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FARMER'S
GUIDE

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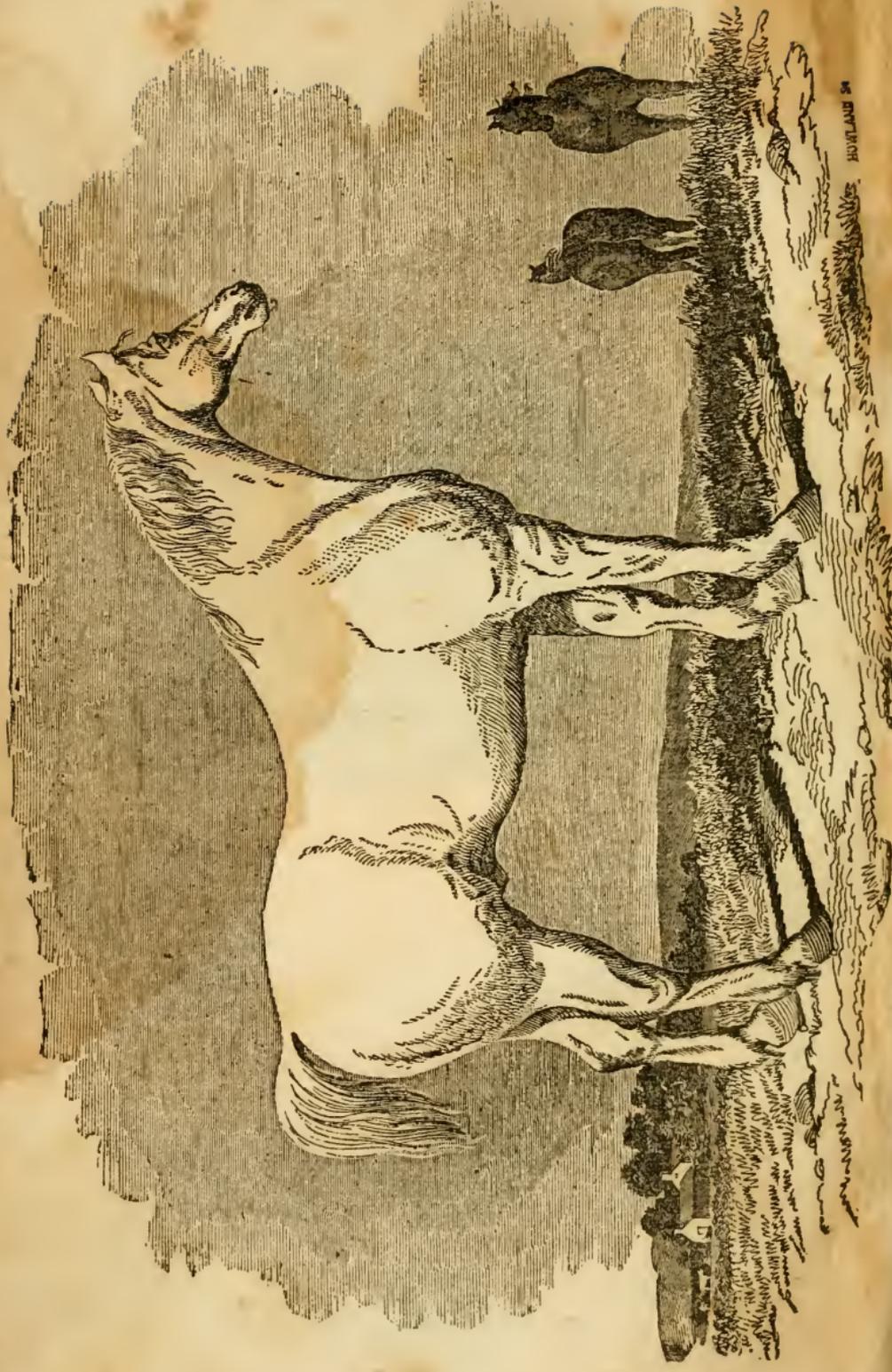
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FARMER'S GUIDE

IN THE

MANAGEMENT

OF

DOMESTIC ANIMALS,

AND

THE TREATMENT OF THEIR DISEASES

A

**Treatise on Horses, Mules, Neat Cattle,
Sheep, Swine, Poultry, Bees, etc.**

BY THOMAS B. WILLIAMS.

EMBELLISHED WITH ENGRAVINGS.

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P R E F A C E.

A KNOWLEDGE of the proper management of domestic animals, and particularly of the causes, preventives, symptoms, and treatment, of the various complaints they are subject to, should be possessed by every farmer. Should a member of his family be indisposed, the medical adviser, expressly educated to prescribe for "the ills that (human) flesh is heir to," can be readily called in, and the case properly treated. But for his quadrupedal and gallinaceous tribes—with the exception, perhaps, of here and there a farrier—no such provision exists; and the farmer, when an animal is attacked by disease, has to rely upon his own skill and resources for its treatment. The dictates of humanity, therefore, as well as a proper regard for the welfare of his flocks, render a knowledge of the proper course to be pursued at such times indispensable. It is with a consciousness of this necessity, and in a measure to supply the wants it indicates, that the present work has been prepared. In addition to the experience of the writer, information has been drawn from the best authorities, some of it from voluminous works not generally accessible; and indeed were they, few farmers would have either the time or the patience to glean it out.

It has been the design of the writer, to make the work strictly practical—to leave speculative reasonings to vol-

umes prepared for those who have time to spend in their perusal—in short, to avoid all superfluous detail, and give the information in as few words as a proper understanding of it would permit. He has given no directions which will not be clearly understood, and which may not be easily followed; and among the prescriptions which he has furnished for the cure or amelioration of animal diseases, he believes none will be found which are not readily available by every farmer. In every case the treatment recommended may be relied on and regarded as neither untried nor hazardous, but such as will generally prove successful.

It was the apology of an eminent writer, for extending a work through several large volumes, that he “had not time to make it more brief;” and although, to those who have not made the experiment, it may appear unreasonable, it may be safely asserted, that, to condense and give within the limits of the present volume, anything like the amount of information which, on examination, it will be found to contain, requires far more time, labor, and patience, than to compile a work of several times the size.

. With these observations, the Farmer’s Guide is respectfully submitted to the judgment of those, for whom it has been especially prepared, in the confident hope that it will be found adequate to the purposes for which it is designed.

T. B. W.

NEW YORK, *May*, 1849.

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THE
FARMER'S GUIDE.

THE HORSE.

Of all animals created for the use of man, the horse is acknowledged to be the most serviceable, and is the most abused by the unthinking and unmerciful. It is tractable, if broken while young. While it is difficult at this day to determine from what quarter of the world horses were originally brought, it is most probable that they came from Asia. They likewise, for ages, have been found in their wild state, in the vast plains of Africa, and in other parts of the world, where their meat has been used for food by the natives.

TO CHOOSE A HORSE.

While it requires much skill to select a horse that is good in every respect, it is very difficult to give such particular directions as will always insure the purchaser against being deceived. To those unacquainted with this animal, and the arts and deceptions often practised by the horse-dealer, it may appear unaccountable that as definite instructions can not be given for the purchase of a *horse* as of other animals. A few general directions are all the limits of this work will allow. A short trial is the best way of estimating his worth; but where this is not allowed, the following suggestions are submitted, and, if followed, will be as sure a safeguard as it is possible to have.

