DEPARTMENT OF AGRICULTURE, VICTORIA.



# POULTRY BREEDING

AND

# MANAGEMENT

FOR THE

# ENGLISH MARKETS.



By Authority:
ROBT. S. BRAIN, GOVERNMENT PRINTER, MELBOURNE.
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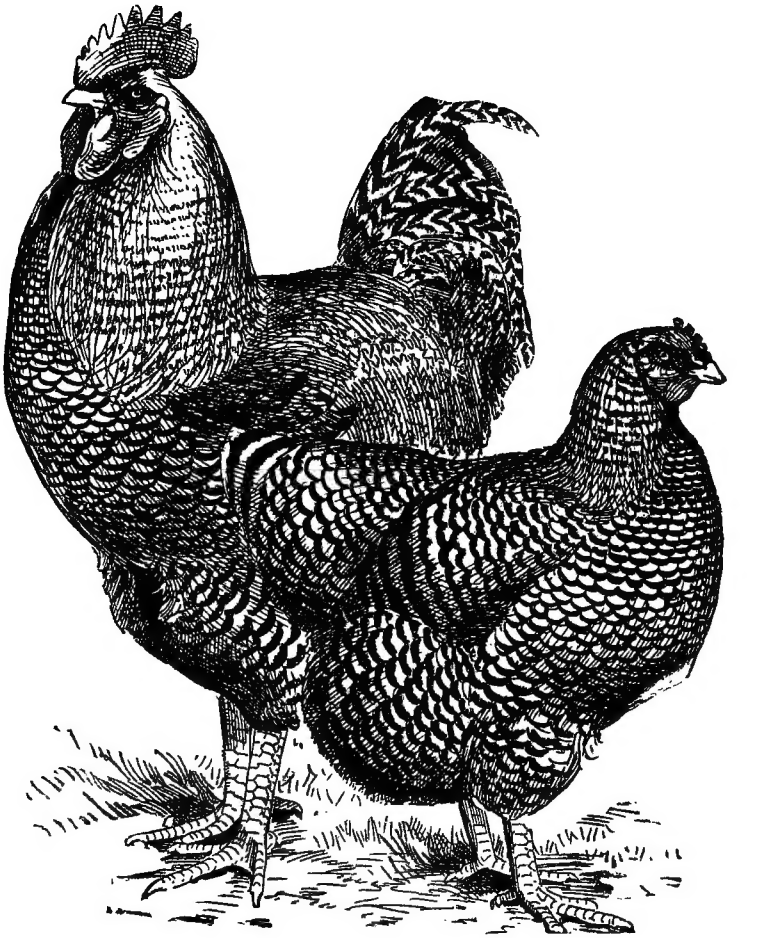

FIG. 1.—PAIR OF PLYMOUTH ROCKS.

As it has been satisfactorily proved that, with the facilities now in use for carrying perishable products, poultry can be landed in good condition and sold at payable prices in England, this pamphlet has been prepared for the guidance of farmers and persons holding small areas of land desirous of commencing or extending an industry of future importance. It has been the practice to consider poultry breeding a matter of minor importance to farmers, but the result of inquiries and experiments conducted by this Department show that the industry is one which can give good profits and quick returns. I feel satisfied that, with the advice which this Department is always ready to give, a steady and increasing trade will be established in the export of poultry. It may be mentioned by way of illustration that, at the time when experimental shipments were made, poultry was almost unsaleable in Melbourne, whereas the prices realized in London for those sent were from 2s. 9d. to 4s. for chickens, and 3s. 3d. to 5s. for young ducks.

This Department will undertake the supervision of shipment of poultry, and will be prepared to advise and assist as far as practicable in the development of the trade; and it may be reasonably expected that this publication will be one of the means to that end.

D. MARTIN,
Secretary for Agriculture.

Melbourne, 17th July, 1894.

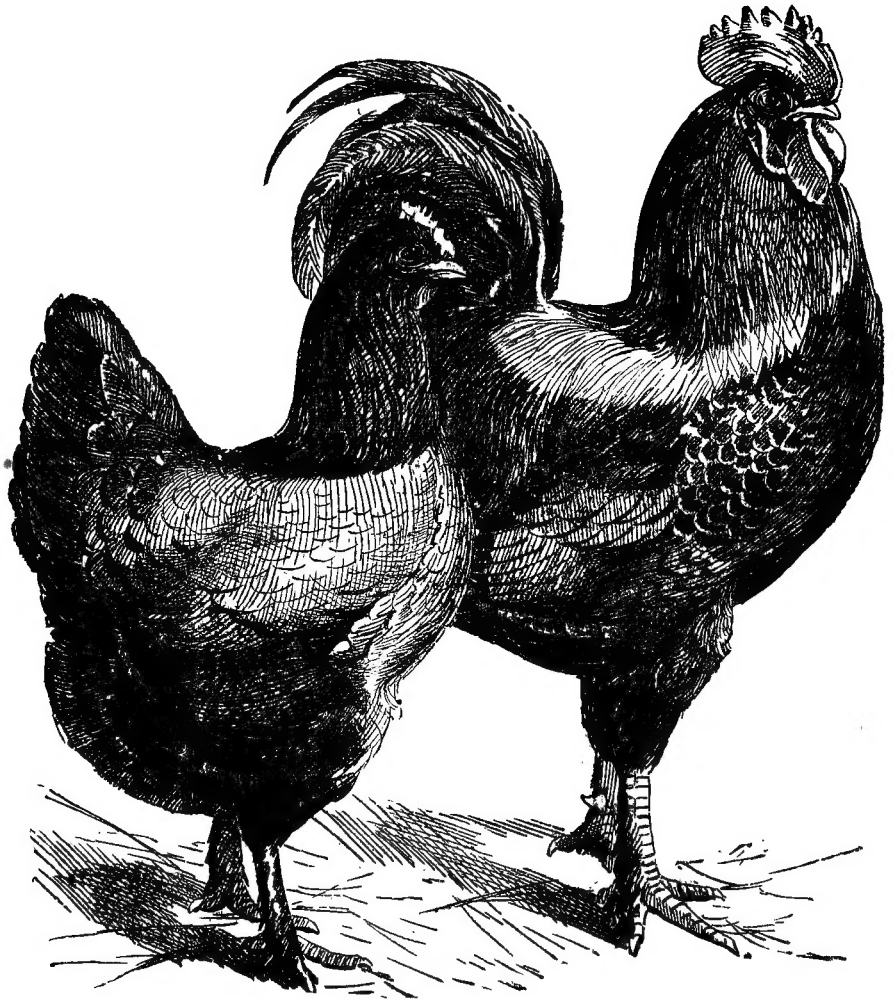

FIG. 2.—PAIR OF LANGSHANS.

