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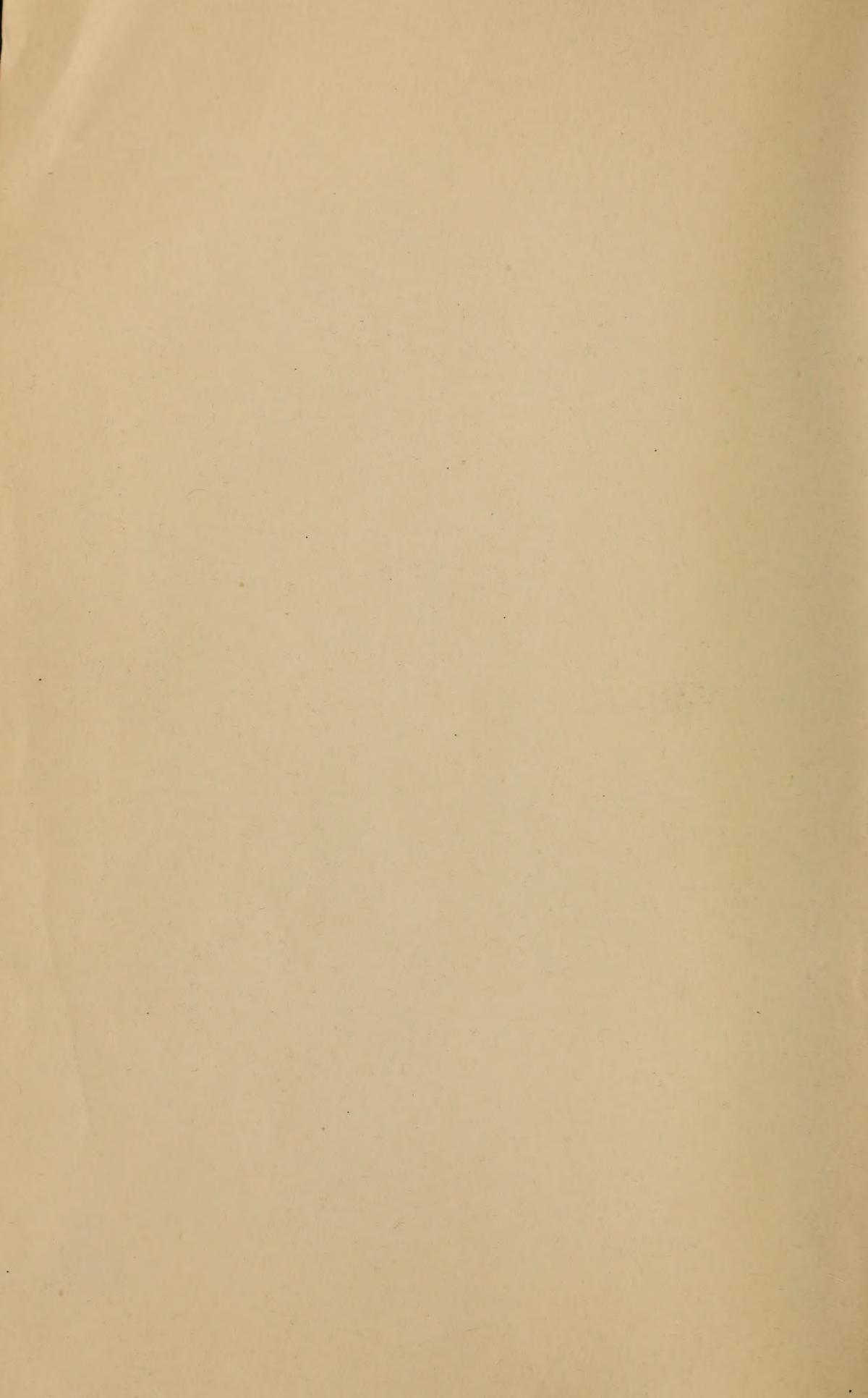
# Pocket = Money Poultry

MYRA  
V.  
NORYS.













# Docket= Money Doultry....

BY

MYRA V. NORYS. ✓

*Cara Syron Valentine*



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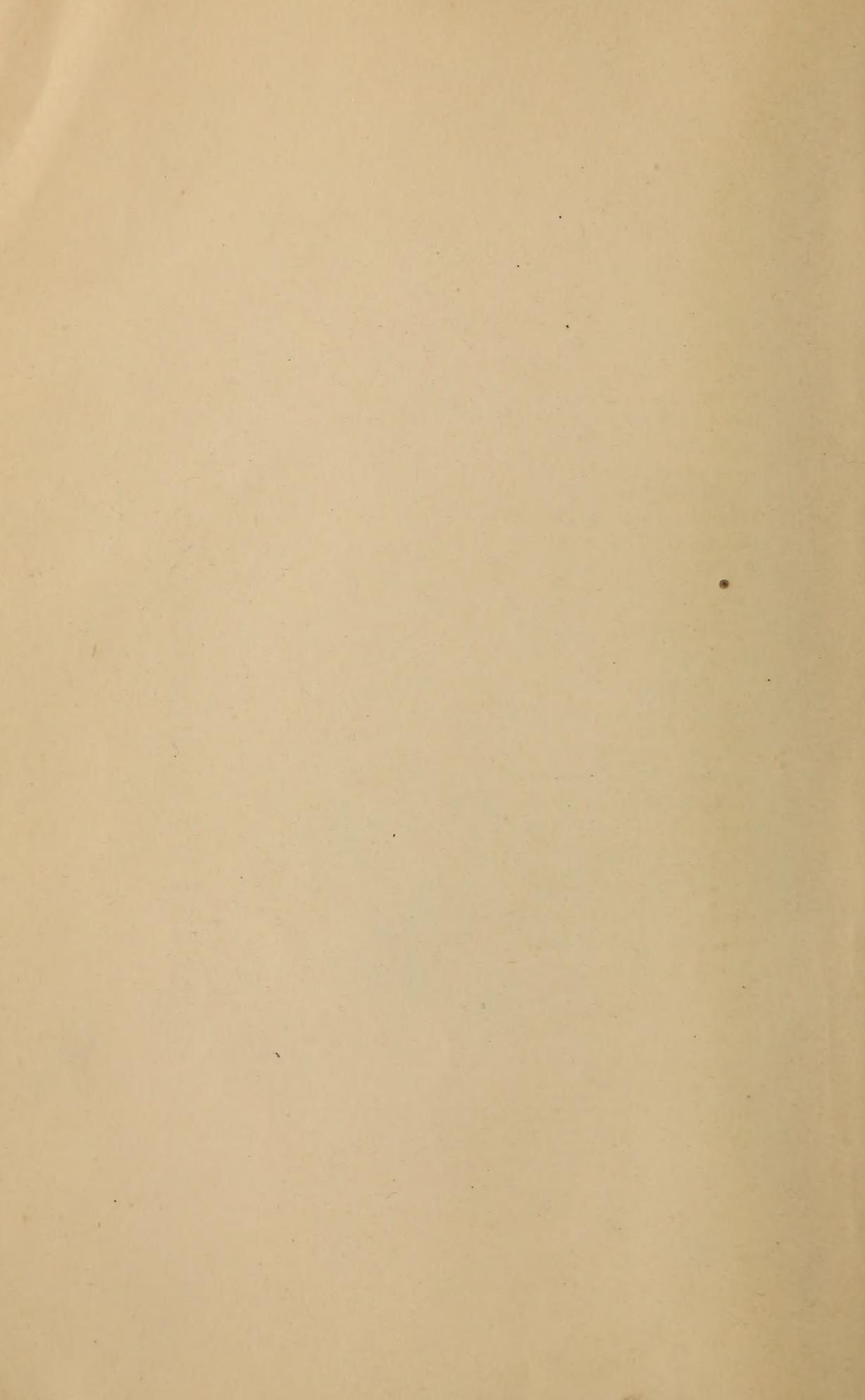
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## WOMEN—FOWLS—MONEY.

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**T**HE women and the fowls can make the money, plenty of it! But some women, as well as men, grow into the poultry business, some go into it, and some tumble into it headlong. Very naturally, the last make a very flat failure of it. It is a business dealing with life; and one who attempts to handle living things, does it at an extreme risk, if she does not know well the material with which she works. There must be either a natural, almost spontaneous growth into this knowledge, or else one must grow into it deliberately, by placing herself in the way of such growth. If there is no available school but the school of experience, that school we must enter, and its oft-repeated lessons we must learn.

These words are addressed especially to women, by one who has had a lifelong experience among poultry. A leading poultry paper in this country affirms that there is no difference between men and women, so far as poultry is concerned; and that Women's Poultry Departments and Special Words for Women are all nonsense. It ignores the admitted fact that women are far better fitted to care for fowls than men are, and it has never had cause to consider, (because edited by a man,) that women have a continual, crying need for pocket-money, such as never, even in short times, attacks man. Since men too often de-

spise poultry as a means of livelihood, and will none of it as a pocket-filler for minor needs, why should it not be counted as especially belonging to women, particularly when we consider that the women are actually now and all the time, doing most of the work of poultry rearing the whole world around?

Men and women alike are subject to handicaps in any race they may attempt to run. Their hindrances differ, but all have them; if, in a literal race, the handicap makes money odds, why do we not have sense enough to see that it makes a cash difference everywhere? Lack of knowledge and experience in any business is a weighty handicap, one which surely means lagging in the race until such time as it can be thrown off. Allow for this, then, when considering whether you can make poultry pay. You can not, without schooling; consider well the character and cost of this training, and do not whine if you pay for it in dead chicks, rousy hens, and empty egg basket, and the like. Money that doesn't come in isn't quite so bad as money that actually goes out, is it?

The care of fowls is often offered as a cure for invalid women; cheap, easy—yes, even paying—possibly it may prove all these; in numerous cases it has done so, but the fact remains that invalidism is a handicap that must receive more or less allowance according to its hold upon the physique of the worker. I know one person who is looking to poultry as a means of livelihood, whose sight is very much impaired. Work with poultry has many points of advantage for such an one, but the lack of an eagle eye is none the less a serious handicap, and must stand in the way of highest success.

Dislike of detail is also a serious hindrance to suc-



BARRED PLYMOUTH ROCK MALE.



cess in a work made up entirely, as this is, of detail upon detail. One may command the natural bent by practising strict attention to detail, and succeed; but this, also, is a handicap, and must receive attention. Luckily, women usually revel in detail, and are thus especially fitted for poultry raisers.

Conversely, knowledge of the work to be undertaken, good health, perfect sight, and a natural habit of attention to small matters are good qualifications for the worker among fowls of every sort. Marked ability in any direction tells strongly here, and with such as have this ability it becomes merely a question as to whether they can make more money by joining their forces with the hens, or investing them in some other line of work. It rests, always, upon "me and the hens" to secure the income by a union of forces; and be you sure the hens will do their part, every time. A deep interest in the work to be attempted is a very necessary qualification. This interest may be in making money, or in the fowls themselves, or in both. But, other things being equal, a deep interest in living things may be considered one of the most helpful qualifications of the would-be poultry raiser. This interest women are more likely to possess than are men. Franklin Dye, of New Jersey, is fond of saying, "Weak life demands patient care." This is his idea as to the real reason for the supreme success of women in work which is full of detail, and which includes as a frequent feature the rearing of new-born life. - Is he not pretty nearly right?

Still another qualification for entry upon this special work, lies in the ability to command the situation of the poultry plant, which, be it large or small, may bear the name of "Chickenville." (Indeed, the poul-

try department at one of our State Experiment Stations is known thus.) If this little hamlet of Chickenville is already located, so that its situation can not be changed, or improved upon, let this one point be a decisive one. If it is not suitable to the purpose, if hopelessly low and wet, don't try to enlarge it into a big village, or a city. Let poultry alone, before you get to the point where you will wish you had never heard of a chicken. All the money in the poultry business under such circumstances is likely to be the money that is put into it; little, or none will come out, in the long run. If the one worst enemy of poultry, under artificial conditions, be not dampness, I do not know what it is. You can get almost every disease into your flocks by keeping them in damp, ill-ventilated quarters, and with disease well settled among them, life becomes one long misery, both for you and them.

The question of markets is an important one. Without a market within such distance as not to eat up the profits in reaching it, the question as to poultry paying is not an open one; it does not pay in such case. No matter how many poultry writers and poultry editors may asseverate that there is a mine of wealth in poultry, do not you take it as "cash" till you know the markets open to you. If you can select your location, poultry will pay, no matter what branch you take up, when you do your fair share of the work. Your business is to furnish brains, knowledge, market, whatever is needed to make the combination between you and the fowls complete. The good, Summer markets along our eastern coast are a thing to look at. They furnish a fine, paying demand just when eggs are usually cheap, and when they are most plentiful. But.

consider, too, that this demand drops to much below average as soon as the "Summer people" flit away to their homes. If also near a good city market which will take the Winter eggs, the place near by a Summer town is almost ideal. Mining towns, manufacturing towns, fancy groceries in the largest cities furnish most of the other high-price demands of the country. Consider that the best market for your wares will be open to them only when you can furnish that which others can not, of quality which others can not reach, or at a time when others can not furnish them. Brains are the important factor at every turn.

When we look at the marriages which women make, we are ready to believe that they do, as is often said, take their risks first, and consider afterward. But in so important a matter as poultry rearing for profit, this will not do. Perhaps women do not marry "for profit," but pocket-money poultry must be kept at a profit, or let alone. Will you take the risks? They are many, and as the business enlarges, they are great. Dare you take them? or have you special means of reducing them to a minimum? or will you keep your investments within such bounds that the possible loss of the greater part of your flock will not bankrupt you? There is disease, which may take all; there are biped thieves, who may take the choicest; there are "varmints," which will show no favor, even to a \$50 specimen; there is fire, which may swallow, not only your flock, but your fold, and your factory, if you have a "factory" in which chicks are manufactured from eggs supplied. Granted that you have all the qualifications before stipulated for, there may not be too great risks here for you, because you will have forstalled the major part of them. But while you are human, you will

sometimes be careless, and there will be risk. And, while you are a women, you will take a little more risk than a man would in your place. Not big, money risks, possibly, but careless risks.

If the big money in poultry has tempted you to plan money-making schemes in this connection, let one who knows the road urge you to go no further on in it till you have definitely decided, according to the best light given you, whether you handicaps, your qualifications, your chances for paying markets, and your attitude toward risks warrant you in advancing. Under many circumstances, you can save more money at this point than at any future time. In other words, you may get more money out of poultry by putting none in, than in any other way. By no means, however, think of me as running down the poultry business, whether conducted on a large, or a small scale. I believe in it most thoroughly, because I know that it pays. It pays in ordinarily careful hands, in a small way—pays excellent returns; it pays better with those who are well posted, careful, shrewd; it pays almost like a bonanza mine, the few who have sifted its open secrets to the bottom, and who have pitted themselves and their birds together against all competition. But, because the human factor is so large, the best payment does not come to the one who enlarges much beyond the bounds of his (her) own capacity. If you have not too great handicaps, if you have the right qualifications, good markets, not too great a disposition to take risks, poultry will pay you. Go ahead, and earn that much-desired pocket-money.

## HOW MUCH CAPITAL?

---



UCH oftener with women than with men; the question as to capital will be: "What is the very least I can get along with?" or "How can I get a start without any capital?" Now, even one old hen on hand is, in one sense, capital. It is possible, according to an old story, to start without any capital except "cheek," by borrowing an old hen of one neighbor, a setting of eggs from a second, and keeping the hen long enough to pay back the eggs borrowed, out of those which she may lay! It is a question, however, whether this is not too slow a start, even were it wholly admirable in other ways.

If there really is money in poultry, why waste unnecessary time in getting it out? If one has a fair flock of hens to start with, they may be made to produce their own cash capital for future enlargement. If the start must be made, as we say, "from the ground floor," it is far more desirable and satisfactory to have a small capital. Indeed, this is true in any case. The necessities of the first season will be eggs and sitters to produce chicks, (unless the chicks are bought) coops or brooders, one good building for Winter, and a small stock of wire netting, if the birds are to be kept in confinement. It is difficult to know which to consider first, the question of capital, or that of the special line of work to be followed. They really be-

long together, as neither can be fully settled without considering the other. We will try to look at capital first, however.

Having considered your handicaps, your qualifications, your markets and your risks, and having decided that you and the poultry business can and will do well together, consider, now, whether you will start very small with no capital, or almost none, or with a fair amount. If you know nothing at all about poultry raising, the smallest start will be the safest. If you have some experience, the amount of capital needed may depend on whether you aim high, or only modestly so, and upon the special line decided upon. Fancy stock will take more capital for a good start than if the work were based strictly on the production of eggs. Eggs, alone, may take a little more than working for general products, because it is likely to cost a little more than average money to get the best strains of laying fowls; while a fairly good general-purpose fowl may be picked up anywhere, if one is shrewd. One woman, whose work I knew, began with a nominal capital of \$35; \$15 of this went for a brooder, \$6 for a few common hens, \$7 more for seventy-five baby chicks, and the rest for wire netting. I have called the \$35 a "nominal" capital, because these supplies ate up the whole amount, leaving nothing wherewith to purchase feed for the flock. She was fortunate enough to have some one back of her to pay for necessary feed when the few hens on hand did not furnish eggs enough for this purpose; and at the end of thirteen months her flock had repaid all capital and paid all expenses, and numbered over fifty laying fowls.

There is considerable choice in the method of mak

ing a start with about the same expense at the first. For instance, one may buy 100 chicks, newly hatched, and pure-bred, for about \$15; or having a few hens for sitters, one may buy 150 eggs, of a very good quality of pure-bred stock for the same money, and these eggs may produce more than 100 chicks. They may produce less, but the quality is likely to be a little better than when the baby chicks are bought outright. Again, one may pay \$15 for six excellent birds, scoring well up, and by setting all their eggs up to the end of May, may produce a choice, and quite a large flock the first season. But in this case, many of the chicks will not be quite so early as one would like. Coming down to common stock, one may purchase fifteen fowls for half the price first named, or \$7.50. Or one may purchase 100 common chicks for \$10. Perhaps a larger flock can be obtained for the smaller amount of money by buying the common fowls very early, say in January or February, and letting them hatch their own eggs, each raising two clutches. If nine of these should hatch two clutches each, say eighteen chickens, and 140 of these were raised, the flock would be likely to number somewhere about seventy-five pullets in the Fall. Some of these would be so late as to be of little value for laying before the following February or March, but the expenditure would have been limited to the cost of the original hens, and \$1 for coops, plus the feed for the whole flock. As quite a large proportion of the eggs laid would have been used for hatching, most of the feed would have to be paid for out of reserve capital, or bought on credit. By the end of eight months, however, the cockerels raised would have sold for about \$40, if of a large breed, or perhaps \$20 if of one of the special laying breeds. The

flock then would still be in debt to capital, or to the feed dealer, from \$9 to \$29 according to breed, with a Winter shelter still to be provided for. With a flock of this size, a good house for Winter should cost \$50 at least, if new lumber is used and the carpentry **must** be hired.

By this time, perhaps, the would-be poultry raiser, finding herself in so much theoretical debt, is greatly discouraged. There is no necessity for this, however, even though I believe this is as good a way as there is to begin with common poultry. Doubtless, it would be far better for the majority of women not to attempt to raise more than half so many chickens the first year, as expenses will not count up so, and prove such a discouragement by staring the worker in the face continually. With capital, however, or with pluck, faith in one's self, and faith in the hens, the balance sheet will be all right in a short time. The eggs laid during the Winter season, under the best conditions, will go a long way toward wiping out this debt. The fact is, we have no right to call it a debt, and this is just where our trouble comes in. Other lines of business are not expected to pay back the capital put into them, unless they are sold out. All they are expected to do is to pay a small rate of interest on the capital invested. The hens will pay a royal interest on the capital. Don't ask them to pay back the capital, and that the very first year. It is unreasonable; a man would say, "Just like a woman!"

The above somewhat theoretical estimate of the cost of beginning in the poultry business, while very careful, and based on facts, may be valuable, or may be worth absolutely nothing to you who read, except as a guide for your own figuring. Average prices are



WHITE WYANDOTS.



often given by poultry writers, but an average price would certainly be equally valueless as a basis of figures, especially as there is no way of getting at really fair averages. The only sure way is to take figures which prevail in markets open to you, even as I have taken figures which prevail in markets easily accessible to me; and then, to do your own figuring. Common chicks, at ten cents apiece, pure-bred chicks at fifteen cents and upwards, common hens at fifty cents as a lowest price, and market chicks at twelve cents a pound are familiar as priced to me in our own markets, and these prices I have used.

If you are desirous of working into fancy poultry, the necessity of beginning small is even more urgent than in other lines. The first cost must be far greater, proportionately, and one must learn the intricacies of breeding, and of special marketing at a high price products which, under common conditions, sell everywhere at a lower price. Fancy stock, though it must be paid for in very real, hard cash, has a selling value which is, in one sense, fictitious; a value which the hoped-for buyer may not see at all; a value which the merest accident or the fraud of a conscienceless rival, or judge, may partly or wholly destroy. These are reasons enough for going slowly with the work, unless you have, as modern speech has it, "money to burn." Being a woman in quest of pocket-money, of course you haven't.

## CHOOSING A LINE OF WORK.

---

**W**E speak often in these days about the poultry business, but there are those who have handled from fifty to a hundred fowls for years, who have never thought of speaking of the work as a "business." I think it is quite fair, however, to call it a business as soon as we go at it in a business-like way, keep its accounts with accuracy, and make it pay a business-like percentage above investment. It especially behooves the woman who would enlarge her poultry operations to go at it in a "strictly business" way. The very fact that she is a woman will invite more general criticism, more sarcastic discussion of her failures, more interested attention if she succeeds. Success for her may be a trifle more difficult early in the race, too; for she will not receive so many concessions from dealers, and a woman is always considered easy game by those who would impose upon their customers. You must, then, if a woman, use especial shrewdness and far-sightedness at the beginning. These, they say, are not natural to women; therefore, you must cultivate them.

Your handicaps, qualifications, and markets must now be studied more specifically, as affecting each special line of work. It may be that your choice must depend entirely upon these. But there are many other

things in each line of work to study faithfully, in order to avoid loss or failure. To work for eggs alone requires less strain, less expense to start with, less work every way. Only a definite amount of stock need ever be raised. Usually, a number equal to the flock on hand is considered right (unless one is enlarging operations); in this case twice as many chicks must be raised as one desires for laying stock (less the number of old birds to be retained); because, on the average, one-half will be males. Since there is less stock to be raised than with the general-purpose business, less room will be needed, and the risk will be much less. A large proportion of the risk lies, always, in rearing the young chicks. There is much waste in supplying eggs, hatchers, and feed for young chicks for several weeks, only to lose these chicks. If working specially for eggs, you will be likely to use one of the special non-sitting, laying breeds. In this case, an incubator, or some extra hens for sitters will be necessary. Where but few chickens are raised, only a few sitters are needed; and thus, at almost every point, there is less expense than if one is doing a general-purpose business. Comparing a simple egg trade with a fancy trade, we may easily see that the last is likely to give immeasurably more uneasiness about a market. Often scores of extra birds must be kept and fed for months, waiting for customers; until the work, the feed, the possible loss from disease, and the advertising have eaten up the value of the birds, even though the price received is a large one. Besides this, where many extra cockerels are kept over till Spring, they are pretty sure to prove an unmitigated nuisance and annoyance; while often they will fight to the death, unless penned alone. Looked at from every point of

view, it is very plain that a simple trade in eggs is the safest and surest, and that it necessitates the least work and expense proportionately. Therefore, other things being equal, it is likely to be the best line of work for a woman, and especially for one without capital, or with but little ready money.

On the other hand, if one has pluck and capital, with experience, there are several points in favor of a business which shall look for the production both of eggs and of carcasses for market. If we could for a moment imagine ourselves as turning the twelve dozen possible eggs which each hen might lay into a hundred plump chickens, worth half a dollar apiece when five months old, we should obtain a striking glimpse of the great possibilities of this line of work. \$50 gross income from one hen! But if the returns are big, so are the investments and risks. To raise large flocks of chicks means a great deal of work, a very large amount of risk, a greatly multiplied expense for feed, appliances, and buildings. Yet, if you chance to live on a farm, it is this branch that you will have grown into more likely than into any other. The right kind of care is, therefore, more likely to be assured; and with such care, a big business with big profits is perhaps more certain than in any other direction.

Comparing the general-purpose line of work with that which looks exclusively to raising fancy stock, we may say that both involve large expense, for a large amount of business. The general-purpose work, possibly, involves more risk, but fancy stock brings many more temptations to fritter away money without certainty of returns. Its advertising, which is a necessity, where one's market is the whole country, unless judiciously done may show no return whatever for

money invested; while buildings, appliances, etc., which have been devoted to general purpose work, are a tangible thing, and can always be sold for some amount, if the business itself fails. Let it not be thought, however, that there is little or nothing to be said in favor of "the fancy." It is just here that one's qualifications come in strongly; and a woman, with her nice discernment, and her constant familiarity with the birds, may prove the winner in the field against any man. I have sometimes thought that it is only the men who are strongly possessed of some of the best feminine characteristics who make great and substantial successes with fancy poultry. Fancy stock takes fewer buildings and less feed in proportion to returns than either of the other lines if highly successful. It is well to remember, too, that the better the stock the more this fact holds true. That is, the greater the ratio of returns to expenses; but there are many minor expenses, such as egg-carriers, and shipping and exhibition coops, that belong entirely to a fancy trade. These even up this proportion to a large extent. Risks are both less and greater with fancy poultry than with either of the other lines. Every egg, every chick, every fowl lost counts much heavier than with common stock. There is less general risk in the hatching and rearing season, because operations are smaller. Yet the total amount of loss may represent more money value, even though the losses were by no means so numerous. Thieves are always more or less a weight upon the mind of the poultry raiser. They are a heavier weight according as the stock increases in value. The better the stock, the more temptation there is to outsiders to have some of it, whether by fair means or foul.

