

POULTRY KEEPING:

A RECREATION AND SOURCE OF INCOME FOR GIRLS.

By THEO.



HAVE often wondered how many readers of THE GIRL'S OWN PAPER know anything about the delights of poultry keeping.

Perhaps I ought to explain what I mean by poultry keeping; for by this expression I do not mean allowing a few miserable hens to wander disconsolately about in a backyard, picking up what they can, sleeping in some draughty shed, neither being happy themselves nor giving pleasure or profit to those who own them.

Poultry keeping means a great deal more than this; and I would advise no one to start unless she be prepared to take it up, on however small a scale, diligently and patiently, only expecting success after a proportionate amount of attention and practical experience.

That profit can be made in poultry there is no doubt, especially where about one for every member of the household is kept; but I do not intend to enter fully upon this question until later, only remarking in passing that profit depends on care and thought, and, above all, on doing everything in a thoroughly business-like way; by which I mean keeping strict accounts, buying food in the cheapest market, preventing waste, etc., etc.

I cannot tell you what a pleasure my hens have been to me, and I have come to the conclusion that poultry keeping as a recreation and quiet outdoor hobby is almost unequalled.

I, like many of my fellow-readers, live a quiet home life, and I would not do without the daily interest of my hens for anything. They take me out three or four times a day; they cause a constant healthy excitement as to the number of eggs they will lay; they create a kindred topic of conversation with my friends; and even the pleasure of my walks is vastly increased if I behold a fowl drinking in the gutter.

I have a name for each of my birds, and am constantly surprised at the individual characteristics they display; and they always welcome me most warmly, the greediest being perhaps the most affectionate.

Something of interest is constantly arising in the hen-yard; as, for instance, yesterday morning I found one of my home-reared chickens of six months, a dear little cross-bred Houdan, sitting on the nest where she afterwards left me her first tiny egg.

Again, the pleasure of being able to supply the household with really new-laid eggs is very great, and people who seldom enjoy them little realise the difference between the ordinary "fresh egg" and one just brought in from the home yard. The luxury is all the sweeter when it is the combined result of personal care and attention, and an economical use of scraps which might otherwise have been entirely wasted.

I do not unfortunately always find everything progressing happily in the yard. Sometimes a fowl is ill; sometimes a cat will make sad inroads upon special chickens, or I find that a sitting hen has allowed her eggs to get chilled, which latter contingency, I may tell you, is a most discouraging disaster.

With experience, however, one gradually learns how to ward off many troubles and dangers, and I should indeed be glad if a few words of mine would help any girl in her first attempts at poultry keeping.

I am sure that a great deal may be learnt from others, though of course practical experience is the real teacher whose lessons we seldom forget, and therefore I would advise beginners most strongly to begin in a very small way, so that if they get into difficulties, which they most assuredly will do, the loss may not be too great.

Some girl may perhaps be saying, "But I cannot keep hens; I live in a smoky town, and we have only a small back yard or a tiny garden."

Well, you are just the one I want to speak to! It is quite surprising what can be done in the way of poultry keeping with the most limited accommodation; so I would propose at once to enter into the question of houses and runs, and to find out what is necessary to secure the health of the birds and profit to the owners; and we will talk of breeds, chickens, feeding, and general management in a later paper.

There is no doubt that hens do thrive better and with less trouble when they have a good grass range, but with careful feeding and extra cleanliness grass is not an absolute necessity. I know a girl in Birmingham who keeps eight hens, with a run only six yards square; and I read a letter only the other day from a gentleman stating that his six pullets laid in one year 1,184 eggs (average 197), though they were only kept in a small back yard, and had never seen grass. Of course they were from a specially good laying strain, and had been fed by an experienced owner. Nevertheless, I am convinced that any girl giving her mind to the subject could attain to very good results even the first year.

Another girl I know keeps hens in a small run at the bottom of her garden, and lets them out on to the lawn for half an hour daily. They then do little harm if they are watched, but I must confess that hens let loose into a garden have a decided tendency to dig holes, and to nip off the heads of the gardener's choicest possessions.

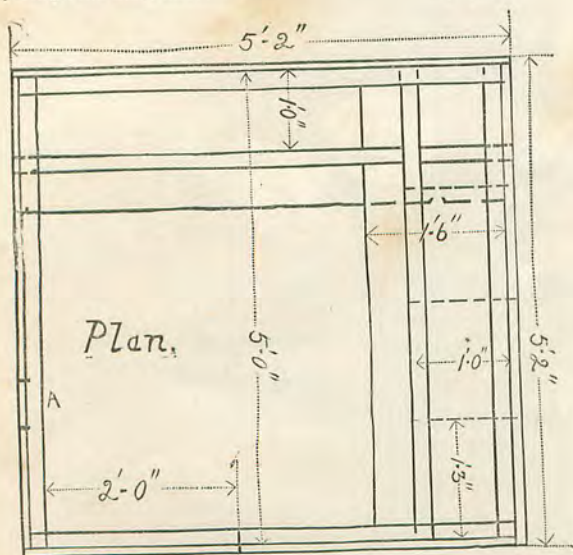
The house is the first and most important item in the poultry establishment, and I propose to lay down a few general principles, and then to describe a typical house suitable for a dozen hens, from which you can work and adapt each to your own special surroundings and to the number of your birds.

The first essential for health for fowls is that the house should be kept thoroughly clean; there should be no smell whatever, and all should be arranged in such a way that the excrement can be removed daily; this is little trouble when done regularly, and is in fact one of the surest ways of keeping fowls free from disease.

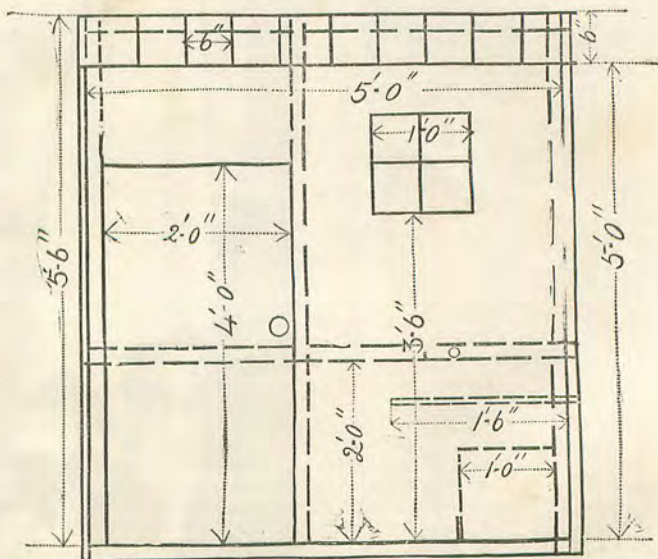
Next, the sides and roof of the house must be as tight and secure as possible, as anything in the way of a draught is most hurtful, although thorough ventilation must be provided.

The floor must be dry and free from damp, and as fowls are fond of light there ought to be a window.

As to situation, a south, or south-east aspect is best, but if it be impossible to obtain this, any other will do as well, provided always you secure dryness and warmth.



(a). DOOR FOR HENS.

Scale, $\frac{1}{2}$ inch to 1 foot.

FRONT ELEVATION.

For twelve hens you would require a house about 5ft. square and 5ft. high, the roof rising to 5ft. 6in.

As no doubt expense is an object to most of us, we will consider the cheapest way of setting to work.

It is a good plan to buy from a grocer or ham and bacon dealer some strong cases which, when taken to pieces, supply good wood of one inch in thickness.

I did this myself, and got a jobbing carpenter to erect the house in a corner of the garden where, happily, two sides were already provided for by the stone wall.

If this sort of wood cannot easily be obtained, ordinary rough boards do very well, and make a nicer looking house, though they are considerably more expensive.

The roof is best made of corrugated iron (this would cost you about 5s.), or else of wood covered with felt roofing at 6d. a yard, well tarred twice a year, along with the sides of the house.

A small glass window 1ft. square should be placed at the sunniest side of the house; and thorough ventilation can be obtained by boring a number of small holes as high as possible on two sides of the building, so as to secure a thorough draught over the birds' heads.

Or another way is to make an opening about 6in. square, and cover it with perforated zinc. The floor must be well drained if in a damp situation, by digging a deep, sloping trench, and filling it with coarse gravel up to the level again. Having obtained dryness, there are many different ways of flooring, of which I might mention a few.

Hard trodden earth is very good if sprinkled with sand or fine ashes, and swept up daily. A concrete floor is much the same, but is, I think, rather cold unless well covered with loose ashes, and some people tile or brick their floors. All these ways are good, though I myself prefer the following:—A hard-trodden earth floor first, this covered with a very thick layer of dry ashes, which should be raked over twice a week and changed once a month, or better still with peat moss litter, which makes a very warm comfortable floor, absorbing the moisture from the hens' damp feet, and acting also as a disinfectant. Where peat moss is used it requires to be raked over once a week, and if five inches deep will last as long as six months if the night accumulations are removed daily.

When it is changed it should be done thoroughly. All should be swept out and the house lime-washed, the peat moss being used for the garden, where it forms a most excellent manure.

The door may be at any convenient side, but should be a good fit, and be fastened with a padlock. In some places it is well to have a bell fastened inside to ring when the door opens as a slight protection against thieves.

For twelve hens four nest boxes will be sufficient, placed along the darkest wall out of the draught.

On the ground is the best place, when they will consist simply of four compartments, 1 ft.

3 in. long and 1 ft. deep, with a 3 in. high board running in front to prevent the hens scratching too much into them.

The perch should be placed on the same side as the nests, and should be fastened from two to four feet from the ground, according to the heaviness of the birds. It is a very common mistake to put the perches too high, often causing great injury to birds of the heavier breeds.

The perch should be 2 in. broad, flat, and with the edges bevelled off.

All along under the perch must be placed a board which serves three purposes, *i.e.*, forming a covering for the nests, which you will remember are underneath, preventing an upward draught on the birds, and for catching all dirt, which thus will never defile the floor of the house. This in a small house is a great consideration.

The board can easily be cleaned every morning with a small iron scraper and shovel, and sprinkled lightly with dry ashes.

With the number of birds I have given it would be better to run the perch round two sides of the house about 1 ft. from the wall, always remembering that wherever you put a perch, you must put a board underneath.

A hole 1 ft. square, with a sliding door, must be cut in the side towards the run, and should be shut every night.

The smallest run that you can keep twelve hens in, and then only with the greatest cleanliness, is one eight yards long by three wide, and if you have not space for this it would be better to keep fewer hens.

The run should be covered with loose gravel, earth, or ashes, and must, like the house, be kept very clean.

It should be raked over twice weekly, and part of it dug over once a week; the hens will enjoy this process and will scratch about finely, picking up insects and worms in abundance during the season.

As often as the run appears to be getting dirty and causing the least smell, the top must be removed and fresh earth, ashes, or gravel put down. About twice a year it should be dug over thoroughly.

All this may sound a good deal of trouble, but without it hens will not thrive and lay well, and after all it is work in the open air and attended with a great deal of satisfaction.

In passing, I may remark that old ulsters, hats, and strong shoes are very necessary adjuncts to the poultry keeper.

The wire netting, 2 in. mesh, must be fastened to posts at each corner of the run, and should be from four to nine feet high according to the breed, as some birds, like Hamburgs and Leghorns, fly immense heights, whilst Brahmas and Cochins seem hardly able to rise from the ground.

The nicest way to accommodate all parties is to have the netting six feet high, and wired in over the top.

The door into the run should consist of a wooden framework with wire netting across.

You ought not only to have a house and run, but also to have in the run some sort of shelter

for the birds during rainy and snowy weather. You will often find that they prefer the house to any other, but still it ought to be provided.

If, as is most likely, your house and run are sheltered on two sides by a wall, the shelter is easily managed, as a piece of corrugated iron or boards covered with felt, placed across from the house to the wall, is all that will be required.

The fowls should enter the hen-house from the shelter.

If there were no wall, and your house and run were in the middle of a field, you would be obliged to board in a piece of the two sides.

Under the shelter should be placed a box or heap of sifted ashes in which the fowls can dust themselves; this they should do as regularly every morning as we ought to take a cold bath.

If you neglect this you will find your hens moping and miserable because covered with insects.

It is good to occasionally put a little insect powder into the ashes.

I think I have now given you all directions as to the house and run. It is no use estimating the cost, as prices differ so much in different parts of the country, and probably my plan will be modified in every instance. You will notice that I have only spoken of fowls kept in close confinement; of course, if you have a chance of grass, take it, by all means, and the larger the run, even without grass, the better.

Some of you may be able to let your fowls out occasionally on to grass, and if you have only a limited supply it is the best plan to let them out daily for half an hour, when they will soon learn to eat what they want in that time, without spoiling it by constantly treading upon it.

Many girls will, no doubt, have sheds and out-houses at their disposal which they can adapt to their wants, and save the expense of building; and in all such cases it is best to use what there is first before launching forth into more.

Those who would like to keep from four to six hens, to try how they succeed, could make a house out of a packing case or a very large hogshead, whose sloping top makes a splendid roof when covered with felt roofing and well tarred. The slope of the bottom must be filled up level and supported on bricks to keep it from the damp ground; only one nest would be needed, and a run four yards square would be plenty.

These proportions I give at the lowest, and if a nice little house could be built on the same plan as the larger one, all the better.

There are many complete houses advertised at fairly reasonable prices in the live-stock journals, which are very convenient, but I always think home-made things are more interesting, and I need not remind you that brothers are a great help sometimes when they are judiciously treated, and often render valuable service to their devoted sisters.

I hope you will be able to understand the accompanying plan of the house I have described. If you were to give it into the hands of any carpenter, he would be able to work from it, as it is drawn to scale.

(To be continued.)

VARIETIES.

A PRINTER'S TALE.

Minion and brevier are two different sizes of types, and about them printers tell the following story:—

An intelligent compositor was setting up a story for *THE GIRL'S OWN PAPER*, when he came across the following passage:—

"'Elvira,' he cried, in a passionate voice, 'Elvira, fly with me.'

"'Antonio,' she sobbed, smiling through her tears, 'I will; certainly I will.'

"At that moment a tall figure stepped between them, and the sullen voice of Hugo de Grubbs was heard:

"'Avaunt, slight girl! And as for you, base minion—'

The intelligent compositor had just got as far as this when an idea struck him. "The howling ignoramus!" said he to himself. "Why, minion wasn't invented until 1654, and

this is a story of the Middle Ages." He then changed the passage to—

"'Avaunt, slight girl! And as for you, base brevier—'

And so it was published.

ARGUMENT.

How canst thou smile at my despair,

And bid me other nymphs adore?

Show me a girl but half so fair,

And I will trouble thee no more.

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PART II.

As by this time I hope that you have received some idea as to your poultry-house and run, I will give you a few directions concerning the selection of your stock.

Let me say at once, however, that I can give you no advice upon showing and show varieties.

I take it for granted that most of you are beginners in this delightful pursuit, and that as such you have little or no experience, but are determined to take it up as a real recreation, with the intention of doing your utmost to make it pay.

Let our motto be "Economy and utility," and certainly if you want profit and peace of mind, keep out of the showing line. As an old gardener remarked to me the other day, "There's naught like good layers. T'other kind! why you breed 'em, and feed 'em, and fash with 'em, but you get naught by 'em!"

The gardener's remark is assuredly correct, as far as beginners are concerned, for even if in after years you become so hen-fever stricken that you cannot refrain from fancy breeding, yet until that day you had better be content with success or failure in some less delicate and expensive stock.