The *eyes* should first be examined as closely as possible, as dealers of long experience are often deceived in them. Clearness of the eyes is a pretty sure evidence of their goodness. It is a bad sign when they appear lifeless or unusually flat. Again, it is a sure indication of

imperfect sight, when he is brought out of a dark stable, for him to wrinkle his brow often, and look up, apparently endeavoring to see plainer.

The *teeth*, in the next place, will require particular examination. A horse has six teeth above and six below in the foremouth, which are denominated the *cutting* teeth. At about two and a half years old it changes two on the top and two on the bottom, which are called the *nippers*; at three and a half it changes two others; at four and a half years it changes the *nook teeth*; at five years old it has a *full mouth*, when the tusks appear. At six years old, the *nook teeth* are a little hollow; at seven years there is a black mark like the end of a ripe bean; after seven years it is difficult to ascertain the exact age of the animal, but as years increase, the flesh will be observed to shrink from the teeth, which grow long and yellow.

The *feet* should next be examined. They should be smooth and tough, of a middle size, without wrinkles. The *heels* should be firm, and not spongy, the *frogs* horny and dry, and the *soles* somewhat hollow, like the inside of a dish or bowl.

Particular regard should be had to the *limbs*, to see that they are free from *splents** and *windgalls*;† the *knees* should be straight, and not bending, or what is called a calf's knee; the *back sinews* strong, well braced, and free from swellings of all kinds; and the *hocks* lean, and free from *spavins* and all *tumors*. The body should be about the medium size, the *back* straight, or have only a moderate sinking below the withers. When the back of a horse is low, or higher behind than before, it is very unsightly, and a sign of weakness. The *ribs* should be large; the *flanks* full; a horse with a short hind quarter does not look well.

It is very important that the *wind* of the horse should be regarded; this can easily be ascertained by the motion of his flanks, after driving him fast for a few rods soon after he drinks in the morning. A broken-winded horse always pinches in his flanks, with a very slow mo-

* There are several kinds of *splents*, viz., the bone-splent, the blood-splent, and the horn-splent.

† Windgalls are soft tumors seated on either side of the fetlock joint.

tion, and drops them suddenly; yet horses whose wind is perfectly good, may breathe thick, in foggy weather, or if foul fed and without sufficient exercise.

There are other particulars that should be observed in choosing a horse. If his *head* be large, and his *neck* fleshy, he will go heavy. It is well to ascertain the *temper* of a horse. If it is good it greatly adds to his value; but if bad, it is always unsafe to use him: this can be easily ascertained by a short trial.

These few instructions may be of great use in purchasing horses; but it requires experience before trusting to one's own judgment, for probably in no business are the arts of deception carried farther than by the horse-dealer; and the best judges are often much deceived.

We come now to treat of the diseases of this noble animal, with their symptoms and treatment.

BOTTS AND WORMS.

Much has been said respecting worms in horses, with but little knowledge. Many horses are kept weak, and low in flesh, and are killed by them. Horses that are well kept are not so subject to worms as those that are hard worked and badly fed. There are different species of worms, but the worst kind is the long round worm, resembling the common earth-worm, of from five to eight inches in length. They are very hard, and inhabit the small intestines.

Symptoms.—The symptoms are various, as the animals are constitutionally different, and the difficulty seated in different parts of the body. When the botts are in the rectum, they are not dangerous, but are often thrust out with the dung. They sometimes breed in the stomach, and often cause convulsions and death. Violent agonies of the creature are an indication of their existence in that part of the body. The eye, also, is dull and glazed. They are often attended with a voracious appetite, which continues to the last.

Cure.—A strong dose of physic, or an injection of linseed oil, will sometimes effect a cure. If physic is preferred, take 1 oz. aloes, 1 dram of calomel (8 drams to

the oz.), 1 dram oil of aniseseed, 2 drams of powdered ginger; beat all up together in a mortar, till the aloes are well broken, and the whole is brought to a paste—which roll into a ball, and give, fasting for one hour after; also give a small quantity of warm water, gently walking the horse until it operates. It will be well to see that the horse is open in body before giving this ball; the animal should also rest for twenty-four hours. If the horse is of small size, the *dose* must not be quite as large as above specified. If this should not effect a cure, the dose must not be repeated short of one week. There is another kind of worm, small, round, and hard, that requires different treatment, to destroy which give the following: 1 dram of calomel, 6 do. of jalap, 6 do. of rhubarb in powder, wrought into a paste and given as above. A small quantity of *rosin*, dried and powdered, may be given before the worm-physic is taken. One ounce per day will be of much benefit.

Botanical Cure for Botts in the Stomach.—Take 8 oz. of dried sage, boil it thoroughly in as small a quantity of water as will answer to get its strength; strain it well; add 1 pt. of sweet milk, and 1 pt. of molasses; give it to the animal; and when it enters the stomach the botts will relinquish their hold and fill themselves with the sweet milk, and the horse will immediately be relieved, when a thorough potion of purgative medicine should be given to carry off the botts, and the animal will speedily recover. This is considered by many who have tried it, to be the most safe and effectual remedy for the botts.

REMARKS.—It requires much judgment to distinguish between the botts and the colic, and similar complaints. Horses are frequently killed by administering powerful medicines, when a simple purgative would have removed the complaint. Probably for no other malady are there as many remedies prescribed as for this, among which are the following: Entrails of fowls, grease, oil, ashes, rye-heads, fresh meat, blood, tobacco, one spoonful of slaked lime, castile soap, molasses, vinegar, soot, new milk, honey, train-oil, laudanum, gin, &c. Care should be taken in administering the above articles, as some of

them are very powerful. Many times when a horse is taken with either *colic* or *botts*, it is found to be very difficult to get an operation of the medicine given, on account of the intestines being completely bound up. Chalk and vinegar are sometimes used as a last remedy, when purgative medicines and injections have failed to operate. When this medicine is administered, it is sure to force a passage in a few minutes or kill the animal.

Directions.—Take $\frac{1}{2}$ lb. of pulverized chalk, and 1 pt. of strong vinegar; put them into a long-necked bottle together, when a powerful fermentation will take place; put the forefinger over the mouth of the bottle, and shake it well; then place the neck of the bottle in the throat of the animal, while his head is extended; take off the finger, and the contents of the bottle will immediately force its way down the throat.

A COLD OR COUGH.