# POULTRY BREEDING AND MANAGEMENT.

Victoria is by nature exceptionally favoured with a most suitable climate for breeding and raising poultry, and this pamphlet is issued by the Department of Agriculture with a view of encouraging an export trade in poultry products. The instructions are given as a guide to those who are desirous of embarking in the industry.

Poultry has hitherto been practically a neglected quantity with those carrying on rural pursuits, and this has, no doubt, been occasioned by a limited local demand, but now that the produce can be shipped to the world's markets in a perfect state of preservation by means of the refrigerating chambers on the vessels trading with these colonies, there is no reason why Victoria should not henceforth develop a large and profitable export trade with England.

The difference between the colonial and English seasons places Victoria in a position to be able to supply the London market at a time when prices are at their highest. Consequently, when our poultry is ready for disposal, we can land the produce in an unlimited market, and secure the best possible prices. The trial shipments made to London last season, and which are referred to later, have shown us that so long as we can produce an article of good quality we need not fear prices.

Farmers and those carrying on rural industries throughout Victoria have special advantages for breeding, raising, and fattening poultry at a minimum cost, so that the export trade is a matter of prime importance to them.

It is essential, then, that the subject should be carefully studied, so that the article to be exported should be of the finest quality.

Poultry can be turned to a source of profit at a very little expense, and if the farmers of Victoria will pay a little more attention to this department of their farms they will be well repaid, and a constant and easily-earned revenue will be created.

It is upon the farm, the orchard, the vineyard, &c., that poultry raising will be found to pay best, for no extra labour has to be employed.

For instance, the best breeds have first to be selected, whether they be for eggs or table purposes; then proper attention has to be paid to feeding, hatching, raising, fattening, &c.

One of the principal points which the inexperienced breeder must have impressed on his mind is the necessity for economy in every department of the poultry yard.

Perhaps no department of the farm takes less capital to begin than poultry, yet the returns are rapid, and, to the small farmer, this is a matter of much importance.

## Trial Shipments.

The three trial shipments of poultry, sent to London under the surpervision of the Department of Agriculture, have proved that our produce will command a ready sale so long as it is of good quality. Very short notice was given to breeders that the Department of Agriculture intended to supervise the shipments of dressed poultry, consequently none of the birds sent home were specially prepared or fattened, and the three trial shipments can be set down as ordinary farm or market poultry.

When Victorian farmers are thoroughly alive to the importance of poultry as an industry, and have grasped the methods used in breeding, the shipments which leave our shores should be superior to those which were sent to test the English markets, and which realized the following prices :—

| | | | |
|---|---|---|---|
| Ducks | ... | ... | 10s. per pair. |
| Chickens | ... | ... | 8s. ,, |

The farmers have an unlimited market in England, and they have a great future before them in the poultry industry.

## Housing and Accommodation.

The first consideration is to select a good dry position, with as much fall as possible, on which to erect the poultry-house and breeding pens.

Good dry runs are a necessity, especially in the winter months, and are of as much importance as shelter in the hot summer weather.

A lean-to poultry-house can be built at a moderate cost, and the size can be regulated according to the number of birds to be kept, as overcrowding is one of the great causes of disease.

Fowl-houses should always face the east.

Ventilation should always be provided, the ventilators to be placed in the upper parts of the buildings.

The great matter is to see that fowls are always kept warm in winter months, and to take care that they do not become exhausted by overheating in summer months.

The roosts should all be placed on one level, and should not be more than 18 inches from the floor, and should be 18 inches apart. They should be about 2 inches broad and rounded off at the edges.

In districts where bark can be obtained it can be used in building fowl-houses as a substitute for wood.

## Droppings as a Manure.

The droppings from the fowls should be cleaned out regularly and kept dry in a remote corner of the yard selected to store it. If allowed to rot for a time an excellent manure will be obtained, and this can be sold at high prices, for it is much sought after by nurserymen or those carrying on business of that nature.

## Stock to Breed from.

The selection of stock for breeding purposes is a matter requiring much consideration. The three classes into which fowls may be divided are—

1. The table fowl.
2. The general purpose fowl.
3. The egg producer.

At present we shall only deal with the two former, as the egg-producing stock will come under consideration in another work.

For the development of the export trade, it must be borne in mind that "quality of flesh" and "quick maturing" are two factors which stand out prominently. To produce a bird which will mature early and pile on good sweet flesh at the same time ought to be the aim of the poultry raiser.

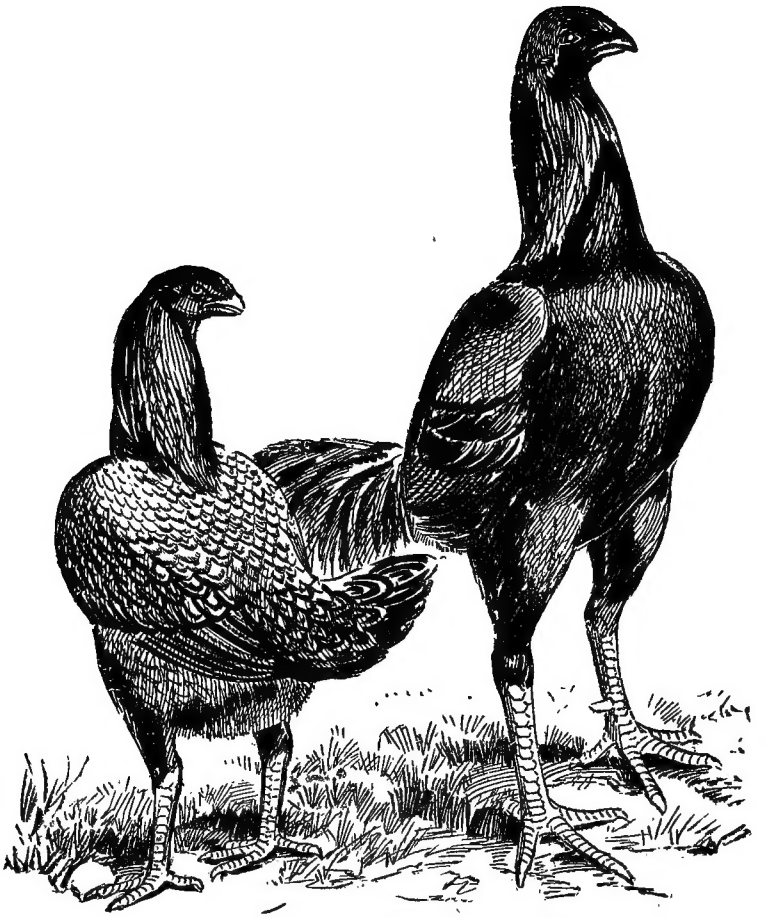

FIG. 3.—PAIR OF INDIAN GAME FOWLS.

