as will be eaten up by nine o'clock, allowing the flock to forage till four or five o'clock, when a full feed of small grain and a small portion of corn may be given to them, adding to the morning meal fresh ground scraps or meat in some form, three days in each week. This will be found sufficient till the frost prevents the further growing of forage crops; then change the feed to what soft food they will eat up at the morning meal,—small grains, sunflower seed, etc., at noon, and what corn they will eat at evening. This will maintain the most even animal heat for the twenty-four hours; it being health and heat that produce the eggs, the hen being simply a machine which, if carefully run, must produce the egg or die. During the winter months, feed chopped cabbage and turnips,

and rowen hay. Rowen clover is an excellent substitute for grass, and is the only thing we can find that will produce eggs that will make the golden sponge-cake in winter.

It also preserves the plumage in all the brightness and beauty possible, and is a grand help toward preserving the vitality of the eggs for incubating purposes; nor must we forget to feed, during confinement, in the soft feed, as often as once each week, sulphur in doses of a dessertspoonful to ten hens. Pulverized charcoal will be found an excellent thing to occasionally feed with the soft food, or in a crushed form, for the fowls to go to at will,—charred grain being the very best form, but it is most expensive; corn, roasted like coffee, being a nice way to furnish it. In a nutshell, let the adults who are to produce the eggs we set be fed with vegetables, fish, flesh and grain daily, if convenient to do so. Let the vegetables be mashed with excelsior meal. To care for the flocks, to get the best eggs and the largest number, is really a science. When one keeps a large number it is an easy matter to have a "*fat hens' coop*," so-called. Eggs laid by an exceedingly fat hen seldom prove fertile. The keeper who is up to his business has two pens, which he calls the *lean quarters* and the *fat pen*. At night, as he goes his rounds, and feels of the birds to note their condition, he will notice one, it may be, or two—sometimes three, in a flock of twenty-five, that are excessively fat. These should be placed by themselves and fed with sulphur, wheat, bran and oats till reduced to a nice working order, when their eggs may be expected to hatch. Again, the keeper finds here and there a lean one; of

these he makes a pen, to which he feeds meal, corn and fat-producing food till he betters their condition, and thus he shows himself master of his business, and will find in the end the profits on the right side of the ledger. Ventilation, feed and flesh all in perfect order, and there will be no grumbling because the birds look shabby or that the eggs do not hatch.





SILVER-SPANGLED HAMBURGS.

CHAPTER IX.

FROM SHELL TO GRIDDLE.

IN treating this subject we have nothing new to offer beyond the experience of thirty years with the different breeds. We know that regularity in feeding, protection from storm and cold winds, warm, well ventilated quarters, and wholesome, sweet food, all these are essential to success in poultry raising. Exercise in the open air a part of each day is an absolute necessity. If engaged in rearing fowls artificially you cannot be told too often that the chickens must go out of doors, if but for ten minutes each and every day; that the houses must be kept warm enough to prevent their going to the brooder only as a child runs to the stove to warm as they come in from the sharp air of winter, or retire for the night. This, and the regular course of feeding which we now offer you in a bill of fare, is our course pursued from shell to griddle and the spit.

BILL OF FARE.

The first meal for chickens after being taken from the nest should be boiled eggs, chopped fine, shells and all, also baked corn cake or excelsior meal cake crumbled into scalded milk; no fluid as drink but the scalded milk. After the first twenty-four hours, after

their gizzards have become filled with egg-shell, gravel, etc., let their meal in the early morning be excelsior meal, bread and scalded milk; at ten o'clock granulated corn; at two o'clock the excelsior, bread and milk, and at six o'clock canary seed, millet seed, and granulated corn. This if the hen be confined and the chickens have their liberty to find grass and insect food. Thus feed till two weeks old, when it will be found that few or any deaths will have occurred, and the chickens started well for rapid and vigorous growth. If the season be winter and we are raising them by artificial means—by brooders—and all food furnished to them in confined quarters, like those described in our chicken house and its brooders, we would have a rule by which the attendant should feed them each and every day, to-wit: after they were two weeks old, adding to the above mode of feeding till two weeks old, boiled beef or sheep's haslets, chopped fine, one meal per day; also green oats raised in frames at the windows, cut fine. To take its place when short of the green oats, steamed rowen clover, chopped fine; this, with the use of boiled fish, would supply the place of the green grass and such food natural for them in summer, without which chickens cannot be reared. They must have vegetables, meat and grain, and have them every day, if good results are to follow. Chickens at two weeks old, thus started for us, we would continue the bill of fare, to-wit:

MONDAY.

BREAKFAST.—Excelsior meal, bread and milk.

TEN O'CLOCK MEAL.—Boiled meat, chopped fine, with steamed clover.

TWO O'CLOCK DINNER.—Excelsior meal, bread and milk.

SUPPER.—Granulated corn, oats and barley.

TUESDAY.

BREAKFAST.—The broth in which meat was boiled, thickened while it was boiling (and when the meat was taken out) with excelsior meal.

TEN O'CLOCK.—Chopped mangel wurzel beets, and after eating what they would, allow to finish filling their crops with granulated corn.

TWO O'CLOCK DINNER.—The balance of the broth, mush and a pan of sour milk, if to be had, to pick at till five or six o'clock.

SUPPER.—All the granulated corn, oats and wheat they would eat should be given.

WEDNESDAY.

BREAKFAST.—Fish chowder made palatable with salt and pepper, boiled potatoes, and thickened with cornmeal and shorts.

TEN O'CLOCK.—Oats and wheat, and all the steamed clover or green chopped oats they would eat.

DINNER.—Cracked corn and balance of the chowder if not wholly disposed of at the morning meal.

SUPPER.—Cracked corn and barley.

THURSDAY.

BREAKFAST.—Chopped sheeps' haslets and warm mush of wheat, bran and cornmeal.

TEN O'CLOCK.—Cracked corn and wheat.

DINNER.—All the steamed clover they would eat, and as dessert what excelsior meal cake they would dispose of.

SUPPER.—Cracked corn and oats. Give sour milk in a pan to go to at will.

FRIDAY.

BREAKFAST.—The meat soup thickened with excelsior meal.

TEN O'CLOCK.—Green oats, chopped onions and light feed of granulated corn.

DINNER.—Balance of the broth, mush and barley to finish up.

SUPPER.—Cracked corn and wheat.

SATURDAY.

BREAKFAST.—Raw chopped meat and excelsior meal mush, scalded and fed warm.

TEN O'CLOCK.—Chopped cabbage, lettuce and turnips, or mangel wurzels, throwing then a little granulated corn.

DINNER.—Excelsior mush with barley.

SUPPER.—Granulated corn and oats.

SUNDAY.

BREAKFAST.—Fish chowder, warm (made as above).

TEN O'CLOCK.—Steamed rowen clover and barley.

DINNER.—Excelsior meal cake and scalded milk.

SUPPER.—Cracked corn and wheat with sour milk *ad libitum*.

It is not absolutely necessary to bake excelsior for them after the chickens are two weeks old. It may be

scalded, but we think it pays to bake it. We make the excelsior meal by grinding into a fine meal in the following proportions: twenty pounds of corn, fifteen pounds of oats, ten pounds of barley, ten pounds of wheat bran. We make the cakes by taking one quart of sour milk or buttermilk, adding a little salt and molasses, one quart of water in which a large heaping teaspoonful of saleratus has been dissolved, then thicken all with the excelsior meal to a little thicker batter than your wife does for corn cakes. Then bake in shallow pans till thoroughly cooked. We believe a well appointed kitchen and brick oven pays, and in the baking of this food enough for a week can be cooked at a time. Our brick oven should be heated once a week, when the sheeps' haslets could be baked so they will chop easily on baking day: but if steam boilers are used the food can all be steamed easier. Granulated corn we secure by first grinding the corn into a coarse meal and bolting out the flour that comes from the chit, so-called, or endosperm. Oat groats or steamed oats may be fed dry; this is expensive, but during the first two weeks will be a very nice food for them. After continuing the bill of fare described from two weeks till eight weeks old, the chickens can be taken to the fowl quarters, and enter on three meals per day, which can be what any grown fowl would eat. But vegetable food and meat food must be regularly given, for so long as muscle and bone are growing we must cater for them and furnish muscle and bone-growing material.

CORN furnishes eleven per cent only of muscle and one per cent of bone.

WHEAT, 15 per cent of muscle, 1 per cent of bone.

BARLEY, 17 per cent muscle, 2 per cent bone.

OATS, 22 per cent muscle, 3 per cent bone.

BEANS, 22 per cent muscle, no bone but rich in nerve tissue.

Thus we have in the excelsior meal feed 17 per cent of muscle-growing material and 1⅞ per cent of bone-growing substance. This excelsior meal feed has the praise of all who have used it, and when we assert that hens lay 20 per cent more eggs, and that Asiatics will weigh one pound more at twelve weeks old by its use in baked cakes and scalded milk, we but state a fact that can be vouched for. But we are asked: Why be at the trouble of making this meal when we can feed these different grains from day to day? We answer by saying, You will not take the pains to feed them every day, and in the proportion named. We all know that in plant life it is necessary for thrift and growth and a full crop that the ground in which it is planted must contain the constituents that go to make up the plant we would raise; that if but one of the ingredients be wanting that growth ceases,—so it is in this excelsior meal. The fact that more eggs are secured and larger chickens grown by its use, over the old farm way of raising them, should be the one fact to secure its use. Let the gain be but two ounces each on five thousand chickens in a year and we have six hundred and sixty-six pounds of broilers, which, at forty cents per pound, gives us the net sum of $266.40, which will pay pretty well for making what bread we feed to them before they are twelve weeks old.

Again, we cook the food and it is kept sweet until

eaten up. No sour pans and fermenting food lying about. The old water-and-meal dough that in one hour in the sun commences to ferment, the old boards and ground, sour as can be, the continued eating of this sour mixture off the sour boards and ground, disturbed state of the bowels, acrid discharges, diarrhœa, and death, are all prevented and a rapid growth instead secured, because the chickens are healthy and the pullets raised to lay earlier in life, and to be better layers through life for your trouble. Is the picture overdrawn? Try the excelsior meal, and if we have made a mistake, notify us. We are aware that seed food is the natural food for fowls, and for this reason we recommend the granulated corn, for it can be fed dry with the millet and canary seed to fill their crops at night, as we give the adults corn and grain to retire on, and substituting the larger grains as they grow to be able to swallow and masticate them. We are sensible that raw meat can be fed in such quantities as to be unwholesome for them. At liberty in the summer time they secure all that is necessary till frost comes and closes the earth and prevents the earthworms coming to the surface, and cuts off the insect supply, when we must furnish it to them in the shape of flesh and fish in a reasonable supply. We have tried to designate what that should be in our bill of fare.

In keeping large numbers of fowls it is easy to cater as indicated in the foregoing. Milk is a whole food in itself, and where one lives near a creamery skim milk and buttermilk can be had at from eight to fourteen cents per can. We would keep it on hand for daily use even at the highest price named.

As soon as the males are large enough to weigh three pounds to the pair take them to suitable fatting pens, furnished with clean gravel, and feed four times a day on corn and barley-meal and pork scraps scalded together, also corn and barley whole, with crushed charcoal in a box, that they may help themselves; give one feed a day of chopped celery and whole corn; darken this coop for two hours after feeding. In ten to fourteen days they will be plump and weigh four pounds to the pair, and be appreciated by our seaside epicures.

If we are to make roasters of them, if Plymouth Rock, grow to five months old, if Brahma, to six and a half months old, then shut them up for a two weeks' fattening process, as spoken of above, when they will be surely first-class roasters.

As the pullets are to be kept for egg producers, a different course should be pursued. We believe first in selecting the best layers as stock birds; we also believe they can be reared to be better layers by feeding almost wholly muscle and bone material, and avoiding all fat-producing food. When eight weeks old let them have all the exercise they can be induced to take; let their food be milk, wheat, flesh, fish, and constant supply of green vegetable food, and you will find they will commence earlier to lay and be the better and more prolific egg-machines, for you built them into such a structure. Note the difference in the number of eggs laid by such a flock as compared with the pullets bred haphazard, and who have roughed it for an existence up to six months old.

Through all this course see to it that all drinking-

pans are kept clean and that the water be changed at the very least once each day. We believe it will pay you to do it twice, morning and at four o'clock. Roup of itself is not contagious, only as through the drinking vessels. It is therefore advisable to have a hospital, to which remove all ailing stock. If you do not care to doctor them, kill all sick and ailing specimens on their discovery. When the chickens reach an age from sixteen to twenty-six weeks old,—classing the breed, to wit: the Leghorns and other small breed, sixteen to twenty weeks; Plymouth Rock and other middle size fowls at eighteen to twenty-four weeks, and Asiatics at twenty-six weeks old,—they will be seen to be dropping their hackle and tail feathers. At this indication be on the look out for what we term distemper, which seems as sure to come as measles with children. They show very red in face and comb, they act in a listless manner, showing a disposition to sit on the roost or ground, and move exceedingly slow. As this falling of feathers becomes apparent, put at the ratio of two grains of bromide of potassium in the water they would naturally drink in a day, every other day for a fortnight, when the trouble will be disposed of, many being prevented from having it at all, others having it lightly. The disease is generally followed by thirst, which may be adjusted by a dose of from one and a-half to three grains, as the thirst compels or induces them to drink. They generally eat but little while the trouble lasts, which will be about three days, when they return to their food and all is over. Bad cases, where the face swells and the nostrils run, will make it necessary to inject into them by the aid of a crown

bottom oil filler, kerosene oil, and the throat should be gargled with the same, when it will be found all that is necessary to ward off the roup in nineteen cases in twenty, and then the twentieth case can be removed as recommended in roup.

While our bill of fare and care for chickens from shell to griddle will apply to both the natural and artificial rearing of them, many of my readers will care only to raise them to supply home consumption, and perhaps some few early chickens that they may show them at their fall fairs. Let this be as it may, it is never advisable to hatch them till they will be able to have quarters on the ground, when they will get the young grass by the time they are four weeks old, for they will certainly have rheumatism and prove worthless. If you hatch them earlier than this you must sow frames of oats in your kitchen windows, if you have no hot-house, that the green oats may be had for them each day as a substitute for the grass. These frames, set upon the stove and warmed through, will increase the growth of the oats, and a frame 20x30 inches will raise oats enough for a brood till the grass comes in the spring. We are too many times apt to believe we can get along without this green food, or a substitute. But to make sure of success, one should have an acre or so of clover, which can be cut three times by cutting when, say, six to eight inches high, just before it blossoms — left to wilt in the sun and finished drying in the barn lofts. In this way secure a sufficient crop to make it serve you till you have enough for the uses heretofore described. To enable your customer for your egg to make the golden-colored

custard will be an inducement for them to remain your customers; and remember this clover alone will do this, fed to hens in winter. Again, be sure of this crop.

BLACK COCHINS.

CHAPTER X.

ARTIFICIAL INCUBATION.

TO say that the capabilities of poultry husoandry have not been even dreamed of, could the artificial hatching and raising of the chickens for broilers be demonstrated as practical, none will deny. There is actually no limit to the industry. Until 1884 no one can claim the artificial plan as having proved a success. The ever-increasing demand of our city hotels and restaurants, the rich families, and continual increase in our summer resorts, has proved immense, and the demand of the future for broilers, who shall estimate what it will be? But whoever has seen a demand in the country that did not create a supply? There is no other resource than that artificial incubation and rearing of the chickens must meet this demand. The question is asked almost daily, "Is there an incubator that is reliable in the hands of common people?" We answer that in the hands of seventy-five per cent of the human race, No. Is there an incubator that a man or woman can be taught to run successfully? We answer, Yes. And here is the first lesson to be taught, that ordinary women and children cannot run incubators. All the incubator makers up to one year ago have asserted that "any woman or child can run it." They

have deserved defeat, and their incubator has been worthy only of condemnation. It has been the rock on which their enterprise has failed. We believe there are incubators that can be run by intelligent men and women, but there are none that can be run successfully by people who have not come to the age of judgment, for it is safe to say not one incubator in forty that have been purchased has been run the second season. And there is not an incubator put upon the market that can be run successfully by the printed rules sent out with it. We made this assertion to one of the most successful incubator manufacturers, and it was not disputed. The assertion is far from being a bold one, when made against the incubators collectively. Yet we believe "The Year" and the "Machine" have come when we may be said to be looking upon the dawn of practical artificial poultry culture. Let the incubator be what make it may, the operator must love the work, learn every piece and adaptability of its mechanism. He may with profit be well schooled in embryology, the influence of the atmosphere upon the eggs and its work in connection with evaporation, the humidity of the heat, the growth and increase of animal heat engendered in the shells in conjunction with the temperature surrounding the machine externally, the regulation of the heat applied by the lamps or stoves. There is not one of them all that does not fluctuate very much, and each hour has to be watched and provided for. The attendant alone is responsible for all this. No child can do this, and not five per cent of the business men and acknowledged smart women we meet can do it. When the attendant becomes an expert he so

controls, as many have become able to do, these influences by the sense of feeling, to wit: putting his hand into the incubator and judging by the feeling, and not by looking at the thermometer, having become so to speak a living thermometer. Then the machine is safe in such hands; such persons can be said to be masters of the situation. Eternal vigilance has been the price paid for this knowledge. With such intelligence to control them may it be said that we have in this year of our Lord, 1885, incubators that contain within themselves the conditions nature furnishes for hatching eggs. The egg is one of the most beautiful of creations; yet how much depends upon the condition and care of the hen that laid it whether it ever becomes a chicken.

To the careless observer it consists of but two elements within the shell, the yelk and the surrounding albumen. Yet the careful student finds within these a multiplicity of features and conditions quite beyond the vision of the ordinary experimenter.

Now to study an egg requires a trained hand and eye. It also requires in the student a knowlege of anatomy, and a skillful manipulation of the microscope.

As the embryo chicken advances in growth and perfection, it is necessary that every phase and requirement of its embryohood should be studied and understood.

Professors Huxley, Agassiz, Foster, Balfour, Bischoff, Dollinger and Karl Ernst Von Baer, have devoted years to the study of the egg, and to their scientific labors we owe most of our knowledge of embryology.

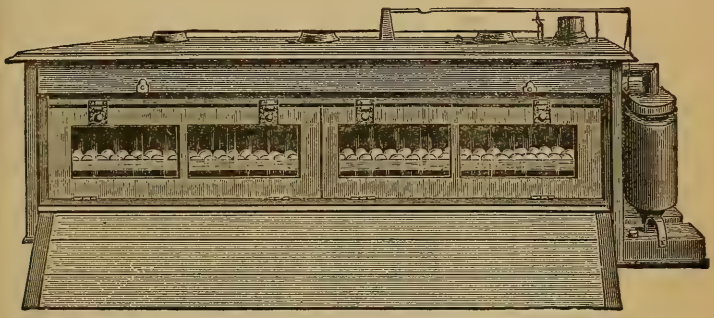
Their studies were confined entirely to the physiological life of the chick, and none of them pursued their labors to a utilitarian end; that is, they worked as scientists, not as inventors. Yet all knowledge possible does not come amiss.

The greatest source of failure has been the endeavor to make them self-regulating. Electricity has proved too delicate, and therefore too treacherous a means, and the temperature has fluctuated. Under the hen 105 is the extreme the eggs can reach; and experience has shown that if incubators run above 106 during incubation there will be a corresponding mortality; that if the temperature goes to 115 degrees it may not decrease the number hatched, yet it will cause a mortality among the chickens from twenty-five to sixty per cent. When the machines run evenly, never below 99 or above 105, or in the use of incubator thermometers the heat be maintained at 103 to 106 (they being gauged three degrees high), then the mortality would not be beyond three per cent over those hatched by the mother hen, and, the same care exercised in the rearing of them, one would have to be a keen observer to see any difference between the incubator and naturally hatched one. It is fair also to say, when the machine is allowed to run so high that a certain per cent in increase in mortality is discernible, that the chickens that live are impaired in a like ratio as compared to those hatched and raised in the old way.

As these chickens advance in the embryotic life they engender animal heat. This increases each day from the tenth to the twenty-first, when they break the shell. This demands the attention of the man in

charge, and a constant change in the means of regulating the incubator, and should be attended to every sixteen hours, to say the least. Then how foolish it is to say a machine can run alone. An incubator that hatched its chickens at 105 degrees, the moment the chickens are removed from it the temperature runs down to 92. This shows that the chicks themselves influence the heat twelve to thirteen degrees, and a machine left to run itself would, when taking into it the same amount of air, reach 117 degrees. If the regulator prevented it by a larger amount of air admitted, the moisture in the machine would become exhausted, and the chickens dry in the shell and fail to hatch at all. It is as the operator becomes an expert and able to control all these complications that he or she becomes valuable; and the day is not far distant when such experts will command from $1,000 to $3,000 a year, for the poultry men have paid out all the money they propose to for crude help on incubators; and the incubator that in the hands of even these experts will hatch even ten per cent more than its competitors will be the one to be used to the exclusion of all others. We have been slow to recommend any particular incubator, but for practical use the production of broilers in April to September 1st makes incubators a necessity. The eggs must be hatched at a time of year from November to March, when hens *will not sit*. We kick against the pricks no longer, and say the time has come for a reliable incubator, and experts in the form of intelligent women to run them and to care for the chickens hatched by them. Women, when interested in the work, are better than men. We have tried to show

you the danger of crowding by the young chickens, but ducks can be raised artificially with far less danger in this respect. They can be grown in larger numbers on the same ground and in flocks of from two to three hundred with less danger of death by suffocation. The best duck record we have any knowledge of was by the use of the Monarch incubator, March 1, 1885. One tray was filled with duck eggs; when tested it gave sixty-seven fertile eggs, of which sixty-five hatched. May 16th, two trays were filled with duck eggs and put in another



MONARCH INCUBATOR.

Monarch machine; 168 eggs proved fertile, and 164 eggs gave us ducks. At the next trial the whole incubator was used, and from the 379 fertile eggs 362 ducklings came forth. It then being too late for broilers the machines were used (four of them) solely for duck eggs as fast as thirty-five ducks could furnish them, till at the present writing 3,000 ducklings can be seen upon this farm of James Rankin. Up to the time 1,800 were hatched, the oldest being but ten weeks old, only three ducklings had died from any cause whatever. At this time the oldest were being marketed and

weighing from near eight to eleven pounds to the pair. The growth was surprising. The last hatch was July 10, when 260 ducklings were hatched from 278 fertile eggs. Thus has the percentage been from ninety-two to as high as ninety-seven per cent of the fertile duck eggs.

These green ducks, as they are called, started off at $3.00 a pair in June, selling now (July 17) at $2.00 a pair. In the meantime we have been marketing eighty pair a week, the average age being nine weeks old and average price up to present writing being about $2.40 per pair, and their cost twenty-six cents per head. Quite a profit for a four-months' business. You can put these young ducks into the brooding houses in lots of one hundred and fifty each; they need the brooders only about ten days. Their first food should be the boiled infertile eggs, boiled hard and mixed with an equal amount of excelsior meal bread crumbs—the whole peppered a little with cayenne pepper—and scalded milk to drink, putting the milk in a fountain so they can only put in their beaks to drink; after the first two or three days the baked excelsior meal bread and milk can be abandoned, and cornmeal, two parts, oatmeal, one part, and wheat bran, one part, with seven to ten per cent ground beef scraps, scalded and let soak six to twelve hours. This whole mixture can be scalded or mixed with skim milk. Feed for first four weeks five times per day—three times per day afterward—boiled potatoes or other vegetables mashed with ground meal and scraps. Ducklings need more meat and vegetables than do chickens. When fattening them use milk for drink and celery chopped fine for the last week if you wish to give them the wild celery flavor of the wild mallard.

The Pekin duck was used in the foregoing experiment. During all this time these young ducks have had only water to drink given to them in fountain drinking vessels in which they could only put their beak. The very young duck should be confined in grass runs say 20x150 feet. When six weeks old they may have a field large enough to keep green. They graze like cattle, and grass and vegetables must be furnished them constantly.

Mr. Buffington, on seeing the success above stated, put 400 eggs into his Monarch incubator. How many infertile eggs were taken out on testing day we did not learn, but 323 ducks were hatched and doing well. We say so far as ducks are concerned artificial hatching and rearing is a success, and their growth rapid and the ducklings larger than those hatched and left to the natural care of mother ducks. That chickens are being raised for broilers successfully we are compelled to acknowledge, and we say that while heretofore we have been no friend of or believer in incubators we wish to be understood that at least we are no longer prejudiced, and believe in the possibility that with experts to run them they are the only means by which the broiler business can be carried on successfully. We have cited the use of the Monarch incubator for the reason that the foregoing has been achieved by it and we believe it less complicated and easier regulated and a safe machine in the hands of people of general intelligence. Other incubators are successful, but not being personally acquainted with or knowing of experiments resulting from them we speak only of this one.

We give this experiment in duck raising for the

reason that it is new, and a means whereby the fast decline in the wild duck and game supply of the country in our opinion is to become a substitute. The past season thousands of these green ducklings, celery and milk and barley fattened, have caused the lips of many an epicure to smack, with the accompanying assertion that they gave unmistakable evidence of their feeding upon young wild celery. The fact is, these ducklings so raised and nicely cooked are the best meat that wears feathers, and he who has never eaten one so reared and fattened has yet to learn what is the finest of all poultry.

To treat of the subject of artificial incubation in an exhaustive manner was not our intention. The care of chickens artificially we have dealt with in a previous chapter, and have expressed all that need be said. The use of incubators from October to March 1st for chickens as broilers, and their use for green ducks from March to July, seems to double the poulterer's time and facilities in their use. May the years to come be as fruitful of improvement as have the last three in this direction, and poultry culture will maintain its supremacy as an agricultural industry.

CHAPTER XI.

DISEASES OF FOWLS.

THEIR MEDICAL TREATMENT.

WE shrink from writing upon this subject, for we are not an M.D., and we only give our views upon and treatment of a few of the most fatal diseases that we have had occasion to deal with.

We believe in prevention, and when fowls are sick, in extermination, more than in doctoring. When fowls have their liberty they are seldom ill, and when they are confined, if we are careful to furnish a good supply of vegetable food, health generally attends them.

In most of the fatal diseases there is a poisonous fungus growth in the blood. Fowls never perspire, and the heart beats one hundred and fifty times per minute. The evils that are easily thrown off by perspiration with them have to be exhaled by respiration, and as a result we find the seat of nearly all the fatal diseases to be in the head, throat and lungs. Rapid respiration and circulation therefore become necessary to expel the vapory excretions.

The chanticleer of the farm-yard whose liberty is not proscribed will have a battle every week and not seem the worse for it, while in a similar instance one kept in

a poorly ventilated house, and fed upon unwholesome food, will suffer from inflammation and canker, and in very many cases death will follow. And why? Because the blood is poor and even poisoned, and unable to do the work of repairing the damage until it has thrown off the poison from which it is suffering. The former, rich in a healthy circulation, commences the work of recuperation the moment the wounds of the battle stop bleeding.

We are all aware that iron is one of the very best of blood tonics, and if we but observe we shall see that fowls kept upon an iron and sulphur charged soil are generally more healthy and show better luster in their plumage than those kept upon a dry and arid plain. The reason is that the vegetable growth is but the embodiment of the soils, one furnishing rich iron and sulphur deposits, the other destitute of them.

The breeder, if he would be successful, will do well to consider his location and furnish artificially that which is lacking in his soil. "From dust to dust" is true of all things, and it behooves us to see of what kind of dust we build our chickens.

The best doctors are those who watch the patient while well, and prevent sickness, instead of waiting for symptoms and then doctoring them (the expectant plan, so called), and finds his remedies in the regulation of the diet.

So the breeder best takes care of his flock who keeps a watchful eye upon them while at roost. If the droppings from it show a costive tendency then feed freely of vegetables, such as boiled potatoes, turnips, or cabbage mashed with bran and meal while hot. If

the droppings show a relaxed tendency, then cease giving vegetables, and resort to baked johnny-cake, corn, and tincture of iron. Sour or sweet milk is one of the best things to feed poultry at all times. Fowls thus carefully fed are seldom sick, unless it be that they have what we term the "distemper."

DISTEMPER.

This disease all chickens are heir to, and it generally takes them about the time they are from twenty-two to twenty-six weeks old, and at the time they are shedding their second chicken feathers, preparatory to putting on their freedom suits, so to speak.

If carefully watched little or no medicine is needed, and so light is the disease that it hardly deserves a place in this catalogue, yet if not jealously watched it becomes the most fruitful in the introduction of roup and consumption.

Symptoms.—A listless, quiet mien, a disposition to remain on the roost in the day-time, face and comb quite red, and a puff or fullness of the face under the eye. The second day a white froth is discernible in the corner of the eye. A decided loss of appetite is also noticeable.

Treatment.—If noticed, and the disease taken in hand before the appearance of the froth in the eye, it will usually only be necessary to wash the head and beak clean, and blow down through the nose into the throat either with the mouth or by means of a rubber nipple, thus clearing the tear tube, and bathe the head and wash the throat with a solution of carbolic acid—one part acid to ten parts water. The birds should be

kept in a quiet place and allowed nothing but water, in which place three grains of bromide of potassium per day. The best way to administer it, if the fowl will drink of its own accord, is to apportion its water to what it will take in the day. In this way they take it homœopathically. But if dumpish—neither eating nor drinking of their own volition—then administer the dose in a pill of soft bread, inject, by means of a crown bottom oil dripper, kerosene oil into the nostrils. A still better way is by the use of a crooked nozzle rubber syringe, placing the point in the cleft of the roof of the mouth and syringe the nasal passage clear, when the action of the oil will be to allay the inflammation. One treatment is sufficient in three-fourths of the cases. It seems to run about three days, when they regain their usual appearance of health, many have it so light as not to be noticed. In aggravated cases, where the face is swollen and eyes become watery from the closing by inflammation of the tear tubes, the head and throat should be thoroughly steamed by the use of a large sponge and hot water. The tear tube should be cleared (as before explained), a dessertspoonful of castor oil given, and the bathing of the face and throat with the solution of carbolic acid continued at short intervals.

This distemper may be called a cold or the incipient stages of the roup. We will not quarrel about names, but simply say that in our opinion it is no more roup than a cold is measles. There is no offensive smell to the breath as in roup, but if neglected it will excite roup. We have not the slightest doubt of this; in fact, know it to be the case, and the breeder has the

choice of adopting the adage, "A stitch in time saves nine," and attending to this mild, easily-managed distemper, or to neglect it and have that scourge of a poultry house—THE ROUP—to contend with.

ROUP.

When roup appears our advice is to kill the affected one and turn your attention at once to the flock, giving sulphur in the ratio of a tablespoonful to fifteen fowls every other day for a week, feeding tincture of iron, eight drops to a hen every day in their soft food, which will pay to be boiled rice, until treatment is over. With this be sure that the ventilation is complete and free from direct drafts upon the fowls. For the benefit of those who wish to cure the disease we give the following symptoms and our method of treatment:

Symptoms.—Swelling of the head, watery discharges from the eyes and nostrils, which are very fetid and offensive to the smell, following which these discharges become acrid and result in a congealed yellow coating to the mouth and tongue, called canker—which we term a poisonous fungus growth in the blood.

Treatment.—Wash and steam the head and throat with hot water in which a dash of carbolic acid is added. Clear the nasal passage to throat by an injection of carbolic water, one part carbolic acid to ten parts of water, or by the use of kerosene oil and the crooked syringe, as spoken of in distemper. Gargle the throat with kerosene oil three mornings running, when all the canker of throat and mouth will generally cleave off, leaving the mouth and throat red but clean.

We have seen cruel though ignorant people remove this canker of the mouth with a stick or nail. All this kind of treatment but aggravates the disease. Give a dessertspoonful of castor oil, and follow with a gill of milk in which two grains of bromide of potassium has been dissolved, night and morning.

The milk can be easily administered by taking the bird by the under beak and drawing the neck upward till straight, when the milk poured from a tea-pot will run into the crop without the effort of swallowing.

At the end of about four or five days the effect of the bromide in the blood, and the solution of carbolic acid as a bath, and the kerosene as a gargle, may be seen in the sloughing off of the cankerous substance from the tongue and mouth, when the fowl will commence to mend. The treatment at this stage should be nourishing food, with occasional doses of sulphur, and the fowls will regain their health and sprightliness. In some cases the bromide seems to fail in overcoming the poison in the blood. We have used Fowler's solution, one drop a day, and in a week seen the birds commence to mend, but when the disease hangs on for a long time we think it poor policy to breed from such, for we find such birds susceptible to colds. They have become so debilitated that their recuperation, and the watching for a long time before they will lay, makes the hatchet a better means of eradicating the disease in those isolated cases.

CHICKEN POX (OR "DRY ROUP").

Symptoms.— An eruption of the comb, face and wattles, raised and warty in appearance, and in color a

WHITE FACE BLACK SPANISH.

yellowish white. When the crests are removed, these warty substances resemble a bunch of tiny spiles set into the flesh. They bleed profusely.

Treatment.—Remove the birds from the flock, and touch the crowns of their pustules with citric ointment and allow them to dry down to a black scab, which will be ripe in about seventy-two hours, when, if lifted off, will take with it the little white roots of the disease, from one-sixteenth to one-eighth of an inch in length. Give each morning for four days a pill made as follows: Tablespoonful of common flour, tablespoonful of flour of sulphur, twenty grains cayenne pepper, twenty-five to twenty-eight drops "Fowler's solution." (If the Fowler's solution cannot be had, use sixty grains of bromide of potassium instead.) Mix with cream, and make into twenty pills.

Dissolve four grains of quinine in half a pint of milk, giving half in the morning and half at evening; feed while treating, boiled onions mashed with oatmeal and boiled rice. If the disease attacks the eyes so as to close them and prevent their eating make the food into pellets half the size of one's little finger, which, if dipped in milk and the bird held as described in roup, will slip down the throat readily.

If the sulphur acts too powerfully upon the bowels scald the milk given, which will check its influence on the bowels and cause it to work more strongly in the blood. The disease is so like the "yaws," described by Dr. Quinn, we are of the opinion that it is a kindred one, if not the same.

Roup sometimes accompanies it, but they are not alike. This has a run, and requires from five to seven

days to treat it. We tried specimens of a strong constitution by giving milk and water, and without treatment, which recovered. It is very contagious, and on its first appearance kill the specimen afflicted, and by the use of vegetables, sulphur and iron treat your flock to check its spreading. Cleanse the house in which the disease appears as thoroughly as you would a house that had been visited by small-pox. It is, like that, a cutaneous disease.

DIPHTHERIA.

We give to this new and very fatal disease the above name on account of its symptoms.

Symptoms.— The face and throat become exceedingly red and inflamed; so much so, that if cold water is applied it will evaporate in steam on account of the heat produced by the inflammation. Six hours after this feverish appearance in the throat and face the throat becomes coated with a yellowish leathery lining, which may be removed by putting down the throat a compressed sponge, liberating it and withdrawing it, when it will take up the coating, leaving the surface of the throat a whitish red, thickly studded with minute raw spots from which this poison fungus growth seems to exude.

If the throat be left without sponging out more than six hours the coating will adhere to the throat in the same manner as the canker does in roup.

Diarrhœa attends the disease, the discharges resembling a mixture of oil, snuff and chrome green paint.

Exhaustion is very great, so much so that we have given a cock of twelve pounds weight two ounces of

brandy with two ounces of milk in the morning and he showed no evidence of intoxication whatever.

Treatment.—Steam the head and throat with hot water to which a little carbolic acid has been added, and sponge the throat as described in roup, also gargle the throat with kerosene oil, or still better, the following recipe: Sulpho carbolate soda, sixty grains; glycerine, cinnamon water, of each two tablespoonfuls. Give a small teaspoonful three times daily, and gargle the throat as above with a teaspoonful of the following mixture in a half glass of water:

℞—Saturated solution of chlorate potash..... 4 tablespoonfuls.
Tincture chloride iron..... 1 teaspoonful.

Then touch the most prominent spots with a camel's hair pencil, dipped in the above.

To keep up the strength during treatment add a beaten egg to a goblet of milk with a tablespoonful of brandy in which previously dissolve three grains of quinine, giving a third, morning, noon and night.

When the eruption we have called chicken-pox accompanied the disease, it seemed to act as a counter-irritant, and more fowls recovered when thus afflicted, than when troubled with the throat disease alone.

In the light of our experience we should not try to save a single specimen, but should kill and bury them at once, and attend to the sanitary condition of the remainder of the flock, by giving Fowler's Solution at the rate of one drop to a fowl in the water and continue it for eight or ten days.

Should this disease visit one in the form of an epidemic, it would be no less, and we are fearful, much more fatal than chicken cholera.

BUMBLE-FOOT.

This disease is in very many cases caused by carelessness. Flying down from high roosts to a floor which is always more or less covered by small gravel stones results in bruises that are precisely like what we usually call "stone-galls."

The flesh of the foot being so tough, the pus cannot escape, therefore, if not attended to, it must congeal, and an ungainly, troublesome foot be the result.

The fowl goes lame, and careless of its comfort, we in nine cases in ten fail to investigate in time to prevent serious trouble. When discovered before the pus congeals, lance the swelling at the rear of the foot, and the pressure upon it in walking will press the pus out and there will be a much smaller callous than if allowed to settle down of its own accord.

We have treated cases by making an incision in front and rear of foot, and those on shank by opening at top and bottom, and by the use of a syringe and a solution of carbolic acid, of one part of acid to ten parts of water, cleanse them thoroughly, when they all heal up.

In most cases we are not aware of the trouble till the pus is congealed, when it is almost impossible to press it out unless we take with it some portion of the layers of the foot, which would be worse for the fowl than to use a strong liniment to take out the soreness, and let the inflammation settle down into a corn.

When the swellings are upon the shank or knee-joints, which are generally the result of rheumatism or

gout, the fowl may as well go to the block, for it is a doubtful policy to breed from such a specimen.

But some have a mania for doctoring, in which case use strong liniment, and bind the shanks and joints in leaves or bulbs of the skunk cabbage, and give internally, one drop each morning, of Fowler's Solution, for a month, or bromide of potassium, three grains per day, until the trouble is cured.

Bumble-foot may be prevented in a great degree by providing low roosts and keeping the floor of the fowl-house covered three inches deep with loamy sand, which costs less than to doctor fowls for the want of it.

THE RED SPIDER LOUSE.

This pest is the scourge of the poultry-house, and the source of more trouble and annoyance than any other hindrance to poultry keeping. The quarters often become literally alive with them before the breeder is aware of their presence. They sap the life blood from the fowls and reduce to skeletons and debilitate a flock to such an extent as to make the season unprofitable. Working only in the night, they escape notice and have things their own way.

Fowls that are sitting upon eggs are generally the greatest sufferers, for these lice instinctively seek out such hens as are about to hatch their broods, and many a hen sacrifices her life to her motherhood.

In this case the hen becomes sallow in face and comb—actually bloodless, the lice having consumed the blood to such an extent as to cause death, and many fowls, whose death has been attributed to disease, have been murdered by these pests.

The quarters should be constantly watched, and all the cracks and knots on or about the roosts saturated with coal tar and kerosene oil, or carbolic acid. The houses must be kept free from them, for the exhaustive influence of these marauders not only entails the loss of blood to the fowls, but, by reducing their strength, renders the flock more liable to the diseases we have described.

It is therefore the best and surest step toward warding off disease to have an absolutely clean poultry-house. If from one to three pounds of sulphur be mixed with the loamy sand and gravel covering the floor, in which the fowls may dust themselves, and kerosene oil used as described, the fowls occasionally dusted while on their roosts with a dredging box filled with sulphur and Persian insect powder, or carbolic powder, their quarters will be cleansed. Cleanliness coupled with judicious feeding is what makes fowls profitable. So great a nervous irritant are these species of vermin that in two flocks equally well fed the flock which occupies quarters infested with lice will not lay at all, while those free from this annoyance will lay nearly every day. This fact proves them to be an expensive enemy to the poulterer.

We do not go so far as some writers and say that all disease is caused by lice, but will say that many a fowl would not have suffered disease were it not for this barn or spider louse. Breeders, look for them at all times. Do not wait for them to make themselves known, and force their acquaintance upon you.

DIARRHŒA.

This is most liable to attack chickens under two weeks old, and fowls during incubation, unless one is careful as to the diet given.

In chickens, scalded milk as drink, keeping water from them, will usually correct the evil, but sometimes it seems to visit the yard to a degree almost equivalent to cholera. Discharges resemble oil and snuff mixed, with green streaks through it. The fowl shows great exhaustion, and moves about to all appearance as if no muscles were moved but those of the legs.

Treatment.—For setting hens we have used one tablespoonful of the following mixture in a quart of water, giving them no other drink till cured.

℞

Sweet Tincture Rhubarb	2 oz.
Paregoric	4 oz.
Bicarbonate Soda	½ oz.
Essence Peppermint	1 dr.
Water	2 oz.

Mix.

With young chicks, if the scalded milk failed to correct the evil, put one teaspoonful of the above mixture in one half-pint of the milk.

Care should be taken to discontinue the treatment when a cure is effected, as one extreme is as much to be avoided as the other.

In the event of a stubborn case in adult birds put one teaspoonful of Squibbs' Diarrhœa Mixture in a pint of water and give as a drink, and generally a cure will follow in from twenty-four to forty-eight hours.

