

chicken or fowl. The door must not clog with dirt. It must stay of itself partly or fully open, and withstand the efforts of the hen to change her position when once placed, and it must be made to work with as little effort as possible. I believe this door fulfils these conditions.

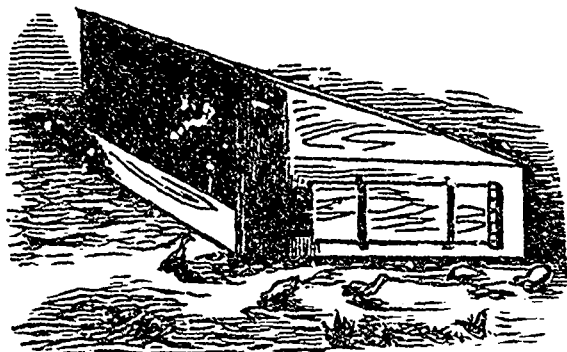


Fig. 4.

The coop is made of 1 1/2-in. pine barnsiding, is 3 ft. by 3 ft., 2 ft. high in front. (Figs. 4 and 5.) The front is protected with one-half inch wire netting.

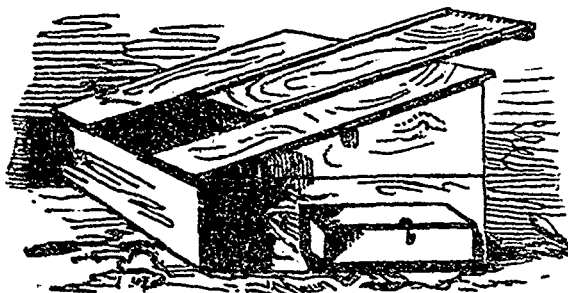


Fig. 5.

The middle roof board (Fig. 5) slides off entirely, is held in place by the two buttons on the underside and a small hook and eye on the front of the coop. The hoop iron for holding the sliding door (Fig. 3) is bent into a concave shape before application, so that it acts as a spring to hold the door firmly in place.

DIGESTION.

The digestive function in poultry is partly mechanical and partly chemical. In its several stages, it differs widely from that of some quadrupeds who feed on similar food. In these, grains are frequently swallowed without being crushed by the teeth, and as their stomachs have not the power of digesting solid grain, it is voided whole. In fowls, on the other hand, the grain is *all* swallowed whole, and it is digested in the stomach.

The digestive organs of fowls consist of the gullet and crop, the gizzard, stomach, liver, and intestines. The gullet, or oesophagus, runs down the neck towards the right side, swelling out, in front of the chest, into a membranous bag, which is called the crop or craw.

The crop is somewhat analogous to the paunch in the ox or sheep. It receives the gullet into its upper part, and proceeds downwards, about the middle of the bag, in such a manner that the crop is in some measure aside from the regular communication between the upper and lower opening

of the gullet. Its office is to receive the food when first swallowed, and to macerate it, and dissolve it by means of a liquor, which is separated by the glands, which may be observed covering its surface.

The food, after passing the crop, goes through the remaining part of the gullet into a cavity, shaped like a funnel, of smaller dimensions. This is similar to the second stomach in some quadrupeds, and is furnished with a large number of glands. These glands may be called gastric glands; they are placed near each other, and are hollow. Their office is to secrete a solvent or digestive fluid and to discharge it through a small opening into the cavity. When this fluid has diluted and digested the food sufficiently, it is prepared to pass into the gizzard.

The gizzard is the last stomach, and is composed of a body of very firm and dense muscles, and lined with a thick, gristly membrane. Towards the cavity of the stomach, this lining forms folds and depressions, which on the opposite surfaces are adapted to each other. The gizzard is comparatively small and narrow, and has its outlet near its entrance. It is calculated, in every respect, for producing very powerful trituration, and is adapted to answer the purposes which are subserved by grinding teeth in other animals.

The outlet of the gizzard discharges the digested food in the form of paste, having a grayish color, into the chyle-gut, which is the first of the intestines. This is situated on the right side, depending into the belly and joined at each end to the liver. The liver prepares bile from the blood conducted by the veins, and, by means of a duct, carries the bile from the gall bladder into the chyle-gut, in a *downward direction*, to be mixed with the digested food. This peculiarity is different from other animals. Another fluid, brought from the pancreas to the chyle-gut, completes the apparatus for digestion.

The food now proceeds on to the small intestines. The surface of these is lined with the mouths of numerous absorbents, which perpetually open to take up the aliment prepared in the stomach and chyle-gut. The refuse is passed to the rectum, to be discharged from the body.

Fowls are also furnished with kidneys, for removing superfluous fluid from the blood. The kidneys lie in a hollow beside the back-bone, and the urine is carried from there in a bluish-colored canal into the vent-gut, or rectum. It here mixes and is discharged with the dung. Fowls have no bladder, and it is, therefore, a criterion of health when the excrement is moist.—*Bennett's Poultry Book.*

Poultry in the Orchard.

Not long ago I visited a friend who keeps pure bred poultry, and is quite a gardener. I will tell you how he manages to keep the poultry healthy, keep them out of the garden, and secure plenty of fruit in his little orchard. Instead of picketing his garden, he puts a high, strong picket-fence around his orchard, and keeps about fifty fowls in it. He says that fowls absolutely keep the orchard free from insects, keep it in a growing condition, and the insect food makes them lay eggs right along. He has his poultry-house in one corner of the orchard, with nest-boxes, places for dusting, water, etc., and a small space of freshly plowed ground for them to scratch in.

I think I never saw a thriftier orchard or a thriftier lot of fowls, and I would commend his practice to all farmers and others who combine the poultry business with raising fruit. There is no other bird as good on insects as a chicken, and the food is just what they want.—*P. Stone, in Ohio Farmer.*