A point which shows fancy poultry as especially adapted to women is that this branch of the work demands the least physical effort and labor after the birds reach maturity. The owner of fancy stock seldom cares to push the birds for heavy laying, out of the regular season, and there is no need to spend time and strength mixing mashes and providing tidbits. Besides the fact of there being less actual work, there is, also, much more money received in proportion to the work. Especially is this true, and more true, as one gets nearer the top of the ladder. This is a strong point in favor of keeping only the best stock, and it is as true with reference to each expense, as it is with reference to work. The better the stock, as breeders, the fewer chickens need to be raised, because there will be fewer culls. Even with the best of stock one must raise several times as many birds as can be sold at the highest prices. Culls may be looked upon, or perhaps are looked upon almost as an expense to the fancy breeder, for they necessitate fixtures, feed, and work unnecessary with smaller numbers. Get good stock, therefore; breed carefully, and keep the proportion of culls low.

The fancier will tell you that only in this line of the work can be found the true delights of poultry raising. But every fancier is a crank, in so far as that he can see but one side of the question. "The fancy" has no mortgage on all the pleasures of poultry raising. To be sure, here one's delight in the beautiful can be satisfied in the highest degree; to be sure, it is an infinite satisfaction to know that the birds are being reared for the pleasure of keeping them, rather than for the pain of killing them; to be sure, the inherent, keen delight in competition, which all human beings feel, may be

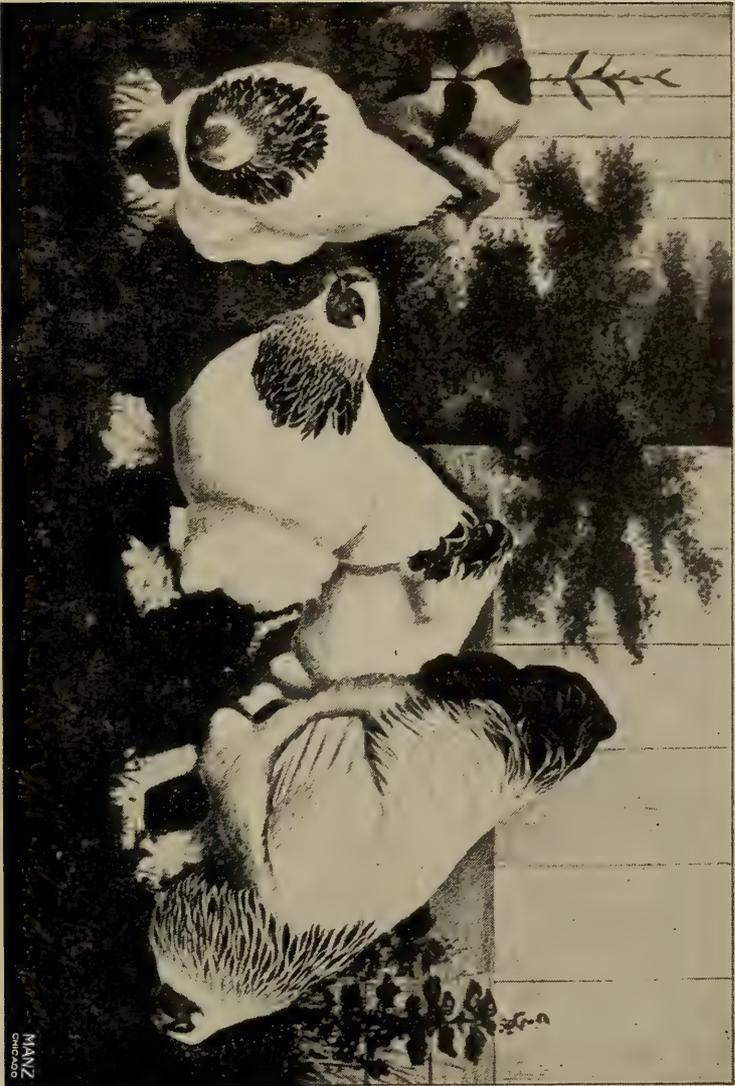
here satisfied to the full, and in the most public manner; to be sure, the joys of success are greater here than in the mere raising of general-purpose, or ordinary egg-laying fowls. But a measure of the joy of success belongs to every one who does good work. And she who raises large numbers of chickens successfully, or she who succeeds in running her yearly egg record to twelve and fifteen dozens or even higher, will have little cause to envy her with the blue ribbons on her coops; for each will have won the highest success in her chosen line of work, and it is this that gives the highest spice to life. In the one case it is prettier work, and pleasanter work, and more people know about it, that is all. The woman who is fond of raising little chicks gets almost as much pleasure out of handling the wee, downy birdlings that have no pedigree behind them, as though they were descended from the most aristocratic families; and, for that matter, she may raise only blue-blooded birds, and handsome birds, for mere egg laying, or even in general-purpose work, if she desires to do so. It sometimes costs a little more for stock to breed from, but the extra expense would not be much felt, unless in a very small business. It is a fact you must remember, that a small business feels a small expense more than a large business feels a large expense.



## THE BREED THAT WINS.

---

“THE winner” is the bird that attracts universal attention at the shows. But there may be a winning breed in each of the three lines of work which we are considering. The breed which wins the highest encomium as layers, would be useless as a general-purpose fowl; the best general-purpose fowl is often found to be a cross, and not a distinct breed at all; the winning breed of fancy fowls it is hardly safe to name, lest raisers of all other breeds fly into a passion about the matter. For our present purpose, the breed that wins may be considered as the one which will be best adapted to your circumstances and intentions. That the great winning breed of to-day, in the egg-laying field, is the White Leghorn, appears in every poultry publication one may chance to take up, even though the fact be not expressly affirmed at all. It appears in the comparison of every breed with the Leghorn, whenever productiveness is named. “Equal to the Leghorn” means the best that the world has seen, up to date. The very word Leghorn is a synonym for the highest possible egg production. There are a few who wish to dispute this, but they are the few exceptions which prove the rule. What does “Equal to the Leghorn” actually mean in detail? It means early laying; it means large eggs; it means small eating; it



MANZ  
CHICAGO

LIGHT BRAHMAS.



means non-sitting capacity; it means a bird of small size, of which more in number can be housed in proportionate space than in the case of a large breed.

Let us look at the Minorca, now claimed by some to be the equal, if not the superior, of the Leghorn. The Minorca has the true egg-laying and non-sitting capacity, with added size of egg and of body. The added size of body is only a detriment if one wishes to hold strictly to an egg-producing business. Increase in the size of a Mediterranean fowl is, at the best, only an effort to put her into the general-purpose class. The greater size of eggs would be an advantage with a family, or a fancy market trade, but would count for nothing in the general market, now. The future, possibly the near future, may tell a different story. As a matter of fact, all the strictly egg-laying breeds will prove highly profitable, and almost equally so, with the best of treatment. It is more a matter of color than anything else. That is to say, there is little difference between any of the Mediterraneans and the White Leghorn, as to fact; the main difference lies in the reputation, the popular notion that the Leghorn is better than all the others. Still, as long as this idea holds, as long as "White Leghorn eggs" have the inside track of the New York market, and as long as handsome, white fowls capture the beholder sooner than any other, it will not be a mistake to choose the White Leghorn before all others, as an egg layer.

For the place of leading general-purpose fowl, the contest between Plymouth Rock and Light Brahma was hot and long. The one thing that quieted it to some extent, was the instant leap of the White Wyandot into a place above both with the broiler men. Every expert with whom I have talked, and almost

without exception all who write, put the White Wyandot in the winning place, as a broiler. It has about every good quality of either of the above-named rivals, except weight, and the fact that it is plump at every stage of growth counts very strongly in its favor. This is a point to be well considered. Nearly every breed has a lank and leggy period somewhere about midway on its path toward maturity. If the broiler has not attained its size and weight as early as was expected, or if there is anything in the market which necessitates carrying it on two or three weeks longer than was intended, so that it runs into this leggy period, it has lost its chief value. As a plump, juicy market broiler it doesn't count, and never will. With the Wyandot there is less of this difficulty than with any other breed. This is universal testimony. If the broilers are to be sold very young, the pure White Leghorn is sometimes crossed on the pure White Wyandot to get the earlier-maturing, quicker growth. It might be said for the Light Brahma that no other breed known produces such hardy chicks, and if the market is sure, so that the chicks can be used before they come to the lean stage, it makes an excellent broiler. Many prefer crosses of the Leghorn with one of these favorite large breeds. A Plymouth Rock is always good wherever you find it, but those who have raised broilers are almost uniform in putting the Wyandot first.

If there is not much thought of selling young broilers the Wyandot has very few points of excellence, if any, over the Plymouth Rock and Light Brahma. The Brahma has the extra hardiness, but even its advocates admit that the modern Brahma is not so good a layer as was the older type of the breed. The Plymouth Rock has the darker pin-feathers, as a slight offset to

its good points; the White Wyandot has a little less size. All are good enough layers, with proper care, and all are good Winter layers. The question may arise as to why the White Plymouth Rock is not chosen, to avoid the one mentioned defect of the Plymouth Rock. The answer is that the White Plymouth Rock is hardly, as yet, a fair exponent of the breed; and as we do not hear it praised to any great extent, the quick inference is that it does not deserve that which it does not receive. To be sure, it is yet quite new, not breeding wholly true, perhaps; perhaps, also, not well tried, and a little behind in the race, because of the White Wyandot. In connection with fancy poultry, a different line of argument settles every question, and a different method of work is to be adopted at nearly every point. One may start in a very small way, and the amount of housing and feed is small in proportion to the returns. That is, this is true if the owner prove a good salesman, who does not have to carry an undue amount of surplus stock through the cold season.

Before beginning with fancy poultry at all, it will be well to see if some practical, working principles can not be laid down and studied which shall save the worker from blunders. One of these may be stated thus: Choose the popular breed, rather than the scarce breed. You will be likely to argue with what seems to you shrewdness, that there will be more chance to sell a breed which is new, or which few people raise. The fact is just the contrary; the breed which few people raise is, as a rule, the breed which almost nobody wants. A second principle is: Select a breed you like, and the one you know the most about, if possible. A third principle, the consideration of which may save taking the back track sometimes, is this: The easy

way, and the safe way to work into fancy poultry is to choose a variety that is easy to breed, easy to raise, and easy to sell.

Fanciers have a way of sneering at those who raise fancy poultry for the mere money that there is in it. They affirm that the true fancier thinks only of the delights of rearing handsome birds, and of the beauty of those birds when reared to maturity. But the delights of this sort are apt to remain sadly in the background for a number of seasons, in the case of those who do not work according to the rule just laid down. It is well to remember, too, if you want to make sales, that utility points count much, unless the market is wholly among those who are fanciers pure and simple. If, therefore, a breed add many points of utility to its beauty points, there will be a much wider range of buyers for it. The parti-colored birds are always more difficult to breed, and the beginner will strike a good many more snags in trying to breed the Brown Leghorn, or the Barred Plymouth Rock to fancy points, than would be the case if choosing a solid-colored breed.

The most important thing is, really, to do a lot of preliminary thinking and studying; to ply experts with questions, even at the risk of appearing to be a know-little; and once the breed is decided on, to learn its standard by heart, before making a single move in the direction of breeding it. I believe the majority of fanciers, both men and woman, make one of their first and biggest blunders here. Most of them work with a breed three or four seasons before they get to the point where they think they can afford the Standard of Perfection. Finally acquiring possession of it, they find that a large per cent. of the information they have

been laboriously and expensively gaining by experience, might have been had from the Standard, before beginning at all. A knowledge of scoring is an essential part of the fitting out of a fancier, and it pays to learn to score the breed you would handle at a very early stage of the work.



## ARTIFICIAL AND NATURAL INCUBATION.

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**A** WOMAN nearly seventy-five years old once wrote to ask if I would advise her about the purchase of an incubator; to which I promptly replied, "Don't, unless you want to try it merely for the fun there is in it." Really, the rage for incubators is getting to be almost equal to the rage for bicycles, and, I had almost said, worse, among women. When incubator makers, and the itching for experiment, together, tempt the child of tender years, and the woman of seventy-five, into raising machine-made chicks, it is time for some one to call a halt. I have no quarrel with the incubator. It is a marvelous help to the poultry business in its proper place; but that place is not the nursery of the child, the sitting-room of a woman past the allotted three score and ten, nor the spare bed-room of the farmer's wife. It may sound funny, but this is no laughing matter. That same bed-room is just the place where I have seen the largest proportion of the incubators which I know to have been purchased for the use of some enthusiastic farmers' wives. And the worst of it is, every one of these which was purchased with so much hope, is now disused and for sale; and this, even though it may have been successfully handled. The simple fact is, the incubator is not needed on the farm,

unless there is to be a specialty made of broiler raising, or extra early chicks for some market.

The incubator is a fine thing, and it has points of value against which no hen can successfully compete. If you want to raise broilers by all means have an incubator. In no other way can you successfully handle large numbers of early chicks. Even if you had the sitters, hatching takes too many of them from active duty at a time when you want them laying high-priced eggs. The advantages of compact handling which the incubator has over sitting hens, as usually managed, are invaluable. Moreover, it is ready at all times, and just when you want it, and may be placed near at hand where there is no exposure from storm in running back and forth to attend it. This means much more to a woman than a man, for a woman's petticoats are one of her greatest hindrances in the poultry business. It may be said that the sitting hen as well as the incubator might occupy the cellar of the dwelling-house. Indeed, she often does so. But there is an argument in favor of the incubator which must appeal strongly to every feminine heart. Never, in its most cranky moments, will the incubator get off the nest and indulge in a vociferous quarrel with its nearest neighbor, just when your most aristocratic callers are in the room above! The sitting hen has been known to do this, without any after-manifestation of penitence.

Perhaps as strong a point as can be urged in favor of the incubator is that the chicks, when hatched, are free from lice; though I have known even this fact to be calmly disputed. On the other hand, the incubator has some serious disadvantages. In the case of fire, it is almost impossible to get any insurance on the buildings if there is an incubator anywhere on the

place. All one's hopes, whether connected with the chickens or otherwise, may go up in smoke any hour of the day or night. And if, through accident, there is a loss of the hatch, the loss is heavy, instead of a paltry dozen or so, which the sitting hen might have left to the mercies of an unfeeling world. The number of failures chargeable to the incubator in its first stages of individual trial is tremendous. These are mostly unpublished, because people like to keep quiet about their failures. They may succeed later; and it is only the success which is talked about. I think this is particularly true of women, who always stand in awe of the jeers of their menfolk, be they husbands or sons, be they brutes or angels.

Perhaps it can not be called exactly a disadvantage that the incubator hatches no better than the hen; it is rather a lack of the advantage which is often claimed for the machine. Notwithstanding the frequent claims of seventy-five per cent to ninety-five per cent and over, the testimony of those who have done the most practical work with incubators is almost unanimous to the effect that a hatch of fifty per cent of the eggs put in is an excellent sample of the average work of all incubators. Now, fifty per cent of thirteen is six and one-half. When two of your sitters bring off, together, but thirteen chicks, you berate them; yet this is fully equal to the average work of the average incubator. More than this, if your incubator proves a failure your money is gone, and your chances of sale small, while your natural incubator is always salable. This might be a puerile thing to consider if the incubator had all the advantages claimed for it. In the light of facts, it counts. It would not be fair to leave out of the account the disadvantages of the sitters, of



BROWN LEGHORN MALE.



which transmitting to the chicks their hereditary lice is the worst. Leaving the nest at the most critical point of the hatch, and calmly trampling to death the most promising ones already out, are blemishes against their character not to be denied. I think a woman is capable of as hot wrath, I think she can get just as mad clear through, over a sitting hen and her small misdemeanors, as over an incubator with its hundreds. But let her cool herself off by considering that, in the long run, the cantankerous sitters will do their fifty per cent easily.

The trouble with the incubator is that it and the woman who harnesses herself with it do not, as a rule, under ordinary conditions, make so valuable a team as the woman expected. But the woman and the sitting hen can generally be expected to make a good team. Perhaps in both cases, the "smarter" the woman, the better the team; but I think there is no doubt that in a majority of cases extra care increases the percentage of chicks from the sitters considerably more than from the incubators. Proper care brings early chicks, too, in sufficient proportion, from the natural mothers. Sitting hens enough to hatch an equal number of eggs can be placed in a space equal to that occupied by the incubator, if we choose to do it that way. There is no risk from fire, and, taken all around, the quantity of anxiety on hand certainly exists in smaller chunks, if it be not less in bulk.

There are those who argue that the sitting hen hatches chicks at less expense than the incubator. Allowing that they shall hatch about the same percentage proportionately, I think this point is decidedly in favor of the incubator. We count a sitting hen's time to be worth as much as the eggs which she would have

been likely to lay during that period. In the twenty-one days—as the hatching season is also the laying season—she might be fairly counted on for a dozen eggs. If we average these at sixteen cents, it will cost \$1.12 to incubate 100 eggs by the use of the hen. The cost of oil, and the interest on investment for the machine should not be more than sixty cents for the same number. I once visited a plant where 2,200 laying hens are kept. The business is one for utility only, laying hens being the first item. The owner of the plant is an unusually shrewd business man, and very successful. It is evidently his deliberate judgment that the incubator does not pay, for he hatches all the eggs which are to furnish his many hundreds of young pullets with hens alone! If there are those who still think it would be to their advantage under their special circumstances to use incubators (as indeed it may be) let them heed a word of caution. If you are a woman, unless very strong, do not let any one beguile you into buying a large incubator. The trays are too heavy when filled with eggs. The 100-egg machine is decidedly the best for average ordinary use.

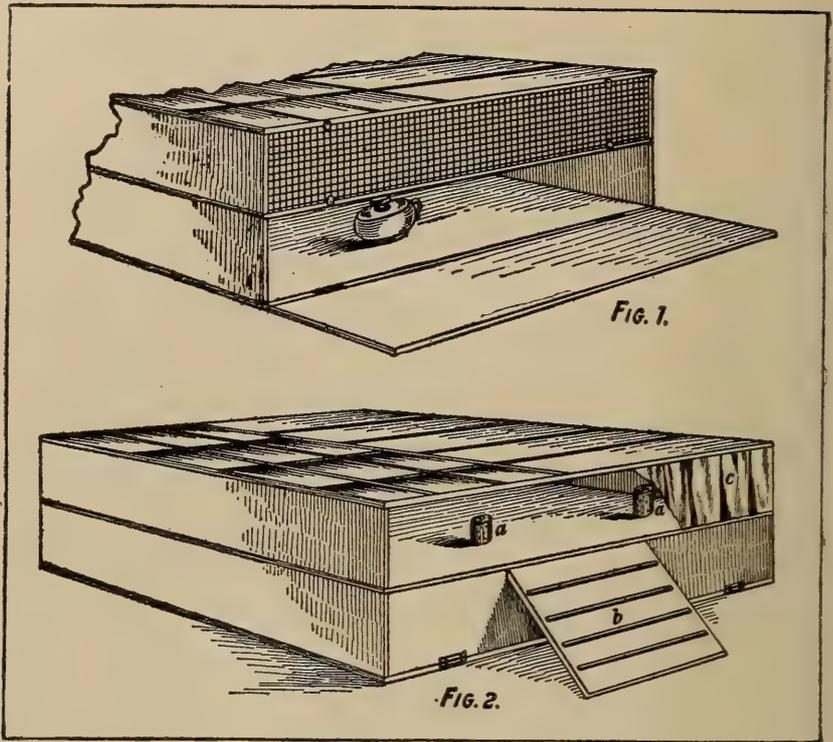


## SATISFACTORY COOPS AND BROODERS.

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**W**HATEVER variance of opinion there may be as regards incubators, the testimony of poultry raisers, everywhere, is virtually unanimous as to the great value of brooders. And they are as valuable in degree to the small, trial plant, managed by one overworked woman, as they are to the most extensive business, with scores of paid employees. As pocket-money poultry is pretty likely to be a thing of small beginnings, and as the small beginning, if there be lack of experience, is the only reasonably safe beginning, our points on this subject will be confined almost entirely to articles of home manufacture. One may buy brooders—good ones; but the good brooders, when purchased, necessitate capital. The indoor brooders can not be run without a shed in which to place them, while the outdoor sort, generally having a shed as a part of their makeup, and commonly priced at \$10 to \$20, seem expensive to start with.

Whether the brooder is bought from the manufacturer, or builded in the home shop, there are certain things we must ask of it. If it does not meet our requirements it will be a source of loss, rather than of profit. The satisfactory brooder must have sufficient warmth in connection with sufficient fresh air, even



#### CHEAP AND SUCCESSFUL HOME-MADE BROODER.

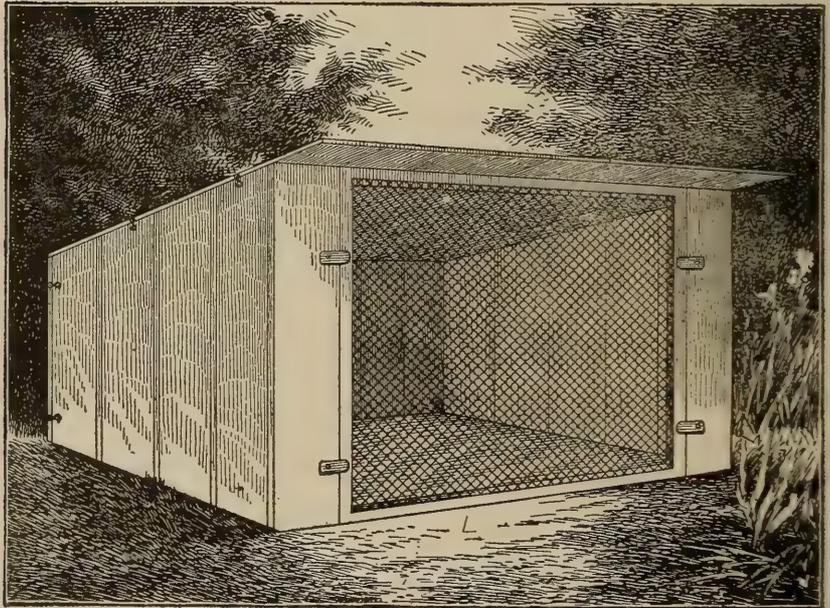
Fig. 1.—Shows front part of Brooder, with lower door open with lamp inside. Fig. 2.—Shows completed Brooder open; *a a*, warm air tubes; *b*, bridge in place after screen door is dropped; *c*, felt fringe (cut away to show tubes.)

under the hover—if there be a hover. It must also have room for the chicks to move away from the heat, should this become too great. There must be provision for a run outside as soon as the chicks are a few days old, and there must be protection from storm, usually attained by means of a shed, as before mentioned. There must be a sufficient amount of floor space allotted to each chick or failure is certain. The \$20 brooder which we have in use on our own place is listed to carry 100 chicks. The size of the hover allows a little over seven square inches to each, when it

is occupied by 100. If you will make a mental picture of a small square, about two and two-thirds inches on each side, you will see how much space can be given to each chick! Inasmuch as a chick is more than two and two-thirds inches long when hatched it is manifest that as soon as these chicks begin to grow, some must either be crowded to death, or crowded outside to make room for the rest. And this will be a continuous operation, as growth continues. Please notice that these facts are true of a brooder which is confessedly one of the very best. What must be the case with the poor ones? A woman who raises several hundred chicks a season, and who, before using a brooder, lost from fifty to 100 each season, said to me: "I don't allow for losses any more. With this simplest of home-made brooders, I can raise about every chick hatched, and do it every time." The brooder referred to consisted of a soap box, a jug of boiling water replenished every twelve hours, and a small window sash to cover part of the box. After a week or two these brooders are placed in an outdoor run. Of course, they are not used in extreme cold weather. The crowding in a brooder of this style will be toward the center, and as the corners are neared, the circular space about the jug enlarges, giving more room. This brooder avoids the chief difficulty with brooders, as commonly heated, namely, the lamp fumes. If one is not strong, it is not quite easy to handle the water and jugs though a syphon may be used to empty the jugs. Any rubber tube will form the syphon, and suction at the free end will start the water flowing. This end must be below the one in the jug. If a lamp brooder be preferred, it can be made at the cost of \$1, most of which will go for a lamp; if the lower box is deep

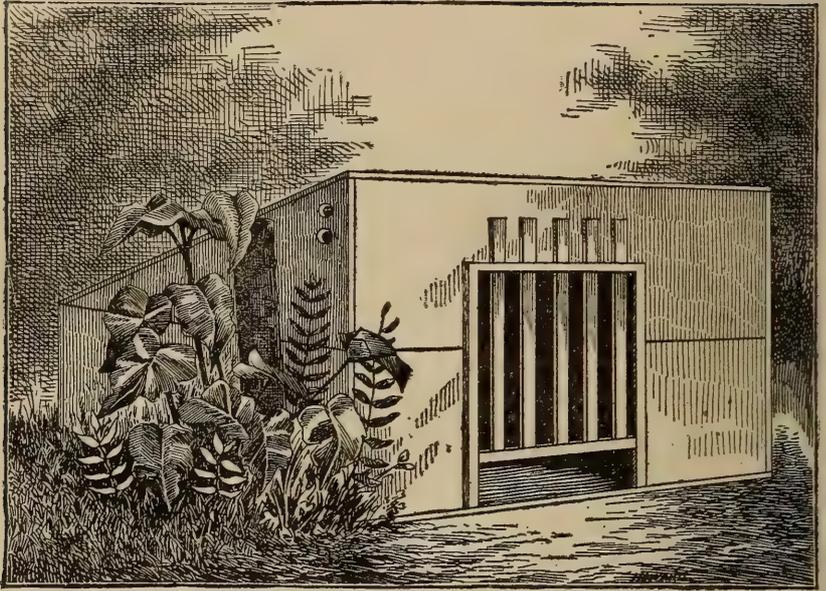
enough to admit it, a good, common hand lamp will do just as good service as another.

