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FITTING SHEEP FOR
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AND
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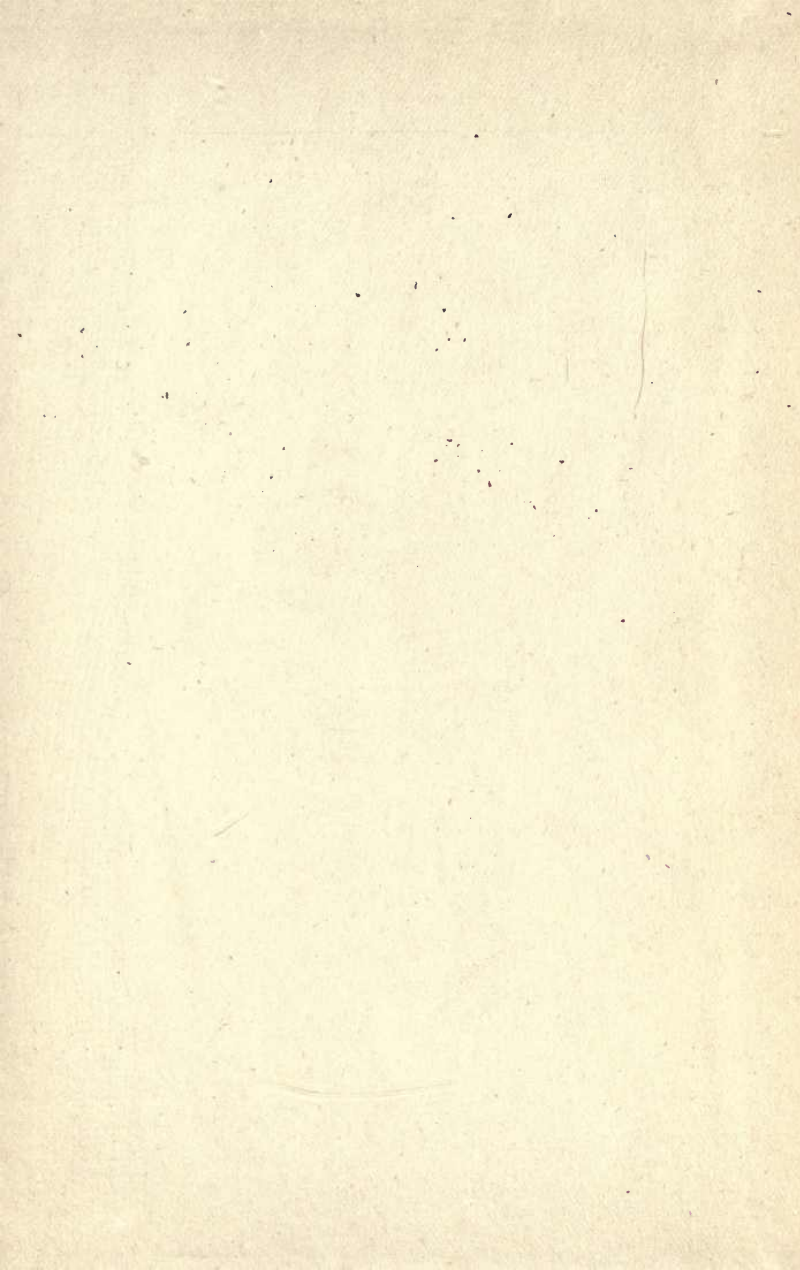


"SHEPHERD BOY"

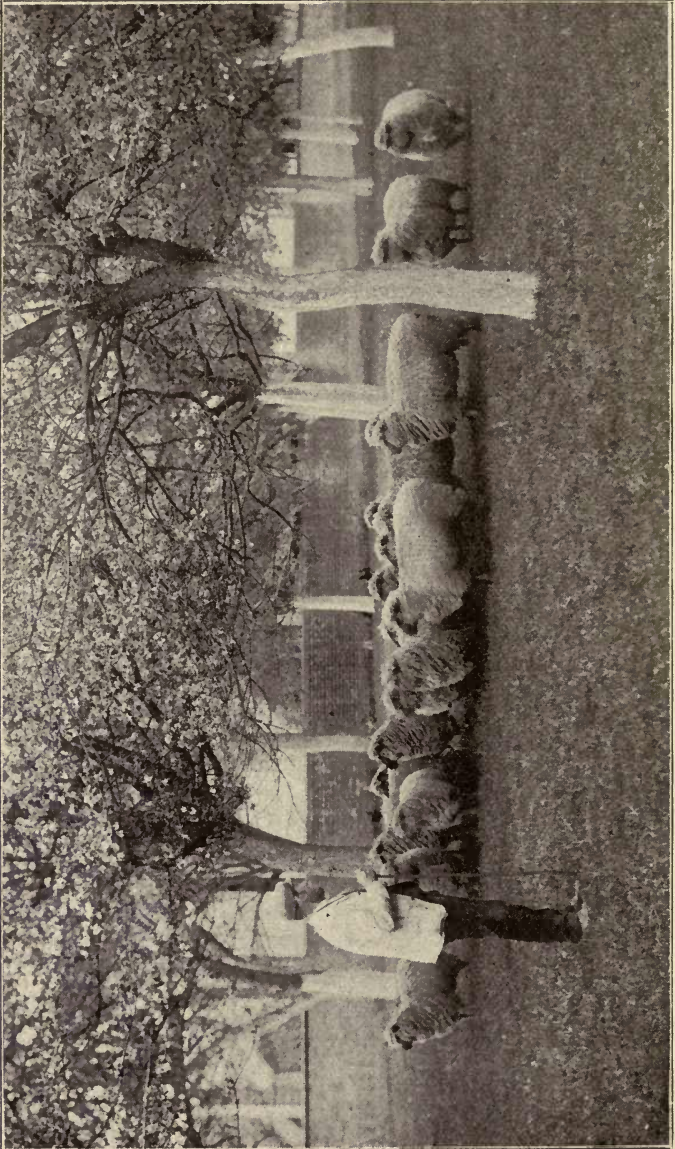
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A TYPICAL ENGLISH SCENE.

Fitting Sheep

For Show Ring and Market

By

W. J. Clarke

"Shepherd Boy"



Being a Practical Treatise on the
Selection, Judging, Feeding and
Care of Sheep and Lambs for the
Show Ring and Sale by Auction.
To which are added Chapters on
Dressing Sheep and Lambs for
the Market.

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GENERAL

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Chicago, Ill.

Author's Preface.



O more enchanting work, perhaps, falls to the lot of the shepherd than that of the fitting of his show flock for battle in the ring. A well-fitted show-flock is the pride of the shepherd, the joy of the flockmaster, and one of the prettiest and most valuable object lessons that can be presented to lovers of rural life. Whilst it is undeniably true that we have many really clever fitters among us, it is no less true that the proportion of American born ones is lamentably small. The reasons that may be offered in defense of such state of things are legion; among the most prominent being: The jealous way in which shepherds guard their "secrets,"—so-called,—and the half-hearted way in which the majority of our most popular works on sheep-husbandry treat on this most important branch in the management of stud flocks.

This volume is not intended as a brilliant literary production, but as a plain, practical instructor to the novice who aspires to become proficient in the art of fitting sheep for the show-ring, market, etc.

What I have gleaned from many years of practical experience in the fitting and handling of show-flocks, in the United States, Canada, and England, on what I believe to be the most modern and approved principles, will be herein chronicled in as clear and terse a manner as the author's literary abilities will allow. That many of our fraternity will find this volume of value, and help to them is the sincere wish of

SHEPHERD BOY.

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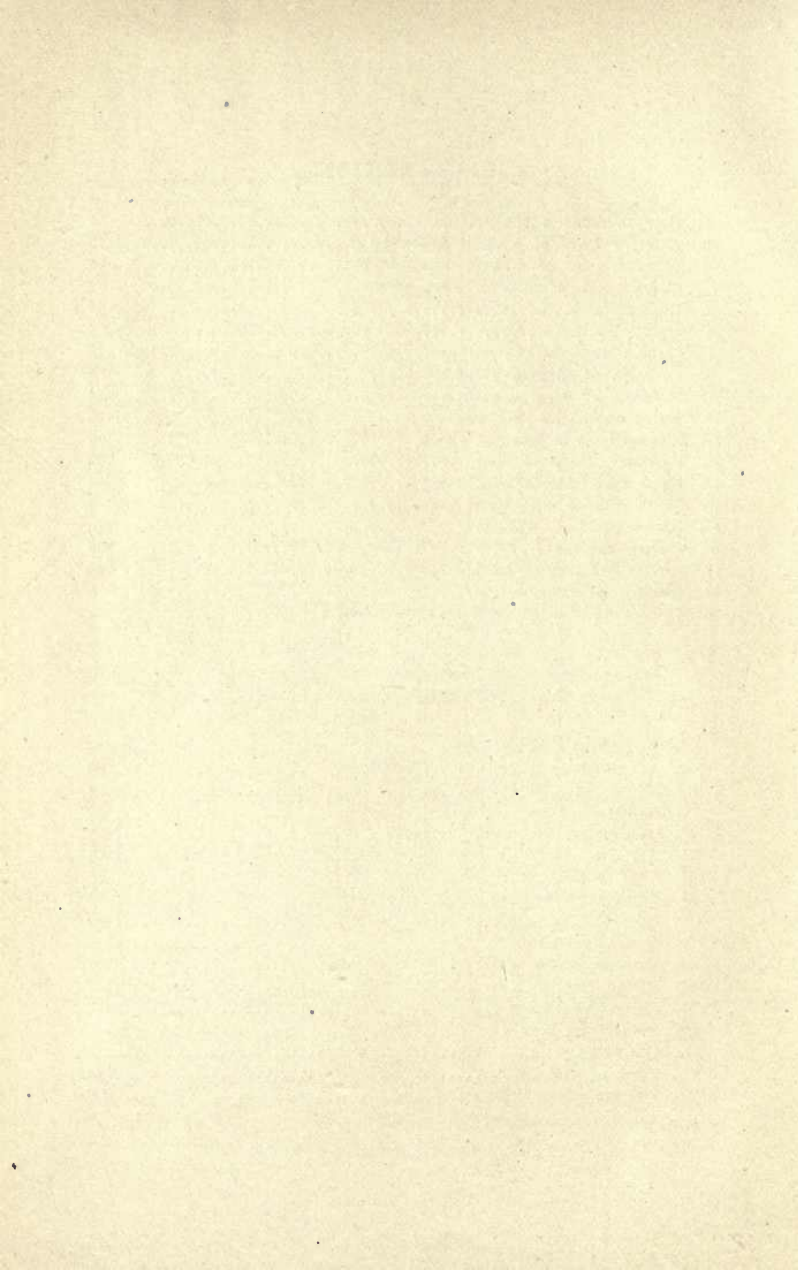
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PART I.

Selection.



IN THE selection of suitable subjects for the show-ring, the greatest care and soundest judgment must needs be employed to avoid disaster at the outset, and animals carrying only the truest impress and highest characteristics of the breed intended to be represented, should be selected.

Whilst size is a most important factor in the make-up of a show animal, the fact should not be lost sight of that quality must under no consideration be sacrificed at the expense of quantity. That an animal of extra large size, possessed of extra quality, must naturally defeat an animal of less size and carrying no more quality than its opponent, must be at once clear to the merest novice. It does not stand that no big rams carry quality of a high degree any more than all small or medium size ones carry the superlative degree of quality. But it should be borne in mind that a happy combination of size and quality, and vice-versa, is the key-note of the exhibitors' success.

Seek for Constitution.

One most important feature in the selection of our sheep is constitution. Be observant that both rams and ewes carry

the true signs of constitution, but don't mistake yourself that coarseness is evidence of this valuable characteristic.

There are many powerfully built sheep, that is, sheep carrying immense bone, which are constitutionally weak. Many of the largest members of our flocks are upon examination found to be built upon lines wholly against the laws that denote strong constitution. They are slab-sided, or in other words, their ribs are imperfectly sprung, they have not the necessary room for the proper development of a healthy pair of lungs. The muscles of the leg, the muscle fibre, and roundness of the twist that show the strength to carry a heavy body are not in evidence, neither is thickness of flesh, breadth of skull, width between the eyes, and the short, thick, stubby face that denotes power of stubborn endurance. Usually a sheep low on leg, with well sprung ribs, deep in chest, strong in twist, carries a constitution that will meet all ordinary requirements and expectations of modern shepherds.

The State Fair as an Object Lesson.

No better opportunity offers itself to the novice for observing what really constitutes quality of a high degree in sheep than that of a visit to almost any of our State fairs; especially those of the Middle and Eastern states. Here we find congregated together in battle array, some of the finest specimens of sheep that the world can produce, or money purchase; and it is here we find ample room for comparison of degree of quality as pertains to the various exhibits of one individual breed of sheep, or the broader comparison of breed against breed; this, then, will not fail to prove one of the most

interesting and valuable object lessons procurable to the youthful aspirant to fame in the show-ring.

Judgment.

It is among the thoughtful, patient and observant shepherds that we find our best judges of sheep. It requires constant handling of a breed to become thoroughly acquainted with the true exhibition points, qualities and merits of a breed. In these days of rapid progress, fashion asserts her sway, even on subjects pertaining to shepherding. The type of some of our leading mutton breeds of sheep has undergone a decidedly marked change and great improvement during the past ten years; therefore, it can be easily understood why to become a really expert judge of a breed it requires thought, observation, and the constant handling and studying of a breed to thoroughly understand the true type that fashion dictates as being the correct one of to-day. Whilst in fat stock contests the mutton conformation of the animal is the leading consideration, in breed contests the embellishments that must accompany true mutton form in the make-up of a typical show animal must be given due consideration. It is well for the novice to hold this fact in view, and if he is not satisfied in himself that he is capable of making judicious selections of show stock, he should seek aid from the many reliable sources this country admits of.

Quite often judges are called upon and accept the responsibility of passing judgment upon exhibits of the various breeds of sheep, the character and general conformation of which they cannot be said to be conversant with. Although they may conscientiously do the best their judgment dictates,

they sometimes err so much that they do great harm and injustice to the breeders and their exhibits, while at the same time they detract from their own credit as judges of the breed of sheep the merits and points of which they may be actually conversant with. While we may know what the most desirable conformation of the body of a typical mutton sheep may be, the type and characteristics of the various mutton breeds vary so much that to get a correct idea of them we must have considerable experience in handling them before we should be admitted as critical judges of any of the breeds we are to pass judgment upon. For those having experience in handling sheep other than the Merino to pass judgment upon a modern Shropshire could not be accepted as anything but an injustice to the breeder and exhibitor, and vice versa, for what can a shepherd who has handled nothing but mutton breeds be expected to know about the technical points and type of a well-bred Merino? It cannot be expected that he should know any more than a Shire horse breeder who has never handled a race horse should be acquainted with the points of the latter. Another mistake often made by judges is that of allowing over-fed, broken-down sheep to take premier places over sheep that are in the fullest of health and bloom. While they will carefully examine the fleece to find a trace of dark wool, and the skin for undesirable discolorations, they will totally ignore the importance of trotting the animals around the ring to see if they are firm on their pasterns or have been overheated in feeding and thereby rendered useless for procreating their species. When an animal is shown let him be shown for what he is actually worth to-day, not for what he has been, or what he may some day be.

Entirely too many sheep are shown which are said to have

been injured on the cars, when in reality they are nothing more or less than lame, over-fed, broken-down, useless tubs of blubber dressed in sheep's clothing.

Points.

I have always considered that the principal points of a ram to be a thick, heavy scrag, a broad, distended nostril, and a thick shapely twist. In company with these, we almost invariably find a strong, robust constitution; broad, fleshy loin; full, broad chest and brisket, breadth between the ears and eyes; good, broad, level, smooth crops, and a good, strong level back. When working as a slaughterman in the old country, I almost invariably noticed that animals carrying the thick scrag and full twist were the best "cutters" all the way through. A ram with a thin scrag, or twist, should be quickly discarded for show or any other purpose.

A well sprung rib is usually found in company with a full, shapely twist; on the other hand, however, it does not follow that an animal carrying the most correctly sprung rib invariably carries a good twist. It appears that nature does more for the welfare and proper development of the fore-quarters of the male animal than it does for his hind-quarters. This is plainly evident in the conformation of the male sex of almost all wild animals of a herbivorous nature. The heavy shoulders appear unbecoming and unsuitable companions for the lank hind-quarters of many of these animals; this same thing being evident also among our domestic animals where breeding has not been carefully studied.

There is always a tendency among our domestic animals to reversion, and with neglect they will soon be on the road

of retrogression. It is very easy for the novice to make a serious mistake in judging the points of an animal by confounding a poor twist with a good one; he too often thinks that because a sheep is "well-meated" down the thighs and not "split up" behind that he is perfect in twist. Upon critical examination, however, this does not always prove to be true. Upon taking a rear view of an animal we often find that although "well meated" down the leg, even to the gambrel joint, it shows a somewhat contracted or squeezed appearance, the leg of mutton showing a tendency to flatness instead of roundness. Then, again, the legs are not set wide enough apart, and that graceful curve and full muscle that goes to form the well-developed twist is not in evidence, neither does the animal stand with that degree of assurance and strength, or is he so active on his feet as the animal that carries the well formed twist. There is as much difference in the shape of a good twist and a poor one as there is in a well-shaped pear before and after being flattened out by pressure.

The sheep with a well-formed twist carries mutton on both the inside and outside of the leg; the rotundity of the leg plainly showing it. Sheep strong in the twist are not usually easily broken down while being fitted for the show ring, where the proper and necessary exercise is allowed them. Good twists are more often met with in short-legged animals than in others.

Another thing which does not usually receive the necessary attention and judgment at the hands of the novice, and indeed many of our experienced judges, is the proper development of the crops of a sheep. Too many animals that have no crops at all, as it were, too often receive honors that should be given to more deserving animals. No animal with imper-

fectly sprung ribs can be said to be good on the crops. Where the ribs are well sprung the shoulders are well set apart, but where the animal is slab-sided the shoulder-blades usually run together at a point, which at once condemns the animal as one decidedly poor in the crops, and an animal poor in this point cannot be accepted as of a desirable mutton form.

All rams of both the Downs and the Longwools should be polled or free from horns. No matter how good they may otherwise be, no ram should be awarded a premium that shows the slightest trace of horns or stubs. Even now, after many years of careful breeding our Downs are liable to produce horns once in a while, but of course cases of this kind become more rare each year.

The Fleece.

The fleece of show stock should be minutely examined, and any showing the slightest tendency to dark or black spots should not be countenanced, either as show or breeding stock. There is a tendency in some breeds to "throw dark spots" in fleece more so than in others. I refrain from individualizing or mentioning breeds, for reasons that must be obvious. Sometimes these black spots, if any exist, are to be found in the wool on the thighs or more properly, perhaps, hind legs of the animal.

Sometimes the purest blooded sheep are found carrying imperfections of the fleece, such as dark or gray tufts of wool, on their sides or other parts of their bodies; in many cases they are so small as to be easily overlooked by the judge, while in others they will be as large as a silver dollar. This,

of course, being plainly visible at once condemns them as show animals. Some unscrupulous exhibitors have been known to do some pretty sleek "jockeying" to hide these defects. There are instances in which ten cents worth of dye has been known to be the means of a sheep—that was utterly disqualified for show purposes on account of defects of the fleece—winning a premium to which another animal was justly entitled. Sheep having traces of black or discolored wool are very apt to transmit them to the offspring, hence the importance of at once turning down a specimen carrying these defects. Down sheep with long coarse fleeces should not be selected as candidates for the show ring, no matter what other good qualities they may have to recommend them, neither should sheep with the least trace of "kemp" in its fleece, as it cannot possibly win under a judge that is worthy of the name. Kemp is usually found on sheep carrying a light, open fleece. It is most prominent on the breech of the animal, more so than on any other part of its body, although it is usually found disseminated entirely over it. Some authorities claim this to be a disease. The writer has always considered it more of a freak of nature, as sometimes lambs from the best bred flocks, both males and females, will be found to be "kempy." In no case is it advisable to use an animal that has the least trace of "kemp" in its fleece for breeding purposes. A show sheep of the Down breeds should be covered from the "nose to the toes" with as compact, dense, and fine a fleece as is possible to procure in an animal that has all the other qualities that go in the make-up of a really good show animal. When examining the fleece in selecting candidates for exhibition purposes great attention should be given to the condition of the "breech"

of the animal, as this is where defects in the fleece will be most conspicuous, if existing at all. The finest and most valuable portion of the fleece is found at a point near the center of the shoulder-blade, and extending in a line along the animal's side to a point just above the flank. The student would do well to carefully examine and study the difference in the nature and quality of the various parts or sections of the fleece of the stock he intends to exhibit before wasting care and feed on animals that on account of the inferiority in these respects cannot possibly win a premium. A close, dense fleece is generally short in staple. This is preferable, however, to the long, coarse, open fleece; that is, where the Down breeds of sheep are considered. The fleece is the criterion of the health of a sheep, and where the show animal's fleece is dry and harsh something surely is wrong, as a well-fed sheep when in health carries a fleece full of life and lustre. The fleece of the Dorset is wonderfully free from defects, as far as discoloration of same is considered. The writer has never as yet seen a Dorset clothed in a black or discolored fleece. This is no doubt accounted for from the fact of their having been bred in purity for so long a time. It is important that the fleece of the Longwools be of great length of staple, strong in fibre, and finely crimped almost to curliness.

The Skin.

The skin of show, and, for that matter, of all sheep, should be of a beautiful, rich, brilliant pink, free from foreign color or shade. It is claimed (and no doubt with good reason) by the greatest living authorities, that a pale skin points to

a delicate constitution. This is amply proven by the fact that the most beautiful pink skin of the most robust, healthy animal will fade and assume a dull, sickly, pale hue when attacked with disease; therefore, we may assume that a pink skin is a safe criterion of health.

What is a pink skin? This question is more easily asked than answered. When we speak of a pink skin as pertaining to sheep we understand it to be a pure soft pink, pure as the pinkest shade of color to be found in the whole list of our Flora. Some sheep, even those that have undergone the ordeal of fitting, are the possessors of skins that are so dark in color that they cannot with any degree of truth be classed as pink, while on the other hand some are possessors of skins either so pale or so spotted that neither can successfully lay claim as owners of pink skins. Feeding and general treatment will considerably affect the hue or shade of the skin.

The color of the skin is sometimes heightened by high feeding, while poor treatment will give it a decidedly pale and "off" appearance.

The intending exhibitor should well consider the character of the animal's skin if his ambition and hopes are to be realized in the show-ring. In some breeds of sheep imperfect skins are more common than in others. The writer has always found that Dorsets when in good health carry a pink skin to a greater degree of perfection than any other breed he has yet handled.

Feeding.

The successful feeding of show animals is an art in which very few, comparatively, can be said to excel. It is not a difficult matter to fatten sheep, usually, but to place an

exhibit in the show-yard in that ripe, happy, and balanced condition known as bloom, is a matter that no haphazard feeder can ever hope to successfully cope with, especially where stale stock is under consideration. (By stale stock, I mean aged stock that has been repeatedly fitted.) Whilst it is advisable, generally, to have new, fresh, young animals to exhibit each season, sometimes it is found profitable to fit an animal of outstanding character and merit more than one season.

The art and aim of the cook is to cook articles of food to a nicety; not over or underdone, but "just so." The art and aim of the shepherd should be to fit to a nicety. There is a moment in the life of a flower when it is in the height of bloom, when its beauty is at its best, and in its most perfect state; another moment and it is descending the road to decay, its bloom is gone, and therefore its charms. Just so with our show sheep. There is an indescribable charm in the appearance of the fleece, consistency of flesh, and color of skin, eye, even the countenance of an animal in perfect bloom, that never can be found in either the under-fed or over-fed one.

Feeding to be Governed by Temperament.

An old adage says: "What is one man's food is another man's poison." What will make bloom on one animal will sometimes make blubber on another; therefore the temperament of the animal under course of fitting must be consulted to bring about good results. If the feeder is a careful observer and attentive to his business, he will soon learn what the various members of his flock are capable of, as regards

feeding. Ewes, as a rule, fatten more readily than either rams or wethers. Aged ewes are apt to take on soft, blubbery, superfluous fat, unless very carefully fed and abundantly exercised.

The Feeding of Lambs.

The first few days after parturition is a very critical time among high-bred, blooded stock, and great care should be exercised in the feeding of the dam, as most assuredly any irregularity of her system will be transmitted to the offspring. Again, I would warn the novice of the ill effects of the over-feeding of grain. Over-rich milk, sometimes the result of grain feeding, means poison to the newly yeaned lamb. Plenty of ordinary fodder is the best food for a ewe that has recently yeaned. Grain can be fed with good results as soon as the ewe and lamb are "up and getting thar." Scours and constipation are the most common source of trouble to the new-born lamb. If the lamb appears dull, and sleepy, constipation is usually found to be the cause. Give an injection of warm soapy water, and change diet of ewe; this will quickly rectify this trouble.

Bran, oats and oil-cake, mixed to suit the temperament, and constitution of the animal, cannot be surpassed as a grain ration for milking ewes. One pound a day will be found ample where clover hay and roots are in abundance. As soon as the lambs commence to eat they get bran and oats, mixed, and clover hay ad libitum, fed in troughs, and racks set in a pen partitioned off from where the ewes can get access to it and the lambs can get it, by going through "creeps." After a while—say three weeks—oilmeal should be added to their grain ration.

Usual Way of Feeding Lambs.

As soon as the lambs are weaned, my methods of feeding are as follows:

At 6 A. M. a light grain ration, composed of bran, oats and oil meal, with a little specially-prepared "lamb food" added; after which follows a ration of rape, oats, peas, or a combination of these valuable fodders, fed, of course, in a green state at noon; a mere taste of grain, clover cut early in the morning, and having been allowed to become wilted, thereby minimizing danger of bloat. At 6 P. M. moderate grain ration, and about a two hours' run in the rape lot, in the cool of the evening, when weather permits. Good bright clover hay must be fed after each meal, care being observed to change it often. In fact, as soon as each animal has got through eating the allowed ration, all troughs and hay racks should be emptied of their contents. The appetite must be cultivated very carefully; stale rations are detrimental to the well being of our stock.

Punctuality in Feeding.

The feeding of stock intended for exhibition purposes must be attended to with the utmost punctuality and regularity by the watch, and "at the drop of the hat," as it were. Condition powders should be fed occasionally. Unnecessary to mention, perhaps, salt must be always provided.

Importance of Forcing.

It may be superfluous to mention that all young animals intended for show purposes should never have known what real hunger is; but, on the contrary, have been pushed

along as rapidly as is consistent with safety since their birth. A shiftless, unattentive, unfaithful shepherd can never hope to attain any fame in exhibition circles. Regularity and punctuality in feeding must be his watchword, or he fails to accomplish anything.

Whilst grain is an indispensable adjunct to the successful feeding and fitting of show stock, I am herein tempted to say without the least fear of possible successful contradiction, that there are more show animals ruined and more shepherds have failed as fitters of show stock by the over-feeding of grain than from any one other known cause. What does it mean? It means blubber, it means founder, it means rickets, it means overheating and grogginess, it means ruin to the flockmaster, and disgrace to the shepherd. So I say to the young aspirant to show honors, Beware! Rations of a juicy, succulent nature are what bring about that beautiful happy condition, known as "bloom" to the show-follower. Rape, cabbage, kale, rutabagas, beets and mangels—the latter-named not for rams, however—are both food and medicine to the growing animal. Grain is a most valuable adjunct in the composition of the show animal's ration when fed in a rational and moderate manner, but a direct injury and poison when once the bounds of moderation are strained. How much grain should be fed to an animal depends much on its constitution, age, etc. This must be governed by the feeder.

What is Bloom.

A question more easily asked than answered. Out of a hundred shepherds of which this question may be asked perhaps not five per cent could give an intelligible answer. I

cannot describe what bloom is; I have tried, time and again, but in each attempt have I signally failed. The best answer that I can give to the question is, that "Bloom is the extreme height of condition to which an animal can be fed without injury to its constitution—that state or condition that can promise of no higher perfection. As with a flower, there is a day when a sheep may be said to be unripe, while the following day it may be in full bloom, again another day, and like the flower it may be over ripe and on the downward road to decay unless the shepherd be skilful enough to hold him there. It is so with ourselves. There is a day when we are at our best.

Then why is it that the novice sometimes thinks himself slighted and his sheep unfairly dealt with when, in his estimation, his sheep are well fitted and "fat" enough to win anywhere? Simply because his sheep are over-fitted and lack bloom, he does not know where to draw the line between bloom and blubber, but the judge does. The youthful exhibitor should endeavor to impress upon his own mind the fact that a sheep that is gaining in flesh is to a certain extent in bloom, but not in the sense that applies to show stock. A sheep going up hill is not in bloom, neither is a sheep that is on the downward course, but the one that is on the crest of the hill, as it were, is.

It is a comparatively easy matter to get our sheep in bloom, but a very difficult one to keep them in that desirable condition. When we once have them in bloom we must keep watch that they do not get over-fat, soft, and blubbery. An animal that is "on the shrink" will handle soft, as likewise will an overdone specimen.

It is not advisable for an inexperienced feeder to attempt

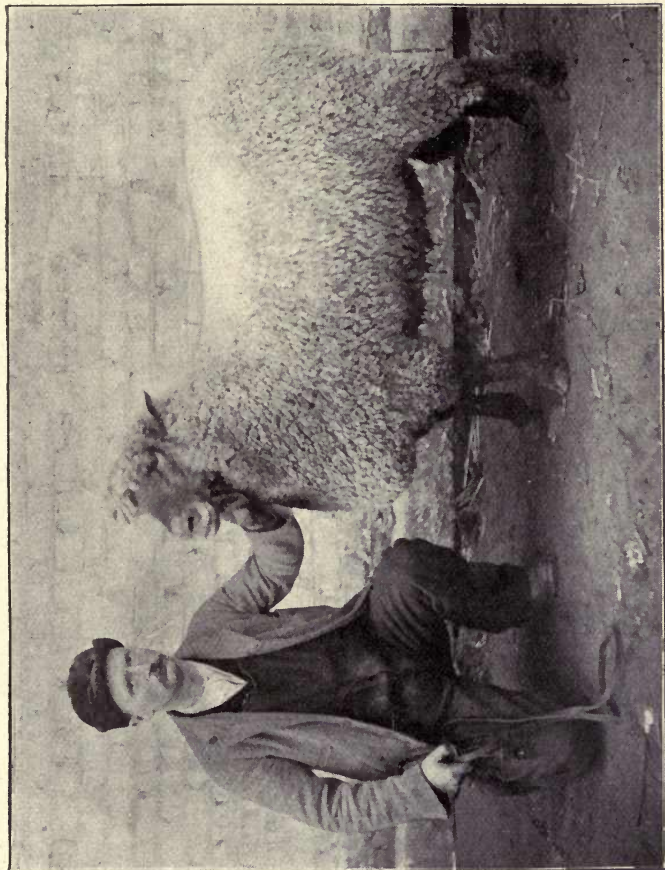
holding over his fall fair exhibits with the idea of showing them at the winter fat stock shows, it being far preferable to fit animals not so forward, as they almost invariably come under the hand in a much finer and firmer condition.

Ewes Damaged by Their Own Urine.

In the fitting of his sheep for show the shepherd sometimes finds, when the ewes become fat, no little trouble from their hind quarters becoming scalded by their own urine running down over them, and unless attention is given to it right off, the parts become very sore and foul, and the wool liable to come off in a solid mass. As soon as this trouble is noticed the shepherd should thoroughly wash the parts affected, and after wiping dry, thoroughly rub vaseline into the fleece and skin where saturated with urine. This should be done every three or four days to ensure any beneficial results.

Milk-Fed Lambs.

It is an open question whether the feeding of milk to show lambs is a benefit or not. That this method forces them both as regard to size and flesh, there is no question; but, whether it can be said to be a lasting benefit, is questionable, and I believe that purchasers of this kind of stock are usually disappointed in their purchase ere a year has elapsed after the animal coming into their possession. In teaching a lamb to suck milk from a bottle or can, it is well to commence in the early part of its life, the milk must be tried or tested carefully to see what effect it has on the lamb. If the milk is too rich, it will cause either scours, or constipation, and



OXFORD RAM.
Property of Geo. Mc Kerrow & Son, Sussex, Wis.



should be reduced in strength by adding water; and as the lamb gets older the milk may be fed stronger. I, however, cannot recommend the plan, and have followed it but little.

If the lambs come early and both they and their dams are abundantly and regularly furnished with succulent rations, and a reasonable amount of good, sound trough-feed, until weaning time, and after that the lambs are fed a little heavier of some first-class lamb food, the difference of size or condition between these and the milk-fed ones is hardly, or, at all, discernable. I have raised some extra good lambs that had been taught to suck a cow; but when weaned from their foster mother, disaster has oftentimes followed, and I cannot but condemn the practice.

Early Lambs Best for Show.

The early lamb is without doubt the lamb par excellence for show purposes. As before intimated, the combination of size and quality must naturally win over quality minus the desirable size. The would-be-exhibitor, therefore, being aware of this fact, would do well to select some of his best ewes and breed them as early as practical to the best rams his means will admit of, so that the lambs will be of good size by the time the show season opens. Although the best ewes cannot be said to raise the best lambs, at all times, of course it is sound policy to breed from the best at command.

Getting Ewes in Season.

Where difficulty exists in getting our ewes in desirable condition for the acceptance of the rams' amorous attentions, a change from the ordinary ration or pasture field to a field of

rape will usually bring about the desired result, especially if a little grain be added. This will stimulate them. The shepherd, however, must be on the alert, and be at once ready to check the slightest symptoms of either diarrhoea or bloat, that the change of diet may possibly bring about. When the ewes are without doubt safe in lamb, they must receive especial care and attention, and should be kept by themselves, away from the main flock. They must be fed with judgment, care being taken that they be kept "fresh" but not fat.

No one should think of raising early lambs unless fully satisfied they are well prepared to cater to the comfort and welfare of the little weaklings. A warm barn is indispensable in the raising of early lambs, in most of the states, and a tender-hearted shepherd in all states. Lambs, especially early lambs, take delight in eating or nibbling the earth from off the roots of the turnips, etc., in winter. A call from nature no doubt prompts them to do this as a regulator of the digestive apparatus. It is, I think, well to bear this in mind, and where roots are not provided as a winter ration, earth should be dried and stored on purpose for the lambs. I have done this, and have never found any bad results from the lambs eating quite large quantities of it.

A Good Cross for Exhibition Purposes.

Where the exhibitor intends making an exhibit at a fat stock show, either in the live or dressed classes, he should not forget that size and weight cuts quite a figure where, of course, quality is also in evidence, more so than when offering fat sheep for sale on the market, as then small handy weights

are preferable to heavy overgrown animals; but where we consider the show side of the question, we must not forget that we are endeavoring to show what our animals can do in making weights and are capable of under pressure of high feeding.