He should select the best of table and general purpose breeds as mentioned below—

1. Indian Game cock with hens of the following breeds :—Dorkings, Orpingtons, Scotch Greys, Langshans, Plymouth Rocks, and Wyandottes.

2. Dorking cock with hens of the following breeds :—Orpingtons, Scotch Greys, Langshans, Indian Game, Plymouth Rocks, and Wyandottes.

3. Plymouth Rock cock with hens of any of above breeds except Wyandottes and Plymouth Rocks.

4. Orpington cock with hens of any of above breeds.
5. Langshan cock with hens of any of above breeds.
6. Wyandotte cock with hens of any of the above breeds excepting Plymouth Rocks and Wyandottes.
7. Scotch Grey cock with hens of any of above breeds.

It is necessary to secure young vigorous birds to breed from, and each season fresh males should be introduced, of a different strain, so as to prevent in-breeding.

About six hens should be mated to each cock bird, so as to insure fertile eggs.

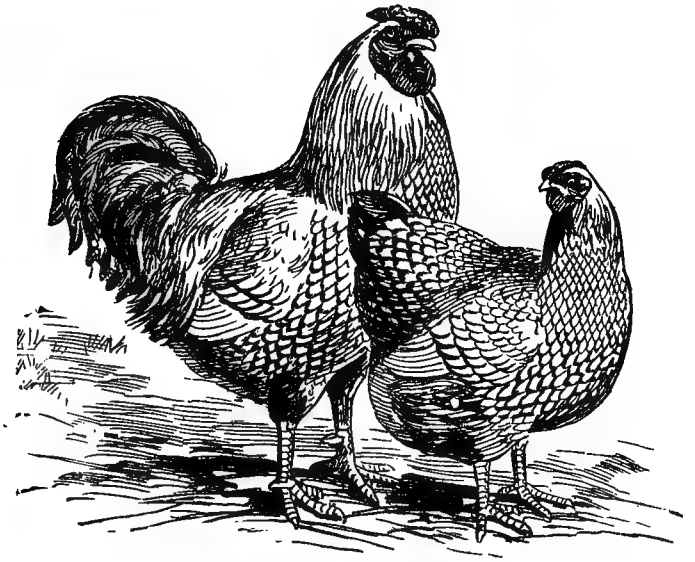

FIG. 4.—PAIR OF SILVER-LACED WYANDOTTES.

### How to Improve Ordinary Barn-door Fowls.

Select the largest hens, and mate them with vigorous cock birds of the following breeds :—Dorkings, Indian Game, Orpingtons, Plymouth Rocks, Langshans, and Wyandottes. Fresh cock birds of any of the above breeds should be introduced each season so as to improve the size and prevent in-breeding.

### Breeding-yards.

To breed systematically for export it will be necessary in all cases to have proper breeding-yards for the stock birds. These, of course, will only be in use during the breeding season, which

may be said to begin in August. Breeding pens can be erected at a very little cost. Of course, much depends on the number of birds it is intended to raise in a season. If the breeder intends to enter largely into the business, he will have to erect pens sufficient to hold the desired number of stock birds.

Shelter should be provided in the shape of trees, &c.; creepers, such as passion fruit, should be planted to provide shelter. Where grass cannot be obtained, it is desirable to provide green food, such as cabbage and lettuce. It is necessary to have in the breeding-yards a supply of grit, lime or old mortar, oyster shells or burnt bones (crushed), fresh water daily, which must be kept out of the sun. To keep the roosting-house sweet and free from vermin, use lime and carbolic. Nests should be placed in the back portion or sides of each house, so that the eggs can be easily collected from the outside through a door made for that purpose.

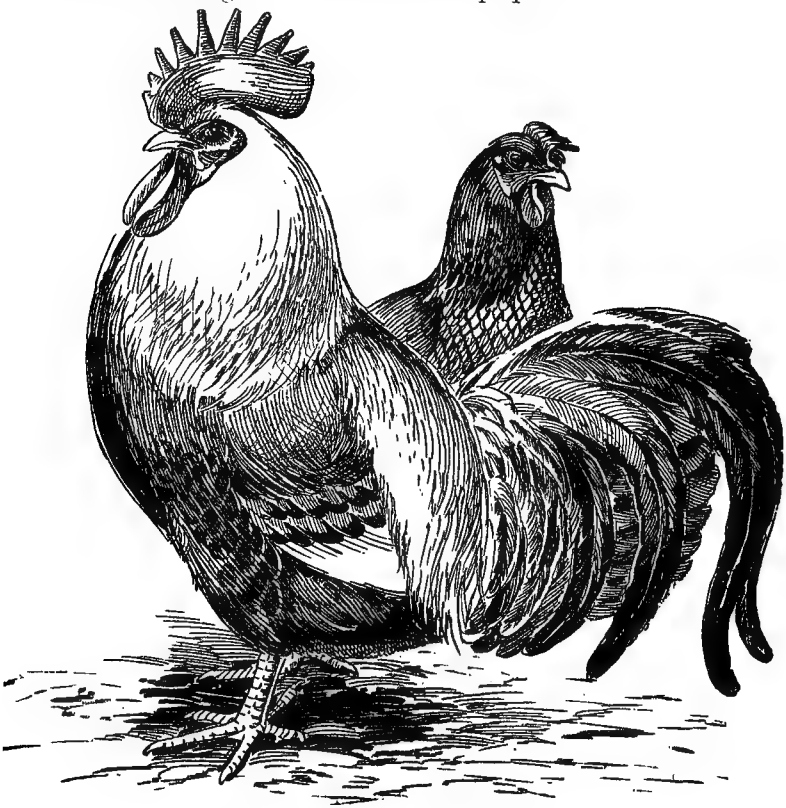

FIG. 5.—PAIR OF DORKINGS.

