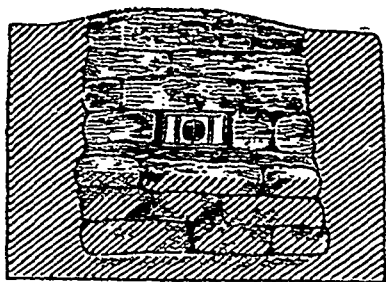


water taken into the system in their case than in that of other stock in feeding. But sheep, if allowed, will water each day as regularly as cattle or horses. The constitution of the sheep is, however, adapted to tender, juicy grasses, and hence in England, a moist country and full of grasses and succulent roots, the sheep have attained an improvement which can only be rivaled in such places as this, where the sheep graze all the year round. In the North, where grass fails in winter, roots, such as turnips, beets, etc., should be fed every day with hay, straw, fodder and grain, or whatever else is used. But here they will paw away the deepest snows and graze, and only need a little grain and hay when the grass is weakened in nutriment by excess of cold. For nearly thirty years I have eaten sheep in every season thus fed, and always find them fat enough and at times too fat, even in winter. There is quite a rage now about siloes and ensilage; but I am not at all convinced that this system is practically useful. It was no doubt known to the ancients, and its disuse seems to be an argument against it. I am of the opinion that dry corn-fodder cut, even in the North, very fine and fed with beets, grain and cotton-seed, or oil-cake or turnips, will be cheaper and more wholesome than any ensilage. I give my opinion. I have never tried it, and I never will. I have known many sheep lost by feeding whole grains of maize in bulk to sheep. Hence, my father was in the habit of sowing this grain broadcast to his sheep; and I have



Cut 4.

followed his example. They will in a few minutes pick up their rations of a gill or a half a gill as quickly as a chicken. But when eaten in bulk, instead of chewing each grain, they will swallow it rapidly, and colic or diarrhea is the consequence. When corn is fed in barns and troughs, the grain should be ground into meal or grits, and if some hay or ground cob or other "roughness" were mixed with it, so much better would it be.

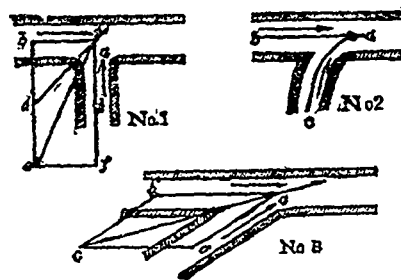
#### THE DISEASES OF SHEEP.

Anyone looking into English works upon the diseases of sheep would be deterred perhaps from their culture. The sheep has a small brain and weak nervous system, and in consequence yields readily to disease. It has therefore been my study to avoid diseases, especially here. The consequence has been that to me almost all the diseases of sheep are practically unknown.

The rot, the scab and the foot-rot, the most formidable diseases of English sheep-culture, are to me strangers. The sheep-fly, at times, kills two or three per cent of my flock, and other seasons more. This fly, like the *Gestrus bovis* to cattle, is a great nuisance to sheep. As soon as the weather gets warm the fly attacks the sheep, feeding on the mucus of the nose, and laying its eggs there. After it has gone through the larval state it falls to the ground, and there rests as a chrysalis till spring, when it comes out a fly and again attacks the sheep. Some of them making their way into the interior bones of the head, enter the brain, and late in the winter kill the sheep. I have cut them from the brain as large as an

ordinary peach borer, say three-quarters of an inch long, thicker, with a similar head and body. It has been said that coal-oil poured into the nostrils after the symptoms appear such as stupidity, vertigo, and standing without apparent motion in one place, will kill the larvæ, but I have never succeeded in curing a sheep. These flies seem to run the sheep almost mad, and they will lie a long Summer day huddled together without moving or feeding; at night, they venture out. Whenever I catch my sheep I put pine-tar on the nose and face, and as long as this lasts I think it a security against the fly. The same remedy is used by putting the tar about salt troughs so that their noses touch it. No doubt tar is good, but the loss is so small that I don't care to worry myself and the sheep about the fly. Sometimes the sheep's foot grows into too long an outer hoof on soft grounds, when it must be trimmed with a sharp knife, but not too quick. I don't find it necessary to wash my sheep with tick cures. Fat is a sovereign remedy against vermin, though I make the shearer kill what few ticks are seen; and I put sulphur in my salt troughs in the early spring, when they begin to rub themselves.

By putting on bells, a size between the ordinary sheep and cow-bell, in the proportion of one bell to every five sheep, I lose but few sheep from dogs. Sheep-killing dogs are generally timid, and the great clatter of the bells alarms them; and in reasonable distances the master can come to the rescue



Cut 5.

with the shotgun. It is a good plan also to put cows with young calves among sheep. They will attack any dog that appears and run him off. If all else fails, they may be poisoned with strychnine, or caught in pens gradually sloped and open at the top like the old-style wolf-pen. But after all, my principal loss, as great as all others put together has been that the South Downs, being short-legged and very broad on the loin, get on their backs and, unable to turn over, die. When the editor of the *Indiana Farmer*, who visited me over a year ago, was told of this, I saw an incredulous expression on his face; so without ado, I sent for my shepherd and asked him about the fact, which he at once proved. As the value of the South Downs has improved of late years, I have adopted the rule to have the shepherd visit them all once a day, count, and turn over those lying on their backs. (1)

This last year I lost for the first time several of my lambs of 1882—none of my old sheep being affected—although I turned them together after the young ones began to die. I was told that it was probably the rot, but turning to a full treatise on that subject I found no symptoms of that disease, especially no flukes in the liver. The sheep ate well enough, but dwindled in flesh, and in a few months died. On dissection I found all things normal, but some small pimples on the lower intestines; so I attribute it to malaria, similar to typhoid fever in man. The summer was unusually wet, and my lambs I found, being separate, had kept under one tree all the season, for I had failed to move them in the pas-

(1) I should think so! A. R. J. F.