Upon this stock question there are as many different opinions as there are feathers in a hen!

Every poultry fancier whom you consult descants on the excellences of the particular breed in which he is interested; gives you the most astonishing egg-production averages, and after having taken you to see his stock, makes you firmly believe that unless you take his advice your experiment will be a hopeless failure.

The next adviser you go to tells you to get good first-crosses. One advises large birds, another small; one suggests that white fowls look so picturesque, another that black fowls don't show the dirt; and finally your old

servant remarks conclusively that there is nothing like a good barndoor fowl, such as she used to help her mother to feed when she was a girl!

All this advice is very perplexing, but a good deal of it can be much simplified by considering three questions—

For what purpose do you want your fowls? Under what conditions do you intend to keep them? What is the length of your purse?

Whether you want fowls for close confinement or for an open grass range, always select good hardy birds, and if your object be to produce eggs, let them be of the best possible laying strain.

A good layer can usually be told by its coarse large comb and wattles, and by its body being generally larger behind than in front, which is the opposite to what you find when choosing for table purposes. The laying qualities of hens depend far more on the laying strain than upon any particular breed, though some breeds are no doubt more generally prolific than others.

Always know where your birds came from and how old they are; or if you are too inexperienced, ask some poultry-keeper to help you.

It is most disappointing to have spent your money and then to find that your purchase consists of either aged birds, which show plenty of appetite but very few eggs, or else of some grand-looking creatures, neither pure-bred nor a good cross, perhaps delicate into the bargain.

Another great secret of success in poultry-keeping is to know when to buy and when to kill.

The best time to start poultry-keeping is in the early spring—say February or March—in order that you may gain your first experience during the summer months.

Have your house all ready, pay everything up, see what money you have left, and only buy as many good birds as you can pay for.

Don't get a cheap lot, whatever you do; far better get six good-laying, young, healthy birds, than ten unguaranteed ones of which you know nothing.

If you do not want to spend much at the beginning, and care little about appearances, you might begin with common "barndoor" fowls.

At that time of year you ought to be able to get good pullets of average laying qualities for from three shillings and sixpence to four shillings each; they should be eight or nine months old, and just beginning to lay.

If you begin with this sort of stock you will, I believe, have very fair results, if fed and managed according to later instructions.

As you have nothing to do with chickens you do not require a cock, so you can save his keep and a good deal of annoyance to your neighbours. Of course the eggs in this case will be of no use for hatching purposes.

If all goes well now, your hens will lay right through the spring and summer months in abundance. They may be rather troublesome about wanting to sit, but if you don't wish them to do so they are easily cured by putting them in a coop with a floor composed of two-inch bars placed at two-inch intervals, raised from the ground by bricks at each corner. The hen cannot then sit, and if she be given plenty of food and water she will soon recover and want to begin to lay again.

Always let a broody hen be in sight of the other birds, and do not try all the cruel operations advised by many, such as dipping in cold water, starving, keeping in the dark, etc. Remember that your object is to keep her in good condition, that she may lay again as soon as possible.

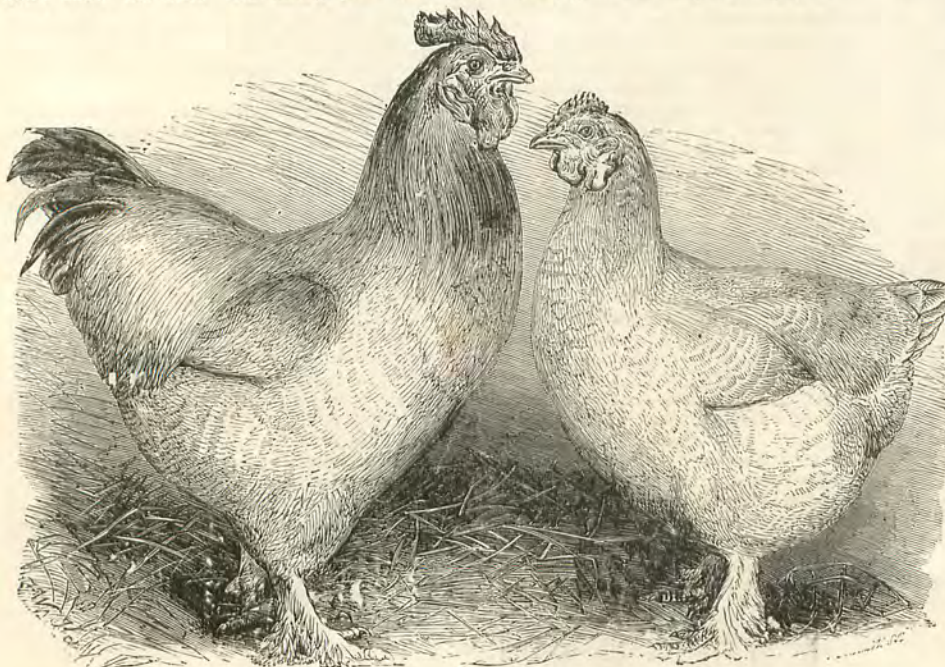
From August to November may be termed the moulting season, and your hens will in no wise escape, and they will begin sooner or later. As they are only common birds, I should advise you to kill them at the first sign of moult. You can then sell them for eating purposes, to the household, for from two shillings to three shillings—according to whether you live in the town or country—and then renew your stock with March-hatched pullets, which should keep you in eggs all through the winter.

This sounds rather a heartless way of doing, and if you are very fond of your hens, and any of them are specially good layers, they may be kept another season, but you must have some early hatched pullets every autumn, or there will be no November or December eggs, and when eggs can be sold at six for a shilling during the winter months this is a consideration, and shows which way the balance-sheet will turn at the end of the year.

If you have rather more money to spend at the beginning of your enterprise, I should advise you to buy instead of barndoor fowls some good first-cross pullets, or pure-bred ones.

I think I shall never forget my intense delight and wild excitement when the L. and N. W. Railway van brought to the door the hamper containing my first seven pullets.

They came from a well-known breeder of good laying stock, and as I had a fancy for nice-looking black birds, they consisted of two Minorca-



WHITE COCHINS.

Langshans, two Minorca-Brahmas, two Houdan-Cochins, and one pure Plymouth Rock; they cost thirty-five shillings.

I of course opened the hamper at once. Naturally after the journey the inmates were rather lively, and flew about wildly, but at last they were prevailed upon to go into an empty stable, for I must confess that I had been in such a hurry to get them that the hen-house was not ready when they did arrive; and even when a day or two afterwards I was able to put them into the proper place, they had neither peace nor comfort, for, being very wet weather, the sides and roof of the house began to leak, owing to not having been properly tarred, so that altogether I had rather a discouraging time, all through want of a little forethought. They arrived the middle of February at twelve o'clock, and by one o'clock I had my first egg!

By March they were in full lay, and gave me 122 eggs, and in April 160; and so on through the summer, except when they wanted to sit.

The Minorca-Langshan, which laid first, and whom on account of her flaming red comb I named "Rosie," laid between eighty and ninety eggs without missing a day, but afterwards she began to "clock," as the North-Country people call being broody.

Another hen laid on during the moult to the end of October, until she hardly had a feather on her; but this is not very advisable, as they are obliged to take such a long rest to get up their strength afterwards.

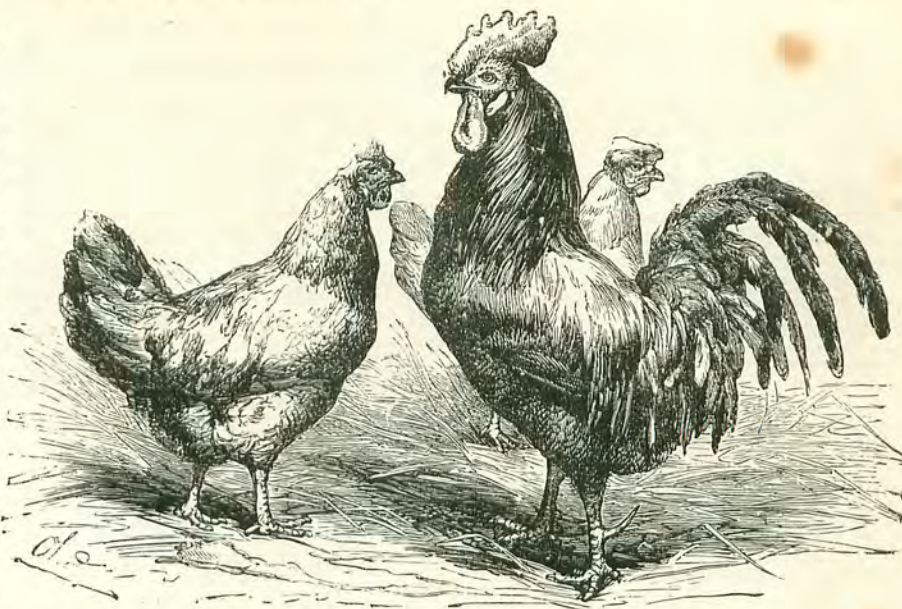
I hatched some Minorca-Langshan chicks in the end of April, which began to lay in November, but I was very short of eggs during September and October.

I hope you will learn by my mistakes, and manage better in your first year.

Discussions rage in the poultry-books and live-stock journals concerning the relative merits of first-crosses and pure-bred fowls; but no decided conclusion has yet been arrived at, as so much depends more upon the laying strain than upon any peculiarity in the breed.

I would like to give you some idea of the different kinds of fowls, so that all may be able to choose according to their individual surroundings.

As we are considering fowls from the egg-



BARNDOR FOWLS.

production point of view, I shall enlarge most upon those breeds which have this special quality, and will mention in each case whether most suitable for an open range or close confinement. We will afterwards consider the main first-crosses, which will be easier after we have learnt a few of the characteristics of the pure breeds.

Pure breed fowls may be roughly divided into two classes—sitters and non-sitters.

It does not necessarily follow that a hen belonging to the sitting class will always want to sit at some part of the year, nor *vice versa*, but nevertheless there are certain varieties that have been so much cultivated and bred by man for laying purposes, that the desire to reproduce the species has almost entirely departed from the hens.

For never think that it is natural for any bird to lay a constant succession of eggs for no reason but the gratification of her owner. It

is an acquired developed habit, and if the best laying varieties were allowed to mix and degenerate, they would gradually go back to the natural custom of laying eggs according to the number of broods they wished to rear.

I hope to describe shortly some of the principal breeds at the end of each paper, so this week I will take the Cochins, Brahmas, Plymouth Rocks, and Langshans, all of which are devoted sitters.

Cochins.—There are three chief varieties of this breed—the white, partridge, and buff.

All Cochins have feathered legs, very short tails, evenly serrated upright combs, and very loose fluffy plumage.

The white Cochin should be perfectly white all over. The illustration gives the impression of a black tail, but this is incorrect.

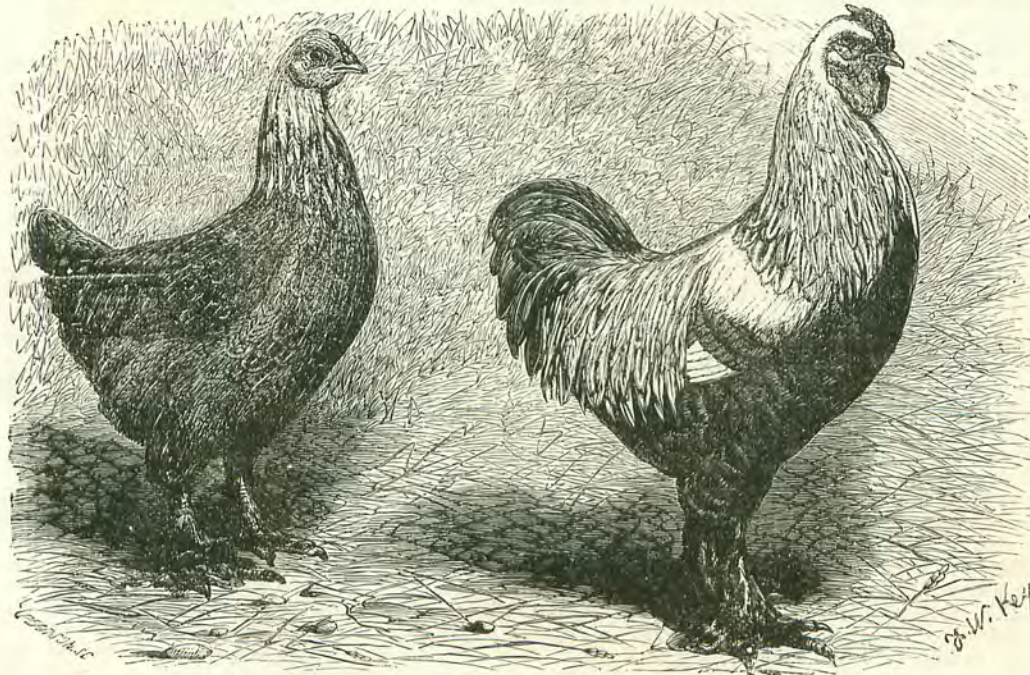
The partridge are, as the name suggests, of a partridge colour, mottled; the cock having a black breast and black leg feathering, with a good deal of red on the neck and back.

The buff are of a shade of buff colour, the cock throwing some very rich feathers in his tail.

Mr. Wright, in his "Book of Poultry," calls the Cochin the "Father of the Poultry Fancy," because when these fowls were first imported into England, in 1843, there arose such a Cochin-fever that people paid enormous prices for a single specimen; and this interest in one breed naturally cultivated the interest in others, and in poultry-keeping generally, which has never since declined.

Brahmas.—These birds can be obtained either in the light or dark variety. The light ones should be white all over, except the hackle feathers, which should be striped; and the tail feathers, which though short are longer than the Cochins, should be black, just edged with white. Both varieties have pea-combs firmly set to the head, and well-feathered legs.

Dark Brahmas are very handsome birds. The cock



DARK BRAHMAS.

has a black breast, tail feathers, lower part of the body, and leg feathers. The hackle and saddle feathers are grey or greyish white and black.

The hen's hackle feathers are striped black and white, and the tail feathers are black, and the rest of the feathering is of a greyish hue of alternate shades, which on a well-marked bird looks exceedingly nice.

Plymouth Rocks are a very favourite breed, and are large birds, coloured in two shades of grey—very light and very dark. The marking on each feather should be very even, so that the birds have a regular mottled appearance.

Plymouth Rocks vary very much in shade, and are difficult to breed correctly. All have upright combs, the hen's being rather small; the legs are quite free from feathering, and should be of a decided yellow colour.

Langshans.—This breed of fowls is a comparatively new one, but is making its way by its handsome appearance and useful qualities.

Mr. Cook, in his "Poultry Breeder and Feeder," describes them as follows:—"The Langshan has more tail than the Cochin, and has black legs, slightly feathered down to the outside toe, not the middle one, which should be free from feathers. The thick fluff (vulture hocked) is a fault with them, especially the cocks. These are rather long, should be broad in the chest, and should carry themselves very erect. Their combs should be evenly serrated and erect. They have a beautiful green gloss upon their plumage."

All these four breeds are good average layers, though never, perhaps, quite coming up to some of the non-sitting class.

For hardiness and endurance of cold the breeds may be placed in the following order of

merit—Cochin, Brahma, Plymouth Rock, Langshan.

All are very troublesome in the spring and summer, on account of their sitting propensities; the Cochins and Brahmas make the best mothers. All lay brown and tinted eggs, which with some people is an attraction, and where eggs are sold to dealers, brown have an advantage over white ones. The Cochins and Brahmas are the brownest.