One of these cheap brooders now in service was made of two "gold-dust" boxes, one placed above and upon the other. These boxes came without covers. An inch below the open top of the lower box, on the inside, was nailed a cleat, supporting a sheet of tin the size of the box. In this lower box was placed the low brooder lamp. Two holes were bored in the bottom of the other (upper) box, to admit the insertion of spice boxes. These are perforated, and allow the warm air to pass up, and diffuse itself over the chicks. These were placed a little toward one end; a partition, with door, cutting off one-third of the box, so that nearly all the heat can be given to the other two-thirds, when



ONE WOMAN'S BROODER SHELTER.  
Size, 4 feet by 5 feet on floor.

the weather is extra cool. Usually, however, the little door in this partition is hooked open. One-half of this box is covered with boards; the other, with a removable glass top. This is necessary, because for a week or so the chicks are kept entirely in this box and must have good light. One side of this upper box is replaced by a full-sized door, made of common mosquito wire screen. This is a drop door, and admits of a bridge being placed here, as soon as the chicks are old enough to be allowed access to the ground. A slashed fringe of felt drops inside the screen door nearly to the floor, if for April use. This brooder carries twenty-five chicks to eight weeks of age. A brooder like this must be accompanied by a shed, unless there is some building to which it can be removed upon the approach of a storm, or at night. Such removal is a make-shift nuisance. A simple shed, five feet by four feet on the floor, four feet high in front, and two feet high at the rear, was made by a lad, and a supervising woman, in five and a half hours. Each side was made by itself, by nailing the boards upon strips at top and bottom. The roof was made in the same way. The whole structure hooks together, so that it can be stored after the chick season. Two boards only are nailed on. These are placed vertically one at each side, on the front. To them is hooked a screen which occupies the rest of the front. This may be made of inch-mesh netting on a frame, or of laths. Its removal allows easy access to the brooder during the day, while at night the chicks are not only absolutely secure, but have the fresh air which is so essential to their thrift. The roof projects a few inches at both front and rear, and the whole structure is battened. The expense was \$2 for stuff, in a place where



A GOOD COOP.

Made from two Quaker Oats boxes.

lumber is high, and fifty-five cents for the boy's work.

Sheds, somewhat smaller than the above, can now be bought ready made for about \$5. They furnish the best of roosting coops for the young stock after it is past the brooder stage, and, indeed, for the remainder of the season. But care must be taken that the chicks are not crowded in these little houses as they increase in size. This crowding is a fruitful source of loss in growth and thrift. The temptation to crowding, which brooders and such sheds engender, is the worst, and, perhaps, almost the only objection to the brooder system. Fancy coops and fancy brooders are mere excuses for investing money, without corresponding returns. The cheapest coops are, as a rule, the best. And all we need ask of a coop is that it shall be sufficiently roomy, that it shall be rain-proof but airy,



WHITE LANGSHAN MALE.



and that it shall have a board floor, at least in part. The despised old barrel, with a little lath run in front of it, makes a really excellent coop, if raised a little at the rear so that the chicks shall crowd forward instead of backward, and covered with felt paper, or any other material that shall render it rain-proof. Shoe-boxes, battened, and furnished with a screen or slatted front, make thoroughly effective coops at small expense. To use a coop with less than four to eight square feet of floor space is cruelty itself, unless the hen has access to a run.

If one wants to do a little more work for the sake of having a sloping roof, Quaker Oats boxes may be so managed as to form a rather neat, though not roomy coop. With a covered run in front, to which hen as well as chicks have access, these will do very good work. Three boxes will make two coops. The odd box is sawed diagonally into halves. Each half, being placed upon one of the other boxes, forms a sloping roof thereto. The front of each main box may be entirely replaced with a slatted front, or may have merely a slatted door in the center. In order to be convenient this door must be so arranged as to slide up and down, and it should be of good size in order to admit a fair amount of air. Perhaps, to the wide-reaching masculine mind, all this work to provide cheap coops may seem like small and fussy business. But unless time is particularly valuable the small savings which the use of time can make are no small part of the profit. Besides, few men know what it is to be absolutely lacking in pocket-money, and can not, therefore, appreciate these small savings at their true worth. To a woman, the time-worn saying, "A penny saved is two-pence earned" comes with ten-fold more force than it can possibly have to any man.

## MOTHERING CHICKS.

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**T**HERE are two chief methods of "mothering chicks," the more common including the aid of the natural mother, the other the tender mercies of the wooden box known as a brooder. The hen has instinct and warmth to commend her; the brooder lacks instinct, but also lacks many of the annoying, cranky ways of the hen, and it also furnishes the heat required for the broods at all times, which no solicitation or shrewdness on the part of the owner can induce the hen to do; as the chicks are so very dependent on warmth, this is a strong point in favor of the mechanical "mother." The woman in the case is the real mother, after all, and it is for her to choose which will be the better partner of or conductor to her joys and sorrows, the live hen or the wooden hen.

In either case, hers is the love which must needs patiently care for all weak and tender living creatures; hers the solicitude; hers the brain that must foresee and avoid difficulties; hers (alas for sentiment!) the interest in the inflow of pocket-money. The three great points in mothering chicks are to provide proper shelter, sufficient warmth, and the best food in the right quantities for best growth and thrift. The principles of the work are the same, whichever ally is chosen. But if the woman who is intent on chick

rearing has time enough at her command, I think there is no doubt that the mechanical brooder will prove the better partner all around. In any case, she must furnish artificial shelter, feed, and much of the care. Why not have the heat, also, under control, and thus be more largely mistress of circumstances?

Brooders and coops have been fairly well discussed in another chapter, but a further word on slatted fronts for coops may be advisable. It is true that the majority consider them all right, and both these and netted fronts have been mentioned as allowable; but the woman who writes is growing daily less in favor of them, especially when the coops are open only in front. In cool weather, they are all right; in Summer heat with stifling nights, they are far from allowing entrance to sufficient fresh air. Wire netting makes a much better front to all shelters, at this time. Even our patent, high-priced brooders have been fitted with wire-net doors, so that the wooden doors may stand wide at night, when suffocating Summer heat is at hand. Only thus can the chicks be made to thrive.

In mothering chicks, the word "care" is most comprehensive; for it means that during the brooding season the "mother" in the case must literally give herself to the work. Her eyes must be open to every change in expression in every chick; her ears must be open to every change of note in the continual speech of the broodlings; her mind must be all the time on the chicks, and, unless they count first with her, there is sure to be loss. This is not saying that it will take all her time to care for 100 or 200 baby chicks, but it does mean that she must never be out of sight and hearing of them if she would have all run smoothly and without loss. It is true that

many women mother chicks artificially, and do full work in the house, and careful duty to the children of the home besides; but I think that, in these circumstances, there can never be fullest measure of success. There will always be losses that might have been avoided with more care. For "care" means the oversight of the entire life, and, in one sense, includes both the other points; namely, feed and housing.

Care means watchfulness of every detail. It means foresight with regard to every storm, every marauder, every disease; every accident, too, I had almost said. But while many accidents can be avoided by foresight, some will occur in spite of everything. For instance, chicks may be lost through sunstroke, while furnished with every means of comfort in the way of water, shade, etc. Or, a tiny youngling may get injured by netting or drinking fount, so that blood starts, and in the few minutes while the owner's attention was elsewhere, the little fellow may have been picked to death. Every drooping wing, every dull eye, every tendency to looseness of bowels must be noted, or some scourge may grip the whole brood while careless eyes were unnoting the signs of trouble at hand. If warmth has been sufficient, and food not excessive, the best medicine to try first is generally grit; for indigestion is at the bottom of a very large proportion of chick ills, and even the watchful mistress sometimes overlooks the empty grit dish. Gapes is a trouble much feared, which watchful care may render harmless, except for a little extra work. Fresh ground for runs, and dry grains for feed will save the chicks from most of its ravages. If it appears, safety lies in fumigating the whole brood with carbolic acid, dropped on a hissing hot griddle, or brick.

From one-half minute to two minutes' exposure is sufficient, according to the density of the fumes. In a small, close box, one teaspoonful of acid will create fumes dense enough for one-minute exposures, if the griddle is very hot. A bag will do for cover.

While the author of these practical notes believes most thoroughly that principles are better than minute instructions in detail, yet, for the help of some who are new to the work, some feed rations will be noted. No one need ask for better feeds, to rear chicks from start to finish, than millet, wheat, and cracked corn, provided that the birds have plenty of range and green food, with the attendant bugs and worms, and it is difficult to raise the best chicks without these. Brooder chicks may be kept close to their foster-mothers by yarding for two or three weeks, or until they know where they belong, and will come at call in case of sudden showers. But "the wider the range, the better the chick," is a good maxim to believe and to practice.

Soft feeds push for quick growth and fat broilers, and are sometimes cheaper to use than the whole grains. Oats from which the hulls have been removed make excellent chick feed, since none other of the desirable grains for chicks is so rich in the muscle-making protein. But, as the chicks soon learn to prefer most other foods to oats, it seems best to use this grain chiefly for the morning feed, when the appetite is keen, and not to feed to cloying excess. A good growing ration may consist of rolled oats for a rather light breakfast, a soft feed of hard-boiled egg, bran, and corn-meal, (preferably mixed with milk after the bran is scalded) not too long thereafter, a third feed of millet, and a supper of cracked corn; the

supper being always liberal, but not to the extent of packing the crops too hard.

A second good feed may include hulled oats for breakfast; curd, scalded bran and corn-meal in equal parts for the next meal; wheat for the third feeding, and cracked corn for supper, as before. In all cases, green food should form one-fifth, at least, of the entire ration; and, if range is limited, or bare, this must be a part of the regularly furnished ration. In this case, it is not a bad plan to alternate the green and the grain feed.

The two rations given above may be alternated, if desired, or curd and egg may be replaced by a very little animal meal and bone after the first three weeks; but I would advise all to be careful how they feed meat to very young birds. A ration that can be used right along may consist of oats for breakfast, with a mash made of scalded bran, middlings, horse feed, sifted, and corn-meal or cracked corn in equal parts, for all the other meals. A little meat-meal may be added to this once a day. This may be cheaper than the others. For myself, I prefer grain at night, invariably. For one thing, dry foods render the brooders incredibly easier to clean and care for regularly. The periods between cleanings may also be longer. Clover meal can be added to any soft mixture, but it is a little constipating, and must be offset by green foods and bran. Young chicks can easily be taught to eat chopped onion or potato, lettuce, grass, plantain, cabbage, and purslane ("pusley") if they do not seem to like them at the first. They will pick at whatever is left before them so long as it is fresh, and they are not over-fed.

Mothering chicks, while exacting and risky work,

is work that pays exceedingly well in pocket-money, in any fair location. Early chicks are incomparably the best; and, usually, easiest to raise, provided they do not come from eggs laid during the prevailing Mid-winter infertility. The risk is reduced to a minimum after a few years of study and practice in the fascinating work. Or—to repeat—knowledge and experience are power, and they command pocket-money.



## THE FIRST SEASON'S WORK.

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**H**AVING decided which of the three lines of work is best to follow, it still remains for you to consider a point suggested in the chapter entitled, "How Much Capital?" This is, whether it is best, at the outset, to buy eggs, to buy newly-hatched chicks, or to buy a small stock of mature fowls. In connection with this, it must be decided whether common stock or stock of some good pure-bred strain is to be used. The pure-bred stock will cost a trifle more at the beginning, and only at the beginning. At first it may seem something of a puzzle whether it is best to buy fifteen common hens for \$7.50, and bother with the hatching; or to buy 100 common chicks already standing on good, strong legs, for \$10; or with better stock, whether to buy ten birds of good quality for \$15, fifteen settings of eggs for the same money, or 100 pure-bred chicks, for the same figure, or \$15. But it must be remembered that if you buy eggs, you must have something to hatch them, and if you buy either eggs, or chicks, you must have something to brood them. In the long run, then, if you have absolutely no fowls or fixtures to start with, it is likely to be better policy to buy the hens outright, very early in the season, and let them hatch out a fair number of chicks. You will thus be getting experience in all the various lines of



BUFF COCHIN FEMALE.



work, for the one investment, and there will probably be some small income from the hens, as there will be a few surplus eggs.

Having chicks on hand, by some one of the above means, brooding then becomes the urgent question of the hour. If you have bought the hens, this question will not seem so serious as it will if you have motherless chicks on your mind. If the brooder is a necessity, it may be the home-made box affair, at \$1 for each twenty-five chicks, or the \$20 palace with supposed room for 100. But it must be provided in advance, and long enough in advance to be sure that it will be in first-rate running order, as soon as the chicks are ready for it. Your first duty to the chicks will be to see that they are freed from lice (unless incubator hatched) by thoroughly dusting with insect powder, or powdered tobacco. Impress the thought firmly upon your mind that warmth, and warmth alone, is the only absolute necessity for these weaklings, for the first twenty-four or thirty hours, and that you will do more harm than good by aiming to do anything more than to keep them warm and dry for this period. From this time on, until the chicks are nearly grown, or half-grown, perhaps, your problem will be to add to this warmth and dryness proper food and water, and sufficient exercise. This is the whole of chicken rearing—warmth, dryness, food, water, exercise. It is in the effort to balance these things properly that difficulty arises. For instance, the beginner, in watering the chicks will allow them to get themselves, and their brooding floors saturated with water. One of the five essentials, dryness, is at once lacking, and trouble begins. Water they must have, but it must be furnished in small and shallow vessels; and for the first few days

it is better to supply it after each feeding, and remove it as soon as the little fellows are satisfied.

Feeding formulas may be picked up everywhere. They differ much, though doubtless all are good, if judiciously used. A feeding principle will do you more good than one, or a hundred feeding formulas. Feed only sound, sweet food, taking care that grit is provided for its digestion; see that at least one-fourth of its bulk is green stuff, and never over-feed to such an extent that the crops are packed tight and hard. They may appear full at the close of the feeding, but should always give a little to the touch, more like a hollow rubber ball than a solid one. As to the material for the feed, one of the most prominent poultrymen in the country recommends oatmeal, which may be the pin-head, or the rolled flakes, as the best foundation feed for the first few months. I find that the flakes are a little apt to pack in the crop, and cause indigestion, and must, therefore, be fed lightly. I have known a woman, a novice in chicken growing, to have remarkable success while feeding cracked corn, and cracked corn only, from the very first. I have known people to have good success with almost every variation of feeding formula, provided the soft food was swelled, and not soured before feeding. I have known a woman to raise good ducks on nothing but bran and grass, which would seem a dangerously laxative feed. I knew of one man who thought nothing of raising 1,200 chicks in a season, yet who fed them out of the same mess which was prepared for his laying hens, of which the foundation was dried cut clover, scalded; and the seasoning, meat meal. I think his average proportion of loss was twenty per cent. There are many who would think they had the whole busi-

ness at their finger's end, could they place their losses at this low figure.

I do not believe in confining young chicks, unless it is absolutely necessary. Chicks raised in confinement, if at all close, do not show such thrift and vigor as those raised upon range. But as soon as the maturing cockerels begin to be obtrusive, it is essential that they be separated from the pullets, even though, as is sometimes the case with the Leghorns, this occurs at six weeks old. A roll of wire netting, or better still, movable hurdles, or panels of the same, are among the most useful adjuncts to the chicken grower's work. Above all things, avoid crowding. It is during growth that fowls feel the effects of this most. If they are badly crowded as chicks, they are ruined for life, sometimes constitutionally, sometimes through stunting, often by deformity. The commonest and easiest way of getting room, from Mid-summer on, is by selling off the males. If they reach the size the market demands by July, they are never likely to bring more money in proportion to cost than at this period; and, as their room is decidedly better than their company, it is best to get rid of them at this time. Mediterranean males are pretty apt to be behind the market, and not salable at all, until they are full grown. When they reach this stage, prices have fallen so low that they pay a very small profit on the cost of raising them. It is for this reason that some believe it to be better to kill the cockerels as soon as they can be distinguished. To many, this plan may seem a wicked waste, but many shrewd raisers find themselves justified in following it, believing that the room is more valuable to the pullets, than the cockerels are valuable in themselves. Where there are not too many, they pay very well for family use, when about twelve weeks old.

Culling, and especially culling the females, is the most difficult work—that is, the most difficult to do as it should be done—that falls to the lot of the poultry woman. She who culls is sure to give many a specimen the benefit of the doubt, and this is fatal to the highest profit. If you would make money from the layers, cull severely; cull out the stunted, the deformed, those that are under age, those that show lack of vigor in any way, those that are poor eaters, those that are cranky and full of whims, those that will submit to being crowded without crowding back again! But you will say, “They may lay towards Spring.” Yes: but the others will lay enough better without them to make it all up, and your feed bill will be, perhaps, not over two-thirds as large. I think this is about the proportion that should be culled from nearly every existing flock.



## THE FIRST SEASON WITH FANCY POULTRY.

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**W**HILE giving an Institute lecture on poultry last Winter, I said: "The best way I see to account for the better luck (?) which women have in poultry raising, is to charge it to that old-fashioned word 'obey' in the marriage service. Women have gotten into so confirmed a habit of obedience that they can follow instructions implicitly. The masculine temperament leans away from this; the masculine mind hates the day of small things; the masculine mind is more prone to distrust." I hope you who read and who are looking forward to fancy poultry, will have proven my words before this, by following instructions as to preliminary study of breeds, standard, and principles of work, or that you surely will do so before beginning. The Winter previous to the first season may well have had its spare time devoted to this preliminary study.

Having decided upon the breed best suited to your pleasure and your circumstances, it remains for you to decide whether to start with birds, or with eggs which two or three common hens may hatch. Octave Thanet, the famous fiction writer, in her humorous story of "The Blazing Hencoop," says: "We are only sure that whichever you try, you will wish you had tried the other. If we are trying eggs, we are

sure that it is better to pay \$10 for a healthy, well-behaved trio of fowls, than to take one's chances on eggs at \$3 a dozen, and possibly have only three or four out of a setting strong enough to break the shell. While, if we are trying fowls, we do not see the use of paying such prodigious sums for a White Plymouth Rock cock that has his spirit beaten out of him by a half-way Game cockerel the first day of his arrival, and dies of a broken heart the following Summer." I suspect that this close hitting of the mark resulted quite as much from the author's knowledge of human nature, as from her knowledge of the fowls. But it is the human nature, and especially the woman nature—daring, nay, almost delighting to take risks, that insures the difficulties mentioned in both directions. For it is lack of care in finding a breeder whose eggs are known to be good, and to hatch well, and whose mature stock is known to be vigorous, that causes the failures, and vexation of spirit, so common at the end of the first season. Do not buy birds of a distant breeder, and pay heavy charges on them, unless you know that his stock will be good. Do not buy eggs, unless you have good reason to believe that they are hatchable. The business habits of the owner of the birds, as evidenced by his advertisements and circulars, will give you a very good clue to go by, if neither you nor your friends have positive knowledge.

A frequent mistake made is in buying exhibition birds. The chief value of exhibition birds outside the show room, is for advertising purposes. As members of your breeding yards, they may not prove worth as many cents as you will be tempted to pay dollars for them. Most breeders do not mate for breeding as they mate for exhibition; and if they did, they would not

use the inbred, and show-debilitated birds that are mated up for exhibition. Having found a breeder upon whose stock you can rely, it is best to have him mate for you a trio, or breeding yard for best results. These birds will not cost you so much as the show pen would have done, while the progeny is likely to be infinitely better. One of the first points to fix firmly in your mind is this: All operations in hatching and rearing fancy stock must be based upon small numbers. The incubator and the big brooder are a menace to your work from the start to the finish. If you have bought eggs to start with it is not the part of wisdom to risk the whole of them in one large lot; neither after they are hatched will it ever be to the advantage of the chicks to place large numbers together. So long as a wry tail or a white feather disqualifies, so long must accidents be provided against. So long as the corner of a coop, or a lack of condition may cause the loss of a prize, so long must crowding be guarded against; and so long as the annoying attentions of a six-weeks-old roosterkin, or a "scrap" between two half-grown cockerels may destroy the value of your show birds, so long must you watch with eagle eye for every sign of difficulty in every direction.

You must have care about accidents; you must have no crowding and fighting; you must be absolutely certain as to the safety of the flocks at night; you must separate the sexes early; you must give the best cooping, with the utmost care every way; and with all this care and this artificial straining after the survival of the fittest according to feather, there must be, also, care to keep as near natural conditions as possible, in order that you may have only the fittest in vigor. In feeding your way is easy. The best feed for the com-

monest chick that ever grew, when you want it to do its level best, is not far from being the best feed for the most aristocratic daughter or son of a \$200 imported pair. If you have learned the secrets of care and painstaking in feeding common chicks, you have only to apply them to your would-be prize winners. If not, you have only to study the formulas and directions for success with the commonest birds, and you have the knowledge, what to do for your high-priced stock.

There are those who will tell you that an incubator-hatched chick can be told from one hatched in the natural way as long as it lives. Others will dispute this; but none will dispute the statement that the utmost thrift and vigor which you can assure your chicks by free range, and proper feed, will do more for them in the show room than aught else. Your birds must be well grown and vigorous that they may be grown up to standard weight, else here alone is enough discount to lose you every prize in every hotly-contested show. And you must keep each generation up to weight, or, soon, you will have small chance of getting any of your birds up to weight. After your first lot of birds is carefully raised, your pride in them will cause you to be beset with the worst temptation of your poultry-raising career. You will want to show those birds; and worse than that, you will want to begin to make big money by selling eggs from such beauties! Let me beg of you to do neither during your second season.

You may have birds that are quite well worth exhibiting, but you do not know enough about them yet; and knowledge gained in the show room, while good, is expensive. Why should you waste money and time, and bring criticism upon yourself in studying things

PAIR BUTF LEGHORNS.





publicly which you might study privately at less expense?

During the Winter following your first season of raising chicks you will have abundant time to study advertising, if you want a wide market, or to study systematic sales near home, if your market is to be there. If you are to make your business as wide as possible, you must study exhibiting, and preparing for exhibition. Poultry literature will tell you something about all these, and will give you a good foundation on which to build a fabric of common sense. You can begin to study advertising by taking up any paper, and noting which advertisements attract the eye quickest, and when you have found this out, note how the wording of the matter attracts you. See whether words are wasted in saying things that do not affect you either way when you pose as a buyer. Ask some man his opinion of these advertisements; this will help you to find out whether it is the attitude of the womanly mind, or the way the facts are put which makes them catch your attention. Study the advertisements of women who are in the business, and see whether they are hurting themselves and their trade by asking sympathy because they are women, rather than seeking sales because they have good stock. There is too much of this posing for sympathy; though not so much, I am glad to say, in the poultry business as in some other lines of work which women have lately taken up. Your neighbors must be studied, you know; because, even if you make sales abroad, you will want to sell all you can near by. You must first impress upon them firmly that you are not in the exchange business; and you must learn not to sell fertile eggs to the grocery, lest the woman two doors away

outwit you, and become a rival, at a cost of only fifteen cents a dozen. Yet, if you have plenty of stock, you must learn to make concessions to your home trade, selling to near customers, perhaps, at half-price. You can generally afford to do this, for advertising, shipping baskets, packing, and time necessary to manage the distant trade, have all a distinct money value. This refers, however, more to coming seasons, for you must remember that you have not yet bred anything. Before your second season, you must become pretty familiar with the science of breeding, as far as books and experts may give it to you. You will learn that while inbreeding is considered a necessity to fine feather, it is a dangerous one, and new blood is even a greater necessity to the best vigor. It is Scylla and Charybdis; the rock of inbreeding, on one hand, the rock of losing family characteristics on the other. You will learn that those who have the best success, inbreed all they dare, and when they must change, try to get blood from the same family line, but which has been changed by climate or conditions sufficiently to answer for fresh blood. You will learn that some consider fresh blood a necessity every year, and you must learn that vigor is the one thing above all others essential to success. Fine feathers never appear on sickly birds, and condition, alone, counts enough to win the prize many times.

And, alas, that it must be said! among the hardest part of your work will be learning to keep the gates shut; learning to make the fences high enough, and secure enough that the care of weeks and months shall not be thrown away in five minutes! If a man goes near your poultry plant, he must be taught to shut the gates! If the children help you, as so often they must,

it must be impressed upon them with care, again and again and again, that they are never to leave the gates open! The first few months of fancy poultry keeping, though holding many pleasures, are, likewise, somewhat harassing; and, small as it is, this matter of the gates is one of the chief reasons why you would better not attempt to advertise eggs during the first year or two. Surely you need to get the run of the business before hampering yourself too much with other peoples' ideas and expectations, and with their just demands after they have paid you hard cash, and their unjust demands if they think you are to be easily cheated. It is not a way wholly strewn with posies, this road to the beautiful land of fancy poultrydom.