A cold is of such common occurrence, that little attention is generally paid to it; yet long experience has proved that a cold is the foundation of *most* of the diseases incident to horses. A cold is the result of driving the horse till he is hot, and then allowing him to stand exposed to the cold, or neglecting to rub him down after a hard day's work. When a horse has caught cold, a cough will follow; his eyes will be watery, the kernels about his ears and under his jaws will swell, and a slight running at the nose will be apparent. Occasionally the horse will be feverish, and refuse his food. If the cough is very violent, a slight bleeding will generally relieve him. Should this not effect a cure, and he refuse his food and appear feverish, give him the following drink: 2 oz. juice of liquorice, 2 oz. salt of tartar, 2 drams of saffron, 2 oz. honey; dissolve the whole together, in hot water, and give it nearly cold. This drink can be given as occasion requires, but let twenty-four hours first elapse. Or give, if more convenient, 4 oz. aniseseed, 2 oz. liquorice root, 1 oz. gum scammony, 1 oz. nitre; boil these together in three pints of water, for fifteen minutes, strain the liquor, add 2 oz. honey, and give blood warm. If the cough has been of long stand-

ing, with loss of appetite, weakness, and wasting of flesh, it will be necessary to take a moderate quantity of blood. The next day give six quarts of scalded bran, and at night the following: 1 oz. powdered aniseseed, 1 oz. liquorice, 1 dram calomel; work them into a ball with stale bread. The horse should not be worked for two days, and should be kept from drinking very cold water. It is well, at the end of two days, to give the following dose: $\frac{1}{2}$ oz. powdered ginger, 1 oz. aloes, 1 oz. castile soap; put them into a mortar, and make them into a ball with wheat or rye bran. One hour after giving the above, give 3 quarts of warm water, and walk him moderately for an hour or two.

Other Remedies.—Give $\frac{1}{4}$ lb. Epsom salts, and on the following day take the small boughs of the cedar, cut fine and mixed with meal or wet oats. Or, take 2 oz. sulphur, mix with human urine, and give with his food. Or, take a handful of arsesmart, chopped fine, with hay or grain. Or, boil 1 qt. flaxseed half an hour, and give with meal mixed with bran.

FOUNDER

Is an inflammation of the foot, and is occasioned by over exertion, great heat (especially when followed by drinking freely of cold water), or overloading the stomach with heavy grain. Horses are oftener hurt in the feet than anywhere else. The utmost care should be taken, while travelling, to let them drink but little at a time, and never to feed with unripe grain (especially corn). When a horse is foundered, he will show it by great pain and fever in the feet, and extreme lameness. If the attack is very severe, it will be necessary at once to bleed freely from the foot, remove the shoes, and pare the hoofs; after which, place the feet in warm water, or apply flannel wet in warm water, for one hour; then apply poultices for two or three hours. He ought not to be worked for three days. If the attack is slight, moderate bleeding will relieve him. After a horse has once been foundered he is more liable to be injured again in the same manner.

WINDGALLS.

Windgalls are generally found on the hind legs, in the neighborhood of the fetlock, and are generally occasioned by violent action and straining of the tendons. They not only injure the appearance of the horse, but often produce lameness. A very small windgall may not injure a horse for a great length of time, and may be removed by placing a tight bandage upon it; but if the sac is large, bathe it with warm vinegar and spirits of wine, putting a tight bandage round it. If this should fail of a cure, lay on blistering ointment until it is removed.

BONE-SPAVIN.

The bone-spavin is a long excrescence or hard swelling on the inside of the hock in a horse's leg, and it is produced by either kicks or blows, and sometimes by natural causes. Spavins by the former are more easily cured than by the latter, and are also more easily cured in young than in old horses. Sometimes severe lameness is produced when the spavin is first coming out, after which it is better for a while, and is succeeded again by severe lameness.

Treatment.—When the spavin first appears, apply a blister every ten days, which will often effect a cure in a young horse. If the horse is old, the blisters should be applied oftener. A hot iron is sometimes applied with success, but must be used with great caution.

BLOOD-SPAVIN.

Blood-spavins are generally brought on by hard labor, when the horse is young, and sometimes when he is full-grown. This spavin consists in a dilation of the vein that runs along the inside of the hock, and forms a soft swelling in the hollow part, which in time renders the horse lame. On discovering the enlargement of the vein, or a bag forming, lay on some blistering ointment, and in three days after, bathe the part affected with hot vinegar, adding a little saltpetre with it; and also apply a bandage to keep down the swelling.

RINGBONE.

This is too well known to need a particular description here. It may be well, however, to remark, that it

is a deposite of hard bony matter in one of the pasterns, between the fetlock and the foot; but if the pastern be long, it is generally near the foot. A ringbone is difficult to cure; and the only successful treatment is by active blistering in its first stages, or by making a few holes just through the skin, and rubbing well with some penetrating mild oil, followed by blistering. As a last resort, apply the cauterly.

GLANDERS.

This is one of the few disorders to which the horse is subject that, unless taken in its first stages, baffles the skill of the most celebrated doctors. People often mistake other disorders for the glanders. The disease is sometimes communicated by contagion, sometimes it is the result of hereditary transmission, and frequently produced by great fatigue and exhaustion.

Symptoms.—The matter discharged from the nostrils of a glandered horse, is either whitish, yellow, greenish, or tinged with blood. When the disease has been of long standing, and the bones are affected, the matter becomes black, and is very offensive. The glanders are always attended with a swelling of the kernels or glands under the jaws; but in every other respect the horse is healthy and sound, till the disorder has continued a long time. If the glands under the jaw do not continue to swell, and the disorder be recently contracted, a cure can be often effected by applying the following: 1 oz. of rochealum, 1 oz. white vitriol; powder them well, put them in a pint of warm vinegar, and syringe about an ounce up his nostrils every day.

HEAVES, OR BROKEN WIND.

The heaves may usually be avoided, but after this disease is once seated it can not be cured. All that can be done, therefore, is to give rules for prevention, and some remedies that will afford relief when it is seated, and render the horse capable of performing tolerable good service, notwithstanding his misfortune. The first symptom of a broken wind is a dry cough, with an increased appetite, and a disposition to drink large quantities of water. Sometimes the disorder is induced by a sudden

transition from heat to cold, or being confined in damp, cold stables, after severe working. When a horse is troubled with an obstinate dry cough, it will greatly relieve him to bleed him moderately; after which give him two or three doses of physic. Prepare the following: 4 oz. gum ammoniac, 4 oz. asafoetida, 4 oz. squills, $\frac{1}{2}$ oz. saffron, 6 drams of cinnabar of antimony; make the whole up into balls about the size of a large walnut, adding a little honey and liquorice, and give one every other morning. Another: take 1 oz. ginger, 2 table-spoonfuls of tar, and the yolk of an egg, and give every morning—letting the animal drink weak lime-water three times a day. The diet should also be carefully attended to. It will greatly relieve a horse, troubled with this complaint, to feed him with roots, and wet the hay as well as the grain on which he is fed. He should have *moderate* exercise, but none that is violent; and with dry and clean stables he will last for years.

THE STAGGERS.

This is a dangerous disease, and should receive attention at once. It is caused by the liver making blood so fast that the cavity of the heart is overloaded, and the blood flies up the neck vein till the head is likewise overloaded; and unless relief be obtained the horse soon dies.

Symptoms.—The most common are drowsiness, inflamed eyes, a disposition to reel, feebleness, loss of appetite, and the head hanging down or resting on the manger. The horse soon reels, and falls down, and sometimes bites everything that comes in his way.