Where eggs are required for home use, I think the Plymouth Rocks or Langshans would prove the most satisfactory, especially as they are also the best table birds.

All these breeds do well in confinement, as they are of a quiet and peaceable nature. The Langshans are rather nervous, and they and the Plymouth Rocks fly well, so require higher wire netting to keep them confined than the Brahmas and Cochins.

(To be continued.)

OUR BESSIE.

By ROSA NOUCHETTE CAREY, Author of "Nellie's Memories," "Esther," etc.

CHAPTER V.

THE OATLANDS POSTMARK.



ONE day about three months after her adventure in the Sheen Valley, Bessie was climbing up the steep road that led to the Lamberts' house. It was a lovely spring afternoon, and Bessie was enjoying the fresh breeze that was blowing up from the bay. Cliffe was steeped in sunshine, the air was permeated with the fragrance of lilac blended with the faint odours of the pink and white May blossoms. The flower-sellers' baskets in the town were full of dark red wallflowers and lovely narciss. The birds were singing nursery lullabies over their nests in the Coombe Woods, and even the sleek donkeys, dragging up some invalids from the Parade in their trim little chairs, seemed to toil more willingly in the sweet spring sunshine.

"How happy the world looks to-day," said Bessie to herself; and perhaps this pleasant thought was reflected in her face, for more than one passer-by glanced at her half enviously. Bessie did not notice them; her soft grey eyes were fixed on the blue sky above her, or on the glimpses of water between the houses. Just before she turned into the avenue that led to the house, she stopped to admire the view. She was at the summit of the hill now; below her lay the town; where she stood she could look over the housetops to the shining water of the bay, with its rocky island in the middle. Bessie always called it the bay, but in reality it resembled a lake, it was so land-locked, so closed in

by the opposite shore, except in one part; but the smooth expanse of water, shining in the sunlight, lacked the freedom and wild freshness of the open sea, though Bessie would look intently to a distant part, where nothing, as she knew, came between her and the Atlantic. "If we only went far enough, we should reach America; that gives one the idea of freedom and vastness," she thought.

Bessie held the idea that Cliffe-on-Sea was one of the prettiest places in England, and it was certainly not devoid of picturesqueness.

The houses were mostly built of stone, hewn out of the quarry, and were perched up in surprisingly unexpected places—some of them built against the rock, their windows commanding extensive views of the surrounding country. The quarry was near the Lamberts' house, and the Coombe Woods stretched above it for miles. Bessie's favourite walk was the long road that skirted the woods. On one side were the hanging woods, and on the other the bay. Through the trees one could see the gleam of water, and on summer evenings the Lambert girls would often sit on the rocks with their work and books, preferring the peaceful stillness to the Parade crowded with strangers listening to the band. When their mother or Tom was with them, they would often linger until the stars came out or the moon rose. How glorious the water looked then, bathed in silvery radiance, like an enchanted lake. How dark and sombre the woods! What strange shadows used to lurk among the trees! Hatty would creep to Bessie's side as they walked, especially if Tom indulged in one of his ghost stories.

"What is the use of repeating all that rubbish, Tom?" Bessie would say, in her sturdy fashion. "Do you think anyone would hear us if we sang one of our glees? That will be better than talking about headless bogies to scare Hatty. I like singing by moonlight."

Well, they were just healthy, happy young people, who knew how to make

the most of small pleasures. "Everyone could have air and sunshine and good spirits," Bessie used to say, "if they ailed nothing and kept their consciences in good order. Laughing cost nothing, and talking was the cheapest amusement she knew."

"That depends," replied her father, craculantly, on overhearing this remark. "Words are dear enough sometimes. You are a wise woman, Bessie, but you have plenty to learn yet. We all have to buy experience ourselves. I don't want you to get your wisdom second-hand; second-hand articles don't last, so laugh away, child, as long as you can."

"I love spring," thought Bessie, as she walked on. "I always did like bright things best. I wonder why I feel so hopeful to-day, just as though I expected something pleasant to happen. Nothing ever does happen, as Chriss says. Just a letter from Tom, telling us his news, or an invitation to tea with a neighbour, or perhaps a drive out into the country with father. Well, they are not big things, but they are pleasant for all that. I do like a long talk with father, when he has no troublesome case on his mind and can give me all his attention. I think there is no treat like it; but I mean Hatty to have the next turn. She has been good lately; but she looks pale and dwindled. I am not half comfortable about her." And here Bessie broke off her cogitations, for at that moment Katie rushed out of the house and began dancing up and down, waving a letter over her head.

"What a time you have been," cried the child, excitedly. "I have been watching for you for half an hour. Here is a letter for your own self, and it is not from Aunt Charlotte nor Uncle Charles, nor any old fogey at all."

"Give it me, please," returned Bessie. "I suppose it is from Tom, though why you should make such a fuss about it, as though no one ever got a letter, passes my comprehension. No, it is from Miss Sefton; I recognise her handwriting,"



POULTRY KEEPING :

A RECREATION AND SOURCE OF INCOME FOR GIRLS.

By THEO.

PART III.
FEEDING AND FOOD.

INCE proper feeding of fowls is an absolute necessity for success in poultry keeping, this question must be most seriously considered. It is really quite depressing to think

of the thousands of hens in this country that are daily being hopelessly mismanaged in this matter. These unfortunates are fed on anything and everything, and often on nothing. They pick up what they can one day, and are given far too much the next to make up for it, no one for a moment considering that for a hen to produce eggs, feathers, etc., she must be regularly given the proper materials for doing so.

I went one day in the early spring to see some hens belonging to a lady who never went near them. These hens were taken care of by an old man who has had long experience, but who still had much to learn. It is sad to think, by the bye, that all I am now writing may be considered nonsense fifty years hence. But to return to the old man. I asked him how the hens were doing.

"Eh, badly miss, badly!" was his reply.

I asked him when he fed them and what he gave them, and he told me that he fed them regularly at three o'clock in the afternoon on Indian corn. I suggested that three o'clock was rather early, and that perhaps the hens might like a change; but he did not seem to see it, and said—

"No, no, they get now't but Indian corn, and never a bite after three o'clock; never a bite."

I interfered no further, but wondered how hens could possibly be expected to be prolific layers on such fat-forming diet, besides being

allowed to fast sixteen hours at least. Let us hope when the breakfast did come that it was one of good hot nourishing meal.

To keep fowls in good health in close confinement needs a great deal more care and thought than when they have a large grass range, for confined fowls have none of the resources of their more fortunate brethren and sisters, who not being at the mercy of their keepers can wander round, picking up worms to eat and grit to grind with, and herbal medicines to counteract all the bad effects from the ignorance of their feeder.

So no hens must be kept in confinement, for their own sakes or for the sake of their owners, unless they are to be well and thoughtfully cared for. A good poultry feeder must be thorough, regular, economical, and must above all things use all the common sense she possesses.

As we are at present only thinking about adult birds kept for laying, and not about chickens which require quite different treatment, let us consider when fowls should be fed.

A hen, like any of my readers, requires its meal at as regular intervals as possible, not allowing too long fasts, and yet not cramming a lot of meals into too short a space of time.

The first meal, consisting of soft food, hereafter described, should be given as early in the morning as possible, for poultry awake early, as anyone will know who sleeps within sound of a cock's melodious voice.

In summer, if hens have a grass range, they will take no harm first thing in the morning, but will wander off enjoying a splendid harvest of animal life, returning still, however, with unabated zeal for their breakfast.

As it is difficult in most households to get hot food before breakfast, when the kitchen fire is so fully occupied, it is well if the hens are closely confined to put a little corn in their run over-night; and if you can put it in such a position that the hens can fly up to it, but so that the mice cannot reach it, all the better. Always keep a separate pan devoted to the hens, in which request the cook to put all scraps, potato peelings, bits of pudding, odd drops of milk, etc.

If these scraps are well boiled the evening before, and placed on the kitchen fire next day, immediately after the household breakfast is served, they will then be hot and ready afterwards for pouring into either a tin or earthenware dish, and mixing with warm meal.

Comparatively few people mix their poultry food properly. Some throw out a moist, sticky

mess, and others throw odd scraps to their hens, big and little together, so that as most hens have the deplorable tendency of grasping at the biggest, the result of such feeding is a rushing, scrambling, bolting and choking sad to witness.

All scraps must be cut into small pieces and mixed with dry meal until they form a "short," firm lump, that will break in pieces when thrown on to the ground; it must neither be doughy nor sticky, nor must it be so dry as to crumble and waste the meal. Having mixed the food quickly, the poultry feeder is ready to sally forth, clad in apron, warm shawl, hat and strong boots; for she must never catch cold, else she will not be able to attend to her duties.

As soon as she nears the yard, and a hen so much as hears a step on the path or a gate creak, or catches sight of a bit of her dress, as surely will that hen run, and in running cause the rest to run, until the feeder stands a truly gratified spectator of an appreciated feast.

Now is the time, if she can tear herself away from their sight, to fill up the water jar, which must first be well rinsed out. Then she must remove all droppings from the hen house, which must be put into a barrel kept for the purpose, and will form excellent garden manure if kept dry, and should be paid for at the rate of about 2s. 6d. per hundredweight.

The eggs laid before breakfast should be collected, and any that have dropped from the perch be cleared away, as broken eggs always cause egg-eating hens.

I should have said that the food must be thrown upon the ground, if clean and dry, otherwise it must be placed in a tin trough, which must be kept scrupulously clean.

It should always be carefully noticed when the hens have had plenty, as an over-feed is very injurious to health and laying, the great rule being never to give hens more than they will eagerly run for. If they become in the least less eager, and begin one by one to walk off, leaving only a persevering few, take the food away at once, and don't mix quite so much next time. To over-feed fowls is a great temptation which must be strenuously avoided by young beginners.

In the cold winter months I keep my hens shut up in their nice dry house for an hour or so after breakfast, which gives them a quiet opportunity for digesting their food in the warmth. I also give them hot water to drink, which latter is a great help to them.

Laying hens must always be kept supplied with clean water, as it is quite surprising what

a quantity they drink. Six hens would require at least a quart daily.

If the hens have a grass run they will need no more attention until their evening meal, which must consist of some hard grain; and, as in the morning, no more must be given than the hens will eagerly run for. It has been given as a rule that a woman's handful, taken with the palm of the hand downwards, is a good allowance per head. I have found this plan answer fairly well, but as hens differ so much in size it cannot be taken absolutely. The time of the evening meal must vary with the sun, but the rule is to give as late as possible, allowing twenty minutes' exercise afterwards before retiring to roost.

If hens have only a small run they must have a very scanty meal of corn in the middle of the day, and as the object is to keep them as much occupied as possible, it must be thrown down among the loose earth, or among clean straw laid down for them to scratch amongst.

I think I must also reiterate here that a dry place of shelter, with plenty of fine ashes or road scrapings, is essential for hens in whatever way they are kept; they will then be quite happy, scratching and burying themselves for several hours of the sunny morning.

Hens have no teeth to masticate their food, but it is all ground up in the gizzard by means of sharp stones, gravel, sand, etc.

If fowls be kept short of this grit, as is very often the case, they suffer much, as the food cannot digest properly, and illness is the result.

Fowls with open runs can usually pick up all they need for themselves, but even then it is as well to be on the safe side, and to supply a little now and then.

Grit must be very sharp to do any good, and should consist of any small stone chip-pings, broken oyster-shells, old mortar, cinders, etc. Gravel that has been well rounded with water friction is of no use whatever. I have seen chickens that have been cooped up for a day or two eat hard grit as readily as the daintiest hard-boiled egg.

Cockle-shells broken up are very good, as they supply the lime for the shelling of the eggs, and the grit for grinding the food at the same time. If there be a difficulty in getting this grit near at hand it can be cheaply purchased; and though it may seem rather wasteful to buy stones by the sack, yet it is money saved in the end. All bought grit should be very sharp, and must be placed a little at a time in the run, in some kind of flat vessel, as it gets very much wasted if thrown upon the ground.

I have been giving many rules upon how to feed, but now I must tell you what to feed upon.

"The ideal diet is that combination of foods which, while imposing the least burden upon the body, supplies it with exactly sufficient material to meet its wants."—Dr. Schuster.

The above quotation is the heading to one of Prof. W. O. Atwater's most interesting articles in the *Century Magazine*, upon "What we should eat."

The editor of *Poultry* has very aptly applied many of the professor's ideas to our present subject, and has shown very clearly that in order to be a successful poultry feeder, knowledge of the habits and wants of the poultry is required.

All men and animals, and hens in particular, have three great needs which must be regularly supplied if there is to be healthy existence; and here I do most particularly wish my readers to bear with me while I go into what might seem at first sight unnecessary matter, for the whole object of these papers is to enable those interested in the subject to become more interested still, and by showing them a few principles to enable them to think for themselves, and to weigh and utilise facts, so that they may understand the reason why; for she will succeed best who, by knowing why, makes herself independent of those around her, and does not follow blindly any self-constituted guide.

But to return to our point. Every day a hen by living, running, and laying eggs is actually wearing herself out in the exact proportion to the amount of labour she performs and the amount of cold she has to endure. So every day a hen must have sufficient food to keep her body warm, to make up the wear and tear in her own muscles, and to give her strength to walk, run, fly, cackle, etc. A strong, healthy hen requires three different kinds of nourishment.

1. Flesh-forming foods; 2. Fats; 3. Warmth-giving and bone-making material.

Most of the foods have plenty of the warmth-giving and fattening materials; and as hens usually get far too much of these given them, there is little danger of starving them in this quarter. But it is the flesh-formers that are usually left out, and it is these which we shall now consider.

For the morning meal, where potato peelings are used, care must be taken to supply some rich flesh-formers with them, as by themselves they are very poor. So potatoes mixed with equal parts of sharps and barley-meal are good, sharps alone making the mixture too gummy.

In summer, where there are no peelings, the following meals are good:—

1st. Ground oats, *i.e.*, oats ground up with the husk on, not oatmeal.

2nd. Equal parts, sharps and barley-meal.
3rd. Sharps and buckwheat-meal.

By the following table, taken from W. L. Wright's "Book of Poultry," it will be seen that food differs considerably in these various qualities.

There is in every 100 parts by weight	Flesh-formers, Gluten, etc.	Warmth-giving and Fattening.		Bone Material	Husk, Fibre, and Water
		Fat.	Starch.		
Beans and peas ...	25	2	48	2	23
Oatmeal ...	18	6	63	2	11
Middlings or sharps ...	18	6	53	5	18
Oats ...	15	6	47	2	30
Wheat ...	12	3	70	2	13
Buckwheat ...	12	6	58	1½	22½
Barley ...	11	2	60	2	25
Indian corn ...	11	8	65	1	15
Hempseed ...	10	21	45	2	22
Rice ...	7	...	80	...	13
Potatoes ...	6½	...	41	2	50½
Milk ...	4½	3	5	2½	86½
Requirements of hens, not counting water ...	17	6	77		

In glancing over this table it will be seen that very few foods "hit" the ideal exactly; and as house scraps cannot be analysed, we can only come to some approximate diet.

It will be seen that rice is a very poor food for laying hens, as it is the nitrogenous flesh-forming materials that form the richness of the egg.

Bean and pea meal is a very rich food, but cannot be given alone, as it is disliked by the fowls; but mixed with a less nourishing meal may be used for a change.

