

*Symptoms.*—The chicks are observed to open their mouths to the fullest extent, and 'gape' and have a short choking cough. Later on the cough increases in frequency, the gaping becomes almost constant, and the chick ultimately chokes and expires.

The cause of the distress is the presence of red worms at the root of the windpipe. When they first come they are very small (not larger than a thread), and have a bright, almost a vermilion, colour. They have, however, been taken out of chickens so large as almost to fill the windpipe half of its length. Two worms—a longer and shorter one—are frequently found joined together, the point of junction being about the middle of the longer worm. The largest worms are about the thickness of a stout pin. They are very active, and it is the tickling caused by their constant motion that causes the short dry cough and the gaping, in the futile endeavour to get rid of the pests.

*Treatment.*—There are divers cures and operations, but wherever the disease appears some chickens always die, and it would be well, before operating on the others, to open and examine the windpipe of one of the dead chickens yourself. If the disease that has caused death is gapes, the worms adhering to the mucous membrane of the windpipe will be seen; but if these are not present then death has been due to some other disease.

The original treatment recommended and followed by those, who, generations back, gave the disease its expressive name, was to take a hen's feather, stripped within an inch of its extremity, to place it down the windpipe, twist it sharply round, and withdraw suddenly. We have followed a similar plan to this when operating on turkeys, poults and strong chickens. We have found it advantageous to moisten the feather in spirits of turpentine before using it. The turpentine kills the worms—the feather must only be moistened, not soaked, with it, as a drop going into the lungs may be fatal to the chick—and the operation causes the bird to sneeze, and throw them up; that is, we may add, if performed by an old hand.

A difficulty is sometimes experienced by novices in getting the feather down the windpipe, but by holding the chick's beak open with the finger and thumb of the left hand applied from behind and pressing the throat of the chick slightly with the other fingers of the same hand, the opening of the windpipe can be clearly seen just behind the tongue, and down this the feather must be gently pushed as far as it will easily go.

Another method is to pass down horsehair loops, twist them, and withdraw them. But neither of these methods is very effectual, as it always leaves some worms behind, and they increase and multiply. The operations, too, have to be performed with great care, as the feather is often put down the gullet, which is useless, and with small chickens, which are most seriously affected, it is altogether out of the question.

Still other methods of cure that are recommended is to place the chicks in a box of chips soaked in turpentine, or to give them a little piece of bread with some turpentine on it. Carbolic acid fumes are also advised by some. The best plan of managing the administration of these is to confine the chicks in an air-tight house or large box, and place over a small petroleum stove, an old kettle or other similar vessel with about one-fourth part of crude carbolic acid and three parts water. The boiling fluid will give off a strong carbolic vapour, and cause the chicks to cough violently. This process, however, requires careful supervision, or the carbolic fumes may become too powerful for the chickens, and they may succumb.

On this account a cure was required that could be used without interfering with the windpipe, and would also be simple and effectual. It could only be done by using something sufficiently powerful to pervade the system, and to reach by its odor both the seat and the cause of the disease. Nothing that we have used have we found to do it is so effectually as camphor, given at intervals in pills the size of a grain of wheat. That which is given to a fowl or pheasant must of necessity remain some time in the crop in close proximity to the windpipe. As soon as the odor reaches the worms they die, and the disease ceases with their death.

Whenever premonitory symptoms are observed immediate action should be taken. They may often be arrested by giving the birds no other water to drink than that which