## Collecting Eggs.

All eggs should be collected daily. On no account should they be allowed to remain in the nest at night, for they induce the hens to become broody. A cool cellar or some similar place should be used for the storage of eggs. They should be placed in racks with the small end uppermost.

## Methods of Hatching.

We now come to the hatching of the eggs, and in this matter it is well to follow nature as closely as possible.

First a shed facing the east should be built, 2ft. 6in. high and 2 feet wide, allowing a 2ft. 6in. compartment for each bird with a separate door to each, the length of the shed to be according to the number of nests required. By adopting the above plan the hens are protected from pests, such as foxes, &c., found in country districts. Each pen should be numbered so as the due dates of hatching can be easily recorded. This shed should be built on ground with as much fall as possible to protect the nests from flood water. The nests should be made on the ground by removing sufficient earth so as to form a natural nest with the addition of a little straw or dry grass. To prevent vermin the nest should be sprinkled with powdered sulphur or carbolic. About three days before hatching sprinkle the eggs with warm water. After the hen has settled down to the nest she should be allowed out daily for a run and feed.

The best sitters are hen turkeys which can be made to set at any time, without being broody, by giving them a teaspoonful of port wine before placing on the nest. They will each cover twenty eggs, and bring out three to four clutches without leaving the nest, the chickens being removed to foster-mothers or ordinary hens (which have chickens of the same age), and a fresh setting of eggs supplied to the sitting turkey. Barn-door hens selected for brooders should be of a moderate size. Incubators can be used to advantage, but require more attention and are not so reliable as the natural bird.

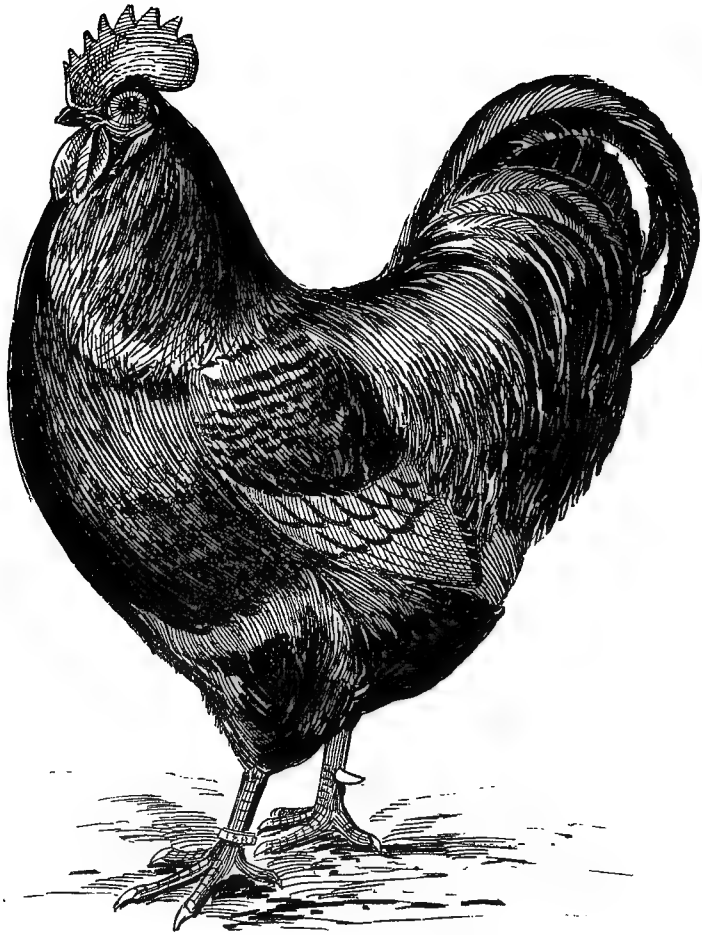

FIG. 6.—ORPINGTON COCK.

### Length of Time required to Hatch.

The time taken in hatching very often varies according to circumstances; for instance, a good close sitter, in warm weather, will hatch ordinary fowls' eggs on the twentieth day, that is providing they were very fresh when set, whilst eggs that are stale

and set in cold weather may take two days longer to hatch. However, the following may be taken as the average times occupied in hatching:—

| | | | |
|---|---|---|---|
| Ordinary fowls | ... | ... | 21 days. |
| Ducks ... | ... | ... | 28 days. |
| Turkeys ... | ... | ... | 26 to 29 days. |
| Geese ... | ... | ... | 30 days. |

## How and when to Test Eggs.

It has been previously stated that the poultry breeder should always keep a record of the dates upon which various batches of eggs are set. This is most essential, for on or after the seventh day the eggs under the sitters should be tested, and the unfertile eggs removed from the nests. These can be boiled and used for chicken food.

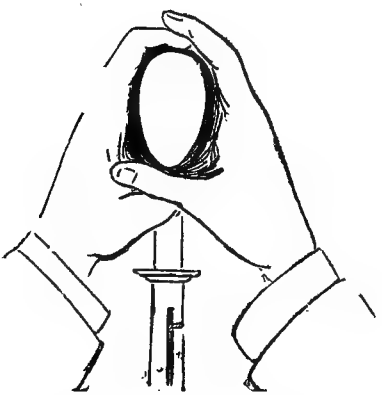

FIG. 7.—HOW TO TEST EGGS.

When several hens or turkeys are set at one time the fertile eggs can be moved to other nests, thus keeping a fair number of eggs under each sitter, and allowing the breeder to put fresh sittings of eggs under the hens from which the first batches of eggs have been removed.

The fertility of an egg can be tested in the manner as shown in Figure No. 7. The hen should be removed from the nest at night-time whilst testing the eggs, which should be held in front of a light in the manner shown. If the egg is fertile the centre

will appear black or hazy, but if unfertile it will appear perfectly white. A fertile egg gradually becomes darker as the formation of the chicken increases.

The egg shells should be removed from the nest when the eggs are hatched.

## How to Rear Chickens.

Chickens do not require any food for twelve hours after they are hatched. The first few meals should consist of hard-boiled eggs, bread crumbs, and oatmeal, mixed with very little milk or water, so as to be almost dry and crumbly. After this, feed on pollard, barley-meal, or boiled potatoes, with a little bran mixed through; in all cases scald it with milk or water, the former preferred. Animal food and bone-meal should be mixed through the food twice a week. For the first few weeks the chickens should be kept in dry situations. As the age increases the young birds should be fed on corn, such as crushed wheat, crushed maize, but in every case should have soft food (scalded) in the morning. As soon as the sexes can be distinguished, separate the cockerels, placing them into grazing yards. They require regular and constant feeding in being prepared for market.