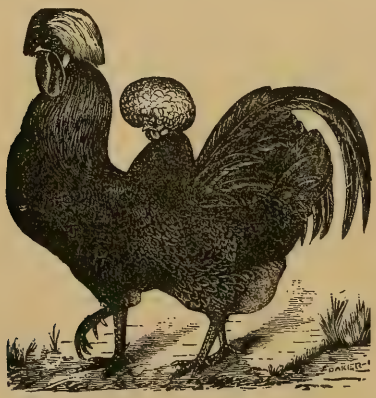
You will see by the formula that this is a very powerful medicine, and much care should be employed in its use:

℞

Laudanum	1 oz.
Tincture Capsicum	1 oz.
Tincture Camphor	1 oz.
Chloroform—pure	3 dr.
Alcohol	5 dr.

Mix.

If fruit cans are used as drinking vessels they should be discarded when they commence to corrode, as the rust is an oxide of *tin*, and in many cases brings on diarrhœa. Many a valuable bird has been lost in this way under the erroneous idea that they were getting iron and consequently strength, for where oxide of iron may do no harm oxide of tin is poisonous.



PART II.

CHAPTER I.

THOROUGHBRED FOWLS.

THEIR PROPER MATING.

THE word "thoroughbred," Webster defines: Bred from the best blood; completely bred; accomplished.

With the above before us we are led to assert that we have pure blood, and absolutely thoroughbred fowls —other writers to the contrary notwithstanding.

No one denies that we have thoroughbred cattle, which, by judicious coupling, have been bred to a uniform type that is recognized at a glance.

We have, for instance, the short-horn cattle, in color any shade found in red and white; the Devon, which in its purity is confined to dark red; the Jersey, in its varied shades found in fawn, white and black, and the Ayrshire, in any and all shades of color. Now have we not in the Light Brahma, Dark Brahma, Cochin, Hamburg, Houdan, Game, Spanish and Dorking, fowls as deserving the title thoroughbred as any of the cattle we have named?

Have they not been "Bred from the best blood"—completely bred—and does any one deny that the breeding has been accomplished?

In the cattle there is quite a diversity in color, but the fowls we have named will, even in color, produce their progeny in one uniform type, the family likeness more completely defined than is seen in the cattle, yet the same writers asserting we have no thoroughbred fowls maintain that we have thoroughbred cattle.

It is our purpose in this treatise to chronicle some part of our experience, describing, as far as we can, a perfect sire and dam, and presenting our views of mating for breeding fowls, claiming them to be thoroughbred.

Practical knowledge becomes, in one sense, science, and should be disseminated, and no theory that does not stand the test of experiment be valued or promulgated.

The Rev. W. H. H. Murray truly says, "We strike the bottom facts that underlie all breeding when we read this sentence: '*Every seed should bring forth after its kind.*'

"*Find the highest type to perform the paternal act, and we can repeat the typical creation. Find two parents that represent the original idea in any organism, and we can repeat the original idea.*"

These and kindred expressions fire the thoughtful breeder to his very center, and he searches to find out what constitutes a perfect sire, and what are the requisites of a perfect dam, that from the pair he may produce his ideal of perfection, combining health, beauty and utility in the offspring.

The sire should have a sound constitution, perfect color and symmetry (that form of structure produced by the harmonious blending of perfectly formed parts, as described by the Standard). He should be mild and courteous to his dames, showing no lack of procreative vigor; courageous, even pugnacious, in the defense of his harem.

It is not only necessary that he possess all these individual qualities, but he should have a record, or pedigree, that shows all his breeding qualities to be the result of ancestral blood and perfect breeding. Thus we have a really perfect sire. Such males, coming from a line of like sires, invariably stamp their progeny in the likeness of their own personality. Experience teaches that the sire, in his line, has greater influence in determining the color and form of structure than the dams.

The fact that chickens generally favor the grandsire makes it all-important that the male line should not be broken, and that the sire should be typical in symmetry and color.

Before speaking of the color qualification, and its influence in mating, we will submit the following, proved by several experiments, that our deductions may be better understood.

It is asserted by pigeon fanciers that if a pigeon, white in plumage, beak and toe-nails (it matters not from what colored ancestors it may have been bred), will, if it breed at all, breed true to white. An Albino-Spanish fowl, if pure white in plumage, beak, and legs, will ever after breed true to white.

We produced in 1862 a pair of white sports from Golden-Spangled Hamburgs. The male had bluish-

white toes; the progeny came one-third Golden-Spangled in color, while a cockerel from the pair, in all respects white, bred to his dam and to his sisters, produced all white chicks.

Generally all sports, so called, are white in color, or we think a better expression is, that they are void of color.

By causes which cannot be explained the function of color fails to furnish its quota to the chicken's organism, therefore the chickens must be considered a new type, and lost to the breed, for they cannot be expected to transmit a color which they never inherited.

We admire a pure white back and undercolor in a Light Brahma pullet, with a clearly defined stripe in the hackle. But if successive matings of sire and dam, both being white in undercolor, are indulged in, the result will be faded and eventually white birds. A plumage like that of the Light Brahma, made up of white and black, cannot be exempt from the shading of the one color into the other with which it is associated; and in this breed the Standard wisely acknowledges both white and bluish undercolor, and gives no preference to either shade in adjudicating for premiums.

This position is a just one, and judges should not deviate from it, for without this dark undercolor in the sire we cannot sustain the breed. It matters not what our likes and dislikes are or may be, nor how we may breed for our own amusement, yet in all public expressions we should be careful to speak of each breed in its true light, and all truthfully-recorded experiments become of much value in counteracting whatever false ideas may appear in print from time to time.

Experience teaches us that the whole tendency of breeding is to breed lighter in color. We have only to call to mind the Light Brahmas of the past to see how all of the strains have grown lighter in color. We all know that the original birds were dark in under-color, and that light specimens then were the exception. We know also that a flock colonized and left to themselves grow lighter in color and finally become nearly or quite white.

In view of these facts we say all males of faded light color in plumage should be killed for poultry. In no case should they be used as breeders, for they are never good producers of males, and although they may for a season beget good females, these in their turn will revert in their breeding to their faulty sires. Why try to utilize these males and expect them to perform a work that is impossible? They cannot be expected to produce color when they utterly fail in that quality. Yet in the face of all this experience we see breeders using, year after year, white-necked Light Brahma, faded, light-colored Plymouth Rock, Light Buff Cochin, or splashed-breasted, bronze-thighed Partridge-Cochin sires, expecting by the aid of counteracting influences in the dams to reach perfection in color.

Should all the breeders of Plymouth Rocks step out boldly, using none but perfect-colored sires, they would perfect the color of their breed, which they will never do by mating extremes, as is now the universal rule. Why do these breeders forget these facts: *"That every seed should bring forth after its kind"; that the sire in his line has the greatest influence in determining the color of the offspring, and that there is a loss in color by breeding?*

Waste is written on everything. We are compelled to establish a sinking fund in all operations in life, life itself working on that plan.

In all penciled or barred plumage we find the ground color to be the lighter in shade; and as breeding strength fails (as it may by severe in-and-in breeding, producing debility or a weakened constitution) we find the progeny reverting to this lighter or ground color, those of white losing their brilliancy of color, black becoming mixed with white; Light Brahmas growing pale, and even white in the neck, tail and wings, and finally yellowish white; Buff Cochins to pale buff, white in flights and tail; Partridge-Cochins to clay-colored breasts, not penciled, and males buff-mottled in breast; the Golden-Spangled cock to reddish brown breasts, with white appearing along the lower line of the body; therefore good color not only requires the best mating of blood, but is also dependent upon the health of the parent birds while breeding.

Nine-tenths of all the blunders in mating for breeding occur in

COLOR,

and a corresponding number of all the breeders, in mating their stock, fail to consider that color is the especial work of the sire.

To be sure, good care and generous food help most materially, for feathers, like grass, grow most luxuriantly under favorable circumstances. Poor food, poor plumage. It starves alike with the body. This can well be remembered by those who expect they have done their whole duty when they buy nice stock and expect it to produce premium chickens.

The color of the hackle of a sire is to be considered, especially as it is to influence and control the hackles of his sons, for the hackle is purely male plumage, and the beauty of his sex; while the color of his neck, before putting on his garb, will determine his breeding-strength in the color of his pullets. A male that grows up black in neck, to be replaced or covered by a white hackle, having a yellow beak void of a black stripe, will, as a rule, beget pullets dark and many quite black and smutty in the neck, and male chicks white in the hackle, like himself; while a male with dark beak, very dark neck and back, as he becomes a cockerel, having a royal rich black striped hackle, will generally beget both sexes too dark, if anything like Standard females are mated to him. But such males are very valuable in restoring the progeny of hens that are light in color of neck, wings and tails; thus utilizing hens that must otherwise go to the block.

The reader may ask why recommend the mating of very dark sires to light females, and condemn matings made "vice versa."

In answer we will say:

1. The tendency is always to breed lighter in color, and the sire fails in this respect.

2. The sire, in his line, has the greatest control of the color of the offspring.

3. Chickens favor more strongly the grandsire.

4. A white-necked sire will beget smutty-necked females, which in turn revert to their pale sire, and if a like sire be mated to the rule of all white under-color, the same having been the breeding of the females, they will produce progeny all pale and faulty in color.

Experience teaches that cockerels with dark fine hackles, bluish undercolor, and black wing-flights and tail, are the progeny of perfect or dark-plumaged sires. So universally true is this that it may be accepted as a rule.

Our strongest argument in favor of the dark sire and rejection of the pale one is that experience says it is best, and that is our law.

The male of all breeds whose plumage is made up of black and white, or is parti-colored, owing to their profusion of hackle and tail, compared with the females of their breed, appear much lighter in color; consequently they are darker in breeding functions than they appear; and the first point an experienced breeder considers, in Penciled and Spangled Hamburgs and Plymouth Rocks, is the breast, bars of the wings, and color of beak, before considering the general surface color, knowing that if dark or light in these points that such will be the breeding and influence on the progeny.

Many find fault with the Standard, saying that to mate specimens by it is to make a failure in breeding.

The fault is not so much in the Standard as in our failure to consider the difference in the plumage of the sexes when we apply the Standard.

Size in the sire is of little importance if he be fully up to the medium weight of his race. An overgrown sire is useless as a breeder. The one just above the average, vigorous and healthy, will beget one hundred chicks weighing more pounds than will the overgrown male of the same brood.

Size and weight should be considered in the light of

WHITE LEGHORNS.

the general average. The best sire is the one that shows the least difference in the weight of the individuals of his progeny.

In the small breeds we may with safety choose our sires above the average weight, for it is a singular fact that in the largest specimens of the Asiatics and the smallest specimens of the smaller breeds will be found the most faulty birds.

This question of mean weight has been one of contention among breeders, for a large appearing specimen in the show coop for a long time in America, while open judging was the rule, generally won the prizes. Those who believed in all the breeds that practical worth should be closely watched, that by breeding they should not suffer and be disgraced, soon saw that excessive weight was not found in the most prolific specimens, also that many a bird had the credit of being large without the weight, as tested by the scales; that a long loose plumage as a rule did not cover the birds of the most merit as egg-producers, and soon in the American Standard size became size and weight, and finally, in the last edition, weight only. The best meat is that which is firm in fiber. The blocky, solid, close-feathered, smooth-surface plumaged birds as a rule are the best practically, and we in the past fifteen years have seen a vast improvement in all the larger or Asiatic breeds. The question is no longer, Is he the largest one in the exhibition? but, Is he the best one? Is the strain a practical one? Do they lay at an early age? and, Are they prolific layers? And from such the breeders are looking for sires. The fact that a male is half the breeding pen makes it all-important that he not

only be typical in all the foregoing, but that his worth often is increased threefold from being the son of an especially prolific dam, and pedigree in fowls is no longer looked upon in derision, but many times demanded by the would-be purchaser. If the breeder cannot give authentic pedigrees he has to be able to state of what the strain, and show that the stock has not been subject to mongrel crosses in his hands, to hold the trade. Whatever is of advantage in breeding, whatever of importance pedigree is in horse and cattle, so in a corresponding degree is it of worth in fowls; and one does well in his selection of sires to see that their pedigree is in keeping with their physical development and color.

THE DAM.

Constitution, prolific-laying, size and color, are important, and are to be preferred in the order named. In addition to this a good record of blood and egg-productive merit in her ancestry are to be considered in selecting dams for any breed.

A sound constitution and perfect health while breeding has much to do with producing prolific-laying stock; also with the luster and brilliancy of self-colors.

The dam produces the material for the chicken-structure; the sire the life of that structure.

The egg is to the chicken what the endosperm is to plant life—a store-house containing the requisites to produce a perfect chicken structure. The life-germ that is to absorb all this, being thereby built up into independent life, is imparted by the sire.

Unlike the animal kingdom, the hen performs her work as independently and completely without the male, as by copulation with him.

The egg-passage, running from the egg-sac to the vent, is a receptacle, a work-house, in which the secretions of both dam and sire are made up into packages called eggs. In this work-room impregnation takes place. The ovaria, when grown to a certain size, burst their sacks and are expelled into this oviduct, there to receive the spermatozoa of the male, and in their passage through become incased in the albumen, the lining and shell in turn, and expelled at the vent, perfect eggs.

There are in this passage, while a hen is in a healthy laying condition, from four to six eggs in their different stages of development; the last two nearest the vent being beyond the influence of the male, if the hen has not been previously exposed.

All the secretions deposited in the egg-passage must find an escape at the vent, for nothing goes back from it into the dam's organism by absorption, as is asserted by some writers.

We have seen cases where, by means of a cartilaginous circle about the vent, fowls have been prevented from laying their eggs, and in such cases the eggs in the egg-passage will form one over the other till death is caused by inward pressure; and we have before now taken from the carcass a mass as large as a six-pound cannon-shot, cooked solid by fever heat. We have taken from the egg-passage of a turkey five eggs, completely formed and shelled, completely cooked by inflammation.

The following experiments seem to prove that the spermatozoa will live, doing its work of impregnation, in this egg-passage, only about ten days, and we may say that the dam is pregnant for that length of time.

We placed a hen that had hatched and reared a brood of chicks, without exposure, with a cock for three hours, then isolated her in a coop by herself. The first two eggs she laid in the next forty-eight hours were not fertile; eight of the nine laid in the ten days thereafter were fertile. Those laid after that time were not fertile.

We placed a hen by herself that had been exposed while rearing her brood, and seven out of the eight eggs laid during the ten days afterward were fertile, but all eggs laid after that time were not.

We took a hen that had just finished her litter, wanting to incubate, and exposed her to the male for three days, then cooped her by herself. None of her eggs were fertile. In this case we take it for granted the incubating fever had not abated so as to admit of an effective copulation.

These experiments, which we can vouch for, seem to indicate that if females are cooped ten days before saving the eggs it will protect the breeder in the purity of the blood of the chickens; but as some believe that the whole litter of eggs is affected it is the better plan, in changing hens from one male to another, to do it at the close of a litter of eggs; but we are satisfied that after the fifth egg, after the change is made, the chicks would in nineteen cases in twenty be the progeny of the associate sire.

We believe the longer the spermatozoa remains in

the egg-passage without being appropriated the more sluggish it becomes, and that the fresh semen, being more active in its animalcule life, secures the impregnation of the eggs. This is speculation, but, nevertheless, in accordance with our experience.

If examined by the microscope there will be found no organic difference in the germ found in the yelk of the egg and that of the freshly ejected spermatozoa, both resembling a polywog, and there is no chance, as the author of "Secrets in Fowl-Breeding" asserts, for the dam to be contaminated by a chance copulation with a male not of her breed.

There can be no grounds for belief that a dam copulating with a sire of a different breed has lost her purity of blood, and that we can never afterward breed thoroughbred stock from her. We do not wonder, if he believes this, that he asserts, in the commencement of his work, that we have no absolutely thoroughbred fowls.

There can be no contamination of the blood or breeding of the dam from this cause, unless it can be proved that there is a union of arterial circulation between the fetus or chick and the dam. This is beyond proof, for there is no circulation in the egg till incubation takes place, and this is carried on independent of the dam, and may be a thousand miles away. Again, we have cases on record where an egg laid thirty-three hours after copulation hatched. It is clearly shown that the two eggs nearest to the vent are generally past impregnation, but in this case the second one was reached, and owing to the time it takes to develop an egg the vital germ must have been

taken into the egg at once, which precludes altogether the idea that the dam becomes injured in her blood by absorption through the act of copulation out of her breed.

We are surprised to see men foreshadowing this belief in their advertisements, for surely breeders of experience cannot believe it, and must look upon it as advancing a false theory, which does the amateur no good.

Size in the dam is all-important if great weight in the progeny is the desideratum; for, as we have shown, the dam furnishes the structure, and must thereby control the size to a much greater extent than the sire.

Secure dams of good average size. If they are to be used to vitalize some other strain it is necessary that they be coarse in structure and large in bone, for these qualities become toned down by in-breeding. They should also be dark in plumage to counteract the loss of color in breeding. In support of the above we will say that we mated two large hens to a cockerel weighing less than nine pounds, and which, as a cock, did not reach twelve pounds till three years old, and then only when exceedingly fat. Not one of his progeny, at eight months old, weighed less than nine pounds, and many of them twelve and one-half pounds. Again, we mated a cock of ten and one-half pounds to ten-pound hens, and the result was, at ten months old the entire male progeny was larger than the sire, many of the cockerels weighing twelve and one-half pounds before twelve months old. Yet for all this we would caution breeders not to go to extremes in this direction.

The larger the bone and structure the longer it will take to mature the specimen.

The smaller the bone and offal, in comparison to weight, the quicker will they mature. As a rule such chickens are the most profitable as poultry, giving better returns for food consumed. They lay earlier in life, and such are always the most prolific layers through life.

These early-maturing, compact, close-feathered birds generally win the early exhibitions, while those of larger bone and more fluffy plumage, requiring more time to mature them, have been more successful in the show pen in the winter months.

Both these types the breeder of Asiatics is compelled to breed, for both have their admirers, the poulterer and those of a practical turn of mind preferring the former, and many of the fanciers the latter.

Our own idea, and we believe the true position, is to take the happy medium, and advance in size no faster than we can secure with it the full merit of egg production and symmetry.

Breeders have been too apt to believe in the adage that like produces like, and carry their belief to the individual, and for reason of this belief have many times discarded the very best birds of the flock so far as color goes, but we will take this matter up under the proper heads. Most prominent and most to be considered in both sire and dam are

BREAST AND BODY.

These are of more importance, especially in the form of structure, for practical use and in the exhibition pen than many at first conceive.

A specimen perfect in these respects has an increased chance to win over one failing in these points, for a failure of two points in form of breast and body will affect the symmetry of the specimen two points more, making in the aggregate four points; while to fail even four points in the hackle (and such a specimen is seldom exhibited, since it has no associate influence) is no worse for the specimen than two points as described above—a hint breeders may well heed in selecting their breeding stock or specimens for exhibition.

How few specimens we see that fill literally the requirements of the Standard, "breast full, broad, round, carried well forward, body broad and deep, which, to secure this shape in breast must be rounded at the side, giving the round side-sweep which is admired wherever seen."

All who saw Light Brahma cock Leo 2776, exhibited at Lowell by Damon & Marshall, or the Dark Brahma cockerel exhibited at Boston by Mr. Waterhouse in the winter of 1876–77 will appreciate this merit.

This formation gives better form and carriage of wings, finer symmetry and more grace of carriage, yet we see many birds used by breeders failing in all this and their place usurped by others whose only excellence is a good neck-hackle. A word to the wise is sufficient.

MATING OF THE SEXES.

In relation to color in the breeds we consider first the Light Brahmas, for it is with this breed we have

worked out most of our experience, and it comes easier for us to employ it in illustration; but in all other breeds, so far as they have been as well established in blood, and bred upon the same plan or rule, we find the same results.

We can give no rule to be applied to all breeds unless all breeders have established the rule of breeding one line of sires, preserving it unbroken, and breeding all new blood introduced back to sires of the strain, basing all on the law of in-breeding. We expect some may mate by our advice as they understand it, and fail; but it will not be the fault of the rule, but the fault of the previous breeding of the stock.

Before going further we will explain what we term the "cape." It is the feathers that grow from the shoulder joints along the arm of the wing and cover the back entirely at the neck, spreading laterally toward the tail, helping to form the flatness of the back between the shoulders, and is covered by the hackle of the bird when standing erect. In Light Brahmas it is either black, black and white, or white, and either must be tolerated in the breed. The wings and neck are made up of black and white, and the cape is the connecting link of these two sections; and where a pure white cape is found, generally the specimen fails in color of wing or is short in the stripe of hackle-feathers; yet for all this, some judges will cut a color other than white in this locality. As a defect the present rendering of the Standard makes the color for males to read: black and white, wholly white becoming defective; and that of the females to read: white or white and black. Should the cape become wholly black in a female, she would have to be cut for

the defect. With these remarks we would mate as follows:

LIGHT BRAHMAS.

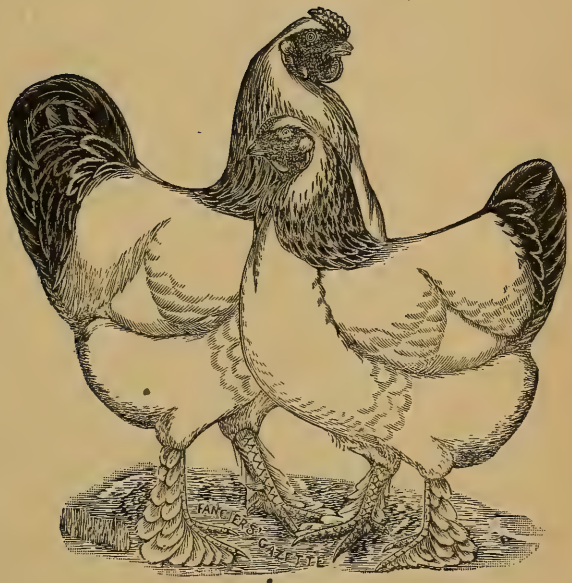
Mating No. 1.—Cockerel in form and color as described by the Standard, weighing from ten and one-half to eleven and one-quarter pounds, with the stripe in hackle-feathers, black commencing well up and running in a narrow, clear black stripe to the point, dark beak, cape black and white, undercolor bluish-white, with deep bay eyes.

Hens weighing from nine to ten pounds; in form and color as described by the Standard, and white and black cape, with white undercolor and bay eyes.

This I think none will deny is mating by the Standard, and we call it the "ne plus ultra" for all Light Brahmas for the male line of one's strain.

Mating No. 2.—Cocks with wide black stripe in hackle and black ticks discernible in saddle near the tail, cape black and white, undercolor nearly white, medium dark beak, and bay eyes; in other respects as described by Standard, weighing from eleven and one-half to twelve and one-half pounds.

Pullets in form and color as described by the Standard, being dark in the cape and bluish-white at shoulder, shading to white toward the tail, white undercolor, selecting them well up in size. Such a mating will produce females that should please all. This and the Mating No. 1 we term perfect in all respects, as neither of the specimens are disqualified, but there is a mating we prize better than all, from the fact that the results from it are always good and the pullets used always sell for the most as hens, for the reason that in seven



LIGHT BRAHMAS.

out of ten they molt out all the disqualification which has forced them the first year to remain on our hands, and in *Mating No. 3* we describe two sets of females that we would use, the first being the disqualified one.

Mating No. 3.—Mate males with hackles that have a good fair black stripe, but edge of feathers free from any smoky tinge, nearly white undercolor and cape, wing-flights about one-half black, coverlets of tail black, laced with white, lesser coverlets white. Females of Standard form, intense black stripe in hackle, very dark cape, undercolor of back so dark as to show black spots in the web, but not on the surface, tail black, flights black, Standard in other respects. We have been criticised for this mating, but we do know that such females produce the largest number of chicks to score ninety or more points, when mated as above.

Mating No. 4.—Male as described in No. 3. To females that have neck nearly black or what is called smutty, the white edge of feather smoky edged or entirely wanting, with black cape and dark undercolor. Of course, in all these matings for color, the form of structure is taken for granted to be as near the Standard as we can find it; the males to be of Standard weight and the females well up to or beyond the weight laid down for perfection.

Mating No. 5.—Males very dark in hackle, even smoky edged, beak very dark in stripe, cape and undercolor very dark, even showing in web of feather, wings as dark as possible, tail black, and eyes a deep bay. (The bay eye is the strongest sighted and the strongest breeder.)

Females with extremely light necks, wings, cape, undercolor and tail, and light or pearl eyes—in fact in and of themselves worthless, only as they possess good blood, being unfortunate in individual appearance—what the writer terms scrubs.

This last we term utility mating, and rarely none but the first three matings should be found in the breeding pens of any first-class breeder. But there are poor people whose purses are not long enough to pay for the best birds, and they are compelled to buy from the last two matings and wait a year or two to produce the fine ones they covet,—this theory will surely do. If the blood be pure they will have some as fine birds as from the last, but not as large a percentage of their chicks will be found in the list above ninety points.

This mating utilizes many birds that would otherwise go to the block. Such mating of these extremes in color many times produces fine chickens. A breeder carried away by in-and-in breeding oversteps the bounds of reason, and this great want of color is the result. His birds being well bred, the restoration of color is easily accomplished. You may say we should not give countenance to such mating. Would you send to the butcher a white Princess Shorthorn heifer, or would you breed her to a red bull and make her valuable in color of her calves? Her pedigree, which shows her blood to be very fine, is the guarantee that if judiciously mated she will produce good results, and for this last mating we will say that with the exception of five to seven per cent of the chicks they will most likely be of as good an average of the Mating No. 4.

All the male progeny of this Mating No. 5 that

does not come well up to the Standard should be killed for poultry. It is a questionable policy to use the males as stock-birds (and especially if they are to fill the place as one of your line of sires) that come from this extreme mating. All faded, white-hackled males should be killed.

Let these rules of mating Light Brahmas, also the rule of breeding in line of sires, be rigidly observed, taking into the breeding-stock no more than one-fourth of blood other than the strain, and it will matter not whether it be Felch, Autocrat or English, the result cannot fail to be good with the necessary difference in the relationships of the different matings described.

DARK BRAHMAS.

To make a rule and have it apply to all breeds it is necessary that the circumstances be the same in each case, and when we offer a rule for mating Dark Brahmas upon principles derived from experiments wrought out with the light variety, we expect the same results, if the same rule of breeding, viz., adhering to a line of male ancestry, has been observed. We say male line, for it is that line which has the greatest influence, as we have shown.

There is no breed that has proved so disastrous in the hands of amateurs as the Dark Brahma, and with which we have to be so cautious when we introduce new blood. The peculiar color and penciling of the plumage is such that a radical change of blood always deranges it, and, therefore, the necessity of a slow process of feeding the blood. While a three-fourths bred Light Brahma would be nearly perfect, the dark

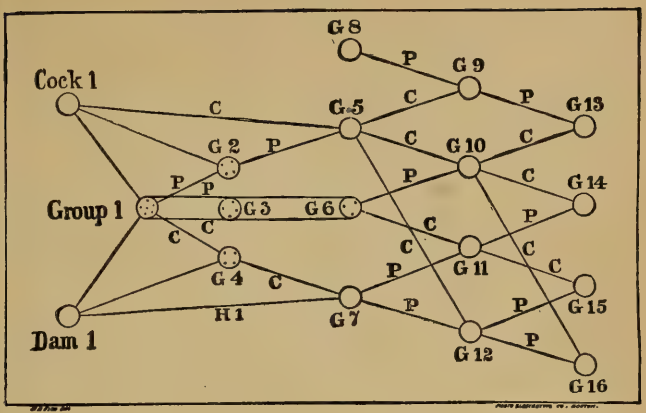
variety would not carry more than an eighth of blood out of the family, and retain the family characteristics of penciling and shade.

This makes it a necessity to first establish family strains of blood, and then adhere closely to an unbroken line of sires, breeding back to that line of sires whenever new blood is introduced. There is no breed that demonstrates this necessity more clearly. For a striking example of it, we have only to call to mind the king of 1877, the cockerel "Agamemnon," bred by Chas. A. Sweet, of Buffalo, N. Y., that won first and special at the International Exhibition held at Buffalo, N. Y., in February, 1877. This bird came from an unbroken line of sires for four generations from an imported bird, and from a female line bred back strongly to the same line of sires.

When the breeders of this variety will recognize this necessity, and each of the different importations be preserved as near as possible in the family purity of blood, then will they be more valuable to the trade, as we have shown in speaking of the strains of Light Brahmas. Then, also, can we apply the following rules with almost as certain results as can be obtained with other breeds.

Were we to make a specialty of the breed, we would select the best cockerel we could find, and a large-boned pullet with coarsely-penciled plumage, each from different families of blood, and breed them and their progeny for four years, as follows:

DARK BRAHMAS.



Mating the first year to produce group 1; the second year a pullet from group 1 to cockerel No. 1; a cockerel the exact type of his sire to hen No. 1; a cockerel like the sire to the pullet approaching the nearest to perfection, breeding them in-and-in, producing in their turn groups 2, 3 and 4, and the third year mating as indicated by the lines, producing groups Nos. 5, 6 and 7; in all the young stock using no males that were not the type of the sire, nor pullets other than the desired type in penciling of feathers and form of structure. In this way producing three families alike in type and different in blood, yet made of the same cross. This trouble will put any breeder on a firm footing, and ever afterward if he uses none but females in the introduction of new blood, and receives group 7 in the light of new blood, disposing of the cockerels, putting in the new hen 8, breeding as indicated by the lines, disposing of all cockerels as scrubs or poultry that have not more than fifty per cent of the

blood of the strain, he will need have no fear that his birds will not breed well and his customers be pleased.

We can recommend the following matings with a feeling of certainty as to grand results:

Mating No. 1.—Hens that are standard, which were nearly perfect, steel-gray pullets in their first year mated to a cockerel, metallic-black in breast and thighs, medium dark beak, hackle and saddle, broad in the black stripe and decided in shade. This mating should be made in producing the male line.

Mating No. 2.—Hens that were fine as pullets but have become bronze-hued as fowls mated to a cockerel with a black breast, evenly dotted with minute white spots, black thighs, hackle and saddle well striped, and medium dark beak.

Mating No. 3.—To pullets that are as near the Standard as possible, having closely-penciled throats, mate a cock black in breast and thighs, which as a cockerel had a breast spotted, as described in No. 2. This will produce the best females.

Mating No. 4.—To pullets good in other respects but light in color of breast, mate cocks black in breast and thighs, with broad black stripe in hackle and saddle, with very dark beak, said cock having been black-breasted when a chick.

Mating No 5.—To hens good in color which as pullets were not penciled in breast, mate cockerels dark in all respects, even in beak, stripe of hackle, breast and thighs; the white even so charged as to be smoky-laced. This is in keeping with mating No. 5 of Light Brahmas.

Nos. 1 and 3 are the *ne plus ultra* of all the breeds.

In all these matings we should prefer long-bodied hens, but not so long as to narrow at the saddle. The cock should have sufficient length of back to preserve the true Brahma type. The race is too fast approaching the Cochin shape, an evil I hope the breeders will strive to remedy, for in doing so they will have less trouble in keeping up the breed to Standard weight. This point should be kept in mind when introducing new blood, and large, coarse specimens should be chosen, for they tone down wonderfully by in-breeding.

If a strain is disposed to breed extremely light in color, then no cockerels with spotted breasts should be used even in Mating No. 2; but should they be predisposed to the dark extreme, cocks with spotted breasts should be used in Mating No. 1, and cocks slightly mottled in their breasts in Mating No. 3.

All really light-colored, stripeless-hackled and saddled cockerels should be killed, for their use will, as a rule, produce bad results. All pale, non-penciled-breasted pullets should be used as incubators the first year, and all that do not ripen into good color and have penciled breasts, as hens, should be used as poultry. The others should be mated as in Mating No. 5.

We cannot leave the breed without a word to such breeders as Mr. Sweet and Mr. Mansfield, who we learn have devoted much thought to their breeding, and who are, in a measure, breeding upon the plan herein laid down, expressing a hope that they will preserve their strains as pure in family blood as possible, and that in connection with the breeding of their stock they will use a public record for the preservation of the history

of their respective strains, either the "World's Pedigree Book" or the "American Poultry Association's Register."

Buyers of this breed are seeing this necessity, and we believe it will pay for the trouble. The history of this breed has been much like that of the first ten years of the Light Brahmas. The fact that the majority of the breeders believe frequent crosses necessary, and the complication of color, has been the means of causing many to abandon the breed. We believe the breed can be made a popular one if the rules herein laid down are followed.

PARTRIDGE-COCHINS.

Mating No. 1.—Cockerel weighing ten to eleven pounds, hackle and saddle rich bay, the black in the same being metallic greenish-black and broad in the stripe, metallic-black breast and thighs, fluff showing a bronze tinge, indicative of rich brown blood.

Hens as described in the Standard. This mating is the best that can be made for the male progeny.

Mating No. 2.—Cock weighing eleven to twelve pounds, and of the same color as described for cockerel in Mating No. 1.

Pullets large in size, and in color reddish-brown ground, penciled with a deep brown, with Standard neck and tail. This mating will produce finer females than males.

Mating No. 3.—Males showing bronze-black tips to breast feathers, even slight mottlings of bay color, with thighs slightly bronzed, and a narrow black stripe in the hackle and saddle.

PARTRIDGE-COCHINS.

Females in plumage brown, penciled with black. Such faulty hens, by this mating, help to produce many good males.

Mating No. 4.—Males very dark in beak, hackle, saddle, breast and thighs, wings and tail. Females favoring the light extreme, being lightly penciled in breast, with hackle in which the penciling of brown mottles the black stripe. This mating, like the dark sire Mating No. 5, in the Light Brahmas, often produces fine chicks.

All pale-hackled, splashed-breasted, and bronzed-thighed males should be killed, and in subsequent matings so mate that one of the sex shall come from either mating No. 1 or No. 2. Females with clay or non-penciled breasts, or those with leaden-gray and black mixed in the plumage, should never be used as breeders.

It is a sad sight to see so many specimens fail in color. Many are better described as brown penciled with black, and buff penciled with brown. The Standard color, "rich brown penciled with a darker brown," should be better appreciated; so popular has the reddish buff penciled with dark brown become that the judge who literally follows the Standard finds many to condemn his judgment.

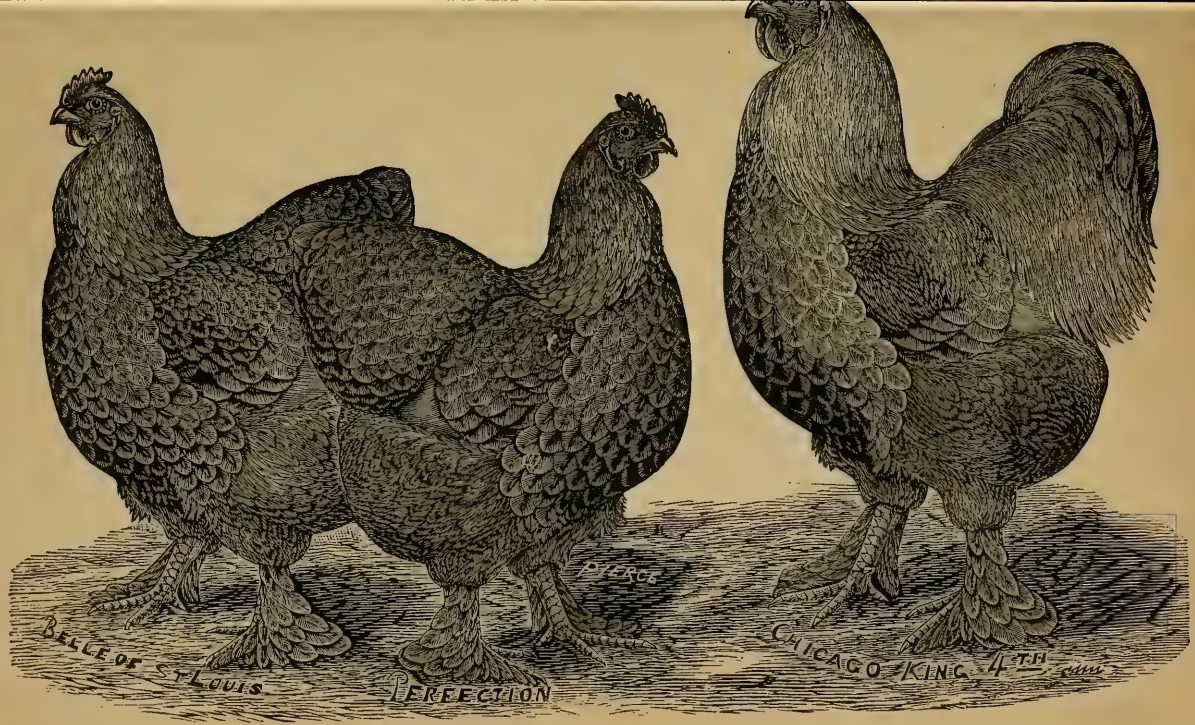
This breed is as difficult to handle as the Dark Brahmas, and equal care in introducing new blood should be exercised.

The breed requires close breeding to maintain the fine outlines of penciling, and we think if all the statistics could be procured it would be proved that more prize-winners have come from the breeding-in line, as we

know to be the case in other breeds. The above have been the matings of Partridge-Cochins for the past ten years, and perhaps cannot be altered for the better; yet were we to make up one pen for a gentleman for his own especial use we should do it as follows:

THE SINGLE PEN MATING.

A cockerel with a head short, with plumage dark red, low comb, bay eyes, short, well arched beak, with dark brown stripe down the upper mandible, wattles well developed, but not wrinkled; ear-lobe large, neck well arched, not long in appearance, having a full flowing hackle, that was the color of a dark Mandarin orange, with a clear black stripe down the center, terminating in a nice fine tapering point that reached the point of the feather; no white under color of the hackle; with a back deep red, matching the wing-bows of same color, and representing with them a deep red saddle-bag thrown across his back—the saddle that had a crowning sweep from back to tail of orange-red striped to match the neck plumage; breast that was round as an apple, and carried forward with prominence; color of the same, being black with bronze reflections; wings, other than the rose, being black in the butts, with bronze-black bars, such as would be about a point defective by the Standard; tail black, with greenish reflections, fluffs black, smoked over with a reddish bronze, that did not show at a distance; legs set well apart, apparently strong with outer and middle toes and shank well feathered with black and brown feathers; no white in tail or wing flight, the latter having a broad maroon stripe on the outer web; no white under



BUFF COCHINS.

color of saddle. Such a male, to score about ninety-two points by the Standard, would be a most royal breeder mated to hens and pullets described by the Standard, with, say, three in twelve being dark specimens, just dark enough to lose in color of back and wings, three points for bay to dark, the dark penciling being the predominating color. They would look a trifle dark, but not mar the even look of the flock at a distance. Such a mating, to our minds, would be the most valuable one a breeder could make, and should demand the highest price.

BUFF COCHINS.

There is no more beautiful picture on the lawn than a prime, even-colored reddish-buff male, and twelve females that match him in color—in their fresh and unbroken plumage. To mate which, however, birds, if of the same age, if the pullets be of a pure clear reddish buff (orange buff, the term some use), and a cock be their mate, may be of the same color. Such a male would have been as a cockerel, a very dark, almost a red buff, so to speak. This inexorable law of decay makes us ever on the lookout for this waste in color. We therefore say:

THE MATING

most to be coveted would be a cock of one even reddish-buff color from head to tail, with no white under color in him; his tail black, tipped out with chestnut; the coverts chestnut, streaked with dark color; lesser coverts reddish buff, and in form Standard, or to conform to description given in gentleman's mating for Partridge-Cochins. To such a sire mate pullets of the

same rich buff color free from white in flights and undercolor, chestnut tail or buff, dark color showing in flights. Pullets fully up to Standard weight. With such a mating males and females would appear in the progeny of a high order.

Mating No. 2.—A cockerel of a deep reddish-buff color, with chestnut tail and wings, Standard in other respects, should be mated to hens that are pure buff in color, medium in shade, and in form of structure as described in the Standard, coming from pullets the year before that were dark buff.

Mating No. 3.—A cock of medium shade, the result of a reddi h-buff cockerel, but showing black in wings and tail, mated to pullets that are good exhibition color, will produce fine females, while pullets very dark in shade mated to this same bird will produce fine males.

Mating No. 4.—Males dark in every respect, even having nearly black tails, should be mated to hens of pale buff, though of an even shade. Where pullets are used in same pen with hens the pullets should be fully five to seven shades darker if the male is to prove equally good in his mating with both.

This, as looked at from a Light Brahma standpoint, may not seem good policy. But many a buff breeder has learned to his sorrow and the flattening out of his purse that in killing for several years these reddish-buff males that they appear less frequent in the chickens, and he has rejoiced at it, till he came to mate up in the spring he found all his males tainted with white in flights and tail and undercolor, and he in a position to be obliged to purchase some of those to what has seemed to him scrubs, these dark red buff males, to enable him

to regain his lost color. These faded colored hens are the very mates for such birds, and from their female progeny to mate, to reap the benefit of these dark males. When these pullets are mated to Standard-colored males of his strain, show me the man that discards altogether these dark males in his breeding, and I will show you a breeder who is mourning over his lost prestige of color in his buff.

THE BLACK-BREASTED RED GAME.