If the intending exhibitor is thinking of raising cross-bred sheep for exhibition purposes he will find the Oxford and Hampshire cross a most desirable one. Hampshires are remarkable for their rapid growth during the earlier stages of their existence, while the Oxfords are not far behind them in this respect. The offspring from this cross has no superior as regards early maturity, desirable mutton form, and wealth of flesh. This cross has taken the leading honors at the great English Smithfield Show for a number of years. The weight and quality of flesh of the lambs shown by this cross being in every case most remarkable.

Housing.

Close housing is detrimental to the welfare of sheep. Of course they—especially show sheep—must be provided with shelter, but close confinement should, as much as possible, be avoided. Sheep that are subject to confinement in the barns are usually found to be soft and blubbery; especially is this the case with aged sheep. Sheep that are intended for exhibition should be allowed the run of a paddock adjoining the sheep barn fine days and be confined only at night, or during a storm, until within about from six to eight weeks previous to the opening of the show season; and even then, should have the run of a paddock, or yard for an hour or so in the cool of the evening, when the weather

permits of same. To keep high-bred sheep confined in close quarters for any length of time, is to court disaster.

Exercise.

Exercise is one of the most potent factors in the preparation of exhibition sheep. It means health, firm flesh—bloom. In the final course of preparation, all show stock should be allowed ample exercise in the yard, or paddock, not less than once a day; twice being better. Rams should be taught to lead whilst young. A halter can be cheaply made out of medium sized rope, and answers the purpose equally as well as costly leather ones. Needless to say, perhaps, exercise should be gentle and regular.

Care of Feet.

This is an highly important matter. Each foot should from time to time be carefully examined and if trimming is necessary should be carefully attended to without a moment's delay; oftentimes grave results follow neglect of trivial matters of this kind. Foot-rot is oftentimes directly traceable to the neglect of careful trimming of the hoof. In trimming, pare with a view of giving the foot a firm, level bearing. In case of foot "fouling" (getting sore between the digits of the foot) finely powdered blue-stone (blue vitriol) should be applied; this will arrest progress of trouble, if attended to without delay. If "foul-foot" is neglected, foot-rot ensues; the sheep rapidly loses flesh, and the chances are slim of the animal's appearing in the ring with any bloom, or even at all during the season.

Shearing.

The rules governing the shearing of show sheep stipulate that no sheep must be shorn earlier than April 1. That very many of the sheep shown have a most phenomenal tendency to wool growing, or their owners have a tendency of creeping around the rules, must be evident to any one who has had the merest experience in the handling of sheep—especially show stock. That individual sheep, even of one and the same breed, do carry wool varying in large degree in length of staple, cannot be denied, but not to the extent usually noticeable in animals presented for competition in the show ring. Perhaps one cannot be blamed for leaving the newly shorn sheep in a pretty snug little coat of wool, considering that the weather during the month of April is oftentimes cold and bleak. Blankets should be provided in case the weather should prove cold; they should be made of some warm material.

Blocking Out.

Many experts take the opportunity of blocking out, or giving shape to their show animals at shearing time. Whether much benefit accrues from this method is a matter of opinion and taste; the writer fails to see the real benefit. If a judge is what the word indicates and a showman of the highest order himself, which he should be, he is not usually "fooled" by tricks of the trade. To the author's mind a short, close, compact fleece is preferable to a long one; the body coming under the hand in a firmer and more pleasing condition.

Stubble Shearing.

Shepherds are an ambitious class, especially in matters pertaining to exhibiting. We sometimes find one whose ambition overcomes his discretion, and the employment of questionable methods to win a coveted prize is the result. That some shepherds actually do receive premiums galore dishonestly by creeping around the rules set down by the various agricultural societies governing the condition in which sheep shall be shorn there is no doubt; but of course they do not belong to our class. While these rules are supposed to be of a very rigid and ironclad nature, in reality they are not. To-day the showyard atmosphere is fairly reeking with violations of these rules. There are many tricks employed by the professional shepherd, which no doubt add much to the beauty and general appearance of his exhibit, and which sadly handicap the novice in his race for showyard honors. But you say, why does not the novice enter protest against such methods? No one has yet gained much outside of the ill-will of the whole shepherding fraternity by pursuing such a course. Those having the least experience with sheep cannot have failed to notice that many of the sheep shown at our fall fairs must be phenomenal wool-bearers, if they are honestly and fairly shorn not earlier than the first day of April according to the rules laid down in most premium lists. Not long since a prominent Irish exhibitor of sheep exhibited his flock, each member of which had a patch of untrimmed wool left on its body, to show the actual length of original staple. Many prominent breeders, both English and Irish, considered this precedent well worthy of imitation, some going so far as to express a wish

not only to see it universally adopted but to be made a compulsory measure. No doubt this would afford the judges and others an opportunity of estimating the amount of wool which may be expected from any particular breed of sheep, but it is hard to see that it would have any tendency to curtail the now common practice of "stubble shearing." The rule governing the time in which show sheep shall be shorn is a useless one and an injustice to the novice. The beginner, upon reading these rules, will no doubt rigidly adhere to their text, and will then be greatly surprised to find when the fairs come around that the staple of the wool of his competitor's sheep is twice as long as that of his own. One thing is certain, just so long as stubble-shorn sheep are allowed to win at our fairs, just that long will sheep be stubble-shorn. It is no doubt a pretty hard thing to draw the line on such a ticklish question as this, and the sooner the rule is abolished and the exhibitor allowed to put his sheep in the ring in the condition that his judgment dictates to be the best, the sooner the honest and dishonest exhibitor will be placed upon an equal footing. So far as putting sheep in the show ring in their rough, uncouth field attire is concerned, it is no doubt wrong from a business or any other point of view. It is impossible to illustrate what any breed is capable of doing when shown in such a condition. If we went to a show or fair our hopes would not be realized if, instead of seeing the usual well-fed and beautifully prepared specimens now to be seen at such places, we saw only sheep such as we could see every day browsing on the pastures of our own farms. Those who would be reckless enough to put an ungroomed and ill-fed, unfitted horse into the show ring would at once be dubbed a fit candidate for the lunatic asy-

lum. Then why should not the same apply to the shepherd who would dare take his sheep from the field and put them into the show ring with the hope of beating well-fitted animals.

How to Stubble Shear.

What is stubble shearing? Stubble shearing is, to be frank and truthful, dishonest shearing; nothing more; nothing less. If we take a sheep, and instead of taking off the fleece as close to the skin as possible, we take only half of it off and leave the other half on to be trimmed and moulded into a shape that will make the sheep appear fat, square, and plump, we are guilty of stubble shearing. How is a sheep stubble shorn? First, take your shears and level off the back; next, make the under line or belly as level as possible, after which trim off what you think necessary from the sides. The breast and hind quarters are usually left full and gradually reduced and molded into a pleasing form by frequent trimming. A sheep, directly after being stubble shorn, usually presents a very rough and uncouth appearance, and is anything but a pleasing picture, but after it has been trimmed several times it gradually grows into a pleasing one. Directly after being shorn the sheep should be well washed, and then carefully trimmed while the fleece is yet moist.

Show Lambs Not to be Shorn.

It is unusual to shear lambs intended for show purposes; trimming, however, must be practiced, and that as soon as the fleece has a good growth. They should by frequent trimming be gradually brought into the desired form. The be-

ginner usually finds more difficulty in making lambs assume the desired form and smooth state than from the adult members of the flock. (Trimming is fully treated on in another chapter.)

Washing.

The washing of show sheep, when properly done, is not only a benefit as regards the look of the animal, but is extremely beneficial in freeing the pores of the skin of gummy and other foreign matter. It promotes the flow of the natural lubricant of the wool, and thereby stimulates its growth. As soon after shearing as the weather gets warm and pleasant, the washing of our sheep should receive attention. Warm water should be used; or more properly, perhaps, cold water with the chill taken off. Castile or some other first class soap should be used. The dipping vat is a very handy utensil for washing sheep in. It is essential that after the animal has undergone a thorough washing with soap and water that every trace of soap be eradicated from the fleece by a thorough rinsing with clean water. If any trace of soap remains in the fleece it is apt to make it appear harsh, dry and brittle; further it may prove injurious to the skin.

It is usual to wash the Longwool breeds as soon after shearing as the weather permits, and again some little time previous to the opening of the show season. This allows of the natural oil saturating the fleece and making it assume a glossy, brilliant appearance. I deem it advisable to again impress on my readers the importance of thorough rinsing with clean water to remove any trace of soap.

It is not often found necessary to wash lambs of the Down

breeds where care has been duly exercised in keeping them clean.

Dipping.

Dipping should be resorted to, even only as a precaution against disease that may be lurking around the cars on which our sheep are transported from show to show. Usually ticks do not bother very fat sheep. Dipping should be attended to not later than six weeks previous to the opening of the show season. With all the good that attends ultimately the dipping of our animals it must be admitted that dipping does detract from the beauty of the fleece for some little time after the operation has been performed.

Coloring.

It is asserted by many authorities that the real object of coloring show sheep is hidden in obscurity. In "Culley on Live Stock," we glean that: "The practice of rubbing into the wool red or yellow ochre in the month of September was intended to qualify the perspiration which would otherwise give an asperity to the wool, and to form a coat impenetrable to rain or cold. This cannot apply to the use of coloring among our show flocks of today. Just why show sheep are colored great diversity of opinion exists even in the present day. One authority claims that when first adopted in the preparation of show stock it was used with the intention of being a guide to the judge in knowing whose sheep he was passing judgment upon; whilst others claim it was first introduced into England by Spanish shepherds, but for what purpose they do not say. Coloring is condemned by many

of our most prominent flock-masters and live stock journals generally. No less an authority than the Prince of Wales sees fit to offer condemnation to the "useless habit."

Positively many of the Down breeds of sheep are presented so daubed with grease and coloring ingredients as to make them really filthy to handle, but where reason and judgment are used I consistently believe a little coloring adds rather than detracts from the appearance of the sheep; they appear more uniform.

I have found by experiment and practice that coloring about a week previous to showing gives the best and most pleasing effect to the fleece. Most shepherds have a most mysterious formula from which they prepare their coloring, of course it being "something my father used to use." This they guard with the greatest jealousy and secrecy.

I have obtained the most pleasing effect from a combination of olive, or palm oil, yellow ochre and burnt umber. The oil being put into a large bottle or tin can, the ochre is added as a ground, and then the umber as the shade; the whole being thoroughly mixed by vigorous shaking before using. The color, being a matter of taste, must be left to the judgment of the operator. Of course it must be borne in mind that the umber is the regulator of shade of color. I always have made it a point to try the coloring on one of the ordinary members of the flock before using on the show flock. The reason of this procedure is obvious.

It is important that the shepherd make it a point to obtain the prepared umber which is put up in cans, mixed with oil, ready for use. The dry powdered article may, for what I know, bring about undesirable conditions, or even failure.

I thought it important to make mention of this as a safeguard against possible failure.

The mixture now being ready for use, pour a small quantity into the palm of the hand, then rub over inside of both hands, and then go carefully and easily and gradually rub thoroughly into the fleece. This should be done after the fleece has undergone a careful trimming. After the coloring has been done to the satisfaction of the manipulator, take the keenest pair of shears at command and again go most carefully over the fleece. If these directions are carefully followed, and faithfully attended to, the operator must be a very fastidious personage if other than pleased with results. The sheep is now ready for blanketing.

I have shown sheep on two occasions that were not colored at all, but washed early and kept clean by thin blankets. These were much admired by many exhibitors and drew much attention from the casual on-looker.

Trimming.

Trimming as an art is not really difficult to acquire. Patience and practice are the real essentials in trimming. The knowledge of what constitutes a good picture or model of a sheep is a material help to the novice in putting up his exhibit in a really satisfactory style. If the operator has artistic tastes so much the better are his chances of becoming a first class trimmer.

In blocking out—giving your subject the desired form, in a rough manner—care must be observed that the back be made perfectly level, the breast full and rounding, also the thighs and all points and peakedness be eliminated from the

model. The underline should be straight and the head as shapely as possible; in fact your work should be a work of graceful curves and perfectly straight lines. The above applies to the Down breeds.

The Longwools should not be trimmed close and smooth, as is the case of the Downs, but left in a more rustic and natural condition, and any shaping or trimming should receive attention previous to the final washing. In the case of our Longwool pets it is usual to allow the fore-top to hang gracefully down over the face. This has a very pleasing effect. The pretty Cotswolds should have their fore-tops carefully curled before being presented to the show-goer or judge.

I will now enter into details regarding the trimming proper. Here is my method: After my sheep are "blocked out" I take a bucket of water in which a couple of handfuls of yellow ochre has been thrown. A stiff brush, a curry comb and an exceedingly sharp thin-bladed pair of shears comprise my outfit. With the water into which the yellow ochre has been put, I carefully saturate the fleece of the sheep under treatment, using the brush for the purpose of rubbing the decoction well in; when well saturated—not sopping—I take the curry comb and give the fleece a vigorous currying, after which I go over the fleece most carefully, being very careful to keep as good a shape in mind as possible, and smoothing the best I know how, "straight lines and graceful curves" being my motto and design. It is well that the fleece be kept moderately moist by frequent application of moisture—of course having recourse to the ochre decoction—the shears also should be kept extremely keen and perfectly level in trimming. The process of trimming must be gone over many

times, on various occasions, before the subject under treatment will appear in a polished and finished condition for exhibition.

Blanketing.

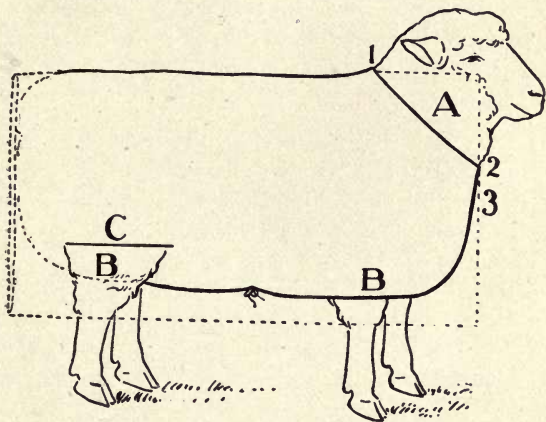
The blanketing of show sheep has a two-fold purpose; the one, that of keeping the fleece clean; the other, for making the fleece compact and of a smooth, pleasing appearance. At the shows we learn it answers for many other purposes, such as "keeping the flies off the sheep," and again, "for keeping the sheep warm." When on a tour of the fairs it is usual to keep the blankets on our sheep whilst on the cars, and also at night in the pens in the show yard; in fact they should be kept blanketed until after the premiums have been awarded, when, of course, it may be supposed the public is entitled to see them at their best advantage. By keeping them blanketed, prior to being "passed upon," the visitors to the show yard are prevented from disarranging the carefully dressed fleece of the animal, thereby preventing no little annoyance to the shepherd.

How Blankets are Made.

Blankets may be made from a great variety of material. Ducking makes a very neat and serviceable blanket. Burlap makes a very serviceable blanket for home use, but a neater material is usually preferred for use at the shows. For use in the preparation of our exhibition animals at home a cheap easily made blanket may be made out of ordinary bran bags.

The accompanying diagram, representing an ordinary bran sack, will give my readers, I think, a fair idea of how it should

be made. The dotted line A shows corner of sack that must be cut entirely off. This allows of the head coming through. The solid line B B shows where and how the seam-side of the sack must be cut. At C a slit must be made; through this the animal's hind legs go through; this keeps the blanket in position. At points 1, 2, 3, respectively, and at each end of slit C, the blanket will be materially strengthened by tacking or sewing. This prevents tearing.



The above pattern cannot be well improved upon. In the case of blankets intended for use on the "circuit," however, which of course is made of some good material, I would suggest the fastening of the blanket at the breast of the sheep by buttons, just as we fasten or button our coats; and at C in the place of a slit in the blanket a strap is buttoned, and after being passed underneath or inside of the leg, is secured by another button, at the rear or just above the gambrel joint.

The Fitting of Wethers.

In the selection of wethers for exhibition purposes it is important that only those of the most perfect mutton type or form be selected. Where it is intended that pens are to be shown they should be well matched as regard size, type, etc. In emasculating lambs that are intended to do battle in the wether class it is well that the operator should remove no more of the scrotum than is absolutely necessary to successfully perform the operation, as this, when well filled with fat, is not only a guide as to the internal condition of the animal from a butcher's point of view, but adds much to the symmetry of a show wether. Show wethers are fitted upon the exact same principles as other show sheep. I have, however, noticed that they will not readily assume that blubbery, over-fitted condition, even when fed upon very heavy grain rations, as "entire" sheep are prone to do.

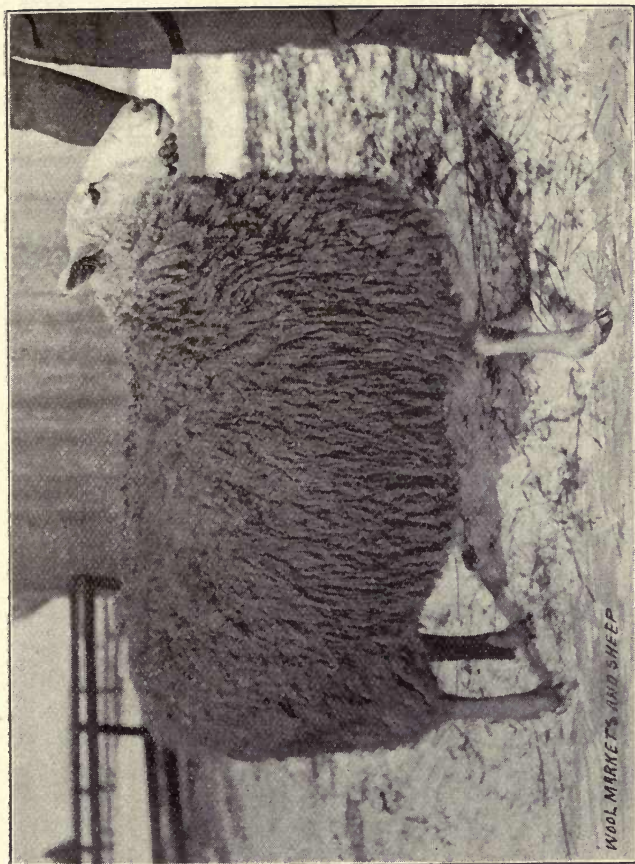
Making Entries for Show.

The intending exhibitor should make early application for catalogs, entry blanks, etc., so that he may have ample time to determine what shows he will attend. He should be very careful to make his entries correctly or confusion may result when the time for judging comes along.

Starting for the Shows.

This chapter is intended primarily for the perusal of the young shepherd who is about to make his debut in show circles.

From experience I find it very difficult to obtain really



LIECESTER RAM.

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suitable rations for my show flock at many, and I may say most, of our exhibitions. Good clover hay is sometimes difficult to obtain, and foods of a succulent nature, such as turnips, cabbage, etc., are held at such high prices as to prevent an exhibitor of modest means investing to the extent that he should to do justice to the appetites of the stock under his care; therefore, the advisability of providing a good stock of rations preparatory to starting on the show circuit is evident.

Turnips should be sacked; rape should be tied in neat bundles; hay should be baled, and grain should be mixed before starting out. Cabbage should not be forgotten. If your flock is small it will not pay to hire a car; it can be transported at less cost by the hundredweight. If you cannot get "billed" on the same car as the sheep there remains two other chances of your going. One to pay your fare as a passenger, the other to hide among the sheep and keep out of sight as much as possible whenever the train stops. Of course here is a risk of being "kicked off the car." Every shepherd should carry in his trunk a trocar for use in case of bloat among his own or brother showman's stock; being careful when using it to drive it in the direction that will avoid its striking the kidneys of the animal. Blue vitriol, to arrest fouling of the feet, linseed or castor oil for various derangements of the stomach and intestines, shears, a good supply of blankets for the sheep, bedding for his own use, must go in the make-up of his equipment or "kit." The fact that salt is necessary to the well-being of the flock must not be overlooked, even at show time. It is well to remember also that the various members of the flock must have daily exer-

cise or the neglect of this most important matter may result in sickness and loss.

What Constitutes the Various Classes of Show Sheep.

An aged ram is a ram too old for the yearling class, or, in other words, a ram over two years of age.

A yearling, or shearing ram, is a ram that has not as yet got more than his first pair of incisors, or permanent front teeth, or a ram that is over one year old, but under two.

A ram lamb is a male lamb under a year old, or one that has, not as yet, got any of its permanent incisors.

The ages of the female classes are governed by the exact same conditions as are the ram classes.

A pen, unless otherwise stated, consists of three individuals, either males or females.

A pair, is, of course, two of one sex.

A flock usually consists of an aged ram, yearling ram, lamb ram, aged ewe, yearling ewe, and ewe lamb.

A *Special* means a special premium offered outside of the ordinary list of premiums, such as Special for best flock, or Special for best ram, etc.

Sweepstakes means champion or best animal where all breeds are competing.

Champion means the best animal of a given breed, either male or female, as the case may be.

Overheating of Show Stock.

A common trouble in the show flock—an entirely too common a one! When a show sheep becomes overheated it appears very much distressed, is very weak in its hind quarters,

and consequently cannot stand upon its feet but a few minutes at a time before having to lay down. An overheated sheep is nothing more or less than a foundered sheep. As soon as a sheep shows the least symptoms of being overheated, it should be shorn without a moment's delay, given a big dose of Epsom salts and kept very quiet in a pen by itself. Don't fret and worry because the shearing of your sheep means its not appearing in the show-ring again that season, as you may depend upon it that this is about the only way or means of saving its life. All grain rations must be cut off and nothing but good clover hay and succulent rations fed. Although this is a sudden change to its system and against the ordinary rules of good feeding, this is a case of the exception being better than the rule. It almost passes credence what a large number of very valuable sheep are "murdered" yearly by being overheated, and their not receiving the proper attention when in that state. I have seen many a good ram find an early grave, that should have lived a long life of usefulness had he received the necessary and proper care that an animal in such a state or condition should have had.

The Importance of Exercising Show Sheep While on the Circuit.

Shepherds should pay particular attention that their exhibition flocks get ample exercise even when on the show circuit; it is disastrous to their health to allow them to remain prisoners in the pens of the show-yard without getting a due amount of exercise. They should be exercised regularly twice a day—morning and evening. No bother or trouble is experienced with the well-trained and educated ram, as he will

readily follow the shepherd anywhere and everywhere he may wish to lead him. It is usual to exercise the head of the flock first, then the aged ewes, and so on down the class to the lambs. To avoid trouble, stable companions only should be allowed out in the same lot at the same time. Of course where there are two or more attendants in charge of the flock the work of exercising is but a small matter, but nevertheless a very important one. Where, as often is the case, a sheep is noticed to be "groggy" we may be sure that imperfect exercise has had something to do with bringing about this undesirable condition. It is a matter of impossibility and against the rules of scientific feeding to feed an animal very highly and successfully without giving it abundant exercise. No animal can endure this treatment long without seriously suffering in consequence.

Sheep Getting Tired.

After a long journey on the cars, sheep are sometimes liable to become so tired as to get "off their feed." The young shepherd need have no worry over this. They need rest, and must get it before they will eat much. It is better to leave them undisturbed as long as they prefer to lie down, and not attempt to entice them to eat. It will not be long before they will be up and as hearty as ever.

In very hot weather it is better to arrange to haul your sheep from the station to the fair grounds, that is, if it be of any distance from the station. Of course where sheep have been receiving abundant exercise during the fitting process they may be quietly walked a considerable distance in the cool of the evening, but they must not be hurried, or they may become injured.

Judging Day.

This is a day of excitement to the exhibitor, and most, if not all, are greatly relieved when this day is past and over. As I have before intimated, the way in which the various members of our show flock behave themselves has no little to do with their chance of winning. A sheep that will stand "all of a heap"—as untrained ones almost invariably will—surely cannot be said to be very taking to the judge's eye—or even to that of the casual observer. Hence, the importance of thorough training.

Most of our show yards are provided with show rings, the floors of which are perfectly level, so that all exhibitors are on the same footing as far as choice of position or lay of ground goes. Where show rings are not in evidence the exhibitor should aim for his sheep to stand on either perfectly level ground, or, if the ground does not permit of this, he should arrange that his sheep shall stand with its head uphill. On no account let its position be reversed, as no sheep, not even the most perfectly trained, can be expected to "stand out" properly with its head "downhill." One of the greatest of England's living shepherds lays claim that much of his success as an exhibitor of sheep is due to the way in which he prepares and trains them, so that they not only attract but keep the notice and attention of the judge. Exhibitors should do all in their power to assist the judge in his duties and should refrain from "demonstration" should he not place the awards just to their liking.

Showing Out.

Nothing is more annoying to the shepherd than that of handling show stock that has been imperfectly trained or

educated. An animal standing "all in a heap" is anything but a pleasing picture, even to the most casual observer. Sheep, I must admit, are somewhat "dumb," but they are capable of being taught far more than many are willing to give them credit for. Constant handling makes them tame and manageable. Sheep that have been used to being led with the halter will soon learn what is required of them, and will readily follow their shepherd through a dense crowd of people unhaltered.

To make a sheep "stand out" at word of command, square upon its feet and in a natural, graceful manner, put your left hand underneath its lower jaw, or chin, and the other hand on his loin, gently pressing same. Violence or force must not be confounded with care, and gentleness or harm may result. The pupil will soon understand what is required of him and upon having recourse to the above method described will soon assume the desired "poise."

How to Reduce Show Stock.

Very many valuable sheep are no doubt ruined by injudicious and improper treatment after their mission in the show yard has terminated.

The proper management in the reduction of show stock to normal breeding condition is, to the writer's way of thinking, imperfectly understood. Whilst visiting the English "Royal" many years ago I was struck by a reply of one of the greatest shepherds of that day made to an inquisitive visitor who questioned him in regard to the reduction of his show stock to normal breeding condition. "Do you keep these sheep as fat as they now are always or do you reduce their flesh when

the show season is over?" "I reduce their fat, sir, but not their flesh, but I don't let them know it." What a deal is inculcated in this remarkable answer!

In reducing an animal to breeding condition, the idea held in view should be to reduce slowly, and with the least possible danger to the constitution of the animal. To reduce an animal in a careless slipshod manner will soon show its effects by the coat assuming a lifeless, dull appearance, and oftentimes by the fleece falling out or leaving the skin almost entirely. That soft, glossy, compact and brilliant appearance that denotes good health of the animal must be preserved as much as possible. It is difficult to entirely preserve this. The reduction of fat must be accomplished more by exercise than the decrease of grain, etc., at the first start. The animal should have the run of a good pasture, and then the grain ration may be gradually reduced until he receives only sufficient to keep him vigorous and active; care being observed not to allow of his being reduced to "a run-down" condition, or irreparable point. Ewes should be reduced as rapidly but carefully as possible, so as to allow of their being bred as early as possible. Of course I am here alluding to ewes whose days of usefulness for show purposes are over.

Some little difficulty is usually experienced in getting ewes that have been repeatedly fitted for show to breed satisfactorily. Many of the most prominent English shepherds use a ram lamb on their show ewes, claiming that good results almost invariably follow such a course; whilst others allow two or more rams to serve the same ewe when in season. It is, however, sometimes a very difficult matter to induce a show ewe to breed satisfactorily, and it is found more profitable in the end to sell her direct to the butcher.

Spring Crops.

Up-to-date shepherds and flockmasters are alive to the value of succulent rations for their show animals and aim to get same as early in the spring as possible. Nothing in this country, by the author's way of thinking, furnishes anything like so early and desirable a succulent food, in early spring, as the sand vetch and rye sown together, the latter part of August, or beginning of September. The sand vetch is a winter vetch, which furnishes a most abundant and valuable spring fodder crop, which comes early to cutting or pasturing, is a rapid grower, and much relished by all kinds of stock. Both ewes and lambs make rapid gains when fed daily rations of it.

It is advisable to cut this—as, in fact, it is all spring fodder crops of a very succulent nature—some little time before it is intended to be fed so as to allow of its becoming wilted. Danger from bloat is then reduced to a minimum.

The crops that should succeed the above mentioned are: Oats and spring vetches (sown together broadcast, preferably); oats and peas; then rape, cabbage, etc., in the order named. Thousand-headed kale is a wonderful cropper, and very nutritious, and is greatly relished by sheep. Clover hay and grain should be fed in conjunction with the above-named valuable crops; it will keep the bowels in a healthy state. I have also found specially prepared lamb foods fed in conjunction with the other rations, of immense help in forcing along the lambs.



GROUP OF LINCOLNS.
Owned by J. H. Patrick, Ilderton, Ont., Canada,



The Preparation of Sheep For Sale by Auction.

The English custom of holding annual, or periodical sales by auction of pedigreed sheep, although not much countenanced, as yet, in this country, has, where tried, proved an unqualified success. The writer can vouch for this much in one case, however.

The degree of success attending sales conducted by auction, whether it be an annual affair or merely a dispersion sale, depends—as does any other undertaking—“on the men behind the guns.” Needless to say, anyone contemplating holding a sale of this character should make full and untiring preparation for the event.

One of the principal factors dependent upon the success of an auction sale is a really first-class live stock auctioneer; one who has a reputation for this kind of work; in fact a specialist in his line of business. There is very much in a name when it pertains to matters relating to the pedigree live stock business; and I can assure my readers that it makes a vast difference in the attendance at an auction sale as to the name of the auctioneer found in conjunction with the catalogue, or appended to the announcement of the sale in the leading stock journals. Breeders of repute employ only first-class auctioneers, with reputations of undoubted standing.

All auction sales of sheep of any magnitude should be largely advertised in the journals devoted exclusively to the sheep industry, as well as the leading agricultural papers. The exhibition of stock at the various shows and fairs helps much in advertising good stock.

In the preparation of a flock for public auction much work

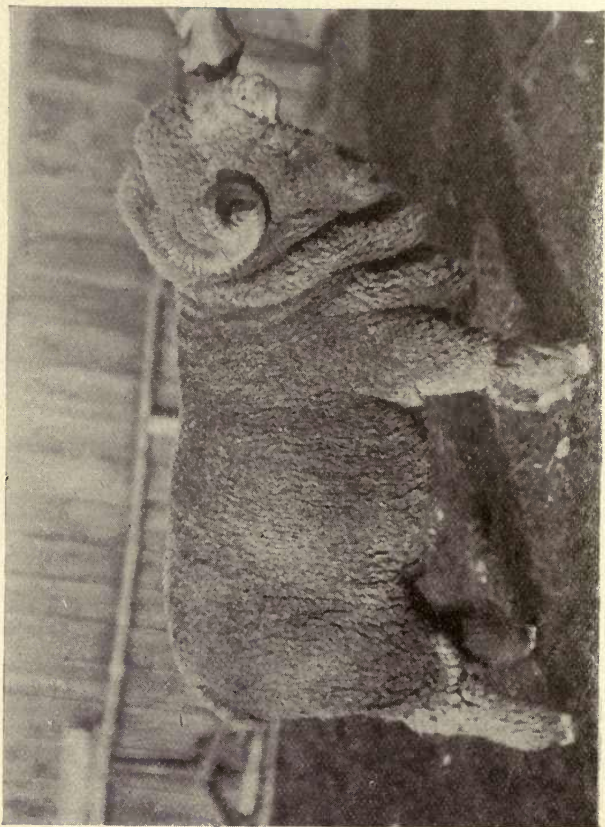
is entailed. Every animal should be catalogued, giving full pedigree, etc. All ewes should be bred. All should have careful preparation by being carefully fed, and just before the sale day arrives should be carefully trimmed and numbered on the side or back with stencil or stamps and marking ink. Pens must be provided into which it is usual, in the case of both ewes and lambs (other than show lambs), to put three sheep—this making a pen. The pens should be made of a temporary, or rather, a portable character, so as to facilitate speed in allowing the sheep to run into the sale ring. The ring should have two gates, the one for ingress the other for egress. Show and other rams are usually sold singly. Show ewes and ewe lambs either singly or in pairs, as the case may be. It is well when making the pens to plan them so that they may be easily converted into shipping crates; the shipping of all sheep to purchasers at a distance devolving upon the vendor of course.

Preparing Rams For Sale.

One of the greatest mistakes our shepherds are making today is the pampering of rams intended for service on the range. Fancy a ram receiving access to rich domestic pastures and grain almost ad libitum being turned out with a large flock of ewes on the ranch where he has, as it were, to rustle for an existence. The writer cannot but think this to be wrong. In the case of stud rams it is entirely different. A ram intended for use among stud flocks should receive the most liberal care and feeding. The up-to-date, modern mutton sheep is none other than the production of the highest art and skill of the flock-master in both mating, feeding and

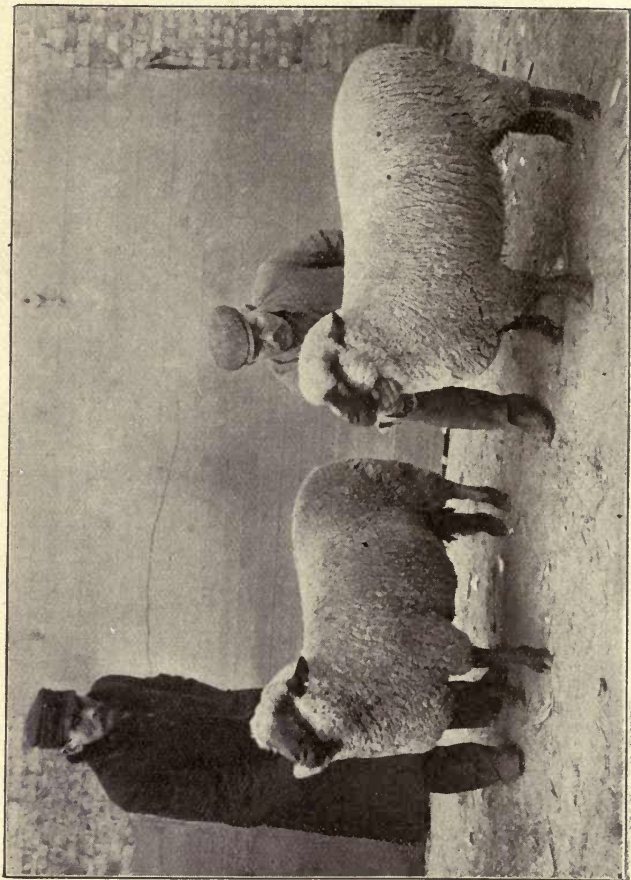
breeding, and any deviation from this path most assuredly means retrogression and ruin to the breed. In the preparation of stud rams for sale it is not usual, or even advisable, to force them to such a degree as is general with show stock. They should, of course, be kept growing from day of birth, as a stunted animal of any kind is poor property. Where ram lambs or yearlings have the run of both a clover and rape field, with a daily grain ration composed of bran, oats and oil meal—about three-fourths pound a day—they make rapid growth. In the case of the Down breeds they should be trimmed occasionally, and kept in as clean and nice shape as possible, and where it is intended they be offered for sale around at the various fairs, or at public auction, they should be carefully colored and trimmed.





VON HOMEYER RAMBOUILLET RAM "KAISER,"
Owned by A. A. Wood & Son, Saline, Mich.






HAMPSHIRE.
Owned by John Milton, Marshall, Mich.

PART II.

The Evolution of the Modern Mutton Sheep.