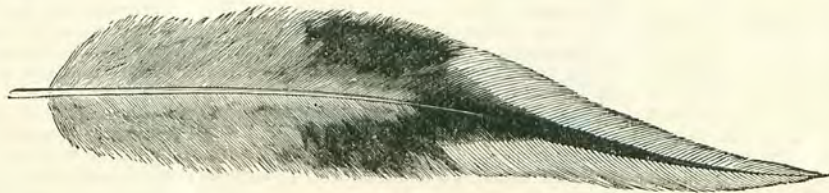
Oatmeal does not mix well by itself, and is, besides, too expensive to be used alone; but a little put in with the other meals is much liked by the fowls, and where the house supplies a great many potatoes, the oatmeal may be afforded to counteract them.

Milk must be used very sparingly in mixing food where hens are in close confinement, otherwise it is good. Always put salt in the meal, and a little pepper during the winter months.

I have only given a few of the mixtures, but with this table before her each poultry keeper will be able to try for herself any arrangement of foods she likes, for hens appreciate a variety, only let it be remembered that in summer hens do not require so much warmth-giving food as in winter, and *vice versa*.

Another time I hope to add suggestions upon the use of grains, meat, and green food to the poultry keeper.

(To be continued.)



A MODERN MONTAGUE.

By EGLANTON THORNE, Author of "My Brother's Friend," "Ida Nicolari," "The Two Crowns," etc.

CHAPTER IV.

"BROTHER MONTAGUE, GIVE ME THY HAND."

It was late in October ere Mr. Denning and his daughter brought their wanderings to an end. By that time each had had enough of foreign life, and felt that it would be good to have done with the frequent changes from hotel to hotel and settle down once more to

their quiet life at home. Mr. Denning was decidedly better for the change. His tone of mind was no longer morbid; he could eat and sleep well; he was looking stronger and brighter than he had looked for many a day. He still walked with a slight limp, and was occasionally reminded by a twinge of pain of the accident which had befallen him at Venice;

but the ankle was *much stronger*, and would, he believed, get quite well in time. Olive was sure that the foot would not have recovered so well had not Mr. Rowcroft taken it in hand when he did. If Mr. Denning thought the same he did not confess it, and neither he nor his daughter ever spoke of Stuart Rowcroft.

The afternoon was clear and cold on which

POULTRY KEEPING :

A RECREATION AND SOURCE OF INCOME FOR GIRLS.

By THEO.



A SILKY HEN.

PART IV.

MORE ABOUT FOOD.

WE have already learnt that if hens are closely confined they will require, after their morning meal, either a sprinkling of hard corn or soft food in the middle of the day; and also a grain meal about twenty minutes before retiring to roost.

The grain used must very much depend upon what the morning meal has been, as hens, like people, appreciate variety, and the right proportion of nutrients must be given. For instance, oats, which are specially rich in flesh-formers, should be given where the morning meal has consisted of potatoes and barley-meal, or some other less nitrogenous food. Do not for weeks together allow the food to be of a very fattening nature, and another time to be far too rich in flesh-formers. Oats, wheat, buckwheat, barley, *dari*, are all good, and may be used regularly. Always buy good sound grain, and never be put off with a second quality; in this, as in many other things, the best is the cheapest. Never mix the grains, but keep them separately, and if for any reason this is difficult to manage, only buy small quantities at a time, so as to have a different kind constantly.

In choosing the grains and meals for winter feeding, select those that show the largest proportion of warmth-giving material, such as wheat, barley, oatmeal. Indian corn, that favourite food to which the majority of hens are doomed, I have left out, because not only do fowls fed constantly upon it become lined internally with layers of coarse, yellow fat, but they are also rendered extremely liable to liver disease. As Indian corn is very warmth-giving, a little may be used in the winter months where the lighter breeds are kept, but the heavier breeds, such as Brahmas, Cochins, Dorkings, Langshans, etc., should never even be allowed to look at it.

All these grains and meals, although given as judiciously as possible, will not supply all the flesh-forming material which the hen needs for herself and her eggs, unless she eats such a quantity of them that she accumulates an excess of fats and other ingredients at the same time.

Now all over-feeding and disproportionate feeding is bad, entailing both useless labour on the part of the hen and loss to the owner, so care must be taken that the flesh-formers are given in some other form. Animal food is what makes up the deficiency. Fowls with a grass run require but little animal food given them in the summer, as they find it for themselves in the form of worms, slugs, and insects of all kinds; but during the winter months

they must be regularly supplied with it. Where hens are in confinement, however, great care must be taken in this matter, or the egg-basket will be very scanty.

Where but few hens are kept enough can generally be provided from the house scraps, if all are jealously kept. These scraps should be cut up and given with the soft food in the morning, or else they may be given last thing at night after the corn. I here only, of course, speak of literal scraps, not of large pieces of wasted meat, which should never be found in any well-ordered household, and which if given *ad libitum* to the hens would kill them off in apoplexy in early youth. I may add, in passing, that nothing delights a hen more than to be allowed to pick the bones of her late comrades.

If there be no meat scraps, or not sufficient for the quantity of hens kept, some other meat must be provided not less than four times a week, and it is better to have a little daily.

Granulated meats advertised are good and are easier to use than livers, refuse meats, etc., but these latter, together with fish, are very good if they are well cooked and cut up small.

Spratt's Patent Meat Crissel is convenient,



A SILKY FOWL.

and a tablespoonful daily in the soft food will keep six hens in health.

Where hens cannot get at grass, green food must be provided fresh daily. Cabbages and lettuces are greatly relished, and should be hung up high in the run for the fowls to peck at.

Where there is no garden to provide these, an arrangement might be made with the family greengrocer to supply refuse vegetables. All green food must be fresh daily, as it so soon gets stale, and care must be taken to remove all old stalks, etc., from the run, as these soon decay and quite spoil the appearance of a nice, well-kept run.

Mr. Cook, in his "Poultry Breeder and Feeder," gives some excellent suggestions as to how to provide green food, among which are the following: Nettles, dandelions, watercress, a mangold-wurtzel or turnip cut in half in the winter. "Those who live in towns can grow rape, mustard, or maize. These can be grown in boxes with a little earth or manure, and must be well watered; the seeds spring up very quickly, and by having seven boxes, and

sowing every day, there is a daily supply of green food."

Lawn-cuttings stored in a tarred, air-tight barrel on the silo principle are said to be very good for winter food. I should like to hear of someone that has tried them.

The other two necessities which must not be forgotten are lime for the shells and sulphur for the feathers. The lime is provided by means of well-slaked lime and mortar, or by cockle and oyster shells broken up small. I like cockle shells the best, as they are so easy to break up, and if two or three quarts are broken up small and stored in a tin box, a handful can be put into the soft food daily, thus ensuring the lime getting into the hen's system without the waste which throwing it upon the ground always involves.

Flowers of sulphur supplies the feather-making material, and is most essential during the moulting season. Care must, however, be taken in its use, as if an excess be given during cold, damp weather, it will be sure to give the hens cold. A slight sprinkling in the soft food three or four times a week, choosing the bright days, will be quite sufficient.

Before closing this part of the subject let me reiterate my principles, which, if followed out, will yield success to the enterprising poultry keeper:—

Regular, judicious feeding, with a good proportion of flesh-formers, careful mixing (very hot in winter), clean water, sharp grit, abundance of green food, and a good supply of lime.

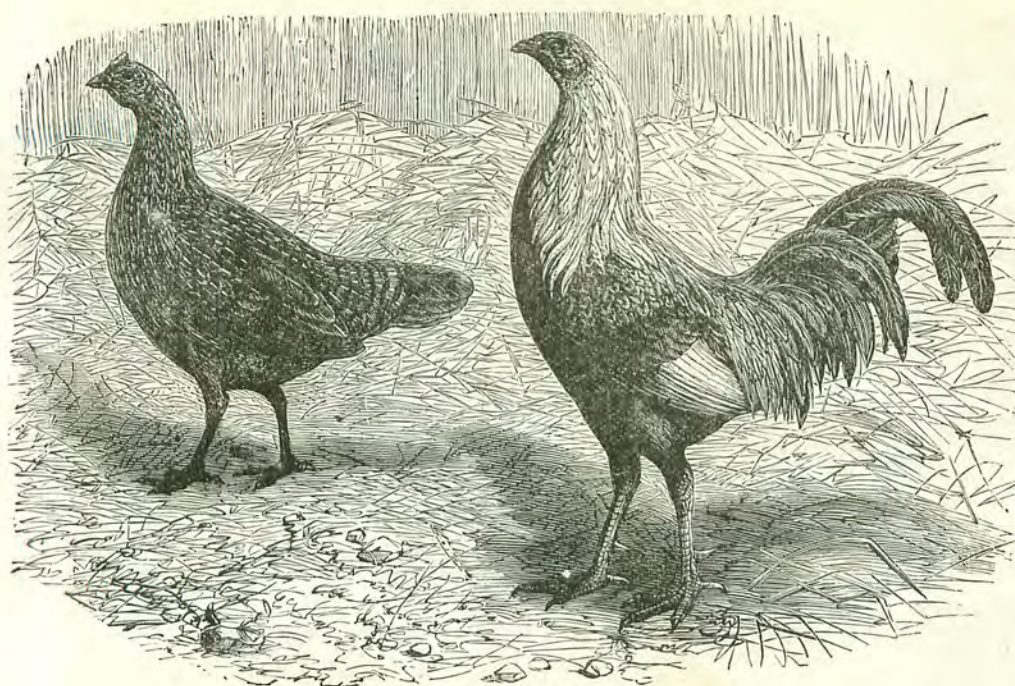
Perhaps by this time my readers are becoming naturally anxious as to the question of profit in the poultry enterprise. The idea that poultry, however kept, must always fail, is, I hope, rapidly passing away. It has not quite gone, for many are the warnings that will come upon the devoted henwife; and even since beginning this series of papers I have been seriously asked how I can think of encouraging the readers of the "G.O.P." to embark in like folly! Nevertheless, I think it may be fairly stated that any hens kept properly will pay a fair percentage, which will increase considerably in proportion to the experience and interest of the owner.

The title of our paper is "Poultry Keeping as a Recreation and Source of Income." The "recreation" must come first; for unless the hens are a pleasure and interest they will never succeed to be a "source of income." For it must be acknowledged that there are few pursuits which need such personal attention on the part of the owner, as is shown by the fact that hens left to the management of inexperienced servants or happy-go-lucky younger brothers and sisters for any length of time will never pay, but will, on the contrary, lose considerably. I would therefore again ask my readers to think what they are doing, and not to attempt more than they themselves can see through.

A few hens kept well will succeed much better than a larger number perhaps crowded together and left pretty much to themselves, getting diseases which the owner, through lack of time, cannot attend to.

The "going away" question is an important one, for no girl stays at home always, nor should we wish her to do so even for the sake of the hens!

The best thing to do under these circumstances is to train someone of the household into the necessary work while at home, and then when going away to leave everything clean and complete, plenty of food in stock.



GAME FOWLS.

etc., besides giving clear, simple directions to the one left in charge. A kind, interested servant or an enthusiastic younger sister will often manage perfectly; but should there still be a slight loss it may be put down to holiday expenses.

Dorkings.—These birds are exceedingly popular in the market on account of their excellent table qualities. They have beautiful white flesh, and an abundance of breast meat and white legs, which latter is quite a consideration to London poulterers. These birds are of a square build, and have short unfeathered legs; they are specially large in size, the coloured variety being larger than the silver-grey, cuckoo, and white.

Dorkings are considered difficult to rear, and certainly do not thrive in close confinement, though with a grass run they do well.

They are excellent sitters and mothers, but should not be kept where eggs are an object, as they are but moderate layers.

Any girl, however, living in a warm situation, wishing to try her hand at spring chickens, could not have a better pure-bred fowl.

Game.—The word gamecock always brings before our imagination cock-fights with all their attendant horrors, and certainly a gamecock still maintains his superiority over all other fowls in this respect, and a hen will fight an intruder, whoever he may be, who meddles with her brood.

Our illustration shows a dubbed comb (cut off) cock, and this appearance is not for the sake of fashion, but in order that

the comb may not be torn in accidental warfare.

Game fowls are splendid table birds, noted for their deep, full breasts, but they are worse layers than the Dorkings, and should not therefore be kept in confinement, or where eggs are required.

Silky fowls are more a fancy show-breed than anything else, and would certainly attract attention at a show, even to the absolute novice, by their strange appearance. The plumage is white and of a light hairy nature, which shines like silk, and the most curious part is, that not only are the comb and wattles of a deep purplish blue, but the skin and legs are of the same colour, quite giving

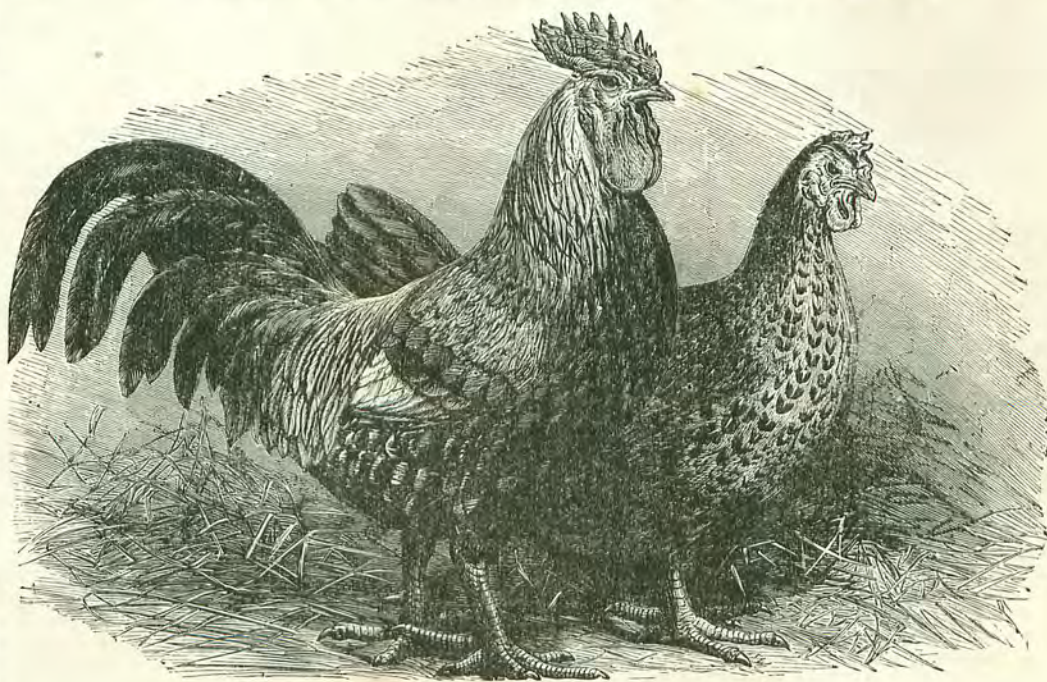
the impression that the bird is seriously ill, until it is explained that that is the beauty of the creature. I should not advise anyone to attempt profitable poultry-keeping with this extraordinary, though interesting, breed.

The whole question of poultry farming is a vexed one at present, and is not in our province, for the cases we are considering are those where from six to twenty hens are kept by private families, either in close confinement or with a grass run.

It is at once apparent that where there are plenty of house scraps, a few hens will pay better in proportion than a larger number, for scraps cost *nothing*, but after they are used up all other food must be paid for.

It is usual in calculating expenses to throw the scraps in, but should the energetic henwife wish to proceed in a very business-like way, she may allow the household a few eggs weekly for them; but it should be remembered that she is after all only using up what would be otherwise absolutely wasted food.