King of the gallinaceous race; to mate which man has only to select Standard specimens, and the work is done. Thoroughbred they are, and have been, since one of them crowed and announced to the world that Peter had denied his Lord. Leaving the ark to found the universal poultry kingdoms, while its sports and arts of men have multiplied the varieties into what we call breeds, it has maintained its individual type and color, suffering man to sway its color a few shades, but ever maintaining that which ever was and ever will be, *The Black-Red* of the farm-yard. The fashion and partiality now tends to a light or orange red and an ashen brown, and demands quite a change in the mating of ten years ago. We therefore make this assertion before going to the work of mating. The Black-Red is the only game that can and does give us chicks true to color and true game type in ninety-two per cent of the chicks raised; that all others, except the white, will breed Black-Red chicks in their offspring, thus disclosing the fact of their *prime sire;* that the white disclose their mongrel breeding by the want of true Game Standard form. Therefore in our mating we

claim that no one can keep up the Games other than Black-Reds without cross breeding, so-called.

But to return to Black-Reds, and to give

THE ROYAL MATING—NO. I.

A cock with a head medium long, but when trimmed giving a long, clean taper forward, yet set on strong at juncture with neck, beak willow, strong and more than slightly arched, face bright red, plumage being quite red, eyes a bright red, large and full, neck long and arched and in color orange-red (we mean that color seen in the dark-rind oranges, not a red-clay color), the center having a darker shade, but free from any black or dark-brown, the hackle being short and terminating between shoulders and not reaching far on to the back, nor should it cover the shoulder-points of wings. Back (wings being set high up) being flat at juncture with neck, and in color of plumage a rich red, and matching wing-bows in shade; saddle feathers shading from back into an *orange-red*, the same or a trifle lighter than neck-hackle. Breast should be full enough to have a slight curve in its sweep from shoulder-point to shoulder-point and a fair full sweep from throat to breast-bone, which should be perfectly straight. The body being round at side but tapering at sides to tail, the lower tapering by a curve line of stern to tail, the back being a straight line from hackle to tail, breast and body being a rich metallic black.

The wing should be in appearance strong, but not too long; heavy at butts, which causes them to remain uncovered by breast plumage, the points carried close to thigh-points slightly covered by the scanty saddle;

BLACK-BREASTED RED GAMES.

thighs strong and medium length, covered with black plumage, which, carried close to the body, are full in outline. Tail medium long. My own taste would be long black, the main sickle being full five inches longer than tail proper, the lesser sickle diminishing in size rapidly to the seventh or smallest, being quite short; the tail carried close together and at medium height; shanks olive color, of fair length, not stilty; toes long, all four flat on the ground, and spur set low down on the shank.

To such a male breed well grown pullets with small head, long in appearance, plumage light brown, small comb, bright, full, red eyes, with dark horn-colored beaks, ear-lobes red, also wattle, both very small but fine in texture; neck long but not cranish, having a finished and graceful carriage, the color of plumage being a gold color with black stripe down center (this combining of the colors has given it the Standard description, but we prefer our own); back medium in length, flat-iron shape, wide at shoulder and receding in a taper to tail at sides, but flat straight line on top from shoulder to tail; breast tolerably full, preserving a circular outline from side to side, and throat to breast bone, which should be straight, breast being light salmon color shading to an ashen brown color of body and underparts near thighs. Body compact, solid, tapering toward tail. Stern tapers as much as consistent with the sex; wings fair size, put on high up, which gives the flat appearance of back not held close to breast, but front held smoothly folded close against the sides; back and wing-bows are ashen brown, penciled with black (but it has the appearance of dark brown

pencilings), free from a red or salmon tinge, primaries a dull black or dark brown; tail a dull black, carried at an angle of forty-five degrees and held neatly together; thighs rather long, sufficiently large to look strong, the plumage a light ashen brown; shanks should be olive color and of fair length, not stilty; feet flat on the ground, hind toe being low down on shank and reaching the ground in a flat pressure. They should be close-feathered specimens, the plumage clinging close to body.

From this mating the progeny, both male and female, ninety per cent of the chicks will be all one could wish or should expect.

Mating No. 2.—Cockerels, all we have described in the Royal mating, except that in the red of his plumage it be darker in shade, reaching an almost rich red, as seen in the old Standard.

To them mate hens that were as pullets like pullets of No. 1, but have as fowls molted into light brown, penciled with dark brown, their legs and beaks having taken on the lighter shade of color of age, in fact approaching the color called "Weedon."

Mating No. 3.—A male in form and structure same as described in Royal Mating No. 1, except that he be taller, long in thigh and shank and lighter in the red plumage.

To him mate those pullets that have bred to dark in color throughout, having short thighs and shanks, being dark brown, penciled with black, and having a dark salmon-colored breast. This is a utility mating to be sure.

BROWN-BREASTED RED GAMES.

What may have been said so far as it affects form in the structure of the Royal mating affects the brown red also. But in color a brown-red is a black bird, with the following exceptions: The head plumage is a very dark red, his eyes are black, beak a very dark brownish black, hackle laced with dark red near head and shading in a wide lacing into lemon color at the point, the breast feathers being a reddish brown in the shaft and round the tips laced with same color, black at the neck and shading into a black body and thighs, back and wing-bows a very dark red, saddle shading from dark red into lemon color at points of the feather, neatly striped with a fine line of black; tail black and like the Royal cock; legs a dark olive. Such should be the cock in the Royal mating in brown-reds.

Pullets, in appearance, black, with this qualification: Head dark brownish black, beak black, eyes dark brown or black, comb, ear-lobe and wattles a purple-red, neck plumage lemon color, striped with black; back a brown-black, legs dark olive; black in all other parts not described and in form of structure as described for hens in Royal black-reds.

Mating No. 2.—Cockerel same in form, color of eyes, shanks as cock described above, except that the breast have only the brown-red shaft in the feather, lacing of hackle being narrow and darker in color, back and wing-bows extremely dark, saddle in the lacing being orange-red instead of lemon color, thighs and shanks very long, balance as to structure as in male No. 1.

Females to be hens that are light color, being nearer

a dark brown than black, hackle very light, the black stripe in same more or less penciled with lemon color; thighs and shanks appearing rather short for Game symmetry; eyes and shanks in color as Mating No. 1.

Mating No. 3. — Male very high colored in hackle and saddle, with back and wing-bows light red, breast having full shaft and wide lacing of bronze-red, even some breast feathers cherry color, light color beak and legs, eyes approach bay.

To such, mate females black, with no other color except the gold lacing of the neck plumage with brown and black legs, black beak and black eyes; in all else Standard described as to form of structure.

RED PILE GAMES.

Here we find hard work to keep up to the Standard in color, and a race that loses color fast by both age and by breeding, the average color of the chicks being below the rich color of the parent stock.

In this breed we have this course only to pursue, for they are the result of black-red males on white Game hens, or hens white, that have been produced from white sport and white mongrels by breeding into the Game blood, and we must make a large allowance in color decay.

Mating No. 1.—Cock in form and symmetry as described in Standard, but in color to wit: Head chestnut-red, beak yellow with a dark stripe, eyes red, hackle a deep chestnut-red, back and wing-bows rich red, saddle shading into a light brown red, breast being a white laced with a chestnut color, body and thighs white, tail white, carried as described for Royal cock, shanks yel-

low. To such a male breed pullets that are deep brownish red at the head, comb and wattles red, eyes red, neck white, deeply laced with bright gold color, back white, clouded with chestnut color, breast a salmon color, the body having a shading of a light salmon color, ending in thighs white, beak and shank yellow, tail white.

Mating No. 2.—Cockerel Standard in form, but in all the chestnut and shading in color to be of a deeper tinge than described in the cock No. 1. To him mate hens that are lighter in their chestnut shading than described for pullets of No. 1, mating hens that as pullets had filled pen No. 1 the year before.

Mating No. 3.—A black red male such as I describe for the Royal mating in black red. To him mate females that are nearly white that have been bred from Matings Nos. 1 and 2, for this is the only way you can keep up color in Red Piles. Kill every male so bred. The prime colored pullets from this mating mated to a light-colored male, the get of No. 1, will reduce the blood so the pullets from such a mating can be mated to cockerels that have come in line of No. 1. Never, under any circumstances, use a male that is the result of cross-breeding for color as Mating No. 3.

GOLDEN DUCKWING GAMES.

Cock Standard in form and stature, with plumage to wit: head straw color, eyes red, hackle the color of the straw of ripe rye, or what is called cut straw—free from dark stripes of any kind; back a copper red, saddle dark straw color, breast and body black, wing-bows golden red, approaching copper red in center, with black butts and steel-blue wing coverts, which form the

deep wide bar of the wing, secondaries dull black on inside web, with a yellowish white on outside web, primaries black on upper web and whitish yellow on the lower web, tail and thighs black, beak and shanks yellow. To such a male mate pullets with medium long head, dark gray in color, beak yellow, eyes red, neck whitish gray striped with black, neck being medium long, back being a silver gray minutely penciled with black, with the shafts a silver color, breast a rich salmon color, body shading from breast into dark gray with same shade to thighs, wing-bows a silver gray minutely penciled with black, primaries a blue slate, the secondary being a lighter shade called slaty gray, the three rows of single coverts being tinged with the salmon color, shafts of plumage being a white gray, tail proper a slaty black, the tail coverts being of same shade as back, shanks yellow.

Mating No. 2.—Cockerel Standard in symmetry and stature, whose neck and saddle are a deep straw color, whose back and wing-bows are very dark red or dark brown copper color. In other respects as in Mating No. 1.

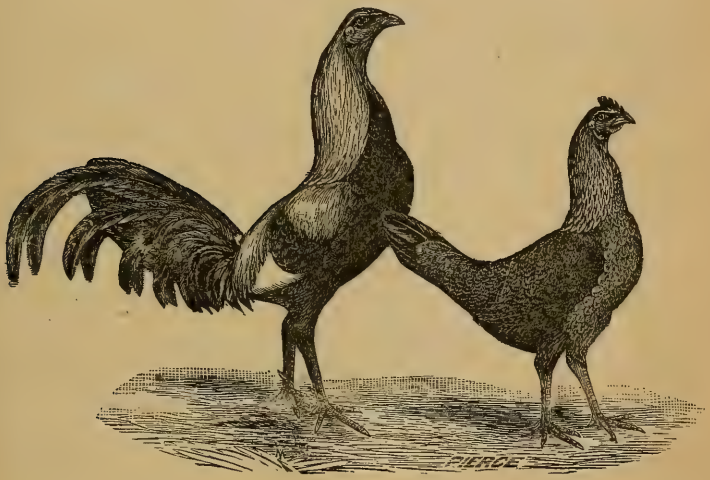
To him mate those hens that are pale salmon color in breast, white lacing to neck hackle. In other respects like pullets described in Mating No. 1.

The mating resorted to to keep up these bright colors is best brought about by the mating of a black red hen that has a faded color, which is known as the "Wheaten Hen," to the cock No. 1; and pullets that come from such a mating that are Standard Golden Duckwing color mate to a cockerel bred from pen No. 1 that is in neck, hackle and saddle akin to Silver Duck-

wing color. In this way get the benefit of the black red blood that brightens up all Game colors, but never use a male from this cross.

SILVER DUCKWING GAMES.

These are simply a Golden Duckwing that have the back and saddle faded to a silver white where it is straw color in the Golden, with a back and wing-bow silver white



SILVER DUCKWING GAMES

instead of red or copper color in the male; and the hen the same as the Golden, only that there is no salmon tinge in the lower part of the wing. Therefore we are obliged in all these Game matings to borrow blood to keep up the colors, and in this breed we say few breeders that breed Yellow Duckwings but what breed the Silver variety also.

If we knew just what the cross was that produced this variety we should know better how to mate, but reason supports the assertion that the Silver Dorking was the mother crossed with a Golden Duckwing cock, for the variety fails woefully in Game symmetry and stature. To secure a Standard Game symmetry in this race is an exception to the rule.

We say for Mating No. 1.—A cock with a silver white head, olive beak, red eyes and pure silver hackle (the less hackle we have the better, for the race, as a rule, is heavy in the hackle); back and saddle white, breast and body coal black; primaries and secondary white in their lower web and black in their upper webs; the bows clear silver white, butts black; wing-coverts, a steel blue, making prominent bars across wings; tail wholly black; thighs long, and shanks medium long and olive in color. To such a male, of Standard form, mate if you have them hens that are of the following description: Head long, color silver gray, willow beaks, eyes red, small combs, which, with wattles and ear-lobe, are red; no white in the latter; neck as long and graceful as possible, being a nice silver gray color, striped with black, the black will be penciled with gray; back and wing-bows silver color, penciled minutely with a dark stone color; shaft of feathers white; breast, light red wine color, shading to an ashen gray body and thighs, the stern being a steel gray color; primaries and secondaries are a stone gray, the outer webs being lighter in shade; tail a dark stone gray, approaching to dull black; thigh, ashen gray in color; shanks, olive color.

Mating No. 2.—Cockerel, in description like cock in

Mating No. 1. To him, hens that have been bred in a Golden Duckwing mating that fill description given pullet in Mating No. 1 for Silver Duckwing; their wings absolutely free from any tinge of salmon color.

Mating No. 3.—May be a cock or cockerel as described in Mating Nos. 1 or 2. Mate to him hens that are up in color, except that they be pale in the breast, color being a light salmon, in all other respects up to Game Standard form. These colors must be maintained. The short-legged females (the majority of these we see in the yard, and many times in the show pen) can only be used to advantage with a very long thigh and shank in their male mates. If you cannot so mate them they had better be used to hatch and rear chicks than to waste time in the use of them as breeders.

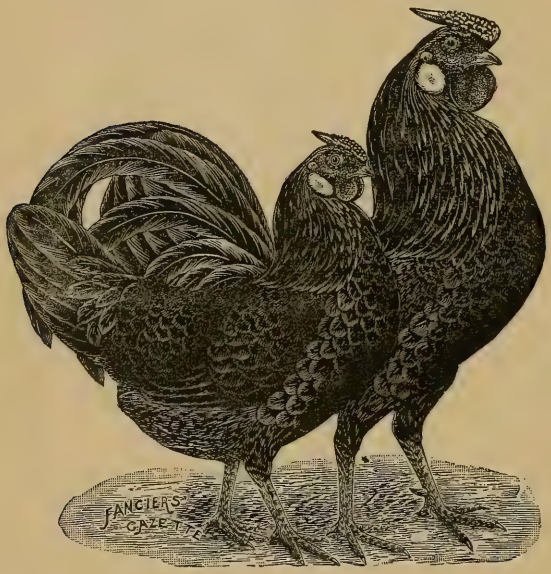
TO MATE SOLID BLACK OR WHITE FOWLS.

In the self-colors, like white and black, a good constitution and health while breeding is all-important, no matter what the breed, for brilliancy of color and purity of shade are dependent upon it.

The rule to guide in mating is as follows:

A metallic-black male mated to females of the same hard smooth surface color is the best for both males and females, but such a cock mated to females dead black, lacking in brightness and metallic surface, will breed fine pullets, but the male progeny is generally much poorer than the female. In black there is little to do beyond these two distinctions of color. The metallic hard-finished surface and the dull black, if crossed, restores to the progeny the metallic-black desired. Birds of this cross should be mated to those of the metallic-black mating.

In solid white specimens all we have to consider is form, health and purity of the plumage color, and to bear in mind that the sire transmits the purity of color to the greatest degree. That in white birds it is folly to mate anything but white, both in web and shaft, to produce our male breeder, but females with yellowish



BLACK HAMBURGS.

tinge and yellow quills must be mated to absolutely white males, that the female from the mating coming all white may be used with male of the pure white matings, and the color held in control—but males from yellow females are not reliable; health in all self-color is, as in all breeding, highly essential to success.

THE HOUDAN.

The Houdans in France and England rank very much as the Plymouth Rocks and Wyandottes do in America, furnishing excellent poultry in summer and early fall, and withal being very good layers, filling the middle ground between the small and large fowls of the lands. The first importations of these fowls proved very unsatisfactory; those coming from France being much smaller than those imported from English breeders, the stock having improved in size under their supervision. Since the introduction of Houdans into America the breed has greatly improved, and we now have yards in America where they are seen in perfection. They are less subject to roup than formerly, home-bred birds being equally as hardy as other breeds, except the Asiatics.

The breed, made up as it is of plumage in feather white and black, makes them more subject to loss in color by age than most parti-colored breeds, and a pullet one-fourth white will generally appear quite evenly divided in the two colors as a hen; while a cockerel quite black oftentimes as a cock appears in the regulation uniform, and at three or four years old looks tolerably white on the lawn.

Therefore, in mating, the breeder has to allow not only for loss in color for breeding, but also for the loss by age, and must commence with the young stock much darker in one of the sexes than he desires, and in his purchases of new blood ought to select dark specimens.

The shape of the crest is of far more importance in

the cock than the size of it: while in the hen, the size of the crest should take precedence. The points most desired are: symmetry, form of the sections, and color in the males, and size, health, size of crest, and fullness of beard in the females. With this be sure to have health and egg-productive merit. Therefore we recommend mating for the best results in the male progeny.

Mating No. 1.—Cockerels a little more than one-fourth white, small in comb, finely formed crest, and full in beard; in other respects Standard.

Hens of good average size that have ripened into Standard color, from pullets that were quite dark in plumage, large crests, full beard, and small combs.

Mating No. 2.—Cock that has ripened into Standard color from a cockerel like No. 1.

Pullets somewhat darker than Standard color; in form of crest, legs and toes as described in Standard. Such a pen will breed good birds of both sexes.

Mating No. 3.—Males evenly broken in white and black plumage.

Females very dark in plumage. If this mating be kept up there will soon be less light-plumaged birds, and the plumage will be more uniform than it would if light-colored sires were used.

Mating No. 4.—Male nearly black, with beak and legs dark-colored.

Pullets showing three-fifths or more white in plumage. In this way all the stock can be utilized except extremely light-colored cockerels of the breed, which should be killed, for their use will in a few years bleach out the flock to a greater extent than is desirable.

HOUDANS.

We see no reason why this breed cannot be kept up to Standard color; and surely its practical worth has been very much improved.

What a few have done in size, the many ought to be able to do; but in making weight, do not lose sight of the egg-productive merit, for that once impaired would be a severe blow to the breed.

PLYMOUTH ROCKS.

This breed, in its different families, is cross-bred in foundation blood, with top crosses of the Dominique to secure the color. To notice some of the modes which have produced these beautiful birds we cite:

1. Black Spanish on White Cochin, top crossed with Dominique.

2. Black Spanish on Gray Dorkings, top crossed with Dominique.

3. Dominique on Buff-Cochin hens, reaching the result through the strong breeding-color quality of the Dominique by years of breeding.

4. White Birmingham on the Black Java, top crossed with Dominique.

5. White Birmingham on the Black Java, and the progeny bred together, the progeny coming white and black, and Dominique. These Dominique-colored birds, bred with the males produced by Mating No. 4, produced the best and surest breeders for color of plumage and legs, and were known by many as the Essex strain, being the same in foundation blood as seen in the so-called Mark Pitman birds of 1872–3.

Thus we see that they are the result of mating thoroughbreds so strong in color-pigment as to produce

new types, neither being strong enough to control the color. Thus has the color of this breed been established, and the fact that light and dark colors have been mated to produce the breed has caused breeders of this variety to adopt the theory that the color must be maintained by mating the birds by the same rule.

It should be remembered that this breed is cross-bred in its origin, and being in most cases not far removed from the first crosses there will be a continued struggle of the different bloods for supremacy, and we find more cases of reversion to the original than in older and well established breeds; yet the same law, in the main, controls it, and although both sexes in the progeny do not grow lighter alike, yet the tendency is for the males to breed to the light extreme, while a large percentage of the females are good in color and the balance favor the dark extreme; yet when we consider the whole progeny (although we are led to doubt the general rule when we think of the few black pullets that sometimes appear) the preponderance of testimony goes to prove that it, like all other breeds, grows lighter by breeding.

We now have the breed well on the way to perfection, and as we shall be troubled less with reversion of the progeny to the first crosses the farther we get from them, all can see the folly of trying to make the breed, instead of buying those now perfected

The universal rule of mating light-colored males to dark-colored females is clearly a mistake, for the male in his line generally stamps the males in plumage like himself—a type in this case which we do not desire.

PLYMOUTH ROCKS.

We mated in 1876 a more than medium-dark male to nearly black-barred females, and the result was the best colored flock of Plymouth Rock chickens we ever saw. There was not a black pullet in the lot, and the lightest shade in the males would be called medium color, while a light-gray male used on these same females produced but few desirable colored females, and all but very few of the cockerels were the counterpart of the sire. Surely in this breed it pays to "find the highest type to perform the paternal act" if we expect to produce our ideal chickens.

These rules must not be condemned upon one exception. "A single swallow does not make a summer." A light cockerel for a single season may breed splendid chicks, breeding back to a perfect sire, but it is morally certain that his sons will revert with double force to the evils found in him; for, if in all other breeds we find the rule that the chicks favor the grandparents, why should this prove an exception? The breed, as it becomes more and more perfected, will be governed more and more by the rule applying to other breeds.

In the light of our experience with this breed so far, and finding it so in unison with our experiments with the Light Brahmas, we recommend the matings of this breed as follows:

Mating No. 1.—Males with breast of the color desired in the females, with yellow beak and legs, with neck, back and tail evenly barred, the light shade predominating, yet free from any white feathers in flights or tail, mated to females in plumage slightly darker than, yet accurately described by, the Standard. This should be the mating to preserve the male line.

Mating No. 2.—A cock like the one described in Mating No. 1, mated to females slightly lighter in color than described by the Standard, will be found to produce such females as the popular taste requires; but the males will be hardly up to color.

Mating No. 3.—Males a light medium in color, mated to the very darkest females. Males exceedingly dark from this mating should not be used in one's best pens, for the very extremes should be avoided.

Mating No. 4.—Males much darker than the medium, with very deep yellow beak and legs, mated to light-colored females (those having either gray breasts and white or cloudy neck feathering), will be found to produce many very fine chicks, and the mating stands upon the same basis as Mating No. 6 in Light Brahmas. All the faded light-colored males should not be used in breeding for fancy points. They cannot do the breeder any good, unless wanted for poultry purposes.

The above have been for ten years the modes of mating with most breeders, except that the high price paid for light-colored females has led many to breed their very best even-colored light pullets to extremely light-colored males, and a large percentage of prime females have been bred, but from a thoroughbred point of view this is all wrong, for every male has been killed for poultry and thereby one sees one-half the progeny sacrificed. It has led others to wish to change the Standard, and to make this light gray male they have been raising a Standard-colored male, instead of mating Standard-colored males and females together when twice as many chicks to the hundred would reach ninety or more points than is the case in the

mating alluded to above, for in that case probably three-eighths of the birds reach ninety or more points, for hardly one in the male half reach ninety, while males of Standard color mated to females of Standard color will breed at least three-fourths to score ninety or more. The discussions of late in the journals have disclosed this state of things to the knowing ones.

The color of the breast, eye and beak are the best indications of color in breeding. A sire medium in color of plumage, with a deep yellow beak, in which is seen indications of a color-stripe, and with a deep bay eye, will breed darker-colored chicks than will a sire dark in plumage, light in beak, and having a light-colored eye.

We believe the requirements of the Standard in the color of the leg to be too arbitrary. There is no reason why this breed should not be as impartially dealt with as the Dark Brahmas, and like them allowed to be yellow or dusky yellow in the legs. There is more dark leg blood in the Plymouth Rock than in the Dark Brahma. Again, the females seldom if ever come yellow in leg when chicks, but as they approach maturity grow brighter in color and clearer in shade, becoming quite yellow by the time they lay their first egg.

The late action of the American Poultry Society has done much to preserve the breed in its most practical form, the weight now being more in keeping with the eternal fitness of things, and a weight at which greater beauty and more prolific laying are the result.

They are a breed made up of cross-breeding the thoroughbreds, and by this same breeding have we got to maintain the race in its present popularity. The

last edition of the Standard has made it better, however, for a smoky tinge to front part of leg in females now is allowed to go uncut. An absolute yellow leg with no black scales or smoky tinge must be admitted in the females as in the minority, and we are almost forced to say the exception to the rule of color. The males hatch lighter in color of legs, generally quite yellow from the start, not one in ten exhibited being cut in the legs for color. All chicks molt twice before they are old enough to breed, the females growing lighter in color till the third month, while the males as a rule molt darker—so much so that many a cockerel gets condemned to help fill the broiler market that if kept to molt into a mature bird would win prizes.

As a rule a male to score ninety-four points will bring twice—yes, three times—what a pullet will to score the same. We all see the tendency the females have to breed to black. This is not strange, the first maternal ancestor was a Black Java hen. While the males breed back to white the White Birmingham mate of the Java hen. We have said that by cross-breeding we should keep up this blood. There are numerous White Sports in Plymouth Rocks to-day being sold as White Plymouth Rocks. If these were to be bred to prime colored males and bred back they would do much to dispose of the dark, smutty specimens now in use. Or should some one breed a large white Asiatic to prime males, and breed back for two generations before using the cross in stock, the same would help to counteract this now prevailing tendency to very dark females. Much more could be said on this cross-bred race, but I close with what I call the best mating for Plymouth Rocks,—one

upon which I will stake my prophecy as a breeder, my integrity and reputation as a mater of them, and my fortune as a man, as being the one that will produce more Standard, or more chicks to score ninety or more points in a hundred, than any other mating to be made:

THE NE PLUS ULTRA MATING.

A cockerel weighing eight and a-half to nine pounds, having a low, straight, evenly serrated comb of six to eight serratures; medium size head, bluish gray, marked across with dark blue; eyes a bright red; wattles rather large, though of fine texture; fair size, bright red ear-lobes; necks of fair length, well arched and full in hackle, the color being almost white shown on white paper, the bars across being very dark blue; back flat at shoulder, not long in appearance, color being bluish-gray, barred with the darkest shade known to blue, the back having a nice concave sweep as it turns in a sharper sweep to tail; from hackle to tail back lower at saddle than at hackle (all cuts are made much higher there, but they are wrong); tail carried well up, but not reaching the perpendicular position of the sickles; tail medium size, sickles reaching some three inches beyond the tail proper; saddle shading lighter than back to a tail that is still lighter in its shadings of bluish-gray, marbled with a darker shade of blue; a breast full, broad and round—not a pouter pigeon exhibition, but a well turned one, matching well onto a round-sided body, breast and body being better expressed by a light steel-gray undercolor, barred with a deep blue, the bars reaching over the thighs; the hock being clearly defined in profile; the smoky bars visible even in the bluish-gray fluff; legs yellow, fair

length. Such a male, bred to pullets that are of Standard form and symmetry, but having this light steel-gray ground-color of plumage evenly based with a deeper blue throughout, will forever put to shame the breeders who tell us that no one can breed Plymouth Rocks unless they breed two pens. Let it be whatever mating one may call it, it is all the mating he who has but one pen can afford to have if he is to be considered a first-class breeder.

BROWN LEGHORNS.

The first importation of Brown Leghorns into this country was in 1853. This importation was bred along the Mystic river, Conn., and they were then called Red Leghorns. These fowls were short in leg, red in ear-lobe, and very small in size. The modern acquisition of white ear-lobes, long legs, and not more than five points in the comb, the dark brown color, and greater weight, has been the result of the following crosses known to the writer: Spanish sires bred upon Black Red Game hens, and the progeny bred to Brown Leghorn cocks, and this progeny inbred to sire; again, Black Red Game sire upon Black Spanish dams, and the progeny bred to Brown Leghorn cock and inbred as before, and Black Spanish hens bred to Brown Leghorn cocks, and the progeny inbred.

Thus we have birds of a type far different from the original ones, and the Brown Leghorns of 1885 are as much different in color and type from those of 1853 as can well be imagined, and they well deserve the appellation of an American-bred bird. Now there is an excuse for these crosses. They were found to be

BROWN LEGHORNS.

chance birds in their own country, but in acclimating proved a valuable acquisition to this country's poultry stock. Finding the stock indifferently bred in its native country, it was considered easier to produce blood for new infusions from a foreign element, which was of greater benefit than to rely on new importations. Were we making a specialty of the breed, we would certainly make the following crosses for future use, viz: A Black Red Game cock upon a mahogany-breasted Partridge-Cochin hen, breeding a pullet of this mating to a Black Spanish cock; and that progeny to a fine Brown Leghorn cockerel, and breed his pullets back to him. The breeder would in this way get the needed size, quiet disposition, and the constitution of the Cochin, and also run clear of the white feathers produced by the use of the Clayborne Game of recent crosses.

Breeders will appreciate this trouble, and such a stock of birds will in three years be much valued. They are needed now, for the race is fast losing size and stamina. Of course, size and constitution can be given in a single cross, but such a cross would be too crude. The half-bred Spanish and Game pullet will do this, but it would injure one's reputation to put such eggs on the market. Patience and perfect breeding pays.

In these crosses, and in fact in all crosses, let the point sought for be the get of the breed in which it is the prominent feature. For instance, if you would cross for a white ear-lobe use the Spanish male on the Leghorn female, for the progeny carry back to grandsires, and Spanish crosses will show the white ear even

in the sixth generation. The result that breeders are striving for can be more easily attained in this way than by the use of the Spanish hen. The Brown Leghorn race is faulty in this respect for just this reason, and it is a very strong proof that the original fowls were red in the lobe. We find it much easier to get females with fine ears than males.

In mating the race as we find it at the present time we would recommend the following:

Mating No. 1.—Sire, a cockerel with a rich bay hackle striped with black, which as a chick was also known to have had the neck feathers black in stripe, comb having but five points, and in other respects Standard.

The dam pure salmon brown, but not that deep shade sometimes seen; the ground-color of back and wing coverts pure brown, penciled with a darker brown, and the feathers of saddle lapping on to the tail having a sage tinge to the brown color. Wings free from all red or brick color; the hackle free from all yellowish-brown pencilings; comb that stands partially erect, rolling at about one-half its height, and in other respects as near to the description of the Standard as can be obtained.

This is the "ne plus ultra," and should be the mating for the male line. The females from this mating will be fine also.

Mating No. 2.—Males as near Standard as possible, except the combs should have five points, and the neck-hackle may be a light bay with a tolerably good stripe in it. A very narrow but black stripe is to be preferred, though one broader but not much darker than a brown may be tolerated.

Females quite dark in the salmon shade of breast, wings and back brown with penciling that shades nearer black than brown; also wings free from any red shading. In other respects Standard. Such a mating will produce as fine females as Mating No. 1.

Mating No. 3.—Males of a like character as described in Mating No. 2, yet a lighter shade can be indulged in.

Pullets with exceedingly dark breasts, and having the red tinge in the wings. This reddish tinge is a serious fault, yet such birds produce many fine chicks.

Mating No. 4.—Males dark-bay hackled, the stripe being very distinctly defined, even at the base, so wide as to form a black necklace around the neck—in fact, the dark extreme in color, and Standard as to form.

Females, those we term the light extreme, whose back and wing coverts look like faded brown cloth, and pale in breast color.

The progeny may be restored to color in this cross and faulty females thereby utilized. The light, straw-hackled, mottle-breasted, and bronze-thighed males should be killed, for to use them is an evil to be shunned, as described in other breeds. The first and second matings are considered the perfect ones, and the third and fourth those of expediency or necessity. The breed is certainly one of the best for practical purposes, and with the Plymouth Rock seems to fill a place in the economy of poultry that none of the other varieties are so well capable of doing.

WYANDOTTES.

This can be claimed as an American breed. We must also admit it to be of a cross-bred origin, and like

the Plymouth Rock ranks as among the middle size breeds and pre-eminently fitted for the farm and poulterers' uses. As a producer of broilers to weigh four pounds to the pair at twelve to thirteen weeks old it has no equal. It is more than an average producer of eggs of good size. They are the result of crosses of Silver-Spangled Hamburg males with Buff Cochins, also with Dark Brahmas. While in some of the original crosses the French breeds were included, latterly these several crosses have been mated together, and the type now known as the Wyandottes the result. The cock resembles much the Dark Brahma males, the wide bar of the wing the same with this exception: there is a row of triangular white spangles through the same and a second row near the wing-bow extending up for three to four of these spangles in length.

At the present time the breed is having a "boom" —nothing else expresses the wild interest manifested in it. The breed is fortunate in the position it holds, being like and with the Plymouth Rock the only two breeds that hold that middle ground between the Asiatic and smaller breeds. They grow about two weeks quicker than the Plymouth Rocks, and fully forty days quicker than the Brahmas and Cochins, making them highly appreciated by both the farmer and the fancier. As show birds they are handsome, the females having a plumage that at the head is a nice black-laced narrow white-centered feather, breast being white with a narrow lacing of jet black shading toward the tail, the white centers growing smaller till all merge into a coal-black tail. The fluff being a dark slate, or rather white smoked over with black to give the above appearance.

WYANDOTTES.

So far, the race shows great loss in color by age and breeding. Many of the pullets (though as such are nice in color) become quite white as fowls of two years of age, and already we see these white birds advertised as White Wyandottes. We see also the rose-comb White Leghorns mated to white and nearly white specimens, and the progeny offered as White Wyandottes. We are sorry to see this White Hamburg blood again worked over, as was the case with White Leghorns, and there will be another strife to get them again recognized as White Wyandottes. But we see far more utility and a better chance to secure a better bird by its use in this way, and by its crossings with large white females—a cross breed that could be accepted as a White Wyandotte with far better grace and consistency than to have accepted the rose-comb White Leghorn.

To mate these birds, we have for years to use the greatest care and judgment, allowing for this great loss in color by breeding in our matings, and all males, if the best results are to be obtained, must be the darker throughout, and a male line first established, if we ever hope to see this variety breeding to a uniform type. The breeder who first secures in his breeding a male line that can be said to be sure in this respect to reproduce his sons in their own type and general color, will be the breeder to reap the greatest profit from his labors. This should be the first work of the breeder of them. A course of breeding as recommended in Dark Brahmas would be the shortest and surest road to success.

We have elements in this breed hard to manage. For example, it is difficult to secure a perfect hackle

in all else and not have the black smut fringe the outer edge of the white lacing of the hackle. The first cross or mating toward success we believe to be a cockerel weighing eight pounds, with a nice head with a broad crown, thus looking short in head, with a dark beak, having a yellow point to same, and bright bay eyes. If we can get it, a silver colored head, comb low down, following closely the curve of the crown and as wide at base as at the top, and tapering to a shorter spike from the center than in Hamburg males. Large Hamburg combs should be considered an abomination. The top of the comb should be as evenly corrugated as possible. The Standard calls it small points, but the uneven surface of the top of the comb cannot by any means be called points. He should have thin pendent ear-lobes, rich red in color, wattles well developed and fine in texture. Neck well arched, plumage of same abundant, which gives neck a rather short appearance, securing the color as near as possible to silver color striped with black, but do not discard him if the black runs up the sides of the white from the point of hackles if other parts in breast, body and wing-bar are what we desire. Back short, apparently flat at shoulders, and white, with a saddle that maintains a concave sweep to tail. Let the back fall off from hackle to just before it makes the turn upward to the tail. Saddle should be silver color, striped with black, the back being a plain silver color, also the wing-bow of this same color, approaching white, wing fronts mixed with if not quite black, primaries black, with a narrow outer edging of white; in the secondaries the outer web should have a wide white lacing, balance

black. Wing coverts should be in the upper web coal-black, and turning the point with a hook around the point of feather, coming to a point at the lower edge of outer web, which should be white. These feathers lapping out over the other give us the wide Dark Brahma bar, with the row and a half of white spangles through it. Breast at throat black and looking quite black in front of breast, but if the feathers be parted, will show narrow white centers, these white centers growing larger as the breast merges into the body; but the thighs should hold black with the fluff being dark slate color, breast full and round, hocks well defined in profile, the fluff by no means enveloping them. Tail black throughout. Such should be the male to found our line of sires.

To which mate hens that were fair colored pullets, but in their transition to fowls have lost their color somewhat, they, however, being all that is desirable in comb, being like the male described, but smaller, having a neck hackle that retains the black stripe with white lacing, back that has but slight convexed turn to cushion, breast may have crescent black tips to the plumage and wing, the white centers in the bow being free from black pencilings, wings whose coverts have black centers, striped and small black points, fluff may be light colored and tail tinted with white, the saddle having large white centers, which may be penciled, thighs gray; in fact, a rather light specimen, but not so light that at a few rods off she would look shabby on account of her color. This our first cross, "why?" because to mate a full Standard colored female to such a bird would be to breed black females. We have now

started, giving the male the darker blood, and as color comes with greater force from the male, give him the task to darken up the progeny from the female standpoint, which is lighter. From this, or crosses like this, which we call the initiatory cross, we will have females of prime color in a Standard sense. We will also have females that will fall but very little below it in color. These latter we will in the second year mate to their sire as the established link in starting our line of sires, while we also mate the dam to a cockerel that has come to the exact image of the sire No. 1, and from their chicks we select our Standard colored pullets, which shall make up our first pen and mating, and the cockerels, the produce of the old cock with the pullets spoken of, will come our first sire in line, and we say, after all this initiatory work, for

Mating No. 1.—A male like our original described sire, except that the breast be black with small white centers, thighs stone color with fluff dark stone color approaching black.

Mate pullets weighing full five and three-quarters to six pounds, full breasts, plumage of same fully laced, yet the white center of good size, and to grow smaller in the plumage and the black lacing wider as it approaches the tail, when it merges into a full black tail and dark stone-colored fluff, with thighs nearly black, beak and shanks yellow, comb as described in the ancestors. This mating to produce one line of sires, and no sire should be used from any other mating if we hope to see this breed reach that accuracy and uniformity of breeding we see in Light Brahmas.

Mating No. 2.—A male that has the form of structure consistent with Standard requirement, and good clear color; save, I care not how black he be in breast, wing-bar and tail, with dark stone-colored fluff. With such mate the pullets that look well from a distance, but show breast off in color, the lacing having crescents, the white in the middle of web of feather reaching the outer edge, with wide white center, penciled in the cushion plumage, and having light-colored fluff and legs.

Mating No. 3.—Cockerel having a pure silver-colored lacing and neck, back nearly white, silver white laced breast with wide centers, gray thighs and breast, wing-bar, if possible, with the color described, gray fluff, tail black, beak and leg yellow.

Females with dark heads and beaks and dark hackles, back and cushion nearly black, heavy laced breast, body and thighs, and fluff black. Males from such a mating should all be killed as broilers. The Standard-colored pullets from such a mating will make good mates for Standard described male from Mating No. 1.

This plan will have to be followed out before we can sell eggs with the confidence, we now feel in selling eggs from Black Red Games, Light Brahmas and White Leghorns, and until such a line of breeding has been accomplished no purchaser of eggs from this breed has any right to censure the seller of them, for he is doing the best with what he now has in this battle of breeding a cross-breed up to that state of perfection in which he can say their breeding has been accomplished, and they are thoroughbred.

SILVER-GRAY DORKINGS.

There is but one mating for these birds; any other is a utility one, and only necessity should force us to make them.

A male of Standard description, or, in our own words, to weigh eight or more pounds, with a large head, silver white in color, beak flesh color and well curved, red eyes, single comb of medium size, having six even serrations; no side sprigs; ear-lobes of fair size, with nice, well rounded wattles; neck so full in plumage as to look large and not long, yet we would not say short in describing it; the hackle being as near a light silver color as possible; the breast full and heavy, large for the breed, and black as can be; body long, yet full sided, black, with short, heavy thighs, also black in color; tail large and very full, all of which should be black and casting green reflections in the sun; the lesser coverts only may be edged with silver white; shanks, what is called flesh color, nearly the color of one's finger nails; five toes, the last or upper one making a scimeter shape in its sweep upward toward the hock. Such is the only male to be used in this breed, mating him with females, to wit: those weighing from five and one-half to six pounds, as near as possible, having a neat shaped head, silver-gray in color, with eyes a bright bay or red; beak not long, but well curved and the color of one's thumb nails; comb single, fine in texture, which causes it to fall to one side, smoothly, however; ear-lobe fairly developed; wattles small, but well rounded in outline; a full plumaged neck, causing it to look rather short, and what is

termed gray slate color, with white shafts to feather, each side of which nearly black, and outer edge of feather light gray in shade; back rather long, of good width, the feathers being silver color, penciled minutely with stone color, the combination giving them the silver-gray color of the Standard; breast should be carried forward, being full and of the color of the robin, a dark shade of salmon; the breast-bone is carried low, giving body a deep look in profile, yet good specimens are quite round at the side; the color of body not so dark a shade as breast, but fading out into ash color in thighs, the fluff being stone color; primaries a dark stone color, approaching black, with secondaries same color, the outer edge being silver-gray; the wing-bows silver color, minutely penciled over with a stone color, the wing being large but closely folded to sides and embedded at the butts in breast plumage; tail stone gray outside, the inner webs shading darker in color; shanks a white flesh color, fine toes, the hind one the largest and turned well up toward shank.

To mate any of the balance would be folly, for all those having a reddish shade in wings or body plumage would be but poor material; one can only turn them over to the colored cocks to breed for the spit, and to use male with splashed breast and gray thighs is but increasing the disqualified birds in their progeny.