Cure.—In the first place bleed him, by striking the vein in several places at once, and taking away four or five quarts of blood, according to the size of the animal. Let his head and shoulders be raised by putting a quantity of straw under them. If he survive the first fit, cut several rowels, and give him clysters twice a day, made of barley-water, adding a little sweet-oil and salt; and blow up his nostrils a small quantity of cayenne pepper or white hellebore; also give him, in one quart of warm water, $\frac{1}{2}$ oz. camphor, 16 grains turbith mineral or $\frac{1}{2}$ an oz. ginger, 4 grs. Peruvian bark. If he appears to be

in severe pain, give him, in a little warm water, 1 oz. opium, 1 gill syrup of poppies, 1 oz. tincture guaiacum. Care should be taken that he does not knock his head against anything, as that would aggravate the disorder. He will need a small dose of physic once a fortnight for two months.

THE SCRATCHES.

This disease is often very troublesome to the horse, and, unless speedily cured, often renders him lame and unfit for use. Sometimes in slight attacks of it, after properly cleansing the parts with weak soap-suds, a little flour of sulphur and spirits of wine or vinegar, made into an ointment and applied to the cracks, will effect a cure. Another: take 1 lb. hog's-lard, 4 oz. white-lead, 2 oz. powdered alum, 1 oz. white vitriol, $\frac{1}{2}$ oz. sugar of lead, 3 oz. olive oil; pulverize all but the lard, in a mortar or on a stone slab; then add the lard, and work the whole together until united. A small quantity must be put on the part afflicted, night and morning. In case of wounds or injuries from shoe-corks, it will be best to spread the ointment on bats of tow, and secure them with bandages. This is a neat and very convenient composition, that ought to be kept on hand through the winter. If this disease is not soon checked, it will run into another called the grease, which requires more particular attention.

THE GREASE.

This disorder is generally brought on by soft corns, want of proper cleaning, bad stable-management, hard usage, or an impure state of the blood. A table-spoonful of nitre and sulphur, in equal parts, given each day with his food, is calculated to prevent the grease and refine the blood.

Treatment.—When you first discover the horse's legs to swell after standing several hours, be careful to wash them clean with vinegar and water or soap-suds, every time he comes in, which may prevent or cure the complaint. If this should fail, some simple cooling ointment can be applied. If the disease is not soon removed, and *cracks* make their appearance, a common poultice, with

a few carrots well boiled and mashed, should be applied, which will generally effect a cure; yet, after a few days, when the cracks have healed, a thick flannel cloth should be bound round the affected part, and remain for four or five days. It will greatly assist the full recovery of the animal if, while under treatment, he be kept on green food, and little or no grain be allowed him. If he be able, he ought daily to be moderately exercised.

POLL-EVIL.

This disorder results from some contusion or injury about the head, which produces a swelling, that eventually breaks. When it first makes its appearance, blistering will greatly abate the inflammation, and *may* scatter it; but if this should fail, cold lotions, a moderate dose of physic, and bleeding, will usually effect the object. If the swelling still continue, it can be brought to a state fit for opening by warm poultices. After opening, it is important that the wound should be thoroughly cleansed before it is permitted to heal.

LAMENESS IN THE STIFLE.

The stifle is a very tender part of the horse, and very subject to injury; but it can generally be cured if taken in season. A horse that is lame in the stifle generally treads on his toe, and can not set his heel to the ground without great pain.

Remedy.—For merely a strain in the stifle, take vinegar and a small quantity of oil of spikenard and wormwood, and bathe while warm, holding a hot shovel near the affected part; this will soon contract the ligaments and effect a cure. But should the stifle be out of place, it will be necessary to bring it to its usual position by tying a rope round the foot, and drawing it back for two or three minutes, as much as the strength of one man will allow. This operation sometimes needs repeating two or three mornings in succession. It may be necessary to apply a stifle-shoe to the foot of the well leg, to cause the animal to stand on the lame foot for two or three days. After the above treatment, take white-oak bark, and the bark of the sumac, in equal quantities, and a small quantity of tobacco; boil them for one hour in

water, afterward adding a teaspoonful of cayenne pepper, and bathe the affected part as before. *The beast should not be used until perfectly well, as he will be subject to the same accident till thoroughly cured.*

HORSE-DISTEMPER, OR CATARRH.

This distemper usually attacks horses in the spring and fall. It first shows itself by discharges from the nose, a cough, difficulty of swallowing, soreness and swelling in the glands of the throat, and general debility. If it is attended to immediately, there is little danger; otherwise it often proves fatal. If the attack is not violent, thorough purging with bran-mashes may relieve him; but if the disease is very severe, bleeding, and afterward blistering, must be resorted to. The horse must be kept warm; and if the swelling does not subside, a mild poultice may be applied.

DIABETES.

This disease is very debilitating, and should be attended to as soon as discovered. The horse urinates in immense quantities, which is very little discolored; his thirst is very great; severe debility follows; and his appetite fails. This complaint is produced by either over-exertion, musty hay or grain, want of green fresh food, or an impure state of the blood arising from previous disorders.

Remedy.—Keep him in a warm stable; give him solid food, adding two ounces each of powdered chalk and salt every day; with a few turnips and carrots twice a day; and, generally, he will recover in a short time. Should this, however, fail, it will be necessary to physic moderately. If the disorder does not yield to this treatment, give the following every morning: 1 dram opium, $\frac{1}{2}$ oz. linseed oil (or $\frac{1}{2}$ pt. flaxseed); make into a ball, with sugar or molasses: and if the horse be costive, give a gentle dose of physic.

SLABBERS.

It is supposed that those weeds and plants that cause saliva are lobelia and spurge.

Symptoms.—A continual discharge of saliva from the mouth, which gradually produces languor and weakness.

Remedy.—Keep the horse on dry grain and clean hay; and, if convenient, add a few turnip-tops, cabbage-leaves, or radishes, which will produce immediate relief. Give freely of salt, adding a little sulphur once a week.

SPRAIN OF THE KNEE OR ANKLE.

A horse that trots high is liable to sprain, or it may be produced by a kick from another horse, or by other accidents. The joint swells, and become inflamed. This is difficult to remove.

Remedy.—Take 6 oz. tar, 6 oz. spirits of wine or vinegar, 4 oz. lard; melt these together by a slow heat (being careful not to have them take fire), add flaxseed, to make it into a poultice, and apply it until the swelling is removed.

BRUISES AND BLOWS.

These are produced by accidents of various kinds.

Remedy.—If the bruise be not very severe, apply salt and water with wet cloths, for some time; or, if it be at hand, beef-brine is much more desirable and efficacious. A decoction of tansy and wormwood is likewise beneficial.

SWELLINGS.

It is difficult to give any specific remedies for swellings, as they are the results of such various causes; but the following mixture has been used with great success: When a swelling first appears, bathe it well with vinegar having 1 ounce of saltpetre dissolved in it, after which take 2 oz. extract of lead, 2 oz. spirits of wine or vinegar, 2 oz. spirits of sal. ammoniac, 5 oz. vinegar, and $\frac{1}{2}$ pt. of water; mix, and rub the parts well. If matter should collect (which can be ascertained by the touch), make an incision large enough to let it discharge freely, and apply some healing salve, and dress often.

WOUNDS.

