

horse made his appearance with him at the shop. "The horse canna gang with they shoes; they hae no heels on!" To tell an Edinburgh cabman, or such a one as our present customer, that his horse can go without heels, would only raise contention, which serves no purpose, for he would just as soon believe that he would work and grow fat without feed. The shoes, of course, had to be taken off, and thus the matter ended. It is strange how inconsistent people are in regard to this practice of heeling shoes. While they profess to believe it absolutely necessary, their horses never wear a set of shoes (but half the time they are without heels). For instance, the first week the heels and toes are worn off, leaving the shoe half an inch thick all round. This is thought too good a shoe to take off, and the horse goes a week more, but without heels. The driver will say the horse can never go without them, while he actually drives him half the time in that condition. It would be much better never to have heels, for it at first holds the horse depending on them, and after being used to go with them, he is compelled to do without them. What is argued as a necessity in the one case, is dispensed with altogether in the other, merely for saving money. It will be much better to adopt something which will give the horse a surer footing, and always the same, than submitting to a continual change.

The man who brought the shoe from Paris could only give a faint idea of the knife used for setting the shoe down in the foot. He had paper patterns, very much resembling the old butteris, with the addition of a guard on the back, and from the way it was required to be held must have been very awkward for cutting round the toe. I afterwards made a knife which answers the purpose very well. It is forged out of a piece of three-quarter inch steel, and a guard left on the back. The guard is about an eighth of an inch in thickness at the blade, and tapering thinner towards its termination. It is about the size of a man's thumb nail, placed crosswise on the blade, the flat surface running along the outside of the hoof, the taper of the guard being all on the back. It is put in a handle, and used the same as the ordinary draw-knife. The point is turned up three-eighths of an inch from the guard. The turned part is deeper and straighter up than the ordinary draw knife, so that it may cut its way clear and straight. With such a knife as this, the foot is easily and quickly prepared for the shoe.

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Galedonia.

Threadworms in Cattle and Sheep.

Parasites seem of late years to have become very common among the domestic animals. In part this may be accounted for by their ways and doings being better understood, and their presence being more readily detected. Their development, however, has certainly been increased by heavy stocking and artificial treatment, which lower the general health of stock.

Threadworms infesting the air passages and digestive tract are this autumn common amongst young cattle and sheep in many localities, particularly in the midland and southern counties of England, and hundreds of lambs have already sunk under the irritating cough and exhausting diarrhoea. The damp, wet summer has doubtless favoured the generation and preservation of these

threadworms; whilst the abundance of rough herbage common throughout most of the English grass counties affords convenient shelter for the parasites during their embryonic stages. All of them have wonderful powers of reproduction; their eggs are laid in millions, and are hatched even in the decomposing dead body of the female; their lower forms of development are extremely tenacious of life—may be dried for days, and when moistened regain their vigour; in favourable conditions the germs rapidly grow to maturity, and do not require any alternate generation in food or water or in the body of other animals before re-entering the sheep; thirty days after the evident of *Strongylus filaria*, taken from a sheep, was swallowed by a lamb, embryo worms were abundant in its lungs. In small numbers, and amongst strong adult sheep or cattle, these threadworms, whether in the lungs or bowels, appear to do little harm; indeed, in many of the midland counties of England they are noticed in the lungs, especially of sheep, which have never shown any untoward symptoms, which have become fat, and of which the mutton, on the best authority, is perfectly wholesome. In young, delicate, or indifferently-cared-for sheep or cattle, the threadworms cause, however, much disturbance of health, induce the symptoms familiar to most stockowners, render the animals liable to attacks of tape and other worms, make sheep particularly obnoxious to maggots, and further, cause increased susceptibility to various ailments.

On the subject of these threadworms, Mr. Jas. Law, M.R.C.V.S., of New York, communicates to the New York State Agricultural Society an admirable paper, which is printed in the Society's July and August "Transactions." Mr. Law states that these threadworms appear to be of comparatively recent introduction into America, that they have not been described as affecting calves previous to 1869; that hitherto American sheep seem to be exempted, but that such exemption will probably not be long continued, inasmuch as the English sheep, of which so many are imported, may unsuspected be the bearers of the undeveloped germs or earlier embryonic forms of the threadworm. Judging from Mr. Law's interesting report, the attacks in New York State are even more severe than in this country. Of nineteen calves attacked in Alleghany county, N.Y., eleven had died in from nine to fifteen days, "while all the cows on the farm coughed and looked badly." In another outbreak two calves died in from six to ten days after seizure. Chickens, turkeys, and squirrels are described to have died from gapes in great numbers during the summer.

So clear and sensible is Mr. Law's report on the development of these threadworms, the symptoms they induce, and the best modes of removing them, that we shall again refer to his account at greater length.—*Veterinarian*.

Derangement of the Digestive Organs of the Ox and Sheep.

WORMS IN THE STOMACH AND INTESTINES.

Parasites in the digestive canal do not necessarily occasion any serious disturbance, although there is a very general prejudice against them, and a disposition to ascribe every co-existent disease to their influence. Loss of condition, diarrhoea, chronic cough, irritation of skin, emaciation, and debility, are among the phenomena which are held to be sufficiently accounted for by the presence of worms in the stomach and intestines.

In many instances it can be proved to demonstration that parasites do cause much derangement of the digestive functions; and there are some worms which are known to cause death, as a consequence of the exhaustion which follows from their ravages; but the instances of animals being infested with worms without suffering from, or in any way indicating, their presence during life, are far more numerous. *Post mortem* examinations of animals which have died from acute disease, or which have been slaughtered for food, constantly disclose the presence of round worms and tape worms in immense numbers; and yet the previous history of the animal does not furnish any evidence of inconvenience having arisen, nor in the course of dissection can any change of structure be detected which can reasonably be referred to the direct action of the parasites upon the tissues or secretion.

Tapeworms are often present in the intestines of the sheep to such an extent as to nearly block up the tube, and in such cases it is not remarkable that the irritation which is caused results in an excess of secretion and diarrhoea; but even then the amount of harm done is by no means proportioned to the number of the parasites, and as the animal advances in age the injury which is caused by entozoa is scarcely apparent.

Dogs frequently give no indication of the presence of tapeworms beyond voiding the mature segments. Cats suffer more decidedly than most other animals from entozoa, and fatal sickness in kittens is often the consequence of the entrance of the *Ascaris* into the stomach.

Oxen very rarely show signs of suffering from intestinal looseness, although the largest species of tapeworm, the *Taenia expansa*, commonly infests the intestines. In the stomachs of this animal parasites are hardly ever found, and in no case have they been reckoned among the causes of stomach disease. Sheep, of all animals in the farm, are most susceptible to the influence of various kinds of parasites in different organs; excepting tapeworms, which have been previously referred to as the least injurious of internal worms of the sheep, nearly every entozoon which occurs in the organism does harm in a different way. *Strongylus* infest the bronchial tubes of lambs, and kill them.