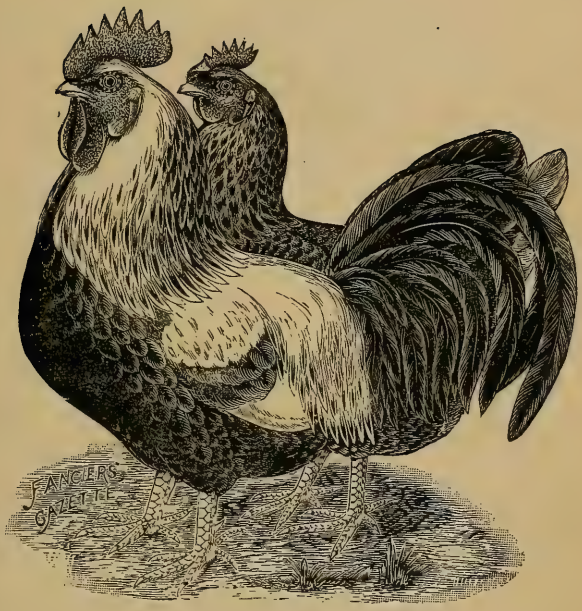
IN MATING COLORED DORKINGS

simply follow the Standard description in both male and female for color and form; be sure they are in perfect health. Discard all others for poulterer's purposes. As a race they have not been considered beau-

tiful, nor have they been numerous in our poultry exhibitions, but are bred, from the epicure's standpoint, for table purposes, but of late more attention is manifest in the breed, and they are sought for for Standard merit as well as utility.

GOLDEN-SPANGLED HAMBURGS.

Mating No. 1.—Cock with a small neat head, rich deep bay in color, beak dark horn color, eyes bay, face free from white, ear-lobe nearly round and white comb about twice the width across the top surface as the skull is wide, being square in front and running back with a nice taper into a well formed spike, which should hold up from the skull so as to preserve a straight line from center of comb to rear peak of the same; a full flowing hackle of rich bay striped with black to point of feather; back reddish or dark bay, the tips of feathers having ticks of black; the saddle, like the neck, should shade to a golden bay and the feather striped with a well defined stripe of black; breast very large and round, plumage a golden bay, the tips of the feathers spangled with a round black spot, a body round at sides; plumage the same as breast and clinging close to the form, large long wings, primaries black with lower edge bay in color, secondary a golden bay in lower web, tipped with black, crescent in form, the inner well merging into black. Wing coverts should form two distinct bars across the wing, greenish black; these bars must be distinct and striking; tail black throughout, under part of body and fluff free from taints of white; shank not long, yet they should not



COLORED DORKINGS.

look short and give the bird a low-set appearance, slaty-blue in color.

To such a male mate pullet with a head of same general description except the comb, wattles very small in comparison to the male, a neat, well arched neck, the colors distinct, having no golden penciling in the black stripe. The spangle throughout should be round black spots and light enough in color to show the spots distinctly, not lapping one on the other except in back, and there as little as possible; bay eyes, Standard form—and we have the mating to produce our best males.

Mating. No. 2.—A cockerel in color as above described for cock No. 1, being well developed in breast. To such mate the pullets Standard in form of body, but having the crescent-shaped spangles, also the hens that have lost color from molting, being pullets the year before, as described in Mating No. 1.

Mating No. 3.—Male of good bright golden bay color, whose spangles in breast and body have taken a crescent shape rather than the round spangle, and slight falling off in the black; marking of body and thighs the golden color, creeping into the tail plumage. Mate those very dark pullets whose backs show very little golden color between the large black points of the feather and black undercolor, whose tail coverts are nearly black and breast spangles overlap one another. From this mating many times we get some of the finest females.

We think it folly to use Golden Hamburgs, male or female, that are tainted with white spots along the lower part of body. The race is purely a fancy one, and unless up to Standard in all points will not sell for

a price that pays. While Mr. Wright considers them poor layers, we cannot agree with him, for we have had hens that laid 151 eggs in six months. The eggs are small, however, and poultry not appreciated. They are kept for their beautiful plumage and symmetrical appearance.

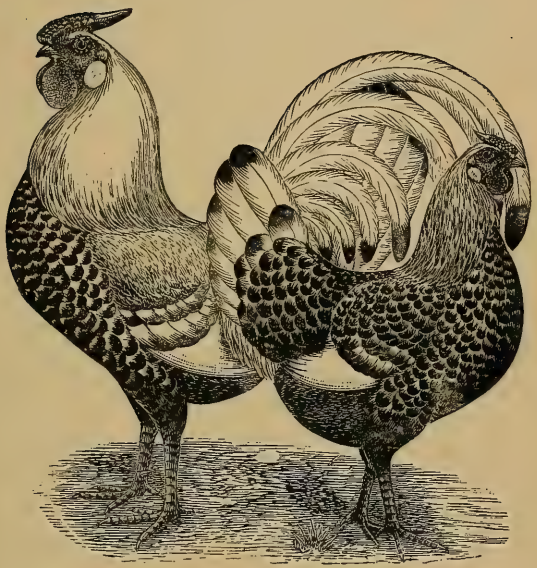
SILVER-SPANGLED HAMBURGS.

We often hear the remark that the Silver differs from the Golden variety simply in that it is white in the plumage where the Golden is of a golden bay color. This is a sad mistake. To mate this breed for

Mating No. 1, we say, males as near Standard description as it is possible to get them, except in tail proper so dark as to be a slaty-gray, mixed with white; lesser sickles tainted in a like manner, but the tip of the feather having the full round black spangle. To this male mate females of Standard description throughout.

Mating No. 2.—Males with Standard-described comb, ear-lobes, wattles, beak and legs, eyes very black, breast very dark, looking quite black in front —no matter if fully one-third the breast feathers be solid black. To this male mate pullets with crescent-shaped spangles, with indistinct bars across the wings, whose breast spangles have lost the brilliant black gloss, also hens that have lost color in molting, the black having lost the metallic luster so much desired, in form of breast and body as described by Standard.

Mating No. 3.—Male that preserves all the characteristics of the markings of the breed, only that the



SILVER-SPANGLED HAMBURGS.

black spangles are very small, the bar of wing, though distinct, very narrow, tail white, with the black spangles still retained (they will most likely be a dull black), breast free and open, no black spangles overlapping, yet of good Standard form and symmetry. To such a male mate females that are so large in their spangles as to show the back black, and in the breast the spangles overlap badly; tail grizzled with stone color, and sides of body quite dark. While we must call this *extreme* mating in color, many times one's best show birds come from this source, especially the females.

SILVER-PENCILED HAMBURGS.

These birds are smaller than their spangled cousins, a trifle shorter in body, and a more trim-shaped bird—a nice mate for

Mating No. 1.—A cock with a short, small head, white beak, bay eyes, comb medium size, the crown twice the width of base, square in front and making a nice taper to rear and terminating in a nice spike that while it seems to turn up only holds its level position with crown of comb over the eyes; a nice, close-fitting, round, white ear-lobe, pendent wattles, a nicely arched full-hackled neck that is pure white in color; back not long, but silver white in color; saddle grayish white, the breast large and full, white in color, no marks of foreign color in the same; body round, white or slightly tinged with slate near thighs; wing-bows white when closed; primaries and secondaries white, except in the inside web of secondary, which should be black; tails black, except sickles, which should be edged with white; shanks, a blue preferred.

To the above male mate females as near Standard described color as it is possible to get them, whose breasts are penciled distinctly across and well up to the throat.

In this breed it is poor economy to mate poor females. The loss in breeding is severe, and only by the use of the darkest male with good females can we keep the race up to a high degree and nice pencelings. If we had a lot of white-breasted indistinct-penciled females we would mate them to a Black Hamburg male, and the distinctly-penciled female coming from the progeny we would mate to the penciled male, and thus create new blood, rather than try to breed up the faded specimens. One too dark is a valuable specimen in breeding. A very dark male can be mated to the indistinct-penciled-breast pullet, and a good season's hatch be the result, but as a rule to use light specimens only results in a lot of chicks of a like description.

THE GOLDEN-PENCILED HAMBURGS,

being a darker color, we have a better chance to breed up a lot of second-class females and two matings can be made with success, and to mate which we would advise:

Mating No. 1.—Cock, Standard form, medium size comb, bay eyes, with a rich red at juncture with head, terminating in golden bay at tip of hackle feathers; ear-lobe small and white; breast large and full for size of the bird, rich red at throat, shading downward, and terminating in a golden bay body and bay thighs; shanks, blue; wings rich bay in the bows; outer web of both primaries and secondaries bay, inner web

SILVER-PENCILED HAMBURGS.

black, those of secondaries penciled, with black tips presenting a spangle down the upper edge of wing near saddle.

To this male mate the pullet and hens that carry the penciling dark and heavy well up to throat, and whose penciled surface throughout seems the greater as compared to the light bars, and having no white or gray mossy spots in plumage.

Mating No. 2.—Cockerel rich dark bay, whose tail is quite black, having in the sickles a very dark bay edging or wholly black. In other general description as in male of No. 1.

To which mate the hens having lost color by molting, and the pullet whose breasts lack penciling and whose general color would be called light as compared to females of No. 1. From them generally come very good females. Few females come so dark as to make it advisable to use a light-colored male, and we certainly advise the killing of all not fully up to Standard described color—any one that opens to a merely white undercolor. Golden Hamburgs with white in undercolor are as worthless as a Buff Cochin male with white undercolor. Send to the poulterer all females that show white gray coloring in the plumage.

SILVER-SPANGLED POLISH.

Many are not aware of the fact that to place a pair of these birds on exhibition to match in a general observation of color and to appear alike that the female will be spangled with full round black spots, while the male will be laced with black. The Standard acknowledges both, and in all its descriptions says

spangled or laced. A male with spangled plumage looks very light in color as compared to a female of like plumage. This fact, and the fact that a heavy laced plumage in the male is much handsomer, makes the breeder of them choose such a male to head the pens they choose to transmit their line of sires; therefore, in

Mating No. 1.—We would choose a well grown cockerel whose crest was large and every feather in it flowed back smooth from and starting high in front, not parted in the middle, but falling to the side of neck in line with, not below, the lower edge of hackle, the color of plumage black at the skull, white or gray in the middle of the feather, balance heavily laced with black, thus saving the crest from any white blotches; comb very small, consisting of two small horns nearly or quite lost in the crest; ear-lobes white (an overgrown straggling crest is an abomination); neck carried well back and very much arched, plumage black laced and long; breast appearing very prominent, and the plumage of the same laced with black; body tapering from breast to tail; plumage white, the tips of feathers being black, spear pointed, the lacings not extending the full length of the web of feathers; back straight from hackle to tail (not humpbacked), color white with tips laced with black, saddle full and long and well laced up from the points in black; wing-bows white, perfectly laced with black; primaries and secondaries white, having crescent-shaped black points to feathers; the coverts white, ending in full black spangles with perfect bars across the wings; tail (if the bird be all I have described he will not have a Standard tail)

proper will be black and white mixed, the sickles gray, with full black tips, lower coverts of like character; but should one be lucky enough to secure a Standard tail the bird would be a prize. To such a male mate females with dark beaks, dark eyes, and a full round crest (secure a perfectly round crest and all the size you can)—a crest other than round is a defect. If pullets, they may have a black white-laced crest; if hens, they should be white centered and black edged, exceedingly small combs, white ears, the neck should be long, well arched, head being carried well back, hackle white, edged with black, a good broad back at shoulder, straight on the upper line and tapering at the sides to tail, plumage white, with round black splangles; breast full large, plumage white, spangled round and black; body tapers from breast to tail, having the same spangled plumage as breast; wing-bows white, fully laced with black; primaries, secondaries and coverts white, ending in a heavy crescent of black, tail having the spangle round, not moon shape; slaty-blue legs.

The above is the best mating to be made.

Mating No. 2.—A male with all of the above Standard form and symmetrical carriage, but plumage in breast, body and thighs, spangled, not laced.

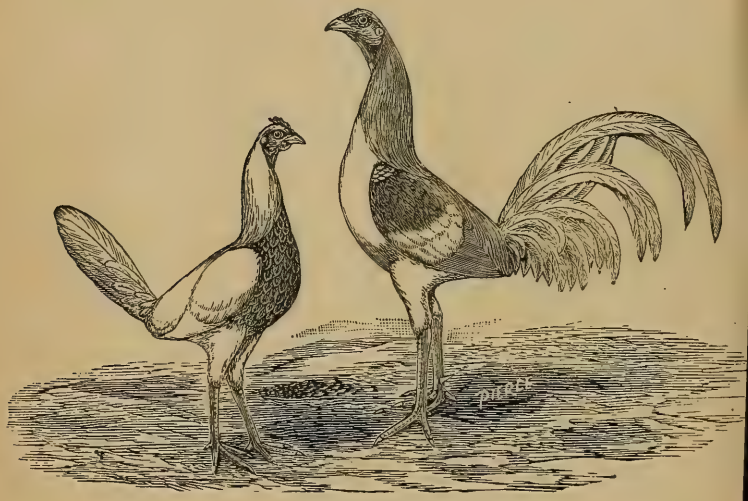
To him mate those females so heavily laced in plumage as to look black in the back and breast, tails quite dark, the dark specimens of the race.

Mating No. 3.—A cock that has held his plumage to be like male described for Mating No. 1, mate with him pullets lighter than those described for Mating No. 1, the spangles being small, also the hens that have lost color by age, showing white in crest, and a falling

off in the wing markings, being good form, both in body and crest.

GOLDEN-SPANGLED POLISH.

You have only to follow the same rule, substituting the word golden bay for white. The only thing to keep in mind is the different style of markings. We used to see a pair win over all comers, and not one in fifty knew



RED PYLE GAME BANTAMS.

why a laced cock and spangled hen made the best and most even-balanced colored pair of a show. For the black and white varieties, see page 219. Health in these varieties is everything. No race shows its effect in the chickens more than they. While it is essential that all breeding stock be in perfect health to get the

best results, it is of the greatest importance that the Polish race enjoy it, and have healthy, roomy quarters.

GOLDEN-LACED SEBRIGHT BANTAMS.

In mating these birds one has only to secure males of Standard color and form, except that the two top feathers of tail take quite a curve and incline to a

GOLDEN-LACED SEBRIGHT BANTAMS.

scimiter in shape approaching sickles. Without this indication not one male in ten will be fruitful. When the Standard says sickles are disqualifications it was not intended to disqualify birds with these scimiter-shaped feathers that exceed in length the balance of tail proper one inch to an inch and one-half (a feather to be a sickle must be the shape of a sickle—the unjust

disqualifications should cease), a rich golden bay, laced with black—no white in undercolor. To such a male mate female of bright orange bay, with brilliant black lacings; combs on both perfect in spike—like the Golden-Penciled Hamburgs. We cannot mate such to pay us. There is never a male so dark that he will lift a faded white undercolored, white-spotted female's progeny up to a first-class Standard.

SILVER-LACED SEBRIGHT BANTAMS.

Mate Standard described birds for Mating No. 1, and to the medium light female use the darkest and blackest laced males, while the very white, poorly laced pullets should be bred to a black, rose-combed male, and the prime marked female of this cross mated to an evenly-laced, lightish colored male, the get of our Standard matings, and breed the progeny back. The road to nice color and health will be quicker traveled than to try to utilize a poor lot of females in any other way.

GAME BANTAMS.

One has only to follow the rule given for Games, taking care to secure the best station and symmetry possible. Our Bantams lose station badly, as they grow small in size. It is folly to breed them too small. We think that these birds just within the limit of weight are apt to be the best scoring specimens. We believe, also, to hatch them in May, June and July better than to hatch late in fall.

PART III.

JUDGING FOWLS.

CHAPTER I.

ON THE STANDARD OF EXCELLENCE.

THE "Standard of Excellence," published by the American Poulterers' Association, contains the acknowledged groundwork or law by which all the judging of fowls in America is done, its scale of points being the numerical value of perfection of the sections in their sums total, the judges enumerating the out or point value of the defects, their sum total deducted from the full number of points being the value in points of the specimen judged. We do not think any breeder's library can be complete without the last edition of "The Standard of Excellence."

Being familiar with this standard makes all scores of fowls understood. With "Standard" in hand the judging of the breed will be more clearly understood by amateur breeders. To old-timers who have long since learned the lesson, we have nothing to say, but to the novices in breeding and judging of fowls our work is dedicated. Such a work as the "Standard"

must, therefore, if effective, and to result in good, be authoritative. They who say it is only to aid, leaving the judge to take the extreme views and interpret the text in a like manner—to such we say, you are not judging in accordance with its teachings. But the judge, if an honest one, will form his idea of symmetry by carefully considering what a harmonious blending of all the sections, they being of Standard described form, what such a harmony would produce as a picture, what such a living model would be—not what he, as a judge, may wish it to be. In color, also, should he fall squarely into line with the teachings of the Standard, and not indulge in expressions to wit, "If I could have my way, every feather on a Brahma should be white," and take the very extreme in his desire to disqualify under the clause black in the web of plumage, doing so when the bluish white shade the web, which should be cut for being defective, and waiting for the color to be "*positive black*," as stated in the Standard, to disqualify. Some judges in their dislike disqualify for one isolated fluffy black feather if found in the back or breast, doing it under such interpretation. This was not the intention of the standard makers. Some birds present a back spattered with black the moment the white surface color is disturbed. This is the defect the makers would eradicate, not to disqualify for *a single* feather, but a plurality, say three or more, when such dark objectionable color appears to such an extent as to have a harmful effect in and show a defect of blood and breeding. In other words, we are to take the text of the Standard as we would that of common law. Using it in that spirit, all its teachings become plain and work harmoniously,

aiding all in their efforts to breed, mate and judge the breeds. This makes the "Standard" the companion book of all poultry literature.

It is a copyright, and from necessity must become a companion work, and, as we show its working in the act of judging, we must leave it to teach each breeder what each breed must be to become Standard in its merits, and he or she who secures one will read, we hope, what we have to say on judging with twice the interest for having first read the "Standard" for the breed under discussion.

When breeding by the teachings of the Standard, or, I may say, breeding with a desire to reach the Standard merit, the work of breeding, of mating especially, becomes a study—it has an aim in view. We often hear the false assertion that to mate Standard specimens is to fail in the production of Standard progeny. We must emphatically deny this. We know of no breed that we cannot take a male as described and breed a female as near perfect Standard description as nature will allow us to come to it, and produce the largest number of chicks to score ninety or more points in the progeny. Because one can deviate from the Standard mating and produce one of the sex more perfect, causing the other sex to score much lower from its effects, is no fault of the Standard. No leaf is perfect; no one specimen in animated nature is perfect—no being save "One," the Father of the Universe. He created all things: he pronounced them "*good*," not "*perfect*." If from his hand nothing came perfect, then why should we mortals demand an absolutely perfect working of the machinery of mental invention? We mate for the best

possible results—the fittest survives; the lower order are to perish that the best may live. The best is to do the work of breeding and the races be kept up to a high order of excellence.

When any breeder can name a mating other than that found among these birds to score ninety-one points or more, that will produce one hundred chickens, male and female, to score a larger average number of points, then we will acknowledge the Standard a failure.

The first breed that will be doubted will be the Partridge-Cochin. But please wait. Does it not give you two types for males in color—thus allowing you to vary the color of the females? But in form of the structure there is but one law; the selection of a male, one between the shades of rich red and orange red may be a Standard color, if striped with black, and if no bronze appear would enable the bird to score ninety-two points—he would be a Standard specimen. To such a Standard pullet be mated, the progeny, both male and female counted, will breed chicks and give two points odds over any flocks produced by any other mating possible in the breed. Because to win on a cockerel one sees fit to sacrifice the whole female progeny to the hatchet on account of indistinct marking, that an absolute coal black breast and body may be obtained, the fault lies with the breeder, not the Standard. An absolute Standard mating of the Plymouth Rocks will produce the largest number of Standard points and give any other mating in the breed two and one-half points handicap, and beat them out. The darkest male raised is by no means the Standard male, but the male that looks bluish-gray, barred with

stone-blue bars, whose feather, when plucked and laid on sky-blue paper, looks gray, barred with nearly a black, but when on the fowls has a blue tinge to plumage. This means both the light and dark bars. A blue ground barred with black is by no means a Standard bird. Therefore, when the Standard color meets in both male and female we get true Standard color mating, and with Standard form, produces in every breed the highest order of perfection in the progeny.

Again, in black fowls, the metallic black is produced in the best and deepest intensity when both male and female are of this rich, glossy Standard color. The male of Standard blacks will often restore rusty black in the female to a nice and rich black in the progeny. But a rusty black male will invariably tarnish and lower the whole season's get, few if any reaching the bright metallic luster the dam may have possessed. It is suicide to breed a poor male. He who ignores the Standard form and color "sows but the wind to reap the whirlwind." "Like as a race begets like." This is not true of the individual to so great an extent, for there is an ancestral influence, and it is said one cannot get rid of his ancestors. A modest specimen from a good and well-bred flock is a safer bird than a prime though chance bird from a poor and ill-bred pair.

The breeder, in his mating, will never forget the ancestry. He looks out that his male line be faultless, and as he mates, his mind often runs back for several generations for data that control his actions in mating —especially does he do this if prompted to use a specimen that is wonderfully good in all but one section,

that one being very objectionable. No such defect having affected the ancestors, he will chance the good he hopes to gain by the cross, feeling the strength of ancestral breeding will overrule the exceptionally bad section in question.

The Standard is made up with the law of waste in color in breeding and by age recognized, and in all its mating the progeny will be found much darker than the present stock when one year older; and he who does not acknowledge its influence shows but little wisdom and gives little heed to the school of observation. Each revision of the Standard has shown a strengthening in its influence in this respect. These few hints at Standard influence may not come amiss as an introductory to our mode of judging and as a finis to our mode of mating.

CHAPTER II.

JUDGING THE VARIOUS BREEDS.

WE are surprised that so few men are able to apply the Standard scale of points rapidly and correctly. We think the trouble lies in their unwillingness to throw aside all personal and preconceived opinions and let the Standard do the work. If we take up the Standard and allow it to teach us what the form and color of each section is, there will be no trouble. The majority, when they apply the Standard to a pet bird, exclaim, "*the Standard does not* fit my bird"; they are vexed, and judgment trails in the dust, If they say the birds are not up to the Standard, and ask the question of their judgment, "How much does it fail?" having no feeling of disappointment, but simply score out the percentage one's judgment declares on the instant to be the value of the defect, before one had scored ten birds in that spirit the plan would work easily and safe. There is but one question that should

be put to one's judgment, that is, what percentage of the value of the section am I cutting? to wit: here is a faulty back, it is oval in shape and bad in color. The whole value is six; equally divide in form and color, to cut two points; judgment says at once thirty-three per cent. If judgment sustains the percentage as just, one may feel that he does not err in his work. The first lesson is to *learn the Standard*, and to learn the form and color of each breed by Standard description, then one will make less mistakes in symmetry, and this is the most fruitful cause of the great differences between judges. One judge says without symmetry the standard would have no flexibility. We are of the opinion a standard should not have any. No law is a good one that is not arbitrary and explicit in its application.

SYMMETRY,

we have always maintained, was a useless section, and still worse, it has no definition by description as applied to fowls. We have only been able to say it was the harmonious combination of all the parts perfect in form. Therefore any one section, imperfect in form mars symmetry, thus causing an additional cut under that head. Then why not do away with it?—for it takes the position of a stern father who, when his child is whipped at school for some short coming, there having *paid* the penalty, thrashes him when he gets home for the fact. Does such usage as a rule carry with it a sense of justice to the mind of the child? Cutting for symmetry takes the same position. Here are two specimens, one perfect in symmetry, the other out one and one-half in symmetry, one in shape of back, one

out for carrying tail too low, one for carrying head too far forward. The one to become perfect like the other has only to carry his head back and save the one; to carry the tail in proper position and save that point; straighten up in the back by carrying the wings higher up, all of which we have seen done; there have been but three points corrected. Now by that improvement we have bettered the bird four and one-half points, for we have made him equal to the symmetrical one; then it becomes clear to any one that the bird was taxed one and one-half points for the fact of being faulty, and that every bird perfect in symmetry is scored from one-half to two and one-half points, as a rule less severe than these birds that are cut for defects. If symmetry is to remain in the Standard, then let it represent fifteen points, and cover all defects of form, and let the other section be apportioned for color, health and condition, and profusion of feathering, etc., etc. To do this would be folly, then as between the two evils we say that *symmetry must surely go* when next the Standard is revised, for justice demands it. We want no flexible, bending standards, that allow under the cut of symmetry a power to manipulate the prizes to such an extent as to do injustice.

So long as it is a part of the Standard we must not ignore its force, but the rule should be to cut one-half as hard unless it be that breast and body are the defective sections; this is the practical worth of the specimen. A flat breast cut from one to one and one-half should, we think, sustain a cut of one in symmetry, and should symmetry be abandoned we think the ten points should be concentrated in the breast, body,

back and neck, thus augmenting the number of points in those sections. This done, many an unpleasant difference between judge and exhibitor would be avoided, this question of taste in symmetry would be taken out of dispute and each section come down to Standard description, every defect of which would become so self-evident that the why and wherefore could be explained easily and clearly. The many articles on the subject of judging are doing much to enlighten the breeders, but in our essay we shall take the actual score of some individual birds and elucidate from the fact. To say a bird may be cut from one to three points as in degree a certain defect may appear, seems to fail to enlighten the general reader. We therefore commence this chapter on judging by presenting the

LIGHT BRAHMAS.

A male, to be considered perfect in symmetry, should have a comb erect, neck finely arched, breast full in its sweep from throat to thighs, round in the sides, wings carried high to give a flat back, the saddle no fuller than to preserve a concave sweep from back to tail, the latter carried tolerably upright and spread at base, the sickle not much exceeding the length of the tail proper, legs that stand well apart nearly parallel with each other, the fluff while full not to destroy the profile of hock joint. With this assertion or pen picture we score the cockerel

"PHI BETA II, NO. 5876":

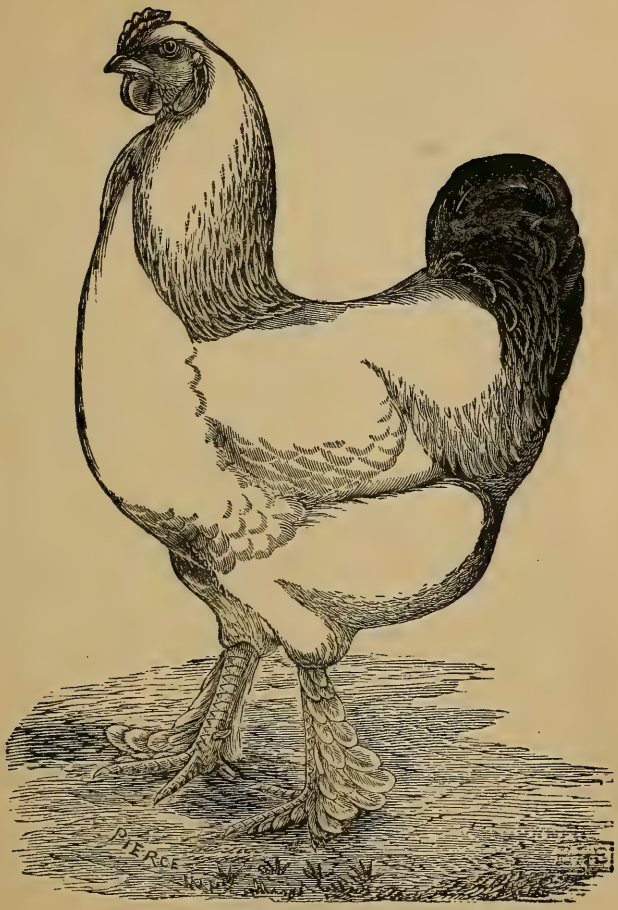
SYMMETRY.—Breast falls away from the full round sweep from throat	1
WEIGHT.—Being full Standard weight	0
CONDITION.—Being smooth in the leg scales, plumage unbroken, and in perfect health	0
HEAD.—Broad, full over the eyes, the beak being yellow, with dark stripe down the mandible	0
COMB.—Firm, evenly serrated, but a trifle thick at the point, and a trifle too high	1
EAR-LOBES AND WATTLES.—Both being of equal length, and fine in texture, the latter well rounded	0
NECK.—Perfect in shape, but the black in the hackle is not bright enough, nor does it reach high enough up	1½
BACK.—Straw-colored by the sun	1
BREAST AND BODY.—Breast is broad and round at sides, but is too flat in front	1
WINGS.—Set on right, color all right, except a slight discoloration of wing-bows	1
TAIL.—All that could be desired, being spread at base, and well developed and black, except the lesser coverts are grayish black, not black centers	½
FLUFF.—Being full, but not enveloping he hocks, is all right	0
LEGS.—Stand well apart. Straight from in front and feathered to middle toes, being yellow and smooth in scale	0
Total points out	7
The birds scoring	93

It will be seen that breast alone was faulty in form, and that being flat in front caused the cut of symmetry a point. But this bird is a good all-over specimen, and scores high up, the effect of the scorching rays of the sun being the cause of nearly all the color cuts of back and wings.

THE PULLET WE HAVE TAKEN TO SCORE.

SYMMETRY CUTS.—For the reason: Tail droops, abdomen hangs low, wings falling away from back, and back has lost its concave sweep, bad condition the cause of two-thirds the trouble	4
WEIGHT.—Weighing over eight pounds	0
CONDITION.—So fat that her tail droops badly, abdomen hangs low, being sallow about the face	3
HEAD.—Too long, and being depressed at base of comb, and fails to project above the eyes	1½
COMB.—Is too large, and while firm on the head turns to one side so as to crook all three of the divisions. Though of less importance than the same in males we cut	3
EAR-LOBES AND WATTLES.—Being well rounded and red in color	0
NECK.—Being well arched, and the feather black laced perfectly with white	0
BACK.—The tail drooping so badly the concave sweep to tail is destroyed	1
BREAST AND BODY.—Being round in front and sides as it joins the body, and white	0
WINGS.—Having fallen away from the back so as to bring them below their proper position. Though perfect in color, we cut.	1½
TAIL.—Droops to a level with back, has white tail coverts	2½
FLUFF.—Hangs so low as to come far below the hocks, and so profuse as to embed the thighs in soft feathers, destroying the smooth side surface	2
LEGS.—Middle toes not being feathered. Scale yellow and smooth	1
Total points out	19½
The bird scoring	80½

Now from the effect of her drooping tail, her sloping back, and falling down of abdomen, we cut 4 points in symmetry, then we have cut but four-sevenths the outs in the sections which effect symmetry, and reduce the specimen in flesh, restore her muscles to healthy action,



LIGHT BRAHMA COCK.

shrinking her fluff to reasonable size, letting the tail resume its natural shape, and the result would be:

Symmetry, for Cochin fluff	½
Size, 7½ lbs	1
Condition	0
Head	1½
Comb	3
Ear-lobes and Wattles	0
Neck	0
Back	0
Breast and Body	0
Wings	0
Tail	1
Fluff, always will be too large and full about thighs	½
Legs	1
Total points out	8½
The bird scoring	91½

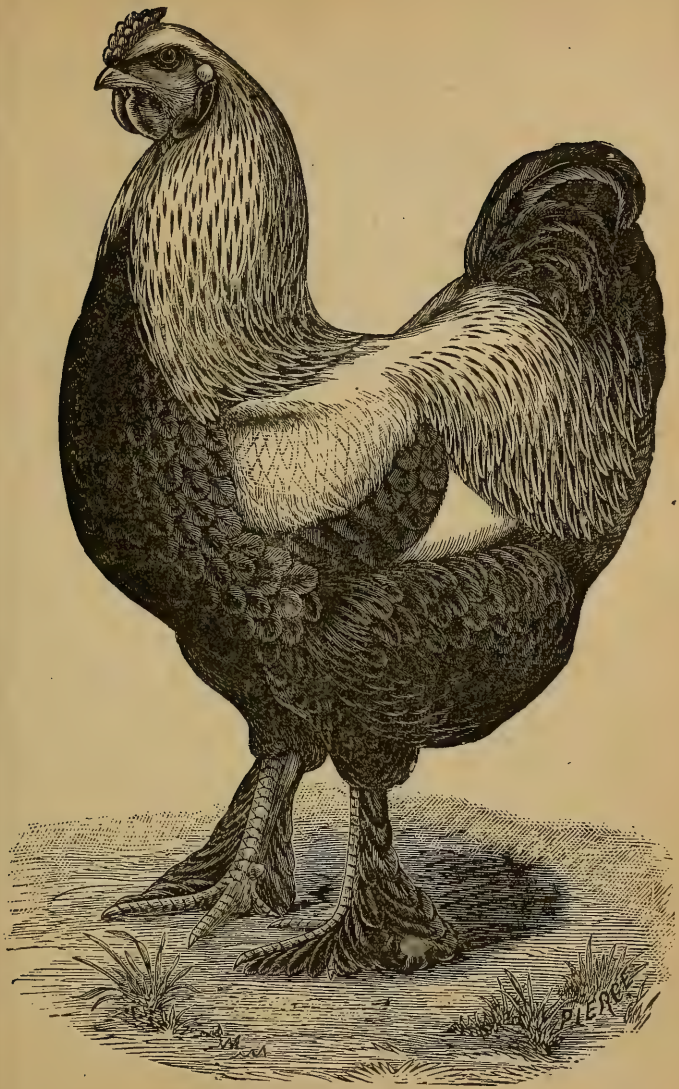
and you have a first-class specimen. We have seen birds in just this condition that have been forced for excessive weight and have been censured for the score in conformity with the above. This definite score and comment upon them we believe will awaken an interest. If it but sets the amateur to buying score cards, and applying them by scoring his specimens at home, more will be effected than all the lectures on the subject will do, the best lesson being experience with the pencil and card.

If the head be carried too far forward so as to lessen the arch of neck, giving it too straight a look or crouching position, cut a point. If the saddle be so full as to destroy the concave sweep, that being the extreme of the one caused by the drooping tail, cut a point. If breast be both flat in front, and, viewed from front,

wedge-shaped, not round at sides, cut two points. If legs be *turned* in at hocks, cut one to three points if they come close together. If the tail be pinched together, sickle running out straight, for both evils cut two points, or one each, as one or both appear. Wings, if too low down, giving back an oval shape from side to side at the shoulders, cut both wings and back one each. Middle toes smooth, cut one-half point for each one, or one point for this failure in Brahmas or Asiatics. This was a compromise among breeders, and in the last revision the requirement was added, but with the understanding it have but one point of value in adjudicating for prizes. White lesser coverts in males and tail coverlets in females, cut one point; white in sickles of males, from one to two points. We mean that by the movement of the plumage by the wind, if white appear above the coverlets by partial parting them, it shall show to the surface. To dig down to the very roots of the sickle to disclose it is not a just thing to do, for the quill-points of nearly every feather in a Light Brahma is white. A reasonable construction of the English language and fitness of things to which it is applied is to govern you in all things, there being no exception to that rule.

DARK BRAHMAS

seldom score as high as Light Brahmas, for the complication of color makes it impossible. Each minute defect must be noticed in its comparison. This has a tendency to cut down the general average so that in sweepstake prizes the Darks seldom win over the Lights. The male taken for illustration was one of ex-



DARK BRAHMA COCK.

ceedingly beautiful appearance as he stood at a distance, nearly all defects being hidden from view.

SYMMETRY.—Grand, for he was round in breast, in front and sides, back broad and flat, his saddle having the nice concave sweep to a tail that was carried in a perfect angle with back sickles spreading laterally..... 0
WEIGHT.—Perfect; weighing just 11 lbs..... 0
CONDITION.—In perfect health, no plumage broken, legs smooth. 0
HEAD.—Broad over eye, the eyes bay, beak horn color..... 0
COMB.—Had side sections perfect and serrates even, but middl section grew too fast for the sides and had to curl or take a serpentine shape..... 1
EAR-LOBES AND WATTLES.—Perfect in color and shape..... 0
NECK.—The very tips of the black stripes were very black, but did not extend up the feather, so that the displacement of the hackle by the wind or movement of the head disclosed them to be gray in stripe..... 1½
BACK.—Fair in color, but saddle had the black stripes all grizzled up by a gray color..... 1½
BREAST AND BODY.—All right, being black and as described above 0
WINGS.—All right in color when folded, but come to open them the interior flights were white. This is a sad fault in Light Brahmas, but still greater one in Dark Brahmas..... 3
TAIL.—As we have said, grand in shape, but white showed in sickles two inches about coverts, tail proper one-third the length white..... 3
FLUFF.—So light in undercolor as to give the fluff a gray look when closely inspected..... 2
LEGS AND TOES.—Nice in all else, but the lower portion of the feathering was wholly white..... 1½

Total points out 13½

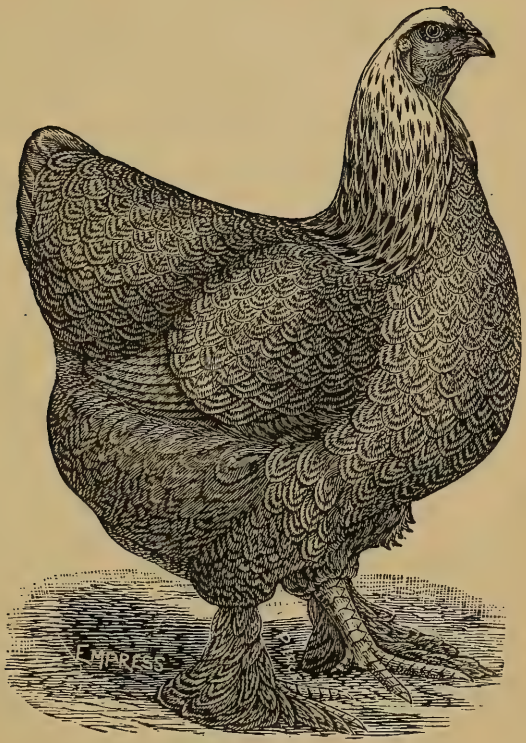
The bird scoring 86½

And we saw the bird we had exclaimed would score almost a hundred, viewing him at a few rods off, shrink by examination to 86½ points, only 1½ points above the minimum score of first class. Now these are seri-

ous outs in breeding, as white to a large extent in wings and tail have a strong effect upon the beauty of all they get. This bird in off-hand judging would pass for more than his value, while one defective in body, 1; breast, 1; back, 1; and carriage of tail, 1; thus making a cut of 2½ necessary in symmetry, would not get a full score at the hands of a judge, and most likely be placed second to the one first described and scored. We say: White in wings, from 1 to 3, as in degree; white in sickles, ½ to 2 points; white in tail proper, ½ to 3; bronze or red patches in wing-bow, from ½ to 2 points; bronze in wing-bars, 1½ points; bare middle toes, 1 point; pinched in tail, 1 point; splashes of gray in breast, 1 to 2½ points. Round, even, white spots in breast are not defects, though some breeders may prefer to breed from solid black.

DARK BRAHMA PULLET "JUANETTA."

SYMMETRY.—Cushion too high, being convex	1
WEIGHT.—Weighing 7½ pounds	1
CONDITION.—Had back plumage worn off, unable to say what pencilings were	1½
HEAD.—Brown, not steel gray	1
EAR-LOBES AND WATTLES.—White in centers of ear-lobes	1
NECK.—Black in hackle, penciled with gray	1
BACK.—Where not broken, was minutely penciled, not penciled in circular lines across the feathers	2
BREAST AND BODY.—Was not penciled up to throat, and had stray feathers in it, approaching the color of Partridge-Cochins	3
WINGS.—Were Standard, except white shade in flights in lower web	1
TAIL.—Pinched, and too much buried in cushion, Cochin shaped	1
FLUFF.—All right, being a beautiful stone color	0
LEGS.—Well feathered and dusky yellow	0
Total points out	13½
The bird scoring	86½



DARK BRAHMA HEN.

It will be seen in this specimen that, excepting the cushion and pointed tail, all were defective in color and condition, and the specimen cannot be called an exhibition bird, for even with symmetry set aside she will score but ninety points and would fail to win in close competition, though large numbers of first prizes have been awarded birds no better. Few pullets that have a breast as defective as this one, being off in penciling and having reddish feathers in breast, have perfectly penciled wings; and it is seldom that a back gets cut one and a half to two points for color and character of pencilings that the wing does not suffer within one-half to one point as much.

The whole question of judging by points is expressed in the one line: It compels *minute examinations of each and every section laid down in the Standard for the breed.* Now any course that secures this makes the work better done than to rely on a casual or even a close survey, when the specimen is not handled.

BUFF-COCHINS.