## CONFINEMENT, OR FREEDOM.

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THE first, and the continuous thought of those who would make a success of poultry rearing and keeping, must be for the vigor of the birds. It is such a common thing for those who discuss poultry to speak of vigor as necessary, that I think readers have come to consider it merely a stock assertion for effect. No greater mistake could be made. You will find that the person who has been longest in the poultry business is the one who will urge this point most strongly. If you do not believe it now, the work itself will force you to believe it. Nothing could be more foolish than for those who are extremely limited as to room to try to make that room count for more than it is worth by enlarging operations to any extent. For a regular business, a reasonable amount of room is a necessity; sufficient, at least, for the proper rearing of the young stock. I believe it to be utterly impossible to rear chicks to vigorous maturity in large numbers, throughout successive seasons, and in close confinement. Please note the three points, and that I do not say to keep fowls, but "to rear chicks." And I mean chicks of vigorous constitution.

Almost any woman who lives on a farm knows that the question of confinement or freedom is a serious one, even there, where there is abundance of room. Neither

the chicks in the garden, nor the garden in the chicks, seems to be thoroughly satisfactory. It may be argued that small chicks are a benefit to the garden, on account of the insects which they destroy. That is true as far as it goes; but, unfortunately, the chick goes farther, and with a little age, becomes a destructive terror, beside which insects are nowhere! The amount of stuff which even a small flock of chickens will destroy by mere daily trampling, if they do not scratch at all, is almost incredible. There is always friction, too, concerning the grain fields; and whatever the woman may think about it, on the general farm, scarcely a man lives who will not insist that the chicks and fowls destroy more than they eat, and eat more than they are worth. Suppose, instead of confinement or freedom, we say confinement *with* freedom. A large enclosure, a grassy orchard, if possible, where fowls can range to a distance which satisfies them, may be enclosed, yet the birds will still have virtual freedom. One portion of this may be for the fowls, another for the youngchicks. The greatest mistake which a novice friend of my own, has made—a man who has been extremely careful to follow the best instruction—was in placing his young chicks in the same enclosure with his fowls, and that in a limited space. I went to take him an order for some of his chicks, (which were from very fine, fancy stock) and found that they had been so stunted in rearing as to be virtually ruined, so that I did not even hint that I had an order for him.

If questions of space call for serious consideration on the farm, what is the case where room is limited? Simply that difficulties increase, not only in inverse ratio to the space, but in very much greater ratio. It is much more difficult to keep clean, more difficult to

provide the absolutely necessary room, more difficult to furnish the green food equally necessary. Indeed, we might well say that it is impossible to furnish growing green food in very close confinement, except for the youngest stock. By having a system of double yards, or a few movable netting hurdles, a certain amount of green food can be had growing, but it is an endless, and apparently thankless task to provide it; for the fowls swarm upon it like locusts, and leave a bare expanse in about as short a time. . Once more, let me say that it is not wise to try to raise large flocks in small spaces. Even if there be a fair measure of success for two or three years, while the ground is comparatively fresh, disease and disaster are almost sure to fall upon the flocks later. Confinement is so absolutely distasteful to almost all fowls that they will fret even at a bit of wire netting above them, though they could have the widest range under it. Even if they have seemed comfortable and happy in confinement, their almost wild glee, their jumping and flirting and stretching upon regaining liberty show clearly that they have felt the confinement, and that it must tell on them.

Not a few, nowadays, are urging that fowls often do better—that is, that they lay more eggs—with moderate range than with free range. Confinement is a necessity, too, for the breeding stock during the breeding season, unless one be quite distant from neighbors, keeping but one breed. I have known fowls to mix and migrate from one farm to another, when the buildings were nearly a quarter of a mile apart. Unless the poultry have things all their own way, each breed on a place by itself, and without limitations as to range, a stock of wire netting becomes one of the most treas-

ured necessities of the poultry keeper. Wire netting is now almost as cheap as laths, while it is often much more convenient. Wherever there are marauders, like cats or hawks, covered runs of netting for the tiny chicks render them absolutely safe. Fifty feet of wire net, inch meshed, and two feet wide, at roll prices, will cost one dollar. Nineteen feet of two-inch mesh net, six feet wide, to be used overhead will cost about forty-seven cents, at roll prices. This will make a run sufficient for forty or fifty chicks for the first three weeks, at least, or for two smaller flocks. It may be asked, "Why not use the one-foot width for the sides? or the three-inch mesh for the cover, because it is cheaper?" The answer is—Because the chicks are less happy with the cover so low and close, until they have freed themselves by jumping through the meshes, which they will surely learn to do in a week or ten days' time.

The woman does not live who can help falling in love with her wire netting, just as she loves her other "things," that is, utensils, conveniences, etc. But I am afraid the majority of women, being short of pocket money and capital till they get well started in the poultry business, will buy only a few feet at a time. Let me urge you to buy by the roll, or half roll, if you possibly can; it comes so much cheaper in the long run; especially if "the long run" is made with the wire netting.

The woman who buys wire netting needs to take her best stock of judgment with her when she goes to the store. Inch mesh makes a beautiful and desirable netting, but it costs more than twice as much as the two-inch mesh, and nearly three times as much as the ordinary style of three-inch mesh. The kind oftenest used, and usually most satisfactory, is that with two-

inch mesh, and dealers who offer you specially cheap prices may foist upon you a wire lighter than that which is considered standard. Such netting gets limp and out of shape almost at once, and the same is true of that with a very large mesh. If good judgment is necessary in buying wire netting, a full stock of good temper is more than equally necessary in putting it up. For such innocent stuff it is far more than usually exasperating. And if, being a woman, it becomes necessary for you to put up that netting with your own fair hands, let me warn you to expect that those same hands will be less fair when you get through. Also, that any man you may ask, who has been there, will tell you that it is impossible for one person, working alone, to put up wire netting. While not impossible, it is certainly exasperating to the highest degree, and you would better secure help, if there is any to be had within several miles.

A six-inch board at the bottom of the yard, is, by men, considered a necessity; but let me tell you a womanly secret—you can make “hair-pins” by doubling heavy wire, using, say twenty-inch lengths, which will pin the netting to the ground very satisfactorily. I know this, for I invented them and have used them for several years. This is much cheaper than to use the boards at the bottom; it also takes less work, and if you do not need the extra width which the boards give, you can get along without them, though, with a large system of yards, and capital enough, I would have them. The boards at the top are a snare, for they furnish just the place an outgoing fowl wants to light upon. Beware of trying to cut down expenses by setting the posts too far apart. The netting does not stretch so easily as it would ap-



LIGHT BRAHMA MALE.



pear to do, while, with the depravity of inanimate things, it sags with peculiar ease and delight. In building a six-foot fence, some have thought it better, and that a firmer fence was to be secured by using two three-foot widths, giving the two extra bound edges at the center. This is not the fact, unless the widths are lapped, in which case you lose some height in the fence. The two narrow rolls will cost more than the wide one, and without lapping you will find it virtually impossible to stretch them so as to make a fowl-tight fence, without wiring the edges together; and when all is done, it will not look so well as the fence made from the wider net. The wide net is cheaper, but it is more difficult to handle, and probably it is this fact which makes people lean to the belief that the two narrow widths would be better, until they have tried it.

Stretching the net properly is one of the tricks of the trade, which you will do well to learn early. It is a common belief that a woman can handle the whole world, animate and inanimate, with the aid of a broom stick. Wire netting is no exception to the general rule, and you will find the broom handle of greatest aid. By thrusting it through a mesh, and using the post as a sort of fulcrum to brace against, you can draw the netting into very good shape with comparatively small expenditure of strength. Small mesh requires a smaller stick, but it must be strong, and not too small. Altogether, the exercise with these sticks, and the satisfaction gained will be about equal to that inspired by the "glame sticks" of the most advanced Ralstonite.

A few hurdles, or panels, to use for temporary yarding, are of the greatest convenience. If you prefer to

have the netting in shape to roll for storage, these can be gotten up by stapling the netting to a series of sharpened stakes, two inches by one inch, and perhaps ten inches longer than the netting is wide. They need to be rather close together, as they give the only stability which your fencing will have; but when they are driven into the ground firmly, you will have a fairly good and satisfactory fence for all temporary uses; and wherever your fencing does not fit closely to the ground at any time, use the woman's privilege of putting in a "hair pin."



## THE FIRST POULTRY-HOUSE.

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**W**HATEVER make-shifts have been made to answer, and whatever plan you have followed, to get along during the first hatching season, the maturing flocks, as Autumn approaches, demand a suitable place of shelter. If you will keep poultry, you must have a house for it. What will you ask of this house? Three things, at least, you will, or should demand of such a building; and instead of weakening in these demands, through pressure of circumstances, you must so bend circumstances that these demands shall be met. For all ordinary work, I insist that the house shall be cheap. But the almost universal method is to ask first that it be cheap, and afterward that it shall be convenient and serve its purpose well. I would reverse this order, and insist first, that it shall well serve the purpose for which it was built; that it shall also be convenient, and afterward that it shall be cheap.

Cheapness, as commonly understood, is not always economy. That which saves a few dollars at the outset, at the cost of spending a half hour in labor daily, is absolute extravagance. This is especially the case where the labor has to be hired. The outgo of strength caused by inconveniences is also an expensive thing; for if the care of poultry is to be added to the regular work of an already burdened woman, it may mean

doctor's bills in the near future, in spite of the often asserted—yes, and the real heathfulness of poultry keeping. I am afraid that many women have become so accustomed to inconveniences indoors, that they will feel it almost necessary to have things inconvenient outside. I believe it is possible to do almost any work in about one-third of the average time taken, if a sharp eye is had to making things perfectly convenient to do such work.

Now, how shall one build? While there are still a few who believe in the high house, with plenty of breathing space, the almost universal leaning, now, is toward a long, low house, preferably with a scratching-shed. A long and narrow house always costs more to enclose than a square one, other things being equal. But a square house, with small pens, seems to necessitate that some of the pens shall be upon the side that is away from the best sunshine, and chiefly for this reason the long, low house seems to be continually growing in popular favor. Houses built on the scratching-shed plan may follow this popular idea by alternating the roosting-rooms and scratching-sheds. Or, if the builder is opposed to having many fowls under one roof, double houses may be built, having the two roosting-rooms at the ends, the two scratching-sheds together in the center, or *vice versa*. The latter plan makes the roosting-rooms a little warmer, but the expense of building a little greater. There is a plan of building, not much in use, which has, it seems to me, many points in its favor. It calls for a building wide enough for two rows of pens, and a wide alley through the center. This central alley is made wide to partially serve the purpose of storage-room and work-shop, and the extra sunshine needed

in what may be called the back row of pens, is gained by the use of a modification of the "Monitor top" building. In the rear row the pens extend higher than the front ones, at the ridge, and at this point windows are inserted to throw light and sunshine into the rear pens.

Poultry-house partitions are a cause of great vexation of spirit to the average owner. Not long ago I saw them in one house—a very large one—made solidly of lath; that is, without the usual spacings between the lath. This was considered a cheap form of partition, and a good one, because it cut off chances for draughts. The partition most favored consists of solid, light boarding for two or three feet at the bottom, with lath, or wire netting above. One shrewd poultry keeper has evolved a novel plan for doing away with the boards, which have been considered necessary in order to hinder the fighting of neighboring, yet rival cocks. This new plan was, merely to use a double partition of netting at the bottom, the space between the two widths of netting being perhaps two inches. Through this double meshing, the birds can not injure each other; while it has some advantages, from the fact that the fowls being able to see one another are all acquainted, and may thus be changed when necessary from one pen to another without fear of their "scrapping," and inflicting mutual injuries. The two widths of meshing, at roll prices, are scarcely more expensive than boarding; possibly not so costly, in some localities.

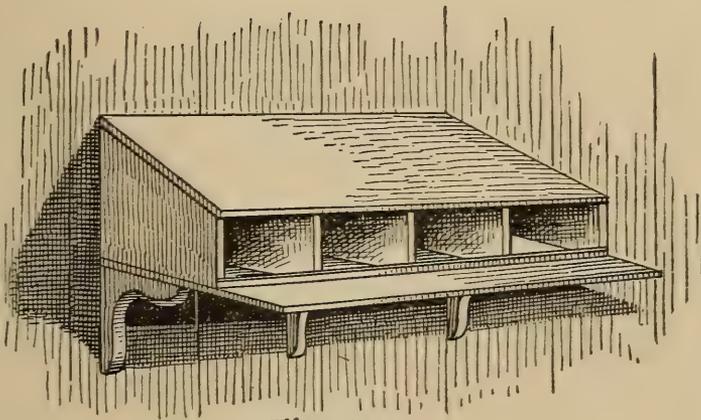
Ventilation is a question on which, perhaps, there is more differing than upon any other one point connected with practical poultry work. On the one hand it is argued, by successful experts, that in cold climates

sufficient air will get into any building for ventilation, no matter how tightly it has been constructed. How air can enter a building from which man has made his utmost effort to exclude it, they do not explain. It is my impression that they mistake cold for "air;" and the morning visit to one of these low and close-shut houses, unless the owner is suffering from a modified form of roup, known to human beings as "cold in the head," so that she can not detect odors at all, will disclose the fact that such "air" as there is, is most certainly very foul air, heavy with foul (fowl) exhalations.

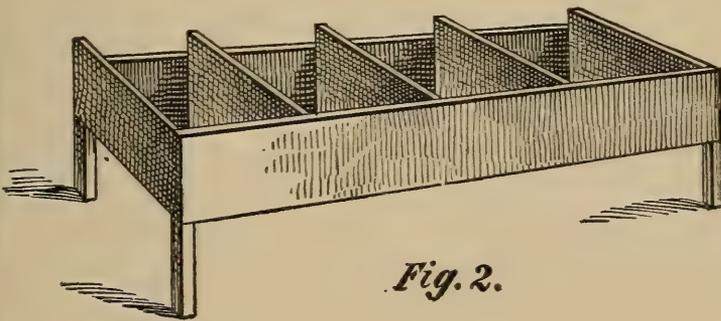
Those who argue for ventilation assert that fresh air—air that is *really* fresh—is the most urgent need of the fowl kind; and they are right, though they may not know that the reason for this is that fowls breathe a great deal more air during a given period than do human beings. And, indeed, their opponents do not disagree with them as to the necessity of fresh air, but as to how much from outside is necessary to constitute it fresh enough. A physician standing high in his profession, and holding State offices in addition, told me that it was not floor space the fowls needed, as is the common idea, so much as breathing space and fresh air. He stated that he had kept 600 fowls through an entire Winter, in a building having scarcely more than floor space enough to give them standing room, and in perfect health, simply by using a thorough and perfect system of ventilation. The principle is, to admit plenty of air at a point near the bottom of the house, and give it egress above; but in such a way that there shall be no draught, but constant diffusion and motion of the confined air. It is partly because the subject of ventilation is such a diffi-

cult one, that the scratching-shed has been such a help to poultry raisers; for here they are certain of fresh air, at least half the time.

Not long ago, an addition to the poultry literature of the day described what was supposed to be a "woman's poultry-house." The idea underlying it was, that a woman's long skirts unfitted her to enter a



*Fig. 1.*



*Fig. 2.*

FIG. 1.—NESTS. FIG. 2.—ROOSTING LADDER.

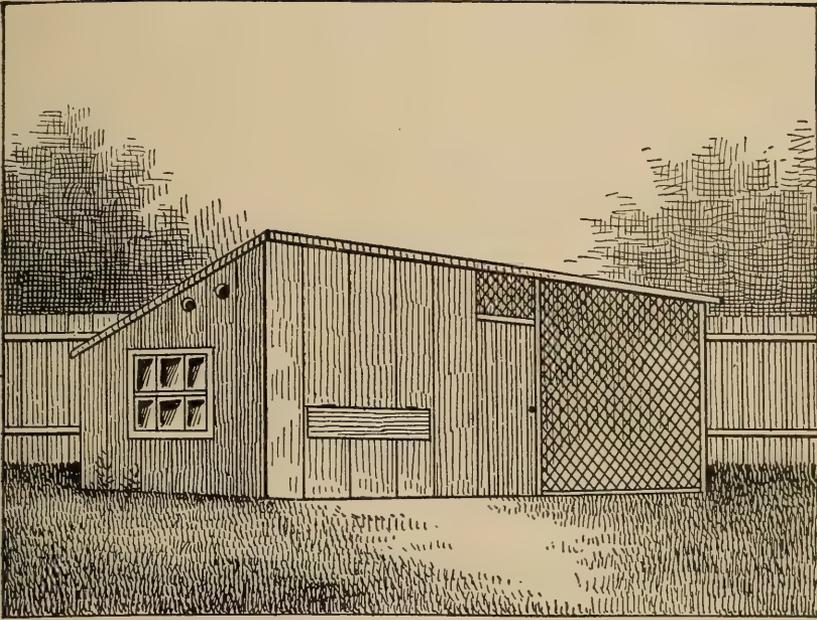
building where there was necessarily more or less filth, and the building described was to be made so that she should not need to enter it. It was small enough to be cleaned from the outside through a drop door, the floor being raised, not to necessitate too much back-breaking work. Possibly this might do for very small work with a very few fowls; but the poultry mistress who did not enter the houses could hardly have sufficient grasp of her business to insure success. It is absolutely necessary to have acquaintance with one's fowls, and to know what is going on among them.

Perhaps the best way to adapt a poultry-house to a woman's needs is to make certain of absolute simplicity and convenience in its inside fittings. The necessities are roosts and their platforms, nest-boxes, drinking-vessels and feed-troughs, grit and shell containers, and dust-baths. Whatever is on the floor soon comes to be a nuisance, for it is disturbed and fouled by the birds, besides being in the way. Nest-boxes are better at a little height than if placed upon the floor. A feed trough, which the fowls can not overturn, or roost upon, or make foul in any other way, may consist of a single board, with a furring of lath about the edge. This may be hinged to the side of the building, about eight inches from the floor. Eight inches above it may be stapled a wire frame, a little wider than the board, and made like one leaf of a wire gridiron without the handle. When the hens are feeding, the board is at right angles to the wall, the wire frame dropped at an angle over it. After the fowls have finished, both trough and frame are raised and hooked to the wall. Such a trough needs very little cleaning, for the average hen does this part of the work very well! A somewhat similar frame and shelf against the wall may



PAIR SILVER SPANGLED HAMBURGS.





THE POULTRY-HOUSE ONE WOMAN FINDS GOOD, WITH SCRATCHING-SHED ATTACHED.

hold the drinking-vessels; though it is a matter of economy of time, where there is a series of houses, to manage so that one large vessel serves for two pens. These wall shelves, as described, may need a little support below, which may be furnished by attached legs, or by a small box under them, if this does not disturb the owner.

A modified ladder is the best form of roost with which I am familiar. I do not mean the old style of ladder roost, one portion of which is higher than the other, but something like a ladder laid horizontally. On this the hens can roost compactly, yet without crowding, especially if the "rounds", which are flat, are a little wider than the sides of the ladder, rising above the sides, and seeming to divide them into spaces. If the roosting platform, when in position, is

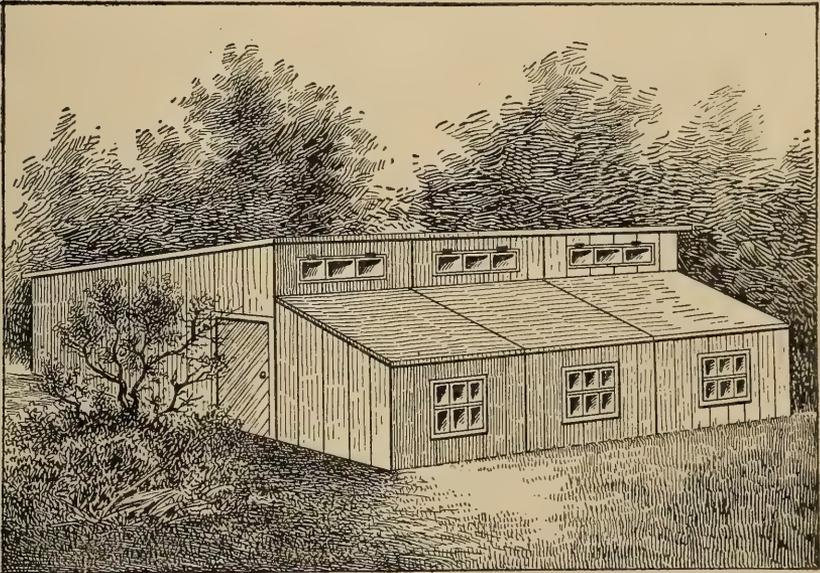
set so that it is slightly sloping toward the front, it is far more easily cleaned. Both the roosting frame and its platform may be arranged so as to be put up out of the way during the day. With this last arrangement, however, the roosting platforms do not serve as a hiding place for the nest-boxes; but an advantage is gained in having these boxes farther from the lice, so liable to infest a roost. A series of boxes may be placed on a level against the side of the house, with sufficient space to allow the hens to enter at the back. A single drop-door at the front gives the care-taker easy access to all the eggs.

The dust-bath box is the one thing that occupies the floor, and in the sunniest spot. It should be moderately large and deep, so that the hens can really wallow in it; and tobacco, or some disinfectant may be mixed with the dust to make it more effective. With these fittings, it takes but little time to care for the houses, a large proportion of the vexations of poultry keeping are avoided, cleanliness is insured, and all the work made comparatively easy.

A style of house which I know to be giving good results in one woman's hands embodies the favorite, modern scratching-shed idea. The figures show several views of it. The roosting-room is smaller than the scratching-shed, and the door serves to close the shed during the day, while, by swinging inward, it closes the roosting-room at night. At night, also, a curtain drops in front of the roosts, and another protects the shed from incoming storm. The large ventilator at the front is placed above the height of the fowls' heads when they are on the floor, and is covered, on the inside, by a drop-board twice as wide as and eighteen inches longer than the opening. Opened and

hooked at any angle except a right angle, this board deflects all air more or less strongly toward the roof, whence it diffuses. The roosting-room has a board floor.

A modified form of the scratching-shed idea is shown in another figure. The peaked-roof structure stands gable end to the sun, which end is partly boarded, partly covered with netting. This end forms the "shed" which is partitioned off from the rear of the



A HOUSE WHICH GIVES GOOD RESULTS.

house, the latter being the roosting-room. A door between stands wide during the day, to be closed at the owner's option at night. The house is floored throughout, loosely ceiled overhead, and filled in with straw, which those who use say keeps the house both dry and warm. It does good work.

## FEEDING FOR EGGS.

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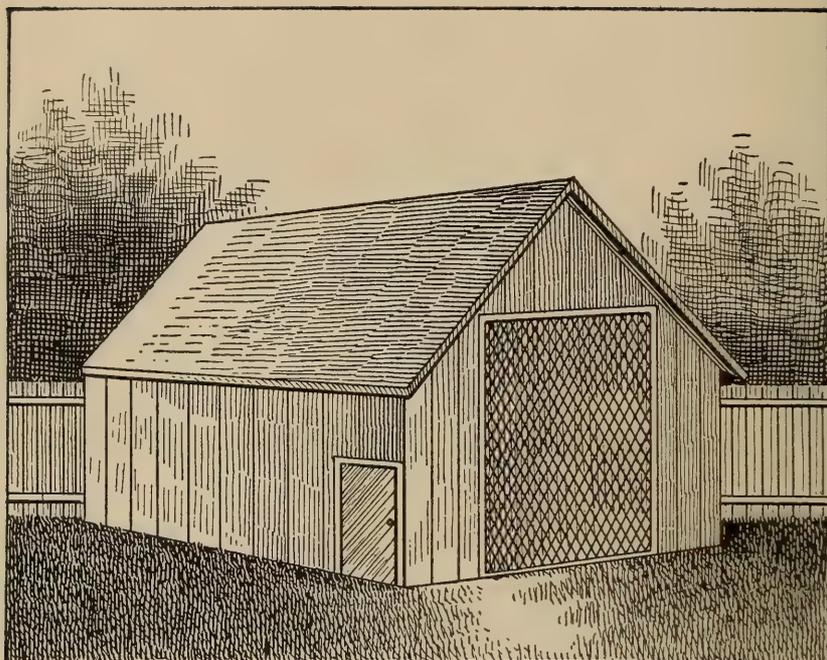
**T**HAT anybody can feed a hen, may be true; but that anybody can feed her so as to make her produce a maximum number of eggs at a minimum expense, is far from being true. To do this needs study and common sense. These, combined, will ensure what is known as scientific feeding, that is, common sense feeding for best results. In order to be led to do a thing properly, it is necessary for most minds to know why it is to be done as directed.

In turning over the pages of the agricultural papers, in search of the corner known as the Woman's Department, your eye has been caught by such expressions as "Wide ration", "Narrow ration", "Feeding formula", "Percentage of waste matter", etc., and you have thought them very dry stuff. Politics and percentage are utterly at variance with woman's mind, say the men; but the woman who is to raise poultry at a profit must learn to make percentage a part of her daily life. The percentage of loss or of profit, the percentage of cheap food to dear food in the rations, the percentage of fat to lean, which her birds lay on at different periods, the percentage of hustling layers to lazy dead-heads in her flock, will be matters of vital importance to her; matters which will determine whether her purse is to bulge out with fatness, or to be as flat as though a whole freight train had run over it.