In poultry books generally you will often find most startling profit tables, which are really more discouraging than otherwise, especially when the devoted reader finds her first experiences fall so very far short of the promised result. What we want to find out is the fair average profit from average results, and consequently the estimates given below are rather under than above what may be expected; and many readers, under favourable circumstances, will find that in a few years they will be able to do greater things. There are but few royal roads to honest money-making now-a-days, and profit must be the result of steady work, and in proportion to the amount of time expended.



DORKING FOWLS.

The advantage of poultry-keeping is that the time given to it is rescued, as it were, from wasted moments. A few hens need not take up more time than about thirty minutes daily, with an occasional hour given to the work explained in the chapter on houses and runs; and as this work is all in the open air, it is an actual benefit to girls, who but for this occupation would be sitting by the fire, or toiling at work, which they would only do all the better after this healthy change of air and thought; and I am sure that there are few occupations where the time expended would yield the same amount of pleasure, profit, and, above all things, health.

Where more time can be given, and there is a field or orchard at liberty, the henwife can, after her first experience, enlarge her borders and keep more hens and rear chickens, and so provide herself with quite a nice addition to her "pin money." Profit depends upon so many things—such as cost of food, market price of eggs, etc.—that no two experiences can be alike. Hens cost in food from 1d. to 2d. per head weekly, according to the number kept, and whether they have the use of a grass run and house scraps.

I do not take into account the original cost of house and run, as that must be considered as capital laid down which must be made to realise its interest. A yearly depreciation of the house and utensils, etc., must be also allowed for.

Let us take first the case of a few common fowls kept in confinement, where scraps are available:—

Six pullets at 3s. 6d.	..	..	£	s.	d.
Food at 6d. per week	..	..	1	1	0
Depreciation of house, etc.	..	..	1	6	0
			0	8	0

Profit	2	15	0
	1	7	0

840 eggs at 1d.	..	..	£	s.	d.
Value of birds at end	..	..	3	10	0
			0	12	0

Twelve good first-class pullets with grass run and house scraps.	7	1	4
	2	4	8

Twelve pullets at 5s.	..	..	£	s.	d.
Food at 1s. 4d. per week	..	..	3	9	4
Depreciation of house, etc.	..	..	0	12	0

Profit	9	6	0
	6	0	0

1,800 eggs	..	..	£	s.	d.
Value of birds	..	..	7	10	0
			1	16	0
			9	6	0

These profits may be decreased by unforeseen misfortune, such as death and disease, which latter, however, seldom visits a well-kept small yard.

I should now like to show you a few ways in which these profits may be increased. Be very economical with the food, for remember that 1d. per week wasted means 4s. 4d. less profit in the year.

Never neglect the fowls in bad weather because it is unpleasant to yourself to go out. Always have a supply of pullets in the autumn, hatched not later than April 1st, so that you may have winter eggs, which realise such high prices.

Eggs during the spring and early summer are very plentiful, and fall in price from 14 to 18 for a shilling. They should then be preserved in lime and kept until the dear season, when they are perfectly good for cooking and even poaching, and can be sold for from 10 to 12 for a shilling.

When the stock is reared at home the expense will be still further decreased, especially where the more expensive breeds are kept; as for 12 pullets, about 24 chickens must be hatched, and the price realised by selling off the cockerels will just about balance the cost of the whole set, up to four or five months old.

A lady told me the other day that she had made £17 the first year that she kept hens. She lived near London, and kept 20 hens in a small run and no grass. She had plenty of scraps, and sold her eggs at 2d. each all the year round, and her chickens, etc., at 3s. each.

Our illustrations this month are of some of the less important breeds from an egg-production point of view, though they are some of the very best table birds.

FOR LOVE ALONE.

By LAURA L. PRATT, Author of "Plucked from the Burning," "Burton Brothers," etc.

CHAPTER III.

"NOT YOURS, BUT YOU."



MIRIAM stood before the glass in her room, fastening a crimson rose at her throat. She tried it first one way and then another, and finally dashed it down on the dressing-table. The next moment she took it up tenderly and put it in a glass of water.

"I won't wear a flower at all," she murmured, half aloud, "Oh, if I had only been a little bit pretty! Nothing looks well on me."

It was not merely petty conceit that caused her to utter this wish. The greatest longing in her heart was to please; not in itself a bad wish, but likely in her case to lead to bad results, because she was wholly looking and longing only for things external to make her pleasing. She had yet to learn that an utter forgetfulness of self is the surest way to please. At present self was always in her way.

She was dissatisfied with her appearance, and went downstairs to join her cousin, with her eyebrows drawn together in such a frown as to cause Herbert injudiciously to exclaim—

"Why, Miriam, what has put you out? You look as cross as two sticks."

"Never mind me. You needn't look at me," was the irritable answer.

Margaret, who was a great tennis player, was suitably dressed in white flannel, and was

to return home to change her dress for the evening, when the game was over.

Miriam's discontent faded away before Hope Maxwell's cordial greeting. She looked a very vision of loveliness. Tennyson's words came to Miriam's mind as she gazed at her—

"A daughter of the gods;
Divinely tall,
And most divinely fair."

She was dressed in a soft creamy lace dress, with yellow roses at her throat. She had come across the lawn to meet them. When Herbert had shaken hands and walked on, and the three girls were alone, Hope kissed Margaret warmly; then, turning to Miriam, she kissed her also, saying—

"You must let me treat you as I do Margaret."

Miriam, as usual, made no response, but had Hope looked at her she would have been surprised to have seen tears in her eyes.

The grounds were very extensive, covering many acres, and beautifully wooded with grand old trees. The gardens were tastefully laid out and brilliant with flowers. Miriam was led off to the tennis ground, and Hope, who was not playing, sat down by her to watch the game. The conversation for some time was about the games and the merits of the players, but a remark of Miriam's led to more serious subjects.

"All games seem to me to be very much like life," she said: "victory to the strong, and defeat to the weak."

A grave look came across Hope's bright face. "Don't you remember we are told that the battle is not always to the strong, nor the race to the swift?"

Miriam gave an impatient little shrug.

"Yes, I know; but don't we see that it is not so?"

"We are not permitted to see everything clearly here."

Miriam looked round on the beautiful grounds, and then back to the fine old house, with its broad terraces hung with roses, and its many windows glistening in the sunlight.

Then, without stopping to think, she gave utterance to the thought that was so often in her mind.

"I wonder, if all this were taken away from you, whether you would be as good then as they say you are now?"

Hope's fair face grew crimson.

"I am not good now," she said, gently; "but of this I am sure—our Lord will give strength to bear trials when He sends them, and I am content to leave all in His hands. Have you already heard that we may have to leave our dear old home?"

It was Miriam who reddened this time, but a feeling of shame caused her to blush. How unfeeling her words must have sounded to her companion! She turned to her and said, earnestly—

"Indeed I had not an idea that you were thinking of leaving the Grange." Then after a moment's pause she added, awkwardly—

"I am sorry if I have hurt you."

Hope smiled.

"Oh, you have not," she said; "but my father has lately lost a great deal of money, and we may have to let the Grange for a time; nothing is settled yet, but—" She broke off abruptly and rose from her seat. "If you will excuse me I must go to my father; I am afraid he has bad news."

While they had been talking, Colonel Max-

POULTRY KEEPING:

A RECREATION AND SOURCE OF INCOME FOR GIRLS.

By THEO.

PART V.

HATCHING AND REARING CHICKENS.

"Now you have come to the interesting part," I think I hear someone saying. "Grown-up fowls are very poor fun, but chickens! Why, everyone likes chickens, from the egg-shell to the supper-table!"

You are right and you are wrong. Chickens are like children: a great pleasure and a great trouble, both of which I hope you will appreciate before coming to the end of this paper.

Many people, when starting poultry-keeping, rear their own stock instead of buying it, and if all goes well this is certainly the cheaper plan, as a broody hen and a setting of eggs cost comparatively little, and so some might be able to start in this way, being able to pay for the weekly food of the chickens, where they could not go to the expense of full-grown birds.

On the other hand, the successful management of chickens requires more care and experience than that of adult birds, and a long time passes before the chickens begin to return any of the money expended upon them.

Chicken rearing is a delightful occupation, but takes up a great deal of time, and no one should attempt to rear chickens unless she can do so apart from the laying hens. Should this advice be neglected, endless trouble and difficulty will be the consequence. The chief reason is this, that as chickens when quite young and when half-grown require constant food, and must never, up to the time of commencing laying, have less than three good meals daily, it will be seen that this sort of feeding would not do at all for the hens, and consequently either the chickens or the hens must suffer. I have tried it over and over again, always with the same result. As soon as I appear with the chicken food, all the hens come flying round from every direction. I drive them away one side, they come round at another. I try to shut the chickens up in a coop, and perhaps succeed in getting three-quarters of the brood inside, but in this case

some chicks almost always get left out, and when the chickens grow almost as large as the laying hens, the same door will equally admit both.

I do not say that it cannot be done, but it takes time out of all proportion to the result effected; the only way at all to manage is to take out an army of brothers and sisters to keep the hens at bay while the precious charges are fed, and though this plan may be arranged during the holidays, at other times it is slightly inconvenient.

Taking everything into consideration, therefore, it may be said, especially where there is limited accommodation, that the space can be more profitably utilised by keeping more laying hens. I therefore take it for granted that there is a place railed off for the reception of the youngsters when they arrive upon the scene.

The first thing then to do is to secure a good mother or broody hen.

A "broody" or "clucking" or "clocking" hen is one that, having laid a certain number of eggs, wishes to sit upon them and hatch out the chicks.

This is a natural instinct, and one which is much stronger in some hens than in others. Birds of the feather-legged tribes usually make good sitters, and common barndoor fowls come broody very often.

You will always know when a hen is broody by the way in which she sticks to the nest at all hours without laying an egg. On going to the hen-house at night you will find that she is still on the nest instead of on the perch, and if touched she will sit all the closer, and fluff up her feathers and utter a sort of growling, scolding sound, which makes you retire rather quickly, especially if you receive a sharp peck for your trouble.

A broody hen in February or March is a great treasure, as these are the best months for hatching out chickens for autumn laying; but broody hens in May, June, and July are nothing but a bother, and should be cured of their desire by the plan advocated in a previous chapter.

Having obtained a fat, fluffy, furious hen, the eggs must

now be thought of, and these must be quite fresh.

Stale eggs will often hatch, but they always come out later than the others, and do not produce such vigorous chicks, and in early spring these little weak ones will often succumb to the cold weather far sooner than chicks hatched from new-laid eggs.

In order to have good eggs from the home stock, it is necessary to have one rooster running with from six to ten hens, according to the breed; and should there be more hens than this kept, and it be inconvenient to separate them, the best-laying hens must be shut up with the rooster for an hour or so every morning. I say the best layers, because eggs must always be set from the best and healthiest hens only. In mating birds the object desired must be kept in mind.

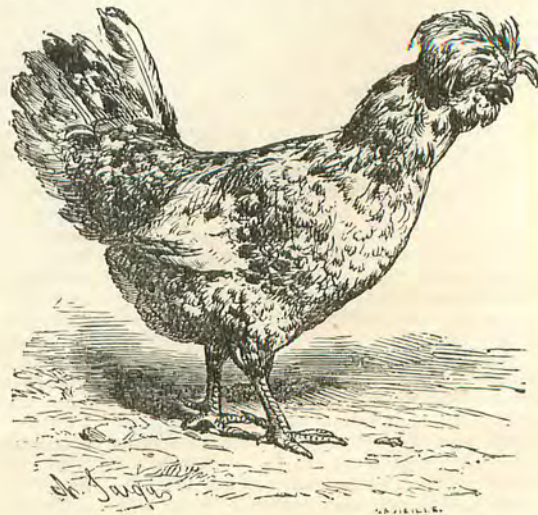
If eggs are wanted, then good layers must be chosen; if for the table, then nice, plump birds, with deep, wide breasts and small bones; and if for show, then birds that have the special characteristics desired.

Be very particular only to breed from good, healthy birds. They must have come of a good laying, table, or show strain, and should be a little smaller than the hens they are with. Choose the mate with a nice, uniform colouring, as the chickens usually come the same colour, and partake of the qualities of the hen, and for this reason it is usually considered best to have a pure-bred bird even where thoroughly cross-bred hens are kept.

A cockerel is a young rooster in its first season, and should not be mated with pullets (hens in their first season), but always with one or two year old hens. Pullets, therefore, must be mated with a rooster more than one year old.

The new-laid eggs chosen should be neither extra large nor small, and should have firm, even shells.

Should there be no eggs suitable at home, then some must of course be bought; and here the beginner cannot be too careful, for nothing is more disappointing than to have all the trouble of carefully tending a hen for three weeks, only to find at the end that the eggs set were the veriest rubbish. It must, therefore, be ascertained where the eggs came from, whether the hens laying the eggs are healthy,



HOUDANS

and whether the other conditions specified above have been adhered to.

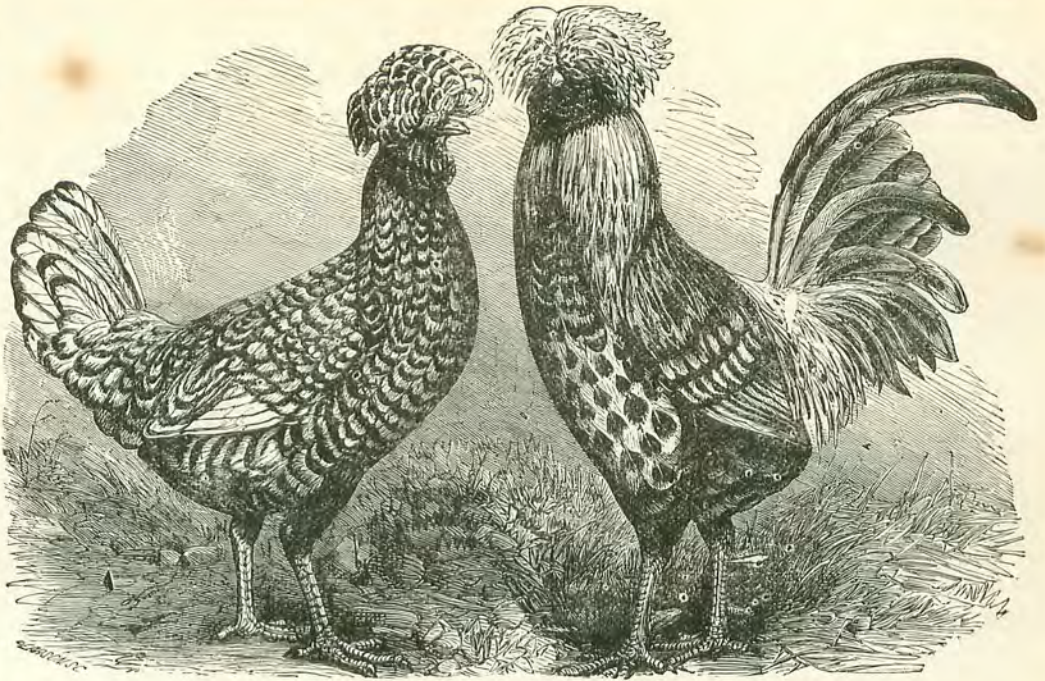
It is best, if possible, to purchase the eggs from someone near at hand, as eggs generally do better that have not travelled. Eggs sent by train, packed in the boxes specially prepared for them, often hatch out well; but they are much more liable to disaster, as all shaking and jarring injures the tiny germ. I had a quantity of eggs sent me in the winter that were so affected by the cold on the journey that the embryo was evidently killed.