Self-colored birds simply become a question of uniform shade and brilliancy of color and correct undercolor. The awards in this breed have many times been waited for in suspense and anxiety beyond any other, for the reason so many of them will score so near alike. We have seen five awards made in the scope of one and three-quarter points in a competition of one hundred and sixty-two entries. It can be safely said no man could say which was absolutely best. There was but one way to do: Score them and let the footing of the cards do the work. The expression, a rich, clear

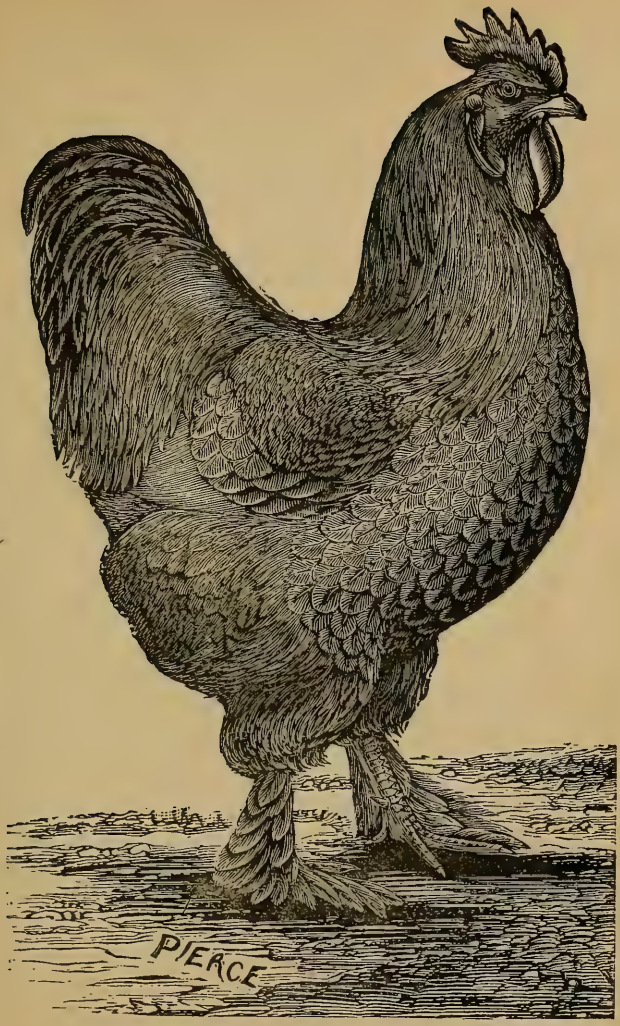
buff, means, of course, a *reddish buff*. A lemon color is not a *buff*. Those birds approaching a yellow buff become defective; those birds that drop off into a pale drab are defective, and must suffer for color. White in undercolor becomes a serious defect; white or black in tail and wings again comes in for punishment. They having a form known as Cochin symmetry, we define it, to wit:

THE BUFF-COCHIN COCK,

having a low, evenly-serrated comb, a short, well-arched full-hackled neck, short back and full and abundant saddle in which the tail is nearly buried, the tail being rolled; the sickles so small as to be lost in the tail coverlets; breast full; broad, deep, thick body, having a fluff that stands out about the thighs; shanks short, heavy and profusely feathered, may be allowed to pass uncut in symmetry. A peculiar specimen of this breed came under my notice a short time ago—a cock:

SYMMETRY.—Back scant in saddle, drooping to a sharp concave sweep to tail..... 1½
WEIGHT.—Full in weight..... 0
CONDITION.—Fluff had partially been picked off by hens, but balance was prime color; there was no evidence of ill-health, and as it was an accident we checked it.....(x) 0
HEAD.—Short, broad, and color rich buff..... 0
EAR-LOBES AND WATTLES.—One had been torn off..... 1
NECK.—To all outward appearances it was a rich, bright buff and even in shade, but had a white undercolor for two full inches from the flesh..... 3
BACK.—Flat at shoulder, but the back saddle discolored and undercolor white..... 3½

(This section is worth 10 points. Here we find fully 1½ points in form of saddle out, and fully 33 per cent defect in color; fully ⅓ of the length of feather was not buff, yet that which showed to surface was regulation shade).



BUFF COCHIN COCK.

BREAST AND BODY.—This was all one could desire in form, but spotted by isolated deep buff feathers, on an otherwise pale buff breast, and added to this white undercolor..... 3

WINGS.—Bows were red; balance of wing a rich buff, with both black and white in the flights. This is a bad complication. The bow had gone beyond a rich buff or even bay; the flights had white 2½

TAIL.—Were it not for the white which appears in the sickles would be called good for the two inches of white in them.... 1½

FLUFF.—This, in consideration of the x in condition, we connected it with the same and cut for the reason it would be better understood under fluff, than to cut a ½ point in each..... 1

LEGS.—All right 0

Total points out.....17

The bird scoring..... 83

Here, again, is a magnificent-looking bird in general appearance that is certainly a poor one for breeding purposes, and one standing in a show-room, a visitor who does not discriminate between Brahma and Cochin symmetry would deem severely used by the judge. It only proves how unreliable is the opinion of the visiting public at our poultry exhibitions. These defects appear in a less or greater degree, and have to be furnished in cut from one-half to three points; a cut of over three points seldom occurs in exhibition birds.

BUFF COCHIN PULLET.

SYMMETRY.—So near up that judgment says not to cut, but because of its very excellence we look the bird over a second time and come to the conclusion the cushion is not quite full enough, and make the cut half under protest..... ½

WEIGHT.—Full..... 0

CONDITION.—Health perfect..... 0

HEAD.—Fine in shape and color, eye bay..... 0

COMB.—Low, firm, evenly serrated..... 0

NECK.—One even rich buff, and undercolor even, but of lighter shade where covered from the air..... 0

EAR-LOBES AND WATTLES.—Perfect..... 0

BACK.—One nice shade of rich buff, matching perfectly the neck hackle, both in surface and undercolor..... ½

(Ah, but we cut for symmetry, because this back was defective, and to make our score consistent we have to go back and erase symmetry or cut now for back, and we again under protest cross out the 0, and cut ½ point.)

BREAST AND BODY.—We see no particular fault, but we so far have found nothing to cut, and we look all over carefully and find just the merest difference in the shades of the surface plumage; undercolor is all right; again cut under protest.... 1

WINGS.—We pull them out; they are nice; the bows are even rich buff. We are now fully on the watch; the specimen is going to score too high for our reputation as a judge, and in despair cut..... 0

TAIL.—The last resort. We are conscious that we would like it a trifle smaller and more pointed, yet it seems a pity to cut, but again we cut..... ½

(Knowing each and every time we have cut so far we have cast all doubts against the specimens, when the rule has been with us to give the specimen the benefit of at least one-half of them.)

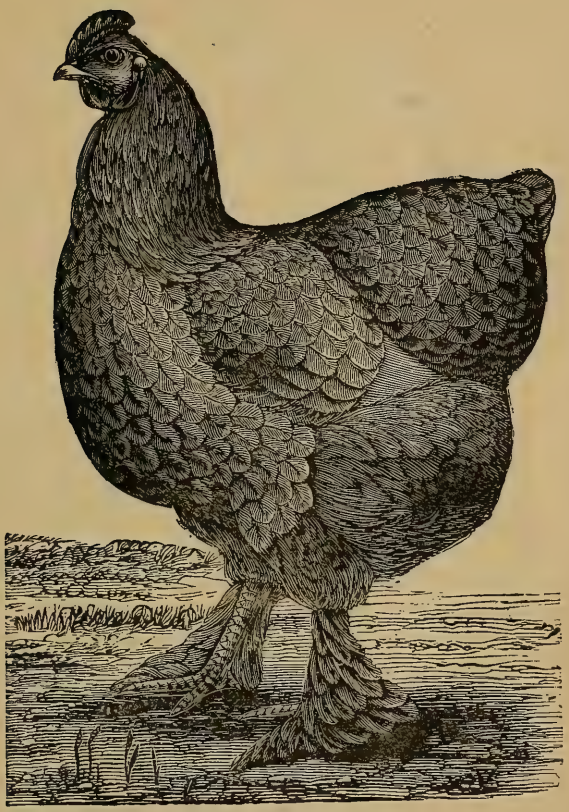
FLUFF.—Nice in color and profusion..... 0

LEGS AND TOES.—Alas, they are nearly perfect; the middle toes are feathered to near the end, but she is a Cochin, and we again cut her..... 1

Total points out..... 3½

The bird scoring.....96½

The belle of the exhibition, and for all that she has been scored closer than any bird on exhibition, it is an absolute fact that each and every bird that scores ninety-four or more honest points (remember we say honest points) receives a closer score than is the case with birds that score eighty-eight to ninety-three. Not



BUFF COCHIN PULLET.

one judge in fifty that will not, when he finds a bird score ninety-five, go carefully over the ground to be sure he has made no mistake, and to see if he has cast a full half of all the doubts against the specimen.

PARTRIDGE-COCHINS.

Like the Dark Brahma, accuracy of penciling goes a long way in securing the prizes. Among the males the most common defects are found in a too flat and low saddle, and too prominent sickle feather, white in undercolor of hackle, and white in wing and shank plumage, These cut deep. It will be seen, as in the case with the Buff cock already alluded to, not only that, but some judges, failing to analyze closely, are apt to cut in breast and body because of the defect spoken of in back.

THE PARTRIDGE-COCHIN COCK "KING."

SYMMETRY.—Too flat in saddle, being a perfect Brahma shaped back	1
WEIGHT.—10¾ pounds	½
CONDITION.—Come to handle would turn black in comb, showing symptoms of apoplexy	2
HEAD.—All right, having deep red plumage	0
COMB.—Low behind and high in front, with only four serrations, uneven at that	2
EAR-LOBES AND WATTLES.—Fair in texture, good color	0
NECK.—Short and having a nice arch, black stripe, prime, but the rich bay edging was smutty, with the lower row of hackle feathers black	2
BACK.—Flat at shoulders, saddle flat, undercolor of saddle white, but the black stripe fine	2

BREAST AND BODY.—Full and round, black in surface but opened to a white undercolor..... 2
WINGS.—Bronzed spots in the bar, with white along the center of inside web of primaries..... 1½
TAIL.—Prime color, but cuts through saddle..... 1
FLUFF.—Bronzed up with bay color..... 1
LEGS.—Prime in the size and carriage, but the plumage was mottled with white..... 1

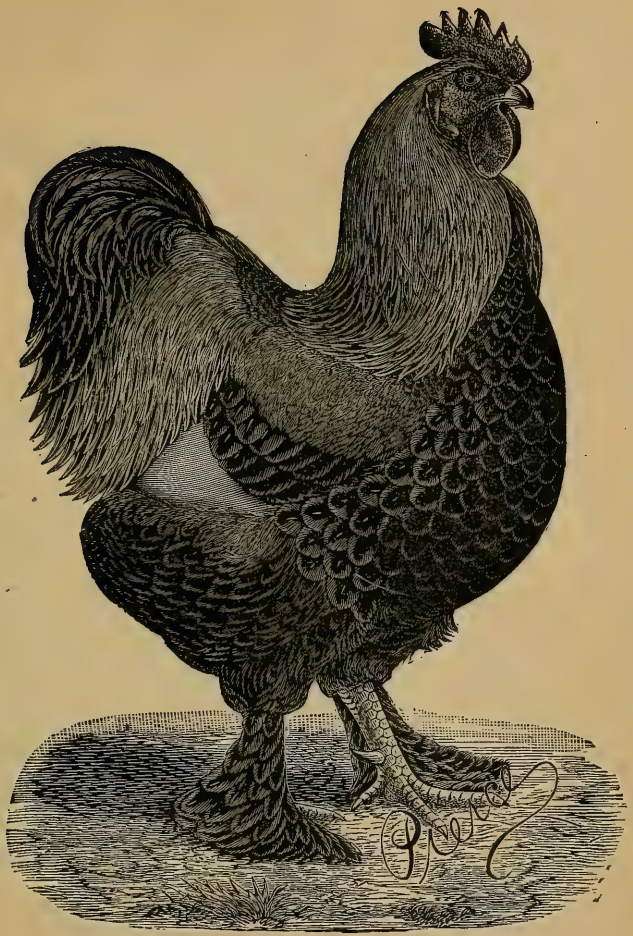
Total points out.....16

The bird scoring.....84

A fine looking bird to the gaze of the ordinary visitor to an exhibition or poultry yard—but eighty-three and one-half is a low score to write to a man expecting to sell; and many such birds are sold to the purchaser who sees them, and highly prized by the seller, both of whom are sadly deceived in him. This bird changes hands at a large price and comes before a judge, and the result is hard feelings expressed—the seller branded as a cheat. In an old-fashioned, open judged show, he would be found among the winning samples on exhibition.

PARTRIDGE-COCHIN PULLETS

are often found light in weight. To show under seven months of age but a small number reach Standard weight, and not a large number even exceed disqualifying weight. A Cochin looks larger than it will weigh. But the failure to be accurately penciled is the mischief—and to get a cushion full enough to secure full symmetry.



PARTRIDGE-COCHIN COCK.

PULLET.

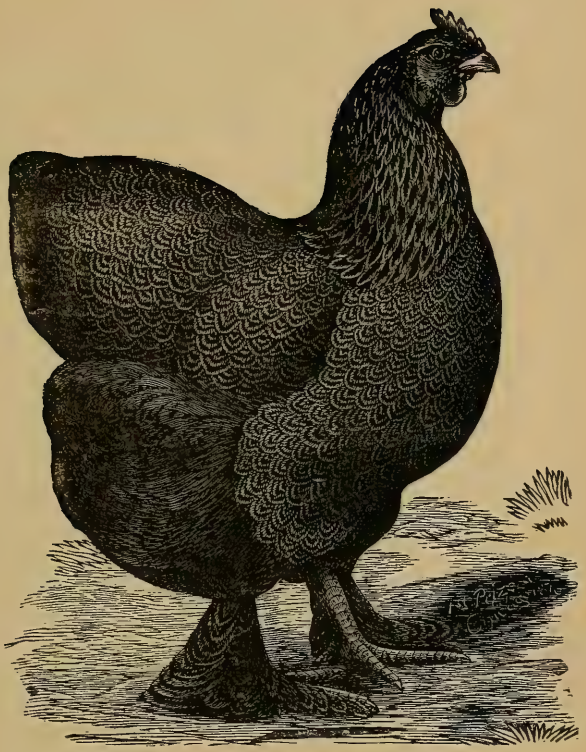
SYMMETRY.—Back flat, breast wedge-shaped	1½
SIZE.—Weighing only 6 pounds	3
CONDITION.—In health and smooth in plumage	0
HEAD.—All right, beak well arched	0
EAR-LOBES AND WATTLES.—These in nine cases out of ten are all right	0
NECK.—Black in the neck, hackle badly penciled with yellow. (A slight penciling now goes uncut.)	1½
BACK.—Flat in cushion, plumage a leaden dull black in the penciling, the lighter shade of black being dark brown. (A back is valued at ten points, six for color, four for shape. In the cut we at 3½ points have cut but 33 per cent for shape and $\frac{5}{12}$ for color. When the colors in it are wrong and the curved line penciling lost one sees the specimen is judged leniently)	3½
BREAST AND BODY.—The light color is more buff or even drab than rich golden bay. It fails in the penciling also; large spots void of it, the body being void of penciling on thighs..	2½
WINGS.—The bows are minutely penciled a brown surface, with pepper sprinkled over; no curved lines in it. The primaries void of the bay edge	2½
TAIL.—Black, the upper feathers a dark brown, penciled so densely as to give a leaden-black look. Tail fanned out like a Brahma	2
FLUFF.—Dark brown, having no rich brown shading	1
LEGS.—Long and thinly feathered; middle toes bare	2½
Total points out	20
The bird scoring	80

Close scrutiny, tells on the exquisite pencilings. If birds fail in sections that are valued at ten points the defect has a greater value. We have known of a breeder taking a pen he called fair breeders to an exhibition to sell. By an error they were scored and valued at seventy-nine to eighty-three points. They

were sold at $3 each, when before the score was made $5 each was refused. Yet a Dark Brahma, Wyandotte, Partridge-Cochin, or Penciled Hamburg pullet that scores from eighty-five to ninety are as strictly first-class as a Light Brahma, Black Red Game, Plymouth Rock and White Leghorn that score ninety to ninety-three and a half—and the number in one hundred raised as many; yet we see them once in a while, the former, that score ninety-three to ninety-five points.

WHITE COCHINS.

A few general remarks may not come amiss in speaking of this breed under the head of judging. "An egg is an egg." We hear one say a Cochin's is a Cochin's, and should all be of one Cochin form. Yet we know that there is not a single variety but the Buff that so many in one hundred conform to the recognized Cochin shape, and that the Partridge is the largest and heaviest of all the Cochins. The weight of the Standard demanded to enable them to compete is too heavy, and in all the varieties the weights for pullets are too large, and for hens in the White Cochin breed also. We have only four points leeway between perfect weight and the weight which disqualifies. Wherein is the consistency that debars a young chick that is growing at four points under perfect weight? It is simply a question of permission to compete, and an arbitrary measure in favor of a poorer, larger specimen, for it gives the prize to the poorer bird by preventing a better one from competing. A pullet of five pounds pays five points for the privilege to compete with one of seven and a-half pounds. The one of lesser weight has to



PARTRIDGE-COCHIN PULLET.

make up in points of merit more than the difference in weight to win the prize. Then one sees at once the blunder of setting disqualifying weights too high. This cause alone cuts down the exhibits in White Cochins at least fully fifty per cent in all our exhibitions, and in consequence we see the prizes won by far less beautiful specimens; and so true is this that three-fourths of the prizes go to birds of other than Cochin shape, the birds that reach the weights being invariably of a Brahma type, indicative of the crosses resorted to to attain the size necessary to win. Allow birds to compete at five pounds for pullets, six pounds for hens, six and a-half pounds for cockerels and eight and a-half pounds for cocks, and the numbers would increase threefold, the societies be that much richer in entry money, and the quality of the specimens increased—competition being so much sharper, greater attention would be paid to them.

We build poultry by the pound, and the cost will be found not to deviate much per pound, no matter what the breed. Then, as a show bird, all those qualities which make a specimen beautiful and a show attractive should be fostered. We care not how large a specimen be, if all out of feather and ungainly in form none stop to admire him, and only when so ugly and ill-shaped as to excite ridicule will he attract in comparison to birds of nice proportions and beautiful plumage. In all judging the specimen stands or falls upon the perfection of its parts, each by themselves considered, and we say of the White Cochins, that we have seen them as beautiful as we represent them in the cut, for we have seen absolutely per-

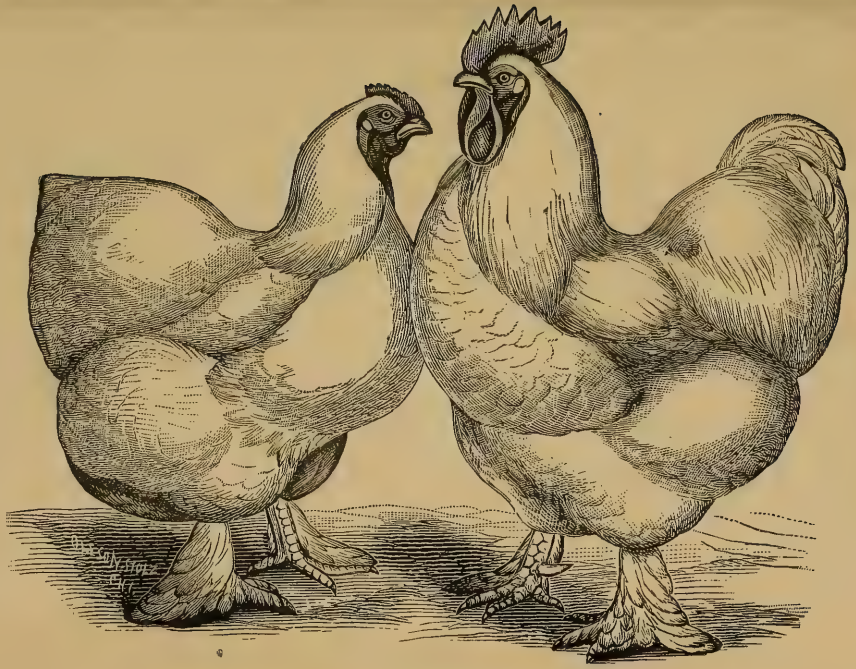
fect section; therefore, we are enabled to give you a perfect picture of each and every section, and to show you how a perfect bird will look having all these perfect sections harmoniously joined together—and only so joined and possessed do they get a full score for symmetry, and we say in judging

SYMMETRY.—If the neck be carried back over the breast it mars Cochin shape, and we cut a point. If the back has a concave circular sweep from back to tail, we cut a point, for it has a Brahma shape back, not a Cochin shape, for that should be convexed in its contour. If the fluff is short, being slender of stern, then we cut a point, for form is faulty, because the fluff does not stand out about the rear and thighs and give that heavy, broad appearance conceded essential to Cochin symmetry. A full, broad breast is demanded if the lines be nearly straight from throat to thighs. It certainly injures symmetry a point.

CONDITION.—If a pure white breed come into a show pen all begrimed with dirt, and plumage broken, it should certainly suffer two points, even if there be no apparent symptoms of ill-health. If legs be scabby, rough and unsightly, a cut of one to three points is none too much. If one eye be closed by the first stages of roup, one point; if an eye be gone, two points.

WEIGHT.—A specimen weighing but seven and one-half pounds, when nine and one-half pounds is perfect, the specimen loses four points for failing in two pounds of flesh.

HEAD.—There is no question but a clear bay eye is the best, but as we often witness a pale eye and a yellowish bay, the Standard makes us hesitate to make



WHITE COCHINS.

a distinction, yet no one but would give five dollars more for a bright bay eye in a bird scoring ninety-three or more points, the expression to face is so much better. In beholding a specimen a seeming want of something to make the head harmonize with neck will be found in this different color of eye—the expression it imparts. So much is this noticeable that a judge, while not allowed to cut, will not hesitate to give such a specimen the preference on an equal score. If the head be narrow, having a pinched look, we cut one point; if beak be not well arched and skull not well over eye, one point.

COMB.—If very large, one-half to two points; if turning from a straight line on the head, one-half to one and one-half; one point for each side sprig or indication of its removal; if less than five serrations, one point; if unevenly serrated, from one-half to two points; if rolling over to the side from the top, disqualify.

WATTLES AND EAR-LOBES.—If wattles be short, one to two points; if one be shorter than the other, one point; a prominent wattle is indicative of procreative vigor. This is the reason of severe cutting for defect named. White ear-lobes one point.

NECK.—If neck be not carried forward and making a nice curve from one-third the way from head to back, cut a point. If the plumage be shaded with yellow, then cut from one to three points as this evil appears, the latter when so deep as to shade the quills of the plumage; one to two points for twisted condition of the feathers.

BACK.—Wide at base of hackle and having a gentle

rise of saddle to tail; this recognized failure to take the full convexed sweep, as seen in the Buff variety, causes the judge to cut lighter for a flat saddle than he would in the Buff or Partridge cocks. We say if scant in saddle, one point; if back be oval from wing to wing, one point; if rouched back, two and one-half points; if back be shaded with lemon color, one to two points.

BREAST AND BODY.—If flat in front, one point; if wedge shape, viewed from in front, one point; if plumage be tinged with yellow or straw color, one-half to two points, as in degree. Body if not deep, one point; if plumage be shaded, one to one and one-half.

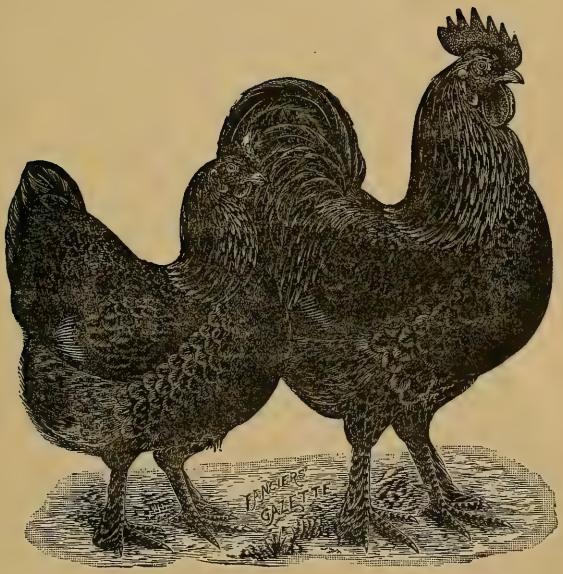
WINGS.—Large wings, one point; primaries showing below secondaries, one to two points; yellow tinge in wing-bows, one to two points; yellow quills in secondaries or primaries, one half to two and one-half points.

TAIL.—Sickles showing prominently, one point; if they be long and stiff, two points; tail cutting through saddle, one to one and one-half points; if squirrel tailed, two points; if yellow quills show in tail proper, one and one-half points; lemon shadings in tail coverts, one point.

FLUFF.—If scant, one point; if so short as to show thighs clean cut, two points is none too much.

LEGS.—If plumage of thighs be webbed out, to give profile to thigh, one point; if long in second joint, one point; if middle toes be bare, one point; if shanks be sparsely feathered, one to two points; if legs be spotted with green or black, from one to two points; if toes be crooked cut one point for each toe affected.

The above would be our treatment of a White Cochin cock in the show pen.



LANGSHANS.

THE HEN.—For all faults of form and defects of comb, ear-lobes and wattles, the same rules will apply as in Buffs.

The cuts for color would be for the yellow along the quills of the plumage, and as a rule they affect the neck one-half to one point, back one to one and one-half points, tail seldom but one point; breast and body seldom more than one point in color; wings saffrony, from one to one and one-half points for color. This yellow tinge seldom visits the females more than one-half that it does the male. Why the sun does not have the same effect upon the hen it does upon the male, we cannot account for on any other basis than that the continual laying through the season prevents the fat feeding the plumage and thus helping the sun in its burning effect upon the same.

LANGSHANS.

Up to this writing no breed has been more unsatisfactorily judged than this. The breed came into the Standard under much opposition, and a demand that they be required to be bred to a type as distinct from Black Cochins as possible for two black breeds to be. It matters not which of the two breeds, Black Cochin or Langshans, derived their best characteristics from the other. To say a Langshan is perfect in form they must have a more than medium-sized comb standing erect and evenly serrated, with no side sprigs; a head short and broad, black eyes, and a neck long in comparison to a Cochin's, with a long flowing metallic black hackle, which has to be lifted to disclose a flat back at that point. Saddle must be one starting at or near

the hackle, running in an inclined plane high up on the tail, the tail being large and long, with long, flowing sickle and numerous lesser sickles; breast fairly developed; sides well-rounded, with moderately developed fluff; legs long as compared to Cochins, the shanks and outer toes fairly feathered. Such is a pen-picture of a male entitled to a full score for symmetry.

In contradistinction to this, we scored, not long since, a cock as a

LANGSHAN:

SYMMETRY.—He was short in neck, tail and legs, with perfect Cochin back	2
CONDITION.—Health and plumage all right	0
WEIGHT.—Weighed 9 lbs, should weigh 10 lbs	2
HEAD.—Beak not as blue-black as desirable, eyes light colored	1½
EAR-LOBES AND WATTLES.—Red, fine-textured; all right	0
NECK.—Short; plumage short and dull black	2
BACK.—Brahma-shape, had scant saddle for a Langshan; greenish-black luster	2½
BREAST AND BODY.—Breast well developed; plumage had lost the metallic luster	2
WINGS.—Had the blue light spots in web, a color hard to say was black; metallic luster wanting, and withal quite small	3
TAIL.—A nice rolling Cochin tail, small and wanting in sickles	1½
FLUFF.—Rusty black	1
LEGS.—Feathered profusely, middle toes partially feathered, shanks and toes in color good	1½
Total points out	19
The bird scoring	81

This bird had a white skin, no white in plumage. There is no clause in disqualification to bar such from competing. Compare the Standard to score and see if judgment is not a fair one. Now give this same bird a

yellow skin and a yellow bottom to his foot, and take the same description I have given here and compare with a Black Cochin Standard and see if the following would not become a fair, honest score for him:

Symmetry	0
Condition	0
Weight.—Weighs but 9 lbs.	4
Head	½
Back	2½
Breast and Body	2
Tail	0
Fluff	1
Legs	½
Total points out	10½
The bird scoring	89½

Do these two scores demonstrate a difference in the breeds beyond the mere skin and color of feet? There is not the slightest doubt the above cock was bred from a Cochin flock that had had Langshan crosses upon it. In the same exhibition a case just the opposite, in the shape of a female entered as a

BLACK COCHIN PULLET:

Symmetry.—Head was small, neck long, with full, flowing hackle, high, straight cushion, the two top tail feathers quite curved and long	1½
Weight.—Being 6½ lbs.	1
Condition.—No fault to find	0
Head.—Small, dark brownish black	1
Comb.—A fine small comb on serrate, a bit curled (x)	0
Ear-lobes and Wattles.—No fault for either breed	0
Neck.—Long plumage, full, but not quite black enough	½
Back.—Short cushion, high and straight	1
Breast and Body.—Not round and full, wedge-shape, color good	1½

WINGS.—Good shape, bright black	0
TAIL.—Long, spread at base, too wide for a Cochin	1½
FLUFF.—Full and nice black color	0
LEGS AND TOES.—Shanks long, scantily feathered, outer toes hardly covered	2½
Total points out	10½
The bird scoring	89½

This female has every indication of being Langshan bred. Let us make her white in skin and pink in feet, and apply the Standard for Langshan, cutting for the defects as the description of each of the above sections seem justly to warrant, and see if they will vary much from the following:

SYMMETRY	0
WEIGHT.—Being 6½ lbs.	0
CONDITION	0
HEAD.—Color bad	1
COMB, ETC.	0
EAR-LOBES AND WATTLES	0
NECK	½
BACK	0
BREAST AND BODY	1½
WINGS	0
TAIL	0
FLUFF	0
LEGS	1½
Total points out	4½
The bird scoring	95½

making a Langshan five points better than she was as a Cochin. Does this scoring disclose to you the difference in the breeds? If not, our labor is lost. Langshans must be cut if in saddle they are like a Cochin,

oval in their sweep to tail, or if, like a Brahma, they are concave in their contour; for each they should be cut one point. If void of long, flowing sickles and side-hangers, they must suffer from one to two and one-half points as in degree they approach a perfect-rolled Cochin tail. If legs be wanting in the violet-pink between scales and bottom of feet, they must be punished from one to two points. If middle toe be partially feathered, one to two points, as in degree it shall reach a perfect-feathered Cochin foot and feathering, when the specimens become disqualified as being well-feathered on middle toe. See balance of disqualification in Standard. A single white feather in either foot does not disqualify; if three or more are found, they under present ruling will be barred from competition.

BLACK FOWLS.

In judging black fowls, let the breed be what it may, to do it with strict justice one must have a nice discrimination for color and the shades in the same color. It is not only necessary that the birds be black, but that in Cochins, Langshans, Black Hamburgs, Bantams and Polish that the black be a metallic black. Note the difference between a common dead black and that disclosed by breaking a piece of hard coal. The judge who scores two birds in a shaded coop, not taking them out to get the effect of the light upon them, does a great injustice to other competitors; for to shade a Standard colored Langshan robs him of half his beauty, while to shade a dead black fowl adds fifty per cent to the density of her color—and a fine colored cock and poor hen in the shade be made to match well

as to color in the show pen. When we see judges taking some birds out of the pen and leaving others in, in doing their work, we are apt to feel that they are *tired*, *careless* or *tricky;* we leave circumstances to determine which.

In white fowls, also, the trouble is in the straw-color appearing in surface color, yellow quills in plumage. The light discloses these defects, while a shaded coop hides a multitude of defects. The bright dark, brilliant colored birds are made all the more beautiful by a strong light, and the white or nearly white and black by the influence of a subdued light and a blue canopy, the best upper-light for all. It is, therefore, the best plan in arranging an exhibition, both as to treating each exhibitor the best you can and to make the exhibition the most attractive possible, is to keep this rule in mind, and to place all brilliant colored birds in the lightest part of the hall and the white ones in the darkest; but in judging let all be carried to some room where all have the same light. But we digress. White birds are cut in color as yellow shades mar the pure white required in the plumage. In all living shades of white, oil and white-lead paint is a good Standard, cutting for shading as white till it becomes yellow, when the plumage becomes foreign to the breed. The exception to this is when plumage becomes burned by the sun and weather. This can be determined by lifting the plumage and seeing what it is where it has not been exposed, and to see if the quills are yellow also. If the quill be yellow where not exposed we must consider that the sun is not the whole cause of the foreign

color. In White Leghorns we find it necessary to cut from one to three points as this evil appears in back and wings; in tail not often a cut beyond one point is found necessary. These few remarks will make it unnecessary to take up individually the white breeds, and we shall consider the colored varieties of the same races. Thus will those defects affecting form be disposed of.

BLACK BREASTED RED GAMES.

I can give you no better pen-picture of true symmetry and beauty in a male than already given you in the Royal Mating No. 1. Our exhibitions disclose less difference in the score of Black Reds than any other breed; yet there are many vexing questions that come up to make the position of judge a trying one. Oftentimes two sections in a bird make a wonderful difference in personal appearance. We judged two Black Reds recently, to wit:

BLACK RED GAME PULLETS.

No. 1.

SYMMETRY AND STATION.—Shanks long and turned in at knees; her neck cranish in its arch	2½
CONDITION	0
COLOR.—Wings had the brickish red, back showed no shaft, was tinged with reddish brown	3
HEAD.—Long, snaky	0
EAR-LOBES AND WATTLES	0
EYES.—Dove color	1
NECK.—Long, but carried bent like a crane	1
BACK.—Oval, fell off at tail	1
WINGS.—Did not tuck them closely	½

TAIL.—Pointed, but carried too high	½
LEGS.—Bent in too much at knees	1
FEET.—Toes not straight	1
Total points out	11½
The bird scoring	88½

No. 2.

SYMMETRY AND STATION —Was low in station, had short neck, shanks and thighs	3
CONDITION	0
COLOR.—Ashen gray back, nice in shafts and penciling, breast pale salmon shown in flights	2
HEAD.—Short, round	1
EAR-LOBES AND WATTLES	0
EYES.—Bright red	0
NECK.—Short plumage reaches beyond shoulder points	1
BACK.—Straight as a board	0
WINGS —Well tucked	0
TAIL.—Too wide spread	1
LEGS.—Too short shanks	1½
FEET.—Prime	0
Total points out	9½
The bird scoring	90½

Now had the long-legged, high-stationed bird won, there would not have been a word said. The breeders of Standard Games would no more have put the short-necked, short-legged hen in their breeding pens than they would have thought of flying, while the pit men would not have given one cent for the knock-kneed, crane-legged, small-bodied pullet that had been imported at a large expense. Yet these very men, when asked if the cut for color was a just one, acknowledged that it was; when asked if I had cut the defect found in

legs too much, answered no; and when I said symmetry in the one bird was as defective as in the others, only from different causes, then you had the war with the breeders' opinions, each of which was fashioned after the end he had in view for his birds.

Symmetry and station mean more than long legs. A cock to stand in perfect symmetry must have his eye over his foot just along the shank. The female, because of her heavier portions, will carry her head just a trifle forward of that point. The backs of both must run straight as a line and on an inclined plane from neck to tail. The short hen did this, while the tall, rangy one carried hers horizontally, and it was arching in its contour. Her neck, while long enough, was jerked up into a crook more than an arch, the short one being alike cut for its being one inch shorter than the other. The judge must defend the rights of exhibitors even at a loss of reputation, and it is just these cases when the judge can do injustice and save censure that take the courage to do right for right's sake and take the censure that always follows.

A short-legged, short-necked and wide-tailed pullet may stand in perfect Game poise, her cut being one of station alone, while another that failed to poise in a Game position gets the cut for symmetry, and if these long shapely legs turn in at the hock and show weakness as well as awkwardness, the latter must be cut under symmetry and station, and the former in section of legs. It is a pleasure to look at a bird that scores high, like this well trimmed, symmetrical

BLACK RED GAME COCK.

SYMMETRY AND STATION.—Head exactly over the feet, the whole carriage upright; full round breast; thigh and shank, in line from in front; tail at angle of 45 degrees, coming close together, with sickles extending 5 inches beyond tail proper; hackle long, but strong, without a crane look to the specimen	0
CONDITION.—Perfect health, not a feather broken	0
COLOR.—See Standard, except that he has no bay edge to primaries, and a red line runs up the sickle shafts	1½
HEAD.—Long, tapering, smooth	0
COMB, ETC.—All trim, smooth, no wrinkles or folds	0
EYES.—Fire red	0
BACK.—As straight as a board	0
BREAST AND BODY.—A little hollow at throat; color good	1
WINGS.—He let the lower edge of flights fall one-half the width of lower feather	½
TAIL.—Perfect in carriage, being 45 degrees in its slant from body, very closely folded, and long	0
LEGS.—Trim, long, not stilty, olive color	0
FEET.—Had long toes, perfectly straight, and all four came down flat on the ground	0
Hardness of feather is ignored in judging.	
Total points out	3
The bird scoring	97

In this there is nothing to despoil symmetry in any way. Taking a profile view of the bird, the dent in front of breast did not affect his outline, and he escaped, yet we cut a trifle harder in breast and body, and on the whole we have the best Black Red Game cock we ever scored. By applying the test of the Standard the reader will see the adaptability of the score symmetry and station, and symmetry in all other breeds puzzles the novice. In scoring, when you commence leave this section out and score those sections that are described in the Standard, and when you are through with your

specimen see if you have cut any section for the shape of it. If so, when and how much, then fix in your mind a bird as different from the one you are scoring as a Standard one would make him, and you will get both an idea of what perfect symmetry is and how much the one you are scoring should be cut. For symmetry is perfect when all the sections are perfect shape and carriage is that described in the Standard. The Black Red Game is the best study for symmetry we have in the whole fowl race.

BROWN RED GAMES.

In symmetry and station they should be the same as Black Reds, the differences being in color of plumage and eye only, our lesson being in color as we score the specimens. One sees more poor colored specimens in this variety than in any other, for the reason that Ginger Reds have been discarded and they try to force them into this class. At a little distance a very faulty bird may look very well, and many for this reason find their way to the exhibition room. We have in mind now two birds pointed out at a distance of four rods off, with the remark that they were twins. See their score :

COCKEREL NO. 1.

SYMMETRY AND STATION.—Legs fairly long, set on well; tail too large and wide-spread ; head carried slightly forward..... 2
CONDITION.—All right..... 0
COLOR.—Was orange-red with black stripe in hackle ; breast black, with plumage at throat black, edged with red, with a yellowish-red shaft to feather ; saddle matched hackle exactly ; back and wing-bows dark crimson red ; balance all right, with black tail..... 0
HEAD.—Short and black, too much oval shape..... 1
COMB, ETC.—Was well trimmed..... 0

EYES.—Dark brown..... 0
NECK.—Long, close hackle..... 0
BACK.—Was oval in line from neck to tail..... 1
BREAST AND BODY.—Not full nor broad enough at shoulders..... 1½
WINGS.—All right, smoothly tucked..... 0
LEGS.—Prime in color (olive), smooth in scales..... 0
FEET.—Toes not flat on the ground; were short also..... 1½

Total points out..... 7

The bird scoring.....93

"A daisy," the owner exclaimed. "And much better than the other," we remarked. "Not much," the breeder again put in. The Standard made the following work of the so-called twin:

SYMMETRY AND STATION.—Eye exactly over foot; short in shank and neck; symmetry being all right, but station off..... 1½
CONDITION.....(x) 0
COLOR.—Head not dark red; the black in hackle penciled with a yellowish brown; back light red, also wing-bows; saddle failed in the black stripe, being penciled with yellowish red; shafts too near same color of feather in the breast, the centers being reddish brown, not black; reddish brown along side of body, the black not metallic in shadings..... 4½
(Owner's lip drops.)
HEAD.—Short, like the other..... 1
COMB, ETC.—Not trimmed smooth, bunchy about ear-lobes..... 1
EYES.—Red, should be dark brown..... 1
NECK.—Short, hackle too long..... 1
BACK.—Straight..... 0
BREAST AND BODY.—All right to appearance, but bone is crooked.. 1
WINGS.—Carried lower; primaries in sight..... 1
TAIL..... 0
LEGS.—Had a sprain, bunch just below knee joint.....(x) 1
FEET.—Had bad toes on right foot, inner one turned in..... 1½

Total points out.....14½

The bird scoring.....85½

Just came inside of first-class breeding stock.

"The d——l!" exclaims Mr. ———. "Who would have thought there was such a difference? Surely 'distance lent enchantment' to that view. I think those are the best ones—that exhibitors talk about leaving at home, eh?" Bronzy red may look black at a distance, so also a coal-black stripe, and one of duller shade, penciled slightly, a few rods off show no susceptible difference, but under the Standard and close inspection all defects come to light.

BROWN RED GAME PULLETS AND HENS

often disappoint in a like manner. See the difference in the following:

SYMMETRY AND STATION.—Neck short, legs short also, tail wide and full, carried head forward, does not get it up over the foot when standing erect	3
CONDITION.—Generally all right, no sick birds as a rule go to shows.	0
COLOR.—Black as a coal all over, neck hackle laced with golden yellow, no brown tinge in any part	2
HEAD.—Long and snaky	0
COMB, ETC.—White in ear-lobes and a comb that lopped	1
EYES.—Black	0
NECK.—Too short	1
BACK.—Straight as a board	0
BREAST AND BODY.—Breast bone crooked	1
WINGS.—Drops the lower primary; feather in sight	1
TAIL.—Too broad	1
LEGS.—Short	1
FEET.—Square on the ground	0
Total points out	11
The bird scoring	89

Her competitor:

SYMMETRY AND STATION.—Neck long, nice in the arch of the same, legs in length and harmony with neck, head carried over foot, tail carried close together..... o
CONDITION.—All right..... o
COLOR.—Neck black, laced with gold; back shaded with golden brown; breast shaded with brown, in all else black..... o
HEAD.—A bit short..... ½
COMB AND WATTLES.—Comb straight and evenly serrated, ear-lobes red..... o
EYES.—Black..... o
NECK.—Long and graceful..... o
BACK.—Straight, flat and tapering..... o
BREAST AND BODY.—Round and full at sides, the whole hard as a rock..... o
WINGS.—Carried too low, show primaries below secondaries.... 1½
TAIL.—Carried right and close together..... o
LEGS.—Position good, scales perfect..... o
FEET.—

Alas! Our work has been done for nothing. She carries her fourth toe alongside the inner ones, and is a duck-footed specimen. Disqualified, reduced all to nothing, and our expectations cast to the ground; our 97 or 98 point bird is worthless as an exhibition specimen; the sweepstakes prize goes to our competitor. But let the lesson teach you to examine each and every section to see that no disqualifications exist to disappoint you. Score cards for each breed cost but little, and on them are printed the disqualifications.