As a bit of encouragement, let me say at once that the woman in the poultry business has an inherent advantage when it comes to the question of feeding. To provide food for somebody, or something, is her natural business. A business, too, in which she has practiced all her life. If she has studied the matter of feeding her family for best results (as no woman can be excused for not doing) the matter of wide and narrow rations need be but as a b c to her. That which makes it easy from the first, is the fact that the feeding ration for eggs is very nearly the same in proportion as the food which she must set before her family for best nutritive results. Wheat is the one grain that is nearly perfect, and it contains the muscle makers, phosphates, etc., in about one-fourth the quantity of its fat formers. The term "Wide ration", as commonly used, has reference merely to the proportion of muscle makers and fat formers in any ration under consideration. If there is eight times as much fat-forming material as of muscle-making material, the ration is wide. If there is four times as much of the fat formers as of the muscle makers, the ration is narrow. The division line must, of course, come somewhere between, and any smaller proportion than that of one to six may, perhaps, come under the term "Narrow ration."

The proportions of these two important elements in whole corn runs somewhere about one to seven. Hens are more fond of whole corn, as a rule, than of any other available food. Why then shall we not feed them very largely of this and save ourselves the brain wearing, and the work necessary to formulate and feed scientific rations?

Because we must never forget that the hen is to be a



A MODIFIED SCRATCHING-SHED HOUSE.

money maker for us. We shall require of her three things. Perhaps it will be fair to say that she will require of us three things; that we furnish her food enough for life, that is to say, simply for running around; also food for growth, up to maturity; also food for egg making, as soon as she is sufficiently matured. If we do not provide food for eggs, that is, egg-producing food, the hen will not, can not return us eggs for the food which we have given her. A mere running-around ration may be wide; and corn, which produces the fat which running around uses up, may answer the requirements very well.

Food for growth requires to be rich in muscle makers. And as eggs are also rich in these same elements, which are technically known as proteins or

proteids, food for growth and food for eggs will need to be reasonably alike. Let us fix firmly in our minds the fact that the only source of proteins, (muscle-makers—egg-makers) in the body, or its products, is proteins in the food. Then we shall not commit the blunder of expecting the hen to return to us that for which she has never received the material.

It is worth infinitely more to a woman—leaving the men out of the question—to learn for herself the principles of formulating rations than merely to press into use rations given by others, no matter how good these may be. One strong reason for this lies in the fact that a large percentage of the profit will depend upon using the foods easily available which are cheapest, that is, which are lowest in price, in proportion to the amount of protein they contain. This is the real test of cheapness in an egg-producing food. If you happen to live on the sea shore, where certain kinds of fresh clams, or fish, can be had by the bushel for nothing, your greatest expense for food is at once nullified, and every cent of this is to be added to your profit, because in any case you must feed to sustain life.

The proportion of proteins to fat producers is not, however, the sole thing to be considered. Cheapness has been referred to, and we must consider, also, palatability and digestibility. For instance, beans are very unpalatable to hens; hence, although they are nearly one-fourth muscle makers, they are available only in degree, because the hens will not eat them, except under compulsion, or through stratagem. The beans must either be cooked, or else ground and used in such quantity that more pleasing food will cover their flavor; and thus, they may be made a part of the ration. It is fortunate that we do not need to use,

or are prohibited from using a very large quantity of a food so concentrated as beans.

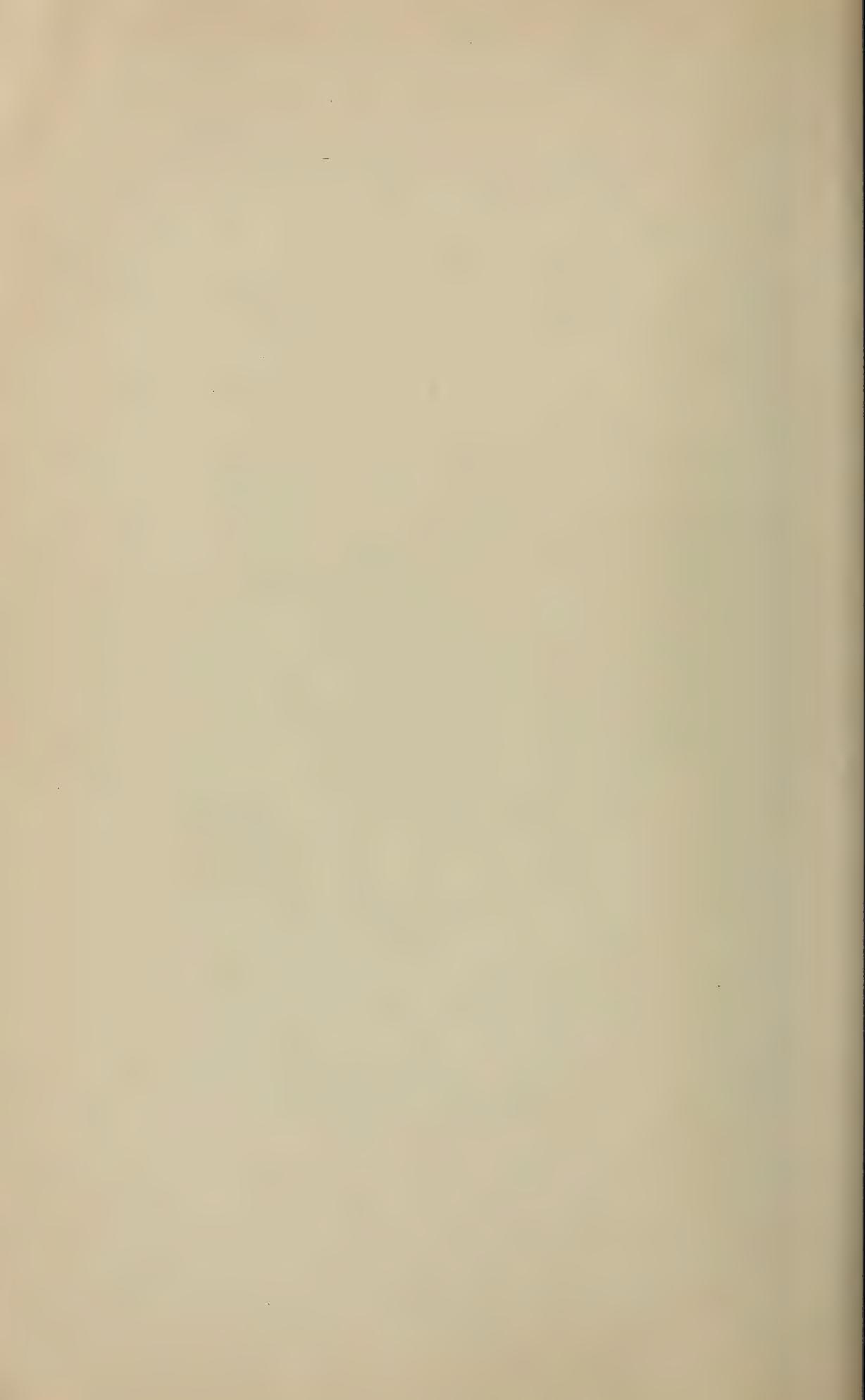
Our chief sources of protein, easy available, are wheat and its products, oats, fish, beans and peas, milk and curd, and the various beef scraps and animal meals, besides clover hay and grasses. Of these, clover, oats, and wheat, contain less than the others. It is because curd is about one-fifth protein, that it forms so good a food for domestic poultry.

There are two other ideas which I desire to get very firmly fixed in your mind, and the words which may represent them are "Balance", and "Digestive coefficient". "Balance" refers partly to the proper proportion of muscle makers and fat formers before noticed, and also to a proper proportion of concentrated food, to food containing waste. Water is in one sense waste, and most foods contain this. But there must, also, be bulky waste, in order that the digestive functions may go on properly. As a rough rule, it may be said that grains and meats are concentrated, vegetables and fodders are bulky.

The "Digestive co-efficient" may sound like a hard thing to tackle. But the woman who is properly grounded in percentage will find it simple enough. Nearly all foods have a certain proportion of indigestible substance. The digestible co-efficient is nothing more nor less than the percentage of digestibility. For instance, suppose that a food is twenty per cent protein, and the digestive co-efficient of the proteins in that food is eighty per cent. This means that eighty per cent of the twenty per cent of proteins is digestible. That is, sixteen per cent of the whole amount of the food under consideration is digestible protein. It is found simply by multiplying the whole amount of pro-



BLACK MINORCA MALE.



tein by the digestive co-efficient. The composition of foods, and the various digestive co-efficients are found in tables, based on experiments already made. Government hand-books supply these. If it happens that no tables of co-efficients are at hand, one may subtract about ten per cent from the grains as indigestible, this being a rough average.

Let us suppose that corn has been almost the sole food given by some one who wonders, with some sense of irritation, why her hens have not laid at all. Tables vary somewhat (as does corn, also) and the novice may be puzzled thereby. The chief cause, perhaps, lies in the fact that some tables are reckoned on stuffs in ordinary condition, or "air-dry", as it is called; others are calculated on the composition after the water has been extracted; that is, on "water free" substances. Corn has a ratio of from one to seven, or eight. This is far too wide for best results, when feeding for eggs. A ratio of one to four, or even narrower, is contended to be the best when all points are considered. The egg itself has a ratio, shell and all, of nearly one to two. But, considering that only a part of the food eaten goes to form the egg, a food with this ratio would not answer all the requirements.

To bring the corn ration down to one to four, we might add cut clover, so popular as an egg food. But, to one pound of corn, we would need five or six pounds of clover, and this would be both unpalatable, and too bulky. We must look for something richer in protein and more concentrated. Here is where the meat-meals come in. If we took our pound of corn, another pound of the cut clover, and one pound of a meat-meal high in protein, we could bring the ratio at once below the

desired one to four. This, too, is injudicious, because one-third meat-meal is too heavy a ration.

We must never forget that we are to use food stuffs that, while giving the required proportions and palatability, are the cheapest available to us. We must, then, make up our own rations. A young chemist near Boston, F. L. Marion by name, figured out a ration from stuffs cheapest to him, and which gave excellent results. Circumstances may have led him to change it before this is written, even, but it may do as a sample. It is for 220 hens. Cut clover,  $2\frac{1}{2}$  pounds; meat-meal, 8 pounds; Chicago Gluten Meal, 4 pounds; corn meal,  $3\frac{3}{4}$  pounds. This was for the mash. The night feed was: Wheat, 6 pounds; corn, 1 pound; barley,  $1\frac{3}{4}$  pounds; buckwheat,  $1\frac{3}{4}$  pounds. I think the ratio of the mash is about one to two, or a little less; that of the grain feed, one to seven; the average, nearly one to four, calculated air-dry. This is rather heavy feeding of meat, when given every day. Personally, I should not venture to feed so heavily, with my present experience; but it brings the eggs.

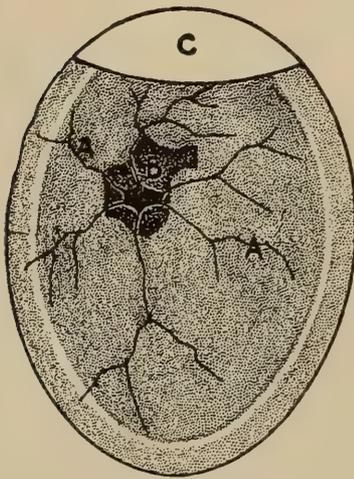
Linseed meal is another source of much protein, and often takes the place of meat. A German laying ration, calculated for 100 hens, looks to cheapness, and leaves out both meat and linseed, getting its protein from malt sprouts and bran. It is composed of: Malt sprouts, 5 pounds; bran, 10 pounds; potatoes, 10 pounds. Simple enough, easy to get, and correct in ratio. I do not know the source of this and can not give due credit, but it is vouched for by a State Experiment Station.

## THE EMBRYO CHICK AT TESTING TIME.

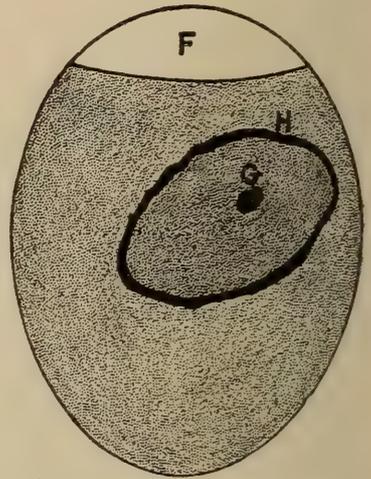
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**T**HE practice of testing eggs is gaining very rapidly in this country. But there are still many to whom it is unknown, or who look upon it as an intricate matter, quite beyond them. As a matter of fact, however, with a simple pasteboard tube, and a study of eggs under incubation, any one can learn to test them, even without instruction. But unquestionably, a little help from those who have gone before smoothes the way, and hastens the worker's acquisition of the desired knowledge and experience. Concerning the testing tube, two points are essential: It must be opaque, and it must be of such size at the end farthest from the eye that the egg, laid sidewise against the opening, completely shuts out the light. In making such a tube, by rolling paper over a cylinder, it is best to fit the opening with an average-sized egg before the tube dries. The learner should begin with white-shelled eggs, if possible. The deep brown-shelled ones are much more difficult to test, and the work must be done at a later stage. With white-shelled eggs, after a little experience, one can tell pretty accurately on the fifth day, although the seventh or eighth shows the changes that have gone on in the egg much more distinctly.

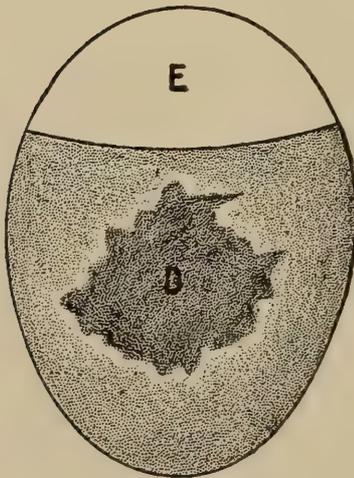
I know one worker who often tests eggs by holding them up to a knot-hole in one of the barn boards, when the sun is striking full upon it. One needs no better way, but as knot-holes are not always handy, a lamp is commonly used. If it has a reflector, so much the better. The stronger the light, the earlier and the more



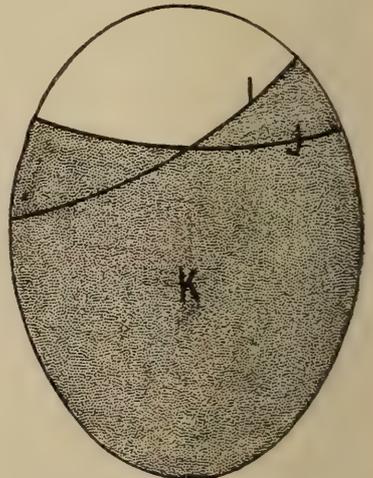
A STRONG FERTILE EGG.



A WEAK OR IMPERFECTLY FERTILIZED EGG.



A STALE EGG.



THE AIR SPACE ON THE 16TH DAY.

easily can the work be done. One may test in fair light on an ordinary sunny day without a lamp, making sure only that the tube with its egg is between the eye and the light, the latter striking squarely on the egg. Two things will greatly aid the learner in his study; one of these is to compare the eggs to be tested with a perfectly fresh egg whenever there is any doubt. The other is, to break out incubated eggs, at various stages, to find out how they look inside, noticing the position of the chick in the egg, etc. For instance, in the very early stages, the part which is the head is downward; later, the chick turns on its side, and lies crosswise of the egg, through a comparatively long period; while, toward the last, it again turns, so that its head is toward the broad end of the egg.

On breaking out an egg about five days incubated, it will be noticed that the chick, so far as it is developed, spreads over one side of the yolk, chiefly a network of veins. If we are looking at this chick while within the shell, the position in which we hold the egg will make considerable difference as to our apprehension of its actual state. The general rule to be laid down is, that an infertile egg is absolutely clear, while a fertile one is opaque. But this opacity varies greatly, both as to degree, and as to the portion of the egg which it covers. Looking at the egg five days incubated, the learner may think it clear, and lay it aside with a sigh. A second look, however, at the other side of the egg might show it quite decidedly clouded. Thus, it is impossible to be sure that an egg at this stage is infertile without looking at it from all sides. The reason for this is quickly seen when we remember that in the broken egg, the developing chick, at this stage, covered but one side of the yolk. But of this much one may

always be certain: Whenever the egg shows any change from a perfectly clear condition, it has been fertile, and the fertile germ has begun to develop. It may have died, but life has certainly been there.

There must be in connection with this period quite a little study of fresh eggs of the various shades of color; otherwise, the difference made by the brown shell may be taken for the opacity caused by life within. The fresh egg, however, or the infertile egg early in the period of incubation, is exactly alike throughout. Even the air-space at the large end does not show. Very soon after the chick begins to develop this air-space, then always clearer than the rest of the egg, can be detected by a sharp eye. It shows more and more plainly as the embryo solidifies and the opacity becomes more dense.

When it comes to pricing fancy stock, it is essential to know the Standard. The woman who breeds fancy stock, in order to work intelligently, must either hire a judge to score her birds each year, or else must learn to be a poultry "judge" herself, so far as the breeds she raises are concerned. The cheapest way, perhaps, is to engage a good judge to spend some time in her yards, both scoring birds, and teaching her how to score. One can not be an independent breeder without this knowledge. "Points" add to price every time; and when almost at the top, even half-points add dollars to the selling value of the specimen. The Standard says that birds must score ninety points in order to receive a first prize; eighty-five points to receive any prize at all. There are a dozen or more sections in the common method of scoring, and a bird that happens to be defective one point in each of these sections will scarcely be able to much more than reach the eighty-

five points necessary to be entitled to even the lowest prize. Exhibition value, as a rule, determines selling value.

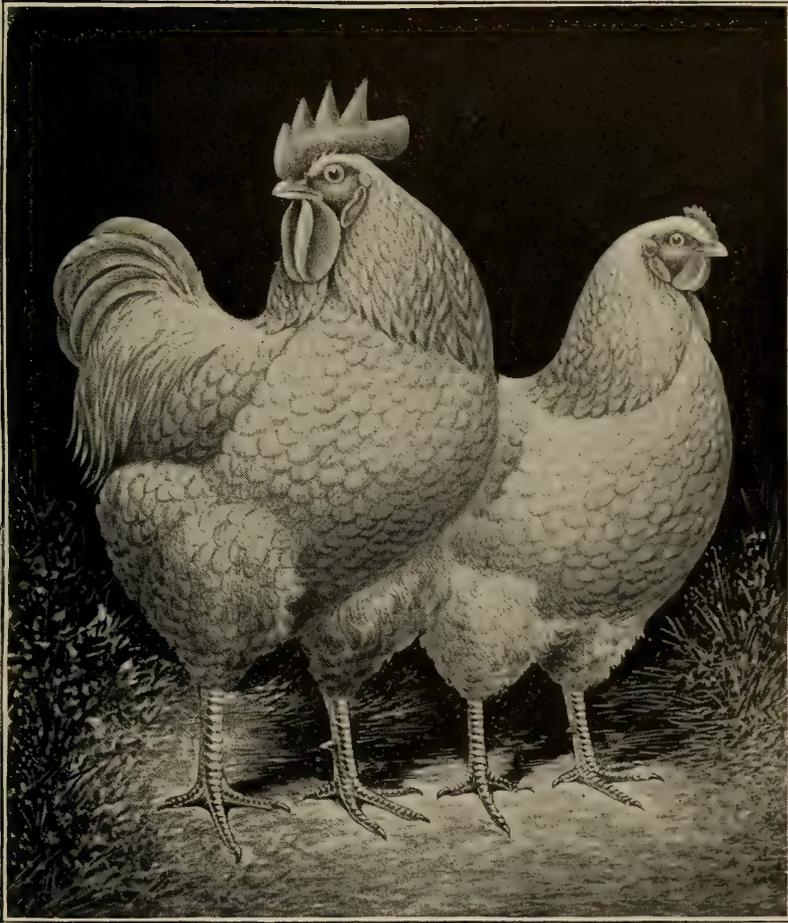
Where competition is hot, the difference in values between the three winners is often covered by a point, or a point and a half. Hence these small variations in value must add largely to the price. The prices for males are always higher than those for females of the same breed, being often nearly double. The Mediterraneans have the lowest values, the medium-sized birds next, the heavy breeds being rated the highest. This is a general reference to the best-known breeds, and is not intended to apply to freaks, nor to varieties not popular. The Plymouth Rock, too, may be considered as a slight exception to the general rule, as the difficulty of breeding it to the choicest barrings renders the price of phenomenal specimens exceptionally high.

Knowing the number of points which a specimen will score, any woman is in a position to put prices upon her birds in a way that shall be satisfactory to all who understand the proper values of fancy fowls. A 91-point Brahma male, may be worth \$5, say, and a 94-point bird \$15; a half point added may shove this value up to \$25; another half may double even this, while phenomenal specimens may be worth \$100 to the buyer who really wants them. Looking at the Mediterraneans, we shall find that 91 and 92-point birds are worth from \$3 to \$5, if males. They may reach \$10 at 94 points, \$15 at 95, and phenomenal cases may push the price up to \$50. The range for determination of value between the lowest and highest prices here given, is only six points, all told, and the value of a specimen may, in certain cases, be doubled by increasing his weight, improving his condition, or properly preparing him for exhibition.

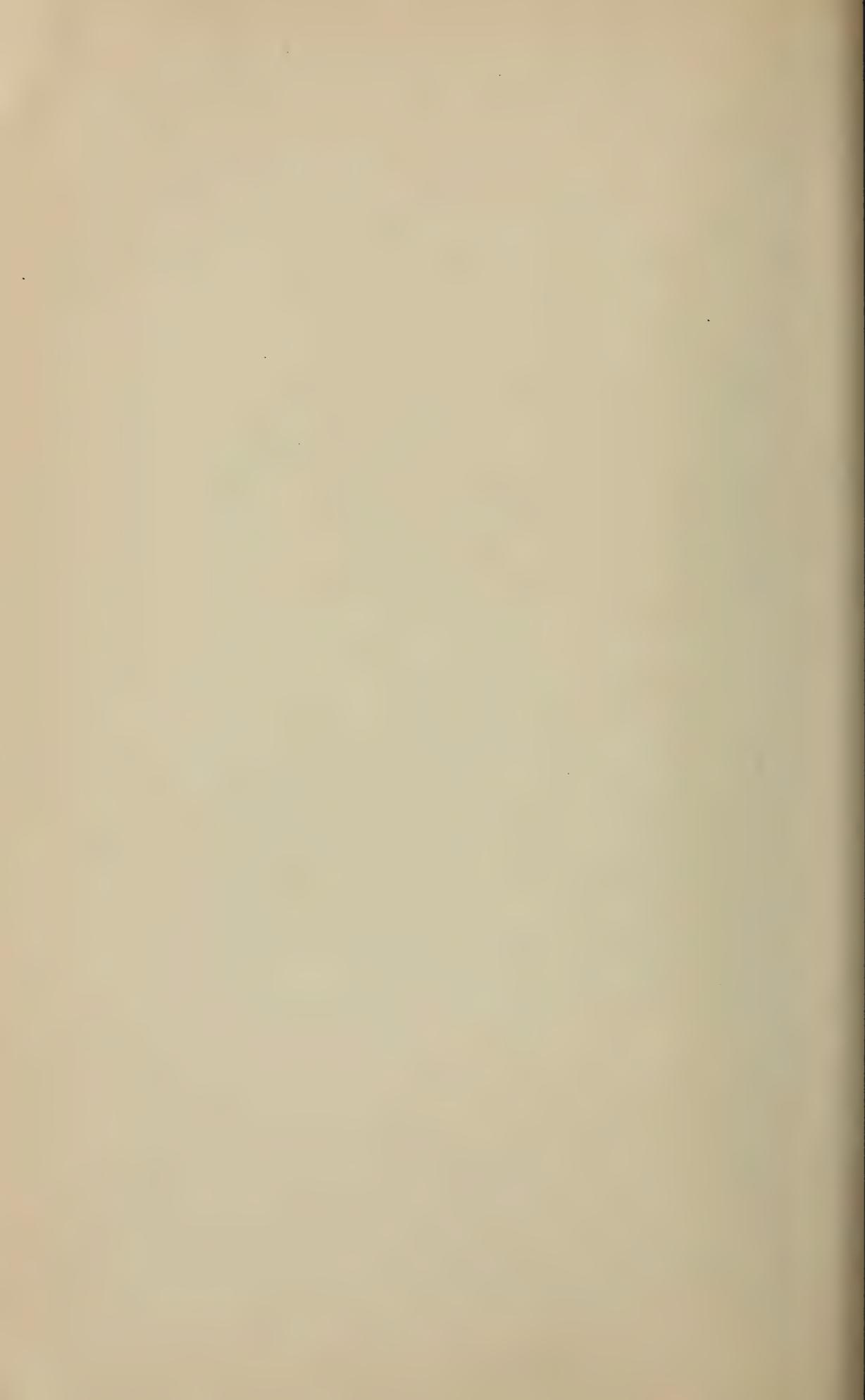
But it must not be forgotten that all these values named depend upon the state of the market. If there are buyers within your reach who are willing to allow standard values to the birds they buy, the figures given are all right. If buyers near you can not conceive of a setting of eggs being worth over fifty cents, or the best of fowls worth more than \$1 or \$1.50, the first-named values are wholly imaginary. That is, if buyers near you have no conception of exhibition values, you can not sell them stock at prices which exhibition values alone make. You must sell at prices within their conception, or seek abroad for buyers who understand exhibition values. And this is usually done by advertising.