HE modern mutton breeds of sheep are divided into two classes, viz.: The Long-wools and the Middle-wools. In the first-named class we find enumerated the Lincoln, the Devon-Long-wool, the Wensleydale, the Cotswold, the Leicester, the Border-Leicester, the Romney-Marsh or Kentish sheep, etc. Among the Middle-wools we find the Southdown, the Shropshire, the Oxford, the Hampshire, the Suffolk and the Dorset.

With the exception of the Dorset, all of the above named breeds have undergone a most wonderful and agreeable transformation during the past few years, and especially is this true of the Shropshire, Hampshire and Oxford among the down breeds, and the Lincoln, Romney-Marsh and Devon-Long-wool among those of the Long-wooled breeds.

Comparatively speaking, it is not so very long since the ancestors of the present beautiful breeds of sheep were roaming the Downs and marshes of England in a nomadic sort of way. But now this is all changed. Fences have been built; bogs have been drained; marshes have been reclaimed from the sea and in the place of the slab-sided, narrow-chested, poor-fleeced, long-legged, thin-fleshed ani-

mal that was "monarch of all he surveyed" in those days, we have an animal of the most beautiful conformation—in fact "a thing of beauty and a joy," to the shepherd, at present if not "forever." With the introduction of forage crops into England rapid strides and advancements were made in the science and art of feeding and breeding as applied to sheep raising. By careful selection, and careful mating very many most beautiful, and very symmetrically conformed animals and breeds have been evolved and established. By generous feeding the average size and weight of the respective breeds have been substantially increased, as has also the weight and quality of the fleece. Then in most cases the objectionable horns have been eliminated, and in various other ways has improvement been brought about in the animal that was once "Fed as God Almighty fed the fowls of the air and the fish of the sea, upon what they could pick up themselves of Nature's bounty, without the labor or assistance of man."

Another most valuable quality that care in selection, mating, feeding and breeding has brought about is that of early maturity. It is not so very long since wethers were kept until they had reached the age of two years, or even more, before being marketed. Heavier sheep of superior quality are now marketed under one year old.

Since care has been the watchword of those to whom we are indebted for the many beautiful breeds of sheep we today have, it is clear it must be ours also if we wish to avoid the deterioration and retrogression of our flocks.

The Relation of Shepherd and Flockmaster.

Shepherds, like poets, are born, not made. A shepherd in the truest sense of the word is considerably more than a man that herds sheep. A shepherd is one endowed with instinct and skill that is remarkable when it pertains to the management of a flock. The inherent love for the work debars him from giving up his humble calling for one of a more elevating and remunerative nature. The fold is the paradise of the shepherd. The sheep are his children. His one topic of conversation is sheep! sheep! sheep! A good shepherd is a busy man, and a business man. Shepherds' abilities vary to a very considerable extent. In the general management of a flock many are adepts at their business, but lack ability in the preparation of specimens for the show ring, where good flocks are to be found. There also should be found mutual friendship existing between flockmaster and shepherd, familiar chats and an exchange of ideas between flockmaster and shepherd bring about untold good. It is usually more satisfactory for a shepherd to take care of a flock whose owner is an expert shepherd himself—one who knows the ins and outs of the business, and knows when his shepherd is or is not, doing the right thing with his flock. A flockmaster not himself an expert in the management of the flock, could not do better than leave the practical management of same to the discretion and riper judgment of his shepherd, after having made clear to him his wishes, as to the result desired to be attained. If a shepherd has not the ability to run a flock to the owner's satisfaction, the owner has his remedy. For a flockmaster who is not well posted, who is incompetent, to interfere in the management of a flock that an expert shepherd has been hired to take charge of, is fatal to his own

interest. As soon as a shepherd finds he is interfered with in the management of the flock he quickly imagines his abilities are not appreciated, he becomes discouraged, disappointed and despondent; in fact, useless and incapable. A shepherd can no more run a stud flock without the necessary appliances than a mechanic can work without tools. Yet there are flockmasters who sadly handicap a shepherd by making no provision for even the crudest of appliances, and then wonder why his sheep are not in bloom. Shepherds should receive a fixed salary with an added bonus resultant on the size and quality of the lamb crop.

A greater piece of folly could not be thought of than that of an owner of a flock, who, being himself a novice in the business, hiring an expert shepherd to care for his flock and then dictating to him how to run it. The shepherd, if he has a particle of manhood about him, could and would not tolerate such an outrage on his rights for one moment. Ofttimes the shepherd is better qualified to make sales of sheep than is his employer, he being conversant with their individual qualities, pedigrees, etc., which he has at his fingers' ends, ready for use when occasion offers. It is the duty of the flockmaster to provide abundant shelter, food, appliances, etc., for the use of the shepherd in the management of his flock. He should be prepared to furnish separate enclosures for the sole use of the sheep, and should be ready to do any and everything that the shepherd suggests that would tend to the welfare of the flock. A neglected or ill-managed stud flock is an eye-sore and, indeed, a very poor property.

When flockmaster, shepherd and sheep disagree,
They will do much better divided in three.

On Purchasing the Flock.

When purchasing a flock the young beginner should exercise the greatest care and be very, very cautious, or he may purchase disease with it. He should be on the lookout for scab, foot-rot and liver-rot. Although the last mentioned complaint is not common in this country a case is sometimes met with. Where a sheep suffers from a diseased liver the membrane of the eye assumes a yellowish tinge and the animal swells up under the jaws. The flesh or fat rather, of some sheep is naturally yellow—yellow as butter. I have met many such cases as these when working as a slaughterman. Yellow mutton of course is an extremely hard thing for the butcher to dispose of at anything like a profitable figure. The greatest security the novice has against purchasing sheep that are diseased is to buy from breeders of repute, breeders who have made themselves famous by their skill as breeders and feeders, and their honesty and integrity. The novice should not buy culls at any price; they are not cheap at any figure. Good old matronly ewes should not be classed as culls, unless they are toothless. These are usually found to be good milkers and mothers, and of course profitable lamb raisers. It should be remembered that good shepherds do not usually keep ewes until old unless they have some special qualities to recommend them. It is often better for the novice to start with such as these than to start with younger ewes. Good old ewes will take care of their lambs themselves, while young ewes sometimes cause no end of trouble, even to the experienced shepherd, by refusing to acknowledge their lambs. Of course where the intending purchaser

is an experienced practical shepherd young ewes are to be preferred for various reasons.

In purchasing a pedigreed ram or in fact any class of sheep, individual merit should be studied first and pedigree after. It should be understood that while pedigree is of the utmost value, all pedigreed sheep are not animals of a high order of merit. It is not advisable that the inexperienced start out with a large flock. A small flock of sheep will, in a great degree, take care of themselves, but where large flocks are considered, unlimited skill and care must be bestowed on them or deterioration and perhaps disease will soon be in evidence. A small flock of from twenty to thirty head will give the novice no end of pleasure and as his flock increases in size so will he gain in experience and knowledge along the line of shepherding. In selecting breeding ewes it is important that their udders or bags be perfect. Although a ewe with a broken bag shows unmistakable evidence of being an extraordinary milker she has had her day, for through the carelessness of the shepherd, either at lambing time or the weaning period she has been ruined and should now be cast aside as a breeder, as should also a ewe with one-half of the udder hard and fleshy.

A ewe extra thick and masculine in neck usually proves a poor breeder and an inferior milker. Don't select the thick fat ewes out of a flock for breeders; they have either failed to breed, or to have raised a lamb. A heavy milking ewe is rarely fat when suckling a lamb. Don't allow the idea of purchasing show ewes for breeding purpose to enter your head, or the chances are you will meet with disappointment. Don't be advised to purchase show sheep of

any kind unless you have some idea of what it is to manage such stock. Of course there is nothing to bar you from ultimately handling even the most valuable and costly flocks with every success when you have made the business a study. There is nothing so far as the writer is aware to hinder any one from being an accomplished shepherd if he is willing to devote his time faithfully to the study of both the theoretical and practical part of sheep husbandry.

The Fleece of Breeding Stock.

The quality of the fleece of the mutton breeds of sheep, although of a secondary consideration as compared with the case of the fine wool breeds, must not be entirely lost sight of, for no matter how perfect and symmetrical the general conformation of the body may be the absence of a tolerably fine quality of fleece, and covering, relegates the animal to a second class place. Although among the Down breeds, the animal carrying a somewhat coarse fleece usually carries a fleece of longer staple than the one carrying the fine fleece, and is often the heaviest shearer, a fine compact fleece is usually preferred, and the sheep carrying the same is usually considered the most valuable property.

As in the case of show sheep, the fleeces of stock sheep, both rams and ewes, should be carefully and critically examined and any showing serious defects, such as black spots, kemp, or coarse wool along the breech should be immediately discarded as breeders, as bad points and defects will most assuredly be transmitted to the offspring with far more readiness than will the good ones; therefore too

much care cannot be exercised in this regard when selecting suitable specimens for the breeding flock.

If we err in the selection of our foundation flock we cannot expect other than mistakes to crop out right along the line of our career as shepherds.

Mating.

To mate a ram extra strong in points to ewes that are deficient in these particular points, as recommended by some writers, appears to me as queer reasoning. Two wrongs can never make one right. A ram that is extra strong in any one point must be weak in many others, or in other words, is not a smooth, symmetrical animal. I have always considered that a ram should be as smooth and symmetrical as possible, and that by breeding from this type for a few years his type and conformation will ultimately and most assuredly be impressed on the whole flock, whereas if one year we select a ram strong in one particular point and another year select one strong in another particular point, we will be ever changing our type, to say nothing of being obliged to keep a large flock of rams on hand to meet the different requirements and defects of the numerous individuals of the ewe flock. By sticking to a smooth, symmetrical type of ram we are bound to accomplish something of a desirable nature, but by using rams extra strong in any one particular point, it is hard to clearly see what good can be gained. The shepherd's motto should be: "Use only symmetrical rams."

In-Breeding.

Some one has said that "in-breeding is playing with



GROUP OF AMERICAN MERINOS.



sharp-edged tools." Unquestionably it is, and those not being well-versed in their use are certainly very liable to come to grief and disaster in handling them. No doubt in-breeding has done much toward fixing the type of various animals so firmly as to warrant their coming under the name of pure-bred. But those of us who are not well versed in the laws of breeding had better leave such work to abler hands. This is a science of which but very few of even our very best shepherds or flockmasters can lay claim to know much about. Therefore in-breeding cannot be recommended with any degree of safety, especially to the young shepherd. It is always advisable to introduce new blood into the flock each year. This is one sure and easy way of sustaining vigor and constitution.

Treatment of the Ram When in Service.

Rams intended to do service in the breeding flock should receive the most liberal treatment both as regard feed and exercise. My experience has taught me that where they have the run of a clover or rape patch during the night, and are housed during the day, they do excellent service. A ram will eat two quarts of oats a day with his usual ration of rape, peas, oats, or whatever he may be getting in the way of green stuff, without the least injury to his constitution during the service season. How many ewes a ram will serve in a single season without injury to his constitution is a somewhat mooted question. There is no doubt but what a ram if allowed the opportunity will serve a greater number of ewes than is good for his constitution, and what should ordinarily be allowed him. Where a ram

is "stood" he should serve 60 ewes without showing the least sign of fatigue or injury. This is the number I should advise where the ram is full of vigor; and of course we should use none other. If the ram is well taken care of during the day no harm is liable to follow if he be turned in with the flock during the night after being "ruddled" with a mixture of lamp-black and oil, or some other coloring substance. When "ruddling" a ram the shepherd should be particular to observe that the coloring matter is well rubbed on the breast and between the fore legs so that it will be clearly imprinted on the ewe's rump after being served, a proof that the ram has satisfactorily performed the duties expected of him.

The Teaser.

Many flockmasters to save wear and tear of the constitution of a very valuable stud ram employ what is known as a "teaser" to search for and point out the ewes that are in heat, thereby saving the vigor, strength and constitution of the stud ram. Any ewes that he may point out as being in heat are immediately taken to the pen and served by the stud ram. A wether is often found to do this work satisfactorily; where a ram is used an apron should be so placed upon him as to prevent copulation. The best way to make an apron is to get an old sack, cut three holes in it, one for the head, and two smaller ones for the forelegs to go through. The remaining portion of the sack is then brought back under the belly of the animal and securely fastened around the body a few inches back of the penis. It is important that the "teaser" be examined each

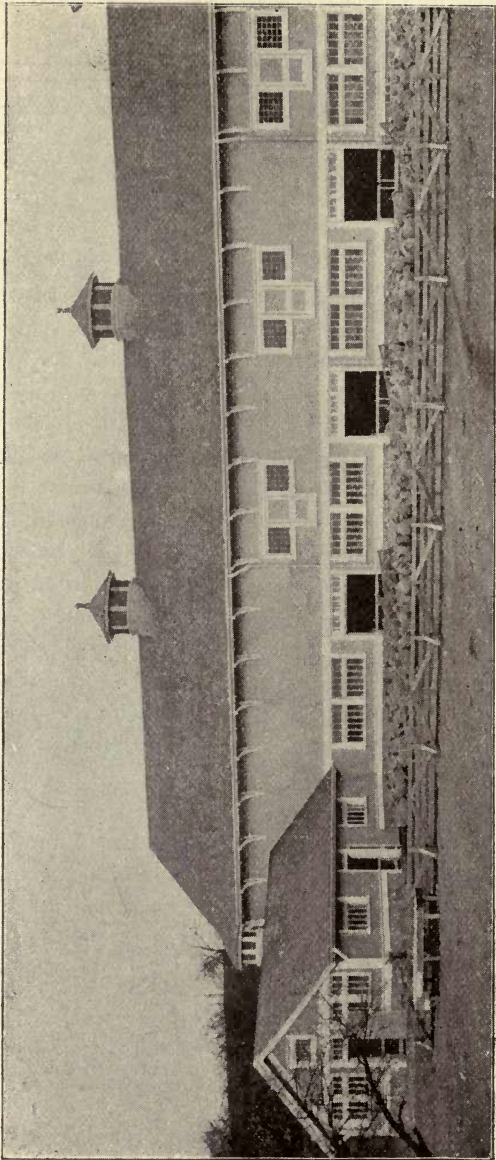
day to see that the penis and surroundings do not become foul from the effects of the animal's own urine.

The Sheep Barn.

The sheep barn need not be a costly structure provided it be comfortable. In building a barn, however, it is well to bear in mind that ample room be allowed overhead for the accommodation of a suitable quantity of hay for the use of the sheep during winter. There should also be space enough left in one corner of the building for a small room or office for the use of the shepherd in which he may sleep, eat and cook during the busy time of the lambing season. It is well also to make arrangements that the watering troughs and other useful devices be placed inside the barn, that is, in those parts of the country where the winters are severe. The watering devices should be on the automatic plan; good serviceable ones can be purchased at a nominal figure. Hay racks should be so made and arranged that they may be used as divisions in the barn. It is important that ample means of ventilation be provided.

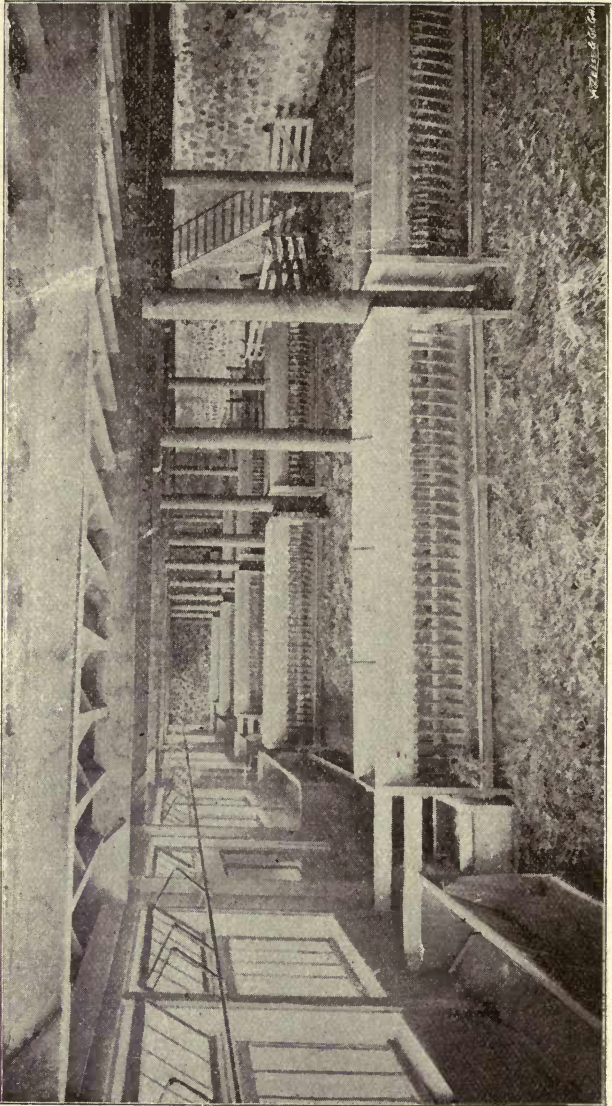
For the benefit of those of my readers who are desirous of building a really fine up-to-date sheep barn I am allowed, by permission of the publishers of *Wool Markets and Sheep*, of Chicago, to reproduce the illustrations and descriptions of the magnificent sheep barn of Mr. Oakleigh Thorne, of Thorne Farm, Dutchess county, N. Y. Mr. Thorne describes his sheep barn in the following words:

“After discussing many plans for a model sheep barn I decided that a side-hill barn 200x50 feet with an L on the



EXTERIOR VIEW OF MODERN SHEEP BARN,

southwest corner 28x42 feet, and an extension 30x30 feet on the north side, would meet all requirements. The basement is extended for breeding ewes, the southwest extension for the rams' and shepherd's room, and also to break the northwest winds from the yards and the extension on the north side for a root cellar in the basement and grain room overhead. The building is constructed on the cantilever principle, thoroughly braced and bolted with seven-eighths-inch iron bolts. The advantages of this construction are, that no posts are required above basement, which leaves a practically clear mow the entire length of the building. Strength and cheapness are also claimed, but I frankly admit that the latter did not receive much consideration. The foundation walls are 2 feet 3 inches thick and 14 feet high "above ground," built of faced stone laid in cement, plastered on the outside with a mixture of pitch and tar. The lumber used is all of first quality of the following dimensions: Sills, girts, posts, levers and main rafters, 8x12 inches; flooring, 2x5 matched; roof seal tight and shingled with California red cedar shingles. The basement is 14 feet high, and as the photograph of the interior shows, I have an abundance of windows. The lower panes of glass, which are stationary, are 30x15; the upper glass is 15x15, set in sash and operated by the Hitching system of ventilation which is in common use in greenhouses. It is operated by one crank in the center of the building. By this means I get equal ventilation and save time by opening and shutting all the windows from one central point and by one movement. The doors are 7½x10 feet, hung by a steel band running over a pulley and run up and down. As the doors weigh but five pounds more than the weights, they



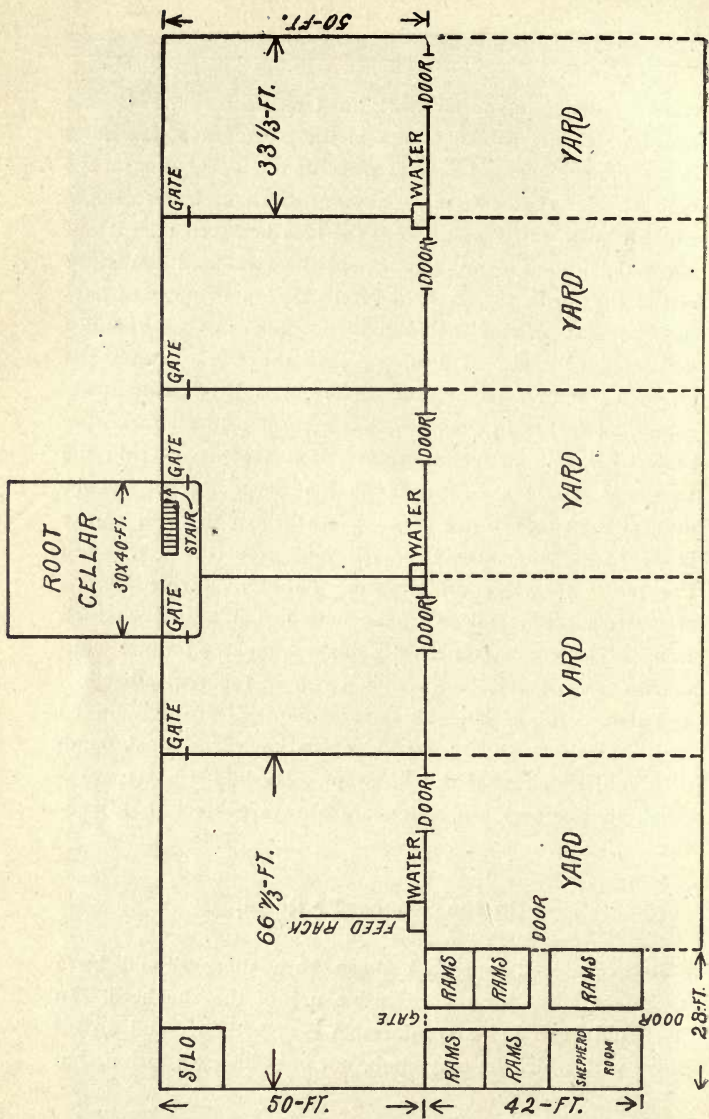
INTERIOR VIEW OF MODERN SHEEP BARN.

M. Z. L. & Co. (Opp.)

run very easily and so far work most satisfactorily. The slat doors which are shown (shut) in the photograph, are hung in the same way just inside of main door. I left nine inches between the center braces, running an iron bar through, which can be easily pulled out, the idea being to take it out when the feed is being put in and the ewes and lambs are out in the yards, to allow the lambs the opportunity of having the first pick at the food. The doorways are rounded with narrow matched stuff so that the ewes cannot get jammed running in or out. The posts in basement are round, 14 inches in diameter. The corners of all racks are planed off, and in fact there is not a sharp corner in the basement where a ewe can rub her fleece loose. I have divided the space in five pens. The silo in northwest corner is 10x12x30, thoroughly braced and secured. Each pen has access to water and a yard. The L is divided into a shepherd's room and five pens in which I keep the stock rams. The room is perfectly plain and at all times contains a warm stove, Jersey milk (without tubercular bacilli), and a wee drop of gin—which ingredients, if properly mixed and applied, make the best combination for a weak lamb or a cold shepherd that I know of. My buildings (twenty-seven in number) and stock are always subject to inspection."

In the Shepherd's Room.

In every well-appointed sheep barn there should be a room set apart for the exclusive use of the shepherd. In it should be found a comfortable bed, bedding, and an oil stove with which he may cook, not only his own rations but



GROUND PLAN OF MODERN SHEEP BARN.

any little article of nourishment that the sick ewe or her offspring may be in need of at any time during the lambing season. There should be, also, a medicine chest in this room in which should be kept the following articles: Two syringes, one for syringing out wounds, etc., the other to be used in giving injections. Shears must not be forgotten; then knives, a probang, trocar, needles, splints,—made from bamboo,—and cardboard to be used in some cases in the place of splints made of bamboo. Silk thread, cotton-wool and bandages must also be provided. A drenching bottle must be included in this list. Then drugs must not be forgotten. Neither can we afford to forget flaxseed, wherewith to make that nourishing and soothing article, flaxseed tea. Although there are a large number of drugs that may be used by the skilled veterinarian with beneficial results in the flock, I shall include none but what the average shepherd is familiar with and which I know from actual experience are to be recommended:

Carbolic Acid.—A solution of carbolic acid in proportion of 60 to 1 is very valuable used as an injection for a ewe that has been recently relieved of a dead lamb. This solution is also very useful as a disinfectant, and for washing the hands after handling animals that may be suffering from a disease of a contagious nature.

Alum.—On account of its astringent properties is very useful in diarrhea; applied externally is very useful in preventing excessive bleeding from cuts or wounds.

Butter of Antimony.—A caustic when mixed with other agents is of great service in treating footrot.

Bluestone.—A caustic used in the preparation of footrot remedies, and useful in the treatment of navel ill in lambs.

Borax.—Very useful as an antiseptic and very beneficial in washing lambs' mouths that may be suffering from aptha.

Castor Oil.—Very useful in cases of constipation and diarrhea.

Carbonate of Ammonia.—A valuable stimulant of great service in cases where ewes have a "hard time" in lambing.

Ginger.—Ginger has many very valuable medicinal properties, being a stimulant, stomachic, and carminative. If given in connection with purgatives the griping pains usually caused by these will be lessened.

Laudanum.—This is a great alleviator of pain in stomach troubles, and in cases of painful or difficult parturition it is of the greatest service.

Tar.—Useful as an antiseptic, diuretic, stimulant, parasiticide and expectorant. When rubbed on the noses of sheep suffering from "snots" its beneficial effects are at once apparent. It is also useful in preventing the gad fly from gaining admission to the sheep's nostrils.

Hyposulphite of Soda.—Very useful in cases of bloat.

Rosin.—This is a very useful astringent; when lambs are found to be scouring badly after being put on rape, about half an ounce of this per head per day for three successive days will usually bring about the most pleasing results. Where a ram is not able to urinate freely rosin will be found to help him considerably.

Sweet Spirits of Nitre.—Given in 4-dram doses is a very valuable diuretic. It is advisable that the animal be kept moderately warm after receiving a dose of this drug.

Nitric Acid.—Nitric acid is a caustic used in the treatment of footrot, etc.

Male Shield Fern.—One of the greatest remedies known for the removal of tapeworm from sheep. The dose is one dram of the liquid extract for an adult sheep.

Linseed Oil.—Is a safe and useful laxative. Ten ounces is a dose for an adult sheep.

Epsom Salts.—A valuable purgative. Dose for an adult sheep, four ounces.

Charcoal.—Useful in checking fermentation and bloat.

Chalk.—Will correct acidity of the stomach.

Whisky.—Whisky is very useful as a stimulant to both dam and ewe, and some say for the shepherd, too.

Ventilation.

The ventilation of the sheep barn is a very important matter, and one that should receive the most serious and careful consideration by the shepherd. It is absolutely necessary that he fully understands and appreciates the difference between necessary ventilation and ruinous draughts. While the former means health, vigor, and prosperity, the latter most assuredly mean sickness, loss, and disaster. No animal enjoys the cold, bracing, and invigorating elements of our North American winters, and reveals the true evidence of its health-giving influence more than our modern mutton sheep, and no animal suffers more from the deadly draughts than they do. Draughts are especially injurious to young lambs and are quite often the direct cause of rheumatism, joint-ill, and many other ills which would scarcely ever be in evidence did the shepherd but understand the true cause of these troubles; therefore the importance of fixing the doors, windows, and ventilators in

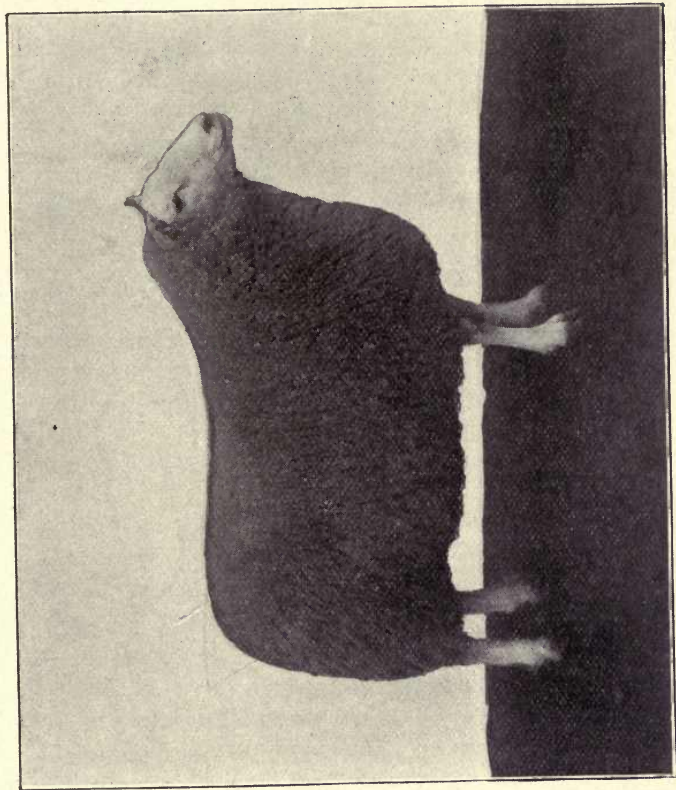
such a way as to make it easy for the shepherd to "temper the winds for the benefit of his lambs."

How Often Should the Sheep Barn be Cleaned.

This is a question often asked but rarely satisfactorily answered. However often it may be cleaned it is advisable and important that this work be attended to just previous to the commencement of the lambing season, and more than this, it is advisable to rush the work through at as lively a rate as possible when once begun as the ewes must necessarily suffer more or less from the unpleasant odors arising from the manure while such work is in operation. After the manure has been removed it is a good plan to scatter some air-slaked lime over the floor. This makes a good disinfectant, and a good deodorizer. Many flockmasters do not remove the manure from their sheep barns oftener than once a year. While this method may work satisfactorily in the case of very small flocks, no one setting any value on a really good stud flock would be liable to follow this plan. Just as soon as the flock goes to pasture the barn should be thoroughly cleaned out, or the manure will depreciate in value from the escape of ammonia from it.

The Importance of Abundant Bedding.

Where sheep are allowed to wallow around in the mud the shepherd must expect trouble from foot-scald, especially where an excessive quantity of the animals' own excrement is mixed with the mud. Foot-scald is usually the



CHEVIOT RAM.
Owned by F. B. Hartman, Fincastle, Ind.



forerunner of footrot. It is safe to say that many a good flock has been ruined through the neglect of the shepherd to provide the necessary bedding for it. Footrot is a wonderfully easy disease to contract, but a terribly hard one to get free from when once it has secured a foothold on the farm. Perhaps it would not be out of place to mention here the necessity of removing the placenta, or cleaning, of the ewes, especially those from ewes that have aborted. Of course if any be allowed to remain in the barn obnoxious odors are bound sooner or later to be the result, which, to say the least, is decidedly wrong from a sanitary point of view, not to make mention of its liability of causing serious trouble, such as abortion, etc., in the flock. That foul odors, from whatever cause arising, are injurious and detrimental to the general health of sheep no reasonable person will dispute; hence the importance of cleanly-kept and well-bedded barns and yards.

The Value of a Straw Stack.

A straw stack in the sheep yards adjoining the sheep barn is a very desirable thing to have, notwithstanding some little disadvantages it may have. The one most serious objection to having it placed in the sheep yards is that the wool on the neck of the sheep is liable to become filled with dust and chaff while they are searching for the best elements of which it consists. But the advantages gained by the saving of hay, etc., offsets all injury done to the fleece by this. Sheep enjoy picking the dust and finer portions of straw from the stack, especially if it be an oat straw stack. Ewes and lambs delight in lying alongside

of it, and they will be found there more often than in the barn, excepting it be when the weather is very cold and severe.

The Importance of Keeping Sheep of Different Ages Separated.

Sheep of different ages and different classes should be kept separated. Neither yearlings nor lambs should be kept together, as each require entirely different treatment. Breeding ewes should be kept entirely by themselves, especially when heavy with lamb. To allow a lot of rams to run with the breeding flock at any time is, to say the least, violating the rules of good shepherding. Again, the rations of the breeding ewe are not of the nature that is desirable for the proper development of the growing stud ram, neither are the rations that the yearlings should be receiving the ideal ones for the lambs; therefore the importance of keeping sheep of various ages and classes separated must be readily apparent. If our shepherds would only feed their young stock, especially the ram lambs and yearling rams, a little heavier and their breeding ewes a little lighter, the constitution and value of their stock would be greatly enhanced.

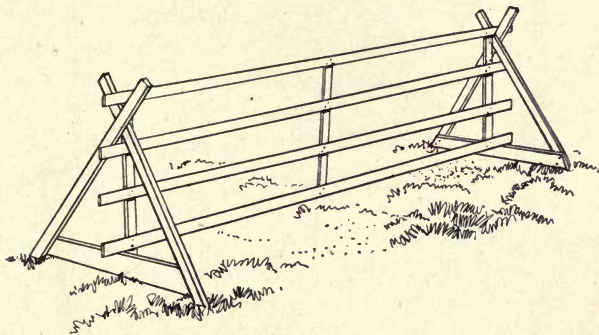
Shepherd's Marking Ink.

Many shepherds having charge of thoroughbred, or more properly, **pure-blooded** sheep, mark their sheep as a means of identification with the initials of the owner of the flock. Anyone handy with carpentering tools or even a common jackknife can easily cut letters out of a block of wood that

will fully answer the purpose of the shepherd in marking his sheep. Tar is sometimes used in marking sheep, but it is not the thing to use, proper marking ink being far preferable, as it does not in any way injure the wool. In marking a sheep place the mark on its back or rump so that it can be easily seen, no matter in what position the animal is standing.

Hurdles.

A few dollars invested in a hundred or so of hurdles is one of the most profitable investments a flockmaster can

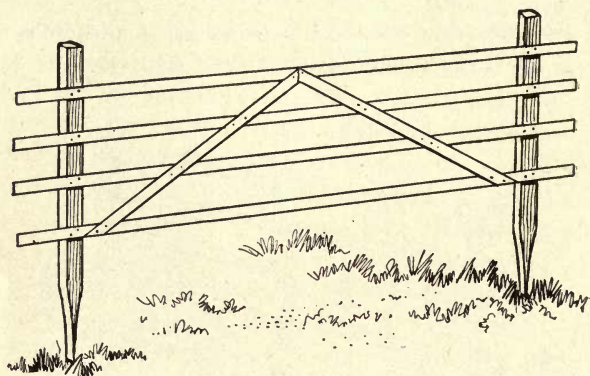


HURDLE. No. 1.

make, especially where intensive farming is considered. By the use of these the flock is more easily and profitably managed. The waste in the feeding off of soiling and forage crops is reduced to a minimum and each grade of sheep can be kept apart and thereby given a better opportunity to thrive, especially the younger members of the flock, than

is the case where sheep of all ages, sorts, and conditions are allowed to roam together.

During the shearing and dipping season the value of hurdles will be fully appreciated. They can be used in winter for building yards around the sheep barn and for many other purposes.



HURDLE. NO. 2.

I herewith give illustrations of two different styles of hurdles. No. 1 is one which is easily set, but is somewhat cumbersome to handle. In length it should be made from eight to twelve feet long, of some light, durable material.

No. 2 is also easily and quickly made by anyone having a fair knowledge of the use of carpenters' tools. A careful study of Fig. 2 will, I think, give my readers a clear idea of how this hurdle is made.

Lambing Pens.