DUCKWING GAMES.

A novice would hardly be able to say what was a Yellow Duckwing pullet in contradistinction to a Silver Duckwing, the greater difference being in the males—there being no disqualifications that will prevent a breeder's showing the females in both classes.

We had at a recent exhibition presented to us a stag which had been scored ninety-five and one-half points; but we found him, as we apply the Standard, a

COCKEREL:

SYMMETRY AND STATION.—Short in neck, thighs and shank, with a hackle that covered the shoulder points, with tail carried high and wide-spread, for which we cut, as their effects upon symmetry	3
CONDITION.—Being in perfect health	0
COLOR.—Head was a deep straw-color, hackle the same, blotched with copper-color, saddle like hackle, body splashed with yellow and white along the side, copper and white in the curling feather under tail	4
HEAD.—Was short and chubby	(x) 1
COMB, ETC.—Well and smoothly dubbed	0
EYES.—The best eye is a bay one, but brownish-red is admissible—was the latter	0
NECK.—Hackle was long and flowing; shoulder points were covered	1
BACK.—Was straight but was narrow at shoulders	½
BREAST AND BODY.—Was full in breast, round at side, breast-bone was straight, stern a nice upper curve to tail	0
WINGS.—Set out from breast, closely folded points hid in saddle feathers—Standard	0
TAIL.—Was wide-spread and carried above a moderate elevation	1½
LEGS.—Were too short, had knee bunches inside, just below hock	1½
FEET.—Set square on the ground, with hind toe straight to rear,	0
Total points out	12½
The bird scoring	87½

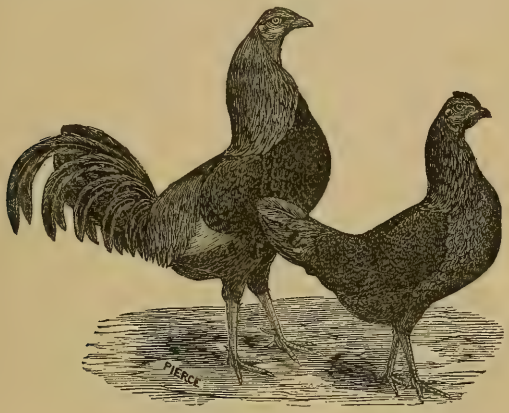
Yet there was all this difference between our score and the judge who scored the bird one week before. I asked, Did the judge take the bird from his coop? Then he did not cut the specimen but two in color,

did he? This we found to be the fact, and that was all the defect of color visible till his wings were lifted and his tail turned back. Legs were not cut, yet the bunches were in sight. Symmetry and station were cut but one point, back and tail allowed to go uncut, remarking that Duckwings had not the symmetry seen in Black Reds, yet the Standard describes both alike in form and the judge can know no other law. A specimen shown as a Golden Duckwing pullet we found to be in

SYMMETRY AND STATION.—Short neck, long, full hackle, tail wide-spread, legs short	3
CONDITION	0
COLOR.—Head silver gray; neck, the black each side of shaft penciled with gray; back, ash color, penciled with stone color, giving it the color called ashen gray, the shaft showing silver color; wing-bows like back, no reddish shading on them; flights and tail as described in Standard for Silver Duckwings	3
HEAD.—Long and snaky	0
COMB, EAR-LOBES AND WATTLES.—Had white in ear-lobe	1
EYES.—Red	0
NECK.—Too short; hackle covered shoulder points	1
BACK.—Straight and flat-iron shape	0
BREAST AND BODY.—Full, broad and round; nice turn to lower line of body and stern	0
WINGS.—Folded closely	0
TAIL.—Carried wide-spread and high	1
LEGS.—Shanks short	1
FEET.—Rear toe turned inward	1
Total points out	11
The bird scoring	89

This specimen lost two points in competing in a Golden Duckwing class, when as a Silver Duckwing she would save the two points for color, a Golden Duckwing demanding a dark gray head, dark salmon

color in breast, and a reddish shading to wing-bows. A novice does not discriminate between the two. Color in Games becomes a section of itself, and has but twelve points, while in other breeds the value varies from nineteen to twenty-seven points, having twice the average value; thirty-three per cent cut in one being four points, and nine points in the other. Score a specimen in your own yard, a Golden Duckwing cock-



BLACK-BREASTED RED GAME-BANTAMS.

erel, and then go over him again, applying the Silver Duckwing standard, computing your cuts on the percentage plan, and see what change it will be necessary to make in color. These object-lessons of comparison we think quite as useful as an essay confined to the one variety.

GAME BANTAMS

are scored by the Game standard only in weight. It will be seen by actual measurement that a Bantam

with the same length of leg, neck and tail in proportion to his weight will not look so high and so gamey, so to speak. The judge, therefore, will look, to the uninformed, as cutting hard for defects in legs and station. If he goes so far as to be thought cutting severely by the novice he can be very sure that he is in error. These little pets are generally purer in their shades of color, and generally score very high. Sweepstakes prizes for highest scoring birds of an exhibition find their way to Black Red Game Bantam pens often. We can give no new idea of scoring Bantams over that of the larger Games.

SILVER-SPANGLED HAMBURGS.

In this variety, when the defects occur in comb, earlobes and wattles, breast and body, wings or tail, the specimens are apt to score low down, for the reason that an out in them is valued at 50 to 100 per cent more than in other sections. They as a breed score lower in comparison to their general appearance in the yard than do most other breeds, to wit:

A COCKEREL.

SYMMETRY AND STATION.—Head small; comb slightly canted over neck; graceful, full flowing hackle, with a nice long saddle plumage; tail long; sickle large and long; legs medium, and carriage upright..... 0
CONDITION.—Had comb lacerated by fighting..... 1
HEAD.—Short, small; eyes dark 0
COMB.—Canted to one side, but firm in position, was wide across center, having a circular sweep, not a nice taper, to spike... 4
EAR-LOBES.—One-third surface red in color, and too long and pendulous..... 3½
WATTLES.—All right..... 0

NECK.—All right in color, but about one-third the feathers had black tips, or spangles; fully 33 per cent of the color gone... 1
BACK.—All right in shape, but with saddle void of the spangle; about one-fourth of the feathers being black at tips, 2
BREAST AND BODY.—Breast had white lacings to the black moons; the body was spangled with dull black; had a crooked breast-bone..... 3
WINGS.—Were good in bow and fine in secondaries, black spangles, dull black coverts, had crescent tips, making the bars narrow. Primaries had no spangles..... 3
TAIL.—Tail proper was very dark gray; sickles had gray lower webs, tip of same black; spangle of coverts crescent shape.. 2½
LEGS.—Thighs streaked with gray; had two crooked toes..... 1½

Total points out.....21½

The bird scoring.....78½

Apply the Standard here and see if I have not been as lenient as judgment will permit; yet such a bird at a distance usually seen on the walk would certainly be called a fine appearing one, and we must consider 85 to 88 points of as much value in this breed as 90 to 93 in Brahmas. As a Standard of quality, by noting the score it will be seen that faulty as he was in form, that affected his general symmetry, he was not cut, and the profile pleasing, and one hardly willing to concede the score correct, but we cannot alter it.

In scoring a hen we take one of the Golden variety.

GOLDEN-SPANGLED HAMBURG.

A very prevalent defect in color of this breed is a round white or gray spot in the black spangle along the under line of body plumage and white in the undercolor. It was once our lot in the old Standard ruling to disqualify fifteen out of a class of seventeen

for this defect. The present Standard does not disqualify, but the defect is a grave one. Combs are more faulty, as a rule, than in the penciled varieties. General observation is not a safe guide in selecting specimens for exhibition. Nothing but a close inspection will save us from disappointment. We have seen a very prepossessing specimen result in the following score by the Standard:

THE HEN.

SYMMETRY.—Neck gracefully arched, back had a graceful curve to tail, carried tail at a moderate elevation, breast full and round, making a nice picture	0
CONDITION.—Health and plumage unbroken	0
HEAD.—Golden bay, but had white dots in the black; beak light color, eye pearl, face too blue under eye	2½
COMB.—Large and shaky; was a doubt as to calling it disqualified	3
WATTLES	0
NECK.—Hackle had the golden lacing smoked up the outside edge	1
BACK.—Back all right, except at the very tip of the black spangles white marks the size of No 8 shot	1½
BREAST AND BODY.—Breast full, and no real fault with spangles, except being dull in the black shading; body spotted the whole length of the under part with white spangles in the larger black ones; breast-bone crooked	2½
WINGS.—Showed shiny bluish-gray spots in inner web of both primaries and secondaries	2
TAIL.—These light spots in the tail proper; a loss of the metallic luster, tip dull black	2
LEGS AND TOES.—Shanks flesh color, rough in scales near juncture with foot	1½
Total points out	16
The bird scoring	84

Here again we find to follow Standard description we are compelled to score out the above points, but it is a very low score, and drops our seemingly nice specimen below the minimum of the Standard value of first-class. We think such birds, though they are often used as breeders, should be sent to the scrub pens, for it is hard work to restore such color. The use of the Black Hamburg, and to breed back the female get, is the only way to utilize them if necessity compels their use.

BROWN LEGHORN.

Corrugated combs, tainted ear-lobes, crooked breast-bones and too dark color in females, the greatest evils and hindrance to high scoring. More birds are disqualified for wry tail and twisted combs than any other cause, and the question how far can the comb be corrugated and escape the penalty of "disqualified" *for twist in the comb or loped comb.* A male's score to demonstrate:

SYMMETRY.—Comb is very large, back part swings round from center of back of neck; carries head a little forward from effect of large, heavy comb; tail keeps shifting from one to the other side, and cuts through saddle, being carried too erect, next door to squirrel tail..... 2½

SIZE.—Of medium size..... 0

CONDITION.—Plumage looks dull, carriage indicates low vitality.. 1½

HEAD.—Dark red, short, deep; beak has a pale stripe, eyes are a pearl, face yellowish red, under eye indications of coming white..... 2

COMB.—Is large, being very high in front; sides are raised in ridges and folds, but edge maintains its straight line down to beak, from back of skull it turned off to the side, yet stands erect in front; this is a bad comb, having 7 serrations, and we sum up the defects, 2 for the folds, 1½ for size, 1½ for turning off to the side..... 5

EAR-LOBES AND WATTLES.—In this case were pendulous, pure white, but streaks of red through it..... 2

NECK.—Fair length, surface color as described in Standard, but come to lift the hackle, we find almost an inch of white (had it exceeded an inch, we should have had to disqualify). When a specimen competes on the rule of doubt the judge is compelled to cut ½ the section..... 3½

BACK.—Dark red, saddle good in surface color, under color at roots of tail and sickles full ½ inch white..... 1½

BREAST AND BODY.—Breast full, round, black; body along the sides bronzed up with reddish bay; breast bone not quite straight.....(x) 1½

WINGS.—Show red in the black bar, also black spots in the bows, with sheeny spots in primaries..... 2

TAIL.—Cuts through saddle and weak in position, changing from side to side; color good.....(x) 2

LEGS AND TOES.—Shanks too much smoked up, with two black scales..... 1

Total points out.....24½

The bird scoring.....75½

The specimen has scored very low,—seventy-five and a-half points. Certainly a breeder would be foolish to use such a bundle of defects as a sire when the fact is before him that he is mating this defective influence to his whole get. A defective female would be far less injurious, for the male influence is greatest in the reproduction of type.

As a rule, this combination of defects seldom meets in one specimen, but often nearly as bad—78, 79 80 and 81—are seen in the records of our first-class exhibitions. Ninety in a hundred pullets of this breed will score from 86½ to 94 points, with one to three in a hundred reaching 94½ to 96½. As many as three exhibitions in five will show up a pullet to score 95 to

96 points. It is safe to say a Brown Leghorn pullet that will score full in symmetry, comb and ear-lobes will exceed in score 94 points, and we never saw one score 96 that was cut in symmetry.

The following score will not vary one-half point in any one of the sections of pullets that score 96.

Symmetry	0
Weight	0
Condition	0
Head	0
Comb.—Just falls off a bit from being straight in front	½
Ear-lobes and Wattles	½
Neck.—Is penciled in the back	1
Back	0
Breast and Body.—Pale salmon color	½
Wings.—Red in lower part of them	1
Tail.—A rich brown color	0
Legs	0

A rich brown, penciled with a dull black, gives a nice even brown shade to back, and up onto the tail; a rather pale salmon breast, and a bit of red in the wing-bows, and pencilings in the stripe of the hackle, generally follows this nice color, and 96 points or more are never reached without it. What cuts most of these down from this high score that have this nice Standard color is generally a comb that folds once or twice and is cut from 1 to 2 points; falling off in the roundness of breast and sides, 1 point; ear-lobes tainted, from ½ to 1½ points, which, you see, will take out from 1½ to 4 more points, and you see them scored all the way from 92 to 96½, but they are all rich brown looking birds.

WHITE LEGHORNS.

The controversy among the friends of this breed as to the shade in color makes it desirable that we give our opinion upon the manner in which it is often judged. If our manner of presenting it be singular, excuse us: we shall be satisfied if the point made be strong, and breeders awakened to the taint in color that is so prevalent that we find many breeders weary in the fight of keeping their stock up to a high condition of excellence, and crying out that the Standard be interpreted to favor the breed. In our score we present a specimen commonly met with. We propose to score him as is often done, without handling beyond what can be done through the palings of a show-pen, then to examine him critically afterward.

WHITE LEGHORN COCKEREL.

SYMMETRY.—Erect in carriage; comb medium, firm on the head, having a fine sweep from front to rear; having five serrations; tail carried so upright as to pass the perpendicular line..... 1

SIZE.—Good, large bird for the breed..... 0

CONDITION.—Quick, healthy; plumage whole..... 0

HEAD.—Short and deep, white; beak yellow, face red, eyes bright bay..... 0

COMB, ETC.—Comb in which no faults appear..... 0

EAR-LOBES AND WATTLES.—Thick and heavy in the enameled, but decidedly yellow in color 1½

NECK.—Long, surface color white..... 0

BACK.—Good in form but slightly straw-color; saddle still deeper shaded with yellow..... 1½

BREAST AND BODY.—Full and broad; body plump, color not quite as white as we would like, but let it go with check...(x) 0

WHITE LEGHORN COCK.

WINGS.—Bows shaded with straw-color, not quite white enough.. ½
TAIL.—Magnificent in fullness, but sickles pass the perpendicular line 1
LEGS AND TOES.—Grand in color and smoothness of scale..... 0

Total points out..... 5½

The bird scoring.....94½

And we exclaim, What a grand bird! Every visitor not interested in the competition exclaims he is the best bird on exhibition. But Mr. B., who noticed that you took his out of the pen to look him over, asked why you did not take this one. You were tired and wanted to get through, but you go back to see if you have not in such a course committed a blunder, and knowing that what error you have committed must be one of color you take the bird out and lift his hackle off the back, and see that a rim half an inch wide around the lower edge is decidedly straw color in the light, and you say one point out. You lift his back to see the quills throughout are quite yellow, or butter color. You say he is fat, which will affect it some, but I must cut him one-half point. You open his wing, to find to your astonishment seven of the quills in primaries and secondaries that are dark straw color the whole length, and you sigh when you add one and a half points to the wing cut. Tail is certainly all right, but we will look and find even sickle shafts yellow for three inches long, and we cut again one point more and the idol of the exhibition falls to ninety and a half points, taking the third or fourth prize instead of the sweepstakes. This object-lesson is but the experience of judges we could name, nor can any of us say we may not fall into

the same apparent injustice if we fail to take every white bird out of the show pen and examine them in every section.

PLYMOUTH ROCKS.

What is the shade of blue perfect in a Standard sense? A question often asked and hard to answer. Describe any shade of color you like on paper and send five men to a bundle of sticks painted, and it is safe to say not more than two in the five will return with the right one. Our Standard in describing the color tries to do it in one clause. The facts are as represented in the living specimen. The back is the darkest both in shade and from the fact that in this section the plumage overlaps much more, giving it a still darker blue appearance; and while we have in appearance a bird bluish-gray, barred with a darker blue, it is also a fact that feathers plucked from the specimen and described as a single feather must be described as whitish-gray barred with blue black. While there is absolutely no shade which is a blue black, yet the light color of the feather combined with the dark bars looks darker than a navy blue, and the expression is used as preferable to black, for we know that it is not black in prime specimens. The light bars, when looked at one feather lying over others, should look a bright, clear, bluish-gray, and the dark bar a very dark blue. These same feathers laid on white paper will come very close to a white and black; and the wording of the Standard, from the fact of so many feathers being sent in letters to would-be customers as giving the best and surest description to

PLYMOUTH ROCK COCK.

prevent disappointment, and ending the description in the Standard, "and giving a blue tinge to plumage," establishing the fact also that massed in plumage the color should indicate blue. We believe the change an error of judgment, the good old description, bluish-gray barred with a deeper blue, being a far better description of the birds that please the fancier in these days. The greatest faults of color are found in the muddy or blurred light colored bars, and dead black darker bars instead of dark blue bars. He who cannot readily discern between a heavy blue and a black bar surely should not be considered a good judge of Plymouth Rocks.

A specimen that has the light bars tinged with a muddy look may be so bad as to get a cut of one point in all four of the following sections, to wit: neck, back, breast and wings and tail; even this would make five points, and then not be cut to the extent of full justice, and with this very evil we have seen birds get a score of ninety-five points. If the light bars are a full deep sky-blue, and the darker bars black, then surely we cannot cut less than one and one-half in neck, one and one-half in back, two in breast and body, two in wing; if the tips fold smoothly, and this muddy molasses and butter discoloring seen upon the tail coverlets, two more, and in the whole color be punished nine points, and it would be a light cut when we consider that twenty-six points are allowed for color in the different sections. Defects in form of back will have an influence on the appearance of breast and body, and many times we see a bird cut two in back and two more in breast and body, when the latter cut is unjust.

Whenever a bird has a low rump or an oval back, unless the judge has had experience he will in very many cases cut for breast and body in Plymouth Rocks. The best illustration of this will be found in the accompanying cut.

Assume the cut itself to be perfect in back and breast and body; cut a piece of paper to reach down to dotted lines in back so as to hide balance of back above

them, then see what a difference in the shape; but by the process we know that breast and body is the same, the whole fault being in the back. Then it behooves a judge to make sure where the real fault lies. In this case add only to back that between upper line and dotted lines to restore the bird to harmony of proportion. Symmetry is the only section that should be cut for defects found in other parts. One sees how easy

an ezperienced judge and an amateur would vary all of these points in such a specimen.

PLYMOUTH ROCK COCKEREL.

SYMMETRY.—Back drops off near tail, and head carried forward.. 1½
WEIGHT.—Weighs 9 pounds..... 0
CONDITION.—A few feathers broken..... 0
HEAD.—Beak has a thread-line of dark color..... ½
COMB.—None can say to a hair's breadth what that shape shall be if it be an even sweep from back to a flanged rear. If there be no corrugation on the one side and no twists over the beak they may have 5 to 7 serrations if they be in proportion, the middle one the largest, but if, as in this case, it turns off only a little from a straight line cut..... ½
EAR-LOBES AND WATTLES.—If red and no accident happens they generally have little to cut, for if they have enamel coating on them then they are disqualified. If, as in the cockerel before us, one is shorter than the other, cut..... 1
NECK.—Having a well arched and full hackle, whitish gray barred with a deep-blue, should go uncut; if white in under-color, no clouded bars across it, then cut..... 1½
BACK.—This should, to be perfect, have a slope from neck to a point just back of hips, when the saddle should turn in a moderately sharp concave sweep to tail. In this case color was bluish gray barred with navy blue, but with the defect. (See cut.) We allow ½ point for color, 1½ for form. This is 50 per cent cut for shape..... 2
BREAST AND BODY.—This being Standard color, full and round, and sides rounded, we see no reason to cut it at all..... 0
WINGS.—In this living example we find in the flights white spots on web, and a bronzy brown bar here and there in the wing-bows, and we cut..... 1½
TAIL.—With this hollow out of back the tail looks long and slim, but build the back up to its proper position and do we need to alter the tail at all to satisfy the demands of the Standard? We think not..... 0
FLUFF.—Not so full as to hide the hocks..... 0

LEGS AND TOES.—These are a trifle long, but toes are not quite straight, not really crooked, but have a long curve from shanks to tips; color good 1½

Total points out 10

The bird scoring 90

And with this fault, and in all eight sections defective, we have ninety points, a pretty good one in a Standard sense of first-class. But a man who looks at portraits or animal pictures with simply an artist's eye for the beautiful, having no thought or knowledge as to the anatomy and characteristics of a breed, or take three-fourths of our breeders of Plymouth Rocks, whose judgment was prejudiced by an interest in the competition, in all probability a majority of them would cut, to wit: symmetry 2, back 2, breast and body 2, and tail 1. We have seen just this exhibition of judgment expressed over a bird of like character as our cut represents. We have spoken of symmetry, the wish of some that it be retained for the flexibility it gives the Standard. If such a bird were scored without symmetry, such would be fairly scored, but a bird that looks awkward suffers in an ever-increasing ratio by the influence of symmetry in the Standard. A judge who cared more for his reputation than for justice could cut deep in such cases and shut out such specimens from winning, and his course would not be questioned because the flexibility of the Standard coming in here, there being no description for symmetry by which to question his ideal of symmetry, the answer, "Well, it's my idea of it," would silence them all.

Fine colored pullets are scarce, and to win takes a

very pure colored one indeed. The difference between the winning birds and the balance of the fifty per cent of the best birds we raise is small. Bright blue tinged pullets will attract universal attention, while one clouded in the light colored bars brings censure for judgment in cases where they win, and win they oftentimes do, and fairly. For instance, note the difference in the two birds here presented:

PLYMOUTH ROCK PULLET, NO. 1.

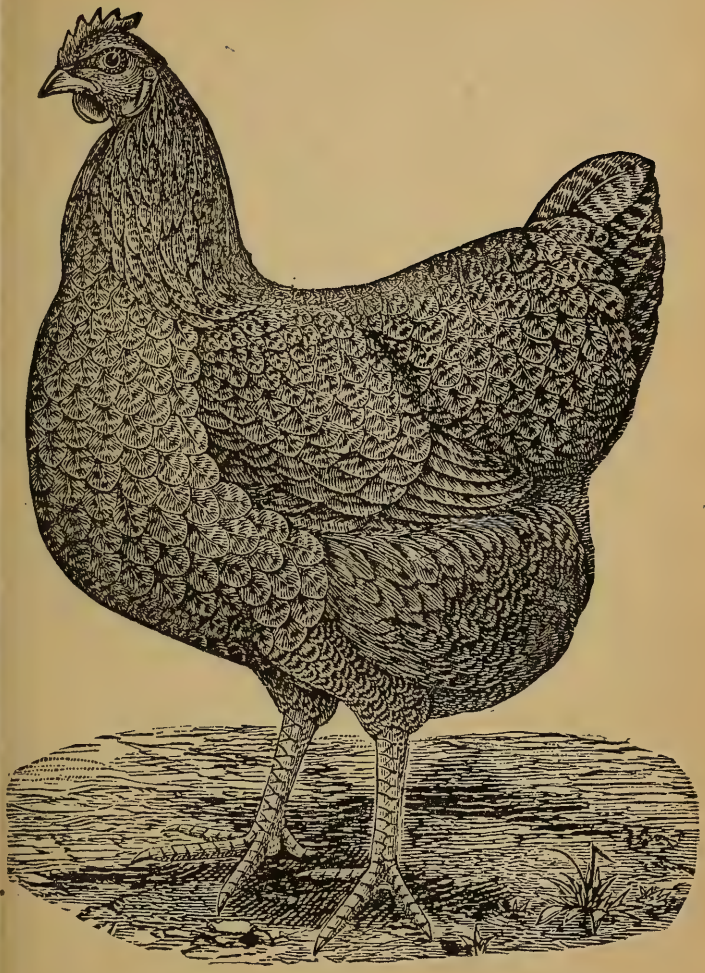
SYMMETRY.—Head of medium size, carried high, having a yellow beak and bay eye, which gives a bright expression; comb erect; a nice tapering neck; back had just rise enough in cushion to break the concave form of back; tail carried closed to a point; breast round as a ball in front, and making a complete juncture with body	0
WEIGHT.—6½ pounds	0
CONDITION.—Whole plumage and in health	0
HEAD.—Small; yellow beak and bay eyes	0
COMB.—Erect but rather large; one side sprig	1½
EAR-LOBES AND WATTLES —Red, no white in them	0
NECK.—Long, tapering, light bars grizzled with black, bars black	2
BACK —Shape all we could wish, but color stone-color with black bars	1½
BREAST AND BODY.—Form all right; color dark blue barred with black	2
WINGS.—Fold in a smutty black point; bows bluish gray with black bars	2
TAIL.—Light color in them, clouded bars, nearly black	1½
FLUFF.—Very dark stone-color, approaching black	1
LEGS AND TOES.—Have several black scales	1
Total points out	12½
The bird scoring	87½

This, it will be seen, is a very dark colored specimen. But there is but one step from a blue black to a black bar, the greater cut being for the influence of the darkened light bars, that converts the pretty bright blue-tinged specimen into an objectionable one.

One may be ever so beautiful in color, but they may be so unfortunate in form and defective in comb, and lack in weight, and pretty as they may look to the general observer be forced to take a second position to even a dark specimen, to wit:

SYMMETRY.—Short in neck; close cleaving plumage to back; breast wedge-shaped; tail spread out; legs turn in a bit at knees, all of which affect symmetry seriously, though the evil in each section be not so great	2
WEIGHT.—6 pounds	1
CONDITION.—Wet nostrils, breath fetid	1
HEAD.—Beak white; eye white, dull	1
COMB.—Has a twist in front, too high behind	1½
EAR-LOBES AND WATTLES.—Ears have a fatty, white appearance, not red and nice	1
NECK.—Trifle short; head little forward	1
BACK.—No crowning of cushion	1
BREAST AND BODY.—Wedge-shaped; body thin	1½
WINGS.—Carried loosely to sides; flights hang too low	1
TAIL.—Fanned out, not pointed	½
FLUFF	0
LEGS AND TOES.—Legs have black scales	1
Total points out	13½
The bird scoring	86½

Nineteen in twenty, to take a look and say, would give this specimen the prize just for her bright colored bluish-gray plumage. The Standard fairly applied, she is fairly beaten.



PLYMOUTH ROCK PULLET.

For this favorite color look at a summer sky, with its light azure blue, then bar it across evenly with a dark blue, and you have a perfect-colored Plymouth Rock, one of America's most popular fowls.

WYANDOTTES.

This new breed must for some time yet score low in Standard points so far as the majority of the specimens are concerned. Yet a few isolated specimens reach ninety to ninety-two in the males, and we have seen specimens to score ninety-four and one-half in females. This complication of color, or rather combining a penciled and spangled race, and out of which to establish a lace plumage, has been no easy matter, and in describing our matings we have said much on this subject, and we cannot add anything under the head of judging than in a general way, to score specimens that represent the best we have yet seen and judged, and those that are peculiarly faulty.

The best male it was our lot to judge the past season was the following

WYANDOTTE COCKEREL.

SYMMETRY.—Was short and well arched in neck; breast full and round; back had just the right slope to the commencement of saddle, which curved in a beautiful sweep upon the tail, which was of good size and fully developed, and carried moderately upright; legs medium in length, thighs and hock joints preserving their profile..... 0

WEIGHT.—6½ pounds 2

CONDITION..... 0

HEAD.—Short, crown was broad; plumage silver color, bay eyes. 0

COMB.—Medium size, not quite square in front, fell back in an even sweep, and good spike, slight hollow in middle of upper surface..... 1

Ear-lobes and Wattles	0
Neck.—Silver white, center stripe good, not perfect; black on edge of feathers	1½
Back.—Back flat at shoulders, edge of saddle feather colored up with copper black color	2
Breast and Body.—Round at sides, but little flat in front; color black, with small white centers	1
Wings.—Nicely folded, bars solid, like a Dark Brahma, with white in flights; coverts solid black on upper web, and for an inch from tip of under web	1½
Tail.—Black, full, carried moderately upright	0
Fluff.—A too light color	1
Legs and Toes.—Yellow and nice	0
Total points out	10
The bird scoring	90

This was one of the best birds of this breed scored by me the past year. It is a breed that baffles the breeder, and such a specimen is as rare as a ninety-four point Plymouth Rock. The description of the wing coverts in the Standard should not have stopped where it did, for fully one-half of the best birds shown have coverts the feather of which is a black upper web, the black rounding the point with a hook and terminating at the edge of the lower web about half an inch from its point. This description was to have been added to the last edition of the Standard, but from some mischance was by the printer left out.

The females in form are almost the same as a Plymouth Rock, except the tail not carried so much to a point, being well spread at base. Ninety-four and one-half points is the best score we, as a judge, as yet have given to any specimen, and we think but three of them. Nature seems to say to us that "none are perfect; no,

not one." Even in our old breeds in male or female, few will approximate to 100 points. All the improvement man seems to make is to increase by care and watchfulness the number of these superior specimens. We may in ten years in this breed run the best specimens up to ninety-three to ninety-six for a very few of the best females, and the males get an isolated score of ninety-five. This will be very high if the score be an honest one. In all the exhibitions so far the males have scored from eighty-one to eighty-nine, as a rule, and the examination of the scores show the largest cut to be in neck, breast and body or wings, the latter ruling the highest, while in females they cut heavily in breast and body, neck and back, and prizes won on males scoring as low down as eighty-one; in fact we have seen such birds sold as being prize winners. Breeders have little thought of their reputation when they give publicity and inferred breeding merit by such certificate on birds below the Standard demands for first-class stocks. A cock to score like the following cannot be a credit to any breeder:

WYANDOTTE COCK.

SYMMETRY.—Long in neck and legs; breast thin, dropping into wedge shape, viewed from in front, with narrow saddle; tail pinched with straight sickles	2
WEIGHT.—7 pounds	3
CONDITION.—Plumage broken	1½
HEAD.—Long and narrow; eyes pearl color	1½
COMB.—Very large, surface very uneven, flanging in circular side sweep; from front to spike, which turned sharply to left side.	4
EAR-LOBES AND WATTLES.—Ear-lobes a pale yellowish red with white in center	1½

NECK.—Long, hackle straw color, centers mixed gray and black, outer edge of same shaded through with a dark copper color, 3
BACK.—Oval at shoulders, scant in saddle, allowing tail to cut through; color much like neck 3
BREAST AND BODY.—Wedge-shape, good color, but run into gray thighs..... 1½
WINGS.—Were set on low down; bows good color, flight one-half white; bars entirely wanting..... 4
TAIL.—Carried too high, being a squirrel tail; white half the length of sickles, the whole carried close and straight..... 2½
FLUFF.—A light gray..... 1
LEGS AND TOES.—Shanks long and turned in at knees 2

Total points out..... .....30½

The bird scoring..... .....69½

This bird was shown by a novice, a young man who had bought the bird as a breeder on the following recommendation: "I can sell you a cock I bred from last season, and one that will do you good as an infusion of blood with the pullets you name." We ask the questions. Have we cut too deeply for the faults as we describe them? Do they not stand the test when we consider the percentage of the whole section? and, Do they not, as you consider each section, show the doubts in judgment cast in favor of the specimen? If so, what must we think of a breeder who will ship such a bird to a man who tells him he knows nothing about the breed, as one that will do his flock good by the infusion of blood from such a bundle of defects as this score presents? A pullet we once scored sold for $3, and we saw it win over the seller's pullet; he refused $20 for her. We find the buyer used better than he deserved, to wit:

SYMMETRY.—Having a fine arched neck, a full rounded cushion, tail fanned out with base widespread, and rich curling feathers black as a coal underneath ; breast round, both at sides and in front	o
WEIGHT.—Weighed six full pounds	o
CONDITION.—In perfect health	o
HEAD.—Nice form, but eye pale, light color	1
COMB.—Was void of spike	3
EAR-LOBES AND WATTLES	o
NECK.—The lower row of hackle feathers a little smutty	1
BACK.—Nice white center, good size, but slightly penciled (x)	o
BREAST AND BODY.—Breast nearly perfectly laced	1
WINGS.—As near perfect as one sees	o
TAIL.—Black as a coal	o
LEGS AND TOES.—Nice color, one middle toe a little crooked	½
Total points out	6½
The bird scoring	93½

This was the sweepstakes pullet of a noted exhibitor, and has attained an enviable reputation, having won several prizes. The breeder saw only the bad comb and crooked toe ; he did not look her all over and reckon up her good points or stop to see the defects in her aggregated but six and one-half. He chanced a bird against her that had a spangled breast, that lost three points in weight, and had a white fluff. When figuring up the card the owner said, "You have made a mistake, for I sold the bird you have given first to for $3. I wish you would show me why my pullet did not win." We answer him that we could do that without going to the coop, your bird is light weight and white in fluff. Not believing it he went and looked, coming back and acknowledging that he did not know she was spangle-breasted and white in the fluff till then.

Spangle-breast looks the same as a laced one on the yard, if the spangles are moon-shaped, which often deceives. By constantly scoring our birds we become familiar with the Standard, and acquainted with our birds. We would as soon think of walking in the rain without an umbrella and expect to keep dry, as to win at a poultry exhibition without first scoring our birds at home to decide which to carry.

WHITE-CRESTED BLACK POLISH.

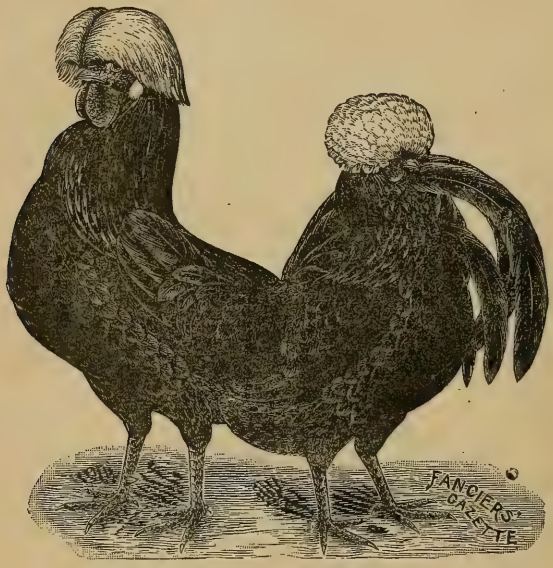
The cuts for this breed as seen in our poultry journals are nearer right and give a more accurate idea of symmetry than do most cuts of Plymouth Rocks and Wyandottes. We demand of the male specimens, to be perfect in form and symmetry, that the crest be large and flow backward to the sides in an even mass, not parted or falling forward; that the neck be well arched, head carried well back, back sloping to tail, that comes up with a sharp angle, the same being large, sickles long, with a profusion of lesser sickles; breast carried well forward in a full round front, body plump, legs not long. Such should demand a full score. But how different from this do many specimens appear at our leading exhibitions. This breed, made up as it is of white and black plumage, is a difficult one to preserve the black in its entirety, for all black breeds, if too much in-bred or if in a low state of vitality while breeding, invariably show it in white taint in the black plumage, and when white crests are the peculiar feature, to secure both in perfection man has to step in with art of his own to help in this complete division of color. To read the Standard, and

with it look upon an illustration of the breed made perfect in form and color, taking that as a rule by which we measure, do you marvel at the following specimens scoring below ninety points?

WHITE-CRESTED BLACK POLISH COCKEREL.

SYMMETRY.—Head carried forward, giving neck a straight appearance; crest falling out from the center, falling to front as well as side and back; back what is termed "rouched," being oval from hackle to tail; tail, though large, drooping; breast and body wedge-shaped from in front	2½
SIZE.—Small for the breed	1
CONDITION.—Suffering from incipient stages of roup; breath fetid; nose filled up	1
HEAD.—Beak too short; nostrils not rising above crown of beak.	1
CHEST.—Fully to front; does not flow back smoothly and is not large enough, the sides of it do not reach side of hackle near wattles	3½
COMB.—Large, looks like an elk's flange to their horns	1½
EAR-LOBES AND WATTLES	0
NECK.—Too straight; head carried forward of breast, and a disposition to show streaks of white in undercolor	1½
BACK.—A round back, both from side to side and from hackle to tail	1½
BREAST AND BODY.—Too thin breast, wedge-shaped; color fairly good	1½
WINGS.—Not well tucked; lack the metallic luster on surface plumage, flights and secondaries have sheeny light spots, some so light as to be white in the center of them to the length of a half inch; this is a serious fault, for if the white be found one inch in length the birds would be disqualified	2½
TAIL.—Color fairly good, but carried too trailing	1
LEGS.—Medium in length, and black	0
Total points out	**18½**
The bird scoring	**81½**

We know we have dealt fairly with this specimen, yet see the havoc in the general result. Few *male Polish* reach a score above ninety points, even in our exhibitions, where it is expected that the very best specimens, the best five per cent of the birds raised, are only sent. It is fair to say that the poorer fifty per



WHITE-CRESTED BLACK POLISH.

cent do not score eighty points in a single instance. We as exhibitors and by our exhibitions raise the Standard and capabilities of the breed so high that we lower the commercial value of the average stock and give a fictitious value to the winners. Practically the best fifteen per cent of one flock is worth as breeders

one as much as another, but the one that wins the prize out of the fifteen will sell for five times what the poorest one of the fifteen would sell for, the success as breeders depending upon the mating, and for want of knowledge in this the high priced one proves worthless, for all his winning and high price paid.

Many of the females score high, one of bright color and in perfect health, having a good plump body and perfectly round crest carried close together, generally wins a position above ninety, and we have seen them go to ninety-seven points.

WHITE-CRESTED BLACK POLISH PULLET.

SYMMETRY.—She having a large perfectly round crest, with a nice sharp arch to neck; back straight, tail fanned out, breast round and carried forward, medium long legs, is not cut	0
SIZE.—Good fair size, being plump and solid in fiber of flesh	0
CONDITION.—Healthy, active, no broken plumage	0
HEAD.—Not large, beak tapers, nostril high	0
BREAST.—Not so large as to look too heavy, but good size, carried close, like a snowball carried in a black saucer	0
COMB.—Two nice little horns concealed in crest	0
EAR-LOBES AND WATTLES.—Standard	0
NECK.—Well arched, black as a coal	0
BACK.—Straight and metallic black	0
BREAST AND BODY.—Full, round in front, and black; sides round and body black	0
WINGS.—Here we stop to find them full of light spots in flight and secondaries	3
TAIL.—Fanned out, and coal black	0
LEGS.—Black and nice in scale	0
Total points out	3
The bird scoring	97

Such a specimen it was once our lot to score, the best one and only one I remember of such excellence. The Standard describes the section that which receives no cut, and gives us the score card full 100 points, and it is from the perfect that we judge the imperfect, thus it is in each section we first consider, to wit: crest is fifteen, large size is important, and we say nine points of the fifteen represent size and shape and color. We find a crest half the size it should be, but prime in color, then we cut four points. Half the lookers-on think the cut a light one, for these have the whole fifteen points in mind. The claim that some judges make that they can use ten points for size is erroneous. The Standard does not say a bird shall be disqualified if it has no crest, but no good judge would hesitate to disqualify such a bird as unworthy, or take the stand that until it has a crest it is not a Polish, but we can cut from one to nine points for size and shape, and six points for color. A crest wholly black could be cut but six points or so in degree as the defects appear. As a general rule in crest the cuts will run from one and a half to five points; not many specimens that cut below seven in crest, while in other sections one-half to two points is seldom exceeded in sections valued under ten points, with one-half to three points in those having ten points as their Standard value. Judgment is a quick worker; it is a lightning calculator. The moment the mind takes the number of the section it tells at a flash the percentage it is damaged by the defect, and he who will always keep in mind the value of the perfect section will seldom err if he takes his first impressions as to the value of the defects in hand.

SILVER POLISH.

Silver and Golden Polish males will be found to score the highest when they have a laced plumage, and females when they have a spangled plumage, and as we stated in mating, a laced cock and spangled hen look to a general observer to be the best matched in the pen, the greatest failure in this variety being found in wings, crest and tail. The Polish race are birds of plumage; they carry more weight of plumage in comparison to weight of flesh than any other. This beauty is maintained at a cost of muscle. The young chicks feather out quickly, and it is with difficulty they are raised. If they get thoroughly wet while quite young generally it results fatally. They are raised for their beauty and eggs; for poultry they are not desirable. To judge them we do not so much consider the practical as we do plumage and color of the same, with carriage; in symmetry the same profile is demanded as in the Black Polish. One is surprised to see how many males of this breed will score from eighty-seven and a-half to ninety and a-half and to see how few reach ninety-two. We have judged a whole season and not given a score beyond ninety-one and a half. This is a cock that won wherever exhibited:

SYMMETRY.—As described in W. C. Black Polish 0
WEIGHT.—Was a noble, large specimen..... 0
CONDITION.—Strong, in perfect health, and prime condition of plumage 0
HEAD.—Had a fine nostril; a deep, bright, dark eye..... 0
CREST.—Was large, fine shape, nicely laced, but had white in center..... 2
COMB.—Small, "V" shape..... 0

EAR-LOBES AND WATTLES..... 0
NECK.—A full, flowing hackle.....(x)
BACK.—Was Standard, except too light color, saddle tips not deep black..... 1
BREAST AND BODY.—Full, round; sides all right; lacing did not extend fully round the web..... 1½
WINGS.—Failed in the bar; in other respects prime, except fell off in the shade of the black tips to primaries and secondaries, 2½
TAIL.—Was large and full, but had the same fault all prime colored specimens have. The tail was gray instead of silver white, but beautiful in the spangled points of the tail and sickles..... 1½
LEGS AND TOES..... 0

Total points out..... 8½

The bird scoring.....91½

But such birds are scarce, and when they score more they are exceedingly fine or are judged leniently.