## How to Fatten.

The process of fattening is of the utmost importance in the export trade, and upon it will depend much of the success which is anticipated in this business. To fatten a fowl is practically to ripen it, and once this stage is secured it is useless to continue fattening or ripening a bird any longer; the natural course after ripening in anything is decay, and so in poultry. Of course, birds required for egg purposes or breeding should never be fattened, and it is only those required for table purposes which should undergo the process. We have hinted that only birds required for immediate use should be fattened. In the export trade nothing but young birds from three to six months old are to be used, so that shippers will have to take into consideration the time necessary to fatten and place the bird in good condition. To fatten young stock the food used must be of a flesh-producing nature, such as that previously mentioned, namely:—Wheat, barley, maize, and for a change, dun peas.

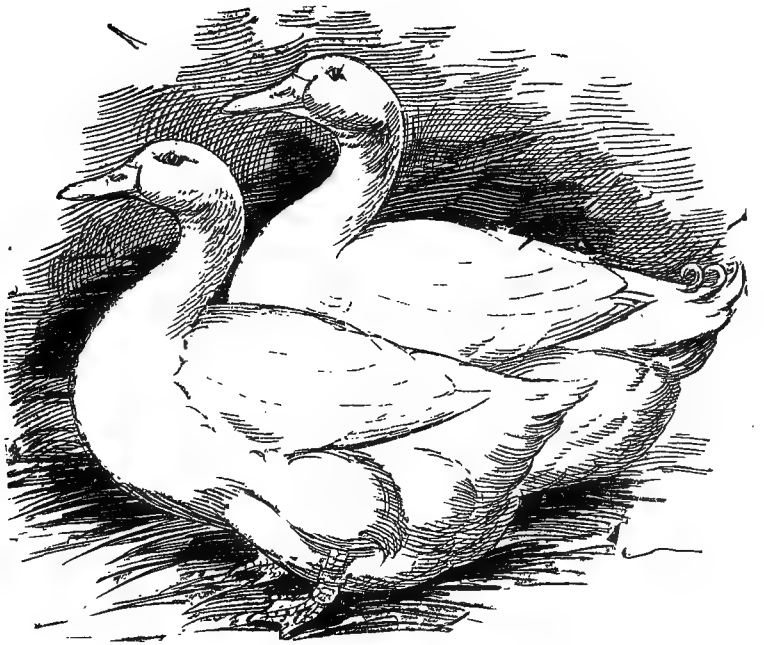

FIG. 8.—PAIR OF AYLESBURY DUCKS.

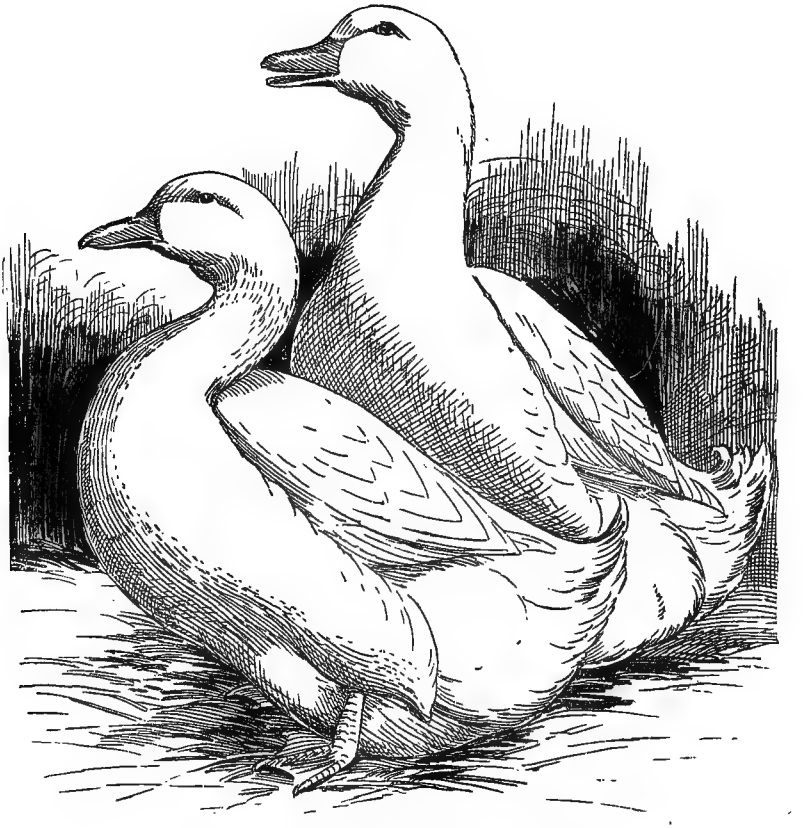

FIG. 9.—PAIR OF PEKIN DUCKS.

# BREEDING DUCKS FOR EXPORT.

A great feature in duck breeding is that they mature speedily, and for this trade ten to twelve weeks will be found quite sufficient time to raise and fatten a duck for export. In dealing with the question of duck breeding much that has been said in regard to raising fowls will cover the same purpose. The breeder has to consider the same principles, such as economy, early hatching, quick-maturing, crossing, feeding, and fattening ; but with ducks there are only three breeds to consider ; these are :—Aylesbury, Rouens, and Pekins.

A system of crossing should be adopted on the following lines :—

1. Aylesbury drake with Pekin ducks.
2. Pekin drake with Aylesbury ducks.
3. Rouen drake with Aylesbury or Pekin ducks.
4. Aylesbury or Pekin drakes with Rouen ducks.

To improve any of the common or ordinary stock, pure drakes of the above breeds should be introduced which will produce size, and give a better class of duck for the succeeding season. The Pekin is noted as an egg producer ; the Aylesbury having the colour and quality of flesh. The Rouen is regarded as the most hardy, but, being dark in feather, the flesh is not so good in colour as either the Aylesbury or Pekin. The crossing as previously mentioned will tend to produce the most desirable class of duck for export. Drakes used for breeding should be at least nine months old to insure fertile eggs, and about six ducks should be given to each drake.