There are also a few persons who, from ignorance or dishonesty, advertise eggs which would never hatch were the best hen living to give her whole attention to the matter.

In winter not more than ten or eleven eggs should be set, as the hen cannot keep more properly heated. Later on, however, from twelve to fifteen may be allowed, according to the size of the hen, but thirteen is about the average number.

There are many ways of making nests, and many positions in which they may be placed. When possible, it is best to have the sitting hen away from the other stock in some shed or outhouse, so that she may not be disturbed.

The nest-boxes generally used consist of three sides wood, one foot square, the front having either a movable slide or else being quite open, except for a three-inch piece of wood across from the ground. There is no wooden bottom to the nest; but where rats abound, a wire one is necessary. If the floor of the house is made of earth, then hollow out very slightly a round space capable of holding the number of eggs without allowing them to roll upon each other. The earth must be beaten hard, and covered over with a good bed of hay, and if in winter, with a few feathers also.



SILVER-SPANGLED POLANDS.

Where the floor is formed of wood, tiles, or pavement, a layer of clean earth must be brought in and the hay used as before. Be very careful to fill up the corners of the nest-box well, as if this is not done an egg is very apt to roll away from under the hen, and get completely spoiled.

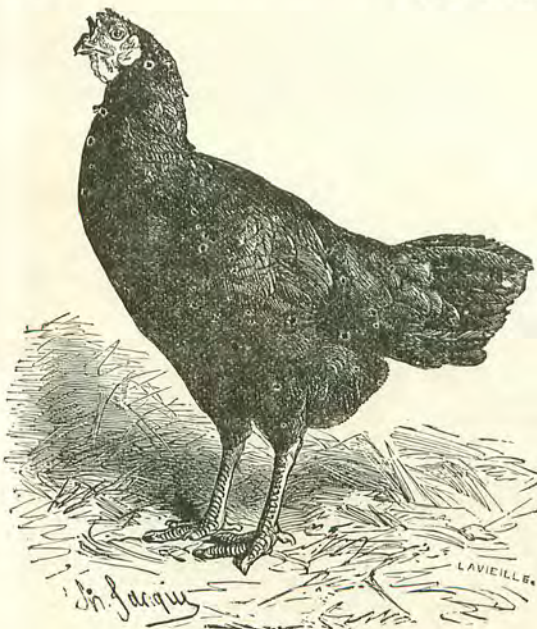
When hens are broody and are left to themselves, it will be found that they always choose quiet and secluded positions, and therefore their wish must be granted them. Either cover the front of the nest with a piece of wrapper, or else turn it with its face about six inches from the wall. Thorough ventilation should be provided, by having some holes on each side or on the top of the box.

If the hens must be set in the ordinary hen-house, they must be entirely shut into their nest, in order that they may not be disturbed, and also that

they may not leave their eggs by accident, and sit on any new-laid ones that may happen to be in the other nests.

A hamper makes a good nest, as the bottom can be filled with earth, hay, etc., and the hen can be shut in; and when taken off for food, she will learn to fly quite gently back again; the only thing to remember in this case is that the chicks must be removed as soon as they find their feet, or else they are apt to get crushed.

The nest full of eggs being now ready, the hen must be taken to them. It is best to do this at night, as then she is not so disturbed. The way to lift a hen is to approach her from the front. Put both hands firmly (not nervously) under her wings, the thumb being



LA FLECHE.

above the wings and the fingers grasping her legs underneath. In this way she cannot flap or kick, and will not be needlessly frightened.

Some hens are very nervous, and need the greatest care, and when put in front of the eggs will go anywhere but on to them. The only way to do in these cases is to leave the hens quite alone in front of the eggs, and, unless most determined, their maternal instinct will be usually too much for them, and they will settle without a murmur.

Always feed a broody hen well before first putting her on the nest, and then shut her in and leave her quite quiet for one day; that is to say, put her on at night, and don't attempt to feed her until another night has passed.

Of course many hens will sit anyway and anyhow, and seem as though they could bear any amount of noise and disturbance; and certainly if any reader wishes to make a study of hen character, let her have a succession of broody hens all through the breeding months; she will afterwards fully realise what a hen is, and what individual characteristics each displays.

Broody hens brought from a distance by train are a mere delusion. They cost, with the carriage, a great deal, and are generally speaking no use whatever, as I can testify from painful experience.

I shall hope to continue my remarks on the mode of treating a sitting hen next month.

Last month we finished the description of most of the so-called sitting breeds, so this month we will turn our attention to the non-sitters. These are, to my mind, more interesting than the others, as though the great, heavy, fluffy Cochins, Brahmas, etc., look exceedingly handsome, and have their uses, yet I don't think they are to be compared with some of the non-sitters. Of course it is quite impossible to fully detail the various points of each particular breed, and for mere domestic poultry keeping I do not think it necessary to know them, as breeding for egg production is more useful than for fancy points; still, should any girl wish to keep pure-bred fowls, so that she may combine beauty and utility, I will endeavour to give a few directions in order that she may not be beguiled into buying feather-legged Leghorns, or red-faced black Spanish, or black-legged white Dorkings!

Houdans.—This is one of the best and most popular French breeds that we possess. They look ragged enough in our illustration, but Houdans have a decided tendency in that direction.

The Houdan is a large, broad-breasted bird, with comparatively small bones and short legs. The feathers are marked black and white, very irregularly as a rule, giving the bird a splashed look. Both cock and hen should have a firm black-and-white topknot, with also a fringe of small feathers round the face. The comb in the hen is very small, but

in the cock is larger, and stands out in two leaf-like wings. The Houdan is a very good table bird, and is also a good layer of white eggs, and would do well in a mild district with a grass run.

La Fleche.—This is another good French table breed, and is suitable for crossing purposes, but should not be kept where eggs are the object.

As the illustration shows, they are black fowls, with curious horn-like combs, and have broad breasts, suggesting abundance of firm, white meat.

Polands.—I always feel sorry for Polish fowls, for they never look as if they could enjoy life with their huge crests, which often effectually prevent their seeing before them. The chief varieties are the gold and silver spangled and the white-crested black.

Polands are a small breed, and are more of a fancier's fowl, though people who keep them say that they hold their own in the egg production line if they have a free, dry range. Polands have no combs, but instead have a fine full crest, which looks exceedingly handsome on a bright day, but very miserable on a wet one.

The colouring in each variety is what the name implies—gold and silver spangled, the white-crested black being a pure black fowl with a pure white crest.

Hamburghs.—For girls living in the south of England, or any warm climate with a free range, no handsomer or better breed of fowls could be kept than these, especially if no objection be made to small eggs.

There is no breed, I suppose, that has been known to have such high egg averages as the Hamburgh, though some object to them because the eggs are small and white.

All five varieties are very handsome. They are small elegant birds, and should be in contour compact, and sprightly, and all agree in having a rose comb—that is a low, broad, double comb, tapering to a point behind.

Black Hamburghs are the largest, and next come the gold and silver spangled, and gold and silver pencilled.

A spangled feather is one of any light shade with a dark spot at the tip, while a pencilled feather has more or less regular bars of light and dark all the way up.

Hamburghs, although looking so handsome on a lawn or grass field, should not be kept in confinement, or they will suffer immediately.

Black Spanish.—These birds are splendid layers of large white eggs if kept in a warm district, and sheltered from storm and wind; otherwise they are delicate.

Black Spanish are slenderly built birds of a rich black colour, the cock having a large upright comb, the hen's falling down over one side of the face. The wattles in the cock are red and very long, and in the hen shorter.

On first looking at a black Spanish cock, one naturally thinks that he is very ill; this is owing to his curious white face, which some people admire immensely, but which really is decidedly ugly, having been so unnaturally exaggerated by breeding. The hen has the same feature, but is not quite so unsightly.

Minorcas.—This is another black breed of fowls, but differs from the Spanish in being very much harder and having a brilliant red face. The comb of the cock is large and upright, and in the hen should fall over on one side. The legs are dark and unfeathered.

The Minorca breed of a good laying strain is one of the very best kind to keep. They are quite hardy, and lay well in the winter, though they are not, perhaps, quite so good in this respect as some of the feather-legged varieties.

Minorcas lay on an average the largest eggs known. At the Dairy Show last year the first prize was taken by a set of enormous Minorca eggs.

Minorcas are hardy as chickens, and stand confinement well if properly cared for, and if hatched in March or early in April will make good autumn and winter layers, and as they do not become broody they make splendid summer layers. There is also a white variety, but if white fowls are preferred it would be better to keep white Leghorns, which are very much the same in appearance and are a good deal harder.

Leghorns.—We now come to a very favourite breed. People that keep Leghorns, especially the white variety, cannot speak too highly in their favour.

Leghorns are small birds, but are well-shaped, very active, and hardy. They lay quantities of moderate-sized white eggs, and do well either with a free grass range or in close confinement. In the latter case, perhaps, the brown variety are the best, as far as appearance goes, as they do not show the dirt in the same way as the white.

Where there is a grass field at liberty, the white look very lovely as they chase about looking for worms; and if their house is kept clean, and shelter is given them in summer from the rays of the sun, they will keep up their spotless appearance right through the year.

Leghorns have bright yellow legs and yellow skins, large single combs, upright in the cock, falling over in the hen. The brown variety have feathers of different shades of golden brown and red.

One great advantage in keeping Leghorns is, that though they are a small breed they mature early, and often lay at five months, and the cockerels, if hatched early in February, will make quite nice spring chickens, even though rather small.

(To be continued.)

A LETTER OF THANKS.

MY DEAR MR. EDITOR,—Let me beg you to convey to all those generous friends who have sent through you such a rich store of woollen comforts for the smacksmen, the assurance of most cordial appreciation of their sympathy.

Seven years ago a rough fisherman, after telling me some thrilling stories of accident, illness, and death, away upon the fishing grounds, two days' steaming from medical or surgical aid, exclaimed, "Do you suppose, sir, as folks ashore cares anything about it?" I very promptly assured him that "folks

ashore" did not know, and that if they knew they would certainly care very much indeed.

Here then, Mr. Editor, is a case in point. As I glanced down column after column containing the names of those who had so readily and kindly responded to your invitation, I thought at once of my fisherman friend of August, 1881, and wished he could see this very practical answer to his sneering inquiry.

Your readers will all be pleased to learn—and the competitors especially so—that the smacksmen are most thankful for the interest thus shown in their welfare. Indeed, I have

myself heard them again and again exclaim, "God bless those kind ladies ashore who have made these warm wraps for us!" an invocation which I heartily endorse.

If it were not such a Spartan adventure I would invite a select committee of your readers to visit the fishing-grounds before the close of the winter season, and inspect for themselves the conditions under which 12,000 of our fellow-countrymen toil to supply our tables with a necessary article of food. But perhaps it would be better if you, Mr. Editor, were to make the cruise in one of our

POULTRY KEEPING:

A RECREATION AND SOURCE OF INCOME FOR GIRLS.

By THEO.

PART VI.

AFTER the sitting hen has been once settled, she must be regularly fed every day. The best time to do this is in the morning, after the other hens have been fed. Her food must consist of hard corn, and plenty of water. Many people place food and water near the hen, and then leave her to her own devices, and never disturb her at all; but although with some hens this may be the best, yet as a rule it is not a good plan, especially where more than one hen is in the sitting-house.

Most hens rise up, after the first morning or so, when the feeder enters; otherwise each hen must be taken off separately and given as much hard corn as she will eat. Any of the grains will do, even Indian corn in small quantities.

A dust bath must be provided, as sitting hens suffer very much from vermin during the period of incubation; and if the hen be very restless this is often found to be the cause, and some flowers of sulphur may be put into the dust-bath and into the nest with advantage.

While the hen is feeding, a glance should always be given to the nest to see that all is right there, that no egg has rolled away, and that none are broken or missing. Always mark each egg right round with pencil, so that should the hen lay others they may be removed. All broken eggs must be taken away; and should the others be soiled with the broken egg, the whole of them must be removed, and gently sponged with warm water, of 105 degrees, taking care, however, that they do not get chilled, but are put under the hen again immediately. All dirty straw or hay must be replaced, and the hen's breast cleaned if necessary.

Sometimes eggs seem to disappear very mysteriously, in which case either the hen eats them or rats may be suspected.

If a hen will not eat, after a few days she must be tempted with some soft food.

Eggs take from eighteen to twenty-one days to hatch; usually the latter period, and they have been known to hatch out after a much longer time; so that it is advisable to give a generous allowance of time before giving up hope. At the end of seven days the eggs may be tested to see if they will contain chicks. This is done by going to a dark room, and

holding the egg in an upright position in front of a candle, shielding the light from the eye all round as much as possible with the hand, the object being to look at the candle through the egg. If the egg appears to be quite clear like a new-laid one, it may be put aside as of no use except for hen food; but if towards the centre of the egg a dark shadow is visible, then all is going well. The fertility of eggs can be told by experts at a much earlier date, but for novices it is better to wait even as long as ten days before testing. Unfertilized eggs should always be removed, as it gives the others a better chance.

During winter weather the hen must not be away from her nest more than ten minutes, and even then the eggs must be covered with flannel during her absence. In fact, they cannot be kept too warm and dry, but as they need moisture towards the end of the period the eggs must be dipped in hot water of 105 degrees every day for the last few days, always putting them back immediately under the hen.

During warm weather a hen may be absent from twenty to forty minutes without doing serious harm, especially during the later stages, and in fact during hot summer weather eggs should never be given up, even though quite cold. Last Jubilee Day I forgot to put back a hen, and on returning five hours afterwards found the eggs (duck) quite cold; but the hen went back to them and several hatched. Moisture is very necessary during dry weather, and this must be supplied by pouring hot water round the nest, or by sprinkling a little on the eggs, always replacing the hen immediately afterwards. No definite rule can be given on this use of moisture, but each poultry keeper must be guided by her common sense, and the cold, warmth, or dryness of the atmosphere. During a mild, damp spring hardly any is required.

I remember soaking some eggs during a sharp frost, with the result that none hatched; while, on the other hand, I knew a man who lost his temper over a hen that would not allow him to take her off to sprinkle the eggs, so he threw the whole bucket of water over her and the nest and the eggs, and every one hatched; but then it was hot, dry weather.

If a hen is very furious and it is necessary to handle her, a cloth should be thrown over her head, and then she may be lifted in the manner described.

During the last day or two of incubation the hen usually refuses to leave her nest, and now she may be allowed to do as she likes, food and water being left near her. It is a very exciting time for the poultry keeper when the chicks are really due, and she must exercise all her self-control to keep from being too curious about the doings in the nest.

She must not molest the hen now, but must be content to listen outside the nest, when the faint "peep, peep," can usually be heard. If this be so, then last thing at night the nest may be examined and the hen lifted carefully off, as eggs are often secreted under her wings. All egg-shells must be removed.

A half-hatched nest is an inte-

resting sight. The broken egg-shells neatly placed one into the other, the elder chicks struggling to get out of the nest, the younger helplessly scrambling over the rest of the eggs from which the little prisoners are calling loudly for release. The mother is now very excited, and if frightened will crush her little ones ruthlessly; so after seeing that all is right she must be left to herself.