If the wound be small, the sides ought to be brought together by adhesive plaster, if possible; if the wound be large, it should be immediately sewed up with a square-pointed needle and a waxed thread. Great care should be taken to put the needle in straight, one side

over against the other; draw the skin tight, and tie a knot; let the stitches be an inch or an inch and a half apart. No stitch should be taken near a joint, if it can be avoided, and all stitches ought to be taken out as soon as it will answer—at least in two days, unless the wound be very large. Stimulating or healing plasters ought never to be applied to wounds; but it is well to exclude the air as much as possible, which can be done by taking 3 oz. of beeswax and 6 oz. of lard, melted and applied, changing it daily. If a copious discharge takes place, apply powdered rhubarb every night. If proud flesh arise in the wound, when it is partially healed, take 1 dram red precipitate and 3 oz. lard, mix them *well*, and lay them on the proud flesh. This ointment may be used sparingly when proud flesh does not appear. Should the proud flesh not disappear in two days after using the above mixture, lay on a small quantity of blue vitriol, powdered, or apply a little oil of vitriol; should these all fail, as a last resort use a very little corrosive sublimate. It will greatly assist wounds to heal to wash them three times a day with weak soap-suds about blood warm.

To stop Bleeding.—Scrape the inner part of sole-leather very fine, and bind it close on the wound. Puff-ball or powdered charcoal is very serviceable. Cold water, also, is often used with great success.

Another Remedy.—When a wound is not sufficiently large to require sewing up, take 4 oz. blue vitriol, powdered, 2 oz. wheat flour, $\frac{1}{2}$ oz. vinegar, $\frac{1}{4}$ oz. oil vitriol, and a handful of fresh nettles, well bruised; make the whole into a paste. Let the wound be filled up with the paste, and let a bat of tow be bound strongly over it, which is not to be removed under twelve hours.

SPRING-HALT.

This lameness is confined to the hind legs, and shows itself by a sudden jerking of the legs upward when travelling. Occasionally both legs are affected in the same manner. Sometimes relief has been obtained by strong fermentations, applied, while hot, with woollen cloth. No *certain* cure has as yet been found, but, with careful usage, a horse may perform well for years.

DISEASES AND HURTS OF THE FEET.

Horses are oftener injured in the feet than anywhere else. Hurts are often received from the blacksmith; sometimes a nail with a flaw in it will cause a great injury. Again; occasionally a nail, from not being properly pointed, goes into the tender part of the hoof, which (although it may be withdrawn at the time) may occasion a lameness, the cause of which it is difficult to ascertain, as the blacksmith will not always own his fault. Sometimes lameness is occasioned by the hoofs being pared into the quick. No old stumps or pieces ought to be left in the hoof. Care should be taken to pare off the *fore-part* of the hoof instead of the *heel*, when shoeing; from a want of attention to this, tenderness of the foot and *gravel* often result. When the horse shows tenderness in his feet, examine carefully the cause; if it be the gravel, the hoof will need searching, and every particle of sand or gravel removed, or it will continue to operate until it may take months to cure him. After removing every gravelly substance, take common tar, adding a little lard, and apply it to the part affected, so as to preserve the place from further injury. Sometimes corns in the heel produce lameness; cut them out carefully, and dress the part with aquafortis.

HOOF-BOUND.

This appears from the hoofs being dry and hard, with strait heels, which pinch the quick and cause much pain. Pare the hoof thin, and open the foot near the hair (if the horse can be spared from work for a few days), and the hoof will spread sufficiently. In the meantime, keep it well oiled with goose or skunk's grease; after which, put on a thin shoe for two weeks.

CRACKED HOOFS.

This commences on the outside of the hoof, and progresses inwardly. When first noticed, rasp the hoof thoroughly, which will generally effect a cure. If it is deep, it must be thoroughly examined, and all dirt removed; after which take lint made of linen cloth, and balsam of fir, and fill the crack, keeping a flannel cloth wrapped round the fetlock, wet with vinegar.

THRUSH, OR FROG-AIL.

This is occasioned by long exposure to the wet, or standing for a length of time in wet or moist dung. It first appears by a discharge at the side of the frog; it should be attended to or it will injure the whole hoof.

Remedy.—Let the horse be kept in a dry stable, clean thoroughly the part affected, apply tar, a little warmed, twice a day, and let the animal be moderately exercised.

Wash to toughen the Hoofs.—Take a weak brine, and bathe the hoofs often; it will not only keep them from being tender, but it will also prevent their cracking, and allay any heat or fever a horse may contract by working hard in warm weather. The following is another wash which is used with great success: take 6 oz. tar, 8 oz. whale-oil, 4 oz. spirits of turpentine, 2 oz. lard; mix well, and apply to the hoofs three times a week. A little attention to keeping the stables clean, and occasionally examining the hoofs of horses, will prevent most of the disorders to which their feet are subject.

GALLED BACK.

The leaves of gypsum, mashed and applied to the part affected, is considered among the best of remedies. Another is, to take smart-weed, bruised thoroughly, add chamber-lye or salt and water, and wash often. The liquid ought to be kept in a close iron pot, and applied cold. Another remedy: white lead, wet with new milk or cream, and applied—a small quantity at a time. Another: if the injury is very severe, and the skin is much worn, attended with swelling, bathe it with warm salt and water, or with warm human urine; this will, generally, soon abate the swelling. If you wish to dry it up at once, take powdered chalk, or the ashes of old shoes, and apply to the back every morning. If the part does not immediately heal, it may be necessary to give a dose of physic to purify the blood.

FEVERS.

It can easily be ascertained when a horse has a fever, by putting the hands to the nostrils, or by pressing the finger just back of the upper corner of the eye. The

pulse of a horse in good health is about forty to the minute. When it runs as high as sixty or seventy it denotes much fever. At this time avoid all stimulating drinks, feed light, and keep the horse quiet. If he manifest great thirst, make a weak tea of sweet-fern, clover, catnip, thoroughwort, or raspberry, and give it nearly cold. Should the fever not abate, give the following

Fever-ball.—Take of antimonial powder, tartarized antimony, and camphor, each 1 dram; nitre, castile soap, and aloes, each 2 drams: mix with molasses, make into a ball, and give it in the morning; and in six hours after give the following

Purgative Drink.—Take 4 oz. Epsom salts, $\frac{1}{2}$ oz. nitre, $\frac{1}{4}$ lb. coarse sugar, dissolve them in one quart of warm water, then add 6 oz. castor-oil; mix well, and give one gill, *blood-warm*, morning and evening, until a proper passage be obtained.

Powerful Mixture for Fevers.—If the fever be high, it will be necessary to bleed moderately; and three hours after give the following powders: 1 oz. tartar emetic, 2 oz. calcined antimony, 1 oz. calcined hartshorn; grind them, in a mortar, to a fine powder, and keep in a bottle well corked. Two drams will be sufficient for a dose, which, with 1 oz. of nitre, may be given three times a day, in a pint of warm gruel. If the fever be violent, and the horse in a raging state, $\frac{1}{2}$ an ounce of opium may be added to each dose of powders.

SCOURS.