I am not in favor of permanent lambing pens, for various reasons, among them being the fact that a ewe taken from the flock and placed in a strange pen away from where she can get a view of her companions is apt to worry and fret, a fact which cannot be said to conduce to successful yeaning. I have found portable pens, made in the following manner, to give very satisfactory results: Take four 2x2 posts about $3\frac{1}{2}$ feet long, and 12 boards about $3\frac{1}{2}$ feet long, 6 inches wide and $\frac{3}{4}$ of an inch in thickness. These when nailed together should form a handy pen $3\frac{1}{2}$ feet square, which, when a ewe shows unmistakable symptoms of yeaning, can be placed over her and molestation from other members of the flock be prevented, although at the same time she is not debarred from having a full view of her companions. Where large or small sheep are considered of course the dimensions of the pen can be fixed to suit the circumstance of the individual case. The shepherd should use judgment and care that the boards are fixed close enough together to prevent the lambs from creeping through between them and wandering away from the dam.

As soon as the yeaning season is over these portable pens can be knocked down and stored away for use another season.

The Care of Pregnant Ewes.

The result of the lamb crop depends largely on the amount of care the ewes receive. The good shepherd will see that his ewes are properly sorted, or graded, so that the young and robust animals do not crowd out the older

and less robust members of the flock from the feed troughs, hay-racks, etc. He will also see that the doorways are wide enough for the ewes to get through without their becoming wedged and doing themselves serious injury when rushing through to get their grain ration. The ewe should be kept quiet and unmolested during lambing. She should be provided with quiet and pleasant surroundings. She should not be moved out of the sight of the flock, or she is liable to worry considerably previous to and until she has been delivered of, and has the company of her offspring. Then, again, the shepherd should pay particular attention that his ewes are kept free from molestation by strange dogs. He will feed them rations of a cooling nature in preference to those of a heating one, as he well knows that abortion is often resultant of injudicious feeding of such a ration. Ewes, when heavy in lamb, must be handled very carefully and be kept from all undue excitement, or a successful lambing cannot be expected. They should not be fed sour or mouldy ensilage, or abortion will most assuredly be brought about. Pure water must be abundantly supplied, and salt must not be forgotten if a good lambing season is looked for. If it becomes absolutely necessary to "throw" or "turn up" a ewe for the purpose of dressing her feet, etc., great care should be observed in doing so, or she may be so badly injured as to bring forth a dead offspring, her year's usefulness thereby being thrown away, as it were.

It is not feed, altogether, that counts toward a successful lamb crop, but care, and faithful attention to little details such as the above mentioned. Another important matter I should have mentioned before closing this subject is,

the importance of seeing that the yards and surroundings are such as to prevent the slipping and sliding of the ewes, as an abortion is often traceable to this cause.

The Importance of Exercise for Breeding Ewes.

Without a reasonable amount of exercise no ewe can be expected to bring forth a healthy, vigorous offspring. Where due attention is not given to this important matter we may look for our lambs to come small, puny, and perhaps goitred. Ewes having insufficient exercise during pregnancy usually experience a very trying time when yeaning, and the loss of many a valuable ewe may be traced to this cause. To keep ewes penned up in small, or narrow pens during Winter and stuffing them with grain is entirely wrong—it is nothing short of killing them with kindness. Ewes should be allowed plenty of exercise; they should be allowed the range of a large field in the day time, rather than be compelled to remain prisoners within the narrow limits of the average yard allowed them by many shepherds. They should, to a certain extent, be made to rustle for a living, as exercise not only tends to increase the quality of the lamb crop, but likewise the size.

Change of Pasture.

Without frequent change of pasture sheep cannot be expected to thrive at their best. True, they will keep alive, and may appear tolerably thrifty, but sheep put into a pasture field in the Spring and compelled to stay there until Fall will never attain the size they would have, had they had frequent change of pasture.

Sheep love a change of pasture even if, as far as the pasture is concerned, the change is from better to worse, and vice versa. This is amply proven by the fact that sheep that may be lying in a luxuriant piece of pasture, with every evidence of their appetites being appeased, and their stomachs comparatively full will, upon being moved to another pasture, no matter how poor, immediately commence to eat as if exceedingly hungry. Then, again, frequent change of pasture takes the sheep away from where they are bound to inhale odors from their own excrement in a very strong degree. Frequent change of pasture allows of the pastures becoming purified to a great degree. Where sheep are pastured almost continually in one field the land becomes what the English shepherd calls "sheep sick," i. e., the land smells "sheepy;" the sheep tire of the pasture and do not thrive, but on the other hand seem to get smaller, year by year, appear puny, sickly, and even become diseased. This is a very important matter for consideration and one which the young shepherd should give due attention to, if he is in hopes of ever reaching the goal of success as a shepherd.

Feeding the Breeding Ewes.

The shepherd should see that his breeding ewes get a light grain ration just as soon as they show the least signs of losing flesh, which would be about, or not later than Nov. 15th, unless the fall be very mild and pastures abundant. While they should not be kept fat they should be "kept coming" right along, and be gaining in flesh slowly rather than be allowed to run down. Oats and bran, mixed,

make the best grain ration for breeding ewes; a little oil meal added makes a better ration perhaps, especially toward lambing time. Corn is not a desirable ration for ewes, although, perhaps, better than nothing at all in the shape of supplementary food. One-half a pound of grain will be found fully sufficient for a breeding ewe until she has lambed, where good fodder, etc., is plentifully provided.

A Cheap and Healthful Ration for Breeding Ewes.

The most economical and satisfactory ration I have ever yet fed to a breeding flock of ewes was composed of cut clover hay and cut oat-straw, equal parts, with which was mixed pulped turnips, bran and bruised oats. In mixing this it was my aim that each ewe should get, with all the cut hay and oat-straw she could eat, about five pounds of turnips and one-half pound of bran and bruised oats per day. This ration was fed in troughs made especially for the feeding of such rations. They were made ten feet in length, one foot in width and seven inches in depth, and stood on small blocks.

The ewes did not get fat on this ration but kept in the finest possible breeding condition, they being playful, agile, strong and covered with a beautifully lustrous fleece. The crop of lambs from these ewes was a phenomenal one. They were large, strong and scarcely a feeble one among the whole bunch. The ewes milked heavily and kept in fine condition until they went to pasture. I should have mentioned that just about when lambing commenced, having run short of turnips, I commenced to feed lightly on mangels and added also a small daily allowance of oil-cake to the ration.

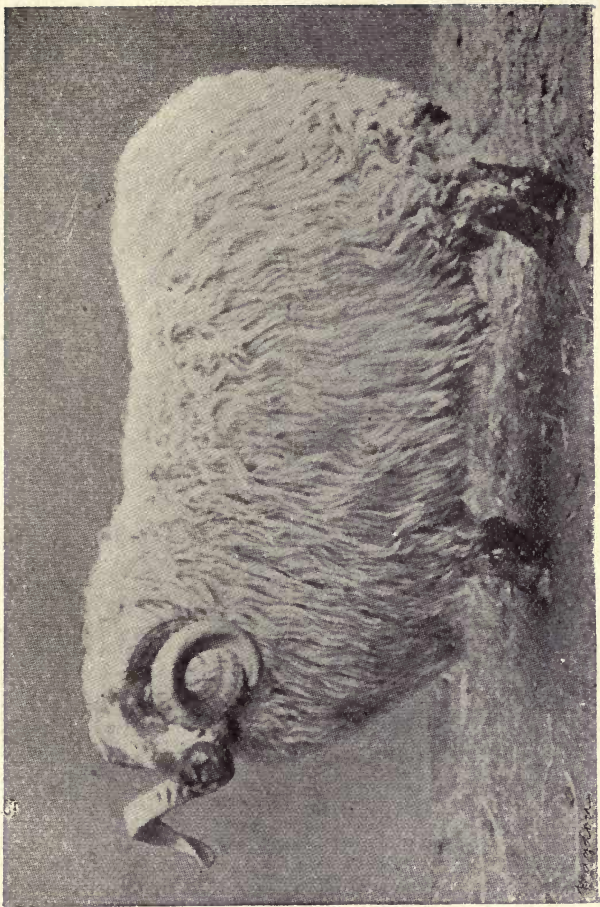
Where the feeding of such a ration as the above is con-

sidered it is, of course, important that the mixing room be adjoining the sheep barn, in fact, the main door of the root cellar should open directly into the sheep barn. This prevents any danger of the pulped roots becoming frozen. Frozen roots are, of course, decidedly injurious to breeding ewes, or, in fact, any class of stock. It is advisable to mix enough for a full day's ration at a time, care being taken that the pile is not allowed to heat; this being prevented by seeing that the pile be not over a foot or eighteen inches in height. If the weather be very cold it should be covered with old blankets, sacks or something that will prevent freezing.

Regularity in Feeding.

I have always considered that sheep thrive better on poor rations regularly fed than on better rations when fed irregularly. Regularity in feeding is one of the most valuable secrets possessed by the shepherd. Sheep, although not generally thought to be so intelligent as many other species of our domestic animals, are nevertheless very sensitive to every minute that passes after the usual feeding hour has arrived. Just as soon as that hour comes they announce its arrival by restlessness and continual bleating. Bleating means wear and tear of the sheep's anatomy, therefore it must be clear that the more regular we are in administering to their wants the less wear and tear there is on their system, and the less food it takes to keep them in condition.

Were our prominent exhibitors irregular in their methods of feeding they could never bring out their exhibits in the



BLACKFACE HIGHLAND RAM.



shape they do. It would be simply an utter impossibility for them to do so.

When Should Lambs Come.

When I have plenty of roots the earlier my lambs come the better it suits me. Whether intended for the early markets or for stud purposes, I have found the early lamb the most profitable and satisfactory, provided I have plenty of succulent rations, such as common turnips, rutabagas, mangels, etc.; but where these are not at command, I prefer my lambs to come not earlier than the first of April. Lambs born so that when they take their first lessons at eating they may do so in the pasture fields usually grow away so fast from those having learned to eat dry rations in the sheep barn that, ultimately, they prove to be the most profitable property; but where roots have been plentiful no lamb has ever given me the pleasure, profit, and consequently the satisfaction, that the early lamb has.

Another consideration as regards the time when our lambs should come is, whether or not we have suitable barn accommodation for the comfort of the little weaklings, when the mercury is away below zero. If we have not comfortably-prepared quarters for their benefit it is better to have our lambs come when danger of exceedingly cold weather is past.

The First Symptoms of Yeanning.

The first common symptoms of a ewe about to yeain is restlessness. A drop on either side of the backbone, back of the pin bones, which gives the tail the appearance of

being set on very high, is next noticeable. A lowering of the belly, and a somewhat distracted look next follows and adds to the many symptoms. After a while a slight, clear discharge is noticed coming from the vulva, which increases in quantity until the water bladders or sacs make their appearance. The ewe now usually has severe pains and commences to strain violently. She will lay down and get up again repeatedly and paw the ground and make a series of circular movements of the body as if seeking a suitable place for depositing her offspring. She appears the very picture of misery. When the final "pains" of parturition come, however, she will lay on the ground and strain very heavily until she has succeeded in bringing forth her offspring.

How to Manage a Ewe When Yeaning.

Just so long as a ewe is doing well, according to the usual course of Nature, it is best to let her alone, but where, in the case of her experiencing unnecessary trouble and difficulty in bringing forth her offspring, a little help is not out of place, but rather beneficial to her. Now, in the case of a large-headed lamb, sometimes by a little timely help from the shepherd, the ewe may be spared a considerable amount of pain and loss of strength. Where the lamb's head is abnormally large the shepherd can materially assist the ewe by putting his opened hand on the skin of the vulva, that covers the skull of the lamb, and by gently pushing or pulling it rather back over the skull of the lamb, the head is practically free. The ewe, left to her own resources, may have had a very trying time, of a duration of an hour

or more, to accomplish what she has done with the help of the shepherd in less than a minute. The head being free, the shepherd should now take the lamb's feet and pull them out straight, one at a time; after this, by taking both feet in one hand and pulling the lamb in a circular direction toward the ewe's udder, it comes away easily. As soon as the lamb is born pull the hind legs through your hand and rub the mucus, that comes off the lamb's legs, on the nose and mouth of the ewe. This will arouse her maternal instinct and is sometimes the means of saving much trouble later on. Now put the lamb where the ewe can perform her maternal duties of cleaning it. I have always considered that a ewe is very apt to forget her offspring by not seeing it sooner after it is born than they sometimes do when left alone by themselves to lamb; especially is this true where a ewe has had a difficult time in lambing, and being left so weak as to be unable to rise and take care of the lamb while the mucus was yet fresh and warm. It is always advisable that just the moment a lamb is born the shepherd or attendant should free the lamb's mouth from the thin mucous membrane that usually covers it. Sometimes the neglect of this is the cause of a serious loss of lambs, through their becoming suffocated. It is attention to such little details as these that swells the percentage of the lamb crop, and surprises the careless shepherd when he hears of big lamb crops.

Troubles in Yeaning.

The most trying season in the life of a ewe is when about to give birth to the offspring. This, of all others,

is the most anxious time for the shepherd. If we have been thoughtful and careful in feeding and caring for our ewes, we may be said to have reduced danger of loss in the lambing season to a minimum. If, as too often is the case, our ewes have been fed too highly, there is much danger from parturient apoplexy, while on the other hand, poor feeding brings about weakness and its consequent dangers. Then again, feeding a ewe too highly just after she has lambled often causes the ewe to scour, and also brings trouble in the shape of garget; in either case the lamb suffers. The lamb, under normal conditions, comes fore feet first, next comes the head laying on the fore legs. Sometimes the head of the lamb will be found turned back against its side, then, again, sometimes it seems determined to come stern first, with the legs doubled back. In the former case the shepherd should push the lamb back into the womb and there straighten it out so that it may come in the natural way. In the latter case mentioned the lamb should likewise be pushed back into the womb, the hind legs straightened out, and the lamb then removed from the ewe, hind parts first. Of course, usually, this is the wrong way for a lamb to come, but in this case it is the easiest, and therefore the right way.

One important matter to be studied by the shepherd, that tends much to a successful lambing season, is that in performing operations of this kind he throw sentiment to the winds and go to work in a business-like way and manner. If he considers that a ewe needs help let him help her right away, for "delays are dangerous." If a ewe appears faint and almost "played out," he should not forget that a stimulant may save her.

Luck is care. That is how I translate the word as applied to shepherding. Much of the success associated with the lambing season is due to the care and attention the ewes receive during the month before and the first few days, or weeks, after lambing. Flocks whose treatment during the last two months previous to lambing has been such as to produce health and vigor of constitution, without producing an undue development of fat, almost invariably pass through the trying ordeal of yeanning with but few losses, to say nothing of the superiority of the lamb crop from same over that of ewes that have been improperly cared for.

Ewes Disowning Their Own Lambs—How to Make Them Own Them.

The maternal instinct is sometimes so strongly developed in a ewe that she is little short of crazy after she is delivered of her offspring. She will run around, and in her excitement and frenzy will sometimes cause her newly-born offspring serious injury by treading on it, and after a while, strange to say, she will utterly disown the little thing. Then, again, we sometimes find a ewe of a very contrary disposition that will absolutely refuse to own her lamb. Sometimes this is a clear case of mistaken identity, as in the case where she will take to a lamb not her own.

Sometimes from lack of maternal instinct, caused in many cases from lack of milk, a ewe will take no notice whatever of any lamb. Where the maternal instinct is fully matured in a ewe little trouble is experienced in making her own either her own or a strange lamb; but where this is minus no amount of humoring will get her to own her own or

any other. There are about eight different ways of making a ewe own a strange or disowned lamb, most of which I have tried with varied success. It is always desirable to have a stanchion for the unruly members of the ewe flock who refuse to own their offspring or a strange lamb.

How to Make a Stanchion.

The stanchion, a description of which I herewith give, is a crude affair but will answer all intents and purposes of the shepherd, although more elaborately built and finished ones, made on the same principles would be the thing where a well-fitted and well-appointed barn is considered. It is made in this way: Take four stakes and well-sharpen them; drive two of them into the ground in such a way that the ewe's neck will be caught and held firmly between them, of course observing care that she be able to move herself freely, but still be unable to extricate her head from between them. This done, take the two remaining stakes and drive them firmly into the ground in such a manner that a stake will be on either side of her body at a point near the flank. This apparatus, although preventing her from twisting around and injuring the lamb, does not interfere with her lying down in comfort. It is well to tie the stakes at the top, care being used that they are not drawn so close together as to injure the ewe. A ewe fixed in a stanchion as above described cannot well prevent a sprightly lamb from gaining all necessary sustenance, as she is comparatively helpless to do so. It takes but a few days for her to take a motherly view of the case, with the result that both the ewe and lamb are satisfied to "jog on through life's

rough road" comfortably together. The Scotch whisky remedy consists of rubbing a little whisky over the lamb's back and over the ewe's nose. Scotch shepherds claim this remedy to have its recommendations. The method adopted by many shepherds of cutting off the tail of the lamb and rubbing the blood over the ewe's nose and on the back of the lamb is one used in some cases with marked success. Then the method of milking the ewe's milk onto the back of the little stranger has its recommendations. Where a ewe has a dead lamb, and it is intended that she act as a foster-parent to some strange lamb, the dead lamb should be skinned while the animal heat is yet in its body and the skin placed on the one which it is desired she should adopt. The ewe's nose should be scratched with a pin or something that will not cause her any serious amount of unnecessary pain. The small quantity of blood coming from the wound will, to use a slang phrase, "fool" her and thereby bring about an affection that is true and lasting between the two. To be candid, I am averse to scratching the ewe's nose, but I have proved it to have merits to recommend it.

In the case of a ewe having a fair average supply of both lacteal fluid and instinct, but for some unknown reason she absolutely refuses to recognize her lamb—as is often the case with young ewes—by putting the ewe and lamb in a small enclosure together and suddenly introducing the shepherd dog into their company a sudden reconciliation is often brought about.

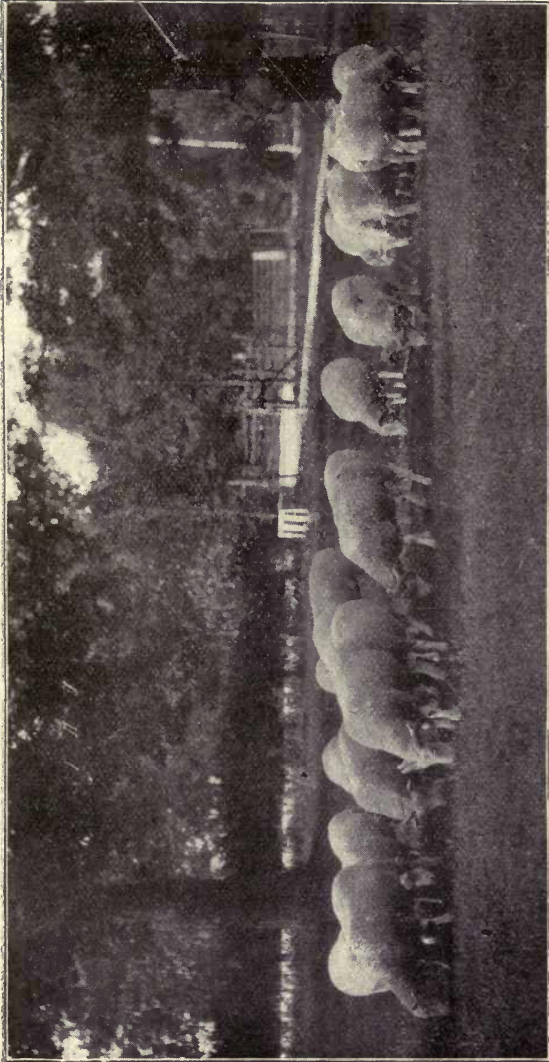
It should be remembered that some ewes are wholly devoid of maternal instinct and never will show any regard for a lamb.

Where one method fails to bring about the desired friendship between a ewe and lamb, others should be tried. Sometimes where one method fails another succeeds.

How to Suckle a Lamb.

A healthy, vigorous lamb loses no time in hunting the fountain of sustenance that Nature has provided for it, but for various reasons young lambs do not, sometimes, readily take to the teat, many even absolutely refusing it. This is often taken for stubbornness on the part of the lamb by the young shepherd, when in reality it is nothing more or less than Nature dictating to it what is good, and what is not good for its constitution. The real trouble lies in the fact that its stomach is already full and to force it, under the existing circumstances, to take milk or any other food into this already over-loaded organ means death to it. Then, again, in the endeavor to force its mouth open the lips are liable to become so sore that the lamb fears to take the teat at all. When a strong, robust, new-born lamb refuses to suck it should be left alone for a while. Its appetite will soon come, and it will then willingly partake of the necessary nourishment.

When a lamb is anxious to take the teat but for some reason appears unable to take or hold it in its mouth, examination will usually reveal the fact that the tongue is too thick, or in other words, it is deformed. I have never yet succeeded in saving a lamb thus afflicted, and further, I do not think the time spent in trying to save such as these is profitably spent any way. If, as often is the case, it is difficult to get a weakly lamb to take hold of the teat, the



GROUP OF DORSETS.
Owned by J. E. Wing, Mechanicsburg, Ohio.



shepherd should take a small quantity of cow's milk (which, if very rich, should be diluted with one-third water, to which is added a little sugar or molasses) into his own mouth and slowly squirt this into the lamb's mouth. Of course when the lamb gets strong it should be given into the dam's charge.

Reviving a Chilled Lamb.

The best of shepherds, where he has to attend to a large flock single-handed, is liable to have a chilled lamb to fuss with once in a while. A shepherd, like any other human being, cannot work day and night, only for a limited period. In spite of everything he may do the small, weak lamb will put in its appearance, and generally on a very cold day or night, or when the shepherd is taking a much needed rest, the consequence being that it becomes chilled and a burden to the shepherd. With all the care it receives, it will hover between life and death for several days, and even then sometimes play out. Of course the longer a lamb stays without being attended to after becoming chilled the more trouble it is to resuscitate it. A lamb that has been chilled is very susceptible to constipation, especially after being revived by the warm bath treatment. The plan that has invariably given me the most satisfaction has been to wrap the patient in warm flannel, place it near the stove and give it a little warm milk, into which has been put a small quantity of gin. If at any time after being revived it should appear dull, sleepy, and refuses to partake of nourishment, it may be safe to say that it is suffering from constipation. This trouble is treated upon in another chapter.

Wool to be Clipped from the Ewe's Flanks and Udder.

For the benefit of the lamb it is sometimes found beneficial and even necessary to remove the wool from the flanks and udder of some ewes before allowing it to take the teat, as sometimes its eyes become seriously damaged by the wool getting into them. Then by getting into its mouth it is liable to cause it to refuse the teat. Just at what time the wool should be cut off is a matter on which shepherds differ, many claiming, and with good cause, that it should not be done when the ewes are in an advanced stage of pregnancy. I have always found this work most easily and satisfactorily accomplished immediately after the ewe has been delivered of her offspring, but not yet having recovered strength sufficiently to object to the operation. Care must be exercised that the udder is not cut while the operation is being performed, or serious injury may result.

How to Catch a Sheep.

A sheep should never be caught by its wool. This method not only causes the animal unnecessary pain, but in the case of fat sheep, that are to be killed, it does much harm to the joint of mutton that lies underneath where the wool was pulled. It causes a dark bruise just in the same manner as our bodies become discolored from being bruised.

The proper way to catch a sheep is to take it either by the hind leg just above the gambrel joint, or by putting the hand underneath its jaw or neck. In using a crock it is important that the sheep are not caught below the gambrel joint, as injury to the leg is liable to result from this.

Raising a Cosset.

It is questionable whether the raising of cosset lambs is a profitable undertaking or not. That they are a considerable responsibility on one's hands those who have attempted to raise them can verify. Unless they are fed very often and very carefully they do not do nearly as well as when raised in Nature's own way. In the case of grade lambs the profit from raising a cosset is little—perhaps nothing; but in the case of pedigreed sheep, if we can raise a good specimen, it is no doubt a profitable undertaking.

The greatest danger to be averted in the raising of a pet or cosset lamb is the over-feeding of same. Little and often is the true secret in feeding a cosset where success in raising it is considered. Very rich milk is liable to cause bowel trouble with the youngster the first week or so of its life, unless it be reduced in strength to a suitable degree. Some cow's milk should be reduced at least twenty-five per cent before being fed to a lamb under ten days old, but as the lamb gets older, so in proportion the milk may be fed stronger.

It is in the counties of Somerset and Dorset in England where cosset lambs are raised to perfection. There many dairymen make it a rule to raise a score or so of Dorset lambs each Winter. These they obtain from shepherds whose ewes sometimes give more lambs than they can profitably take care of. For these the shepherd usually gets a shilling—twenty-five cents—or more a head. These lambs are usually cared for by the dairymen's wives or the dairy-maidens, and that they are well taken care of their broad backs, plump bodies and beautiful white fleeces fully attest.

The best instrument to raise a cosset on is the common nursing bottle used in feeding babies.

Marking the Lambs.

It is always advisable that we have some means of identifying our lambs when very young, then should any happen to stray away from their pens no serious trouble presents itself in the way of quickly finding them and returning to their mothers. As soon as the new-born lamb is perfectly dry I take a small quantity of shepherd's marking-ink and a small pencil brush, and with this mark or number it on the back with the corresponding number found on the ear tag of the ewe. This method makes it a very easy matter to keep tab on the lambs and helps to form a close acquaintanceship with them. It is not advisable to insert the ear tags in the ears of very young lambs, as the cartilage of the ear is soft, and the weight of the tag will make them droop. Marking the lambs in this way makes it a safe and easy matter to recognize them when it is desired to ear tag them. I have found it necessary to mark them twice before ear tagging them, for, as they grow, the marks seem to fade.

Feeding the Lambs.

Before we can feed lambs properly we must first give consideration to what purpose we are feeding them. If we are fitting them for the block the treatment must be somewhat different from that employed in raising them for store purpose. In feeding for the market, or block, rations of a fattening nature should be fed, and a neat, plump animal

should be sought rather than one of strong heavy frame, which should be the aim of the shepherd in the raising of breeding stock. Where lambs are fed exceedingly high on fat-forming rations they will acquire a plump, pretty appearance, but will never have the scale, range and frame that those fed on rations calculated to develop the frame will.

Since I have treated on fattening lambs for the market elsewhere in this work, I will endeavor to describe my method in feeding lambs that are intended for breeding purpose. In the first place I maintain that exercise is most important for the proper development of the frame of a lamb whose mission in life is to propagate its species, whether it be male or female. They should not be closely penned where they cannot have abundant exercise at all times. They should have the use of a large yard in which to run and play to their hearts' content. If there be a mound, or pile of straw or something of that kind in the yard on which they can jump and play it will aid much in the development of a muscular and otherwise desirable frame. Give them all they want to eat and they will grow fast and keep in fine condition no matter how much exercise they may take. Now, what shall we feed them and how shall we feed it, is the question. Briefly, if we have been thoughtful enough to provide some succulent ration for them, with the addition of some prime clover hay, bran, oats, and oil meal, and feeding them regularly and punctually we may hope to develop a frame and constitution that will fit them for the battle of life. Then we must not forget to erect a lamb creep at one end of the barn which will allow of their getting some extra rations without molestation from the ewes. Salt, of course, should be theirs at will.

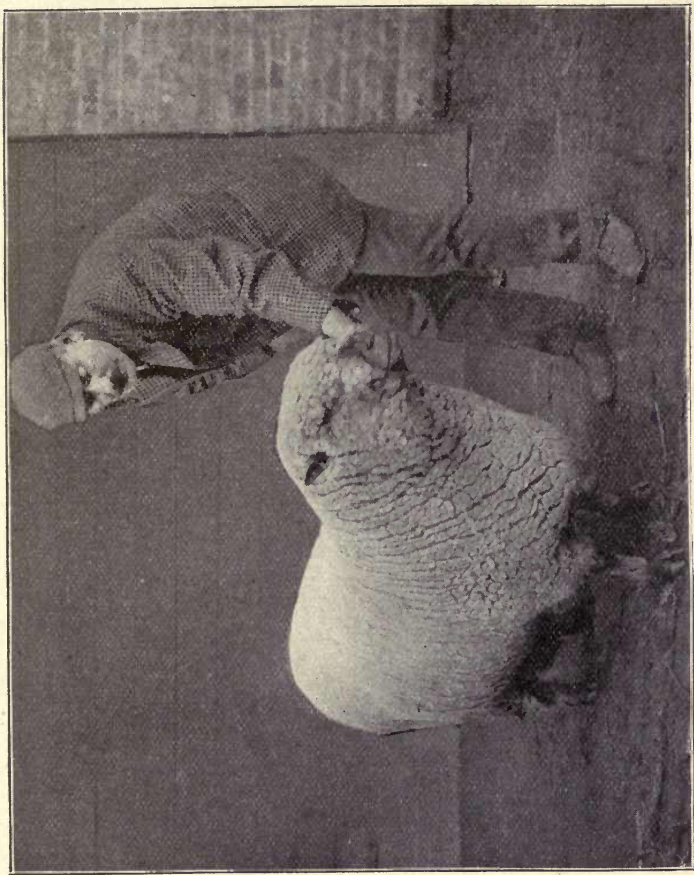
Baby Fat.

One most important item to be studied in the raising of really good lambs is to keep the "baby" fat on them just as long as is possible. A lamb that loses its baby fat before it has arrived at that state of maturity when it is capable of reproducing its own species, does not usually amount to much, or, in other words, is "stunted." When a lamb that is well fed loses its baby fat, it may be safe to say it is suffering from worms or some other trouble and is unsound. If it is the aim of the shepherd to have a fine flock of ewes, the ewe lambs should be forced for the first year of their lives on frame and muscle producing elements "for all they are worth." After they are a year old, they seem to be able to "rough it" and hold their own on such common fare as the ewe flock should be getting.

Ram lambs should be treated even more generously than are the ewe lambs, and for a longer period; especially is this true of stud rams. Although stud rams should be fed generously on flesh and frame-forming rations, the shepherd must understand what these are and not feed rations of a fat-forming nature in mistake for the former. Our aim should be to feed for health, strength, flesh, and frame; ample fat will accumulate from this mode of feeding without the addition of any fattening grain ration.

Ear Tagging.

The shepherd should not be too anxious in getting this work off his hands. Sufficient time should elapse to allow the cartilage of the lamb's ear to harden before attempting to



SHROPSHIRE RAM.



insert the ear tag or the weight of it will cause the ear to droop.

The proper way to put the tag in is to catch your lamb, seat it on its rump, and hold it between your legs; both hands are then free to handle the punch, etc., in performing the operation. The breeder's tag should be inserted in the right ear, and the association tag in the other. The shepherd should be extremely careful that he keeps a true and honorable record of the pedigree of his lambs, or he will not only be doing an injustice to the association which champions the breed he keeps, but he will also lay himself open to litigation.

Weaning.

In weaning his lambs it is necessary that the shepherd should have forethought in preparing suitable succulent pastures and rich, nourishing foods to fill the place and loss of the lacteal nourishment caused by the separation of the ewes and their offspring. This means untiring, faithful vigilance on the part of the shepherd who, of course, will see that everything possible is done to mitigate the suffering of the ewe from fever and inflammation caused by the presence of pent-up milk in her udder. A little care given at this time will no doubt often be the means of saving many a fine ewe from losing a part or the whole of her bag. It should be remembered that it is very rarely that a poor milker gives much trouble from this cause.

What are the most suitable rations for the newly weaned lamb? I have not, as yet, found anything equal to the second crop of clover. Where rations of a highly succulent nature are fed, great care must be observed or we may experience

great loss from the lambs becoming bloated. The method I have adopted with good results is to see that the stomachs of the lambs are well filled with their ordinary rations before they are turned into the rape or clover field, and then allow them only one hour at first to appease their appetites. While some lambs do not take kindly to rape others will eat it at once, voraciously; especially is this the case where they and their dams have been fed on turnips and other roots during the winter or spring months. During a dry spell is the best time to wean the lambs. The poorest pasture the farm affords is the best for the benefit of the ewe until her milk is dried up.

It is always best to take the ewes away from the lambs, rather than the lambs away from the ewes, when weaning them, as they do not seem to fret and worry nearly as much when left in a field that they are accustomed to. I have found good results from putting both the ewes and lambs together in the weaning field for an hour each day for a few days previous to their being weaned; the ewes will then not only teach the lambs to eat the rape, but the lambs will become more reconciled to their lot after becoming familiar with their surroundings than if the ewes are taken directly from them. The proper treatment of lambs demands that they be early taught to eat grain, then, when the weaning season comes along no difficulty will be experienced in keeping them "booming."

As before mentioned, it is sound policy to put the ewes out of the hearing of the lambs and on poor or scanty pasture for the first week after weaning; less trouble will then be experienced in regard to damaged "bags," etc. Should a ewe's udder become gorged with milk and it is apparent

that she is suffering from this cause, she should be partially milked, by hand; it is not advisable to milk her clean, as this will only tend to cause a normal flow of milk.

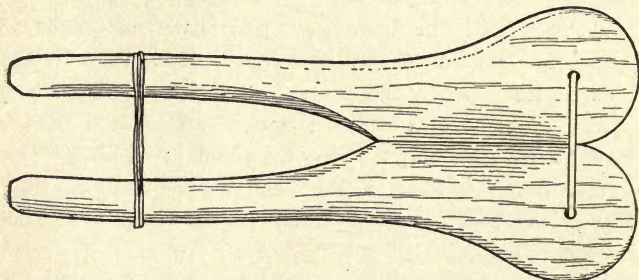
Castration.

The castration of lambs is a very simple operation, and when properly done there is little danger if any of loss following. When lambs are lost it is usually the result of a bungling operation performed by a bungling operator. I have performed the operation upon many thousands of lambs, and indeed all classes of stock, without yet having a single loss. Where cleanliness and dexterity in operating is employed, no loss should follow. The greatest danger arising from castrating is where the animal is ruptured. This state of things, however, is very seldom found among lambs. The proper time to castrate lambs is when they are about three days old.

An up to date shepherd can castrate his lambs without the assistance of an attendant. In the Old Country shepherds usually perform the operation in the following manner: The lamb is caught and placed on its left side upon the ground. The operator then kneels down and presses the lamb against his knees and keeps it in position with his elbows; by thus doing both hands are left free to handle the knife, hold the scrotum, etc. The operator then takes his knife and cuts the top of the scrotum clean off, leaving both testicles exposed to view; then, after squeezing them out of the scrotum, or sac, he grips them one at a time with his teeth and pulls them out. Care should be taken that the lining membrane be cut off at the same time the top of sac is removed.

This way of castrating may appear a little revolting to people of a sentimental temperament, but in reality it is not so, as nothing but the teeth need touch the testicles in performing the operation. This method is the very best that can be employed where the shepherd has to perform the operation without the help of an assistant.

Many advise cutting off the whole scrotum and contents with a pair of keen shears. This mode has several drawbacks.



CLAMPS USED IN CASTRATING.

In the first place, it is plainly evident, from the stiff way in which the lambs walk the first few days after being operated upon, that this method is a somewhat cruel one, as it causes much pain. Then again too much of the scrotum is usually cut off by this method to allow of the animal being really a symmetrical one, from a butcher's standpoint. As with a steer, a wether lamb should be left with as large a sac or "cod" as possible, for when this is well filled with fat it not only dresses better but is somewhat of a criterion of the quality of the lamb.

The use of antiseptics in conjunction with the operation

is no doubt very useful, but I have never employed any in the case of the castration of very young lambs; I have never found such a course necessary.