If at the end of twenty-one days there are no signs of breaking shells, the eggs must be put into hot water of 105 degrees, and those that have live chicks in them will after a few minutes bob about in a very funny fashion, and the dead ones will sink to the bottom of the bowl. If, a few hours later still, no start has been made and loud chirps are heard, the shell may be gently cracked with a penknife round the middle until the little beak is found, when if put back under the mother the chick will do the rest.

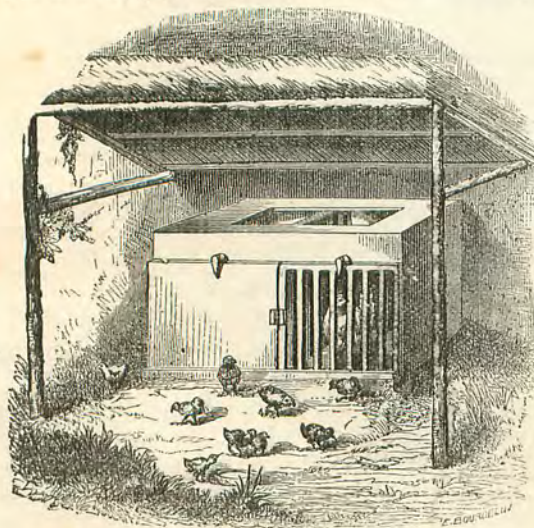
Chickens can be helped out by keeping the egg in hot water and gently loosening the tough skin that is round them; but I greatly believe in leaving them alone, as, for one saved, many may be lost in inexperienced hands.

After the chicks are all hatched, the hen must have a thoroughly good meal, as she has probably been without one for some time. *Apropos* of this, let me tell you one little story. An inexperienced lady having set two hens together, wished to put all the chickens under one hen, so as soon as all were hatched she took one poor rejoicing mother away from her little ones, and shut her up all night in a barn without food or water, and when next she visited her she was surprised to find her quite dead, of hunger, thirst, and a broken heart.

Chickens do not need anything to eat for twenty-four hours after hatching, so if all be hatched before night, they may be safely left until next morning with the mother on the nest. After the hens are all fed then it is time to visit the brood, which will probably be found scrambling about as lively as possible. If the weather is bright and fine the mother and chicks may be cooped out at once, but should it be wet and damp, they must be kept in.

Damp is the great enemy to chickens. They can usually bear any amount of dry cold, but if they are wet and damp they will always suffer. The best way of ensuring dryness is to have a shed something like the illustration, under which the coops may be placed. In this the ground, if well covered with ashes, will be nice and dry for the chickens to run on; for coops should never have wooden bottoms, but should be put right on the ground. Chickens brought up on wood, tiles, or pavements are very subject to cramp, and do not grow up into such healthy birds. The coops, however, although placed under the shed in wet weather, must always be put outside on to the grass every fine day, so that the chicks may have plenty of sun and grass.

The coops must be made of tarred or painted match-boarding (boards with grooves that fit together), thirty inches long, by twenty-two broad, twenty-two inches high in front, sloping to fourteen inches behind. The front should be boarded up four inches at the top and bottom, with two and a half inch bars placed at intervals between. The middle bar should be movable, so that the hen may be let out when needful. This simple coop may be made very easily from old packing cases, etc., and it may be further improved by providing shutters,



COOP FOR NEWLY-HATCHED CHICKENS.

fastened with hinges from the top, which can be opened horizontally for a shelter during the day, or can be hung down perpendicularly at night. The coop may also be closed by means of a simple slide. There are very many forms of coops to be seen in catalogues, with all kinds of useful devices, which if well studied by the amateur will give good hints for the home-made article.

The chief things to remember are that the hen and chickens require ventilation (not draughts), warmth, dryness, shelter, and protection. In ordinary weather enough warmth is secured by a waterproof house. All artificial heating is bad, except in the depth of winter, and even then it must be used with the greatest care. A glass-covered, unwarmed run may be used for delicate breeds.

Besides the coop a run will be needed. The usual size of a run is about four feet long by the width of the coop to which it is fastened; but as chickens when they grow older require more room, the most economical way is to have a number of light wooden or thin bar-iron frames made three feet square, and covered with wire netting. These frames can then be easily fastened together to make a long or short run as required, and the advantage of having them three feet square is that then the entire coop can be placed inside the run, and thus be absolutely protected from the raids of cats or rats.

Do protect your chickens. The mortification and distress of finding your charges disappear night after night, or even during the daytime, is very great, especially as it can be so often prevented by taking precautions.

In some districts the cat pest makes it almost impossible to rear chickens, as after they are two months old they must be allowed more liberty than a coop affords, and cats will attack quite big chickens. It makes a great difference as to whether the cats in the neighbourhood are used to chickens or not. I have lost dozens of chickens, while my sister, who allows hers to run about without the slightest protection in a district where cats are about on every wall and tree, has not lost one.

But to go back to our hen brood. Let us suppose that it is a bright sunny April morning, and that the coop is out on the grass with the wire run in front of it. The hen must be shut into the coop so that the chicks get more shelter, and she has not the chance of gobbling up all the delicate food. The coop and run must be moved every day into fresh grass, and should it be impossible to provide a shed in wet weather, the top and two sides of the run must be covered. Chickens should be fed for the first two days on hard boiled egg, chopped up small and mixed with breadcrumbs moistened with a little milk, and after the first day they will eat chopped groats quite readily.

The egg may be allowed for one week, mixed with coarse oatmeal; rice pudding, with groats at night. Food must be given every hour from early in the morning to late at night, for candle-light feeding is very essential for early broods, and in the summer time, when the chicks are up so early, some groats should be left in the run over night, so that they may not have to endure such a long fast before they are attended to.

After a fortnight old the food must be given every two hours, until about six weeks or two months old, when four good meals daily with some early morning corn will be plenty. The food after the first fortnight must consist of any meal mixture; plain oatmeal is very good if it can be afforded.

The soft food, like that of the hens, should be mixed hot and dry. The chickens should be allowed to eat as much as ever they will at one meal, but none must be left about afterwards. The groats may be changed for any grain after the first fortnight, Indian corn excepted; buckwheat and dari being specially good. A spoonful of bone meal put into the soft food helps them very much, as also a little sulphur in bright weather when the feathers are growing.

When there are chickens, all the dainty house-scraps should be kept for them, such as porridge, rice pudding, potatoes, scraps of underdone meat, suet pudding, etc. These things will be eagerly devoured, and will help on considerably.

Remember to give plenty of clean water in a flat flowerpot-saucer; skimmed milk may be used with great advantage up to two months old. Sometimes the chicks seem to mope about, not eating and being troubled with diarrhoea; this will probably be because they are short of grit. Grit is very necessary, and must be provided in the form of sharp sand, etc., from the very earliest day, or death and disease will be the result.

Where there is no fear of marauders, in the way of cats, rats, foxes, etc., the hen may be allowed to roam about with the chicks at large after the first fortnight. She will find grit and insects in abundance, and more than that will give her little ones their first lesson in cleanliness, for hen and chicks must have a dust bath every day or they will be devoured with small vermin of different kinds; and the hen knows this so well that should she and her brood be left in the tidiest garden imaginable, she will be found ere long to have scratched a terrible grave, in which the whole family will be found happily buried. So even during the first fortnight a dry dust bath must be provided, even though the poultry keeper has to watch over the brood all the time.

When the chickens are from six to eight weeks old the hen will want to leave them, and this is rather a critical time. A new house must be provided, though of the simplest kind. Some people allow their chickens to roost in an open shed, and find that answers very well, or any simple house made after the pattern of a coop, only larger, is good. The houses must not be too large, unless they can be divided into compartments, as chickens thrive best where there are not too many together.

There is no need for perches until the chicks are at least four and a half months old, as early perching makes crooked breasts. When the chickens are from ten to twelve weeks old the cockerels and pullets must be separated. This shows the necessity of having a few small houses rather than one big one. The cockerels can be told from the pullets by their combs, which are larger, and by their tall growth and pointed tails. The pullets are shorter and more compact, and have squarer tails. Some cockerels crow at a very early age, and then there is no mistaking them.

A cockerel's first attempt at crowing is a sound never to be forgotten! When chickens are merely reared to replenish the home stock, all the cockerels may be put into a house and run of their own, and fed up and killed as fast as possible, for an early cockerel will fetch nearly as much at four or five months before his first moult as he will at seven. At any rate it pays better to kill him off young. Of course if cockerels are kept for breeding or for prize birds the case is different, and room must be given them accordingly. But as a

rule it is the pullets that need most attention and room, as they must be brought forward so as to begin laying as soon as possible.

They want plenty of grass, good shelter, and liberty; then they will mature steadily and healthily without unnatural forcing. When a number of chickens are reared, an ideal arrangement, no doubt, would be to have one long, low house, divided into compartments, each having its own run; or a number of small houses, each with a gravel run and shelter arranged round a large piece of grass, into which each set of big pullets, small pullets, cockerels, etc., could be allowed in turn. The grass in this case must be kept well grown during the summer, or it will run to seed and lose its value.

Where there is an unlimited grass range, movable chicken-houses on wheels are most convenient, as they can be moved about from one part of the field to another, in order that the chickens may find plenty of fresh grass, and so that no one particular part of the grass may become spoiled for other live stock. They are often made raised from the ground about two feet, the space underneath being boarded up round three sides, and thus forming a most successful shelter. The floor of the house will in this case be made of wood, so should be well covered with ashes or peat-moss, and be kept very clean. When the chicks are old enough, perches can be put in the house, and a board placed underneath, as in the hen-house, for cleaning purposes. Feed the growing up chickens very regularly, especially as they grow older. So often they get neglected when they reach the uninteresting stage, when neither pretty chicks nor laying hens.

Cockerels, if fed regularly and sufficiently up to about sixteen weeks old, ought to require no special feeding before killing for the home table, and unless for market purposes it is very unwise to coop them up, as they lose flesh in inexperienced hands. Girls who live near London or other large towns will have a ready market for a well-fed young cockerel, and will find the price obtained thoroughly pays for the trouble expended.

June and July hatched chickens are seldom worth hatching; they thrive well, but the prices obtained for early ones are so much better, while there is always a ready market for March hatched pullets in autumn. July birds, that only begin laying in February, thus missing the dear season, are comparatively useless. About the only birds worth hatching late are Leghorns or Houdan-Leghorns, as these are very precocious, and if hatched in early July will sometimes lay by Christmas.

The principle to go upon in order to make poultry pay is never to keep a bird a single day longer than is necessary before it yields a return; and as food is the same price all the year round, it stands to reason that a pullet which lays at six months old pays better than one that waits eight months, before beginning; and unless pullets are well forward in the autumn, and begin laying before the very cold weather commences, they often wait right through winter before giving a single egg. The autumn, therefore, is the time for looking over the stock, killing the old birds before they begin moulting, and deciding what pullets to keep. These latter may be removed to the hen-house as soon as they show signs of wanting to lay. This can be told by the "reddening up," which begins with the wattles and spreads over the face and comb, until the little pullet becomes flaming red, and rejoices the heart of her owner by leaving her a small egg one fine morning.





BLACK AND SEBRIGHT BANTAMS.

POULTRY KEEPING:

A RECREATION AND SOURCE OF INCOME FOR GIRLS.

By THEO.

PART VII.

CONCLUSION.

HAVING come to my concluding paper upon this subject, I feel that I must rack my brains to the utmost in order that I may leave nothing unsaid that may be of use to the beginner in this delightful enterprise. Let me, then, in order to be quite sure that we are remembering everything, consider again some of our chief maxims.

It is absolutely necessary, first of all, to have a dry, well-ventilated house, of the size required. The perches with boards under them to be swept daily, and clean, comfortable nests. The open run to be clean and sunny; to be dug over constantly, and to be well drained. The covered shelter to be well kept and dry, and to have plenty of sifted ashes for the hens to dust in.

Hens to be kept till eighteen months or two years and a half old—never longer. Pullets for October, November and December laying to be hatched out in March or early spring. Hot food every morning. Grain at night. Plenty of green food, sharp grit, lime, and fresh water.

The use of condiments and spiced foods is a question constantly before the poultry-keeper. She cannot take in any farming or live stock journal without having her attention arrested by advertisements, promising unheard-of results. Eggs daily—eggs always—by the simple use of a little package sent carriage paid, etc., etc. During ordinary weather, when hens are well and all is as usual, it is a great mistake to be constantly using cayenne pepper and other condiments; but during very wet weather, or hard frost, or during the moulting season, hens do require some assistance, and that assistance must be given according to the need of the time. As I have before said, I do believe in common sense, and hens, with a girl

of good common sense who has their interest at heart, will succeed far better even though in apparently more disadvantageous circumstances, than with one who follows directions blindly, or, worse still, does not follow them at all!

Let me give some examples.

In wet weather hens often stop laying, more because the shelter is damp or the roof leaks, or the food is spoiled through being thrown on to the wet ground, than for any other reason.

During the moulting time, when the poor hens rest a little after a hard summer's laying, they should not have a stimulant to force them on, but some sulphur to help them make feathers, and an iron tonic to keep up their strength.

In hard, frosty weather, remember that heat is what is wanted; therefore give a very hot meal, with a little cayenne pepper, and hot water; the hard corn may also be softened with boiling water, and animal food and grit, which cannot then be obtained from the hard run, must be supplied.

POULTRY DISEASES.

Young hens from good stock, kept in healthy surroundings, are seldom seriously ill, especially if any little symptom has been attended to.

Some people advocate killing all sickly hens, because they seldom do any good, and because amateur doctoring is usually a failure.

This advice is rather sweeping, for certain definite illnesses can be cured by definite medicines, and a good laying hen should not be thus summarily despatched.

Where, however, a hen seems never well, and mopes about without any apparent cause, and lays irregularly, the most economical thing is to kill her, for doctoring is expensive, and sixpence here and sixpence there runs away with the profit.

Where a girl is really interested in medicines,

and would rather like the trouble of effecting a cure, she should buy a standard book on the subject, have a hospital for isolating the birds, and go in for post-mortem examinations!

Every girl must have by her some disinfecting powder, to sprinkle occasionally in the hen-house; also an insect powder for use in the house and nests during the hot summer weather; a small bottle of castor oil, some tincture of aconite, a tin of good roup powder, some flowers of sulphur, some tincture of steel, and a lump of camphor.

A hen in good condition should be very red in the comb, with feathers close and compact, and in full lay; her excrements also should be very firm. The general condition of the poultry-yard can always be gauged by the latter every morning; and should there be a general appearance of diarrhoea, some powdered chalk mixed with ginger may be put into the soft food, and if it continues some roup powder may be given. Where the excrement is of a yellowish hue, it is almost certain to be that the hens have been kept short of grit. If one hen is seen particularly in this condition, she should be caught and given about a teaspoonful of castor oil, and after a little while be given some chalk and ginger.

The way to administer medicine to a hen is to catch her and hold her tight under the right arm, and with the right hand take hold of her comb, and with the left her wattles; her mouth can then be opened, and some assistant can pour down what is required. Powders are usually taken by the hen hidden in soft food.

During the moulting season hens should be fed generously, and have an iron tonic; for six hens put about three drops of tincture of steel into the drinking-water every morning, and every other day put a little sprinkling of flowers of sulphur into the soft food.

Some hens moult very hard indeed, and if neglected suffer very much, sometimes even dying; if this happens it is a pretty sure sign of bad management somewhere.

Cold is an important thing to guard against. If the hens have taken cold (and you may be sure they have done so if they sneeze and show a general watery appearance in the eyes and nostrils), don't neglect them, for they are easily cured at this stage, while later the cold might develop into roup—that horror of poultry keepers, of which you should have no experience.