Scours are occasioned by changing from dry to green food, a sudden change of the atmosphere, or from eating some poisonous plant. It is advisable not to check it for a few hours after its appearance, that the system may become thoroughly cleansed. Take 1 pt. rye or Holland gin, $\frac{1}{2}$ oz. laudanum, and $\frac{1}{2}$ oz. indigo; shake them well in a bottle, and give all at one dose. If the disease does not abate after 30 hours, take $\frac{1}{2}$ lb. mutton-tallow, 2 qts new milk; boil 15 minutes; add 1 oz. ginger and 1 oz. laudanum, and give after the horse has fasted three hours. Colts are often troubled with this complaint. One fourth of the above will be a sufficient dose for colts of one year

old; but the following is rather preferable: take 3 eggs, 1 teacupful of wheat-flour, 2 oz. coffee (boiled strong in 1 qt. of water); add all together, and give $\frac{1}{2}$ a pint each morning until a cure is effected.

WINDY COLIC.

Symptoms.—The horse is very restless, lying down and starting up again. When the pain is violent, he has convulsive twitches; his eyes are turned up, and his limbs stretched out, as if dying; and his ears and feet alternately cold: he falls into profuse sweats, and then into cold damps.

Causes.—This disease often proceeds from catching cold by drinking cold water when hot, and the perspirable matter is by that means thrown upon the bowels, which causes them to distend violently, and sometimes brings on an inflammation in the small intestines, when the body begins to swell, and the cure is despaired of.

Remedy.—Empty the straight gut with a small hand dipped in oil; this gives room for the wind to discharge itself, the suppression of urine is removed, upon which the horse immediately stales, and becomes much easier. If the horse be young and full of blood, take a quantity from the neck. When these purgative operations have been performed, the following may be given, as it seldom fails to give relief: 4 oz. tincture of senna, 6 drams tincture of opium, 1 dram oil of juniper, 8 oz. of juniper berries, bruised; put 1 qt. of boiling water on the juniper berries, let them stand a few minutes, strain it off, put all together, and give them to the horse.

THE DRY GRIPES.

Symptoms.—This disorder mostly proceeds from costiveness, and is discovered by the horse's frequent and fruitless attempts to dung, the blackness and hardness of the dung, the frequent motion of his tail, the high color of his urine, and his great uneasiness.

Remedy.—Take 4 oz. castor-oil, 4 oz. tincture of senna, $\frac{1}{2}$ oz. oil of juniper; give them all together, and then the following clyster: boil a handful of marshmallows and camomile flowers in a quart of water, then strain it off, and add two ounces of linseed-oil. If the horse do

not mend, repeat both the drink and the clyster. During this disorder the horse must not have any dry food; but boiled linseed, and scalded bran, with warm water to drink. Gentle walking exercise is a great means to cause the physic to work; but be careful of cold. Carefully avoid all hot, violent medicines, which always prove hurtful in every species of this disorder, and frequently fatal.

GRUBS.

Remedy.—Add a pint of strong vinegar to a cubic inch of chalk; when the effervescence ceases, drench the horse with the liquid from the bottle.

BLEEDING.

It is generally conceded that the best vein for bleeding horses is in the neck, particularly in affections of the head and neck, which is so well understood as not to need a particular description here. No certain rule can be given, as it must depend upon the disease and the condition of the horse. Let the blood flow into a pail, that the quantity may be ascertained. After bleeding, if the blood be taken from the head or neck, it is well to tie the horse's head higher than usual for a few hours. (For bleeding in the foot, see Founder.)

KEEPING HORSES CLEAN, CURRYING, &C.

The experiment has often been tried, of the benefit to horses from being well combed and kept clean. It has been found that a horse neglected as to cleanliness, will not be so well conditioned for either fatness or strength, though he may have abundance of food. Frequent combing and rubbing not only produce a healthy state of the skin, which is very conducive to a correct state of the bowels, but adds essentially to the appearance and activity of the animal.

REARING COLTS.

The raising of this kind of stock is rendered profitable where the right blood can be obtained. The colt requires but little attention after he is one week old. Until then, he is so feeble that it may be necessary to confine the mother to a limited pasture, as too much ex

ercise for the first few days greatly injures him. Judicious farmers confine the colt in the stable if the mare is obliged to perform a large day's travel; but care should be taken, when the mare returns at night with a bag distended with milk, that the colt be kept from her until three fourths of the milk has been extracted by hand, for, by remaining in the bag so long (especially if the weather be warm), it is rendered impure. When colts are five months old, they can safely be weaned, after which they will require fresh tender clover, and rowen. They need warm stabling for the first two years. If the breaking process is commenced carefully at two years old, it renders them the more valuable.

THE MULE.

THE great value of the mule for agricultural purposes has long been known and generally acknowledged. By those who have given this animal a trial, his decided superiority to the horse is universally conceded. The mule, it is true, does not possess the fineness, symmetry, elegance, or commanding action and appearance of the well-bred horse, but for strength, patient endurance of hard usage, slender pasturage, and privation, he is far better suited to the general uses of the farmer, than the horse possibly can be.

In the New-England states, where these hybrid animals were first introduced to any great extent, they were the offspring of such worthless progenitors that they never became general favorites. The breeding of mules, however, has been taken up by the western and southern farmers; and throughout the slave states, especially, where the stock is necessarily exposed to rough treatment, they are considered as an invaluable substitute for the horse. For the caravans that pass over the almost inaccessible ranges which form the continuation of the Rocky mountains, and the extensive and arid plains that lie between and beyond them, on the route to California, mules are the only beasts of burden used in these exhausting and perilous adventures. To sum up the

advantages of working-mules over horses, for farming purposes: they are more easily, surely, and cheaply raised; they are kept, after commencing work, for about half the cost of keeping horses; they are not subject to many of the diseases of the horse, and to others only in a mitigated form—and even these are easily cured in the mule; bleeding at the mouth will cure them of almost every disease, and by being turned out to pasture they will recover from almost every accident; a broken-winded one is scarcely ever known; their skin is tougher than that of the horse, consequently they are not as much worried by flies, nor do they suffer so much by the heat of summer; they attain an age twice as great, and their average working age is probably three times as great as that of the horse; the expenses of shoeing a mule do not exceed one third that of the horse, the animal being lighter, and his hoofs harder, more hairy, and so slow in their growth, that shoes require no removal, and hold on till worn out.

General Treatment.—In breaking mules they should be mated with a swift-walking horse. As before stated, mules are but little subject to disease, except inflammation of the intestines, or colic; and that is generally caused by the grossest exposure to cold and wet, or the excessive drinking of cold water after severe labor, while in a high state of perspiration. In severe cases of colic, a treatment similar to that prescribed for the horse, on page 30, is recommended. In using the medicines, care should be had to proportion the doses to the comparative size of the mule to the horse.

To feed mules with hard, dry corn, is liable to produce colic. Oats are much better feed in every respect, and may be given dry without danger, in any quantity, though it is better to grind, or at least soak them in water a few hours before feeding. Oats make tougher muscle and harder flesh to work on than corn. If corn is used, it ought to be ground with the cob, and mixed up with water, slightly salted, a day or so before being used. If it ferments previous to feeding, or if it can be boiled like mush or hasty pudding, so much the better as it then goes much farther, and is healthier for the an

imal. When mules are taken out to be fed, let them get a little cool before being allowed to drink; then give them a small quantity of water, say one or two quarts, and as they cool give them more, till they finally drink as much as they desire. If the water be very cold, a handful of hot wood-ashes should be thrown into the bucket before drinking—this is generally sure to prevent any ill effects. A gill of ashes should be given to each mule once a week in their feed. Ashes keep the system open, and kill worms and bots in the intestines. It would be better to stable mules, especially when feeding during very hot weather, in copious dewy nights, and in cold rainy weather. Their principal meal should be at night. During the long, hard-working days of the season, they ought to have two hours' rest at noon, and one to one and a half hours' rest in the shorter ones.