In the castration of aged rams, clamps should be used, the use of which will prevent excessive bleeding. Clamps may be made of wood, and will answer the purpose intended equally as well as the more expensive steel ones. The accompanying engraving or cut will give a pretty clear idea of how to make a pair of wooden clamps. Elder or hazel wood is generally used for this purpose, but any hard wood of a non-poisonous nature will answer equally as well.

Of course, in castrating aged rams it is necessary to tie the animal's legs to prevent struggling and to facilitate ease in performing the operation. Where an assistant is available, in the castration of young lambs the testicles can be pulled out with the fingers and thumb, but the testicles are more often smashed by this method than by grasping with the teeth. In any case the testicle should be taken hold of well down toward the small part of the spermatic cord, and in the case of bursting a testicle it should be seen that the cord is entirely removed or the chances are that it will cause supuration. This is one objection to the cutting off of the whole of the scrotum and its contents. In England pincers with rubber jaws are used to draw the testicles, and they are no doubt a very valuable addition to the shepherd's outfit.

In castrating an aged ram his legs should be secured with a rope; this being done, get your searing irons ready for use by heating them to a dark red heat; then take the top of the scrotum off with your knife and apply clamps securely to spermatic cord, well below the testicle; then cut the testicle off and sear the cord with the hot iron, treating one testicle

at a time. If the searing iron is dipped in lard in which a little verdigris is mixed danger from inflammation following the operation is limited. A little of the mixture when melted, but not too hot, poured into the scrotum has a beneficial effect. Usually aged rams get very stiff after being castrated; this condition, however, soon passes away.

When aged rams or lambs are castrated during hot weather tar should be smeared over the wound to prevent the flies from attacking it.

Docking.

The most favorable time for docking lambs is when about six days old. The danger from shock and excessive bleeding is then very slight. I have never performed the operation with anything but a common jack-knife, or a butcher's knife.

In performing the operation unassisted, the operator holds the lamb between his legs, in a standing position, and after pushing the skin of the tail well up towards the vent, with one quick, clean cut the tail is severed.

Of course, the operation can be more satisfactorily performed by having attendants catch and hold the lambs during the operation.

In docking old sheep a piece of twine should be tied tightly around the tail at a point immediately above where it is intended to cut it off. This prevents excessive bleeding. After the elapse of a few hours the twine should be taken off. If the weather is warm and damp, flies are liable to bother the wounds. To prevent this, smear tar on the wound.

Maggots.

Considerable loss is sometimes caused in the flock by maggots. As is known among sheepmen generally, when the egg of the blow-fly is once laid in suitable places, such as in the filthy tag-locks of ill-cared for sheep, newly castrated and newly docked lambs, during the early summer months, it does not take long before the unfortunate animal is being literally eaten alive by this terrible pest. Happily American shepherds know but little regarding this trouble as compared to the troubles of shepherds in England. There, during several months of the year, they have to use the utmost vigilance or their flocks would suffer terribly from the ravages of this insidious foe. I have always considered that sheep in the Old Country carry considerably more greasy or yolky fleeces than, or ordinarily do, sheep in this country; and coupled with this, the humidity of the climate and prevalent rains, conditions are more favorable to the interest of the blow-fly there than are the conditions of this country.

It is not always in wounds or tag-locks that the blow-fly deposits its eggs, as sometimes they are found, especially during hot, stormy weather, deposited on the rump and back of the shoulder, where they quickly hatch, and commence to eat the poor, unfortunate brute.

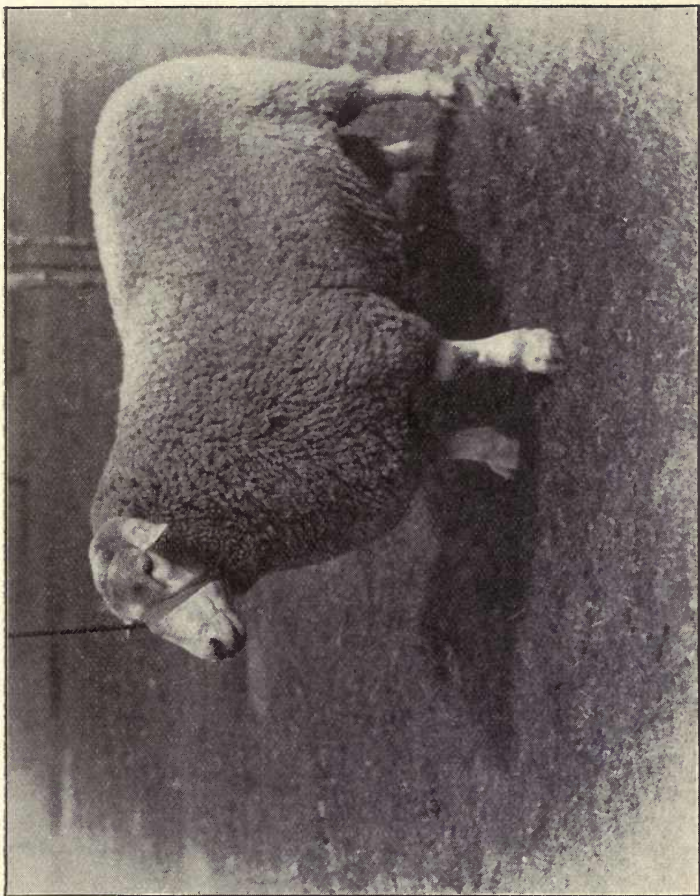
Lambs usually suffer more from the attacks of the blow-fly than do mature sheep; their fleeces seem to offer more favorable conditions for the deposit of its eggs.

When a sheep is troubled with maggots it becomes very restless and wiggles its tail very much, as does a lamb when partaking of nourishment from its dam. Immediately upon

symptoms of maggots appearing, the shepherd should make a thorough examination of the victim, and use such means as will prevent the maggots from spreading over the body, which, if neglected, will most assuredly result in the death of the poor animal. As soon as the pest is located, the wool should be shorn off the infested spot, the maggots picked out, the wound washed and anointed with zinc ointment. Where the sheep has been unnoticed for any length of time or otherwise neglected, and the maggots, in great numbers, having had the opportunity of pervading a large territory, more stringent measures must be adopted. Alcohol and sassafras mixed and rubbed over the spot the maggots have taken possession of will drive them out in a hurry; but I think it far preferable to pick or scrape them out and destroy them, for if left alive they may seek other hunting grounds on the same animal.

In the case of maggots finding their way into the scrotum of newly castrated lambs, care must be observed that every one be removed, or the chances are that the animal will die. Sometimes they will bury themselves so deep in the flesh as to be overlooked by even old experienced shepherds. Turpentine and sweet oil poured into the wound will sometimes dislodge them, but generally when they have once buried themselves in this locality the lamb is lost, as they usually find their way to the bowels.

Where the shepherd is a careful and keen observer no great loss or inconvenience need be experienced in this country from the attacks of the maggot. When ewes and lambs are thoroughly dipped in some good standard dip, just after shearing, the maggot is not usually found to give much trouble.



ROMNEY MARSH RAM.



Breeding of Ewe Lambs.

Whether the breeding of ewe lambs is advisable or profitable depends much on the breed of sheep, the farm on which they are raised, the kind of food to be procured, and last, but not least, the shepherd in charge.

The Hampshire, one of our best known Down breeds, has proved itself par excellence the most precocious of all breeds. To illustrate what I say I will quote from an article from my own pen that appeared in Wool Markets and Sheep regarding the subject. "The question of the prudence and profit of breeding from ewe lambs is a somewhat mooted one, and while some who have experimented along such lines, undoubtedly with a flock lacking in the desirable precocious and prolific instincts of some well known breeds; or, perhaps, with land minus certain desirable and indispensable chemical qualities, or not unlikely lacking the necessary abilities to successfully handle such a flock, will tell us that nothing but a disastrous issue confronts us; on the other hand we are met by men who have delved deep down into the depths of science, and with Darwin tell us of what seem to us almost impossibilities.

"The day has been—and is to-day—when it was thought that sheep only of certain breeds would do on certain kinds of land. Now, in these days of the ripening of science and rapid progress what are we to do? Are we to get a breed of sheep exactly suited to the conditions and quality of the land, or are we, with improved draining facilities and highly valuable chemical manures, to condition our land to our flocks?

"I contend, and with facts and figures wish to clearly

demonstrate, that where breed, feeding and some of the higher laws of nature are carefully considered and adhered to, that breeding from ewe lambs is not only profitable, but in many instances very desirable; in fact, I have so pinned my faith to such a course of procedure that my experiments will tend in this direction the coming breeding season. Now, brother shepherds, I am not taking the stand to tell you that taking a bunch of ewe lambs—promiscuously—and breeding them will put you on the road to wealth; neither am I telling you to take any of our modern improved breeds and expect to strike a Klondike right off. Oh, no! But I want to tell you that there is a breed of sheep that will, as lambs, produce offspring that in mutton qualities or heavy-weights vie with any that may be produced from ewes at any given age. It is the Hampshire.

“When in the year 1760, Bakewell, who was undoubtedly the father of the flockmaster—commenced his improvements of live stock, did he think he would be followed by sons of such high intellectual order or standing as are our flockmasters of to-day? To make my subject anything approaching completeness I must introduce one of the greatest flockmasters of the day—De Mornay—who has given us the benefit of his experiments, and the most valuable proofs of the reasonableness of breeding from ewe lambs. He it is who tells us that the development of constitution and muscular form does not take so long a time to effect as does the procreative system. ‘To alter habit and fix an instinct of precocity requires a long and persistent effort on the part of the breeder in the selection of the most precocious of both sexes without interruption for many years, supplying them at the same time with an appropriate and liberal diet.’

“Read what he tells us about early maturity. He says: ‘A ram (Hampshire) lamb was put in with the flock of 170 ewe lambs on October 5. In March and April they gave birth to 153 lambs, several being twins, one of which was saved for a ram. They were all good, well-made lambs, easily reared by their young mothers, and with very little more attention than it was necessary to bestow on the principal flock.’ He then goes on to tell us that, ‘A ram lamb was turned into only fifty of the ewe lambs on September 10, the lambs then being only seven months old, and they gave birth in February and March to 55 strong lambs, without the loss of a single lamb. The following year these 50 lambs, being two-tooth sheep, gave birth to 60 fine lambs, some of which weighed 15 pounds on the day they were born. They lambed easier than the two-tooths, which had not lambed when they were tegs. There were reared in four consecutive years 506 teg lambs.’

“The most remarkable proof of the early maturing properties and the fecundity of the Hampshire can be gathered upon again referring to Mr. De Mornay’s report: ‘Three ewes, each having two lambs by their side, were bred to one of the rams in the flock which could not have been more than three months old, and the three ewes gave birth to six more lambs in August, one having three lambs.’ He also mentions a ewe which gave birth to two lambs in the month of January. She lambed again early in July, when she gave birth to two more lambs, and in the January following she had again two lambs, making in all six lambs dropped by this ewe within a year. The produce (one year’s) from this individual ewe realized \$125, leaving one yet unsold.

“Undoubtedly the Hampshire ewe lamb, on account of her

precocity and fecundity, can be profitably bred without the least ill effects, provided the food and care supplied is of the right standard. As far as constitution goes, nothing need be feared."

Using Ram Lambs.

The Hampshire breeders of England almost invariably use ram lambs as sires in their flocks, and the plan is found to give good results. But the Hampshire is an exceedingly robust animal and, as is well known, is a very precocious and very early maturing sheep. I have made experiment in using Shropshire ram lambs, as sires, but for more reasons than one I prefer a yearling for service, and I cannot with any degree of confidence recommend the using of ram lambs generally.

Breeding of Dorsets Twice a Year.

It is an undeniable truth that Dorsets will breed twice in one year. I have, since being in this country, bred a Dorset ewe flock when the lambs have been suckling their dams. But this course is disastrous to the flock, and therefore no benefit to the flockmaster, the lambs being appreciably smaller, and the ewe considerably harmed by such methods. The lambs in question showed unmistakable evidence of weakened constitutions, were badly attacked by the stomach worm, and otherwise showed themselves to be undesirable property. Although we undoubtedly get a great number of lambs from this method, it is extremely doubtful if we get as many dollars as when the ewes are bred once only in a year.

The Period of Gestation in Ewes.

Of all our domestic animals none, perhaps, are more irregular as to time in bringing forth their offspring than is the ewe. The normal period of gestation of the ewe is 145 days, but rarely do we find one punctual in this respect. Experience has taught me that sometimes where ewes are served on the same day they vary considerably as to the time when they lamb. Sometimes we find them lambing a week before the normal period, while at other times we find them going a full week over this period. Lambs that are born twelve days previous to the expiration of the normal period of gestation rarely survive more than a few hours at most, if at all, after birth.

The period of heat in ewes generally commences, in this country, in the month of September; in England it commences much earlier in the season, in fact it seems that the ewe will take the ram in that country almost at any time when not actually in lamb. Climatic influence has, no doubt, much to do with this.

How to Tell a Sheep's Age.

Most shepherds can generally tell the age of a sheep pretty correctly without examination of teeth, or in other words, from its general appearance, whilst many just entering into the sheep business have but a very slight idea of how to tell the age of a sheep. Sheep, like other ruminants, have eight incisors. These are all in the under jaw. In place of incisor teeth on the upper jaw, a tough pad is provided, called the dental pad, which serves the place of teeth. Sheep have

32 teeth altogether, 24 molars or grinders, and, as before said, 8 incisors.

A sheep's age under one year old is easily distinguished by its teeth, there being a full set of "milk" or "sucking" teeth. At a year old the two central incisors appear. These are much larger and stronger than the milk teeth.

Many men, both shepherds and others, will tell you a two-year-old sheep does not get his second addition to the permanent incisors before it arrives at two years old. I have almost invariably found that these appear at about 21 months old, and at 30 months the third pair of permanent incisors have come. After sheep have all their incisors, or become "full-mouthed," the age must be determined by other signs, such as: Hollowness of the loin, width of nostril, size of belly, "broken mouth," etc.

Tagging.

Tagging, in the shepherd's vernacular, means cutting off the dirty wool or tag-locks sometimes found adhering to the stern of the sheep, especially during the early Spring months, just previous to shearing time. Tagging should be attended to, not at any set or specified time, but just as soon as a sheep is seen to be filthy. To allow a sheep to go in a filthy state when it should be tagged oftentimes is the cause of trouble from maggots. The blow-fly deposits its eggs there and the first thing we know the poor animal is literally alive with maggots, and without prompt attention and treatment there will be a death in the flock to record.

When tagging a sheep lay it on its side and with a keen pair of shears cut the dirty wool off. Where the manure has

been allowed to accumulate for any considerable period, and allowed to become dry and hard a keen knife is the best instrument to remove the tags; of course care being observed that the skin is not cut. In cold weather sheep should not be tagged too closely. Usually, unless where succulent rations are in abundance, tagging is not often necessary during the Winter.

How to Drench a Sheep.

There would be very few cases of choking sheep to death if we would only take the trouble to study the anatomy of the animal for a few moments. Upon opening the neck of a sheep, by cutting from at a point near the breast toward the under jaw, as the sheep lays on its back, we first notice the windpipe. Next to this comes, or is exposed to view, rather, the gullet, or pipe by which the food is carried to the stomach. Now the reason why sheep are sometimes choked to death while being drenched by the novice, is, that he does not fully understand the construction and disposition of these important organs.

Quite often, when in the act of drenching a sheep, the young shepherd fails to keep the mouth of the drenching bottle, or drenching horn, as the case may be, high enough up toward the roof of the animal's mouth, and the consequence is some of the dose or drench finds its way into the windpipe and death results. If, when the young shepherd happens to have a sheep die, he would only take the trouble to open it and make a careful study of its anatomy, we would hear of less loss from drenching and other minor troubles that are ever occurring to worry the young enthusiast.

Dipping.

A few dollars spent in a dipping apparatus, a few more spent in the purchasing of some reliable standard dip is one of the most profitable investments a shepherd can make. No flock can possibly thrive when covered with vermin. While well-fed flocks are not usually found to be badly infested with ticks, lice, etc., as are the half-starved, poorly-fed ones, it is sound policy to dip all flocks at least once a year, twice being preferable. Sheep that are intended to be dipped should be fasted a few hours previous to the work being done, as it not only makes it easier to handle them but lessens the danger of causing them internal injury. The best time to dip is just after shearing, and again in October. Every sheep should remain in the dipping trough at least one minute; when actually timed the operator will think one minute a long time and will feel like curtailing it; but, he should remember that "what is worth doing is worth doing well," and that the last half of the minute is doing the greatest good.

On every sheep farm the dipping pens, vat, and yard should be a permanent plant. There should be a pen for holding the sheep previous to dipping, one for holding them after having passed through the dipping vat, and draining pen, as they should not be allowed to wander over the pasture lots directly after being dipped, especially when the dip used is of a poisonous nature.

A dipping plant need not be a costly affair. Any one handy with carpentering tools can make one that will answer all the intents and purposes of the farmer or flockmaster owning a flock of, say, not over 500 head of sheep. As

before intimated it is always advisable to dip twice a year, dip with the idea of prevention rather than that of cure. Dip with some standard dip. It is more economical, reliable, and beneficial than any decoction of lime and sulphur.

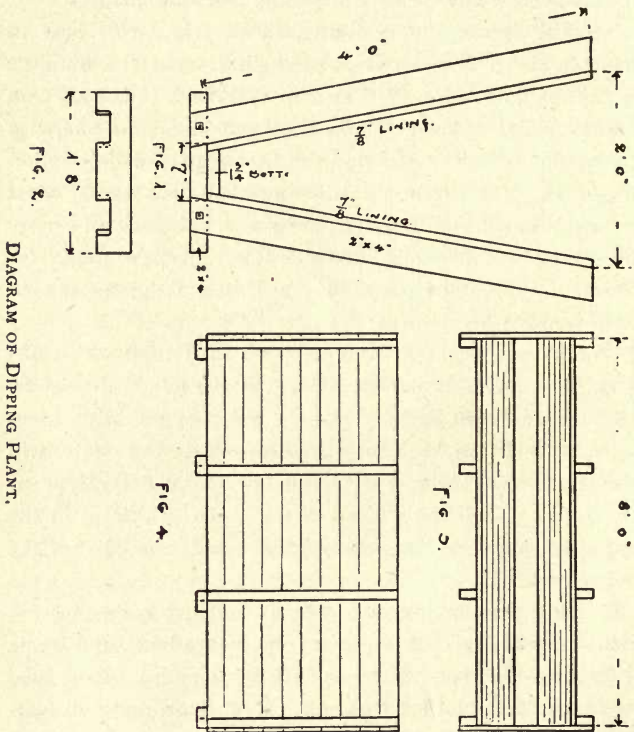
For the accompanying illustrated description of how to make a cheap and serviceable dipping tank, the author's thanks are due to Mr. W. Vestal of Plainfield, Ind., by whom it was kindly supplied. Some time ago there was offered a silver cup valued at \$100 for the best plan and description of a cheap and serviceable dipping tank that would meet the requirements of those keeping a small flock of sheep. Mr. Vestal was the lucky winner of this valuable trophy.

Here is the description of the Vestal dipping tank in the inventor's own words:

"We have a dipping outfit which I made and which any farmer can make at small cost, and it answers the purpose. Two men, one on each side of the vat, and our little nine-year-old Willie to keep the sheep massed in the chute, will handle them at the rate of about one sheep every four or five minutes, and that will allow the sheep to remain in the dip two minutes, "by the watch," and should not be guessed at.

To make the dipping-vat use 2x4 stuff; cut eight pieces 4 feet 2 inches long, and four pieces 20 inches long, and frame by halving together, as shown in Figs. 1 and 2. Now take the four frames and set them on a level floor, and nail temporary strips on the outside to keep them in position. Use first-class flooring for sides and ends; paint tongues and groove, as you put them on; commence at the bottom, grooved side down (plain the groove off the first boards), and build up, letting the ends extend past the posts at each

end so that they may be sawed off afterwards to insure a good joint at the corners. The bottom should be $1\frac{3}{4} \times 6$ inches, with the edges beveled to correspond with the flare



of the sides. Draw down with $\frac{3}{8}$ bolts and nail the side planks to the edge of bottom board, and you will have a water-tight joint. Now, after sawing the side planks flush with the outside of end posts, seal up ends on outside of

posts. Paint the inside thoroughly, and you will have a water-tight box. You can nail quarter-round in the corners if necessary, but ours has none, and does not leak, and has been in use for three years. I like the dipping-vat 8 feet long, so as to allow an incline for sheep to walk out on. They will climb out with little assistance if so arranged. We have a small tackle hung near the exit end of the vat, so that in handling very heavy sheep we have a saddle girth, with ring on each end, which we put under the sheep behind the fore-legs, hook the tackle into the rings, and one man will easily lift a 300 pound sheep, but we seldom use the tackle, as the sheep naturally walk out with little assistance, and 300 pound sheep are very scarce with us. We have not succeeded in raising many of that kind. We let the vat into the ground two feet, so the top stands two feet above the surface. Bore an inch hole in bottom to drain off liquid—one inch—so that it may be stopped with a corn cob; bury an old box or barrel a short distance from the vat, and make a drain from the hole in the vat to it, and there will be no danger of chickens or other stock drinking it.

In Fig. 3 I have tried to give an inside view of the vat, and in Fig. 4 a side elevation before being let into the ground or floor. From the exit end of the vat, extends the draining table, which should be about 4 feet wide and of any desired length, with the outer end elevated so as to drain back into the vat with a strainer to catch any filth that might accumulate on the table.

I will endeavor to illustrate in Figs. 5 and 6 how to build the draining-table. Use for sills 2x6 inch at intervals of 2 feet to nail the floor to. Say you make the first section 14 feet; you can let the next lap on the first and extend as far

as you desire. Shape the sills as shown in Fig. 5, and regulate the pitch by the length of the legs as shown in Fig. 6. Set the sills in line, nail temporary strips on each end to hold in position and proceed to floor, taking care to paint well the tongues and grooves, and when done give two good coats of paint to prevent shrinking and swelling. The legs

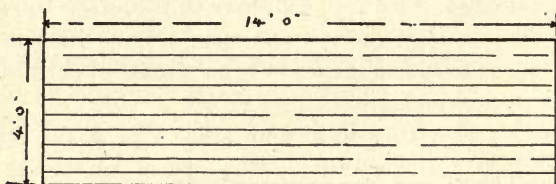
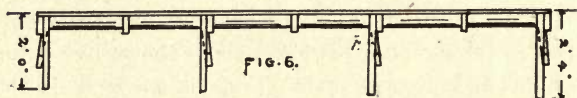
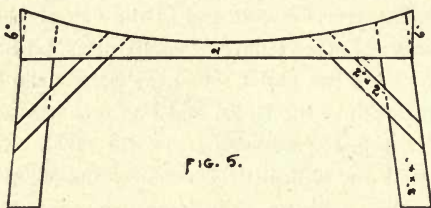


FIG. 7.

DIAGRAM OF DIPPING PLANT.

may extend upward for posts to nail planks to to prevent the sheep jumping off, a small gate or bar at the end to let them out when they cease to drip completes the draining-table. Fig. 7 shows draining surface of the table. We find 14 feet of draining-table is sufficient for our use.

We do not consider it any great job to dip our little flock of 100 to 150 sheep."

The Shearing of Stud Flocks.

One of the most important items connected with the management of stud flocks, and one which is too often ignored by shepherds and flockmasters alike, is that of skillful and artistic shearing. To add beauty and luster to a flock means a substantial addition to the exchequer. What detracts more from the beauty of a fine stud flock, or pains the heart of the expert shepherd more than that of unartistic, unsystematic shearing? In the shearing of our fine stud flocks, there should be among us an established style, or system, as there is in the old country among the great flockmasters, who are as particular and conservative in regard to the style in which their sheep are shorn as is the American in regard to how his lawn is mown. A sheep having passed through the hands of an adept in the art of shearing, is usually as one having been turned out of a mould, or shorn after a prepared pattern—it is, indeed, “a thing of beauty,” as compared to that having passed through the hands of one having no taste, no style, or system in his work.

As before mentioned, old country flockmasters are invariably most particular in regard to the manner in which their flocks are shorn. They insist upon style, method and system; every animal must be a counterpart of each other as regard the correctness and disposition of the lines and curves made by the shears during the process of shearing. Every line must be parallel to each other, or there is “kicking.” The shearers’ motto is “not how many, but how good.” Shearers who shirk or wander from this text usually find, like Othello, their occupation gone. To cut and slash, promiscuously, here, there and everywhere in the endeavor to remove the fleece as rapidly as possible receives no countenance in the

“tight little island.” Cuts must be conspicuous only by their absence. Shearing is not, as is sometimes erroneously supposed by many flockmasters of this country, usually done by shepherds, but by gangs of professional shearers, whose neat and artistic work is indeed remarkable, and truly commendable. A short sketch of how, when and where sheep are shorn in the old country, will not, I trust, be out of place, but, on the contrary, I hope will prove interesting if not instructive to the readers of this little volume.

Three styles of shearing are in vogue, viz.: “The long,” “the round” and “diamond” styles, the latter style now, however, being almost obsolete.

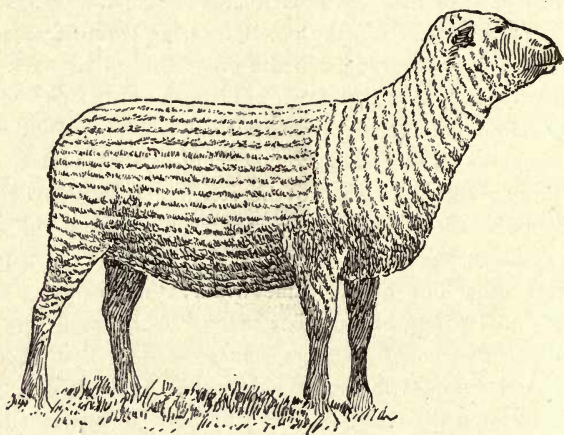
The first move made in the shearing of a sheep is to seat it on its rump and then “belly” it. “Bellying” in the shearers’ vernacular means removing the wool from the belly of the sheep. The average English shearer makes it a particular point that the subject under course of shearing be resting easy and free from oppression of any kind. Many shearers remove the wool from the “butts” of a sheep while it sits on its rump, whilst others lay it down at full length on its side to perform this part of the operation. If it be the desire of the shearer to shear the butts of the animal whilst it is sitting on its rump, he quickly makes a few straight cuts with his shears at a point near the scrotum, or udder, as the case may be, to a point at or near the pin-bone. This presents a very pretty effect when the lines are so made as to correctly meet those made during the process of removing the wool from the animal’s side. In the author’s opinion the wool on the butts is more easily removed when the sheep is sitting on its rump than at any other time, or in any other way.

When it is intended that a sheep be shorn the "long" way, or style, the wool is first removed from the head, the wool on the throat is next opened, and the shearer then shears from the windpipe toward the backbone, or verterbrae, rather, of the neck, being very careful to make every line parallel to each other. This process is continued until a series of curves, or rings are made, extending from the head to a point at or near the point of the shoulder blade. Having proceeded thus far, the position of the sheep is reversed and the wool removed from the other side of its neck and shoulder. It is then laid down full length on its side and the wool removed therefrom by a series of skillful, well-directed movements of the shears, commencing at the shoulder and continuing the operation to the stern in shearing the off-side of the sheep, and vice versa, when shearing the near side of same. As before intimated each line should be parallel to each other and of the same width; this ensures a very artistic and pretty effect. The manner of manipulating the shears in this country differs somewhat from that adopted by expert shearers in the Old Country. Instead of cutting clear through the wool, as is usually done by shearers here, the Englishman uses the shears much as would a lady in cutting out a garment, the shears appearing as if continually gnawing its way through the wool in the place of its being cut entirely through at each clip of the shears. The English mode of shearing not only assures straight, smooth, artistic shearing, but reduces the chances of cutting the animal to a minimum.

In shearing a sheep in the "round way," as in the "long way," it is first "bellied," and the fleece then removed by shearing entirely around the subject, one-half or side at a

time, always leaving every line parallel to each other. Sheep shorn in this way have the appearance of being enveloped in a fine, velvet corduroy suit, and look remarkably neat in appearance.

The illustration accompanying this chapter is admittedly a poor one. It should have been taken a month earlier, or



SHEEP SHORN THE LONG WAY.

just after the subject was shorn; the lines now being partially obliterated. I hope, however, that it will convey a fairly clear idea of what the "long way" of shearing is, and what is meant by lines in shearing. Sheep when in thin flesh appear to better advantage when shorn the "long way," but a flock of fat wethers, or indeed fat sheep of any kind, make a most beautiful picture when shorn the round way, each one having the appearance of coming out of the same mould, or

machine, and presents a most pleasing contrast to those shorn by the inexperienced and unskilled shearer.

In England sheep are usually shorn at a given price per score (twenty head), with an allowance of cider or beer in the bargain. The barn floor, or the cool shade of the apple orchard is the usual scene of the shearing festival. Straw is placed on the floor or ground, as the case may be, over which is thrown a tarpaulin, or rick cover, this making a tolerably comfortable resting place for both sheep and shearers. The shearers are usually attired in perfectly white overalls; each gang having its own "catchers" and wool tyers.

Tying the Fleece.

As soon as the fleece is taken off it should be carefully laid on the tying table bright side down, and any dirt, bits of straw, burrs, etc., should be removed. Next it should be packed together in as close and even a mass as possible before being rolled previous to being tied. The two outer edges should be turned over so that they meet together, or even overlap each other a trifle, in the middle of the fleece. It should then be folded in about the same manner as a soldier folds his blanket. In tying a fleece, wool twine only should be used. Wool is much easier and neater tied when a wool box is used; but of course the wool should be carefully folded before being put into the box if a really neat fleece is expected. Too many advocates of the wool-tying box are entirely too careless in the preparation of the fleece before being put into it.

PART III.

Raising Hot House Lambs.

This is a most important and profitable branch of the sheep business when carried on on a business-like basis. It is folly, however, for any one to launch out into this business without the right stock-in-trade, the most important item of which is a good flock of ewes, endowed with an unusual share of maternal instinct, milking qualities, precocity, prolificacy and fecundity. To this must be added a comfortable, but not necessarily costly, barn. Then the men in charge must be honest and faithful. Whilst it is true that we sometimes find an occasional ewe in almost all flocks that readily encourages the amorous attentions of the ram at a time favorable to the bringing about of yeaning at a desirable time for the production of early lambs, it is no less true that very few flocks or breeds have this peculiarity or trait in such a marked degree as to warrant the owners of same launching out into the hot-house lamb business with any degree of safety or much chance of success.

But few of the Down breeds are really reliable as early lamb-raisers, but there is one, whose precocity and fecundity warrants it a place among those classed as early lamb-raisers. It is the Hampshire.

Among the long-wools we find that the Devon-Longwool compares very favorably with those whose mission is that of raising early lambs for the market. The Rambouillet, the

Merino and Tunis breeders claim, and perhaps justly so, that their respective breeds are well adapted to the production of early, or hot-house lambs. The writer's experience has been that no breed or cross fulfills the mission of early lamb raising as does the Somerset and Dorset Horns. The latter is well represented in this country, but, as far as I am aware, the Somersets are not as yet represented. However, the Somerset Horn is almost the exact counterpart of the Dorset Horn.

Ewes to be Stimulated by Extra Feed.

Ewes that are intended to be bred for the purpose of raising early lambs should receive a small allowance of grain previous to the ram being put with them. This will stimulate the genital organs and ensure a more regular and even lambing period. Lambing should be over, at the very latest, by Christmas. Roots should be abundantly provided for the use of both ewes and lambs. Too many flockmasters underestimate the value of roots in the feeding of their flocks, contending that they contain too little nutriment and too much water. Now my contention is that, supposing turnips contained not one particle of nutriment in their composition, their value as an aid to digestion cannot be over-estimated. It is unwise to consider the raising of really good sheep of any kind without the aid of succulent rations of some kind. Roots are cheaply grown and fill the bill to a nicety.

Castrating or Docking Spring Lambs Unnecessary.

As regard lambs that are intended to be sold as spring lambs, it is not required that they be either docked or emasculated.

Lambs usually commence to eat at from ten to twenty days old. A portion of the barn should be partitioned off to be used as a feeding ground for them. Creeps must be so fixed that the lambs may have access to grain rations, etc., without danger of molestation from the ewes. Both ewes and lambs should be fed carefully, liberally and punctually. I have found February the banner month for the disposal of really fat, plump spring lambs. I have found it profitable to dress my own lambs. (See chapter on Dressing Sheep and Lambs for Market, page 205)

A well-fed Dorset lamb should dress anywhere from 25 to 35 pounds at about 10 weeks old. An American breeder of Dorsets claims to have dressed lambs of that breed that at the age of two months dressed 40 pounds. A truly commendable showing for both breed and breeder.

Desirable Markets.

There is always ready sale for neat, first-class spring lambs. All first-class hotels and restaurants are on the watch for something above par along this line—something that will tickle their patrons' palates. I have never experienced any difficulty in getting ten dollars per head for really prime lambs dressing from 25 to 35 pounds per head. In fact, at one particular season the demand far exceeded the supply. Ten dollars seems an exorbitant price for such dainty morsels, but even at this figure the profits from such a source are sometimes small, and where the feeder is not thoroughly attentive and faithful to his business the profit will be, probably, nothing at all. Ewes whose mission is that of early lamb-raising should be coupled with the ram not later than the first week in July. Lambs will then appear thick and

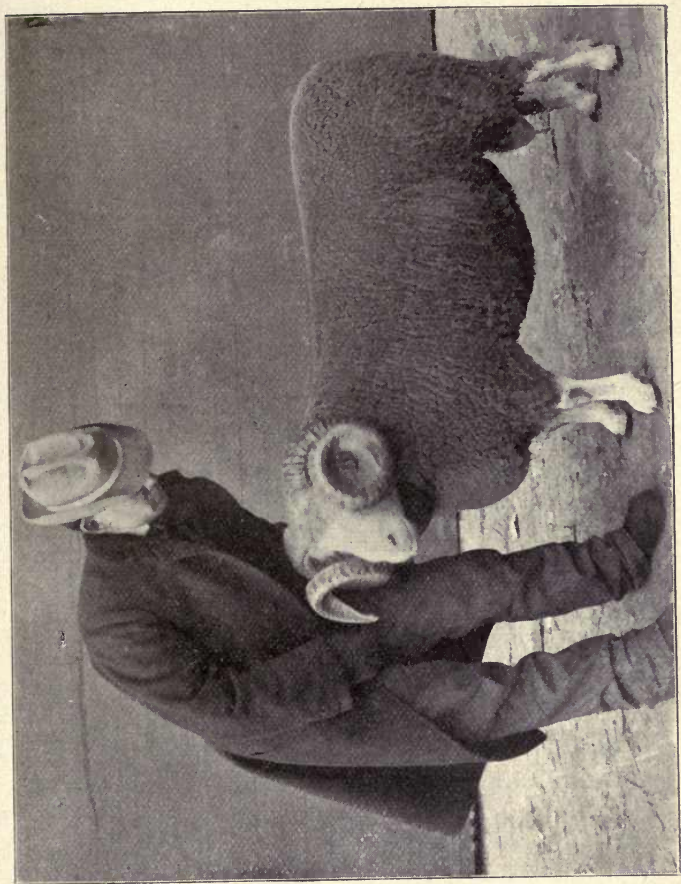
fast in the month of December, provided the ewes are what they are intended to be, viz., early lamb-raisers. Our ewes must be fed liberally, but should not be fat. Food of a heating nature should be avoided, or serious troubles may follow in the shape of scours, abortion, etc. The entrance to the barn should be wide, so as to prevent the wedging of the ewes together in their mad rush for their grain ration; many cases of abortion are directly traceable to this evil.