Proper preparation of the fowls for exhibition may mean the capture of the best prize, when without this preparation the specimen might have not even a chance for the lowest prize. Certainly no one is so well qualified to do this preparatory work as are women who know all the general details of washing, of feeding, etc. The best condition and the best weight are points more apt to be overlooked by those unused to detail, and hence it may occur that the winning of the prize depends upon these. Snowy plumage in a white fowl, and clear yellow color in the legs make a material difference in the score, and often depend solely on preparation. That is, the specimen may be all right, in reality, yet appear far behind its rival, because of soiled plumage, and dull legs.

In washing fowls for exhibition, three tubs of water are usually used, the first two being warm, the third rather cold. Soap without rosin must be used. The bird to be washed is soaped, lathered, and left in this condition long enough for the soap to cut all gum, or



PAIR BUFF ORPINGTONS.



adhering substance. The washing is to be done by sousing, and by gentle rubbing in the direction of the feathers, thoroughly. The soap is removed from the plumage in the second tub, while in the third, the plumage is blued very slightly, as one would blue clothing in the wash. A little too much bluing will bring the whole operation to naught. A room with sanded floor, or with clean straw, the temperature at 100 degrees, is best for drying the birds. They must have room to shake and flirt, and get the feathers in good fluffy condition.

The legs, as well as the feathers, must receive considerable care. If afflicted with scaly leg, specimens may be doctored some weeks before the exhibition. Crude petroleum will cure the affliction without injuring the color of the legs, as does kerosene. Later, if the legs are soiled, they must be lathered and brushed, and the way a yellow leg may be evolved from a dull one, by this process, and by cleaning the scales, as one would clean one's finger-nails, is a revelation, when seen for the first time. When the men who win are not ashamed to give close attention to these points, it surely behooves the woman who would gain prizes on fancy stock, to bring to bear upon the process of preparation, all her care of detail, her patience, her judgment, and her ingenuity. They will be needed. With feather-legged specimens, different care must be exercised. Much closer watch must be kept upon them constantly, as they are far more easily attacked by scaly leg. Preventive, or curative treatment must be more careful, as drastic treatment with kerosene and the like may remove the feathers, and ruin, at least temporarily, the exhibition value of the bird.

It is the part of wisdom, always, to remove broken plumage, except when nearing show time. If pin-feathers are broken, or crushed to bleeding, the feathers will come in discolored, and spoil the specimen. Such feathers may be removed, and nature will replace them with the true plumage. Womanly ingenuity may devise many methods of manipulating combs, to bring them to perfection, as they are very easily trained. Such work is to be done in the growing season, of course. Near the exhibition time, gloss may be added to such plumage as requires it by wide grass range, and free use of grit, and by feeding some sun-flower seed, and whole corn enough to induce laying on of fat.



## DUCKS AND GEESE.

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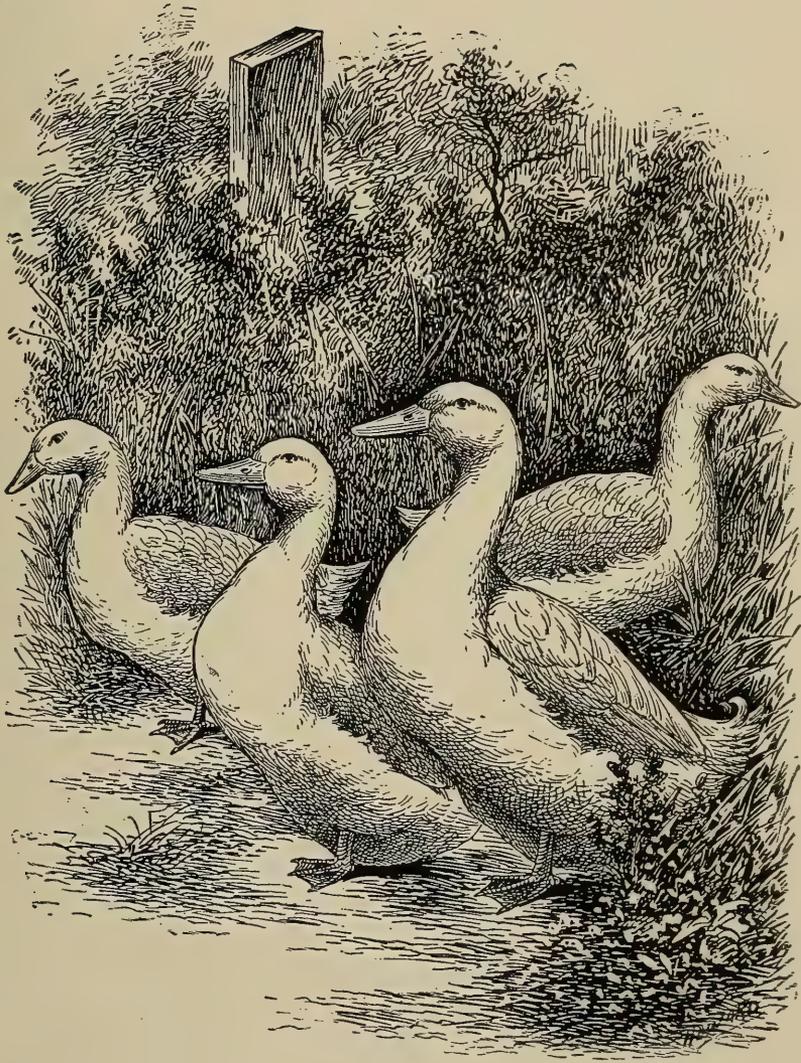
**S**O MUCH has been said about the money in ducks and geese, that the public at large has been led to believe them much more profitable than hens. Possibly it is to the interest of duck breeders on a large scale to foster this belief, and there is no sort of doubt that there is money in ducks. Still one is far safer in figuring on averages, than on highest prices named. Ducks will consume a large amount of cheap feed, making use of vegetables quite largely, instead of grains. But it is also true that a duck will eat about twice as much as a hen during the year. Thus it is quite likely that, except in certain neighborhoods, where feed especially adapted to ducks is very cheap, the feed bill for the ducks will be higher in the end than that for the same number of hens.

Admitting, however, that extra cheapness will balance extra quantity, so that feed bills are about the same, what is the truth as regards the value of the products? It is frequently asserted that ducks will lay equally well with the hens. But if you can get an expert duck raiser to give you the facts in an aside talk, he is quite likely to tell you that he does not get as many eggs per year as the generally claimed average. The earliest eggs are quite sure to be infertile, and useless for hatching purposes, while the Mid-sum-

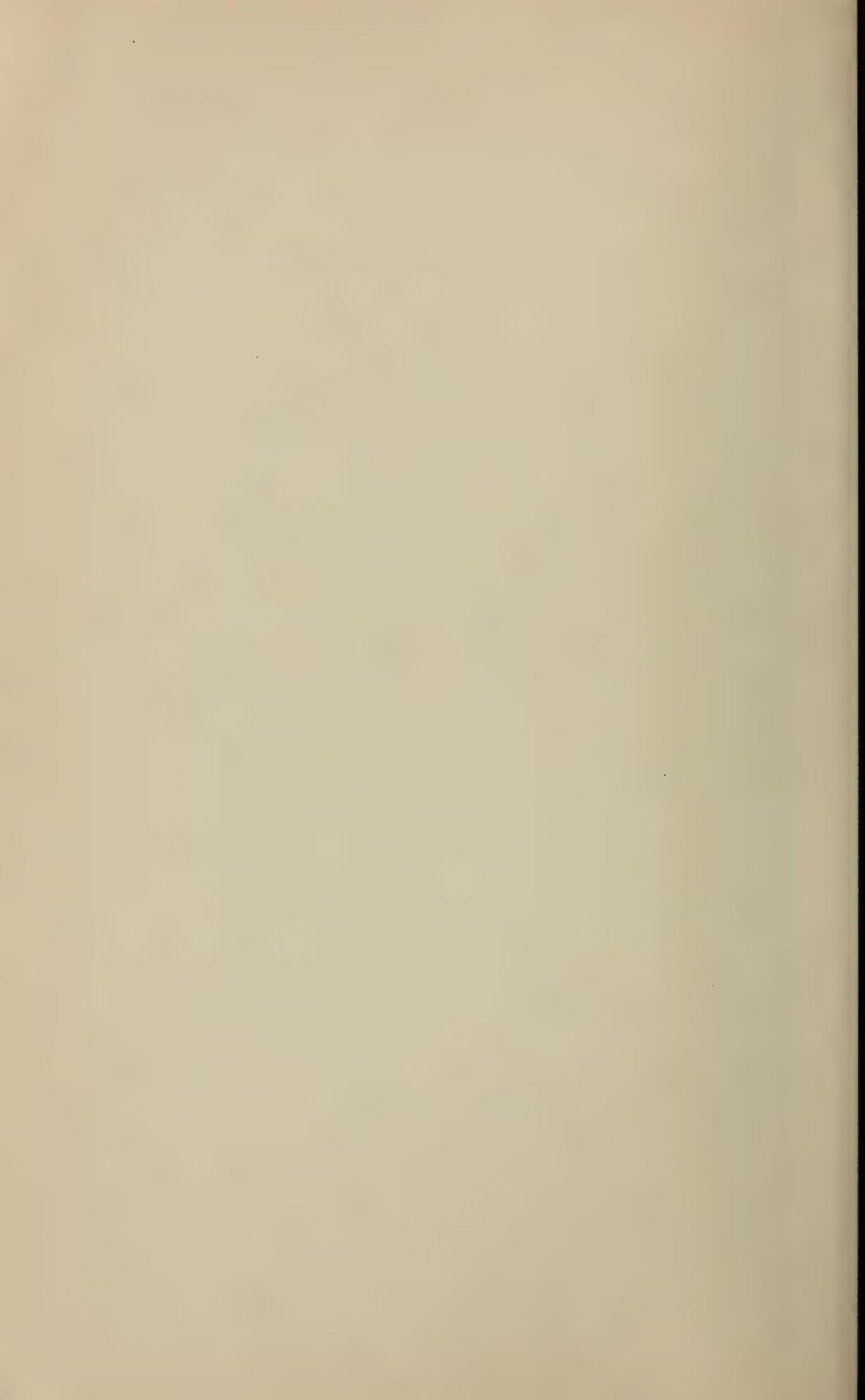
mer ones, also of little value for hatching, have no demand as market eggs. On the other hand, it may be said in favor of ducks, that they may be kept in inexpensive shelters, and that the product of young market stock, reaching salable age at so early a period as ten or twelve weeks, allows of money being turned over very quickly. This is a business man's idea of successful, profitable handling of any article of sale.

Diseases, too, so trying, and so fatal to the hopes of many a chicken raiser, are almost unknown among ducks. Occasionally we hear of some peculiar fatality attacking flocks of ducklings and sweeping them from the face of the earth with lightning-like rapidity. Investigation would probably show that in a majority of such cases no provision had been made for shade, the ducklings being attacked by something like sunstroke, this occurring especially after lack of water for drinking.

Shelters for adult ducks are of the plainest and simplest kind, the roof being the most important part. They need to be well windowed, for admission of air; and well bedded, for the convenient removal of excrement. Ducks are very dirty, and difficult to clean after; and the woman who had to take care of her own fowls would probably find this one argument of sufficient force to keep her out of the duck business. If she went into it largely, so that this work could be given to men, it might not be so objectionable. Some duck-houses are made with cement floors, which can be cleaned with hose. Duck-yards are largely ranged on steep slopes, running down to streams, where the natural fall and flushings of rains will keep them more or less cleanly. It is quite customary to make the houses in the long, shed style, with wide pens, because thus,



PEKIN DUCKS.



the yards may be wider. Rather wide yards are almost a necessity; ducklings and ducks are so easily frightened that unless there is plenty of room, a sudden alarm may cause the whole flock to dash itself blindly against the yard divisions, often with great injury. Large raisers make it a practice to keep the duck-houses and yards well lighted during the night, to avoid injuries from alarms.

Concerning the rearing of ducks without water except to drink, I talked with one of the largest and most successful duck raisers of the country. The reply to my direct inquiry was this: "While they can *get along* without water for bathing purposes, I believe it is as necessary for a duck to swim, as for a hen to scratch, and an ill sight to see is a flock of wholly land-kept ducks." If one have land consisting of dry knolls or slopes, running down to a good water front, and have access to cheap food stuffs, and a good market, there certainly must be good pocket-money in raising ducks,—that is, the best ducks—either on a large, or a small scale. The feathers are no small item, and the almost certainty of raising the flock, (barring accidents and thieves) leaves the mind much more free from anxiety than is the case with most other lines of domestic poultry raising. But without a really desirable place to rear them, I consider it foolishness, especially for a woman, to attempt it. The foods given ducks are almost entirely soft, and the excrementitious matter is far more disagreeable in every way, than that from fowls. There is no use to mince matters, and talk only of the delights of poultry raising. The woman who is raising poultry for pocket-money is not likely to have many men at her command, at least until she has made pocket-money

enough to pay for their services ; and the natural habits of fowls, and the disagreeableness of vermin and disease may as well be looked at in a practical light, at the beginning. They will certainly have to be met.

On one of the most successful duck ranches in this country, one whose name appears in every poultry paper, the regular feed consists of equal parts of bran and meal, with five per cent of feed flour, ("Red Dog"), mixed with cut clover, so that the latter shall form one-fifth to one-third of the whole. This is simply mixed with hot water, and is fed twice a day to the old stock. Whole grain is never given. For the first week, this mixed food is kept before the young all the time, and afterward is given four times a day. At a week old, five per cent of beef scrap is added, and this is gradually worked up to twelve or fifteen per cent. More than this does not prove to be an advantage.

Some have said that there has been more improvement in Pekin Ducks—the sort mainly used—in the last five years, than in anything else except the White Wyandot. Formerly, more than half the meat was back of a line drawn up and down just in front of the legs. This meant much offal, and little breast meat. Breeders are working to reverse this; to get three-fifths of the meat in front of the line, so that there shall be less waste. The great ambition of breeders of all sorts of live stock, is to produce the largest quantity of the best quality of product, with the least waste, and the largest net profit. It would be the part of wisdom for the fowl raiser to set this maxim well in mind, before beginning actual work. Breeders do actually set themselves at work scientifically to increase those parts of the frame which pro-

duce the best meat, and to breed off those which are too largely waste. The great trouble with the duck in the past, has been that there was so much waste that house-keepers could scarcely afford to use it. The duck with a "keel" in front, is the modern, popular duck.

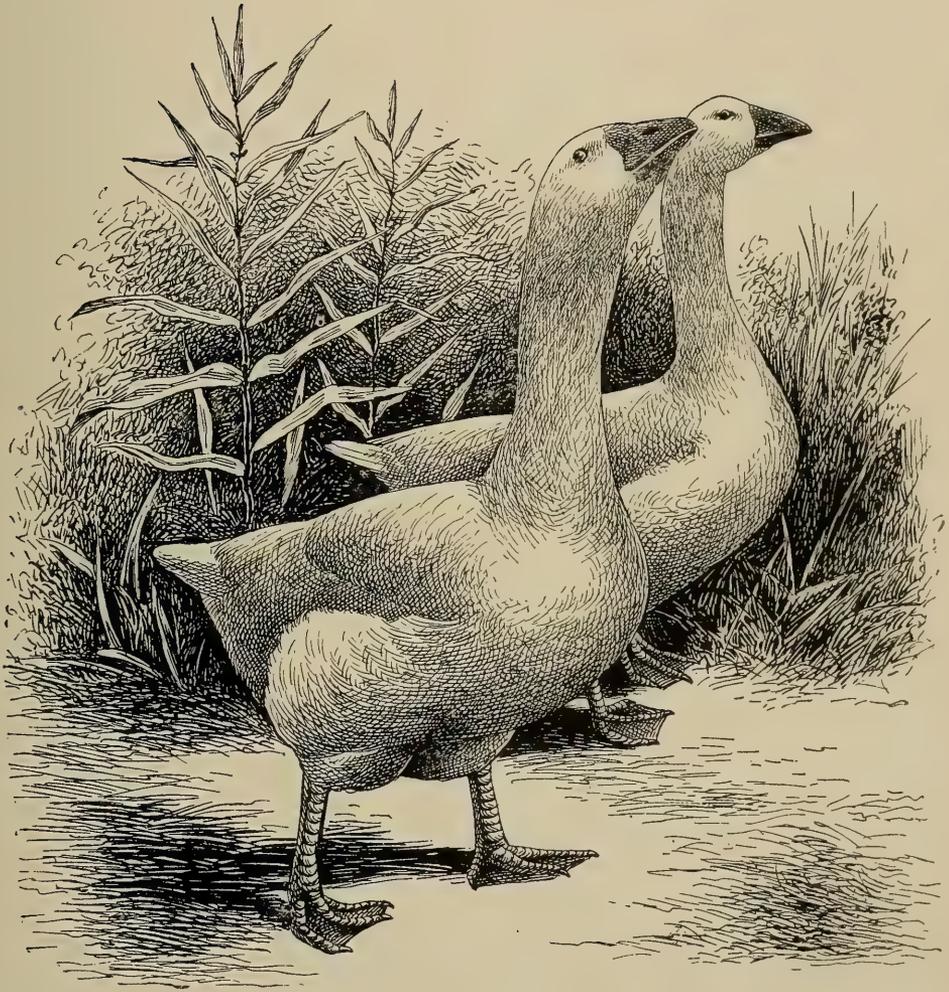
The goose, considered as a money maker, is far in advance of most poultry, provided only that one have sufficient range and water privilege for health and food purposes. The geese may simply be put out on waste pasture land, like cattle; but unlike cattle, they will utilize places that are swampy, and literally of no value for other purposes if they have also some high ground. The price of geese has kept up better than that of ducks, and when one has once learned the simple art of raising them, and of fattening them, she is mistress of a continual feeder to a slim pocket-book. Probably less capital is required for goose raising than for any other branch of poultry work. There need be no buildings, and, in proper locations, few division fences; and the fact that the same breeders can be used for ten or twelve years, insures that there shall be no outgo for new stock, unless the business is to be enlarged. The geese must, however, be colonized, each colony consisting of about four specimens, and these can be taught where their homes are; but these homes need be nothing more than boxes, two or three feet square. The birds will eat boiled cabbage, turnips, or potatoes, mixed with corn-meal, and may be fed corn once a day, but are very light eaters where they have plenty of pasture. Rape may be sowed to furnish pasture for them, where this is lacking.

Considerable difference of opinion has existed as to the best variety to raise for market. The Black

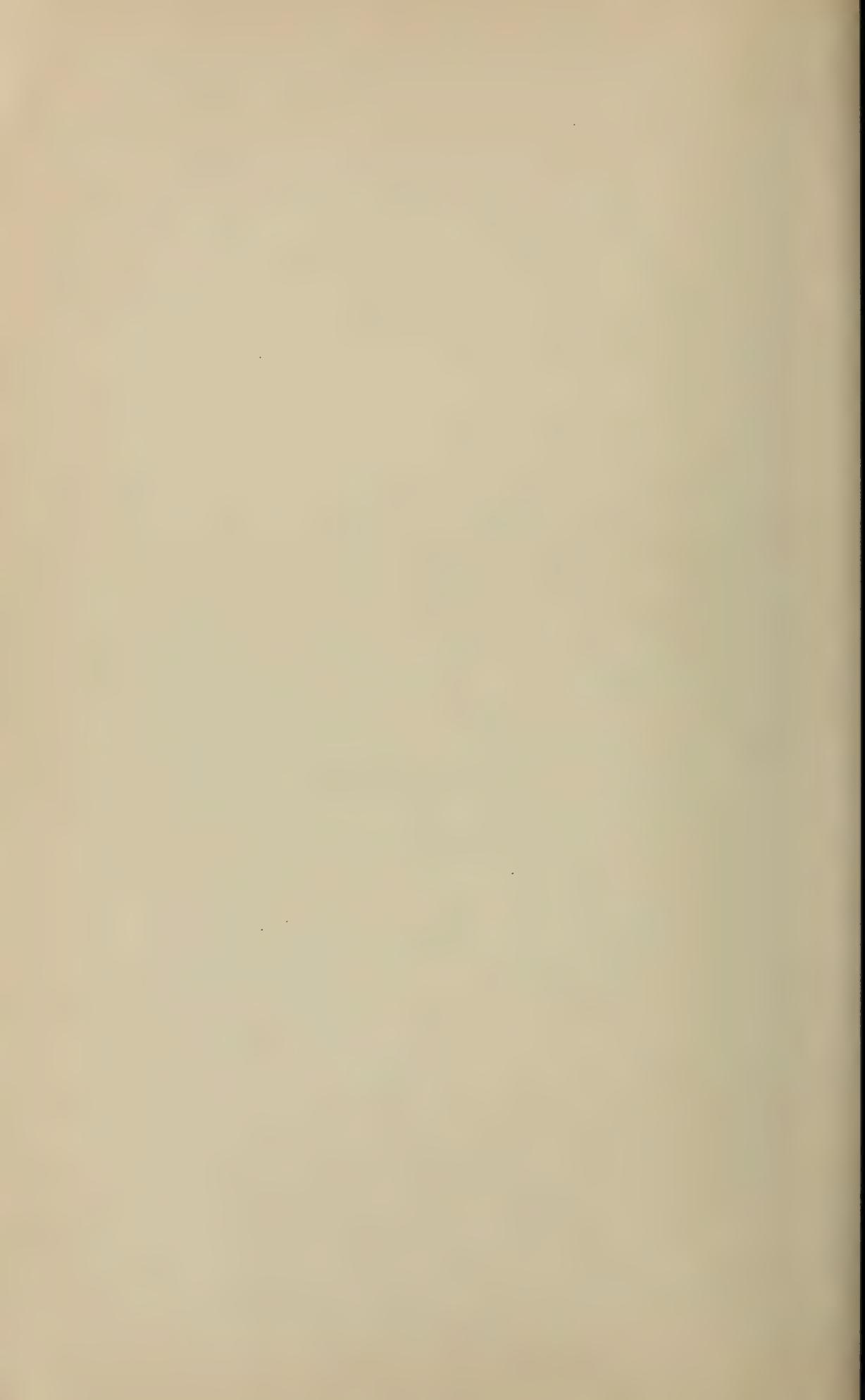
Africans, and the China Geese have their advocates. One of the most successful geese farmers says that the African has always brought as much money per pound, while producing more pounds of flesh. The balance of favor, however, probably belongs to the Embden.

Fattening geese for market is almost a business by itself. Indeed, in New England, both men and women are carrying on this business in a money-making way. Large numbers of geese are bought, and taken to a central point to fatten. Bare and dry orchard ground is considered the best place for them. They are allowed water and all the food they will eat, but no green stuff while fattening, as this changes the character and appearance of the flesh, making it yellow, and spoiling the sales. They are fed on a mixture of scraps and meal, stirred up with boiling water, with sharp sand added. They must be fattened before twelve weeks old, for green geese, as after this period they begin to shed, and will scarcely fatten till the end of the season. Stories are told of \$75 to \$80 income from one pair of breeders.

Expert geese breeders say that with care one need as soon think of losing a colt as of losing a gosling. A colony of four should give, with careful treatment, ninety goslings averaging nine pounds each, prices of which run from twenty-five to eighteen cents, usually. The number mentioned will bring in over \$35 to each goose, at the lowest price. But it should be remembered that this is expert work. Good goslings have been raised on nothing but good clover rowen, soaked, and mixed with the mash. The eggs can be hatched in incubators, but they are really too large for the ordinary incubator, as they are brought too



PAIR EMBDEN GEESE.



near the heat. It will not do to try to hatch them in the same drawer with hens' eggs, on account of the difference in size.

The knack of the expert picker is a thing to view with admiration, but to strive after rather hopelessly. Years ago, when there was a general round-up of the whole family on the day for duck killing, sixty ducks was thought a good day's picking for a family of five. Now, expert pickers average from forty to sixty a day, each, and stories are told of occasional phenomenons who can pick 100 green geese or more in a day. At these latter stories, the knowing ones lift their brows. Mr. Pollard, of duck fame, told me that he had never yet seen a man who could pick sixty ducks in ten hours and do it well. This picking is an art, but it is an art practiced very differently from that of olden times. The birds are killed by sticking in the mouth, and stunning with a blow on the head, when the picker begins work at once. At his right is a box for the feathers, and near him, a bucket of water, into which his swift-flying fingers are frequently dipped. With the head of the bird held between his knee and the picking box, while its legs are held strongly with the left hand, his right hand slips up and down the carcass, back and forth, back and fourth, feathers and down apparently sticking to his fingers as they move. As your eyes follow along, you see the clear white flesh appearing, and before you think he has begun, fairly, the specimen is picked clean! It looks easy, but after you have tried it, your admiration for the expert picker will grow apace. Sometimes, if there are many pin-feathers, the carcass is shaved with a sharp knife.