## House for Ducks.

Any kind of a house will almost do for ducks, but it must be dry and snug for them in winter months, and during the breeding season. It is always well to supply plenty of room so that the ducks are not overcrowded. The accompanying illustration is extremely useful; it provides eight large pens, six of which are 9 feet by 9 feet, and two 18 feet by 9 feet. The partitions dividing the pens are 3 feet high. The enclosure is 27 feet by 18 feet. The outside measurement of the building, which is of wood, is 36 feet by 36 feet, height at ridge 8 feet, and at eaves 6 feet, and the gates, which are double, are 7 feet wide. The doors are 5 feet by 2ft. 6in., over which and right along the top of the house, under the eaves, is run a piece of strong wire netting, 1 foot wide, thus giving abundance of light and ventilation. The floors should be kept clean and dry. The roof can be covered with bark or palings. Of course, this plan can be made larger or smaller according to the size required by the breeder, and it should be of great advantage to those living in districts where the fox or other pests abound, for the ducks will be safe from the ravages of all vermin when housed in a building such as that illustrated herein.

## Duck-ponds.

For the breeding stock some kind of a duck-pond should be provided, as it is required to insure good results in the hatching of eggs, which are always more fertile when this plan is adopted. It is advisable to keep the ducks closed in a suitable shed at night, as they usually lay at this time or early in the morning. Young ducks should be kept away from the ponds if they are intended for market purposes.

## Hatching Ducklings.

The best methods to adopt in hatching is to set the eggs under hen turkeys or common hens; incubators can be profitably employed. Moisture should be freely supplied in very warm weather. When the ducklings are hatched they can be removed from the mothers to suitable boxes, each to contain a clutch of about a dozen birds. These boxes should have straw on the bottoms or some substitute to impart warmth. These are all that young ducks require, and such will act as foster-mothers. The nests employed should be the same as those previously described for hatching chickens. The best time to begin hatching is August.

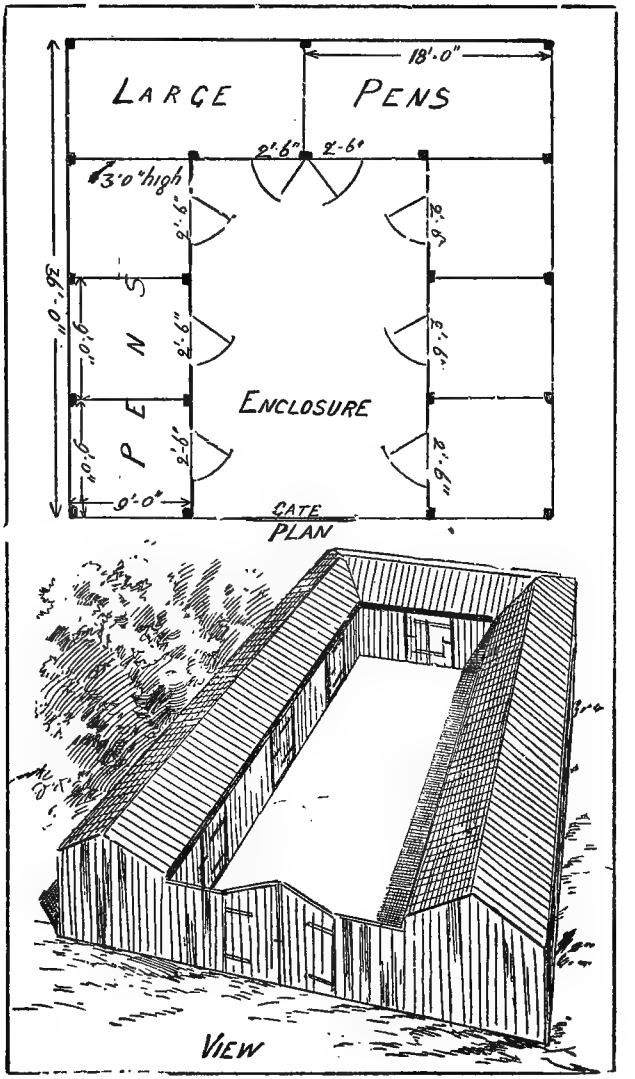


FIG. 10.—A DUCK HOUSE.

## Duck-yards.

Yards should be provided for fattening purposes about 12 feet square; these will accommodate 40 young ducks comfortably. The yards should be erected in a position where the ducks will not be disturbed, as the birds should be kept as quiet as possible when being prepared for the market. In each pen a long shed 4 feet wide can be provided, built of bark, palings, or any such material, this will form shelter and protection at night-time. Fences 3 feet high will suffice. The position of the duck-yards should be on sloping ground with sufficient fall to carry off any extra flow of water. The roof of the shed should fall to the back so as to carry the drainage away. On the outside of the fence a space of about 6 inches should be left so as to place a trough for feeding on the outside of the runs with a lid opening from the top fixed with sufficient fall to carry the water away; such lid will protect the sun and rain from the feed and water. This will be found a great advantage both in time and feeding, and saves entering the yards and disturbing the birds. This is a clean and easy method of feeding ducks.

## How to Fatten Ducklings.

After leaving the shell ducklings should be fed on oatmeal or pollard, scalded with milk or water, for the first fortnight; then, as they increase in age, give them any of the following:—Maize-meal, barley-meal, boiled potatoes, mixed with a little bran; scalded wheat should be given as the last feed at night-time. Animal food and bone-meal should be mixed through their feed about twice a week. They should be fed regularly, and not less than four feeds a day; a little and often will do more good than one large feed. No more water than is sufficient for drinking purposes should be allowed in the fattening yards. Green feed and grit should always be supplied. A duckling at ten to twelve weeks' old should weigh 4 lbs. live weight; and, as they increase in age up to six months, the heavier the bird is the better for the producer, as the buyers in the English market are guided by the weight of the birds.