In the Hothouse.

The barn should be divided into pens; the hay racks can be utilized for this purpose, thereby economizing room. Light and ventilation are indispensable. The self-feeder cannot be used to advantage in the feeding of hot-house lambs. The lambs must be excessively fat, or when dressed they will make a poor showing. The rations of both dam and offspring must be of the best. The clover hay should be the very best procurable, free from dust and if the blossoms are discernable in it, so much the better.

Rations for Spring Lambs.

The finest quality lambs I ever handled were fed on oil-cake, crushed to pea size, pulped turnips—five pounds of turnips to one of oilcake, mixed—and all the clover hay they would eat. They were fed as much of this ration as they could eat, three times a day. Any that was left uneaten after one-half hour after feeding was removed from the troughs and went to help in the make-up of the ewes' rations. Worm powders, mixed with salt and ashes, were accessible to them at all times. Cut corn fodder was used as roughage at noon



DORSET RAM.
Owned by Tranquillity Farm, Allamuchy, N. J.



in the place of hay, this I believe having a very beneficial effect by way of variety. All roughage, clover hay, fodder or whatever same may consist of was changed three times daily, no stale rations being ever allowed before them. What the lambs do not clean up, the ewes will; therefore, there is practically no waste attending the feeding operations. At first, when the lambs commence to eat, a little ground oats and finished middlings prove very agreeable and beneficial to them. Another very good ration is: Give new process oil meal until about one month old; after this one peck of cracked corn, and, if obtainable, one peck of bruised barley, in preference to same quantity of oats. Give all they will eat three times daily. The lambs should never be required to eat up what they leave over from one meal to another, or fat lambs cannot be expected. Lambs to become fat and prime must be kept full and their "tails wiggling."

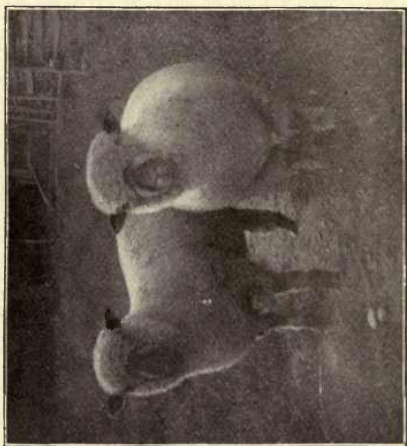
Rations for the Breeding Ewes.

A very valuable ration for ewes after lambing is compounded as follows: 10 pounds corn meal, 10 pounds wheat bran, 2 pounds linseed meal (mix). Feed at the rate of one pound of this mixture on one or two pounds of cut turnips or other roots that may be on hand. Feed morning and evening. Give all the bright clover hay they will eat up without waste. It is always advisable that the ewes be fed lightly of rich, stimulating rations for the first few days after weaning. Scours are oftentimes the outcome of too generous feeding directly after weaning. This little trouble, however, is usually easily corrected by the change of rations; should it not prove effectual drugs must be resorted to. Castor oil,

1½ fl. oz.; laudanum, 1 fl. dr.; chloric ether, 1 fl. dr., divided in four or five equal parts (this somewhat depends on size and age of lamb), will quickly correct all troubles of this nature. It is easiest given in a little oatmeal gruel, or linseed mucilage. If scours can be stopped without the administration of drugs so much the better.







FIVE-MONTHS-OLD FIELD SHROPSHIRE
LAMBS, FROM "SHEPHERD BOY'S" FLOCK,

PART IV.

Forage Crops—Roots.



IN many parts of our great country the climate does not allow of the pasturing of sheep during the winter months. Sheep are lovers of succulent food and are known to thrive better on such than on dry fodder, etc.; therefore it behooves us to look well ahead and make preparation for supplying them accordingly. How can we do this? Simply by providing them with roots such as mangels, beets, turnips, rutabagas, etc. All of the above-named roots grow very satisfactorily in most parts of North America, and they furnish a ration more conducive to the growth of the young and growing animal than almost any other.

The value of roots for sheep should be measured not only from a feeding standpoint, but also from a medicinal point of view, as they are, without doubt, a valuable corrector of the digestive system. Generally they are very easily and cheaply produced. Where the land is very fertile large crops can be raised with very little outlay of either labor or capital.

Of course where it is intended that large quantities of roots be raised for the use of the flock during the winter season, ample provision should be made for the keeping of same by providing suitable cellars in close proximity to the sheep barns where they can be stored and used without dan-

ger of becoming frozen. When building a cellar it is well to arrange it so that the door will open directly into the sheep barn. This will make it not only convenient, but will reduce to a minimum all danger of the roots freezing while being handled.

Cabbage.

Cabbage grows more or less satisfactory in all parts of the United States. Our neighbors, the Canadians, are fully alive to the value of this plant as a sheep food, and they raise them somewhat extensively for their use. Cabbage is a sheep food that where once tried almost always finds favor among the owners and raisers of stud sheep. In many respects cabbage is superior and preferable to rape as a sheep food; especially is this so late in the fall of the year, as then a few thousand heads stored away can be fed to advantage when frost makes it dangerous to allow sheep to partake of rape. Many tons of cabbage can be raised on an acre of ground, and although there is sometimes much trouble experienced in getting the plants well started in dry summers, they are nevertheless a very profitable and desirable crop for the flockmaster to raise.

Thousand-Headed Kale.

Thousand-headed Kale is a plant belonging to the cabbage family. This plant grows to an enormous size and furnishes one of the most succulent, appetizing, healthful and fattening rations either for cattle or sheep known to stock-raisers. As before intimated, Thousand-headed Kale grows to an immense size and its enormous stalk growing to a great height

and covered, as its name implies, with numerous cabbage-like heads furnishes a sight that cannot be but pleasing to either cattle, sheep or their owners. I have seen single specimens of this plant growing in this country that was all any ordinary mortal would wish to carry. One peculiarity this plant has to recommend it is that cattle or sheep do not appear to bloat on it, no matter under what condition it is fed. Of course this applies to England. We would not dare to risk feeding it when frozen. It is grown very extensively by the English flockmasters, many of whom would as soon think of running their flocks without a shepherd as discarding Kale from their list of forage crops.

White Mustard.

White mustard is largely grown in England for the use of the flock. There is no doubt but that it contains tonic properties of a very valuable nature. It is a plant of very rapid growth and contains, or is possessed of, the peculiar property of stimulating the genital organs, and by its use breeding—as applied to England—may be brought about at almost any season of the year desired. Sheep having been pastured on mustard seem to fatten very rapidly when put on ordinary pasture. Six weeks after sowing, mustard will be in full bloom and ready for cutting or pasturing. Much has been said and written regarding the danger from raising this plant on account of its liability of seeding itself and proving an obnoxious weed, as wild mustard is known to be. That these fears are groundless I have proved by experiment. I have found that the seed will always germinate when frost is absent, but that the least degree of frost is fatal to its

existence. Therefore in countries where frost is natural, danger from mustard reproducing itself by natural seeding need not worry the farmer or flockmaster.

I have sown the seed at many different periods during the fall months, but in no one case have I seen a single seed germinate in the spring, for the simple reason that the seed would all germinate in the fall and continue to grow until destroyed by frost. The English wild mustard plant or "Charlock" has been confounded with the domesticated English white mustard; it is, however, a very different plant.

Kohl Rabbi.

Kohl Rabi is a root much relished by sheep and extensively grown by many old country flockmasters. It is better suited for the dry and hot seasons experienced in many parts of America than any other plant or root that I am acquainted with. I have grown enormous crops of them in Indiana. They are a very dry fleshed root, and belong to the cabbage family. In appearance they are not unlike a rutabaga, growing on a very short cabbage stump, or stalk, with the leaves growing in a scattered way all over the bulb, instead of growing in a tuft, as is the case with the rutabaga. Kohl Rabi is raised in about the same way and manner as rutabagas, and originally came from Hungary.

Common Turnips.

Our common turnip furnishes one of the most appetizing and valuable rations for the flock that we have. Were there not a particle of nutriment in them, they would still be valuable if only as an aid and promoter of digestion, especially

during the winter months. In the old country thousands of sheep are fattened annually on little other than turnips as a bulk ration, with the addition of a small quantity of grain. What turnip-fed mutton means in England the whole world of shepherds are familiar with. It is not only for fattening sheep that they are prized, but for the bloom and growth they put on young stock of all kinds. Turnips are easily and cheaply grown. I have grown them to perfection in the Central states by simply sowing the seed broadcast in the cornfield ahead of the cultivator at the last cultivation of the corn. The largest ones I pulled and stored for winter use, the smaller ones I left for the flock to clear off the ground at will. I can safely say that no more healthful or economical food was ever raised than this, and the wonder is that ten times more roots are not raised by our American flock-masters to-day than there are.

Mangels or Beets.

Mangels, or beets, although furnishing one of the most desirable roots for ewes when fed toward the spring, are not a very safe ration to feed during cold weather, they being very apt to cause scours of a very malignant form. When comparatively dry and free from water toward spring there is no better ration for the ewe that is suckling a lamb. Mangels should never be fed to rams, as there is no doubt whatever but that they are the cause of trouble of the urinary organs, and many a fine ram has been lost from stoppage of the water brought about by the use of these roots.

The mangel is a very heavy cropper, and is easily handled, and where provisions are made for the keeping of roots

every flockmaster would be wise in putting away a few hundred bushels for the use of ewes when the turnips are all eaten up and no grass or anything succulent is in sight. Mangels will keep, if properly stored, till away along in May, and maybe June, if it is found necessary.

The Sand Vetch.

The sand vetch is one of the most desirable and profitable crops the shepherd can grow for early spring use. Sown with rye in August, or early in September it furnishes a spring crop that is greatly relished by all members of the flock. Although perhaps not so good as the spring vetch it should be grown by every flockmaster who understands the importance of feeding succulent rations to the flock as much as possible at all times of the year. In the spring when little else is in sight to satisfy the craving appetites of the ewes and lambs for something green, something succulent, the sand vetch affords them an opportunity to satisfy this craving to their hearts' content. The sand vetch is a plant of rapid growth and can be fed almost continually until frost comes, either by pasturing or cutting. It can be cut many times in the season. I have had experience with it both in Canada and the state of Indiana and found it to give great satisfaction as a ration for sheep. It will grow, when sown with rye, to the height of five feet, and when in full bloom looks very pretty as it climbs the rye stalks.

The Spring Vetch.

Spring vetches, or tares, is one of the most useful and profitable crops that the shepherd can raise for his flock. As a fattening ration for sheep spring vetches have no peer in

the whole list of our forage plants. Sheep eat them greedily and prefer them to the sand or winter vetch. As a starter for show sheep they are unsurpassed. Peas, oats, rape and spring vetches sown together makes an ideal ration for fitting show sheep. They are much hardier than peas and after being cut down by frost will spring up again and make a good crop. There is no doubt of its superiority over the sand vetch, so far as its feeding value is concerned. The spring vetch has a considerably larger and fleshier leaf and stem than the sand vetch. Every flockmaster should try a small patch of spring vetches. The flock will most assuredly appreciate it.

Rye.

In the early spring months rye furnishes a most appetizing and succulent ration for the flock, and where the fall growth has been rank it may then be fed off without doing but little, if any, damage to the plant, provided it is not fed off too late in the season. Rye should be sown as soon as possible after harvest. I have grown some very good crops of rye by sowing it in the cornfield right after the corn is shocked. No especial preparation of the ground need be employed other than harrowing once or twice before seeding, and once after to cover the seed. Rye grows very rapidly and should not be allowed to get old and woody before being pastured. It may be pastured for quite a while by the flock, after which it may be allowed to mature, and it will be found, even then, to make a pretty good yield of grain. It is not advisable to turn the sheep on the rye when hungry, or when the rye is heavily charged with moisture. Rye furnishes a fine ration, when little else is at hand, for starting the show flock toward

that condition known as bloom. In pasturing the rye field with sheep it is better to divide the field into sections by hurdles, or some other portable fence, than to allow the flock the whole range of the field. Where grain is used the troughs should be placed on the poorest knolls or parts of the field. Lambs creeps should be provided, so that the lambs can feed ahead of the ewes, and thereby get the cream of the crop.

How to Raise Rape.

In England rape is grown extensively. The climate of that country is mild enough to allow of its standing the winter and furnishing a most valuable feed for the ewes and lambs in early spring, which enhances the growth of the young lambs to an appreciable extent. Our winters here do not allow of this, but as regards the growing of rape for late summer and fall pastures, this country is everything that can be desired. Rape is a lover of rich soil, although it is a fact that the plant is not so much relished by the flock when grown on soil that is very rich as it is when grown on a comparatively poor soil.

Rape can be sown in many parts of the country as early as April. For late fall feeding June or even July is early enough. I have found, however, that the early crop does not always prove profitable, as the aphid or louse attacks it badly. In appearance rape is not unlike a rutabaga that is all tops and no bulb.

About three pounds of seed to the acre will be found sufficient for a good stand where the land is rich. It can be sown either broadcast or drilled. Care must be observed not to pasture rape when it is heavily laden with moisture from dew

or rain, as bloat may be the result. It is always well to see that the sheep have their stomachs well filled before being turned into the rape field. By thus doing, danger from bloat is minimized.

Rape in the Corn Field.

Sowing rape in the cornfield before the cultivator at the last cultivation of the corn is in some seasons very desirable and profitable, while in others it cannot be said to be a success, especially in times of drought. However, as the cost is small it is not out of place to make it a rule to sow some on this plan yearly. It is, outside of the cost of seed and the little time it takes in sowing, clear profit, and of no small benefit in crowding out obnoxious weeds which would otherwise infest the land. What few weeds grow up among the rape furnishes a tonic for the sheep that are put into the field. It is remarkable that more of this valuable forage plant is not grown in this way when one takes into consideration the small cost of producing same and the large amount of valuable food it furnishes.

Ensilage.

Good, sweet ensilage makes a first-class ration for sheep, especially for fattening sheep. I have fed largely of it, but to be candid I consider it a little too heating and fattening for breeding ewes where fed in anything like large quantities. Where fed in moderate quantities it is not only a useful ration, but is also a valuable tonic, especially where the shepherd has not been wise in providing an abundance of roots. Mouldy ensilage should not under any consideration be fed to any class of sheep, as it will most assuredly cause serious disturbance of the stomach and bowels.

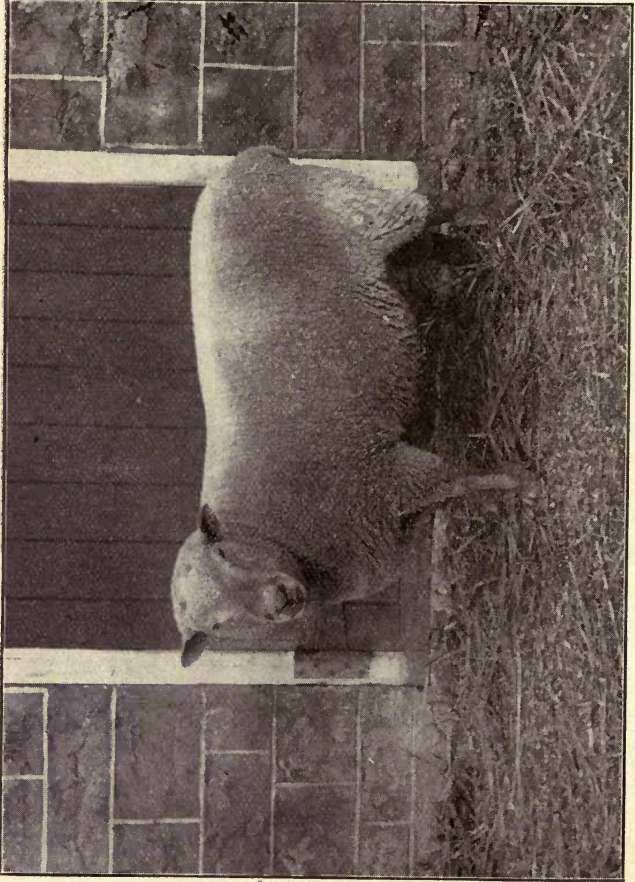
Sainfoin.

Sainfoin is a plant that is held in very high esteem among English flockmasters. It is found growing more or less in the common pastures of that country and will flourish on exceedingly poor soil. The writer has seen it "flourishing as the green bay tree" on no other sustenance than that found in the mortar of an old wall on which it was growing. It stands drought admirably, and grows luxuriantly on dry chalky soils. In appearance it may be likened unto a dwarf clover with an exceedingly fine leaf and stem and a very diminutive golden colored flower. It makes one of the best sheep foods known, and is very fattening. I have raised it in this country and it appears to thrive all right, and there is no doubt in the writer's mind but what it is a profitable crop for the American flockmaster to raise. Before the value of turnips was perfectly understood and appreciated in England, this valuable plant was the mainstay of the flockmasters of that country. Sainfoin makes the finest and best of all sheep hay.

Alfalfa or Lucerne.

Alfalfa or lucerne is a valuable addition to the sheep's bill of fare. I consider, however, that its real value lies more in the shape of hay than as a soiling crop, for unless cut and fed in racks there is considerable waste in feeding it, especially where it has attained any considerable growth. It is necessary for the shepherd to keep a sharp look-out for bloat while his sheep are being pastured on alfalfa; especially is this so in wet seasons.





SOUTHDOWN RAM.
Owned by John Jackson, Abingdon, Ont., Canada

PART V.

Common Ailments of the Flock and How to Treat Them.

The Hospital.



It is important that every well-appointed sheep barn be provided with its hospital wherein any sick members of the flock may be put, properly treated and cared for. It is advisable that this institution be erected at some considerable distance from the sheep barn, as then in case of a contagious disease, danger of infection is greatly reduced. This sometimes means the saving of a great deal of trouble to the shepherd and loss to the flockmaster. As soon as a sheep is seen to be ailing the hospital is the place for it. Of course this building need only be a small structure and the cost of same merely a nominal figure. It is important that this place be kept scrupulously clean, properly ventilated, and disinfected if good results are expected and attained.

The Stomach Worm.

Strongylus Contortus is the shepherd's true terror. As probably most shepherds know, this is the scientific name for the stomach worm in lambs. The worm "pest" has been for the past few years, and still is, a very serious problem in the minds of both shepherd and flockmaster alike. There are,

undoubtedly, many things yet left undone which ought to be done in satisfactorily solving this vital trouble. It is questionable whether many of our great authorities do not lay too much stress on old infested pastures as being the predominant cause of so much loss among the juvenile members of our flocks. This may to a great extent be true, but I have a case in mind where worms are working havoc among a flock that was turned onto pasture and where the hoof of sheep had never trod before the spring of the present year. Then again I have taken care of flocks where sheep have been pastured for more than a century on the same farm, and yet they have never suffered from worms. Further, I have had charge of flocks that did not suffer a particle from worms, although the farm on which the sheep were being pastured was situated directly in the midst of a badly infected area where the neighbors' lambs were dying fast. I account for the fact of my lambs not dying to high feeding. They were getting a pound of oil-cake a day while those of my neighbors were getting nothing more than the ordinary pastures afforded them. I have never had serious trouble from the ravages of worms in my flock where I have had an abundant supply of supplementary rations to feed.

I have always considered that worm trouble is brought about by local causes other than old pastures, such as wet, feverish seasons—meaning by this the conditions existing in summer, which season is sometimes made up of stormy weather, the intervals between the showers being excessively hot and enervating. The grass, being heavily charged with moisture, sours and fevers the lamb's stomach, making it a most desirable habitat for the worm. It is well-known that children partaking of unripe fruit to excess are very liable to

suffer from worms. I have always considered that sour grass has a like effect on young lambs. As a corrector to this state or condition of the lamb's stomach a ration consisting of oats and oil-cake is, to my mind, an ideal one. I say without fear of successful contradiction that where young lambs have a liberal grain ration in connection with their pasture less trouble is experienced in regard to the attack of the deadly stomach worm. I am a firm believer that hog cholera is caused by a morbid state of the animal's stomach, caused in a majority of cases through improper feeding, filth and neglect in supplying proper correctors of acidity in the stomach, and I believe that a lamb is similarly affected and that the morbidness of the stomach is the ideal state for the development of the germ. I am satisfied that a well-fed lamb offers but little encouragement for the attack of the stomach worm. This appears reasonable to me from the fact that experience has taught me that sheep, or lambs rather, being properly fed for show purposes, do not suffer from their attacks.

Have we yet a remedy that is reliable as a destroyer of the stomach worm? My candid opinion is we have not. It is claimed that benzine will destroy the deadly pest. Experiment has not yet satisfactorily proved it to the writer. I will give my experience along this line.

A little over a year ago I selected four lambs very badly infested with stomach worms. Two of these I drenched as prescribed by the advocates of benzine. After due time had been allowed for the medicine to take effect I killed the two lambs and made an examination of the fourth stomach expecting to find the lambs either free from worms or the stomach containing nothing in the shape of worms but dead

ones. My expectations did not realize however, for a healthier lot of worms I never saw inside the fourth stomach of a lamb, and I have seen a good many. This experiment not being just what I wished or expected I made up my mind that I would make another one. This time I took the two remaining lambs and gave them a double dose of benzine, or in other words, I gave them twice the quantity prescribed by those recommending its use. I expected that this treatment would kill the lambs right off, but it did not. It badly intoxicated them. On the second day after the lambs had received full treatment I killed both of them expecting to find the stomach entirely free from living worms. Judge my surprise when upon opening the stomachs of the lambs I found them literally alive with worms. Now, if the benzine was of ordinary strength, which my druggist assures me it was, I have no other alternative but to think that benzine does not actually do all that it is claimed for it in destroying stomach worms.

It is a question in my mind whether a remedy so volatile as benzine is known to be, could ever reach the fourth stomach in sufficient strength and quantity after evaporation and dissemination through the system, and its becoming mixed with the juices of the first stomach as to destroy the worms. But you say the lambs are to be deprived of both food and water for a considerable time before the medicine is administered, and that the stomach will be practically free from liquids! While this may be true in part, the fact still remains that there is a considerable amount of liquid created by the salivary glands, which becomes mixed with the benzine in the first stomach and does its work in reducing the strength of the benzine.

If it were practicable to administer the benzine in its raw state or full strength in the shape of a ball, as is sometimes given to horses, we might, perhaps, expect better results than from reducing its strength by mixing it with milk, etc., before administration.

To Prevent Attacks of the Gadfly.

This pest sometimes causes considerable trouble in the flock. The most simple and effectual remedy I am acquainted with is to bore a number of holes in a log, fill them with salt and then smear tar over the holes—being of course careful not to entirely obliterate them. In trying to get the salt the sheep unconsciously smear their noses with tar. The holes should be bored high up in the log so as to prevent the sides of the sheep from becoming daubed with tar. Sometimes by plowing up a small patch of land on which the sheep lay or fold during the day the attacks of the gadfly are lessened, as when the newly-plowed land becomes dry the sheep, by their stamping and running in trying to evade this dreaded pest, causes a dust to rise which proves unfavorable to its presence.

Constipation.

Constipation is the cause of great mortality among young lambs. Especially is this true where an attempt is made to raise early lambs where succulent rations are not provided. Most shepherds, professional and otherwise, sometimes find a lamb that will appear dumpish, refuse to suck, and otherwise act stragely, although perhaps he has sucked and got along in fine shape for four or five days previous to acting

thus strange. Constipation is the cause of these symptoms. Upon giving the little unfortunate an injection of either soapy water, or raw linseed oil, it will be found that little time will elapse before he will commence to suck with its oldtime vigor. A small dose of linseed oil administered to the ewe will sometimes bring about a change in the ewe's system that will prove beneficial to the lamb. Change of the ewe's food—not rapid—is usually the best course to pursue to correct irregularities in the system of the offspring. Oil-meal or oil-cake is a very valuable addition to the ewe's ration where troubles from constipation are at all prevalent.

Shepherds who desire to have as little trouble as possible along this line should not fail to plant a few acres of roots for their sheep; it will repay them ten-fold in curtailing the loss of lambs from constipation, to say nothing of the increase in quality and size of the lambs.

White Scours.

Almost all people having had experience in handling either calves or lambs are pretty well familiar with the symptoms accompanying this trouble. It is a common disease, but rarely appears in an epidemic form unless where grave errors and mistakes have been made in feeding. The real cause of this trouble is the souring or curdling of the milk in the lamb's stomach. While nature intends the mission of the fourth stomach to be that of curdling the milk to a certain degree, to facilitate digestion, this organ can be easily overworked, overstrained and damaged by receiving milk in excessive quantities, or of too rich a nature or quality.

The first important move to be made in the treatment of a

lamb suffering from white scours is to dissolve the curd in the stomach, and empty both it and the intestines of all unhealthy matter. Sulphate of magnesia, one ounce; ordinary cooking soda, one-fourth ounce; ginger, just what can be taken up on a dime, mixed in a little flaxseed gruel, will bring about what is required along this line. Four hours after giving the above dose administer four ounces of linseed oil to the little sufferer. It is important that the ewe's diet be changed and the lamb be kept from drinking large quantities of water. Of course the shepherd must regulate the dose according to the age of the lamb.

The Liver Fluke.

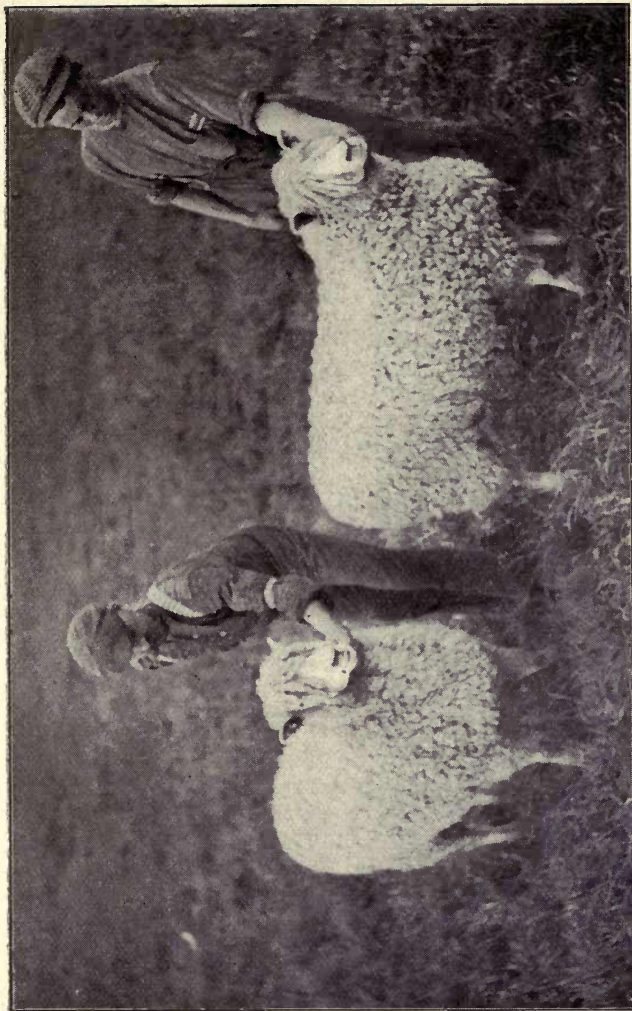
American flockmasters have much to be thankful for when the immunity their flocks enjoy from this dreaded trouble is considered. The flockmasters of Great Britain have, without doubt, experienced more loss from this one disease than from all other diseases combined. Happily they have not experienced much loss in this respect during the past few years. The time is quite fresh in the writer's memory when thousands upon thousands of sheep were lost from the ravages of this insidious foe in one short season. Thousands of sheep were sold for little more than their pelts would bring, and wagon loads of carcasses were being shipped daily from almost every little country station that was situated in a sheep raising district. Many flockmasters were financially ruined by the pest. One farmer lost \$15,000 worth of sheep in a single season. It is estimated that over 2,500,000 sheep perished from this fatal malady in one year. There is not a shadow of doubt but that liver rot, which is caused

by the liver fluke, is a disease more common on low, wet and marshy land than on lands that are high and dry, therefore the benefit accruing from keeping our flocks on dry, healthy land must be obvious. That the fluke does sometimes exist in sheep that are to all appearance healthy, I know from the fact of often finding them in the livers of strong, healthy, fat sheep which I have slaughtered for the market. A flukey or "coathed" sheep is rarely found on the salt marshes of England; this shows that salt must be unfavorable to the well-being of the deadly pest.

Wool Balls in Lambs' Stomachs.

There is not much doubt but that wool balls in lambs' stomachs are often due to the presence of ticks or other vermin which at times invests the lamb's body. The irritation caused by these pests causes the lambs to bite themselves, small particles of wool are taken into the mouth, and the wool finds its way into their stomachs. Then, again, no doubt wool balls are sometimes caused by a depraved appetite due to derangement of the digestive organs or apparatus. Further, they may be caused by the lamb getting wool from the ewe when sucking her. When a lamb is suffering from this trouble it usually refuses its food and appears very dull and stupid.

Lambs of the long-wooled breeds suffer more from this trouble than either the medium or fine-wooled sheep. Whilst frequent doses of linseed oil will sometimes relieve the little sufferer, cures are like angels' visits—few and far between.



YEARLING COTSWOLD EWES.
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Stretches.

When a sheep is seen to suddenly fall down, lay on its side, and stretch itself out at full length it is said to be suffering from the stretches. This trouble is a species of indigestion which is generally brought about through lack of succulent rations. Stretches are rarely met with in a flock where roots are freely used. The novice, or young shepherd, may easily mistake this trouble for a case of yeaning, the symptoms being somewhat similar. The best remedy I have yet tried for stretches is melted lard. For an adult sheep about one-quarter of a pound is the right quantity to use. Use a drenching-bottle or a tablespoon in administering the dose.

Navel Ill.

This complaint is not nearly so prevalent in this country as it is in England. I can only account for this from the fact that the lambs are more liable to come in contact with mud, filth, etc., in the English fold than they are in the barn and yards in this country, which condition makes it favorable for the work of bacilli. The best remedy for navel ill is a little powdered bluestone put on the wound; this will kill the germ, the wound will quickly dry up and a cure will be effected. If applied as soon as the first symptoms of trouble are noticed the cure will, of course, be more rapid.

Garget.

Garget, in some seasons, is very prevalent in the flock and the cause of much trouble to the shepherd, while in others little trouble is experienced. The American shepherd has

much to be thankful for considering the small number of cases of this kind he has to deal with as compared to what the English shepherd has to contend with in a season. A considerable number of cases of garget are no doubt brought about through the ewes lying on the damp ground in cold weather. Another sure cause of garget is the allowing of ewes to go unattended to when having lost their offspring. It is usually the best milking ewes that are either ruined or lost from this trouble.

Ewes, when found to be attacked with garget, should be at once given some opening medicine, preferably a dose of Epsom Salts, and the udder should be bathed with warm water into which an ounce of ordinary cooking soda has been added. After the udder has been thoroughly dried with a coarse towel or something of that kind, it should be dressed with a mixture of lard and turpentine, or common camphorated oil, preferably the first named.

In the case of abscesses forming they should be carefully opened and the wounds thoroughly washed out with a carbolic acid solution, or any other good antiseptic wash.

Of course the offspring must be taken away from a ewe that is suffering from this trouble.

Ewes Casting Their Withers.

When the womb or "lamb bag" of a ewe comes out she is said (to use the oldtime shepherds' phrase) to have "cast her withers." In replacing a ewe's withers the greatest care must be observed that they are thoroughly cleansed of all foreign matter, such as dirt, straw, etc. I have always found it easier to perform this work with the help of an

assistant, who lays the ewe on her back and then taking her hind legs he gently raises her hind parts about a foot from the ground, thereby greatly facilitating ease in getting the organs back into their proper places. As soon as they are replaced the shepherd should take a leather band, fasten it around the sheep just back of the forelegs and then take another and fix it in such a position that it will reach from one side of the ewe clear around her stern and fasten again on the other side; a support should be provided by tying a strap or cord over the hips to hold this up. This being done, take a pint of water and put into it about a teaspoonful of finely pulverized alum and two teaspoonfuls of sugar; then thoroughly dissolve and inject with a syringe into the womb. This should be repeated twice daily. The mixture should be warm when injected.

Scab.

Scab is a terrible disease, one which has probably caused more worry and loss to the world's flockmasters than all other diseases combined. Unfortunately the disease is not peculiar to any one country, but is found working its ravages more or less in all countries where sheep are found. Although legislation has been resorted to and money has flowed like water from the exchequers of the various governments which have seen fit to treat this disease as a serious national affair, the disease is yet a long way from being one which we may call of rare occurrence. Although England is, comparatively, a very small country and the laws as applied to scab and other contagious diseases very severe and always rigidly enforced, still the disease is quite common even

in that country. Australia, New Zealand, Tasmania, South Africa, all have had their troubles in grappling with this terrible disease. Then our own great country has had an experience along this line which has been anything but pleasant. True, legislation has come to the aid of flock-masters, but it is certain that the lime and sulphur decoc-tions, such as are recommended by the officials in charge, are not doing the work that a good dip is expected to do in eradicating the pest from the animal and leaving its fleece and skin in a healthy and desirable condition.

When a sheep is attacked with the scab mite it becomes exceedingly restless and soon becomes a most abject specimen of the woolly tribe—indeed, is the very picture of misery. In its endeavors to rid itself of the tormenting pest it bites its sides, scratches itself with its hind-feet, and otherwise acts strangely in endeavoring to relieve itself of its tormentor. The disease usually first makes its appearance along the sides of the animal, eventually extending to the neck and back, in fact it rapidly spreads all over its body. A sheep that is attacked with scab, if rubbed on or in the neighborhood of where the scab mite has taken up its abode, will show its appreciation by moving its lips and even nibbling the hand of the operator, as if thanking him for affording the relief.

Scab is a disease of a highly contagious nature, and one that must be treated promptly and thoroughly as soon as it is known to exist. The first thing to do is to dip every sheep on the farm, or ranch, as the case may be. Dip them thoroughly; don't dip them as if you wanted the job hurried over and out of the way, but dip them as if you were determined to eradicate the pest if thoroughness and

method counts for anything in dipping. What should we use? Any of the proprietary dips made have, no doubt, their merits over the deadly lime and sulphur decoctions recommended and used by some. It is highly important that every individual sheep be thoroughly dipped and all surrounding fences, the inside and outside of the barn or anything that it has been possible for the sheep to rub themselves against be sprayed with a good disinfectant. The same kind of dip that will kill the scab mite on the sheep will make a good and cheap disinfectant. Apply with a good spraying machine. After the elapse of about ten days from the time the sheep were first dipped, dip again thoroughly.