## TURKEYS FOR POCKET-MONEY.

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**T**HE story of many a woman's attempt at poultry raising is a story of disease, loss, and failure. It goes without saying that no pocket-money can accrue from these. Yet turkey raising is a most tempting field for the woman who lacks pocket-money but has the run of broad acres, because it can be entered upon with almost no capital. One may raise turkeys with no buildings at all, and thus the chief call—for capital—is unheard in this line of the work. It has been said that there is absolutely more money in turkey raising than in any other legitimate business. This extreme statement certainly means that it is a money-making art. Yet it must be said that almost no other branch is so difficult to those not wise in turkey lore. The essentials to success, so far as the worker is concerned, are three: close observation, study of difficulties, and good judgment. Contrary to the general idea, good judgment is not so much a birthright as an acquirement. It is based directly, in a majority of cases, upon close observation and large experience.

The study of poultry raising, like that of most other things, consists in a study of cause and effects. The successful turkey raiser is the one who has studied the causes of fatality, and learned how to avoid them. The losses in turkey raising are chiefly among the very young poults. The causes of these losses may be

roup, gapes, lice, dampness, close confinement, or bowel trouble. This last may come either from debility, or from injudicious feeding. "Debility" is a very indefinite term. Debility may be caused by inbreeding, by lice, by dampness, or by close confinement. Hence, in one sense, we might say that bowel trouble may be caused by any one of these. On the other hand, debility may be regarded as the cause, indirectly, of nearly all these fatalities, from the fact that it renders the bird an easier prey to whatever may attack it. Gapes and lice are among the worst enemies of young turkeys, but these may be largely avoided by keeping the young stock wholly aloof from the rest of the poultry. This will apply partly, also, to roup. But roup may be a matter of contagion, or it may be merely a matter of quarters, and of conditions. Strong winds, following exposure to soaking rains, are the chief producing causes of roup, when the yards themselves are not low and wet. High and dry quarters, proper wind-breaks, and shelters from the long rains will usually keep the flocks free from this scourge. Suppose we put it that the requisites for success with turkeys are, first, good stock, second, good cooping and care, and third, correct feeding. Correct feeding is really of more importance than shelter, for turkeys, but it is placed third, because in the natural order of things, we look first to the stock, afterward to its shelter, and still later to its feed.

What is good breeding stock, among turkeys? Only birds that have full vigor, sufficient age, and non-relationship between male and female, can be regarded as first-class breeding stock, if we consider merely how we can raise the most youngsters. Were we considering fancy points, also, the non-relationship

clause might be somewhat modified. The drift of circumstance far too often decides the character of the breeding stock. At early holiday time the early turkeys are salable at a fair price, the late ones unsalable at any price. The temptation is to sell the good ones, and let the later ones furnish the breeding stock for the following year. This stock will not have one of the three points named as requisites! It will not have age, maturity, nor vigor, and it will almost certainly be related stock. The breeders should be certainly one year old, while if two or three years old, they will be better layers, more vigorous, and more easily handled, if the owner has previously done her part. Largest size is not important, though small birds should always be avoided. Medium to good size for hens, and medium size, with extreme vigor for the male, is the best choice.

Turkey rearing is so universally the business of the women members of the family, that turkey hens are likely to be more or less tame. But this depends largely on how long they and their young are fed. It is quite important that the hens should be tame, as they are neither so likely to range so far, nor to nest in out-of-the-way places. I should prefer, for breeders, birds that had been raised with common hens, with a near-by range of their own, just a little aloof from that of the general stock of poultry. Such hens will lay in any barrels which you may provide in near-by but sheltered places, and will endure handling, as the bird raised with wider range may never come to do.

The laying and hatching seasons will fully test your previous care in many directions. If a turkey hen has stolen her nest, she can usually be moved, with proper care, to an enclosed nest, to which she must be closely confined for two or three days. Fifteen eggs

are a fair average number for her to cover. She must be fed regularly, and furnished with a good dust-bath, which is to be kept dry. The practice of raising two clutches a season, one very early in Spring, the other hatched at Mid-summer, or later, may be greatly improved upon. It is far better to confine the hen for a few days when she first wants to sit. She will then begin laying again at once, and hatch her second clutch of eggs, the first ones being given to hens. All the birds thus brought off will be large enough for sale at holiday time, and they are likely to be more in number, than with Mid-summer hatching.

Among those who succeed, there is much diversity of opinion as to cooping. Somehow, the young poults must be kept dry, as much dampness during the first few weeks means sure death to them. All agree that close confinement is almost as sure to be fatal as the dampness closely connected with free range. It remains, therefore, to follow some plan of compromise. Some care-takers confine the young merely in a triangle of boards, for a week or two, leaving the mother free. Others confine the mother in a roomy, airy coop, letting the poults range freely whenever it is dry. By this latter plan, one has weather conditions under better control. But fresh air must be insisted upon. If a coop is to be used, only the roof and the side next the prevailing wind and rain should be solid. The others may be of lath, or of wire net. Absolute cleanliness is the price of success, and the coops must be moved often.

The remaining factor of success, and a very important one, is judgment in proper balancing of foods. This is a point upon which, so far as I know, no writer has yet touched definitely, as regards their effects

upon the bowels. If the effects of conditions and foods upon the bowels are important things to study in connection with the care of the common hen, much more is this the case when we consider young turkeys. For the young turkey is, perhaps, the most delicate, and the most susceptible to bowel derangement, on slight provocation, of all birds commonly raised. It is almost universal for those who give directions for raising young turkeys, to recommend feeding hard-boiled eggs. Yet I have not the shadow of a doubt that the hard-boiled egg is responsible for half the failures in rearing very young poultry, especially turkeys. Hard-boiled egg is an excellent thing, if properly used. We always use eggs, if we have them to spare. But egg, alone, is both too concentrated, and too constipating (constipating because concentrated, doubtless,) to be used as a steady diet, for any length of time. Balance it properly with foods of opposite characteristics, that is, foods bulky and laxative, and it is both safe and good.

Look at the three foods very commonly used for young turkeys—sour milk curds, hard-boiled eggs, and white bread! Every one of them is constipating, not one of them has bulk. Is it any wonder that the young poults die if they do not have absolutely free range? The free range and the bulky green stuff which it affords them are their only salvation from the ignorant and untender mercies of their feeder. Do not consider this as in any sense an objection to the food mentioned. It is by no means intended to be such. But it is a plea that judgment be used in balancing these foods with such laxatives as scalded bran, or any available green stuff, so that they shall form a common-sense dietary for the young stock. The same broad rule of

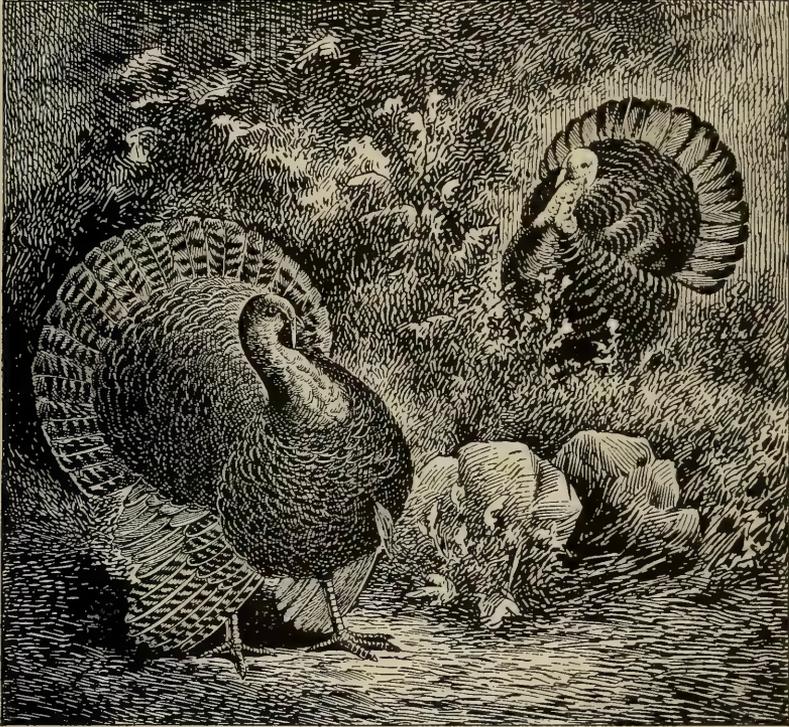
feeding applies to the human family, and to the birds and animals under our care. Concentrated foods, usually highly nutritive, are also, usually, constipating. They must be balanced with bulky and laxative foods. It is a simple, general principle, easy to apply, and by it any woman may become a successful feeder of young stock, even in a line of work new and untried.

There is some objection to the free use of bran, for delicate stock, on account of its being too coarse and hard, too decidedly laxative. There is also some force in this objection; but its force is mainly lost if the bran be always scalded. Better than bran alone, however, is a mixture of part bran and part shorts. This shorts is from the layer of the wheat kernel next the bran. In characteristics and quality, it stands between bran and fine flour. Used in connection with bran, and other ground grains, it is almost a priceless food for young stock of every sort. If, for any reason, turkey poults must be raised in semi-confinement, this judgment as to the proper balancing of foods becomes an invaluable aid in their rearing. In the lack of other available material, green food will always suffice for this purpose. Lawn clippings and fresh young clover are best among these. One woman tells me that she raised a brood of young turkeys without loss, and by hand, up to six weeks of age, in an upstairs room, where they never saw the ground. The point upon which her success turned was a free and continuous supply of finely-cut fresh grass. This formed, really, the greater part of their food.

Doubtless it will seem almost iconoclasm to mention anything out of the regular order as being good for young turkeys. It is a fact, however, that fine bone,

or granulated bone, makes an excellent addition to their feed. It adds to the size of the frame, and to vigor; therefore, to weight, and selling value. There are those, also, who contend that it is a good balance to the too laxative effect of bran and too much green food. Experienced turkey raisers are careful not to feed new corn in the Fall, claiming that it causes bowel trouble. Possibly this is because it is still somewhat milky, and rather in the nature of a green food. This view is borne out by the fact that the use of half new corn and half old, together, has been found perfectly safe, even by those who could not use the new alone. Rhode Island growers use white northern flint corn, to give the fine flavor for which their fattened turkeys are famous.

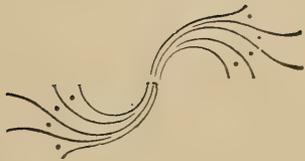
While there is an occasional period when the market takes large birds, it is a fact that medium-sized and well-fattened specimens sell most easily, and bring the best prices, on the whole. This is a chief reason for the selection of moderate-sized birds as breeding stock. The fattening period in the Fall is sometimes found to be a critical one, especially by those who try to bring them through it in confinement. This they will not bear, even for a period of three weeks. It is much better to feed them liberally while on range for the last six weeks or two months. During late Summer, when insects are plentiful, a feed at night to bring them home and send them to roost with well-filled crops, is all that is needed. When the insect supply fails, and the sharpening weather brings sharpening appetites, increase the food supply up to a liberal ration, and toward the last let it be all the whole corn they will eat. If they have attained proper maturity, by reason of early hatching,



BRONZE TURKEYS.



they will fatten easily and well. This being the case, you can afford to send them *by express*, on the Monday before Thanksgiving, to a commission man whom you know to be reliable. Then, if there is anything to be made out of their extra plumpness, extra quality, and extra assorting as to size in packages, it will come to you, and not to the middle-man. Only make sure that your commission man is reliable, and just this extra money may be enough to pay the season's expenses!



## SQUABS FOR POCKET-MONEY.

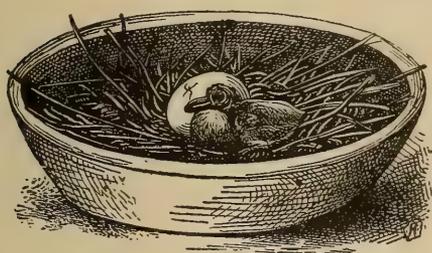
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**P**ROBABLY there is not in the world to-day an industry more interesting to women and children than the rearing of pigeons. This, with reference to the birds themselves. If we add to this the affirmation that squab rearing is as remunerative as any legitimate business known, and that, compared with poultry, the profit is greater while the work is less, it will be plain that here is something demanding the attention and study of the woman in search of pocket-money. Here, too, intelligence, quick observation, and close attention to detail count so largely toward profits that the bright woman can out-strip all competitors.

Little things make up the entire sum of the profits on pigeons; yet the littles count up so fast that little losses are fatally cumulative; little feed bills startling in aggregates, but little profits also almost incredible when rolled up into the totals of a carefully-scanned, well-conducted business. A squab costs six cents to raise; if of third grade, its gross return may be but ten cents. On the other hand, with the same cost, the gross returns may be twenty-five cents or more, if the squab grades as first class. These are ordinary market figures. Of some of the possibilities, I will say a word later.

The unintelligent, the unobservant, and the careless

might about as well throw money into the street, as to invest it in pigeons with a view to squab raising. The statements here made are not true for them, but

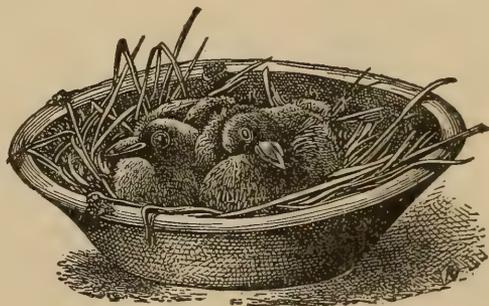


PEEPER, ONE DAY OLD.

rather the rankest untruth. The shrewd will jump at once to questions as to housing, feed, and intelligent care. The pigeonry must be the first thought, as the birds

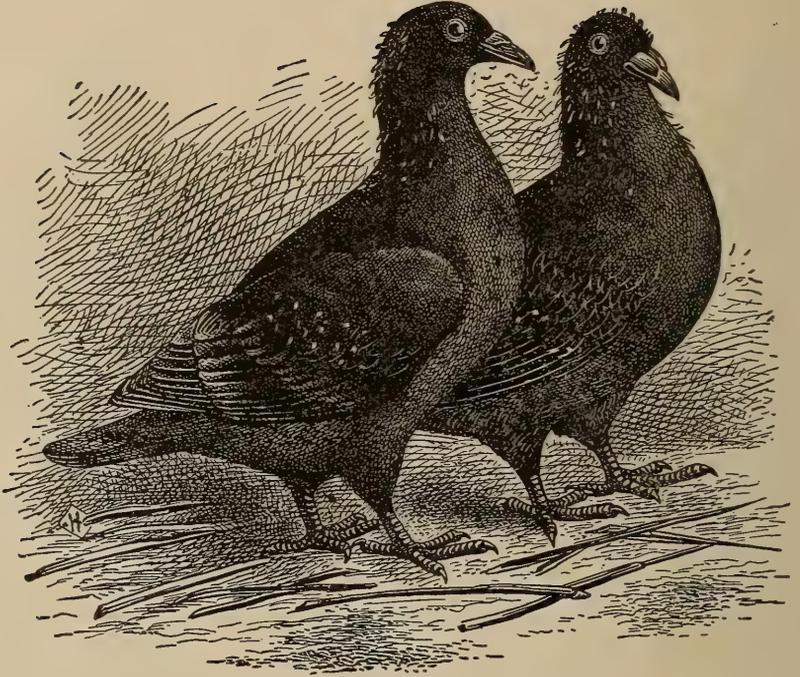
must not only be confined usually, but confined under such conditions as to keep them in perfect health and thrift. It is safest, of course, to practice on a small number; yet, if shelters must be built, the proportionate cost will be so large at first, as to seem to preclude all thought of profit. The average person not used to business will persist in considering capital invested as a part of the running expenses, and insist on the flocks paying for it at once. This is not good business shrewdness.

However, an old barn, if available, may furnish fair shelter for a beginning, and I consider that the parents who do not give their children a chance to



SQUEAKERS, TEN DAYS OLD.

learn this fascinating and profitable occupation have done less than their duty. That is, of course, where the conditions are favorable; and where are they not favorable, on the farm or in the village suburb? It may be objected that the markets are not in these



SQUEALERS, THREE WEEKS OLD.

places. Possibly not, but what of that? Home markets can be made; and the main point at this time is not profit, but education in a line of work that can be made profitable as soon as the learner has to hustle for himself. The "know-how" of profitable lines of work is better than a fortune in hand to any boy or girl.

The shelters for squab breeders should not be too cold, although the experienced can raise them in almost any old shell of a building, as far north as New York City. The fittings are only nests, perches, and drinking and bathing fountains, a space of two square feet of floor being counted to each bird, with never less than twice as much room in the flight yards, in the open air. The flight spaces are best enclosed by

inch-mesh wire net, as this excludes sparrows, which are arrant thieves and fighters. The netting usually runs overhead, to the highest point of the roof.

By far the neatest fashion in nest building, is the tier upon tier of veritable pigeon-holes, which remind us of our desks first, and may give us, a minute later, the first notion we ever had of the derivation of the word "pigeon-holes" as applied to such divisions. A movable bottom, something like the snow end of a snow-shovel, is slipped into the bottom of each division, the strip across the front confining the nesting material, and preventing eggs from rolling out; these can be slipped out for cleaning or white-washing. Other nests consist of mere hollows in the bottom of the divisions. Still others, more expensive, and considered the best, are earthen pans, four inches deep and nine inches wide. The largest pigeonry I have seen, carrying thousands of breeders, (and a most successful one) has detached nests, cubes in form, about twelve inches each way, open at the back, and also in front except for a four-inch strip at the bottom. These nests were hung against the wall, and could be instantly removed and immersed in a tub of whitewash, at any convenient time. Two nests are necessary for each pair, as the birds lay again before the young are ready for market. The nesting material is preferably tobacco stems in Summer, while salt hay is much used in cold weather. Straw furnishes a breeding place for lice, and is not used by the experienced. The birds build for themselves when material is accessible. Some handlers of pigeons provide no nesting material.

City markets never cease demanding better products in every line. Will you provide what the majority

offer, or shall your pigeonry give the market birds twice and thrice as good as the ordinary, at a corresponding increase in selling value? As you answer this, you answer the main question as to what your profits shall be. It will cost you more for your first instalment of breeders, but from these you can enlarge, raising your own to increase your workers. The squabs which the general market now gets, will run, possibly, from half a pound to three-quarters each. The right kind of a bird may double these weights. The Runts are large, fine birds, but poor mothers. The Homers are good breeders and mothers. I think most of the commercial raisers use the Homer for half of the blood, but they despise the Runt. Perhaps she is despicable, but she can give of her best qualities to a cross. The Runt-Homer cross, using the Homer for the mother, gives a good squab; a cross of the progeny with Homer is a still further improvement. Then more Runt blood can be introduced. Squabs of this breeding are snapped up so quick that the general market never sees them at all.

The bath is a necessity to the adults, and may be given twice a week in Winter, and every day in Summer. A quiet manner is a great help in one's work among the birds, and it is well to let one person do the work regularly. Birds must be mated properly, as when the mating is made, it holds for life. One person can care for enough birds to bring in an income of \$1,500. The feeding can not but be an important item, as upon this may depend the health of the breeders, the grade of the squabs, and, therefore, the profits. Proper feeding is not all, but it is much. Still, there are many grains which can be used, a chief point being that they must not be new. Wheat,

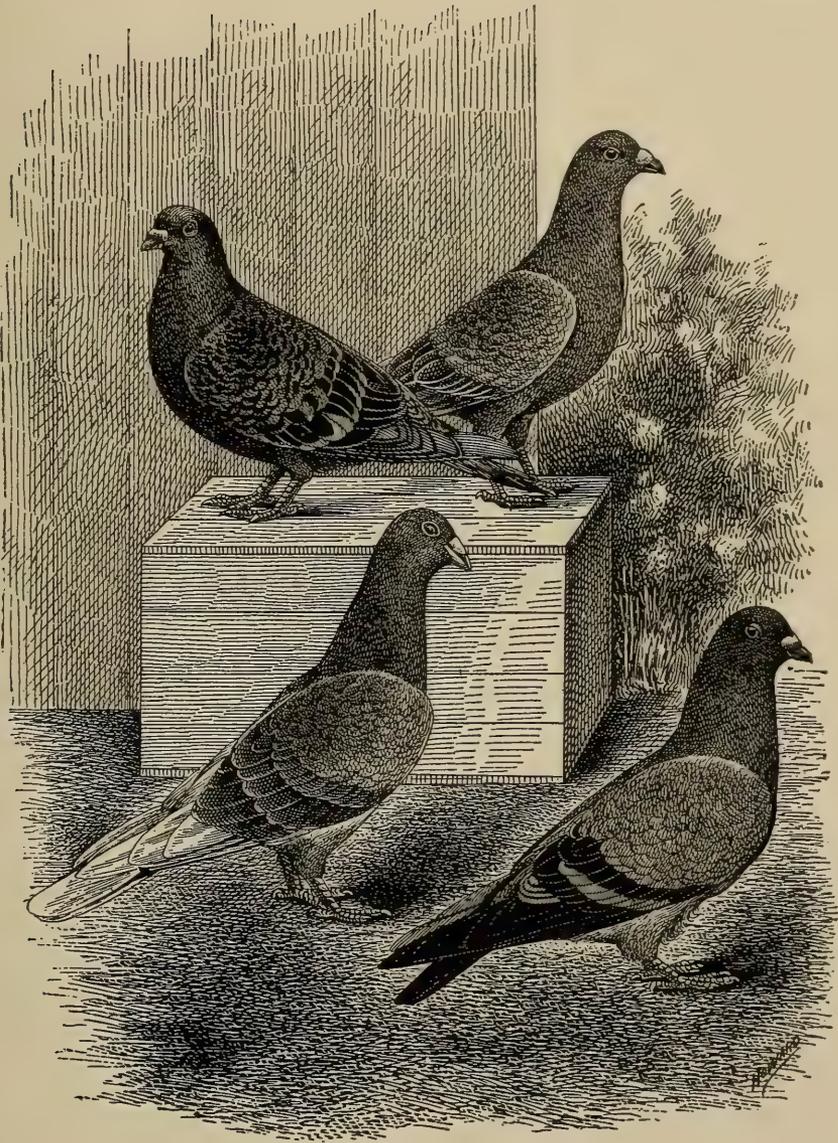
cracked corn, hulled oats, millet, and kaffir corn, hemp, and peas are among the much-used feeds. Millet is excellent, wheat not an unmixed blessing, hemp mostly an appetizer to be used sparingly. If only one grain were available, perhaps cracked corn would come nearest to the requirements. The old birds are fed on a clean, sanded floor, and they feed the squabs as nature dictates. Hence, as is the mother, (as breeder and feeder) so we get many or few, good or poor squabs, as a rule. Salt is considered a necessary condiment, some using salt cod-fish in the pens. One hundred pairs may eat a whole one in three or four days.

Prices vary at different seasons. The last time I inquired, No. 1 squabs were bringing twenty-four cents; No. 2, nineteen cents; No. 3, ten cents. The color and plumpness are chief factors in determining grading, and grading has a tremendous effect on the profits. Wheat, it is said, tends to make dark squabs, and is, therefore, looked upon with suspicion, at least. The color will mostly depend, however, on the care with which breeders are selected. Light-colored squabs are demanded. To get these, select birds with light bills and feet. Dark-legged birds are likely to produce dark squabs, but dark feathers need not throw out a breeder, if feet and bill are all right. For best prices, most markets ask that these fascinating birds be killed, which is done in much the same way as with poultry. Besides the loss in weight which the squabs suffer in transit, which is large, the market offers five cents less per pair for the live birds. In a business of littles, this counts strongly. I think the Boston market is a little better than others for live

squabs. Add to this necessity for killing that the work is very dirty, and you have the worst that can be said about squab raising.

The great difficulties, and particularly so to the beginner, are invasions of lice and rats, diarrhea; as well as over-abundance of unmated birds, which must always be carried at a loss. If a bird dies, the unobservant care-taker may feed its mate at a loss for months. The live, observant worker will notice the unmated bird, and strive to provide it with a new mate. Every loss counts double, in the absence of one bird and the uselessness of the other of the pair. Lice are not a great burden if sufficient care is taken. Rats are a constant menace, and diarrhea is controlled largely by care as to feeding.

Pigeon possibilities and pigeon averages are as far apart as those of any known business, possibly. The usual prices and weights have been noticed, but there are breeders who are rearing squabs to weigh three and occasionally three and one-half pounds to the pair. Such birds have brought \$6 and \$7 per dozen. One man whom I know made, last year, clear, over thirty-five per cent on the cost, including interest on plant. This, too, a man whose business is not squab raising. This is but his recreation. One woman was making at the rate of \$400 a year within a year of first taking up the work. I know one breeder of squabs, of exceptional quickness and grasp of work, who cares for over 2,000 pairs of birds and carries on a large regular business in another line throughout the Summer months, or probably for eight months of the year.



HOMING PIGEONS.



## POCKET-MONEY POSSIBILITIES.

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**S**INCE these notes were begun, I have received many letters from women anxious to go into the poultry business. Three or four might be regarded as typical of the whole. One was from a widow, with six small children, and unable to make a living for them. She had \$200 in money, and absolutely nothing else but her own efforts to depend upon. A second was from a woman with an aged father to support, who, according to her own story, had reached a point where she did not know where to turn, and who was so poor that she apologized for not enclosing a stamp, saying that she really had to take care of every penny. A third was from an office girl, barely able to keep up under some chronic trouble. A fourth, from a woman owning large premises, which she wished to turn to account in some way. Apparently, not one of these knew anything about poultry raising.