A good preventive of further trouble is to put a few drops of aconite into the drinking water at night, and put some roup powder into the morning meal. It is advisable in bad weather to keep an inch square piece of camphor in the water; one piece will last a long time, as it dissolves very slowly.

Sometimes, if the day has been very stormy and rough, I give the hens a very hot meal at night, consisting of linseed and barley meal, and leave a sprinkling of corn in the run for them first thing in the morning.

On going into the henhouse at night during winter, some of the hens may be heard breathing very heavily, making a sort of asthmatic sound, but if caught and given about four teaspoonfuls of linseed meal boiled in a little water until quite sticky, they will usually be all right in a little time.

During the recent snow we brought a hen into the kitchen in a hamper: she could not eat, and could hardly breathe; the linseed was given, with some hot water to help her to swallow, and the next day she could eat a little, and was taken back to the run in a few days.

Roup is a very much exaggerated cold, though myself I do not know where the line is drawn between the one and the other.

Mr. Wm. Cook has kindly given me permission to quote anything I wish from his "Poultry Breeder and Feeder," on this and any other disease; but the readers of THE GIRL'S OWN PAPER will do best by attending to colds, and saving the danger of roup. As roup is infectious, it is wisest when a hen has what would be called a bad cold, to isolate her, keeping her in a large hamper in a warm, dry place; treat her as described, and if after a few days she really does not recover, it is best to kill her.

"Liver disease is shown by yellow cast about the face, especially round the eyes, a peculiarity in their walk, appearing as though they were rather stiff, and were afraid to shake their bodies; their food does not digest, their crops are seldom empty. Insufficiency of sharp grit, to help digest the food, is one of the greatest enemies to the liver. Cayenne pepper should be avoided. When the liver is not acting properly the fowl is much more susceptible to other diseases, as when this is out of order the blood is very hot, and at other times very low in temperature. When fowls have the disease badly, their excrements are very yellow; then it is waste of time and money to attempt to cure it, unless for an experiment. Remedies: as herbs, nothing better than dandelions, watercresses, and horehound. The two former can be cut up in small pieces and given to the fowls. When horehound is used, it is best to boil it for about fifteen minutes, and give them the decoction. About two sprays are sufficient for from twelve to fifteen fowls. The best way of giving the liquid to the fowls is to mix the soft food with it in the morning."

Fowls laying soft eggs.—This difficulty is not exactly a disease, but it is occasioned by the hen being kept short of lime, or because she is in a generally weak condition. In the latter case some bone meal mixed with the food will help to tone up the system. Sometimes a very good layer will lay a complete

egg and a soft one the same day; she should then be kept on limited unstimulating food to keep her from making eggs so constantly.

Egg-bound.—Sometimes quite healthy young hens are not able to lay their eggs, owing to the passage being too small, or there may be some temporary difficulty. Castor oil given to the hen will help her through, or a little applied externally to the part is sometimes necessary. The symptom of the difficulty is the hen being often on the nest without laying. "In walking the tail will touch the ground while the head and breast are reared straight up. Fowls after being egg-bound should only have a little soft food for several days; if they are not attended to at once inflammation takes place, and the hen suffers very much pain; when this is the case the bird should be killed at once."

"Crop-bound."—A common complaint, generally caused by careless and over feeding, and sometimes for want of sharp grit. The first symptoms noticed are that the fowl mopes about, often taking up food and laying it down again, and drinking a great quantity of water. The crop turns hard, and the passage from it to the gizzard gets stopped. The best thing is to give the fowl two teaspoonfuls of castor oil and a little warm water, and some time after to gently rub the crop with the thumb and finger so as to remove every particle of its contents.

"If the crop is not softer in three or four hours, the dose of warm water should be repeated, rubbing the crop as before; and if in another four hours the crop is still hard the warm water, oil, and rubbing should be repeated, and if ineffectual the only remedy left will be to open the crop and remove the hard contents."

This latter I should not recommend readers to attempt, unless they can be shown how to do it by some experienced operator.

Feather eating.—This is a very tiresome habit that hens in confinement get into, through having too little to do generally, or being kept short of feather-making material or water. Some hens I saw last autumn were a sight to be seen, hardly a feather on any of their necks. They had a grand open range, but probably they got into this habit by neglect, and because their house was hardly ever cleaned out. We watched and watched to find the culprits, but they seemed all more or less guilty, so the whole lot were gradually changed into soup. If there happen in a yard to be one or two specially troublesome in this respect, they should be shut up separately in broody coops, and Mr. Cook advocates the following: "If a small piece is cut off the end of the top beak and the sharp edges of the same and the edges of the bottom beak also, they cannot pluck the feathers, as when they go to peck them they slip through their mouths."

Of chicken diseases there are a few I might mention:

The gapes can very easily be told. One or two chicks are noticed sitting by themselves and not running to their food with the others, while at short intervals they will open their mouths very wide as if for a good yawn. They should at once be caught and treated. Innumerable medicines are suggested for this disease, among which are allowing the chick to inhale camphor, or for a moment or two burning sulphur. It is a good thing to give a turpentine pill—that is, a few drops of turpentine diluted with double the quantity of water mixed with flour, and so made into tiny moist pills; one put down the chick's mouth, and afterwards a drop or two of diluted sweet spirit of nitre, will often bring them round again. Where tiny chicks have from the shell appeared to be weakly and ill it is best to kill them, as they will never grow into good stock birds, and where space is valuable they only take up the room of others.

Diarrhæa.—Caused by irregular and too moist feeding or lack of sharp grit. The chalk and ginger can again be applied in very small quantities, and the feeding be altered, giving milk or water to drink only twice daily, except in exceptionally hot weather. Mr. Cook says, "I have not found the chalk and ginger fail for young chickens. A brood of ten from a fortnight to three weeks old can have the same quantity as prescribed for a hen (one heaped-up teaspoonful of powdered chalk and half a teaspoonful of ground ginger)." Leg weakness in young growing chicks, noticeable by their sitting much on the ground, may be counteracted by the use of bone meal, a handful in the soft food every alternate day for from ten to eighteen young birds, according to age.

I must say a word about the tiresome habit of egg-eating. Sometimes day after day on going to the hen-house you see hens on the nests, but, alas! at night there are no eggs. Should this be so, it is almost certain that one or more of the hens indulges itself in a quiet feast, the only other alternative being that rats or other vermin take the eggs away.

If an ordinary egg is left in the run and the hens are watched, that is the best way of finding the culprit. When found—if only one solitary one—she had best be killed, else she will soon teach the rest. If there are many who do it, recourse may be had to the plan of giving a surfeit of rotten eggs filled with mustard, etc., and if still this does not answer, the house should be provided with patent nest boxes, which allow the eggs to roll away out of sight as soon as laid.

Prevention, however, is better than cure, so keep the hens well supplied with lime, so that no tempting soft eggs are laid, and so that the shell of the complete egg may not be more than the poor layer can resist.

It will, I hope, be seen after reading these pages that neglect is, as a rule, at the root of all trouble in the yard, and this neglect does not so much arise from want of time as from want of method. Some people are born muddlers, and if they were to keep hens the following would most probably happen:—

The house would leak in winter, because it was not tarred in the autumn. The hens would lay astray, because the nests were not clean, and more time would be spent in looking for the eggs than in refilling the nests with fresh straw. The rats would eat the food, because the boxes were not shut. The cats would run off with the chickens, because the runs were not properly closed. The hens would spoil the garden, and try the patience and tempers of all the household, because their wings were not cut. Feather-eating begins because the water is generally forgotten. And I might multiply instances of this kind, where great disappointment is felt at failure which might so easily be prevented.

Perhaps some of my readers living in the country may have a difficulty in disposing of their eggs when they have them, and may wish to obtain better prices for them. The parcel post has made it possible to send eggs off very cheaply, especially if the prepared wooden egg boxes are used. Boxes to hold one doz. eggs 2s. per doz., and to hold two doz. 3s. 6d. per doz. For these boxes the carriage is 6d. per doz., and 9d. or 10d. for two doz. If private customers living in any large town can be obtained, it is a great advantage, and the prices must be regulated according to the time of year. If no private family is known, an advertisement will sometimes bring one.

The way to pack the eggs is to fold every egg in a good sized piece of newspaper, and then put each into its own division. Where eggs are sent away for sitting, much more care must be taken.

The eggs as collected should be laid on their

sides and turned daily, and when packed should be embedded with the large end uppermost in bran or sawdust, and sent off by passenger train; the parcel post shakes them too much.

When eggs are very plentiful in the spring, as they should be, it is good to preserve them for the winter. If this be properly done they will be quite good for cooking, and even for poaching. They would not taste even if boiled, only that it is never quite safe to send one to table unopened in case of any accident.

A well known way, done much in Ireland, is to butter the eggs very slightly the day they are laid, and store them with the large end uppermost. Eggs packed in common salt also keep for a few months, and the salt can be used over and over again.

A still better way than either of these, where the eggs are to be kept for more than three months, is to "pot" them in lime. Get a stone or earthenware jar about one foot high and one foot in diameter, place in it about three lumps of unslaked quicklime about as big as your hands folded together. Fill the jar with water, and add a good handful of salt, and any time after the heat of the burning lime has abated the eggs can be put in. The lime should be well stirred up the day after it is put in, but finally it will sink to the bottom and form a soft mud. The first layer of eggs may be embedded in this, but afterwards just allowed to float as they will, until the jar is full. A little more water should be added from time to

time as it evaporates. Great care must be taken that the eggs do not crack when put in, or they will not keep, and will spoil the others. It is wiser to preserve in a number of small jars rather than in one very large one, in order that the oldest eggs may be used first.

I must now broach the painful topic of how to kill a hen. Some people think it dreadful for a girl to even think of such a thing, and probably many of my readers think so too. But really, if the deed has to be done and there is no experienced person at hand to do it, it seems to me rather cowardly to shrink from the act. I often run away myself, I must confess, when I have given a plump little cockerel to an old man, who is very expeditious in this matter. With him, happily, it is a brief, rapid operation, and he is going on with his gardening a few minutes afterwards. The hen should be held securely and stunned with a heavy blow on the head, and then a sharp penknife should be run through the roof of its mouth into its brain. Another way is to cut the jugular vein in the throat right across with a very sharp knife. The muscular twitching of the hen afterwards is not caused by pain, and will soon cease.

The hen should be plucked immediately after it is killed, when the feathers of young birds will come out very easily, only be careful not to tear the skin. Old birds are not so easily managed, but if boiling water be poured

over them, feathers and all, they can be plucked in a few minutes, and the feathers can be dried afterwards. I always find I can sell my chickens to my friends far more easily if I send them ready plucked.

Poulterers are always ready to buy really plump, well-fatted birds; in which case the feathers may stay on, but the price obtained will not be so great.

Before closing, a word is due about our illustration. Bantams are most charming little creatures to look at, and can be had in almost every "grown-up" variety, Bantams, Hamburgs (the black ones in the illustration), Cochins, Brahmans, Game, etc.

Some breeds lay very well, and the eggs are much advocated for children and invalids. Bantams take up much less room than hens, and of course eat less, but should be treated in the same way. Bantams and hens should not be kept in the same run together, the cock being very pugnacious and troublesome.

Where there is a very limited space a great deal of pleasure may be obtained by keeping a few of these pretty little creatures, and children enjoy them very much.

The profit from a utilitarian point of view may be small, and money is usually made out of them by breeding for show and fancy points.

I really must close now, so wish my readers every success in their undertaking, and as much pleasure as that success and their own industry will give them.

THE SILK INDUSTRY IN IRELAND AND AMERICA.

By DORA DE BLAQUIERE.



HE endeavour which is now in progress to found a silk industry in the South of Ireland will be looked upon with great interest by everyone. The poplin manufacture there dates from the revocation of the Edict of Nantes, and the enterprise of the skillful French artisans who settled in that part of the Irish capital called the "Liber-ties," and who carried with them the art of

making poplin. The original invention of this material is claimed by Avignon, once the Papal City; on which account it was called "papaline," in compliment to the reigning Pope, in the fifteenth century. It seems to have been at that time specially made for church vestments, for which its firm texture admirably fitted it. The La Touche family established the first organised manufactory in Dublin, which opened in 1693, and by the end of the seventeenth century there were 2,500 workmen in Dublin, and as many more in Limerick, Cork, and other Irish cities. During the last few years fashion has dealt hardly with this handsome and well-wearing material, and in consequence the industry, once so flourishing, has greatly languished.

With regard to the establishment of the

culture of the silkworm, called, properly speaking, "sericulture," the present attempt is not without a good foundation to support it; for Count Dandolo, the greatest authority on the subject, says that the soil and climate of Ireland are peculiarly favourable to the cultivation of silk. The late Lord Kingstown planted 30,000 mulberry trees on his estates, and sent to market raw silk of the best quality; but somehow the gallant enterprise did not pay, perhaps owing to the habits and character of the peasantry. The new "Association for the Promotion of Sericulture" was established in the South of Ireland in the year 1887, under the patronage of the Earl of Bandon, Lady Londonderry, Lady Bandon, Lady Bantry, Lady Kingstown, Lady Listowel, Lady Frederick Cavendish, and Lady Arnott; and an excellent committee, with Mr. M. H. Westropp as Hon. Secretary.

The first season closed in October last, and, in spite of great difficulties, the success has been very great and encouraging. About thirty persons undertook "educations," as the rearing of the silkworms are called, and, in spite of wet and cold weather, leaves sent long distances by post, and inexperience, the largest cocoons were produced, which spun as long a thread as the best French cocoons. The committee are now preparing for their second season, and, in addition to the first mulberry trees imported, have this year brought over 2,000 mulberry trees from France, and also new "grain," as the silkworms' eggs are called. It is to be hoped that this endeavour may be crowned with success; and lest our English girls should be overlooked, I will now try to give them some little account of the various attempts to establish the growing of silk in England, which began with the strenuous attempt of King James the First to establish it by Royal edict. The manufacture of silk really came over in an earlier reign, that of Henry VI., and we have always to thank

the religious persecutions on the Continent for its progress. In 1585 the Duke of Alva drove the Flemings to our shores, and a century after the revocation of the Edict of Nantes sent us the Huguenots. No less than 72,000 of these came over, one of their largest settlements being at Spitalfields, where so many of their descendants still live.

But King James had agitated about silkworms more than seventy years before, directly that he came to England as king; perhaps incited thereto by the difficulty of obtaining silk stockings for his own private use. One of the best known stories of him describes him as borrowing a pair of silken hose from the Earl of Mar, in order to make a brave show when receiving the English ambassador, when he was on the throne of Scotland. Perhaps the earl did not want to lend them, as we are told that the king entreated him much, saying, "Ye surely would not have it that your king should appear a scrub before strangers!" It was perhaps in memory of these difficulties, that when the throne of England became his by the death of Elizabeth, he tried his best to establish the culture of silk. He brought over thousands of mulberry trees from France, and had them planted throughout the country, and established a mulberry garden and silkworms near St. James's, in the county of Middlesex. To the care of this garden he appointed Walter, Lord Aston, in the year of grace 1629. The site of this mulberry garden is now occupied by Buckingham Palace. For a long time, no doubt, the silkworms were fed from the leaves of the mulberries; but the gardens became afterwards a very famous place of fashionable resort, and for at least three reigns and in the Commonwealth no place was better known nor more frequented.

Thus throughout England we find traces of King James's endeavour; and at Bisham Abbey, Berkshire, two mulberry trees are still to be seen that have lived ever since; and