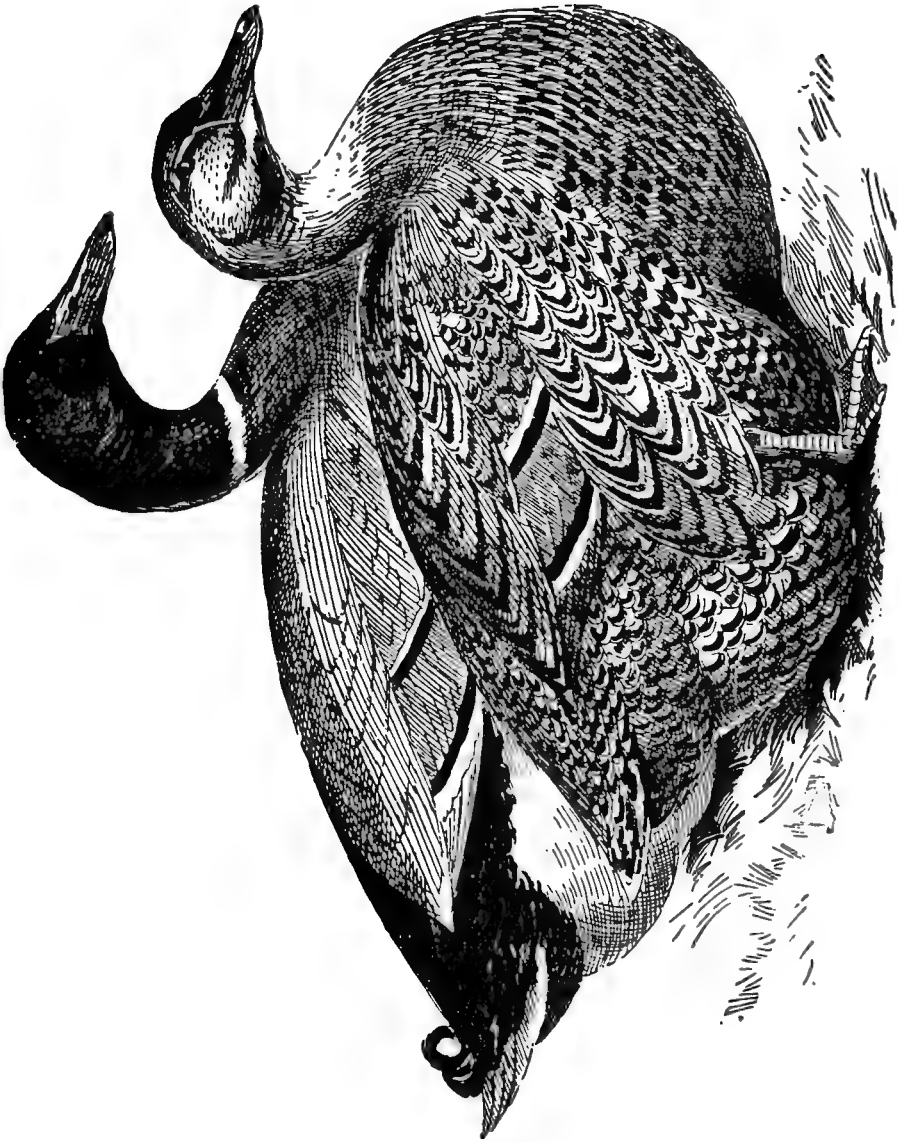

FIG. 11.—PAIR OF ROUEN DUCKS.

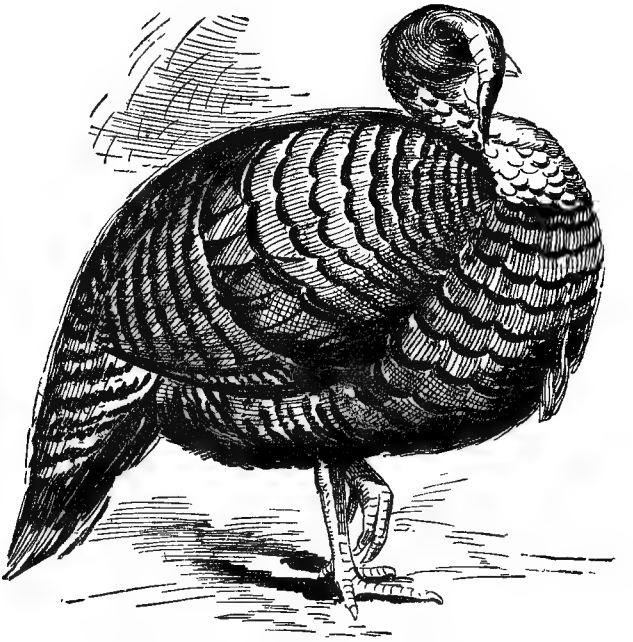

FIG. 12.—BRONZE TURKEY COCK.

# BREEDING TURKEYS FOR EXPORT.

To breed turkeys, plenty of land is required to rear them upon with success, as they naturally seek for their own food. It is always advisable to feed them each evening at the homestead which they will look for, thus saving a lot of trouble, as turkeys are noted for wandering very much from their homes. The best method to adopt in breeding is to secure the largest birds obtainable, and to be successful, breed from gobblers in their second season, as the results of hatching will be more satisfactory. The bronze-wing turkeys are noted for size, quick-maturing, and quality of flesh—the breasts being longer and carrying more meat than other sorts, therefore, this breed is recommended for crossing with the largest hens of the ordinary stock. It is essential to introduce a gobbler of a fresh strain each season. A shed should be built without roosts for turkeys to be housed in at night to protect them from the weather and pests, such as the fox, &c. Turkeys prefer roosting on fences and trees round the homestead, and these will serve the same purpose if the locality is suitable.

### Hatching Turkeys.

The best method is to erect a hatching shed similar to that described on page 13. Hen turkeys make the best sitters and will cover about thirteen eggs each. All nests should be on the ground. Turkey hens can be made to sit at all times, but those should be selected which are not laying for this purpose. After the seventh or eighth day the unfertile eggs should be removed and used for chicken food.

### Feeding Young Turkeys.

Young turkeys require much attention for the first few weeks; the food should consist of hard-boiled eggs, chopped-up onions, boiled rice, bread crumbs, oatmeal, pollard, and bran, which should be scalded with milk or water, the former preferred; this should be mixed so as to be almost dry and crumbly. Tender green food should be supplied. Bone-meal and animal food should be mixed through the food once or twice a week. As the birds increase in age, grain should be used for the evening meal, such as barley,

whole maize, wheat, &c. Good dry places should be provided for the young birds; they should not be housed too much. Turkeys required for this trade should be well fed, as the buyers in the English market are guided by the size and weight of the bird.

Turkey gobblers under twelve months should weigh not less than 12 lbs. live weight; hen turkeys not less than 7 lbs. live weight; the heavier the better for the producer. If the birds are fed as described above the weights mentioned will be largely increased.