It will be noticed that only one of these four was in search of what, by any fairness, might be called pocket-money. What they wanted was actual livelihood. They had nothing to invest, but themselves, and unfortunately, this investment was needed elsewhere, in order to put bread in their mouths. I believe it to be possible for a bright and intelligent

woman, who is able to work reasonably hard, to borrow money enough to start with, and if need be, to live on for a year, and still come out ahead. But I would certainly not dare advise any one of whom I know nothing to do this, and I would most earnestly commend all such to study most faithfully the first two chapters of these notes. There is no doubt that the rosy ideas about poultry raising which are spread broadcast, and which represent the business as requiring no capital, or almost none, are responsible for this often pathetic rush toward poultry raising. But it must be remembered that where there is no money capital, the worker is, herself, the real capital, and the same capital can not be invested in two places at the same time.

It is more especially to people having small pieces of land, or those on the farm, that pocket-money possibilities open. We hear a great deal about the poverty of the poor, but after many years of experience among farming people, I am led to believe that there is more poverty in the line of deprivation on every side on a very large proportion of our farms, than there is among the actual poor. These last have times of starvation and nakedness, it is true, but when they have work they usually have money, and this money is never saved for possible future times of distress, but goes for clothes and finery, pleasant foods, and low theatres.

“The poor” seldom know of the week by week, month by month, year by year deprivations of thousands of women on the farm. To go without postage stamps, without finery, without books, without extraneous niceties of food which must be purchased, without

pretty furniture, without the great luxury of conveniences, without the uplifting change and broadening which travel affords, is a matter of course to an incredible proportion among farmers' wives. It is to these that I commend especially, the pocket-money possibilities of poultry. Their investments will be less, their successes greater, than those of any other class. They have already a beginning for a hold upon the business, in the fact that the poultry-money is usually considered theirs, and that they know something of the work; and I affirm that a thorough study of poultry in all its aspects, and a careful branching out may, in many hundreds of instances, open to them the possibility of gratifying all their hitherto unfulfilled longings, of gaining the things desired instead of believing themselves forever destined to be deprived of them.

Perhaps the one thing most desired by mothers, the world over, in these modern days, is a good education for the children. This education may settle, while yet in their teens, the question whether these children are to be day laborers and servant maids, or are to tread the stately homes of cabinet officers in our capital city. With the single exception of health, education is the one thing that counts above all else in fitting out any worker. It opens all doors; and this education for the children, so earnestly desired, is one of the possibilities of pocket-money poultry.

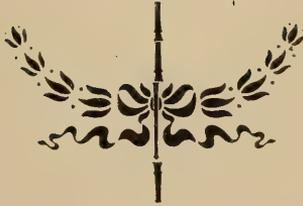
The means of travel are sometimes sighed for, but seldom expected, scarcely, even in the beautiful future "when our ship comes in." But it is easily within pocket-money possibilities, for with a little money, one may travel a little, and with much money to

spare, one may travel far. This travel but adds to pocket-money possibilities in poultry, for she who is intelligent enough to raise poultry is intelligent enough to learn wherever she goes, and she may make her travel count for increase, rather than depletion of pocket-money, by visiting successful poultry plants, and city commission houses on her way to the relative to be visited, to the great library she would see, or to the mountains or shore.

It may be objected, with some apparent force, that the woman on the farm has already invested herself in the work of the home, and that she will have no time to push the poultry business. This is largely true. But she will always find time to neglect some of the things that can be neglected for the sake of earning a little money all her own. Better than this, however, if she study the question well, and study to interest her children, and to teach them all that she learns about it, they will help earn their larger education while gaining an education just at home, which will not only fit them for money making, but will make them much better all-around people, when they have reached maturity. The right kind of a mother, unless her handicaps be too great, has things right in her own hands, if she will but realize it.

While it is a well-known fact that farmers are better read, as a whole, than any other class of people—that is, their wives and daughters are—I think it is also true that nowhere is the lack of books, and more books, so felt as on the farm. There is more time for reading, and less chance to buy the cheap books now so plentiful in the large cities. But books, too, books in plenty, books that will aid mightily in

the family education, are a part of the possibilities of pocket-money poultry. And books are now so much cheaper than formerly, that it will take only a few dollars of profit on the poultry to supply this crying need in many homes. In the great cities at holiday time, scores of titles of standard books, cloth bound, can be bought at prices ranging from eleven to thirty cents.



## POCKET-MONEY POINTERS.

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**I**N ORDER to be fully effective, perhaps the assertions of the preceding chapter concerning pocket-money possibilities, demand a few "pointers," as to ways of realizing those possibilities. I find that the women of the country are taking a very large interest in the poultry schools so lately established here. For those who are free to leave home, and who, not knowing much about poultry, wish to try their hand at it, there is probably no better investment of the first \$50 than a course in a poultry school. A few weeks' time will cover it, and it is pretty sure to save the loss of many times \$50, through blunders. The Winter season, when there is not much doing, is usually selected for these brief courses, and they are crowded full of practical teaching and practical work.

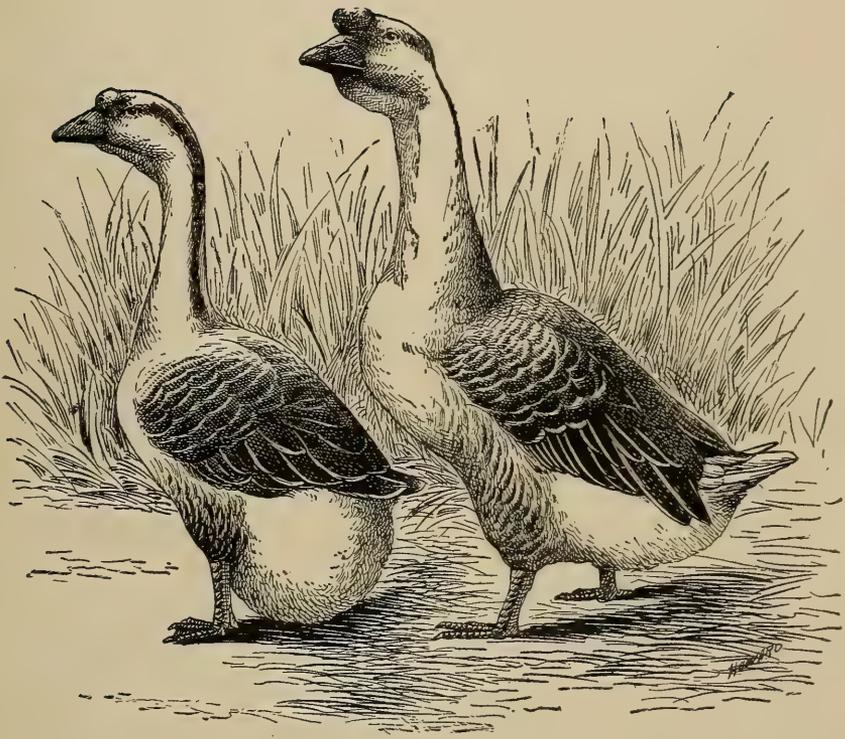
There may be more, too, in this study, than appears on the surface. More than the mere learning how to take care of the fowls. There are scores of able women in farm homes and small towns, who need only a fillip, as it were, to set them doing good work, and earning money in many a practical line. Perhaps they haven't sufficient confidence in themselves, and, not having been trained, they do not know just how to take hold of anything. The poultry schools offer an opening for them. There is likely to be good de-

mand for the first graduates from these schools in may different directions. Teachers, working partners, and lecturers will be wanted. All women can talk, and those who can learn to talk acceptably to the public, and who have practical experience behind them, can find frequent openings as lecturers on poultry, before Farmers' Institutes. Perhaps it would be feasible, also, for the woman who delights in cookery, to work up, and push a lecture on cooking poultry, to use before granges and Farmers' Institutes. But these broad and inviting paths are not for the average woman, nor even for the average among the most able of women. For most women are busied in making homes, and in those homes they must stay. But all who have some time at command may, perhaps, try the correspondence schools, toward which initiatory steps have lately been taken. The Pennsylvania Experiment Station, through its careful professor, George C. Watson, has opened a Poultry Correspondence Class, covering a line of thorough, practical work. One who studies this course, and takes its examinations, should have an excellent foundation for beginning in the poultry business, especially where pocket-money is the only object.

Full chapters have been devoted to the more common divisions of the work, such as ordinary fowls, ducks and geese, and turkeys. The business in squabs is assuming such proportions, and is so promising, that it, also, has been thought worthy of a chapter to itself. Under certain special conditions, a line of work just coming to the front promises very good results. There is almost no literature on the subject; but with the demand for it, such literature will soon be furnished. The line of work referred to is the

rearing of pheasants. With the rapid increase of rich men among us, there is a corresponding increase in the demand for stock which is distinctively "fancy." It has become a fad for rich men to own large tracts of land, and to stock them with everything rare and beautiful among animals and birds. Almost no one in this country knows anything about pheasant rearing, except a few men who act as managers on such places. Yet there is a pretty good demand for birds to stock still other such places, and also to use for gunning purposes, for aristocratic clubs. I am told by one who rears pheasants by the thousand, that \$36 a dozen is an average price for birds to supply this demand.

I would not, by any means, urge any woman who may think she would like to try to raise these peculiarly taking little birds, to rush into pheasant rearing. The young are admittedly difficult to raise, and I do not think any one who did not fully understand how to raise common poultry would be successful in rearing young pheasants. But one who is thus grounded in the work, and who has either an acquaintance or a location among many men of means, might work up a very good business along this line. There are a good many varieties of pheasants, most of which are extremely beautiful. Moreover, the handsomer sorts are not always the most difficult to rear, as is so apt to be the case. The fact that the Silvers and the Japanese mate in pairs, and that most of the others take but four or five females to each male, renders the market for the males proportionately better than is the case with almost any other stock. Add to this the fact that the male is the one that always wears the beautiful garment, and it will be seen



PAIR AFRICAN GEESE.



that there will be no such difficulty in disposing of these males as one often meets in the case of domestic poultry; no matter how well bred. Perhaps the Silver and Golden Pheasants are the most common. Ring-necks are also comparatively plentiful, and are considered among the most hardy.

It might be thought impossible to raise birds so wild by nature, in anything like domestication, and with narrow range. But, strange to say, it is done right along, and some of them, in time, become almost as tame as barnyard fowls. They must have covered runs, of fair size, but they are inured to all weathers, and need very little shelter. In one place, where pheasants are reared for the money there is in them, the shelters were nothing more than a few boards, so placed as to shed rain and storm a little.

In the natural state, pheasants lay but few eggs. But if properly fed and managed, and the eggs taken away as laid, they will lay forty to fifty eggs each, occasionally getting as high even as sixty. The great difficulty lies in rearing the young up to twelve weeks of age. Bantam hens, or the lightest-weight Leg-horns or Games, are used for hatching the eggs, the bantams being preferred. They will cover about nine eggs. A chief difficulty seems to lie in the feeding. One who had often lost sixty per cent of the young, says that with the use of a patent cooked food for the first few weeks, the loss dropped to ten per cent. With proper feed, I do not think they are so much more difficult to raise than turkeys. They need the same watchful care and good judgment. In the Winter they may be fed mostly on cracked corn; toward Spring, some soft feed is used, mixed with potatoes, barley meal, and a very little meat.

While Belgian Hares do not properly come under the head of poultry, they are so apt to be considered with it, and to meet the needs of the same class of people in search of pocket-money occupations, that a few words may not be out of place here. If one has, or can make a market for them, and possesses or can learn the secret of their rearing, there is no doubt that there is good pocket-money in them. It costs very little to start with them, and a pair or two, bought for the children's delight, may be the means of laying the foundation for pockets full of money later. I would urge that all who wish to try their hand at raising hares, should learn as much as possible about them, before investing much. If for no other reason, in thus studying the subject, one often finds that which seemed an attraction, to be really a very repulsive thing; while sometimes the reverse is the case. Study of any subject we would take up, is always the best initial investment; for, always, and everywhere, knowledge is power. Advance knowledge saves one from foolish investment, from errors of working innumerable, from losses uncounted, and often,—a very important point to most folks,—from becoming a laughing-stock for the whole neighborhood.



## SUPPLEMENTARY FOOD SUPPLIES.

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**W**HILE the grains, whole and ground, form the basis of food supply for all varieties of domestic fowl, it is scarcely possible to keep the birds in thrift without what I have termed "supplementaries". Indispensable among these are grit, charcoal, meat of some sort, and green food or its dry substitute. Fowls at large may, however, get along without the charcoal, and range will relieve the care-taker from the laborious supplying of green food. In the Summer, too, the birds may secure their own supplies of meat, or an approximation toward their needs in that line. In Winter all the supplementaries named are truly indispensable, and this is true during the whole year for yarded stock.

There is also another set of what, for want of a better term, may come under the head of "supplementary foods". These are the various prepared, cooked, or conditioned foods, and I might include also, stale bread, crackers, and popcorn. I mention these because some may have opportunity to secure them at a very low rate, yet not realize that they might take the place of other foods. One of the most frequent questions that comes to an Institute lecturer is, "What do you feed?" This is a much harder question for a shrewd worker to answer, than for one less expert. This is because the sails are always trimmed to the breeze then blowing.

In other words, the feed is seldom the same two seasons in succession. Summer and Winter feeds differ because of season, and the rations may vary with the prices of farm products and manufacturers' supplies. The grains which are "cheapest" in money paid out are not always chosen; but rather those cheapest when the amount of the precious protein which they contain is considered. If N. P. linseed meal is comparatively low in price, it will be used as freely as is safe, because it is about one-third protein, and will make up for the lack of it in corn, and also save part of the meat bill. If milk is very cheap, or a waste product, large quantities of curd will be used, for this, also, is rich in protein. And, while the shrewd poultry feeder will study continuously to keep down the feed bills, there will never be niggardliness when the good of the birds demands expenditure.

First among supplementary supplies I place grit. You may argue that this is not a food supply at all; but it certainly accompanies the food as far as the gizzard, and plays a most important part in the assimilation of food, without which no bird can thrive. Those places where grit is not needed (not merely desirable but a necessity to the best thrift of the flocks) are very few. And I am fully convinced that the lack of a good sharp grit in abundant supply is the cause of much of the loss of young chicks on our farms, especially where fowls have been raised for many years. This is a part of the reason why the birds do better on fresh ground; such "grit" as is natural to the place being found on the newer range. Seldom, indeed, does it get any of the credit for improved thrift, however.

For yarded fowls I am inclined to place green food, or its dry substitute, next to grit in importance among supplementary foods. Cabbage is excellent, indeed scarcely excelled by anything except fresh clipped grass or clover, so far as the birds are concerned. But it has a few disadvantages; it is not so readily kept through all seasons as is clover, and finicky customers sometimes complain that the eggs are ill-flavored, when cabbage is used. Customers—buyers of our products—must be humored. One poultry raiser found a whole set of customers nauseated (in imagination) because it came out that horse meat was fed to the birds. Though cheap and good, this meat had to be discarded. Customers are monarchs, so long as they pay promptly and well; let us not forget this axiom. Cut clovers and clover meals come next to cabbage as important elements of the daily rations, and mangel wurzels are good for thrift, but have little influence on the egg yield. Mangels and the dry clovers (steamed) may be used in conjunction with excellent results. As a digestive and absorbent of unhealthful gases, charcoal ranks high. I believe it is better to let the birds use it as appetite dictates than to mix it with the food. Usually they eat it greedily, especially when young. But, as charcoal doesn't agree with all stomachs in the human family, it may also be that some birds are better without it.

Meat meals and cut bone, while so necessary to egg production and so helpful to the growth of the chicks when properly and carefully fed, are placed after those supplies already named for this reason, all those preceding it have a distinct value as corrective, and aids to health. The meats, on the contrary, though very valuable, must be carefully used or they become a det-

riment to health. It does not take a very long course of over-feeding with meat to ruin the digestive apparatus of any fowl. Slight indigestion first appears, increasing later in frequency and severity of attack. After a few weeks, the birds die, and the livers are found enlarged, or vari-colored. The best corrective to super-abundant meat in the diet, is abundance of green, bulky food also. In the early stages of indigestion, a few days' run on full range will apparently cure a yarded bird. But the difficulty is only too apt to return upon the resuming of old conditions.

There are "concentrated meals" which consist of grains, or meats, or both, with condiments to force still further the lagging egg supplies, when meat used alone seems to be failing its end. There is every variety of cooked and compounded ration of grain products. There are biscuits and cookies and corn cakes. There are "teeth" for the growing chicks; made, doubtless, of bone, shells, etc. They may all be good enough in their place, but are not always a wise dependence, and they are always a source of unnecessary expense. The various mixed and cooked grains are mainly good, but you can save considerable money by learning to do this compounding yourself. Some of these prepared foods come as high as six cents a pound, a price no poultry raiser can afford to pay for foods. They are certainly a help (some of them, at least) in rearing chicks, for those who do not understand preparing food; but they have little place in the rations of those who would rear "pocket-money poultry", because they swell the feed bills unduly. For those who are in poultry for mere pleasure, or for the fancier who has a sure market at high rates, they are a good reliance.

A good general rule to follow is to use no food of which you do not know the components. This will make you work and trouble sometimes, but will save you much money in the end. Why should you pay more (for instance) for oats and corn in a dealer's mixture than you pay in open market? Get the components, pay fair prices, and mix them yourself if you want mixtures. Stale bread, crackers, and popcorn are excellent foods to use in connection with ordinary grains, when they can be had at a low rate. But it is wise to make close calculations as to how far a barrel of bread will go, before deciding that it is cheap. Cooked foods of any sort will help increase the percentage of chicks brought to maturity; but it is always to be remembered that free use of them will decrease the digestive capacity of the birds, rendering them less capable of digesting the hard grains uncooked. I have known of stale bread being sold at thirty-five cents a barrel. At a rough guess I should say that a barrel might contain 100 pounds; this would certainly be cheap feed. But bread is uncertain stuff to store, unless one knows how to handle it. If kept for any length of time in a damp place, it moulds; if in a dry place, it becomes almost as hard as stone. When very dry, it should be ground, as it is difficult to soak it sufficiently without getting it pasty. As good chicks as we ever grew were raised almost exclusively on crackers and wheat, but they had full range, and could supply themselves with the dainties of the season.

Referring once more to clover, let me urge all who rear chicks or keep poultry for eggs to study and experiment till they are familiar with all that clover may do for their flocks. It is always a cheap feed, always a wholesome feed, always quite near the best ratio in its

solid constituents. More than that, by the addition of a little meat, clover, and the oft-despised but alluringly cheap corn, will form a good egg ration. This one fact alone would be a very strong argument for a trial of its merits. On the farms, clover can be used without cutting, though at considerable waste. Or, if the size of the flocks warrants it, a clover mill can be bought, and the whole plant turned to account, instead of merely the fine leaves and heads. Second-growth clover, fine of stalk, cuts and uses to better advantage than other, and green-cured is as much better than weather-browned or over-ripe hay for poultry as for all other stock. Second-crop clover is said to be affected at times with a fungus which may salivate, but I have not known of any case in which it made trouble with poultry. So strongly do I favor the use of clover for poultry that I feel that I owe it an apology for classing it with supplementaries.





PAIR WHITE WYANDOTS.



## THE POSSIBLE VALUE OF CAPONIZING.

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**T**HE heading to this chapter implies a question as to the actual value of caponizing, which is sure to raise an immediate counter-question in the mind of the reader. What! Is not the enormous value of caponizing fully admitted everywhere? If we stop to run over in our minds the sources of the information heretofore given to the public concerning capons, we shall realize that these have been almost wholly the dealers in caponizing tools. Such can hardly be expected, under ordinary conditions of human nature, to speak without bias.

In considering our subject, we shall be brought face to face with two questions: First, Will capons pay? When this is settled, even though it be in the affirmative, we shall still have to ask, Does caponizing pay? And this may, under certain circumstances, find a negative answer. Some careful experiments have shown that the increase in weight of capons is by no means so great as the public generally has been led to believe. Lot after lot, a portion of each of which were caponized, and brought on beside the rest in the natural state, have shown that it takes the capons several months to sufficiently recover from the operation to catch up with their former mates in size, and that they seldom reach more than from half a pound to a pound

greater weight than uncaponized birds, of the same lots and breeds. The gain in price over uncaponized birds of the same age is a very tangible thing. The price of the capon is often double that of the other, and at times treble, while the uncaponized bird is at times barely salable, even at the lowest price. This sounds like a strong enough argument for the capon, but there are a good many things to be said which strengthen the other side of the question. To be sure, it is an advantage to place on the market twelve pounds of juicy, tender flesh, in the place of perhaps eleven pounds of dry and tasteless meat. But selling price is not the only thing to be considered.

The cost of production is one of the essential factors in the study of the question of profit and loss. Capons have to be kept ten months. It will cost as much to produce one eleven-pound capon, as to produce two or three young chicks of the same combined weight, perhaps more. It is a question whether the flesh of the capon is really better than the flesh of these younger chicks. My own experience and tastes would lead me to say that it is not so good. The younger chicks, if produced at the right time of the year, will bring as much per pound as the capon, to say the least. It is a question, therefore, which may be fairly put, whether the advantage of caponizing is a real, so much as an imaginary, one. It is because women are likely to be led off into side tracks and specialties like this, that this chapter is given place. Women are, as a rule, familiar with the anatomy of the fowl; they know themselves to be deft-fingered; and if they have seen the price lists of capon sales, they are quite likely to think that here is a chance to make some money rather easily, if they can but overcome their natural shrinking at giving pain.

It is not often necessary to do the actual work of caponizing for one's self. In districts near the best markets, it is generally possible to find professional caponizers who go about the country doing this work rapidly and safely, at a cost of, perhaps, three cents a head. Three cents a head is certainly not enough to pay any women for doing violence to her finer feelings by such work. Nor will it ever pay, in all senses of the word, to go deliberately into a branch of the poultry business which necessitates the infliction of the maximum amount of pain upon living subjects. There are other lines of poultry work, which, if carefully worked up, will pay as well, and be far more pleasant. Still, as there may be some who will still believe that caponizing is a most profitable line of work; and as on farms, where feed is cheap, Summer chicks may be brought on in this way to a good degree of money profit, we may give the subject a little further special consideration.

There is a best time to make capons, a best size of bird to operate on, a best set of tools to use. There is, also, a difference in breeds. The Indian Game, a very close-feathered and hard-fleshed fowl, is difficult to operate upon. The softer, looser-built birds make the easiest subjects. The usual size to operate upon is from one-and-a-half to two-and-a-half pounds. But, inasmuch as the larger birds do not seem to feel the operation so much, unless the combs have developed, it is desirable to take them at not less than two pounds' weight. The best tools (at least we may suppose they are the best, as they are generally preferred by professional operators) are known as the old Chinese tools. For the loops by which the final operation is performed, nothing has yet been found preferable to

horse hair. Perhaps the most profitable time to make capons is that which will bring them into the market in February, or later, as prices rise about this time, and continue rising until capons are out of the market for the season. Instances are on record of capons bringing thirty and forty cents a pound in July. The large birds are the desirable ones, but they should not be kept beyond the age<sup>of</sup> of ten or eleven months, as the flesh changes after this period.

The fowls need to be prepared for caponizing in a way somewhat similar to that in vogue when they are to be killed. But in the case of the bird to be caponized, both food and water are withheld for twenty-four to thirty-six hours; or for forty-eight hours, if the work is all to be done from one side. This fasting empties the bowels, and relieves the volume of blood in the veins and arteries. This is an important point, for though the operation is a simple one, when deftness and skill have been attained, the slightest puncture of the artery which lies in immediate proximity to the testicle means the sudden and sure death of the subject.

The appearance of the capon in market is certainly not attractive. Only the breast and back, a portion of the wings nearest the body, and the upper thighs are freed from feathers. The neck and saddle-feathers being large and fine, the tail small, the comb undeveloped, and the head small, pointed, and somewhat feminine looking—these are marks whereby the intelligent purchaser may know that the birds offered are really capons. The capons are dry-picked, and the mouth, legs, and feet washed before shipment. They are sent undrawn to New York, and to some Boston dealers.

There is always question in considering the matter of learning caponizing, as to the possible rapidity with which one can work. While the novice might, and probably would, spend a half hour upon the first bird, and then possibly produce a slip, experts will do scores each hour during the whole day. One very sure and rapid worker caponized one bird per minute for three hours in succession; his day's work being 450, of which not one per cent died. It is absolutely necessary to have good light, and for dark days, trials have been made of the head mirror, with reflecting light, such as physicians often use for examinations. Its use was found very satisfactory.

Any one who is deft can learn to do this work by following the very clear instructions given in books of directions, to be variously procured. It is much better all around to use freshly-killed birds for the trial operation. Makers of caponizing tools furnish books with clear directions, and agricultural stations of some States give free demonstration lessons to any one within the State. The Rhode Island College gives lessons in caponizing, in connection with its poultry course, and also sends out, free, a book of instructions. The instruction at the school is given by one of the best experts in the country. Though it is said that the birds suffer little and recover very quickly, it is safe to assert that the first statement will not be true of the woman who attempts to learn the work. At the end of the first lesson she will be sick from head to foot—sick of the work, sick of her bargain, sick of the whole chicken business. And it will be several days before her stomach recovers its normal tone. Dollars and cents do not pay for these things, even when pocket-money seems a desperate necessity.

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