Don't on any account spare time or money to make your work a success if you wish to save your flock. The great secret in dealing with scab is to deal with it thoroughly at the start. After you have thoroughly mastered the enemy make your work as efficacious as possible by whitewashing the barns and fences.

Tapeworms.

I have often been questioned by farmers relative to what the little white, oblong, fleshy-looking particles are that are sometimes to be seen in the sheep's manure. While most of us know what they are, still there are a good many that do not know that these are segments of the tapeworm.

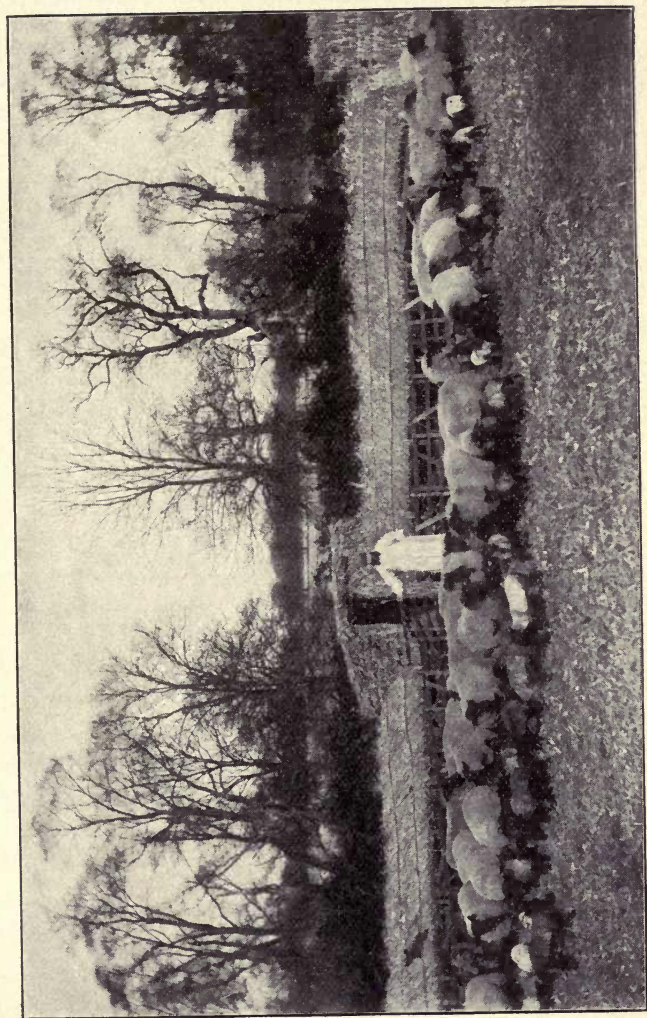
One drachm of oil of male shield fern given in about two ounces of castor oil, after the sheep has been fasted for twelve hours, is one of the best known and most effective remedies for this trouble.

Inflammation of the Eyes.

Most people who have had the least experience with sheep have at some time met cases where sheep or lambs have been suffering from inflammation of the eyes or, as it is scientifically known as ophthalmia. Quite often it is difficult for the shepherd to correctly determine the true cause of this trouble. It sometimes breaks out in epidemic form. The most common cause of this disease is exposure to cold winds and draughts. When a lamb is attacked it generally becomes partially or totally blind. That this disease causes great pain to the little sufferers is evinced by the way it affects them. A zinc lotion is the most useful remedy in treating cases of this kind. The best way of procuring this is to get your druggist to prepare it for you just as he would prepare it for use if for family use.

Quidders.

This is the name by which sheep that drop their "quid" are known. Quidding is sometimes caused by a defection of the animal's teeth, but more often by indigestion. When a sheep is suffering from this trouble it will be seen to drop a small ball of partially masticated food from its mouth. It is rarely that a complete cure of this trouble is brought about. I have used the following remedy with varying results, but to be honest, hardly ever has a cure followed its use: Administer a dose of Epsom Salts and supply the animal with food only of a succulent nature. When a sheep is found to be suffering from trouble of this nature it should be fattened, if possible, and sent to the market, as it is very rarely that they prove profitable as breeders. Where a



FLOCK OF SUFFOLKS ON THEIR NATIVE HEATH.



flock has had poor treatment and been fed irregularly cases such as these are most prevalent.

Joint-Evil.

Joint-evil is a disease closely allied to rheumatism. It is a disease peculiar to young lambs, and is often brought about by exposure to draughts in poorly built or dilapidated barns. Sometimes they will be attacked so severely that abscesses will form in their joints, causing no end of suffering to the helpless creature and trouble to the shepherd. Where snug, but of course well-ventilated barns, and proper care on the part of the shepherd is in evidence lambs do not often suffer from this trouble. An embrocation of lard and turpentine makes one of the best remedies for this trouble that I have ever used for this disease. In preparing it sufficient turpentine should be used to make it about the consistency of good cream. After thoroughly rubbing the embrocation well into the affected parts they should be well bandaged. I have tried many remedies recommended by veterinarians, but none appeared to have such a beneficial effect as the one I recommend above. In England it is thought to be a disease closely allied to blood poisoning. I have found that sheep of all ages seem to suffer from joint-evil there, but in this country every case I have met with has been confined to very young lambs, therefore it is hard for me to readily take the English view of the matter.

Diarrhoea.

Diarrhoea quickly proves fatal where the animal attacked is not promptly attended to. This trouble is usually brought

about by the animal partaking to freely of succulent rations. Frozen rape or frozen clover is also a sure cause of diarrhoea. The first thing to do in a case of diarrhoea is to administer a dose of castor oil, after which give one dram of laudanum, one dram powdered ginger, and prepared chalk, twelve drams. Dry rations of a poor quality should be given the sufferer until a change takes place.

Tumors.

There are few people having had experience with sheep but what have seen them suffering, more or less, from small tumors in the throat. Sometimes these are the true symptoms of tuberculosis, and it is highly undesirable to retain sheep in the flock showing troubles of this nature. The tumors should be opened and washed out with a rather strong solution of carbolic acid. After having been well washed out a little ball of wool should be inserted in the wound to keep it open so that the pus or matter may escape freely.

Caked Udder.

Caked udder is frequently the cause of considerable anxiety and no little trouble to the shepherd. It is a trouble rarely found among the poorer milkers of the flock, but quite often among the good ones. Cases of caked udder often develop directly after weaning and are, in many cases, chargeable in a great measure, to the carelessness of the shepherd, or the one in charge, in not giving the attention needed at that particular time. Sometimes after we have satisfied ourselves that a case of caked udder is cured we find the orifice

of the teat closed and of course that organ rendered useless. With the use of liniments, however, the teat may sometimes be started again; when this fails to effect a cure the use of the milking tube may bring about the desired effect. Generally, however, when a ewe is found to be badly injured from such a cause it is found best to fatten her and sell her for butchering purposes. One of the best liniments we can use in the case of caked udder is composed of lard and turpentine mixed to the consistency of good cream. This should be well rubbed in three times daily; each time this operation is being performed the operator should try the teat to see if the orifice is clear.

Abortion.

There are many causes for this trouble; prominent among them being crowding the ewes through narrow doorways; turning them up for the purpose of dressing their feet, and improper feeding, such as feeding frozen turnips, etc. Considerable loss has been known to arise from the ewes eating too much salt; this, of course, only happens when the ewes have not been regularly and properly salted.

When a ewe appears dull and stupid and isolates herself from the flock, upon examination she will almost invariably be found to have either aborted or has a dead lamb within her. Where the ewe becomes injured within a week or two previous to the time she should lamb, and the lambs or lamb die within her, there is great danger of losing her, unless attended to at once. When the lambs are not promptly removed, blood poisoning usually sets in, and of course, death quickly follows in its wake; therefore, it is imperative that just as soon as the shepherd is satisfied that a ewe has

dead lambs in her he should lose no time in removing them.

If the shepherd has cuts or wounds of any kind on his hands he should refrain from performing the operation himself, for if blood poison is in evidence serious results may follow such a course.

Before attempting to relieve the ewe the operator should carefully trim his fingernails to avoid injury to the womb. He should also anoint his hands with some lubricant of an antiseptic nature, such as carbolized oil, carbolized vaseline, or carbolic soap.

When relieving the ewe of a dead lamb the operator should study her comfort as much as possible. It is usually more handy to have her lying on her back when taking the lamb from her, but where the operation is necessarily slowly performed, her position should be changed once in a while so as to rest her. It is important that the operator does not attempt to pull the lamb away, only in sympathy with the exertions of the ewe to eject it, or in other words, he should pull only when the ewe strains.

Sometimes the lamb is more easily removed by taking its intestines out as it lays in the womb, after which its legs can be easily removed by getting hold of the blade bones by putting the hand inside the lamb and skinning them out of its body, as it were. By forcing the finger through the under jaw of the lamb a good, firm hold is obtained which aids much in getting it away successfully. Slipping a piece of cord with a running noose over the under jaw or the foot of the lamb also gives the operator a good purchase. Violence must be avoided in performing this operation or the ewe will almost surely succumb. Where the time occupied in relieving the ewe is somewhat protracted, stimulants

should be administered. While the taking away of a live lamb from a ewe is, comparatively, an easy matter, that of taking away a dead one is usually a very difficult one to perform.

Occasionally, abortion makes its appearance in epidemic form, but in nine cases out of ten this is the result of improper feeding. It is always well to remove ewes that have aborted from the main flock and the foetus or dead lamb be either burned or buried, as there is no doubt but what there sometimes exists a type of abortion in the flock that is highly contagious.

After a ewe has been relieved of dead lambs she should receive warm carbohc solution injections twice a day. It is important that the placenta or "cleaning" be removed as soon as the ewe is relieved of the dead lamb, otherwise the ewe will become very weak and very likely die from excessive straining while endeavoring to relieve herself.

Lice.

Where the dipping of sheep is neglected they not only become covered with ticks, but oftentimes with lice also. These parasites are a constant drain on the system of the sheep and it is highly important that they be destroyed by dipping. It is not good policy to allow chickens to run at large in the sheep barn, as the sheep will very likely suffer more or less from the vermin that are usually found in their company.

The Sheep Tick.

It seems remarkable in this day of enlightenment, when cheap and effectual proprietary dips are scattered broadcast

over the land, as it were, that ticks should be allowed to work such ravages among the flocks of our country. There is no doubt but that thousands of dollars are lost annually by our flockmasters by allowing this pest to "live and wax fat" on their flocks. No sheep can possibly thrive when covered with ticks. The tick is by no means a difficult thing to get rid of, two thorough dippings, one in the spring and the other in the fall, will act both as a preventative and cure of this trouble. Oftentimes shepherds—I mean sheep-keepers—find, upon shearing their sheep in the spring, that they are covered with ticks as thick as leaves in Vallombrosa. This should not be where the shepherd has the least regard for the comfort of his flock. Do not be guilty of keeping fowls among the flock as advocated by some authors, as this is entirely against the common accepted rules of up-to-date practical shepherding. No modern shepherd will allow a fowl of any kind near the sheep barn. The reason is obvious when we consider that sheep must have their hay-racks, feed troughs, etc., scrupulously clean, to say nothing of annoyance of the fowls eating of the sheep's grain, and chicken lice overrunning the place. Dipping is the only reliable way of eradicating ticks or other vermin that sheep are prey to. Dipping in lime and sulphur decoctions will, no doubt, kill ticks, but still no modern shepherd will use or recommend such a mixture, as lime must be very injurious to the skin and fleece, being that depilatories are largely made up of the former-named article.

Footrot.

Foot-rot is a terrible disease to have in a flock of sheep. Where it has been allowed to run rampant for any consid-

erable time on a farm without being effectually checked the whole premises are liable to become so thoroughly impregnated with the germs of the disease as to render them almost impossible to completely eradicate it, even where the most thorough measures are practiced to bring about a desirable issue; it usually means a hard and continuous fight to keep it under. It is, comparatively, a very easy matter to take a sheep that has one or every foot literally rotten with the disease and with a few careful but thorough dressings with some suitable composition to effect a cure in a wonderfully short time. But this does not mean the worst part of the trouble is overcome. It is the preventing of the trouble continually breaking out anew that worries the life and patience out of the shepherd. After a dry spell he will be congratulating himself that he has not a lame sheep on the place, but upon stormy weather coming along disappointment comes too, for the whole flock may be limping from the horrible disease ere a week has elapsed.

I will guarantee a perfect cure of the worst case of foot-rot where the affected animals are treated as I advise in the following lines, but I do not guarantee to bring about the complete eradication of the disease from the flock unless after the feet have been patched up and disinfected the sheep are removed to pasture where foot-rot has never existed.

The first essential in battling with foot-rot is that the shepherd cast aside sentiment, and with a very keen knife cut deep down into the seat of the disease. Cut every particle of diseased or loose hoof away. If the hoof appears sound and still the sheep be lame, cut into the hoof until blood or matter comes; search for matter, and don't give up seeking for it until you have found it, if the animal is lame. Cut

and scrape every particle of any foul matter. Although it is not so well to cut so deep as to draw blood, don't let the sight of blood bar you from thoroughly doing your work, for just as long as there is a particle of pus or foul matter remaining untouched by the acids I advocate using further on, no hope of a healthy foot can be entertained. One great point the operator should observe, however, is not to cut the "toe vein" or the blood will spurt out in a stream and greatly interfere with the work of cleansing the foot. The "toe vein" is situated at the tip of the toe. After a thorough paring and cleaning the foot of foul matter apply thoroughly one of the violent but effectual remedies I shall treat of below:

Blue vitriol, butyr of antimony and muriatic acid, equal parts by weight, forms a dressing that will dry, harden and knock the disease out of the most rotten foot in about a week. Red lead, blue vitriol and nitric acid, equal parts, mixed, will fix the worst case of foot-rot at one dressing, if thoroughly applied. As soon as the foot is dry and hard anoint it with tar; this will make the hoof pliable and healthy.

Grub in the Head.

It may read a little curious to my readers when I say that I have found more of these pests in the heads of apparently healthy sheep than I have seen in diseased ones. In the slaughtering of sheep having horns it is usual, after they have been stuck and life is extinct, to chop their horns off close to the head. Upon the cavity at the base of the horn being exposed to view I have, on many occasions, taken from this cavity a large, fat, white, or pale yellow worm resembling in every way the so-called grub-worm. I have



DELAINÉ RAM "SENSATION,"
Owned by A. T. Gamber, Wakeman, Ohio.



also killed many sheep suffering from gid, or in other words, sheep that were giddy, or unable to stand, and who acted very much like a person badly intoxicated, but have in many cases found no worms in their heads, but in the place of worms a small bladder containing water.

Without the operation known as trepanning I cannot clearly see how the grub can be dislodged from its habitat. I have made many attempts at doctoring sheep suffering from gid or grub in the head, but have never yet succeeded in saving one.

If the sheep attacked be in good flesh I should advocate slaughtering same for use, as the grub in the head cannot possibly do any harm to the flesh of the animal, provided it is killed before the nervous system becomes badly deranged.

Bloat.

Bloat is generally brought about by the sheep eating too freely of succulent rations such as rape, clover, etc., especially when heavily charged with moisture either from rain or heavy dews. Frozen rape, or clover, is also a cause of bloat. When suffering from this trouble, sheep appear uncomfortable and their stomachs become abnormally distended, especially on the left side.

The shepherd should always carry with him a trocar with which he may "tap" an animal that has become "blown" or bloated. This should be inserted at the most prominent point, or where the stomach is most distended, which will be on the left side. It is most important that the trocar be inserted in such a way as to avoid striking the kidneys of the animal; danger from this being greatest where the ani-

mal is fat and the kidneys large. After an animal has been "tapped" it should receive a dose of linseed oil. Where the attack is not a violent one a dram of hypo-sulphite of soda, a dram of ginger and three drams of spirits of ammonia mixed will quickly effect a cure. In cases of this kind the use of the trocar can, of course, be dispensed with.

Broken Limbs.

Although not common, cases of broken limbs do sometimes occur in the flock. Sheep suffering from broken limbs should be kept where they can remain free from molestation by the other members of the flock.

The first thing to be done in the case of a broken limb is to "set it," that is, the bones should be placed in proper position just as soon as possible after the shepherd has noticed what is wrong. As soon as the bone is in proper position take a piece of cardboard and after placing same around the broken limb wrap a strong linen bandage around this. If the bandage is dipped into starch previously to being wrapped around the cardboard it will be more effective.

Urinary Troubles of Rams.

Stoppage of the water is a very common trouble among rams. It is oftentimes brought about through their eating of foods of a highly nitrogeneous nature; such as corn, peas, etc. Mangels are also responsible for the bringing about of stoppages of the urinary organs or passages.

When a ram is attacked with stoppage of the water he refuses his food, pants, groans, stamps his feet and strains violently in attempting to relieve himself of the pent-up

fluid. Where the cause is not quickly removed and relief brought about death will most assuredly result from his system becoming poisoned by the absorption of urine.

I once cured a very bad case of this kind by administering a dose of Epsom Salts, followed by a dose of sweet nitre given in gruel, and after the elapse of three hours the administration of eight grains of belladonna. This trouble is quite common with show rams.

Colic.

Colic is distinguishable from stretches in that the animal in lying down groans and grinds its teeth in the place of stretching itself out at full length and acting as if trying to get on its back for relief. Colic is usually caused by the animal partaking too freely of succulent rations, especially frozen rape, clover and such like. Unless quickly relieved inflammation sets in and the animal quickly succumbs. Relief is brought about by administering one dram of laudanum and one dram of powdered ginger in flaxseed tea.

Rupture.

Ewes heavy in lamb are sometimes the victims of rupture, or hernia. When a case of this occurs a strong, broad bandage should be placed around the patient in such a position as to support the ruptur

Just as soon as the offspring is weaned she should be fed and turned into mutton.

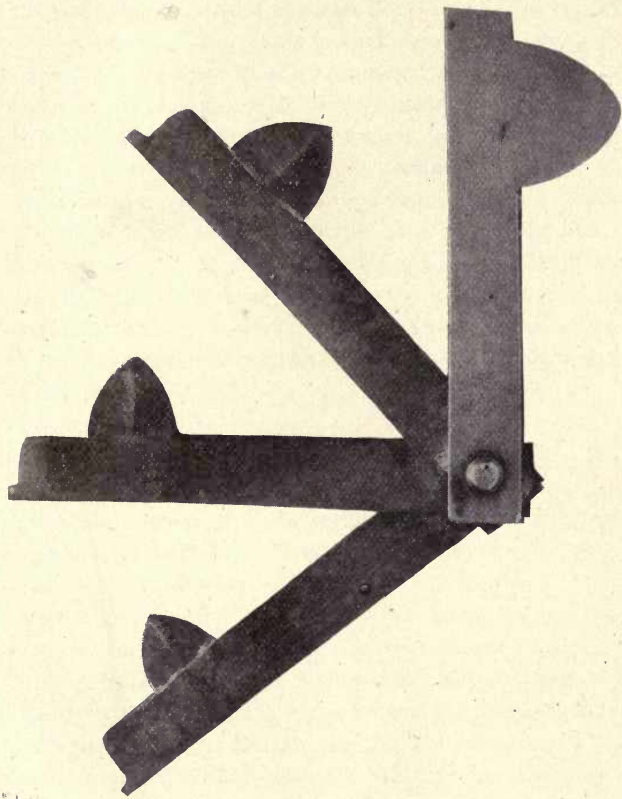
Sore Teats.

When ewes are not good milkers they are very liable to suffer from sore teats, caused by the efforts of the offspring

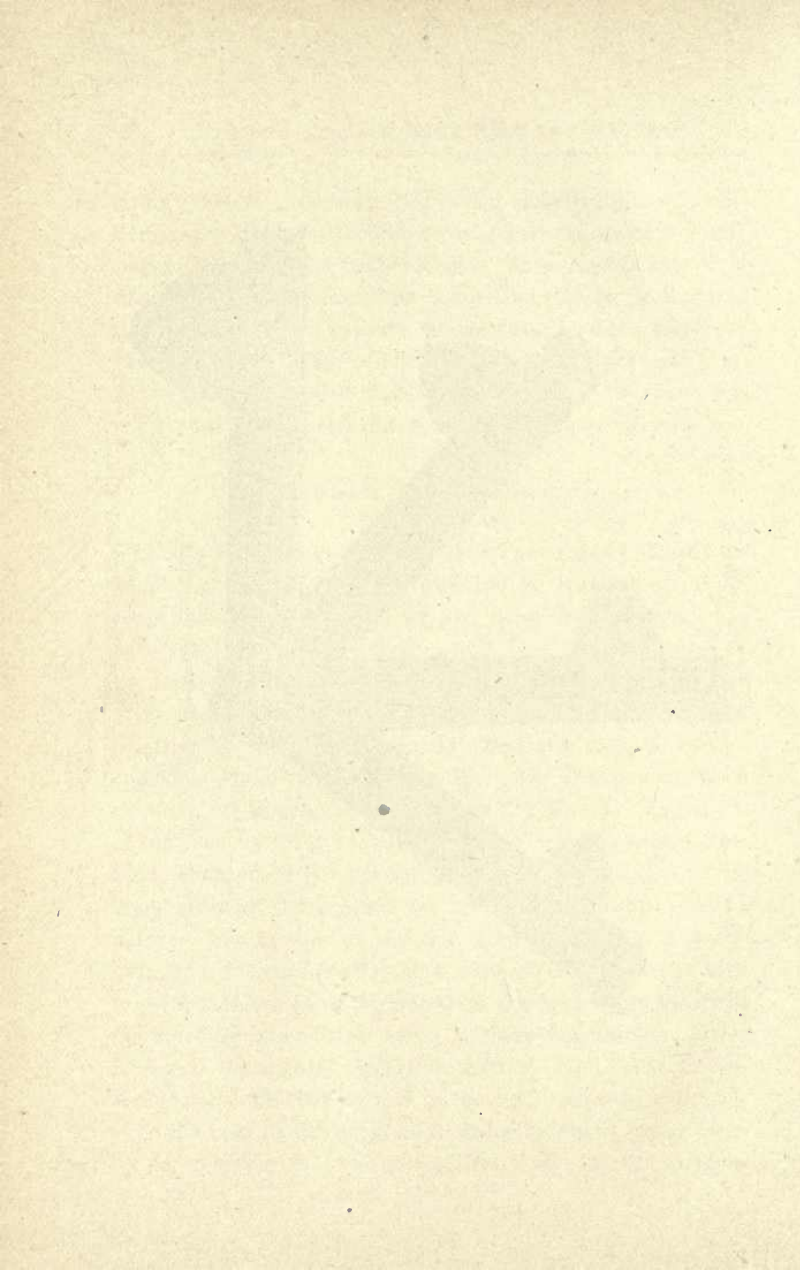
biting them in endeavoring to obtain sufficient nourishment. Sometimes the teats become so sore that the ewe absolutely refuses to allow her lamb to suck. In a case of this kind the ewe and lamb should be penned up, but in such a way that the lamb can suck only at certain intervals during the day—say, three times a day. If this plan is followed, and the teat anointed with vaseline directly after the lamb has got all the milk the ewe has, a cure will soon be effected.

How to Bleed a Sheep.

In certain diseases to which sheep are subjected, such as apoplexy, overheating, etc., bleeding is, without doubt, of the utmost value and benefit, and many a good sheep has been saved by being bled when suffering from disorders of the nature of the above-mentioned. Every shepherd should carry with him either a thumb lancet or a set of fleams (see illustration), with which he may bleed any sheep which he considers would be benefited by bleeding. The first thing to do when bleeding a sheep is to "swell" the vein. This is accomplished by tying a cord around the animal's neck. This cord, when properly adjusted, prevents the circulation of the blood through the veins in the ordinary course intended by nature. Just as soon as the vein is opened the blood spurts out, and if the cord is allowed to remain on the animal's neck it quickly bleeds to death, but upon the cord being loosened the bleeding immediately stops, as there is nothing to interfere with the natural circulation of the blood. The novice should shear off that portion of the wool that grows directly over the vein of the neck, as it will give him a better facility for opening it. As soon as he is sure of the location



FLEAMS USED IN BLEEDING SHEEP.



of the vein he should take the smallest of the set of fleams, and after being assured that the point is well on the vein, drive it into it with a smart cutting blow from a short stick similar to a hammer handle or something of that kind with which he should be provided before commencing operations. If he manages to hit the vein squarely the blood will spurt out in a stream. As soon as he is assured that he has taken blood enough away he should remove the cord and bleeding will immediately cease. I should have mentioned that the operator should make it a point to open the vein lengthways and not crossways, as it will be found necessary to pin the orifice of the wound where the vein is opened by cutting it in the last-mentioned manner, but unnecessary when opened as recommended.

Nodular Disease of the Intestines.

Nodular disease of the intestines of sheep was in existence among our flocks long before serious attention was drawn to its presence by scientists. Although it is now over twenty years since I took my first lesson in the slaughterhouse, even at that time I quite often noticed those cheesy looking little bunches or nodules on the intestines which characterizes the disease now known as nodular disease. This disease was not at that time thought serious of, it being quite common among sheep of the very finest quality, in fact, that was my experience, as I never handled any other grade in all my experience as a slaughterman; it is now, however, rated among the most deadly diseases to which sheep are susceptible. Previous to my attention being called to its true character by the agricultural press of this

country I had always considered this phenomena to be the result of a violent cold the animal may have at some time been suffering from. The true cause of this disease was brought about in a somewhat novel way. Perhaps it may not be generally known that a small "black gut," as the smaller of the intestines is known to the butcher, was before the manufacture of the artificial, used in sausage casing.

Quite often these casings were found to be defective or easily broken, and were quite useless for the purpose for which they were intended, and investigation for the real cause of this trouble led to the discovery of the parasite which was responsible for that condition of the intestines, now known as knotty guts or nodular disease of the intestines. That sheep do live and thrive without showing the least symptoms of the presence of such an enemy I have every reason to believe, for, as I have before intimated, I have quite often found them existing in sheep that I have slaughtered that in every way appeared healthy, vigorous and strong; and quite a number of those sheep that I have killed in recent years have been more or less affected, although showing no symptoms of the existence of this disease. Whether or not there is a cure for the trouble I am at present unable to say, but I consider it to be an exceedingly difficult disease to treat, and there is little hope of a cure, on account of the situation of the nodules making it somewhat difficult for medicine to reach the seat of the trouble.

Hints on Making a Post-Mortem Examination.

Every shepherd would be doing an exceeding wise thing if he would make it a point to open and make a thorough examination of every sheep that dies, excepting those from

a contagious disease. He will thereby get a pretty correct idea of the cause of the animal's death and will gain knowledge that may in the future be the means of saving the lives of animals of great value.

Although not absolutely necessary that the young shepherd should be versed in the science and art of dissecting, he should have sufficient knowledge, however, in this respect, to allow of his opening a sheep or lamb in such a way and manner that each internal organ of its anatomy will be clearly laid open to view and inspection.

Without a slight knowledge of the anatomy of the animal he is working in the dark, even in such trivial matters as knowing where to examine for the now common stomach worm. It is surprising how many people, when examining the stomach of a sheep for worms, overlook or fail to find its home or habitat, simply because they take the fourth stomach to be an intestine instead of a stomach. In the half-tone used in illustrating this article is a mark showing just where the fourth stomach is situated, so that should any of my readers have occasion at any time to make an examination for the dreaded pest they may strike the correct place right off without trouble. The lamb which is the subject of the illustration above mentioned was opened in the way and manner that I recommend and describe below.

In opening a sheep for the purpose of making a post-mortem examination of it, a somewhat different method is used from that usually employed by the slaughterman in opening animals when dressing them for the market.

Before commencing a post-mortem the operator should provide himself with a liquid disinfectant wherein he may dip his hands occasionally as a safeguard against blood-



PARTIALLY DISSECTED SHEEP.
Arrow Shows Habitat of Stomach Worm,

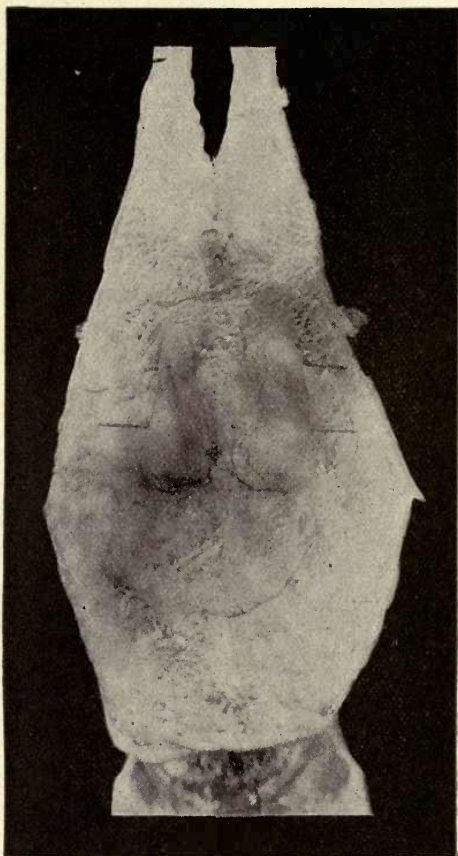
poisoning. A solution of carbolic acid makes a splendid antiseptic and disinfectant for this purpose.

In making the post-mortem examination instead of cutting the sheep down through the breast and belly as is usual in dressing an animal for the market the operator lays the animal on its back, takes one of the hind legs in his hand and with his knife cuts through the flesh of the "groin," or the inside of the leg, to the bone. If the operator has pressed rather heavily on the leg he will notice that his knife has managed to steer in the exact direction where the thigh joint lies. This should be dislocated or unjointed and laid on the ground. Now the skin should be removed from the side with one or two passes of the knife. In the hands of a skillful operator the whole of the skin along the animal's side and whole shoulder is removed. Of course none but those having had considerable practice along this line are expected to accomplish this very readily at first. The skin of the side and shoulder being loosened and allowed to lay on the ground, the whole of the abdomen is laid open. Now, instead of opening the breast bone in the center, as the slaughterman does in dressing an animal, the operator should take his knife and cut through the ribs at a point about an inch below the breast. Here the bone is very soft, being little more than a soft cartilage. To expose the cavity of the chest it is necessary that the whole side of the ribs be disconnected from the vertebrae, or backbone. This is very easily accomplished by cutting down through the ribs, taking about two at a time, in the exact same manner as a butcher would in cutting off a mutton chop. As soon as the knife reaches the backbone the operator presses hard on the ribs, and they will readily leave the backbone or

vertebrae. In the case of young lambs the whole side of ribs can be broken down after being cut once down through the gristle above mentioned. If the knife be run along the joints where they join the backbone the ribs will be found to break down much easier.







LAMB DRESSED WITH LONG BACKSETS

PART VI.

Slaughtering and Dressing Sheep and Lambs for Market.

WHAT appears under this heading is the outgrowth of several years' practical experience by the writer in the slaughtering and dressing of sheep and lambs intended for display before the aristocratic patron and the aristocratic butcher of both this and the old country.

In England, where the writer spent many of his youthful days as a "knight of the cleaver," butchering, as a trade, is carried on, on lines bordering perfection. I have never yet had the privilege of seeing displayed in any country the carcasses of animals so beautifully dressed as those prepared by the butchers in England, the elegant, flowery, finished style of dressing approaching a real work of art.

The reason of this is clearly apparent when it is understood that one has to serve a two or three years' apprenticeship to the business in addition to the payment of a premium of from \$250 to \$500 before he becomes the possessor of the countersign that passes him on to the lucrative employment with an up-to-date purveyor of meat.

The writer looks back with fond remembrance and pride to the time when at the age of 20 he held the position of first in slaughterhouse to one of the old country's most prominent butchers.

Whilst it is, comparatively, an easy matter for me to tell the reader how to respectably dress a sheep or lamb for the market, I could not promise to make a proficient butcher out of him without his studiously devoting himself to the practical work. "Practice makes perfect," and it is by continual practice only that a butcher can ever hope to become an expert in his business. The shorthand writer, and the telegraph operator can best understand what practice means in regard to speed and cleanliness of work. Speed means cleanliness and neatness in slaughtering.

No one will, I think, question my contention that the shepherd or flockmaster who can dress his fat stock neatly, and put same directly in the consumers' hands, or nearly so, thereby monopolizing the middleman's profits, is an economist, and is making the best of circumstances. It should be borne in mind, however, that sheep and lambs must be dressed in a neat, business-like manner when intended for the market, or the probabilities are that the price received from the consignment will not be just what the vendor expected.

There is money in really good, fat spring lambs when properly marketed. I have sent good fat Dorset spring lambs to restaurants in Philadelphia which, in the month of February, realized as high as \$10 per head at a dressed weight of twenty-two pounds, whereas a lamb weighing from five to ten pounds more would not perhaps in June fetch more than one-half that amount.

The one most vital point that proves fatal to overlook, is, whether catering to the wholesale, retail or private trade—that nothing should be offered but prime ripe, fat animals, dressed in a neat, clean and business-like manner.

Among English butchers it is a common saying that "a fat animal dresses itself." Nothing to the author's mind offers such a deplorable spectacle from a butcher's point of view as a half-fattened, ill-fed carcass of lamb. The meat from such appears dirty and unwholesome in contrast with the well-fattened one, whose caul and kidney shows up as clean and bright as the new minted dollar.

Selection of Fat Lambs.

A lamb having a fat tail has almost invariably a thick, beautiful caul and kidneys—a great desideratum. It does not follow, however, that a lamb with a thick caul and kidneys is in reality a good lamb in the truest sense of the word. The Merino, for instance, as is also the case with the Channel Island breeds of cattle, almost invariably, when in good condition, carry most magnificent cauls and internal fat, but having been bred along lines other than for mutton and beef production, respectively, are decidedly indifferent for these purposes. Individuals vary considerably in quality, even among one and the same breed, and fed under the exact same conditions, but it must be borne in mind that the best markets demand a good article, therefore, when mutton and lamb are considered, none but prime thick-fleshed animals should be selected for slaughter, or for shipment at least.

To ship a half-fat, ill-dressed sheep or lamb to a commission house and expect "returns" equal to those received from the prime article is, to say the least, placing the salesman in a queer predicament, for he cannot possibly get such results; therefore it is imperative that the shipper be very

careful in selecting the lambs which he intends for slaughter. It is not the weight or age of the lamb that commands the price, but rather the condition and quality.

For degree of thickness of the flesh, the loins, twist and scrag are the principal points to be examined, when these points are found to be thick and full, and in their company we find a fat tail we may feel satisfied we have a good subject for slaughter.

When inspecting and selecting fat stock for suitable subjects for dressing it should be handled freely and not delicately, as if handling a delicate fabric.

Fasting.

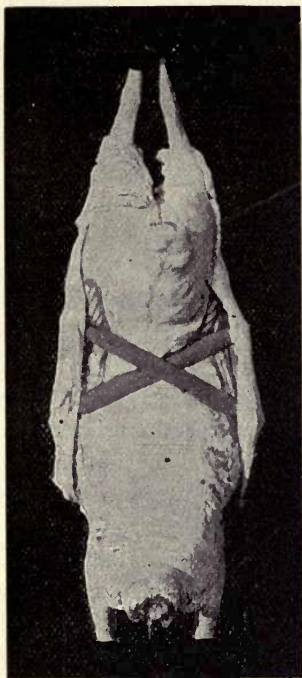
All animals should be fasted not less than twelve hours before being killed. The meat undoubtedly settles and cools better, to say nothing of the danger of the bursting of the intestines being minimized in the process of dressing.