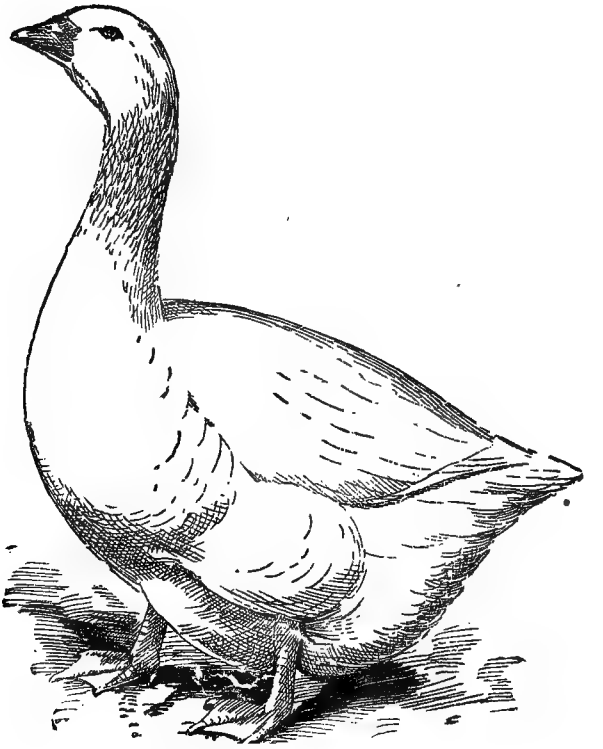

FIG. 13.—EMBDEN GANDER.

# BREEDING GEESE FOR EXPORT.

Farmers should breed from the largest geese obtainable of the common sort, introducing a gander of either the Toulouse or Embden breed. It is advisable to always breed from a gander in his second season to insure fertile eggs. A shed should be provided to protect the geese at night-time, from which the eggs can be collected daily in the season. The breeding stock should not be overfed. Five geese should be run with each gander. A pond, if available, will be found beneficial.

## Hatching and Feeding Goslings.

The nests should be made on the ground, and good-sized hens, as well as geese, can be used for hatching, giving them as many eggs as they can conveniently cover. The same methods of feeding should be adopted as that recommended for ducklings. In order to prepare goslings for the market it is necessary to feed well from the time they are hatched. Goslings from four to six months, if properly fed, should weigh about 10 lbs. live weight.

## Fattening Yards.

Suitable yards should be provided for fattening, allowing about 12 feet square for every twenty goslings. A shed and feeding-troughs should be erected, similar to that recommended for ducks on page 21, and the food should also be similar to that advised for fattening ducklings. Goslings should be allowed good grass runs for the first ten weeks previous to their being placed in the fattening yards.

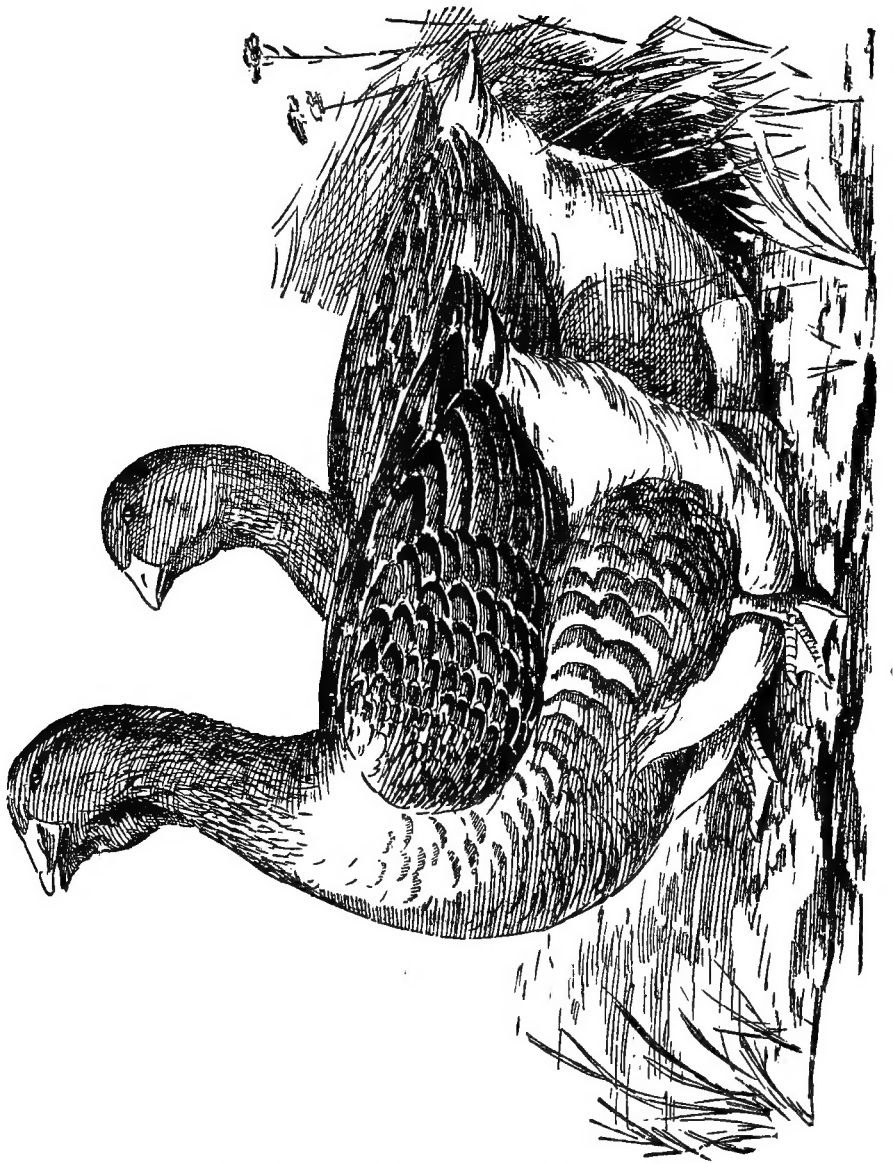

FIG. 14.—PAIR OF TOULOUSE GEESE.

## Crates for Poultry.

Crates 4 feet long, 2ft. 3in. wide, 15 inches high will hold fifteen pairs of fowls, or twelve pairs of ducks ; if used for ducks, a partition should be run across the centre to prevent the ducks rushing to one end and damaging each other. A crate for turkey gobblers, 4 feet long, 2ft. 3in. wide, 18 inches high will hold twelve gobblers, or twenty hen turkeys, or twelve geese. In making these crates, the bottoms should be made close, and contain straw or dry grass to protect the breasts of the birds. Zinc or leather labels should be used, with name and address properly painted on, and attached to each crate.

By Authority : Robt. S. Brain, Government Printer, Melbourne.