NEAT CATTLE.

It is universally acknowledged that neat cattle are among the choicest treasures of the husbandman; and in order to render them more truly valuable, a knowledge of their organization and of the manner of treating the diseases to which they are subject, ought to be possessed by every individual to whose care they are committed. In order to acquire this knowledge, it is not necessary to travel through a multitude of cumbrous volumes; but a sufficient amount of information is contained in this little treatise to give a general view of the subject. The writer will feel well repaid should he be the means of preserving property from loss, or of relieving and preventing, in some degree, the sufferings of animals that have no tongue to plead for themselves.

RULES FOR SELECTING A GOOD MILCH-COW.

Her head should be rather long and small; cheeks thin; muzzle fine; nostrils large and flexible; eyes mild, clear, and large; neck rather long, and *slim* near the head; horns long and small, and of an orange color; small ear, inside of a yellowish tinge; small breast; back level and



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broad, and straight to the rump; well ribbed; wide in the loin; flank low; thighs thin and deep; hind legs small, standing well apart; forelegs rather small below the knee, above the knee large; large teats, of a dark orange-color; bag, when empty, lean, soft, and long; large milking veins; hair short and thick; large hind-quarters; color brindle, bright red, dun, or a light brown.

MARKS OF GOOD WORKING OXEN.

It is well to give some attention to the breed of working cattle. A large share of the Devon and Hereford blood is very desirable. The animal ought to possess a long head and face; extended nostrils; the eye large, keen, and at the same time mild; ears large and thin; horns moderately long, well spread, and not too thick; the head somewhat elevated; neck not very long, full, well set, and moderately thick; breast full; shoulders broad and middling high set; straight back; well ribbed; forelegs large and straight; large knee-joint; hoof broad, and the claws, or toes, set *straight forward* rather than turning out. The most desirable colors are red or brindle, with bright glossy hair.

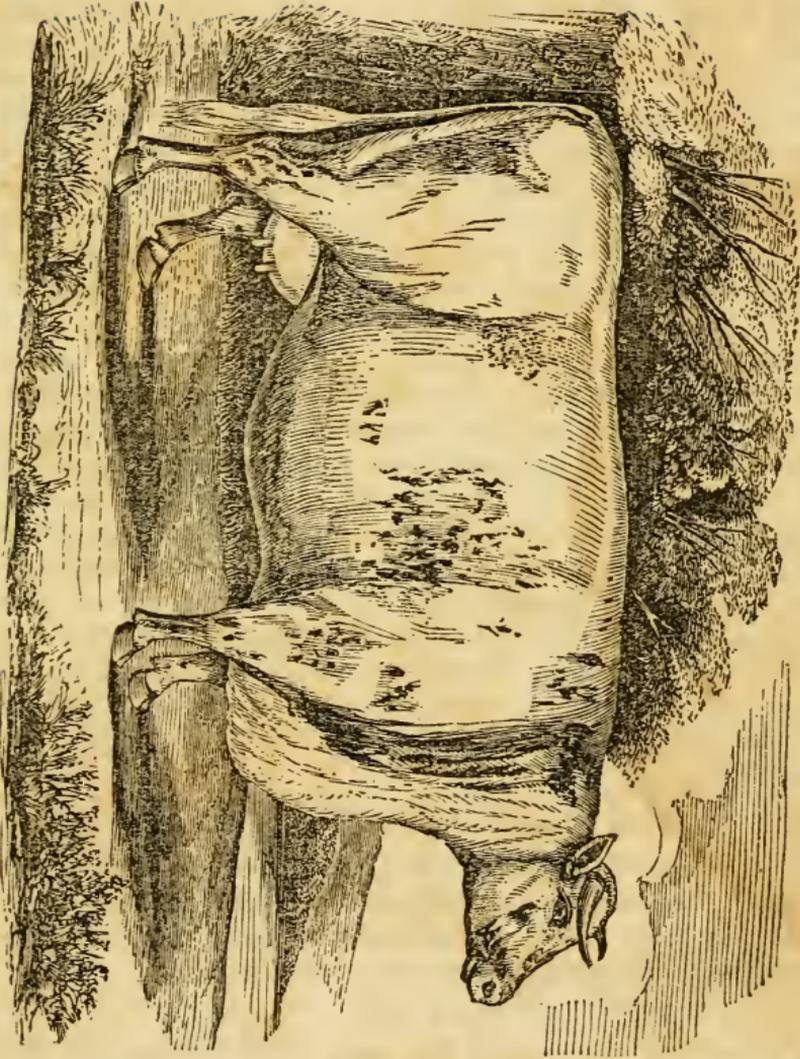
TO ASCERTAIN THE AGE OF CATTLE.

The animal is born with eight cutting teeth in the forepart of the lower jaw, and when about two years old the two middle ones fall out, and are succeeded by others; at three years, the two next to them; at four years, two more; and at five years the entire set of new ones appear. After the animal is five years old, judges can determine the age, with a good degree of accuracy, by observing the wearing down of the teeth; but it is a surer guide after that period, to ascertain the age, to examine the horns, as follows: a cow has a full horn at four years old, but it grows larger every year, and for every year's growth it leaves a wrinkle or ridge round the root, until the beast is twelve or thirteen years old.

TREATMENT FOR PRESERVING CATTLE IN GOOD HEALTH.

It is well to keep them housed in cold or wet weather, but they do not require the stable to be very warm, as

NEAT CATTLE.



by keeping them in barns that are very close, and the air confined or impure, their milk, as well as their health, is greatly injured. Cattle require a good supply of salt, which ought to be given them three times a week; and a full supply of pure water should always be within their reach, or they require watering at least as often as three times a day. Cattle, especially cows, ought never to be kept in a close stable with horses, as diseases are often communicated from one to the other. Nothing is more hurtful to cattle than for them to be stabled where the rain is dropping upon them. Those that have the care of cows can not be too careful that they are always milked clean; if this is not attended to the cow gradually dries up.

Before proceeding to speak of the diseases of cattle, and their treatment, a few suggestions regarding their age and size may not be improper. When administering medicines, the age and constitution of the animal are to be considered, for a strong and healthy beast can bear much more than a weak one. A beast under three years old is not to be treated like one of five or six years of age, for its bowels are tender. As for a bull of four years old, he is to be treated in the same manner as an ox of the same age. There are some very small specimens of cattle, whose strength and constitution are in proportion to their size, and they should be treated accordingly.

TO MAKE TAR-WATER FOR CATTLE.

Take 1 qt. of tar, put to it 4 qts. of water, and stir it well for 15 minutes; let it stand for $\frac{1}{2}$ an hour, and pour it off for use. Do not put water to the same tar more than twice, and give as hereafter prescribed.