The females often score better, as is the case with the females of all breeds. The mate to this male, a hen of the spangled type, scored, to wit:

SYMMETRY.—Fully up to Standard description..... 0
SIZE.—Full 5½ pounds; a large one..... 0
CONDITION.—Was always in health..... 0
HEAD..... 0
CREST.—Was beautifully shaped and large enough, but too many solid white feathers in it; fully one third of them..... 1½
COMB.—A beautiful one, "V" shaped..... 0
EAR-LOBES AND WATTLES.—Had red in the ear-lobes..... 1½
NECK.—Well arched, silver white, and perfectly laced with black, 0
BACK.—Straight, flat at shoulders, silver white, with nice, large moon spangles..... 0
BREAST AND BODY.—Full and round, completely spangled, but had white dots in the black spangle..... 1½
WINGS.—Coverts both laced and spangled; in fact Standard throughout..... 0

TAIL.—Tail was a good one. Good color in the other sections will invariably cloud the tail with gray. We in this case, knowing the effect of breeding, and believing that in this breed dark gray should be admissible, cut..... ½

LEGS AND TOES..... 0

Total points out..... 5

The bird scoring.....95

This is the best score we in our capacity as judge ever gave a Silver-Spangled Polish hen, and this pair, one hundred and eighty-six and a-half points, the highest scors card, we think, to be shown signed by me for Silver-Spangled Polish fowls.

In this breed an evil very prevalant is a crooked breast-bone, and probably fully one-half the birds are cut from one-half to even two points for the turning over to one side, often to such an extent as to mar the symmetry. They have large wings while small, and will go to roost quite early, the edge of a barrel being often utilized for a roost, and using such a sharp roost while the breast is little better than jelly gets a turn in it that becomes quite an ugly angle when fully grown. In judging one must not forget to run the hand along the sternum to be sure they are not leaving out this defect.

HOUDANS.

This race has no doubt sprung from a cross of the Black Polish and Colored and White Dorking. We have in them the fifth toe of the Dorking and a conformation of body as between the two breeds. The posterior weight in them is very much more than in

the Polish. This has come from an Asiatic source, as indicated by the feathered legs, sometimes seen. He who is influenced by Polish profile in judging a Houdan in symmetry commits an error, for to secure a full score in a Houdan he must have a shortish neck, full hackle, medium long back, approaching Dorking type, but sloping toward tail; breast full and deep, body plump and full at sides, large wings, tail expanded, with large sickles, legs not long, but thighs large, such score full in

SYMMETRY	0
WEIGHT.—If a cockerel, he must weigh 6½ or more to get a full score	0
CONDITION.—If in perfect health and plumage is not broken, one cannot cut	0
HEAD.—If nostril be flat and eye a dull, pale color, cut	1½
CREST AND BEARD.—If the beard be scarcely visible and crest straggles forward, and more than half white, cut for these two defects	6
EAR-LOBES AND WATTLES.—Have no value in judging	0
NECK.—If neck be short and plumage evenly broken in black and white, do not cut	0
BACK.—If it be solid black, but good in shape	1½
BREAST AND BODY.—If the breast fall off in its round side sweep, and is wholly black, cut	1½
(If wholly white, with some defect of shape, cut at least	2½
WINGS.—If bows are wholly black, with secondaries and primaries as described in Standard	1
TAIL.—If large, full, and sickle large and long and one-third white in color	0
LEGS AND TOES.—If the two hind toes make a letter V, cut	1½
(If the hind one turn up with a long sweep and of Standard color, do not cut.)	
Total points out	13
The bird scoring	87

With this defect we have eighty-seven points of excellence, about the average specimen of the race.

Females whiten out as they molt from pullets to hens. For this reason we allow pullets to be considered perfect when they present one-fourth white in the plumage. Such pullets as a rule come about evenly broken in black and white as hens.

Every third feather in a black plumage makes quite a speckled specimen, and a bird actually evenly divided into black and white will look to be more white than black, one has to say when in appearance they are evenly broken in white and black in their plumage. To score a pullet that came before us at New Bedford we say:

HOUDAN PULLET.

SYMMETRY.—Heavily crested; beard concealing wholly the ear-lobes, but being nicely broken in black and white; neck arched; back nice in width, and straight	0
WEIGHT.—Standard weight	0
CONDITION	0
HEAD.—Nostril high; deep bay eyes	0
COMB.—Had the leaf, and little large	1
EAR-LOBES AND WATTLES	0
NECK.—One-third white, arched back so head came over breast	0
BACK.—Was so nearly black that we cut	1½
BREAST AND BODY.—Not quite full and round, evenly broken in black and white	1
WINGS.—All right but flights, they were largely white, whole feathers being white	1½
TAIL.—Nicely broken in color, carried well up and nicely fanned out	0
LEGS AND TOES.—Pinkish-white mottled with black, and the rear toes were curved up in a perfect sweep to shanks	0
Total points out	5
The bird scoring	95

This is a score seldom reached by the Houdans, ninety-one to ninety-two being considered sure winners of one of the three prizes usually given. The feet vary from one-half to three points; should the shank be wholly black and the rear toe shorter than the under one, we should cut three points, or if the shank be nearly wholly the lighter shade, with only here and there a black scale, and the fifth toe be long and well curved, then cut but one and one-half points; if the breast-bone be crooked, from one-half to two points as in degree. What we have said in regard to crest in Polish will apply here, only that crest has but six points for size and shape, four for color, beard three for size and two for color, the whole under one section at fifteen points. A Houdan crest reduced one-half in size, color being good, would suffer but three points where the same defect in Polish would be cut four.

BLACK JAVAS.

In judging all breeds the first thing a judge will do is to look for disqualifications, and in this breed if he finds the comb turned in the form of a letter S over the beak; if the comb has fallen over in a limp condition to either side; if the back be deformed, the tail carried out of a straight line with head and back, or if in the plumage red or yellowish-red or white feathers are found, he goes no further, but passes the specimen as disqualified, being *not* eligible to competition.

The bird, if free from the foregoing faults, is first considered under the head of symmetry, which has a value of ten points, which to be perfect and receive the full value must be straight in comb, neck nicely arched,

BLACK JAVAS.

the long hackle having a graceful curve onto the back and over shoulder points, the saddle having a sharp concave sweep to tail, the latter carried well up and furnished with long flowing sickles, breast full and round, body rather long, deep and round, legs medium long, not turned in at hocks. As the bird shall be different from this description he is punished by a deduction of points called outs, and should his neck be straight, losing the nice arch desired, he is punished from one to two points. If flat in forward curve of breast line one-half to one and a-half points. If the back be oval in shape from neck to tail one-half to one and a-half points. If the tail droops, one-half to two points. If breast bone be turned over, but not affecting his symmetry, it is not cut; if so crooked as to show a want of depth, it is cut under the head of "Body." If legs turn in at hocks they affect symmetry from one to one and a-half points. All these outs affect symmetry, as they affect the perfect form desired.

WEIGHT.—The scales control cutting two points per pound for all deficit of Standard weight.

CONDITION.—If a bird shows a want of vitality, being sick; if legs are rough and scaly from the effects of filth or parasites; if the plumage be badly broken, all of which have their punishment under condition, and are cut from one to three points as in degree the above defects are discovered, health and cleanliness being the main consideration under this section.

HEAD.—If the eyes be other than brown in color cut one point, if one eye be sightless cut two points, if the beak be other than black cut one point, plumage brown, not black, one point, skull enlarged on one

side two points, if slightly enlarged on both sides two points.

COMB.—A single turn to one side cut one to one and a-half points, if the comb show a loop or turn both sides of a straight line from the center of comb to beak it is a twist, thus, S, and is a disqualification: if not smooth, the sides being corrugated, we cut from one to two points for the defect; if curved in its line from back to rear point, but standing upright, cut one point, if much curved, two points; a lopped comb is where it rolls over from the top; not evenly serrated, cut one to two points; four serrations, though even, should be cut a point, for less than five serrations cannot be called a perfect comb; size is punished from one to three points.

WATTLES AND EAR-LOBES.—The former should be well developed, hanging even, but not so pendent as in Leghorns; if one be shorter, cut a point; if they be wrinkled, a point; white appearing in ear-lobe, cut 1 to 3 points, as in degree; if the ear has been cut off to dispose of the white, disqualify, for the specimen cannot be said to be exhibited in its natural condition.

NECK.—If too straight cut a point for its failure to arch, hackle feather being short, cut a point; if same be twisted, 1 to 1½ points; if the color be a rusty black cut 1 point to 1½ points; if a blackish brown color cut as deep as three points; if red, white or brassy color appear in neck, disqualify.

BACK.—If narrow and oval cut a point each; if rouched, being oval from neck to tail, cut 1 to 2 points as in degree; if the color be other than a heavy velvety black cut 1 to 1½ as it fails in this respect; if both

back and saddle be rusty or brown black cut three points.

BREAST AND BODY.—If flat in breast cut 1 point; if wedge-shape and keel far back, being straight from throat to thighs, cut 2 points; if body be narrow and sides flat, cut 2 points, cutting less when the evil is less prominent; want of deep black shade at throat, cut a point; under part of body is a dead black, as is all plumage not exposed to direct rays of the sun and air. If body be a reddish black, cut ½ to 1½, as in degree.

WINGS.—Primaries exposed to view, cut ½ to 2½ points, and 3 points if folded outside of secondaries; if the wing be set on low, giving oval shape to back, cut a point; color of bows, if not deep metallic black, cut a point; the flights having bluish-gray, sheeny spots, cut from 1 to 3 points; white in them disqualifies.

TAIL.—If carried past the perpendicular, should be cut from 1 to 2½, as it becomes badly squirreled; sickles straight cut 1 point, a long flowing sickle being the perfect thing; tail proper, if pinched, cut a point, should be well spread at base; sickles short, 1 point; if failing in rich metallic black color, cut from 1 to 1½ points.

LEGS.—Good size thighs, large for the breed, shanks look stout, but the plumage of thighs and the shanks should be black, but dark willow will sometimes be found in old fowls; bottom of foot yellow. A white foot, cut 1½ points; willow legs in chicks, cut 2 points. Very dark willow in old fowls should not be cut, but in judging them, other things being equal, give black the preference.

We have treated this breed as the judge would anal-

yze it in his work of judging. The rules we hav applied as to relative cuts for defect apply to all breed alike. The theory or formula here given may, in con junction with the different manner employed in th other breeds, serve to give a better understanding o the score system of judging

THE JAVA HEN,

to which we apply the Standard as an individual for we have a very vivid picture before us.

A metallic black for surface color is Standard, but no colors but red, white and the color of brass dis qualify. With these facts before you score in your mind with me the following two pullets:

SYMMETRY FOR No. 1.—Head flat and carried forward like a Cochin; breast wedge-shaped; body flat at the sides; back oval in line from neck to tail; tail upright, reaching the perpendicular line ; fluff pinched into Game shape of stern, (now count this influence on symmetry) 1 for head and neck, 1 for back, 1 for tail, 1 in breast and body, being an effect upon symmetry of..... 4

(Such a bundle is seldom found in one bird).

WEIGHT.—Weighed 7 pounds..... 0
CONDITION.—Thin, poor in flesh, legs scaly..... 2
HEAD.—Flat 1
COMB.—Twisted above beak..... 2
EAR-LOBES AND WATTLES.....(x) 0
NECK.—Too straight; color of plumage rusty black, and hackle shut 2½
BACK.—Oval, and not bright in color..... 1½
BREAST AND BODY.—Breast V-shaped; body narrow and not deep. 2
WINGS.—Flights and secondaries had slate-colored spots throughout, and bow a rusty black..... 2
TAIL.—Perpendicular, reddish-black, with slate shading in tail proper 2½

LUFF.—Pinched..... 1
EGS.—Willow, black; white feet..... 2

Total points out.....22½

The bird scoring.....77½

One would hardly think a breeder would show such specimen, yet I scored such a one in a breeding-pen with the following

PULLET.

YMMETRY.—Head broad, eye bright brown, neck well arched, back broad and well cushioned, but not Cochin-shaped; tail tolerably upright; full in the breast, and plump, round sides to body; legs straight and well apart.....(x) 0
IZE.—Full..... 0
ONDITION.—Had a slight fullness of skull on left side.. .....(x) 1
EAD.—As in condition.....(x) 1
AR-LOBES AND WATTLES..... 0
ECK.—Glossy greenish black, and well arched-hackle, flowed well over shoulder..... 0
ACK.—Profile nice, but wing little down; back not flat enough at shoulder; cut 1 instead ½ in symmetry; ½ in back.....(x) 1
REAST AND BODY.—All right, being as described in symmetry.... 0
INGS.—A little too low, and primaries a little exposed. The strength of the wing-cords weak, causing both trouble; color pure..... 1
AIL.—All right..... 0
EGS.—All right, but bottom of foot too pale, approaching pink.... 1

Total points out..... 5

The bird scoring.....95

People will show specimens with this wide difference n the show pen. Neither of these birds are disqualified individually. The question is, do they match in he pen, and ought such a pen to be disqualified? We

say, yes; for the poor hen scores less than eighty-five and the Standard declares such birds to be not first class. But when societies say that points may win prize, we take the ground that the judge must let them compete, for the poorest birds are entitled to a prize individually, therefore, it seems a contradiction of terms to disqualify her under this matching clause. As a rule birds not disqualified as individuals cannot be disqualified under this clause.

SILKY FOWLS.

These birds have a plumage which is silky in its fiber, not webbing out like other specimens. One must see them to be acquainted with the breed and get a correct idea of form. They appear Cochin in form, though should be called a bantam. They carry the head forward, the neck being a turned or curved line rather than arched. Therefore if the head be carried over back, symmetry for them is marred a point; breast not full, one point; legs near together one point.

SIZE.—Is comparative. They should not be gross nor excessively small. Any coarseness of appearance is cut from one to two and one-half as in degree.

CONDITION.—If legs be scaly, cut 1 to 3 points; if roupy, 1 to 2 points.

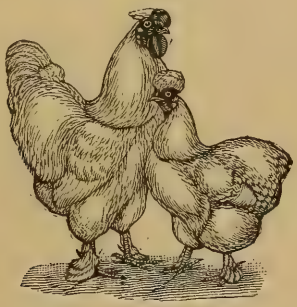
HEAD.—If beak be light color, cut 1 point, if face approach to a red, 1 to 1½ points; if skull be enlarged or eye missing, cut 2 points.

COMB.—If red cut 3 points; if not nearly round, 1 point; if hollow at end, being indented, ½ to 2; if large and loose, 1 to 2 points.

CREST.—If a hood in appearance, turning back, leaving the comb fully exposed, cut from 1 to 3 points for size and 1 to 2 points for shape.

EAR-LOBES AND WATTLES.—Cut from one to two points as they are tainted with red; cut 1½ if very small in wattles.

NECK.—The same is curved forward and slightly arched, or, more truly said, graceful in its turn at above junction with neck. If the neck be carried back over the body, it is a defect to be cut 1, notwithstanding one might think it more beautiful.



SILKY FOWLS.

BACK.—The outline of lower part of neck with back and rise of tail should be that of the low line of the shell of a rather short egg, making the back rather short, broad and flat at neck, and concave in its sweep to tail, and being any different from this in form should be cut as a defect. The most prevalent defect is a stained reddish cast to the white back, and a tendency to web of the plumage.

The neck plumage has a long fiber, not truly silky. This tendency reaches the back more or less and judges some times unjustly disqualify because of the flat web appearance of back, but pull the feathers and in the hand they will lose this web tendency. The cuts of back for this defect seldom reach more than a punishment of 1 to 1½ points for both causes combined.

BREAST AND BODY.—Breasts are generally plump, and beyond a tendency to web the feathers near throat are seldom cut, 1 point for breast and body being about an average; are generally pure white and silk fluffy in the texture of the plumage.

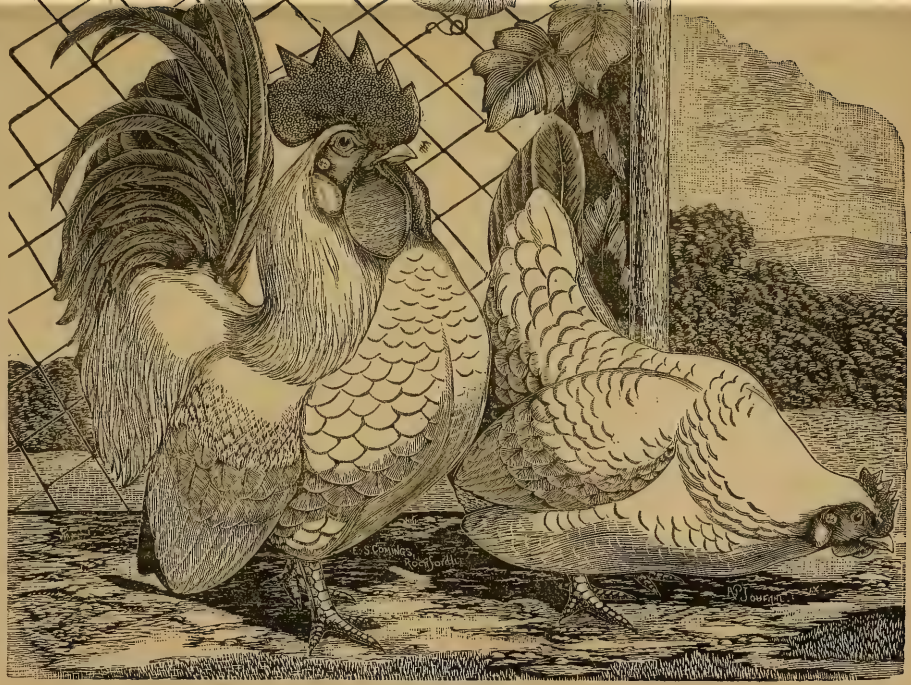
WINGS.—The flights and secondaries are fibrous and even webbed; this is admissible, but not to the extent in other breeds, but the bows are downy when the feather is plucked.

TAIL.—Much like the thigh feathers in a Cochin, the edge frilled out and slightly curled, straight flight feathers being a defect to be cut from 1 to 2 points, while straight, fully webbed plumage disqualifies.

THIGHS.—Are short and abundantly covered in a white fluffy silk plumage. Shanks dark blue or black, the outsides covered with silky white plumage; scantily feathered legs cut 1 to 2 points; the fifth toe cut ½ to 2 points, as it fails in a nice upward curve; outer toes void of feathers, cut 1 point; if the legs be white cut 2 points; very pale blue, cut 1 point.

JAPANESE BANTAMS.

The cut for this breed is, of course, expected to be the very best—most perfect—and the colors of the breed being black and white makes a truthful represen-



JAPANESE BANTAMS.

tation, so far as it in form is identical with the description in the Standard of Excellence. These little fellows must stand with head and tail well brought together over the back, but should by no means touch, full pouting breast, head well back, short legs, with all the importance possible to be put into a being of short joints and a long tail. If the head be carried forward and the tail in any way drooping they lose all of three points in symmetry.

SIZE.—When over 24 ounces for a cockerel and 26 for a cock, is defective, and should be cut ½ point for every ounce and disqualified at 28 ounces.

CONDITION.—Affects health and cleanliness. (See other breeds spoken of.)

HEAD.—A small shrunken head is cut from 1 to 2 points, a broad head and wide face is quite a feature in this breed; well developed, evenly serrated, straight comb only perfect—by this we do not mean overgrown—crooked, twisted or lop combs are not disqualifications, but we punish them severely. A twisted comb is cut 3 points; a lop comb 5 points; a comb not evenly serrated, from 1 to 3 points; as in degree a very large comb, 1 to 2; a very small comb, 1.

EAR-LOBES.—Having white, from ½ to 1½; wattle very small, cut 1 point; if not of equal length, 1 point; if wrinkled and folded, ½ to 1½ points.

NECK.—On account of the high carriage of the head is a curve from crown to back, rather than arched; the head carried forward is a defect of 2 points, twice that if seen in the Hamburg. If the hackle be tainted by spots of black cut from 1 to 3½, and if striped, 5 points. If the plumage have a yellow shade, ½ to 2

points; back very short, saddle rising abruptly with tail, if shaded with yellow cut from ½ to 2 points; if scant in saddle, ½ to 2 points.

BREAST.—Must be very full and round to escape cutting; if flat from 1 to 2 points; if narrow in body, not round at sides, 1 to 1½, and 1 to 1½ if the plumage be tinted with lemon color.

WINGS.—Large, long and white to be perfect; any dark color in them are defects to be cut from 1 to 2½ points; black feathers in the plumage or body should be cut 1 point for each feather.

TAIL.—Large, carried squirrel fashion, but somewhat expanded at base, with rich, curly feathers in the rear of same; solid black or solid white feather, cut ½ to 5 points as they shall deviate from a coal black edged with white, 5 points being apportioned to color and 5 to shape, size and carriage.

LEGS.—Thighs short and covered with pure white plumage, which should be webbed on the outer side.

SHANKS.—Very short and bright yellow to be perfect. Cut ½ to 2½ for any foreign shading of color until the legs become a color to be described by other than yellow.

THE HEN.—In comb, head, ear-lobes, wattles, are much smaller and suffer less in ratios than the defects named in the male. Neck short and well curved, but the space between head and tail is three times that of the male, the tail not being carried beyond the perpendicular line, though carried fully upright, is cut 1 to 1½ as it approaches to a squirrel tail; the shading of the plumage suffers alike with the male. The tail carried wide spread and looks large for the sex.

If what we have said upon judging has induced the reader to take his ideal of symmetry from the Standard, and if by the specimens we have represented as scored we have taught the amateur to judge of the defect cut by comparison with a perfect Standard type, and have caused him to judge of these specimens throwing aside every preconceived opinion, then our mission has been successful. We have endeavored to describe each section as such as would sustain the cut attached, as the Standard has described a perfect section and given you that section's full score, and 100 points for a perfect whole. We, showing as far as we could the difference between the section we have described and the perfect one, giving the difference in numbers called cuts, subtracting them from the full 100 of the Standard, giving the full Standard value of the faulty specimens scored. In no other way did we feel we could treat of all the breeds without the work becoming monotonous reading, and none but a critic interested in it; but by speaking of the recognized general faults in a breed and showing its value by score in the specimen by taking up so many breeds, we hope we have been able to touch upon all of the many errors and omissions of judges in time past, and adding our mite toward the enlightenment of the novice on this subject.

We are aware all there is of worth and of accomplishment in the new ideas or added knowledge of one's life can be recorded on a sheet of foolscap, and that of many lives a very small sheet would serve the purpose. But to clearly make the reader understand those facts and new ideas, the accomplishments and experience of that life, a large volume becomes neces-

sary. If the little we have succeeded in teaching in this volume be small as compared to the many worded explanation of it, we implore your pardon, and thank you for your time spent in its perusal. It is our humble experience of thirty years spent in constant companionship with poultry. We may have acquired little, but we have had pleasure, and we hope profit to ourselves, in that companionship, and believe that he who spends his time in the study of animated nature, and makes companions of the cattle and poultry of his farm, cannot at heart be a bad man, and on the farm and in the poultry-yard more contentment and happiness is to be enjoyed than in other walks of life and business callings.

PART IV.

TURKEYS, DUCKS AND GEESE.

CHAPTER I.

TURKEYS.

THE natural instinct of the turkey is to repair to a thicket, or bush beside a wall, to make its nest. This often exposes them to egg-eating vermin, as well as to foxes, skunks and the weasel. A false cover in the yard or near the house will universally be taken advantage of by the hen turkey at the time of incubation. We have found the best plan to let a barrel one-third its diameter into the ground, it lying on its side, then fill it up even with the earth on the outside with moist earth, covering the same with a thick sod of grass. When the hen is off her nest pour about the nest a couple of quarts of water during incubation. Constant evaporation adds moisture to the heat of the turkey, which will secure all the advantage of the hedge-row nest. The sod is pressed down into an oval the shape of the egg itself, and large enough for fifteen to twenty-one eggs, according to size of the turkey, but seventeen is full enough in our judgment, the bottom of the nest being flat, so there will be no undue

pressure of the eggs one against the other, the nest being made up with leaves and cut hay, and not so much of it as to lose the moisture from the earth. This barrel should be concealed by cutting green bushes and sticking them into the ground about it, or piling brush over it. If this care is taken not a turkey will roam off to nest, and when setting a low fence can be put about the cluster of nests that will turn away all prowlers and be easily scaled by the turkeys when coming off to feed. If grain and water be kept near they will not stay off more than twenty minutes. A turkey will lay about twenty-six to thirty-one eggs, seldom more, for they are rarely fertile after the thirtieth egg, until she comes in heat again. A nice plan is to save the eggs by keeping them in a cool place till the hen turkey wishes to set, when put seventeen under her and the balance under hens, setting the freshest laid ones, and setting them one day earlier under hens, and when the turkey is through hatching put the whole brood with her to rear. A turkey never broods her chicks twice in the same place. They generate a poison that destroys them if compelled to roost in a coop continuously. Give a brood to a hen to rear in a coop as we do chicks, and in about ten days we see the wings droop and the flock drop off one at a time, till but one or two remain. This is the prime cause. We would shake Persian insect powder about the nest when making it up, and just before the eggs are to hatch we would go and quietly sprinkle the backs of the turkeys and hens setting freely with it. It will work down through and drive off all the lice. If the young ones when taken from the nest are dusted

they will start their earthly career free from the pest, and generally keep so.

Let the first meal be chopped boiled eggs, shell and all, chopped fine. Avoid all raw meal mixed with cold water for the first month. If pains are taken to cook all food that is fed in a soft condition till two weeks old it will be found to pay. Ground beef scraps one pint, oatmeal one pint, cornmeal one quart, mix with sour milk, sweeten with soda, finish mixing with water, salt and pepper a bit, bake till well done; this for soft food, with chopped onions or water-cresses, giving dry oat-groats or steamed oatmeal, as bought at the stores, millet seed, canary seed, corn cracked fine and the flour sifted out, giving the granulated grits with the seed and wheat. *Avoid wheat screenings*, for often a wild weed seed in it will produce diarrhœa, which is a very prevalent ailment with them, and in an aggravated form sure death. The plan of making a pen twelve feet square and eighteen inches high on a grass plot, and a coop covered, moving both a couple of feet each day, makes sure the turkey is not brooding on the same spot as the night before. When the young turkey commences to jump over these eighteen inch sides they may be committed to the mother turkey's care, and be comparatively safe. When from five and one-half to seven weeks old, when they commence to "shoot the red head," as it is termed, then they should be looked out for, and see that they are fed each morning scalded meal and wheat bran, which is well seasoned with cayenne pepper, and we think it will pay to feed soaked bread crumbs in scalded milk, in which iodide of potassium has been dissolved to the

amount of a full grain to a chick. A severe form of diarrhœa attacks at this time, and is quite disastrous to them; when past this period few if any die till the hatchet is used at Thanksgiving time. When attacked with this bowel complaint alluded to, the use of pills made and recommended for chickens only, giving two as a dose, is our mode of checking the trouble. To fat them, a constant supply of charcoal in a crushed form to eat at will, with the grain and feed spoken of elsewhere, should not be forgotten.

During the first three weeks boiled meat chopped fine for one meal per day will be of great benefit, and the hot broth thickened with barley and Indian meal is also one of the best of soft foods; care should be taken not to have the soft food fed out of proportion. Fully one-half of all food for young turkeys should be in a dry seed form. Curds made from milk three days in a week will prevent a too loose state of the bowels. Feed turkeys the first three weeks more often and sparing than one does chickens. We would feed six times a day the first three weeks, and three times a day afterward, leaving the hen to ramble with them for the balance of their feed; after six weeks feed whenever they come up to the house. This induces them to come home at night, when they will roost in the trees near the house. I do not believe it best for them to roost in houses till the warm weather is over, when a large open shed is the best until December; when the shed is furnished, doors to be closed at night is well. If kept too warm through the winter they commence to lay too early, the best chicks being those hatched in May. We like the fields to have been mowed before

they get clear of their early pens, then they do not get draggled by the early dew on the long grass, and the grasshopper and insect life come in time for their needs, for of all birds of the farm-yard the turkey needs to be reared closely to nature's plan.

BRONZE TURKEYS.

This magnificent bird is the result of the cross of the wild gobbler on the Narragansett female, the cross resulting in a large size and beautiful plumage, largely controlled by the wild male. The difference in size of the sex is widely marked in this breed. In the formation of the Standard a sad mistake was made in the disqualifying weights, though they are three pounds less than they passed at the first reading, but the result of that vote has cut down the exhibition of these birds to chicks, for they are not hampered by a weight clause.

Sixteen pounds for a female discloses the fact that very few specimens that weigh over it are prolific, and twenty pound females seldom if ever lay any eggs. Had perfect weight been twenty-seven for males and sixteen for females and disqualifying weights been twenty-two and fourteen pounds, the exhibition in this class would have been four-fold what they now are. A gobbler over thirty pounds is useless, for no turkey can stand up under him, and he becomes a dead letter only as a show specimen. But the day for show without merit has passed. We are confident that the disqualifying weight will be reduced as mentioned above when next the American Poultry Association revise the Standard.

We think that females of fourteen pounds and upward should be considered first-class for size, and a

healthy male in fair flesh at twenty-five pounds to twenty-eight pounds as large as should be used, and think one hundred of such a male's get will weigh as much as one hundred from a male of larger weight. The older a turkey is the more valuable it is. A cock of twenty-eight pounds at two years old, and sixteen to eighteen pound hens over two years old, could be kept for ten years and the young turkeys be stronger, and such a breeder hold his reputation better as a breeder of fine turkeys, than he who uses young birds, like geese. We believe in old birds, but have given the limit.

To judge Bronze Turkeys, we say:

SYMMETRY.—To be perfect, head must be carried forward to give a slope of neck to back, which from neck to tail is an oval sweep to tail, the half from neck to back, nearly flat; the body full, trifle wedge-shaped in front; stern, from shanks to tail, tapering; tail drooping at 20 degrees. If the back be straight, cut a point; if the tail be carried upright, cut 2 points; if legs are turned in at hocks to look awkward, cut symmetry 1 more.

WEIGHT.—Male should weigh at present, 30 pounds; cockerel, 20 pounds; female, 18 pounds; pullet, 12 pounds, to have a full score for weight, and be cut 3 points to the pound for any deficit.

CONDITION.—The same cause and effect comes in play here as in fowls.

HEAD.—If the head be small and too flat or narrow, cut 1 to 1½; if smooth, not wrinkled, on old birds, 1 point.

WATTLES.—Are seldom defective in show specimens; unless accident causes a cut from 1 to 1½ points.

BRONZE GOBBLER.

NECK.—If straight from head to back, cut 1½; it should arch at head and run on an inclined plane from center to back; the plumage rich in a bronze luster; if black in plumage, or a blurred slate color, cut 1 to 1½ points.

BACK.—Oval, both from side to side and from neck to tail, seldom defective in shape and color; a brilliant, burnished gold bronze color is only perfect in color, and any departure from it must be punished by a cut of ½ to 4 points, as it approaches a color other than Standard.

BREAST AND BODY.—Seldom defective, unless the breast-bone be crooked. Want of flesh around the above is the greater defect of form, and seldom causes a cut beyond 1 to 2 points in form, and as the color of breast recedes from a burnished gold with red and dark reflections, it is cut from 1 to 2½ as it fades into a dull, darker hue. Body is more sober in color, and if black, shaded in bars of bronze, must not be cut, but if black, wholly, will be cut full 2½ points.

WINGS.—Sometimes fall down, to be cut from ½ to 1½ points, but suffer in color, and are cut from ½ to 2 points, as they fail in the gray bars, and when the wings reach a black or dark brown with no bars, are disqualified; cut ½ to 1½ for white edging of primaries; coverts cut ½ to 1½, as they fail in the broad bronze bar of the wing.

TAIL.—Cut from ½ to 2 points as the tail fails in its gray tip or lacing of the tips; a red tip should be cut 2 points; a failure in the reddish-brown bars to tail plumage 1 to 2 points; a full black tail disqualifies; tail coverts should be black, barred with brown, with a

broad, black band near the tips of feathers, the tips being gray; such only are perfect. The more distinct the color and complete division of these colors, the more beautiful the plumage.

LEGS.—Should not turn in at hocks, and we cut for this defect from 1 to 3 points; black legs in chicks, and a pink hue in cock, with a dark shaded pink in hens are colors not to be cut.

The shape and color apply to the hen as in the cock, the only difference being that affected by the sex, smaller in bone and fuller fluff.

NARRAGANSETT TURKEY.

The disqualifying weights in this breed are more severe than the Bronze, but the comparative weight of the sex shows less difference, but I have never yet seen a pair that have been exhibited that came up to weight; yet gobblers have been known to weigh thirty-five pounds, and gobblers in the Bronze variety to reach fifty-two pounds; but for all that, a twenty-five pound gobbler in this breed must be conceded a large bird. The act of making these very largest known specimens perfect specimens in weight is like calling the giants of the human race perfect specimens, when all known men of six feet in height are the exception. A Narragansett gobbler of twenty-six pounds, a cockerel of twenty, hen of sixteen, and pullet of eleven pounds should go uncut for weight, and all to suffer three points to the pound for all deficits, and the disqualifying weights to range from eighteen, twelve, twelve and nine pounds, when we may hope to see the turkey coops of our fairs again filled up. The local

societies should have an eye to this matter until such time as the matter can come before the national society for adjustment. As in the Bronze, we believe birds from two to six and seven years of age far better as breeders and more sure of raising their full broods, and their eggs hatch better.

In form of symmetry one turkey, be he large or small, has one form, and defects are found generally in those specimens that have a deformity of some kind, such as crooked back and wry tails. The turning of the breast-bone generally found upon these with a defective shaped body, and the only difference in the scoring being for color. In the Narragansett, then, if the

NECK be defective, it is generally in the color. The neck plumage must be black, with a wide band of steel-gray near the end, the extreme point being black, any deviation to be cut from ½ to 3 points as in degree it shall by any means be found to be slate color or have any buff feathers in it; when they are discovered the specimen should be promptly disqualified.

THE BACK.—This section should be almost straight from neck to center of back, the center slightly the highest. The curve from center to tail is a graceful one, but should the color be other than black, having a broad steel-gray bar across the same, near the end, the very tip being black laced, then we cut from ½ to 2 points, as the black recedes into a dull black, brownish black, or very dark slate color, a bluish slate, or a lighter shade, preventing the specimen to compete.

BREAST AND BODY.—The plumage of breast and body is the same in description, thus giving a screen of steel-gray rings around breast and body, the over-

lapping of the wide bars of steel-gray giving the above ringed appearance, and cuts of color come from the dullness of the black and the broken with black of the steel-gray bars, and the blurred appearance of the same and the spatters of white or gray in the black tip of the feathers. This often makes the necessity of cutting from ½ to 1½ for color in this section.

WINGS.—The faults of the wing are generally in being set on too low down, and the carriage of the flights exposed, ½ to 1½, not an uncommon cut, but color seldom faulty. The perfect primary or secondary will be a dull black, or, as some call it, dark brown, the gray bars being even and widening near outside web, which will be quite light or nearly white at that edge of the feather. The wing has two bars, not solid as in the Bronze. The bows have a slight bronze tint in the sun.

THE TAIL.—Is generally faulty in the color when faulty at all, the gray breed having a bronze shade, and the black tips tarnished with spatters of gray in them, but seldom to exceed more than ½ to a full point, as the whole value of the tail is but 5.

LEGS.—Generally salmon brown, in old birds a silver salmon color. When white or flesh color, are cut from 1 to 2½ points, but are seldom cut for defects other than crooked toes and turning in of the shanks at the hocks, and for these two defects 1 to 3 points are sometimes found necessary to sufficiently punish the defect. There is so little difference between the male and female in color that nothing need be said of the latter under this head. The cut at the head of the breed gives a lesson of perfection in itself, both as to color and form.

CHAPTER II.

DUCKS.

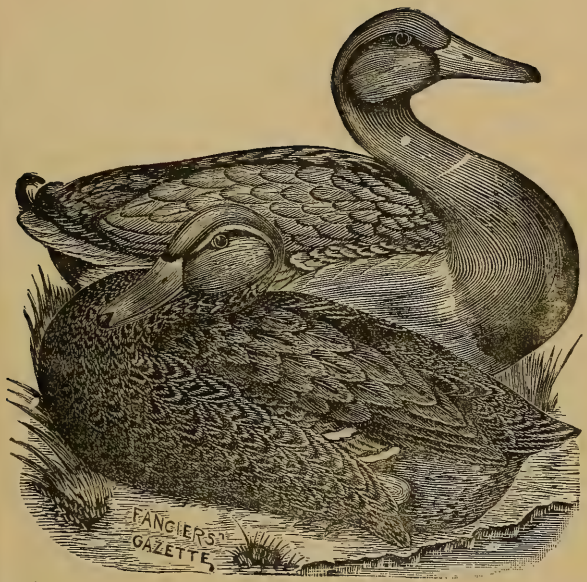
ROUEN DUCKS.

DUCKS and turkeys, to mate which one has only to discard all specimens disqualified by the Standard, and to mate Standard described color, for the best results, selecting large healthy specimens, for meat is the main question. No one raises ducks for the sale of their eggs in the market. The raising of ducks will become more and more popular. The wild supply is each year diminishing, and it is a fact they are not as fine eating as a young duck raised away from the water and fed artificially. Duck meat can be produced for less cost per pound at ten weeks old than any other poultry meat. Still further, ducks are peculiarly a seaside dish and much appreciated in a salt atmosphere. By a little care we can induce the old duck by warm quarters and generous feed to lay earlier than the wild ducks, which by the aid of incubators enables the poulterer to put into the market green ducks during the entire vacation season when there are none to be had from native wild sources. In a pre-

vious chapter on artificial incubation we stated that young ducks at ten weeks old would average seven pounds to the pair. This is double the weight of average chicken broilers at that age. The price is fully equal and the cost fully twenty-five per cent less. Therefore we do not hesitate to predict a wonderful increase in the demand for ducks of all kinds in the near future. While this demand is going on for the practical, it will have its influence to boom all aquatics in the exhibition of them, and how to judge them correctly becomes of still greater interest. We therefore offer the following on the

JUDGING OF ROUEN DUCKS.

To describe symmetry or form in a duck is a difficult pen picture to make, but we say they are "Polyhedron," depth and width of body being equal, and both in ratio to length as three is to five. Such a block, with lower forward corners and all four rear corners rounded off, gives a pretty good decoy duck when the head and tail are adjusted; and unless the abdomen is enlarged and overfat so as to hang down below the lower line of the body, seldom cut in symmetry for any defect in body. Young ducks, before they get the full breast development, will average to lose one point in this particular. Weight and color are the grand and controlling sections in the solution of the question of which is best in competition condition; but as this affects weight to such a degree as to make its influence felt, and generally gets its punishment under weight, being an indirect cut for condition (for a duck is seldom sick, and where they have free access to water, seldom



ROUEN DUCKS.

filthy), one-half to two and one-half points in symmetry, the latter in a degree as the abdomen hangs below the lower line of body.

WEIGHT is the question, and we are often asked how we cut for this, as the Standard gives no perfect weights. We have seen a pair of Rouen ducks weigh twenty-six pounds, so have we seen a man weigh 635 pounds. A pair of nice Rouen ducks will weigh twelve pounds, and a pair of nice young ones will weigh the same. It is a fact that the first growth of the duck before laying is nearly fully up to the old one, the old one, being heavier feathered, looks larger. I have had exhibitors tell me his pair weighed sixteen pounds, and weighed them for him to see them reach only nine pounds. We say, then, twenty-five points are given for weight, which is twenty-five per cent of the points. We claim they should earn them, and an old pair of ducks weighing less than fourteen pounds should be cut three points to the pound for all defects; ducks six pounds and drakes eight pounds. Young ducks have to be considered comparatively. If they have fine large frames and good bone, showing indication of good average size, then cut in degree as our judgment shall indicate under the formula offered, above being from 1 to 6 points.

CONDITION we have spoken of above; the cuts are most generally caused by an enlarged abdomen, and range from one to three points. A great hanging down behind will affect a specimen 5 points, 2 in symmetry and 3 in condition.

HEAD.—Defect generally appears in a foreign color of eye, depression of skull just above bill, and a muddy

blackish-green color of the head, but not two specimens in twelve get cut at all, ½ to 1 point rarely exceeded.

BILL.—They are seldom cut here, for they are either all right or else disqualified. We do not recollect of cutting except for accident and the disqualifying of them for cause.