Appliances for Slaughtering.

The appliances necessary for the home slaughtering of sheep and lambs are few in number, and of but moderate cost. A sticking knife, a skinning knife, a small pulley and rope for the purpose of hoisting the animal after being "legged," a few back-sets and a bundle of skewers make a fairly respectable outfit for the "home-made" butcher.

Sticking.

Nothing chills the blood of a professional butcher more perhaps than the perusal of some articles in which amateurs or novices pretend to give instructions how to kill



LAMB DRESSED WITH SHORT BACKSETS
BACK VIEW.

and dress sheep and lambs for the market; many of which advocate killing by decapitation with the broad-ax. That decapitation with the broad-ax will quickly terminate a sheep or lamb's existence there is not the slightest doubt, but it is an uncouth, dirty, impracticable method to pursue. I have had practical experience in quite a number of up-to-date slaughter houses, and opportunities for observation in many more, but I have never seen an animal decapitated with this instrument in either yet.

The sticking knife is what its name implies and is the tool par excellence for dispatching animals intended for conversion into human food.

Again, the novice tells us that the carcass should be washed both inside and out. What for? pray! Unless dirt and filth has accumulated on the carcass? Why wash what Nature has seen fit to keep scrupulously clean? An unclean, unskillful manipulator of the knife has undoubtedly great cause for washing both the inside and outside of the carcass he has been working on, but a skillful one has no further use for water other than what he uses in rinsing his "wiping cloth."

Further, the novice will tell you that the wool that comes in contact with the flesh gives the mutton a woolly flavor. The way a professional slaughterman opens the skin of or dresses his sheep entirely prevents the wool coming in contact with the flesh, so I can hardly allow this theory to pass unchallenged.

Here is my theory, which, I am satisfied, is well grounded, from what I have observed after a long and careful study of the subject: When an animal has laid for any considerable time after being killed, gas accumulates or generates in the stomach. This gas has the exact same odor as is carried

by mutton known as "woolly" mutton. Where, as in some cases, two or more slaughtermen are working in company it is usual that quite a number of sheep are "stuck down" at one sticking, and it is then noticeable, usually, that by the time the last one of these is dressed, the stomach has become distended with gas. Upon smelling the inside of this carcass the "woolly" odor is plainly smelt; therefore, my contention is that a slow dresser is the manufacturer of woolly mutton. Scarcely is the life out of the animal before the gas commences to accumulate. The swelling of the stomach proves this. This is the commencement of decay. It is a well-known fact that a "guttled" carcass does not decompose nearly so rapidly as one remaining intact, or not "guttled."

It appears somewhat unreasonable to the writer to suppose that wool in coming in contact with the flesh for so short a period and in so slight a degree as is usual in the course of dressing a sheep or a lamb, can possibly be the cause of woolly mutton, because the skinning of a sheep should not, at the outside, take more than ten minutes, when done by one laying any claim at all to being a butcher. The record time for dressing sheep is, I believe, under three minutes. Now when we consider the case of newly shorn sheep it appears almost impossible that the woolly flavor of mutton can be traced to the wool through coming in contact with the flesh, but the truth is the woolly flavor is no less in evidence in newly shorn sheep than in those clothed in their longest or heaviest coats—where the animal has been allowed to lay for any considerable time after being dead before being "guttled." Further, it appears very unreasonable to suppose that through the wool coming in contact with the flesh on the outside of the carcass that

this should impregnate the inside of same with that woolly flavor of which it invariably smells the strongest

In sticking both sheep and lambs where modern appliances are not at command, the intended subject for slaughter should be placed on its left side with its head over the gutter that should run through the slaughter house, the operator then taking its head or nose and underjaw together in his left hand, plunges the sticking knife clear through its neck at a point just back of its ear and as close to the jaw bone as possible, and then, with a quick motion of the knife cuts toward the vertebrae. This severs the jugular vein, and the animal's life blood rapidly flows away. In sticking a sheep it is not necessary or even advisable to sever either the windpipe or the tube through which the food goes on its journey to the stomach.

Pithing.

The butcher will perform a very humane act by "pithing" the subject he is working on. This is done in the following manner: Put the left hand under the animal's lower jaw and the other on top of its head, or poll then by pushing or bearing down on the head with the right hand and pulling up with the left hand the vertebrae of the neck disjoints and allows of the finger passing to the spinal cord. This is easily severed by the fore-finger. This being done there is no possible chance of the animal bleating, or ever regaining its feet again. The first lamb dead furnishes the means of holding or pinning the next intended victim in place for sticking. Put it on its left side, then push its under legs underneath the body of the dead lamb and it is helpless after another one has been placed in like position with its legs

placed underneath it. Put all you intend "sticking down" in this "fix," then "stick" the whole of them, being careful, however, not to stick more than you or your company can dress in a reasonable time. In winter fewer should be "stuck down" at a time than in summer, as they will soon become cold and stiff and will not dress nearly so nice as when not allowed to become cold and stiff.

Legging.

By "legging" is meant the opening and loosening the skin of the legs preparatory to the animal being hung up for the removal of the skin from the body. In legging an animal a proper skinning knife should be used, or one not so extremely pointed as is the sticking knife. As soon as life is extinct lay the animal on its back, then take its left front foot, or leg, between your knees and take the skin on the fore part of the shank between the forefinger and thumb of the left hand and with a steady, vigorous pull, pull it away from the shank-bone, then with an upward cut with your sharp knife, the whole of the skin on the fore part of the shank may be loosened at one sweep. The skin must now be opened from the knee down the side of the breast to a point in the center of the under jaw. In opening the skin keep your knife a little to one side; this prevents of its "dipping" into the flesh. As soon as the skin is opened the edges on either side of the opening must be loosened a very little by skinning in the ordinary way with the blade of the knife. Now the remaining part of the neck, leg, etc., is easily and rapidly skinned by a vigorous pounding with the handle of the knife, between the skin and the flesh. The less that the skin is removed from the animal before being

hung up, in reality, the better, as the carcass is better preserved from dirt, etc., and the less the blade of the knife is used in skinning the better, if you want to make time.

The other front leg may now be treated in precisely the same manner, only that it is not necessary to open the skin further than at point of breast.

I have found it best, in the case of mature sheep, to loosen the skin from off the breast whilst the animal lays on its back on the ground. This is accomplished by placing the skin already removed from the animal's neck in its ordinary position, and on this place your foot, then grasping the loose skin at the point of the breast you pull the skin backward toward the stern of the animal. If it appears that the breast fat is coming off the breast in company with the skin, the knife must be used to free it. As soon as the thick skin of the breast is loosened the skin around the underside of ribs and belly can be loosened almost in a moment by holding the skin firmly in the left hand and pushing the other hand vigorously between the skin and the flesh.

Wizzling.

"Wizzling," in slaughter house vernacular, means the loosening of the gullet or tube that conveys the food to the stomach from the neck, so as to allow of its being withdrawn with the stomach and intestines of the animal. This tube, it must be mentioned, after being loosened from the neck, is cut off about equidistant from the breast and jaw, and securely tied to prevent escape of contents of stomach.

The operation of "wizzling" is performed in the following manner: In a straight line from point of the breast to under-

jaw open with your knife; the first thing you will notice will be the windpipe; care should be used not to cut this, although it is not really important to do so. Underneath the windpipe will be found the gullet or, rather, the "meat gut," snugly hidden away. This must be loosened from the neck, tied and cut off, and then with a gentle pull should be loosened from the chest, but not detached from the stomach. If the outside brown casing be carefully cut you will notice underneath a white, tough, muscular tube. This is the meat gut, proper; the brown-looking outer tube being the casing or protection to the gullet, proper. If a circle be described around the white tube by cutting the brown casing clear around and the tube then tied in a knot at this point, there will be no danger of the knot slipping or untying. Care must be observed not to cut through the white tube, or a disagreeable leakage will result.

The hind legs must now receive attention. Take the left hind leg between your knees, then open the skin at about three inches below the hoof on the back part of the leg where the tendons are situated; in doing this it is well to leave a little of the skin on around the leg next the hoof. (See illustration.) Continue opening of skin to point of tail. As soon as you find the skin tolerably free on the edges from skinning with blade of knife, pound the skin free with the handle of your knife. The skin is easily divided from the flesh by thus proceeding. The remaining leg being treated in like manner, the subject is now ready for hanging up, the pulley now coming into play for this purpose. Should the operator not happen to have at hand the little iron hooks or gambrils usually used for the purpose of suspending the carcass, he may insert his knife between the

cords and shank bones of the legs—hind legs, of course—and after inserting a small piece of rope or strong twine several times doubled through the holes made by doing this and tying same securely, hang up the carcass by this.

The animal now being hung up the operator should allow of the escape of all drainings of the veins by sticking his knife into the breast of the carcass much in the manner that is usually followed in the sticking of a pig or steer. The blood readily escapes and makes the matter of dressing more cleanly. Having proceeded thus far, we now pull the skin from off the hind legs by a downward vigorous pull. By the putting of one's wrist against the "vell" or inside skin, or film, when pulling the skin will prevent this being torn which is of much importance in the skillful dressing of sheep and lambs. Now loosen the thin skin on the inside of the hind legs; this is best accomplished by ordinary skinning with the blade of the knife. In skinning this part be particular to keep the skin strained tight; this greatly facilitates the operation of skinning. The main opening of the skin is now made by cutting straight down through the skin of the belly at a point from the udder or scrotum, as the case may be, to the point of the breast. The skin is now easily freed from the belly and sides by vigorous punches between the skin and the flesh with the fist or the handle of the knife. In removing the skin from the shoulders and the partially skinned shanks of forelegs, the first should be fist driven directly through between the skin and flesh, with a downward thrust, beginning at the point of the shoulder blade; then with pressure of the arm and elbow the "whole business" is removed from side and shank in a "jiffy."

This done, take the shank of left front leg in your right

hand and with the left, strip the skin back toward the backbone. This is easily done. Treat the remaining side in the same manner, only reversing position of hands. Now if the skin be loosened from the rump-fat, the skin can be easily pulled from off the back and detached with the knife at base of the skull. In dressing wethers care should be taken that the scrotum fat be left intact—i. e., it should not be cut off.

Washing.

The carcass of an animal should never be washed; that is, considered in the true sense of the word; but, rather, be wiped with a cloth that has been thoroughly rinsed and wrung as dry as possible immediately before using. As soon as the blood-stains, etc., have been removed by the wiping-cloth, the operator should empty the veins of the back of blood; this is accomplished by a kind of scraping of the veins with the knife, commencing on either side of the backbone and scraping toward the belly.

Gutting.

Gutting is the act of removing the entrails of an animal. First, the breast bone must be divided. This is readily accomplished in the case of lambs and young sheep with the knife, but in the case of aged animals an old knife and hammer, or a meat saw, must necessarily be used to divide the somewhat harder bones. By inserting the knife at the opening at the breast or throat of a lamb and by an upward drawing cut, the knife quickly opens the tender bones of its breast. Care must be used when nearing the diaphragm or

the knife may slip through the soft, grisly bones of the breast and cut the stomach. This would be fatal as regards cleanliness in dressing an animal. Perhaps it would be advisable for the amateur to remove the stomach and intestines before attempting to split up the breast; if this plan is followed the udder or scrotum, as the case may be, should be opened by the hands after the membrane of the flesh has been divided. These will divide in sections in the exact



GRADE YEARLING WETHER.

same way as will an orange—only there is but one division—and will look much better than when wholly divided with the knife. When dressing sheep or lambs it is not necessary or even advisable to open them between the legs, as is usually done in dressing cattle, etc., as the flesh is not only more exposed to, or liable to become covered with, dust, etc., but assumes a dark, dry and unpleasing appearance and lacks that freshness that is so much in evidence where they are left intact until ready to be cut up and offered for sale.

The belly may be opened either by cutting through directly below the division made by dividing the udder or scrotum, or by opening in line with the breast that has been recently split or opened. However, the first mentioned would be the better plan for the novice to pursue until he is more familiar with the anatomy of the animal. It is an easy matter now for the beginner to either "split down" the breast with an old knife and a hammer, or anything handy, or to saw with meat saw without danger of the subject under treatment becoming saturated with any undesirable matter. The "pluck," "hinge" or "haslet" (heart, lungs, liver, etc.) can be easily removed after cutting or loosening the diaphragm. Now wipe inside clean with damp wiping-cloth and we are ready for setting up in artistic style the carcass. The style being determined upon we commence business.

Skewering up the Shanks, etc.

In cold weather the legs of lambs should be skewered up, as no doubt this adds much to the beauty and finish of the carcass, but in hot weather they should be left in their natural position. When the legs are skewered up the surface of the flesh between the shoulder and breast does not dry and consequently the flesh, in warm weather, quickly turns green at that point. By referring to the various illustrations accompanying this article the reader will readily understand how the legs or shanks of a lamb are skewered up. Where skewers are not at hand, the shanks can be held in their proper position by wrapping one of the cords—found inside of the muscle of the legs—around the shank where the foot is taken off. In opening the muscle for the purpose of

finding these cords it should not be cut crossways, as by doing so the cords will be severed, but should be cut lengthways. When taking off the fore feet of a lamb the operator should be careful to take them off at the proper "lamb joint," or he will be at once branded an amateur. The "lamb joint" is not really a joint, but the connection of two bones which appear as if cemented together. This connection is found situated in the shank just above the principal joint of the foot. By drawing his knife across the inside of the fore-leg at the point above mentioned and severing the cords the operator can easily disconnect these bones.

Fixing up a Lamb.

Markets differ somewhat in requirements as regard style and finish in which sheep and lambs should be dressed. Mature, heavy weights are usually dressed in plain style, i. e., without backsets of any kind. (See illustration.) The sides and back, however, may be made to assume an artistic and pleasing appearance with the knife in the hand of a skillful butcher.

In lamb dressing, the New York market asks for a lamb dressed with double backsets (see illustration), whilst the Boston market calls for only one backset.

As soon as the entrails and haslet have been removed and all trace of drainings and smearing of blood eliminated with the damp wiping cloth, the backsets should be used in spreading out the carcass to the best advantage. Backsets can be made out of almost anything that goes in the makeup of a store box. Split a piece of board, leaving it about two inches wide and from one foot to eighteen inches long, ac-

ording to size of lamb being dressed; sharpen at both ends and you have a cheap and quickly made, but nevertheless serviceable backset. These should be provided previous to slaughtering, or where the butcher is not a fast dresser the lamb is liable to become cool and lose the desirable gloss that is pleasingly conspicuous in quickly dressed ones whilst he is preparing these.

The novice quite often makes the mistake of having the backsets too long, which, instead of answering the one most important purpose of contracting or thickening the loin or flank they, on the contrary, spread them too much.

Before inserting the backsets in their proper positions the lamb's back should be broken. Breaking a lamb's back in the process of dressing not only makes it considerably easier for the operator to properly fix the backsets in their proper positions, but helps materially in setting it off to advantage. When the back is broken just behind or back of the kidneys, these organs, clothed as they are in snowy white fat, assume a fuller and more beautiful appearance, especially when they are neatly and properly finished by being fixed up with skewers. Skewering up the kidneys so as to make them appear artistic and pleasing to the eye is no mean accomplishment, and one that is not so easily acquired as might be at first expected. Unless great care is used there is always a great danger of breaking or bursting them—the kidneys, or, more proper, the kidney fat; then, added to this, there is always considerable difficulty experienced by the novice in getting them to assume the right poise or position to make a harmonious and pleasing picture. The easiest and best way to break a lamb's back is for the operator to place one hand on the back directly behind the kidneys and

the other under the breast, and then pushing hard against the back with one hand and lifting up the breast with the other, the work is easily accomplished.

In warm weather the fewer skewers that are used in the dressing of a lamb the better, as without doubt skewering does not tend to enhance the keeping qualities of the meat, but, on the other hand, injures it, as meat will invariably turn green where the skewers are inserted, quicker than any in other parts of the carcass.

The illustration accompanying this chapter will explain how the backsets are inserted better than can the descriptive powers of the writer in a volume of words.

The backsets in place, the subject is now ready for the caul, which should have been neatly and carefully removed from the belly, etc., and placed inside the warm skin of the animal, which should have been folded and preserved after being taken off. This keeps the caul warm, which is absolutely necessary to dress a lamb neatly. Don't do as many amateurs recommend, viz., put the caul into hot water; this is entirely unnecessary and a direct injury, as it destroys the gloss of the caul and makes it look rough and brittle, as against the smooth, glossy and tough appearance of that kept warm by the natural animal heat of the skin. Care must be observed in putting on the caul. As soon as you have it spread out handily wrap it around the hind legs and allow it to hang from them; cut two small holes for the kidneys to come through; then skewer up kidneys as seen in the accompanying illustration. A careful study of the illustration will, I think, give the reader a very clear idea of how the caul, etc., is fixed.

The finishing stroke in the dressing of a lamb is to elim-

inate all blood, moisture and undesirable matter from its throat by thoroughly wiping it with the wiping cloth after same has been thoroughly rinsed and wrung as dry as possible.

How to Fix a Poor Lamb so as to Make It Appear Fat.

"There are tricks in all trades but ours." All kinds of trickery, by all classes of people, in all classes of business are sometimes resorted to "to turn an honest dollar." Slaughtermen that are "sleek" at their business can fix up a poor, thin-fleshed lamb in such a way as to deceive those not well-versed in the business. By what is known as "blowing" the legs and kidneys of a lamb, it can be made to assume a thick, full and rotund appearance. In "blowing" the hind leg of a lamb the operator should make a nitch in the skin on the inside of the shank and insert his steel between the skin and flesh for the purpose of separating one from the other; then place the mouth close to the nitch and inflate the leg. Slaughtermen in the old country use a machine for this purpose. The kidneys are also inflated to give them a full and plump appearance. Another method employed by some butchers to give the kidneys a rotund, full appearance is that known as "padding." By "padding" is meant stuffing something behind the kidneys, such as paper, wiping cloths or rolls of caul, while yet warm. A poor-looking lamb may be materially improved by covering it in the course of dressing with the caul of a good, fat wether sheep. The above-named methods and many others of a like nature are employed in the dressing of lambs in the slaughter house, but of course only by dishonest slaughtermen.

Packing and Shipping.

Where lambs are hog-dressed—i. e., merely gutted and left with skins intact—no packing is necessary, but where they are fully dressed with backsets, etc., they should be neatly sewed in cheese-cloth or some light, clean-looking material. It is usual in the case of spring lamb even where backsets are used, to leave the skin on the animal's back, and also to leave the haslet intact and the head on. I have found it a good plan in shipping to make a light frame or crate of a size that will accommodate two lambs. These should be firmly tied to the crates to prevent the breaking of the caul and otherwise damaging the appearance of the consignment.

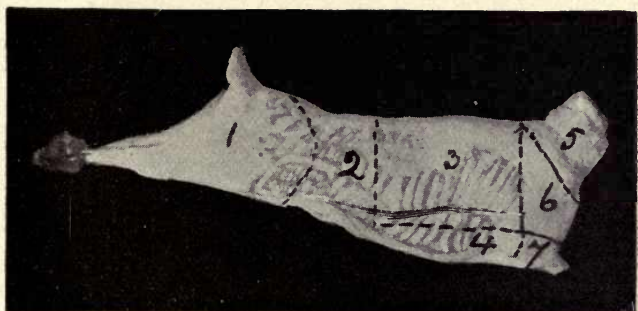
Cleanliness.

“Cleanliness is next to Godliness.” In no other business is this adage more applicable than to that of butchering. Speed and cleanliness should be the watchword of the butcher. All tools should be kept scrupulously clean. The butcher should keep both himself and surroundings scrupulously clean; all carcasses and the cloths in which they are enveloped and expressed should bear the impress of care and cleanliness, so that the article will command notice in the most desirable markets.

How to Cut up a Mutton Carcass.

In addition to slaughtering, every shepherd or flockmaster should have a pretty clear idea of how to cut up a carcass of mutton in a business-like way and manner, for then he is enabled to dispose of his surplus or cull stock to advantage

among his neighbors. No one will question but that a carcass cut up in a clean, business-like manner is more attractive and salable than when cut up in a rough, uncouth manner. When cutting up a carcass the operator should make it a point to cut clear through the flesh to the bone with his knife, and not leave part of it for the saw to go



- | | |
|-----------|-------------------|
| 1. Leg. | 4. Breast. |
| 2. Loin. | 5. Neck or Scrag. |
| 3. Rib. | 6. Shoulder. |
| 7. Shank. | |

through, as by doing so the meat is jagged, which makes it appear very unpleasing to the sight. As soon, however, as the knife reaches the bone he should desist and use the saw, as cutting the bone with the knife of course dulls its edge.

In the accompanying illustration the dotted lines show where the different joints, or sections, of mutton are located, as defined by the Chicago butchers. Of course in different localities different styles of cutting are in vogue, but I

think the one treated of here will answer all intents and purposes of the average flockmaster or shepherd.

In cutting up a carcass of mutton the operator first cuts it in halves at about where the dotted line appears in the center of the body, and the halves are then split into quarters. In cutting a saddle of mutton the two loins should be left intact or undivided, as shown in the accompanying illustration. If the tail is split up a couple of inches it adds to the appearance of the saddle.



SADDLE AND LEGS FROM GRADE YEARLING WETHER.

On Judging Mutton Sheep.



GOOD judges of mutton sheep are those who, after examining the various points of a sheep can, to use an old country phrase, tell how it will "kill." It is, comparatively, an easy matter for a breeder to tell us whether or not a certain sheep of the breed he champions is, or is not, truly conformed, true to type, and symmetrical, but for him to determine whether it will "kill well" and under ordinary circumstances prove profitable to the butcher is quite another matter. A sheep may appear thick and squarely built but may nevertheless make anything but a profitable carcass from the butcher standpoint, for the reason that its thickness is not made up of desirable flesh but rather of superfluous blubber. Sometimes we find sheep dressing not more than 60 lbs. giving more actual weight of flesh than others dressing over 100 lbs.; while the flesh of the loin of the former would perhaps be as broad over as a dollar, that of the latter would not be larger than that of a fifty cent piece. Then again we find in some 100 lb. carcasses of mutton 20 per cent more flesh than are found in others of the same weight. From this we can easily see the advantage a butcher has in profit making when he is a really good judge of what he is buying. If the joints of mutton from the sheep he selects for trade are not sold in their normal shape and condition, but on the other hand have to be reduced say 10 per cent in weight by trimming off a large quantity of superfluous fat to make them saleable and satisfactory to his patrons, it is easy to see that his profits cannot be large from carcasses such as these. Furthermore, what makes it difficult

to the inexperienced to distinguish a thick-fleshed sheep from one excessively thick in "spine" fat, is that the fat is sometimes so solid and firm that it requires the most delicate "touch" and acute judgment to discriminate between the two conditions.

You may ask how I manage to determine the difference myself? My answer is, although I do pretend to know, I cannot find words to properly explain just how I do distinguish between the two conditions. Where two sheep may be selected of the same weight, from the same flock, and fed in the same manner, one of which may be of the unprofitable, thin-fleshed class, and the other one of the desirable thick-fleshed class, there is a difference in the "touch" of the animal which is readily recognized by the practiced butcher. As before mentioned, to be able to distinguish this difference one must have a very sensitive "touch" and much practical experience in handling sheep. Discord or harmony of touch tells whether we are handling a tub of tallow or a wealth of flesh. How very liable judges the world over are to err in making their awards in fat stock classes is often and amply proved by the results of the block test.

I wish it to be understood in the above paragraph that I do not wish to go on record as saying that animals to be profitable to the butcher must not be fat, for I well know that an animal to produce really good, sweet, tender and luscious meat must be fat or "ripe." But what I wish to convey is that fat animals are desirable only when carrying a wealth of flesh in proportion to and in harmony with their degree of fatness. No one will, I think, question my contention that the flesh from fat animals is far and away superior

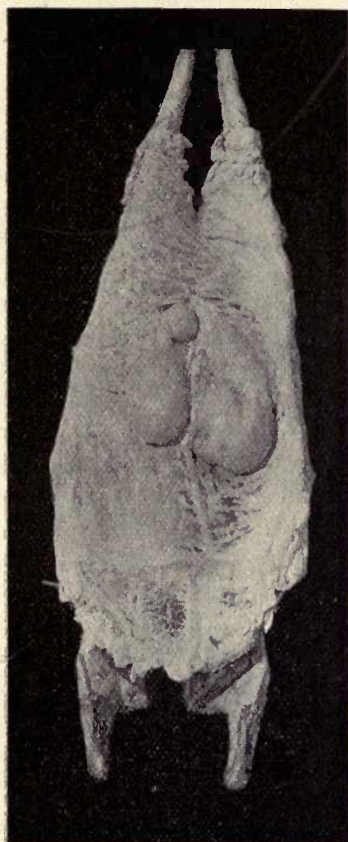


YEARLING WETHER WHEN DRESSED.

to that from the poorly finished ones; the flesh of the latter being too often tough, stringy, and almost tasteless.

It is not my wish or intention to criticise, but I do think, and the block test has proved it to be so time and again, that the judges sometimes selected to pass on the exhibits at the fat stock shows are sometimes working out of their latitude, their decision being given too often from a purely breeder's or fancier's standpoint. Some years ago while looking over the winning pens of yearling wethers at a leading fat stock show I was asked my opinion of a pen that had been awarded champion honors. I expressed myself that so far as the weight of the animals was considered no doubt the judges were right, but if they considered those the kind of animals that would make the butcher money they had without a possible shadow of doubt sadly erred in their judgment. They handled, to my mind, exceedingly blubbery and the "tokens" plainly convinced me that they were so sadly lacking in flesh as to be of very little use to the butcher. My surmises were amply verified by the block test. They proved to be enveloped in a thick mantle of useless "spine" fat that along the loins was not much less than one and a half inches in thickness, while the flesh of the loin was exceedingly poor, that streak of flesh which is in evidence in the loin of mutton from sheep of really good quality being almost entirely absent. How can a butcher possibly make a profit out of such animals? Where is our judgment when we award premiums to animals so poor in flesh and carrying such a superfluity of fat, over those carrying wealth of flesh and teeming with other desirable qualities?

I cannot, perhaps, better illustrate the idea I wish to con-



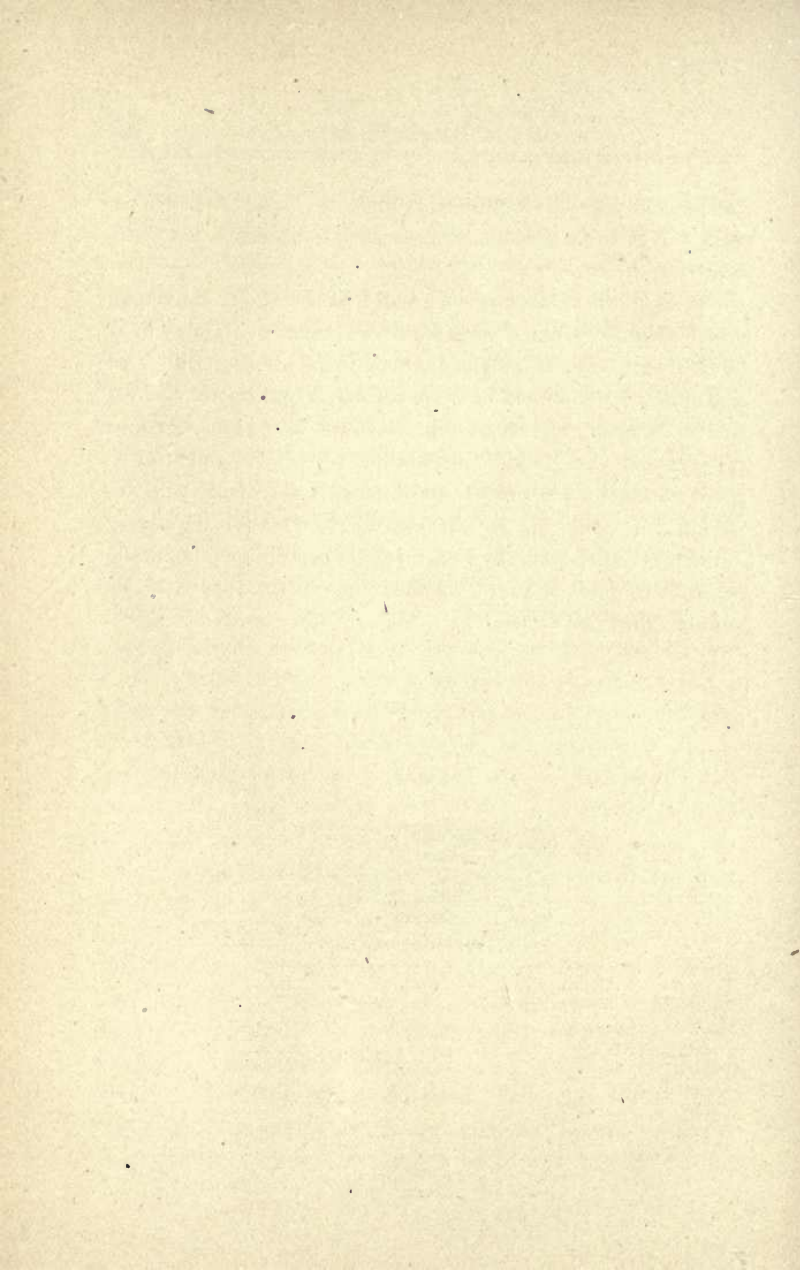
LAMB DRESSED WITH SHORT BACKSETS
FRONT VIEW.

vey of how easy it is for the inexperienced to err in their judgment than by giving a brief history of the yearling Shropshire grade wether herewith illustrated as he appeared both alive and when dressed. Although I call him a yearling he was when slaughtered but 351 days old. His dam was a half-blood Merino; his sire an imported Royal winning Shropshire. From birth to death he was crowded along on the best rations I had at command, among them being rape, lupins, thousand-headed kale and kohlrabi. He dressed 104 lbs. net. I do not know what per cent he dressed as I did not weigh him when alive, but I think I can safely say he dressed over 60 per cent of his live weight. Before killing him I sought the opinion of many flockmasters on his merits as a mutton sheep. Without exception he was conceded to be an animal of true mutton conformation and an ideal mutton sheep. Every one seemed surprised when I expressed my opinion that he was not an ideal mutton sheep. I did not take this stand because he was not a heavy, squarely-built animal, or because he was not fat enough, but because he did not handle as if he was as thick in flesh as he should be, or in other words he did not come under the hand in the condition that he should. I considered him enveloped in a mass of fat that the butcher would have to trim off from the various joints, with the exception of the legs, to make him saleable. I wish to say here it is rarely that a leg of mutton is too fat. Although having a pretty fair leg of mutton I considered him poor in twist—of course I did not expect him to carry such a big muscle as he would have if he had been left uncastrated. Reference to the illustrations will prove to the reader how far I was correct in my judgment. It will be readily seen from the cut of the

saddle and legs of mutton that they are sadly deficient in flesh. Not in so great a degree as is sometimes the case, however.

Although, no doubt the flockmaster is the one to judge and select animals from a breeder's or fancier's standpoint I have always considered the butcher to be the best judge of what the animal should be from the block standpoint. Where one is almost daily handling sheep of all breeds, grades, crosses and ages, and is depending on his judgment to a great extent for his profits, and has the opportunity of comparing the condition of the carcass to that of the living animal, he must naturally become an expert judge and should be able to form a pretty correct opinion of how a sheep should "die" or "kill."





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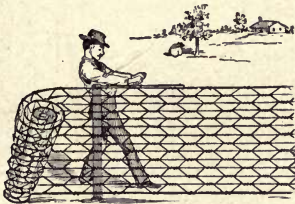
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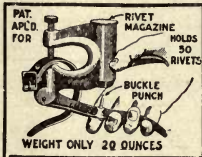
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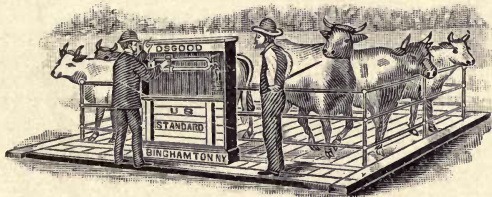
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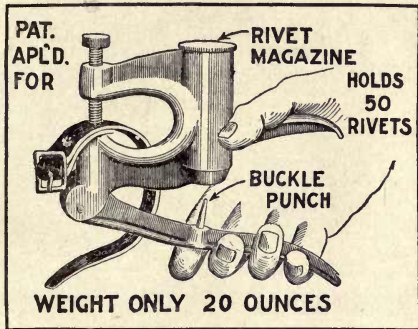
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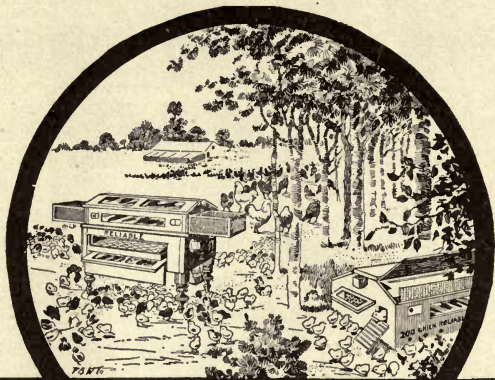
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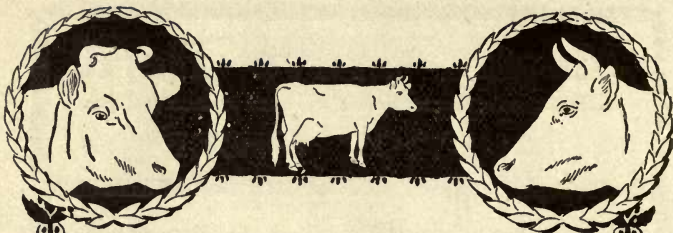
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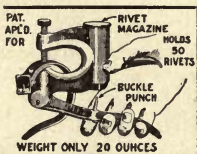
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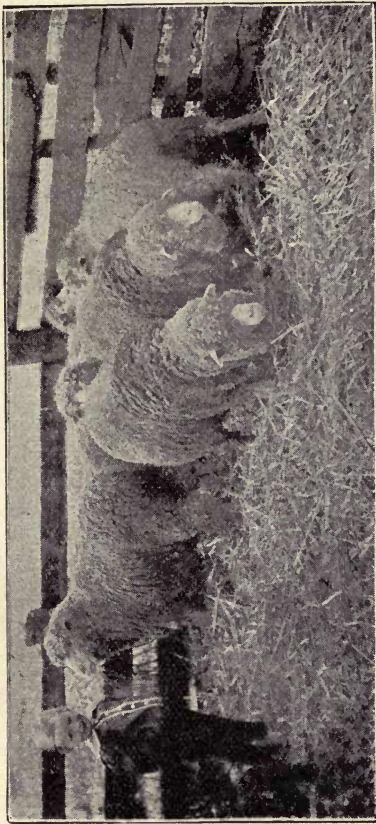
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