NECK.—Should be slender, cut up clean at the throat, the green plumage lighter in shade than the top of the head. The white ring of the neck if it extend clear round should be cut 1 point. If the neck be thick and looks heavy, 1 point; if the head be carried over the back, giving the neck a sharp crook over the back, cut 1 to 1½ points; if the color be a faded green or tarnished by ashen streaks, 1 to 1½ points.

BACK.—Long, slightly oval in its sweep, the green mixture of the ashen gray should increase to bright green near the tail; the plumage from the upper part of the breast that covers the shoulders should be streaked with brown, if the gray is thus void of this brown color cut 1 point; if the back be very much curved, 1 point; if the green shadings are light and lusterless, 1 to 1½ points.

BREAST AND BODY.—The shape we have tried to explain under symmetry. If the breast be pale in the shade of purple brown, cut 1 to 1½ points. If the claret color fail to reach well down to thighs, 1 to 1½ points. If flat in body, showing too little depth for width of structure cut 1 point. If too full in the abdomen, throwing body out of balance, cut 1 point. If the plumage does not shade from a solid black under the tail to a gray under vent cut 1 to 1½ points.

WINGS are a bluish-gray shaded with a brown, giv-

ing a purple shade; the tip of the coverts a metallic-lustered purple, making a prominent bar across the wing, the outer edges of which are laced with nearly white color, the colors distinctly marked. The cuts are generally for a lusterless condition of the plumage, and suffer from ½ to 2 points as the season advances and the coat of plumage fades out; for white appearing in primaries or secondaries we disqualify; faded brown or sheeny spots in the primaries, 1 to 1½ points.

TAIL.—Absence of white edging to feathers cut 1 to 2 points as it wholly disappears. Lusterless condition of the black coverts, 1 point.

LEGS.—Are cut when turning in at hocks from 1 to 1½ points; if green spots appear, 1 to 1½; feet and legs are seldom faulty. In the fall when a drake is shedding his coat, before the new coat is fully webbed out, he looks much like a duck and young growing drake and all of the foregoing falls to the ground, and only an expert and one with full knowledge of their habits is fully competent to judge them. This occurs at the fall fairs, where many times an old drake is palmed off for a young one.

The ducks of this variety have the same general shape of body, but smaller head and shorter neck than the drake, and the difference in the color of the bill and color of the plumage is the great difference of the sex.

HEAD.—We cut 1 point when the pale brown stripes are not prominent from the bill to over the eyes; 1 point when the eyes are not a hazel color.

BILL.—When clear yellow, except the blotch and bars cut 1 point for the want of the brown shade.

NECK.—When the darker brown of the neck is not

distinctly seen in comparison with the lighter grown color, cut 1 point; pass the specimen if a white ring appear in the neck.

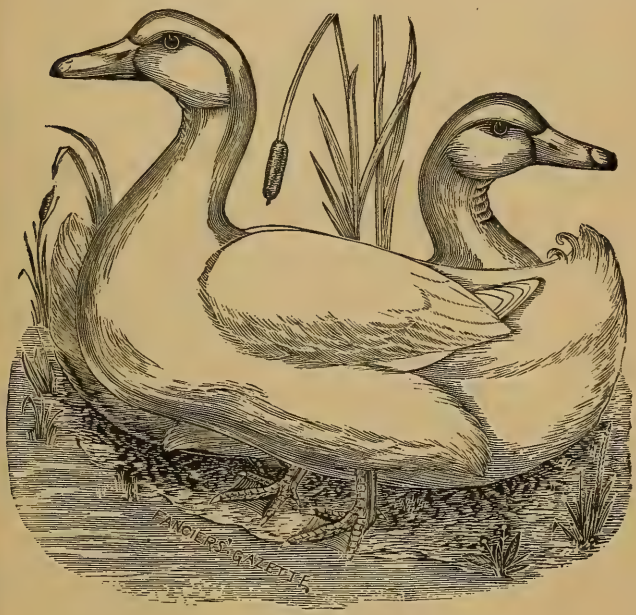
BACK of duck should, like the drake, be long, but fully as straight, color should be a light brown heavily penciled with a very dark brown that has a green shade to it. If there was such a color we would say greenish-brown-black. The Standard says penciled with green. We do not think one ever saw such a specimen. The light faded color is the only defect usually punished, and gets a cut of ½ to 1½, seldom more.

BREAST AND BODY.—We want the full breast and the color light brown, penciled with darker brown. We deem this a better description than as in the Standard, yet the general effect is the same, and when the breast fades out to a light brown in general color we cut from ½ to 1½ for the defect. The body is a trifle deeper in its posterior and keel is carried lower than in the drake, yet lower line of body with abdomen preserved, the color like the breast, but showing darker, the penciling growing heavier. The cuts in this section most generally arising from the dropping down behind and fading out of general color to look light, and 1 to 1½ is seldom exceeded for these defects.

WINGS.—We fear the Standard description misleads. We should say, in describing color, grayish-brown penciled with a dark brown, having a green shading. When the color fails, presenting a light brown penciled with brown, they should be cut a point. If the purple bar of the wings is blotched with brown or whitish gray cut a point. Primaries showing bluish-gray spots 1 to 1½ points, white in them being a disqualification.

TAIL.—The color is the same as of back, but of a still darker shade, the lighter color showing but little of the green shading, penciling broad and distinct; as they fail in these we cut from 1 to 2 points. If the tail droops, indicating a weakness, cut from 1 to 1½.

LEGS.—Thigh dark brown, penciled with brownish



PEKIN DUCKS.

black, the shank very short and orange colored, having a smoky tinge. We seldom find this deficient.

AYLESBURY AND PEKIN DUCKS.

These are both white, the former being pure white, the latter having a creamy tinge of white, so much so

as to make it a fact that an Aylesbury duck is the whitest. Yet some will tell you white is white. Yet I say a Pekin that would not be cut for color would cause in an Aylesbury a cut of at least three points.

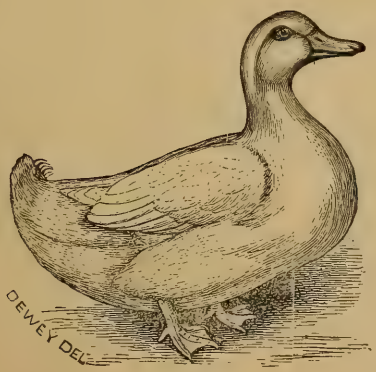
The Aylesbury has a flesh-colored bill and light orange-colored legs, while the Pekin has a golden-yellow bill and a reddish-yellow leg, the same being heavier in its posterior structure, stern not so tapering from legs to tail as in the Aylesbury. So in judging we demand a pure bluish shade of white in the Aylesbury and a heavy yellowish shade in the Pekin. Yellow quills in an Aylesbury would be cut severely, while the yellow quills in the Pekin would be cut with half the severity.

In these solid shades we find nearly as much to cut, and the difference in the score of solid colors such as the two named above and the Black Cayuga will not on an average score above two points more than those of mixed colors. But the cuts come in the discrimination of the shade of the color. A black of bright metallic hue being worth over a dull dead black in a Cayuga 4 to 4½ points more, just so will the yellow shade in white specimens like the above damage the color value from 2½ to even 6 points. An Aylesbury having yellow quills in primaries and secondaries and tail would carry the yellow shade deep enough to cause a cut of 1 in neck, 1 in back, 1½ in wings, and 1 in tail. This work demands a good eye for color, and without which no one should attempt to judge solid colored birds. The errors of form, bad folding of wings, bad carriage, are all affected as demonstrated in chapter on Rouen ducks.

Weight in the Aylesbury is a trifle less than the Rouen, and heavier than the Pekin, the Cayuga being smallest of the four breeds, and a just weight as a perfect one for the breeds being 13 pounds per pair for Aylesburys, 12 pounds for Pekins, 10 pounds for Cayugas, and a cut of 3 points to the pound for all defects.

THE CALL DUCK

may be called a Bantam-Rouen and Aylesbury Duck, and therefore more valuable the smaller they are, and none weighing over five pounds to the pair should receive a full score in weight, and 4 points to the pound cut for all weight excessive of such Standard weight. In all other respects they suffer for color as in the two larger breeds named.



CHAPTER III.

GEESE.

DESCRIPTION AND JUDGING.

PRACTICALLY, the farmer has but the Embden and Toulouse geese, if the best meat producers is to be the rule for selection of his stock. All others are raised for ornamental purposes, taste for unique form and diversity of color causing them to be admired. The Toulouse have been exhibited at the greatest weight, yet we do not see wherein they are more profitable than the Embden.

Sixty pounds for Toulouse and fifty-four pounds per pair for Embden geese has been reached in American exhibitions, but fully one-third the exhibitions show Embdens of greater weight than the Toulouse, and we are of the opinion that the Toulouse is susceptible to greater growth for extra care, while the Embden is better grown under neglect.

All geese, as a rule, reach a full year of age before laying. One is led to exclaim "My geese are ganders," in the impatience for an egg product.

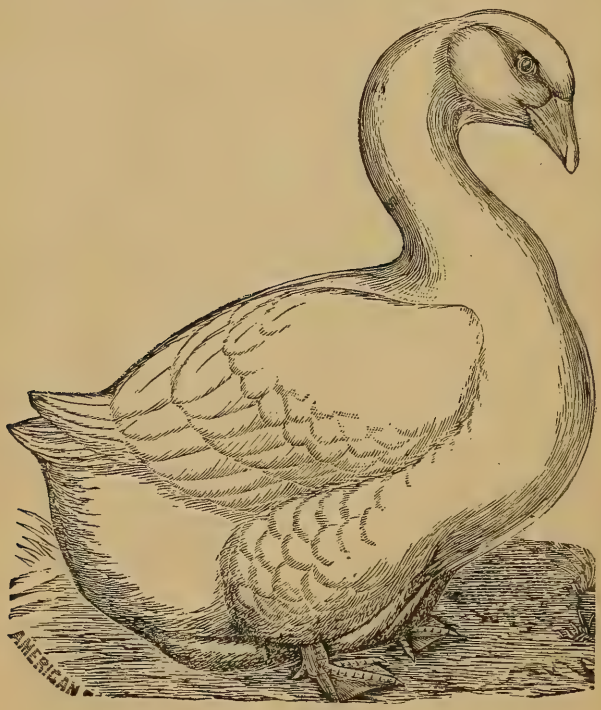
They seldom lay more than they can cover before becoming broody, and not often will they lay more than

one litter of eggs. When they commence very early, and from cold and accident they are deprived from incubating their first early litter, they will lay a second litter. The extra eggs from a large litter of eggs can be set under a large Cochin or Brahma hen, setting her a day and a-half earlier than the old goose is given the balance of the eggs, and when the eggs begin to hatch under the old goose, those hatched by the hen given to her, allowing her to rear the lot. We deem it better to keep them away from the water till ten days old, letting them have only water from a fountain to drink. Thirty days is the duration of incubation. Geese or ducks can be fed scalded meal and bran, mashed potatoes and meal and wheat bran, ground beef scraps, meal and oatmeal scalded, chopped onions and watercresses. When a week or ten days old they can be committed to the care of mother goose till fattening season, when shut away from the water, giving only that to drink in a vessel, feeding barley meal, cornmeal and beef scraps, chopped celery, and keep in a subdued light for three or four weeks, when let out for a couple of days to enjoy the use of a pond, then return to their clean quarters and feed on barley meal and milk and chopped celery for two or three days, letting them go twenty-four hours before killing, and you will have a goose fit for a king, as the saying is. And now a word on

THE JUDGING OF THESE TWO VARIETIES.

The white Embden, to our mind, on a rich green pasture, is a pretty sight, and deserves much attention from the poulterer and fancier as well. Their plumage

should be pure white in surface color, with a rich lemon tinge to undercolor; this latter comes from the oily nature of their skin, and only when kept in a poor, half-fed condition will this oily tinge spoken of be missing. We say their surface color is pure white.



EMBDEN GOOSE.

Well-folded wing, clean surface color and weight are the grand distinguishing features in adjudicating for prizes. We deem a pair of old geese that weigh forty-six pounds entitled to a full score for weight, and while

a greater weight should, all else being equal, decide the prize in the pair's favor, yet forty-six pounds or more have a value of forty points in the scale of points, and for all deficit of such weight cut three points for all varieties to the pound. Young goslings the first season reaching forty pounds to be deemed perfect, and the same deduction made for all deficit. We do not believe the largest known weight is the perfect weight of any breed, but the possible weight that can each year be reached by the specimens raised in the corresponding years the one best fitted to be considered the perfect Standard.

A crooked back and a wry tail is a deformed specimen. One that tosses its wings, throwing the primaries outside of the secondaries, is unsightly, and it is fit to debar them from exhibition, for our exhibitions are supposed to be made up of the excellent specimens of the year's product. Their pure, clean plumage, great weight, Standard form, are all we can consider under the head of white Embden geese, and require more an intuitive conception of what is right in the mind of the judge than easily described, like the fowl specimens already considered. The head shall appear large, this is Standard; then a small, snaky looking head not to be tolerated, and yet for such we cut but lightly, for the value is small; one point would be a thirty-three per cent cut. If the bill be spotted with foreign color cut a point.

NECK, if too long, as in the African, cut 1 point. If the back be too oval in its make-up, 1 point; if the color be tainted, not pure white, cut 1 point to 1½.

BREAST AND BODY.—If it be not deep and carried

near the ground, cut from 2 to 3 points. If cut awry in the stern, conforming to that of the wild goose, cut still another point. If the breast be not filled down to balance the fluff, presenting a good, even line with keel and breast-bone, cut 1 to 1½, the value of breast and body being 200 per cent larger than in fowls.

WINGS are generally all right, unless they are deformed, then they disqualify. Seldom does a wing get cut in geese *of this breed.*

TAIL.—If this be carried high, making an abrupt angle with saddle, cut a point. This seldom occurs, however.

LEGS are of little value, but when not of Standard color, cut ½ to 1 point, and the same for being bow-legged.

TOULOUSE GEESE.

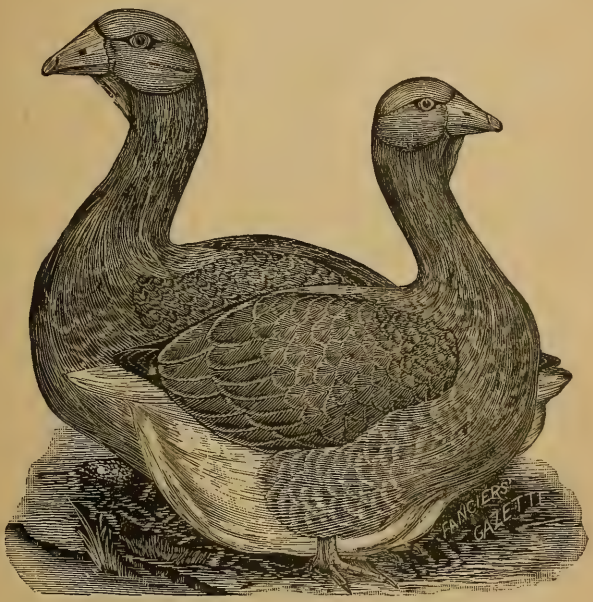
IN SYMMETRY we expect this breed to be deeper in body and carry the lower line of body and fluff nearer the ground than any other, and when carried high, like the Chinese varieties, will be punished from 1 to 3 points.

WEIGHT.—Old birds of 48 pounds should be deemed perfect, and young ones at 42 pounds, cutting 3 points for every pound they fail in these weights, all excess of this weight be superfluous and generally result in goose oil when cooked, and deemed of no value in a Standard sense.

HEAD.—Has a small value in points; should look not quite as large comparatively as the Embden, and be cut, if small, ½ to 1½ points.

BILL.—May be said to be any color if not defined, but cut 1 point if yellow, 1 point if spotted with black.

NECK.—The Standard does not speak of one of the best marks upon a gander. To my mind it is a question whether we should cut by the Standard if the gander fails to have a well developed dewlap, so called, a loose binding flesh at the angle of lower bill with



TOULOUSE GEESE

neck. But the best we can do is, where specimens are equal, to give such specimens the preference in deciding a tie. If the neck be thrown back and crooked, sharply, cut a point; if the color be light gray, cut a point; a brown line shading to a gray in front is as well as we can describe; dark gray does not describe the color by

any means, for brown goes largely into the shading of back of neck and back also.

BACK.—Should be a dark brownish-gray. When this brown tint is lacking, cut a point. If the back be not slightly curved toward tail, cut a point.

BREAST AND BODY.—If breast be not full and deep, cut 1 to 2 points as in degree the fault appear, and 1 to 1½ when the plumage is darker than Standard color.

BODY.—If not well down to the ground, cut from 1 to 2 points. The color differing from that described suffering from 1 to 3 points as in degree.

WINGS.—When small in comparison to the body, cut 1 point. We think primaries better described by saying a brown stone color, the text being a dark gray. The secondaries are of a still darker shading of the brown color, the bows being more brown than gray; as the color of wings shades lighter than herein described, cut from 1 to 2½ points, as such failure in color may be deemed advisable; wings loosely folded, 1 to 1½. Primaries wholly outside of secondaries is termed a taint of the wing, and disqualifies.

TAIL.—Is really short in comparison, and a perfect color would be a shading of a grayish-brown to a white at the tip. If the tail be not carried in a straight line with head and back, we term it a "wry tail," and debar the specimen from competing. Seldom the tail is so bad in color to be cut more than 1 point.

LEGS.—Seldom faulty, but sometimes bow-legged, weak knees, generally turning outward in geese instead of inward, as is the case with fowls; these crooked legs are cut from ½ to 1½ points. Their color is generally Standard color, but when otherwise cut a point.

The above in a pure state, and the females mated to wild ganders, are those usually bred for poultry purposes. The progeny of the wild gander and domestic goose are what are termed mules, and do not breed, and are considered of better quality as meat, bringing somewhat more in the market, being an improvement over both the present breeds.

THE CHINESE GEESE

are really breeds of merit, yet so far have been bred mostly for ornamental purposes—finding homes in our public parks and sailing on the miniature lakes of private estates, their fancy and peculiar points being more heeded in the Standard than their practical quality. Both the white and brown varieties have swan necks, being very long and very much more arched than in the Embden variety. On the hatching and rearing of them nothing more need be added, except to say that they lay larger litters of eggs, and from two to three litters of eggs per year. The cost per pound to rear is not materially greater than the Toulouse, which makes it a surprise that they are not reared more for practical purposes than they are, the greater numbers seeming to indicate a greater yearly profit. They are greatly prized as show specimens, and have a scale of points very much different.

THE BROWN CHINA

in SYMMETRY are much squarer in their build, the breast being square in front, and they are much less tapering as they approach the tail, as compared to the larger varieties. Legs are long, the body carried higher

from the ground. They are very uniform in type, seldom being cut beyond 1 point for symmetry. If they have a straight neck they are not allowed to compete.

WEIGHT has but 25 points of value. A pair of 28 pounds would be a large one, in fact. So far weight has been considered more in the sense of size, and the cut under this section more from comparative size, and, unless the specimen had a decidedly small look, escaped cutting for weight, and the judging has been one of open judging. We think, however, they should suffer 3 points to the pound for any deficit under 15 and 13 pounds weight.

CONDITION.—Cleanliness, any excrescences, bad condition of plumage, or mutilation, is considered under this head, a show specimen seldom being cut. An eye gone would be cut a couple of points. A low state of vitality, being very poor in flesh, giving a dead, dry look to plumage, would receive a cut from 1 to 3 points, as such defects were apparent.

HEAD.—If the head be short, and look large for length, cut a point. The head should be long and in keeping with size of body. If the knob be not large and oval like a ball, cut from 1 to 5 points as it diminishes in size to that point where it cannot be fairly said to have a knob, when it becomes disqualified. If the head be not brown, cut a point.

BILL.—If the beak be other than dark brown or black, cut a point; if wholly yellow, cut two points.

NECK.—If short, losing its swan-like curvage, cut 1 to 5 points, as in degree. If the color be not a grayish-brown in front, and having a darker brown stripe on the back of the same, cut 1 to 3 points, as in this

respect it fails. If there is an absence of the dewlap, cut a point.

BACK.—Should be considered wide for length, especially so at wing and in front of tail, being nearly straight from neck to tail, any decided difference from the above description being cut from ½ to 1½ points, and 1 to 1½ if the color be lighter than a dark brown.

BREAST.—Broad, rather square in front. What would be called medium full would go uncut. If wedge shape, which lessens the prominence of the sides at shoulder, cut 1 to 1½ points. If body hangs low near the ground, in a like manner as the Toulouse variety, cut from 1 to 3 points. For color cut 1 to 1½, as it shall vary from a dark-brown at back and shade to a grayish-brown on under part of body.

WINGS.—These are cut as they vary from a nice brown when folded; cut 1 to 1½ if badly folded, and disqualify if the flights are thrown outside of secondaries.

TAIL.—Wide and short for size, dark brown color; cut one-half to one point for a light shade of color; if carried high cut a point.

LEGS.—Thighs if not short cut a point, shanks more than medium long to be perfect, if they look short in comparison cut a point.

We deem these few remarks will enable any competitor, no matter how much of a novice he may be, to select his best specimens for the show pen; bear in mind a straight-necked Chinese or African goose is a disqualified specimen, and as it shall vary from a *well arched* swan-like neck to the above straight condition, they get cut from one to even seven points. *The neck*

and *comparative weight* are the two next valuable sections of the breed, and perfection in them generally insures their winning.

WHITE CHINESE GEESE.

The only difference between the white and brown being in the color, all the conditions of form and weight are affected alike as in the brown. If any foreign color be found in its pure white plumage the specimen is disqualified. The would-be exhibitor, in mating for breeding for the show pen, has only to select the largest, the longest and most nicely arched necks, and be absolutely sure no foreign colored feathers are to be found in the plumage; that the knobs are large and round and the deeper orange color the better, having no black streaks upon the same or bill; short thigh and long shanks, with wings smoothly folded. The shading of straw color in the plumage seldom suffers more than a point in neck, back and breast and body. The wings faulty, from one to one and one-half points, and seldom the same specimen is faulty in all four of these sections for color.

AFRICAN GEESE.

The African can hardly be said to have so swan-like a neck as the Chinese, yet they bear a strong resemblance in form structure. They are larger and carry the neck in a nice curve, but not to be called well arched.

THE HEAD.—If beak and knob be other than black, is disqualified. This leaves little to consider unless an eye be put out or some enlargement of skull over the eye be apparent, when a cut of 1 to 2 points may be

made. If plumage be not gray, cut a point; eyes other than hazel or brown, cut 1 point.

BILL AND KNOB.—Are considered in a section by themselves; if the beak or knob be a brownish black then cut 1 to 2 points; bill the same; and 1 to 4 points for the relative size of the knob; if they have but a slight rise of head above bill, it cannot by any means be called a knob, and should be promptly disqualified.

NECK.—If short in appearance cut 1 point; if carried straight, being not well curved, cut 1 point; if not distinctly striped down back of neck with dark stripe, cut a point, the throat and forward part of neck being a light gray.

BACK.—These geese should be flat and straight in back, tapering somewhat from shoulders to side of tails, color cut ½ to 1½ if light gray instead of dark stone gray, and 1 point if back be much oval in its sweep from neck to tail.

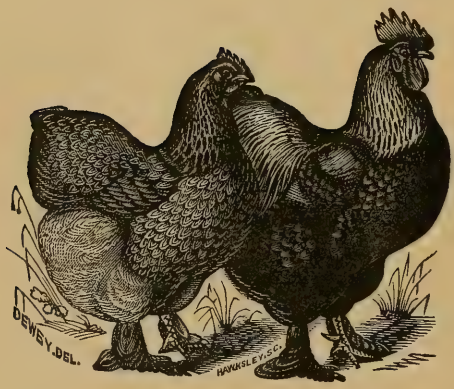
BREAST AND BODY.—Breast moderately full, being not square in front like the Chinese; body carried higher than the Toulouse and slightly lower than the Chinese, but breast carried high, giving an upright appearance; failing in these characteristics they suffer from 1 to 1½, as a rule, and seldom in color more than a point. In show specimens foreign blood enough to change the color will damage the knob so as to disqualify.

WINGS.—They are heavy in wing, when otherwise cut a point; if folded to show primaries below secondaries cut 1 to 1½; if flights are twisted, disqualify; if color be light gray, cut one point.

TAIL.—If turned to either side, disqualify; if car-

ried at a sharp angle with back cut a point; if other than dark gray in color cut a point.

LEGS.—If thighs be long cut a point; shanks if so long as not to be described as medium shape, cut 1 point; bow legs, 1 to 1½ points; if other than dark orange color cut a point.



GLEANINGS AND COMMENTS.

WRIGHT has said: "Kill every hen at the age of two and one-half years." We would say this: If you are a farmer and poulterer, and look for your returns from marketing poultry and eggs, the best plan for Leghorns would be to kill all males at an age they would weigh three and one-half pounds to the pair as broilers, and force the pullets for eggs till seventeen months old, then market them. This is by far the most profitable way to handle all the small breeds for practical use.

The Asiatics may be sold as broilers at four to five pounds weight, or fed till eight months old or older, when they will sell for large roasting fowls, and for hotel use preferred to all others, the female forced for eggs, and carrying into the second year all that molt before October 1; such will lay more eggs the second year than the first, but those who molt late will lay but few eggs till spring in comparison to the number of pullets that will lay—making the room they occupy quite an item. Such as molt early are valuable as breeding stock from which to rear the subsequent stocks to be kept. The Light Brahmas will, without contradiction, we think, lay a larger number of eggs up to the time they are twelve months old—at least it is

true that they will lay more dollars worth. Thirty pullets that completed their twelve months of age a few days ago laid 3,278 eggs, counting no broken or soft-shell ones. This is $109\frac{11}{15}$ each, an average we have at this writing never seen beaten. Mr. Rankin, in a recent agricultural meeting, said: "It is my practice to kill all males as broilers, and keep the females till they have laid a year, then dispose of them; and in my experience there is no breed that will lay more eggs in the time up till they are one year old than the Brahma." The early molting of these birds will be found to be about thirty-three per cent of the number kept, and as a rule those that have laid less eggs the first season will make it up during the winter, the secret being this: they get to laying before winter, therefore spend the flesh those molting later are apt to put on, becoming too fat to lay. As a rule, farmers feed too little, however, and fanciers too much. A bird must be in good, healthy, full muscular condition—no more—if eggs are to be produced. A significant remark made by Mr. Williams, in speaking of an exhibition cock in the New York show was, "*I would have paid the $75 they asked for him, but you know, Felch, I could not get a chicken from him for two months.* He would live on his own fat for a month, if given what water he would drink." Fanciers, to gratify their taste for beautiful color and mammoth proportions, sometimes care little for the egg-basket. Such can keep fowls to be twelve years old, as they keep their trotting team, for pleasure.

But there is another side to this picture as it influences the fancier. Each fancier is compelled to

keep, if he caters for the egg trade for hatching purposes, quite a number of females; while in our own case we could have sold the sixty we used in March for $10 each, we would after July 1 have sold these same birds at prices ranging from $3.50 to $6, up to the time they had molted in the fall. So far as a young male and six to twelve of these birds, or the breeding yard from which to rear stock, is concerned, they are too valuable to kill, and the amateur who is buying stock to start with would do well to buy such in preference to paying $5 to $10 each for the pullets from them, for he has a guarantee of their breeding in the fact that he sees before him their progeny, and that he is buying them at a less price, which will enable him to kill them at two or three years old, when he has done with them. The hen that molts late and is judiciously wintered, and commences to lay the last of February, and the May and June hatched pullets that commence to lay at the same time, are the most valuable stock birds for the fancier who cares to rear his stock from March to June 1. The hen is fresh and vigorous from her rest—the pullet in the first vigor of her life.

CLEANLINESS IN FEEDING.

The plan of feeding upon the ground is all well if the feed plats are swept and sanded daily. This would come somewhat near nature's plan; but to feed the soft food day after day on the same spot, mingling with the droppings, which are far worse than one supposes, for the chicks are constantly returning to the plat through the day, and for a short time previous to meal-time can

be seen standing about in waiting for their meal. How many take the pains to sweep and sand before feeding for the sake of feeding on the ground? If breeders would do this we would say it was the best. But until they do this we think clean pans the better, notwithstanding the constant appearance of articles in our journals recommending it as best. We notice roup far more prevalent in flocks fed on the filthy yards than by the use of clean vessels for food and drink, and water kept cool by shade or by constantly changing it through the day.

We do not like to feed stock through wire or wood palings; a narrow, long pan, say three feet by four inches for chicks and six inches wide for fowls for their soft food, feeding what they will dispose of at the meal, will enable them to feed from both sides, and there will be but little standing in it, for in that case they get pecked for being in the way. A square dish large enough for twenty birds to eat from will have from one to four birds standing in it to feed, while the long pans do away with this evil. The constant feeding through slats or wire will wear the neck and lacerate the comb, and in the course of a year cause quite a loss in the price received for nice birds (every feather damaged mars in its proportion the beauty and condition of the specimen).

We think water-fountains made in the shape of a tin pail, six inches in diameter and one foot deep, turned bottom upward in a tin plate eight inches across it and lips one inch high with escape-holes in the pail one-half inch from the rim will keep the water clean and prevent the birds from taking many diseases that are

only spread in the flock by drinking from the same vessel. For this reason: the fowl is taking in the water all the time its beak is in the water, it holds its head up to swallow, and as you see does not drop any from its mouth into it as is the case standing over a pail or water-pan. Such a fountain is a pail, also, that brings the water. It is open to be washed at will. One has only to clap the tin plate on the top and reverse it, and it is held in its place by atmospheric pressure till drank up, or till replaced by new and free from the taint of the tainted air of the fowl-house. These are best; why name any other? They are simple; all can get them. They are inexpensive and repel the frost, for water commences to freeze at the top always.

We are asked why we do not treat *upon the egg—its different stages of incubation.* Beyond what we have said, were we to exhaust the subject, we could add no new thing than can be found in Wright's Poultry Book from page 35 to 50. That book has a copyright, which we shall not invade. Were we to give our own language for the same matter we should be accused of borrowing. This we do not care to have the name of. We therefore refer you to that work.

THE CRAMMING PROCESS.

We do not believe in the cramming process beyond close confinement of, say, twelve birds in a pen six feet square, and in the season of the year when vegetation is green to let them out a half hour before sunset to feed on grass, and while eating the grass to cleanse and sweep the pens and sand them with clean sand, that no bad odor may taint the meat, for as sure as

you make a practice of feeding in foul coops the meat will have a bad odor and an unpleasant taste, and to all who know the reason why, far from being appreciated. This is easily controlled where few fowls are kept, but in large establishments, for summer use, a range of pens six feet square, rear wall two feet high, front five feet, which has an open space three inches at near roof all round, slats and doors in front, the latter opened while feeding three times per day, and left open an hour before feeding, closed the remainder of the time, keeping them in a quiet and subdued light, all thrown open for their exercise and grass feed at night, and the cleansing process spoken of above. To cram a sick fowl is death; a healthy one will eat all it should, and its meat will be sweet and healthy. The extra weight of clear fat secured by cramming we do not believe will pay for the extra labor and expense for quarters and operators to do it.

The cramming modes have been before us for years, but they are used but little so far in this country, and abandoned after a short trial.

Standard requirements: are they detrimental to and antagonistical to physiological science? I am led to ask this from the remarks of Hon. J. Stanton Gould before the New York Agricultural Society, so clearly condensed by Wright in his work on poultry:

"In the rule for judging Brahmas, I am told that the beak must be well curved. I would respectfully ask why. If two Brahmas, A and B, A having a well curved beak, and B having a beak approaching near a straight line—is the curved beak any evidence that A will lay on any more flesh or lay more eggs for any

great amount of food, or is in other respects better than B? They must have a pea comb. Why, I ask in the name of common sense, is it necessary a Brahma should have a pea comb? * * If it is true that the pea comb is no indication of the excellence of a fowl, or of its profitableness or its purity of blood, and if it does not minister to the æsthetic gratification of its owner, is it not simply nonsense to include it among the points of excellence of the breed? I hope you will candidly consider these objections, for I feel that there can be no real advantage in poultry breeding until it is removed from the realm of caprice and fancy and placed upon the sure foundation of anatomical and physiological science."

It is such seemingly candid remarks that often block, in the minds of the unthinking, the means to do good by the application of the Standard in our breeding. The farmer is led to ignore the Standard breeds, for he does not stop to consider why these minor points are as necessary to preserve intact the line that marks the purity of the breeds as surely as the stakes and stones designate the actual dividing lines between his farm and his neighbor's. The Standard is supposed to designate what each section of the fowls of certain breeds is, and to show what type is the most prolific in meat and egg production, as a rule. That there may be an exceptional type bred from the Brahma does not give the owner sufficient reason to demand recognition in the pure Brahma class. To answer why these deficiencies do not as a rule carry with them greater merit and are in keeping with anatomical science, we say, a straight beak in a Brahma is

invariably the companion of a flat peaked head, and seldom seen on a full round breast and a plump body. The fact that this is the rule makes it decidedly an objectionable feature in the Brahma breed, both as a Standard requirement, as a fancy point, and backed up by anatomical and physiological science. That a stout, well curved beak is always the accompaniment of a broad, nicely arched head, and full, round breast and body, make it, as a rule, an indication of merit. That the upper mandible be striped with black is also sure indication of a beautifully marked neck hackle, a sure indication of beautiful plumage, and as young chickens do not show the beauty of plumage till the third molting, when they plume up into adult life, the dark striped beak becomes a criterion by which to select at an early age, the best for color, enabling the breeder to kill all others long before the adult coat of plumage is grown, and thereby enabling the breeder to cater to his *æsthetic gratification* most assuredly. This, to my mind, most emphatically illustrates why a Brahma should not only have a well arched but a dark striped beak. Any other comb indicates impurity of blood, or disastrous in-breeding of the stock one has. Then any with single combs should certainly be disqualified at our fairs, where none but excellence and quality meet to receive a prize. When poultry are entered for prizes as meat then they should be exhibited despoiled of all outline of breeds, feathers taken off, then the best body, best fattened pair to win. So far as our experience goes, that in nine-tenths of the breed the Standard type is the most prolific type, and any deviation taken altogether will be found of less value for all practical

worth. Pure breeds must be kept up if we would reap the great egg-production from cross breeds, to wit: It is a fact that the first crosses of thoroughbred fowls will lay larger numbers and in some cases larger eggs. But to breed again these half-bred specimens is to deteriorate greatly and often to fall below in numbers either of the thoroughbreds that went to make up the cross that was found to be so prolific in egg-production and increased flesh-production in a given time. Notable in this case is the cross of White Leghorn males with Light Brahma females. He who takes the position Mr. Gould does, taking his text from the merit and production of a cross-bred fowl, sees but half the question.

If we find the greatest merit, greatest beauty, all things considered, in a bird of Standard type, then any deviation from that type must be looked upon with suspicion. Fowls do not take the dignity of a breed until they have become "perfectly bred"—that is, until they have come to a type that sire and dam produce ninety per cent of their progeny in their own image—and so far in fowls when this is accomplished they become of the greater merit. Why! let one set the eggs as laid by his flock of twelve hens, and he will set more eggs from his most prolific layers, and the selections for breast and body each year have come in a larger per cent from them, and in a series of years of breeding one has a breed of uniform shape, and of the greatest merit as egg-producers. Now the universal characteristics of that breed in comb, beak, head, neck, back, breast and body, tail, wings and legs, becomes minutely described in a Standard for the then recognized new breed, and this has been done by a com-

mittee of all the breeders of them. I ask the question, why is not this the work of anatomical and physiological science, and why, pray, is it not the very height of æsthetic gratification of all its breeders? Any departure from it cannot in wisdom be considered as a sign that such specimens are not as good.

THE VALUE OF BREEDING-PENS.

The value of a breeding-pen of fowls can be determined in but one way, to-wit: First, be sure that the female have as near as possible the same general form, and that they are of the same shade of color, and that the male be of a proper form and structure to strengthen in the progeny the weakest defect of the females, and that the color of the male be as near perfect Standard color as possible, or, if the females be very dark, that his color be a lighter shade, but not below what could be called strictly first-class. The breeding expectancy of such a pen will be, to wit: Suppose the male score 93 points, and value of the pullets be found by scoring them all, and the full number of the score, divided by the number of pullets, be 88, then the expectancy of the progeny will be $93+88\div2=90\frac{1}{2}$ on an average, with the chance for many to score more than sire 93, while $90\frac{1}{2}$ is the average expectancy, yet the probable result will be many birds to score 91 and 92, for the male is supposed to have a much greater influence in controlling type and color. Again, a pen of pullets scoring 88 to 95 points, being an average of $91\frac{1}{2}$, and a male scoring $88\frac{1}{2}$, while the rule of average gives us 90 points of expectancy, we will as a result find that we

shall rarely reach an individual score of 95, that of the highest scoring pullet, for the reason of the greater influence of the male to drag down the average to below the arithmetical figures, and chicks on the score of the high scoring pullets.

The rule sometimes resorted to in exhibitions of giving the full score of a breeding-pen, counting both cock and hens, is entirely wrong, for 85 point males with 95 point females have an average expectancy of 90 points in their progeny, yet the aggregate number of points is greater than the pen that has a 93 point male and 92 point females, whose expectancy is 92½, and an extra chance from the greater influence of the male. No breeder should submit to a competition in breeding pens on any other plan than the average score of the females added to the full score of the cock or cockerel, for the male goes into the make-up of all the progeny. Still more, the "germ," the "life," in fact, the "embryo chick," is *imparted by the male*, and is fed by the eggs, until it breaks the shell and comes into independent life. Then the male is the vital and all-governing principle of a pen, and when by any rule or want of one he is forced to be considered as a mere individual of a pen, then injustice to exhibitors of prime males and impartiality to those showing poor ones is apparent.

OPEN JUDGING

is the worst of all judging when it is pretended to be done by the dictates of the Standard. We heard the remark, "Let our birds be judged as they run upon

the yard, taking into consideration external appearance only."

When this is done, in the majority of cases, unless the judges be expert Standard judges, and then not infallible, serious errors will occur. For in the scale give 10 points for symmetry—in this case say personal appearance, and there are 25 points for color in most breeds. And this color question is very minutely described, yet at ten feet and no handling a very faulty one may give the same general effect as the one far more perfect in color. The specimen having numerous small defects has them passed to his or her favor. If so they have a very symmetrical carriage, and that section at once assumes a value three times greater in its effect upon the decision than the scales of points may warrant, while color (25) sinks into all of half its value in many cases. Color must be the grand distinguishing feature in all breeds. Change any breed's color and it no longer has a name or acknowledgment. A bird perfect in color, then, has the advantage of one being perfect in symmetry and poor in color. A defect in each considered to be worthy of a cut of 25 per cent,—cuts 2½ in the one case and 5 points in the other. Just these two sections only need be quoted to show how much easier to err in open judging than where point judging is the rule.

In a recent exhibition a male was given a prize that had a V shaped piece cut out of the comb, the pen also winning the first prize of which he was a part. A protest was made. The comb was not cut in the scoring. In the test of disqualifications nothing appears by which for the so doing, but in nearly or quite all of the

society rules it says any plucking or fraudulent trimming shall debar the specimen from competition. Again, in the absence of such a rule, while you could not condemn absolutely, ought not such a course to suffer the penalty of a cut equal to that of a twist, which by the act was taken out? We think so. We believe in all legitimate helps to nature, and had this comb, while a chick, when the unnatural growth was first apparent, when the mere lancing and bleeding would have checked it, and nature have done her work in producing a perfect comb, to be legitimate; but to bring it about by mutilation, the specimen should be either disqualified or cut in the scale of points for cause, and any other decision by the management or judge is an error, whence

THE RIGHT OF PROTEST.

We think no first-class judge would object to the right of *protest*. But let the exhibitor show cause. We think it the duty of a judge, and a right he has, to refuse to act in any exhibition where the right of protest is denied.

When a protest is filed the judge has the right to defend his decision until such protest be offered. It seems to us like self-accusation for a judge to take time to show to others, other than the owner of a beaten specimen, that he is right. The judge has the right to protest as well. Disappointed exhibitors many times get "hot," as they say, talk extravagantly, and make things decidedly unpleasant, but so long as the conversation is not directed to him he has nothing to say. When the competitor has the right to protest,

he will either make his protest or cease his accusations, which if he does not, the judge can make his protest and prove on the spot his decision correct, and force it into the minutes of the society as record for future proof of his honesty of purpose.

A Grave Abuse in our American Shows.—We believe no one but the owner, judge and executive committee of an exhibition should be permitted to handle in any way the specimens of an exhibition, unless by special permit of the owner. Those frequenting our exhibitions know how prevalent the practice, the moment the awards are made, to be constantly handling, pulling, and even abusing the winning specimen. I have seen a first-prize bird taken from a show-pen in no gentle manner no less than five times in twenty minutes after the prize cards were nailed up, and a constant ruffling of the back and stretching out of the wings (until the bird in her despair stood with wings drooping and back and neck plumage ruffled, and she not looking anything like a show bird) in the vain attempt to find some out whereby they could raise an objection to the award, and then call the attention to the "*sorry*" *looking specimen the judge had given the first prize to.* There is certainly room for reform here, and stringent rules should be enforced. If the penalty was that any exhibitor found guilty of roughly handling a competitor's specimen should forfeit all prizes he had won, this evil would be in a very large measure stopped.

The exhibitors should demand that the specimen should not be handled by outside parties. All abuses are easily reformed if all work in harmony.