PHYSIC.

Purgatives are among the most useful of medicines and, when properly administered, are of incalculable benefit to the husbandman in arresting and curing most of the diseases to which his cattle are subject. Great care should however be taken that the ingredients used are good, and that too large quantities are not given at one time.

PURGING DRINK.

Take 1 lb. glauber salts, 2 oz. powdered ginger, $\frac{1}{2}$ pt. molasses; put all the ingredients together, pour 3 pints boiling water upon them, and give the whole at once, at blood-warm temperature. Another: take 1 lb. Epsom salts, 2 oz. each of powdered aniseseed and ginger, $\frac{1}{2}$ pt. molasses; mix, and give in the same manner as the preceding. Another: take 1 pint of linseed or castor-oil, and give with warm water. Aloes are very extensively used for physic; 4 drams is considered a dose.

Purging drinks are good for inflammatory complaints, for jaundice, or for costiveness. They can be given moderately to old cattle once in six or eight weeks with much benefit.

BLEEDING.

Bleeding is necessary, and of great service, in all inflammations, fevers, bruises about the eyes, and sprains when accompanied with inflammatory symptoms. Great care and judgment are necessary in bleeding, lest it should be carried to excess. It is hazardous to bleed when the spirits are too much exhausted or weakened. It is most proper to bleed by measure; and experience has warranted the rule, that not more than two quarts should be taken away at any *one time*.

HOVEN, OR SWELLING OF THE BOWELS.

This disorder is a temporary one, and results from turning the cattle from short pastures upon wet and luxuriant clover, or other succulent food. It is not the clover that causes it, but too much herbage being thrown into the stomach, it heats and swells before it is thrown back again, and when the weight presses upon the arteries or blood-vessels, it causes a stagnation or stoppage of the blood, and unless relief be soon obtained the animal dies of suffocation.

Symptoms.—Great difficulty of breathing, the paunch is immoderately swollen, the animal exhibits signs of great pain, and in the latter stages the tongue protrudes out of the mouth; a trembling succeeds, and the beast dies.

Remedy.—If the attack is slight, give $\frac{1}{2}$ a teacupful spirits of turpentine added to $\frac{1}{2}$ a pint of lamp-oil; or if

these are not at hand, take 8 oz. of melted butter and give all at one dose. Other remedies: 1, give 1 pt. of lamp-oil; 2, give 2 qts. of strong brine; 3, give a tablespoonful of ammonia mixed with 1 pint of water; 4, give $\frac{1}{2}$ pt. of fresh weak lye from wood ashes; 5, give a teaspoonful of unslaked lime in 1 quart of lukewarm water, and give immediately; 6, give 1 pt. of rye gin or French brandy; 7, give 2 qts. of tar-water with 1 qt. of new milk; 8, give 2 qts. of strong thoroughwort tea with $\frac{1}{4}$ oz. of weak spirits of camphor. Another: if the attack is very severe, the first thing to be done is to let blood pretty freely; then give 3 gills of sweet-oil or $\frac{1}{2}$ a lb. of melted butter. If the beast be able to move, walk it about a little; if this does not give relief, as a last resort take a sharp penknife and make an incision on the left side, about $1\frac{1}{2}$ inches forward of the hip-bone, and back of the last rib. The cut should be $2\frac{1}{2}$ inches deep to reach the paunch. Be careful that you do not strike the loin, for when the animal is so much swollen, it is very deceiving. If the hole fills up, insert a goose-quill or tube, and, after the wind has escaped, apply a strong plaster of Burgundy pitch or common wax; and when the disorder has subsided, put a strong pin through the sides of the wound, and tie it up close with a strong thread. It is well to give a moderate dose of physic once or twice after the animal has recovered. When cattle have eaten poisonous substances, the stomach-pump can be used with great advantage.

Prevention.—When cattle are *first* put into a clover-field, they should not be allowed to fill themselves, especially if the dew is on, or if it is rainy weather, before being removed. If this is followed for a few days, no injury will result.

POISONS.

There are several vegetables that are poisonous to animals, such as fox-glove, wild saffron, deadly nightshade, poison hemlock, branches of the yew, wilted leaves of the wild cherry, laurel, crowfoot, and some others.

Symptoms.—Swelled and inflamed eyelids; body much swollen; dizziness, reeling, inaction, and drowsiness.

Remedy.—Take 1 pt. gin and $\frac{1}{2}$ pt. molasses, and give at one dose. Another: take 2 oz. salts tartar and 12 oz. Epsom salts, dissolve in 6 qts. of water, and give four times a day in four equal parts. Another: bleed moderately, and give 6 oz. castor-oil or $\frac{1}{2}$ lb. fresh butter in 1 qt. of warm water. Another: give 2 oz. castor-oil, and 2 oz. fresh butter, in 1 quart new milk. Another: give 1 pt. linseed-oil and 1 pt. molasses. Give salt freely in all cases.

CHOKING.

Turnips and potatoes, and some other substances, often lodge in the throat of cattle, and are sometimes difficult to remove. When the obstruction is in the throat (after the head of the animal is secured, and precaution taken to prevent the arm being bitten by the animal) the hand can remove it, but when it is farther down, near the stomach, it can be removed by some one of the following

Remedies.—Give a pint of strong soap-suds, holding the head high. Another: sometimes by stopping the breath a moment by holding the windpipe, and starting the animal very suddenly, the obstruction will be carried down. Another: should the substance that causes the obstruction be of a soft character, and lay high in the neck, place a smooth block on one side of the throat, and strike gently on the other side with a mallet, by which it will be crushed, and dislodged. Unless great care be taken, the throat will be injured and inflammation produced. Another: as a last resort, take a small pliable willow, $\frac{3}{4}$ of an inch thick, and 4 feet long; round it smoothly at the end, and wrap tow or cotton firmly round it, about the size of a small hen's egg; wet it in soap-suds, and push it down the throat very gently, and the obstruction will be carried into the stomach. Care ought be taken that all hard substances should be cut fine, and the cattle not disturbed while eating.

COUGHS, COLDS, AND HOOSE.

These are common among cattle, and first show themselves by the eyes looking heavy, mouth dry, heaves in the flank, loss of flesh attended with a cough or wheez-

ing, and indisposition to eat; and often the dung and water fly from the animal in small quantities.

Remedy.—The disease will sometimes abate by keeping the animal warmly housed, and giving warm drinks made of catnip, sage, or pennyroyal, with a good supply of molasses added. Another: take 1 oz. elecampane, 2 oz. liquorice, 2 oz. honey, and $\frac{1}{2}$ pt. molasses; add 1 qt. warm water, mix, and give after 6 hours' fasting. Another: if the disease has been of long standing, or if it has fallen upon the lungs, and is attended with fever, in the first place draw 1 qt. of blood; after which take 4 oz. liverwort, 4 oz. cream of tartar, 2 oz. of nitre, and 1 oz. of saffron; boil them together 10 minutes, in 2 qts. of water, strain, and give warm, half at once, and half 8 hours after. Should the disease still continue, take 1 oz. saffron, 2 oz. liquorice-root, 1 dram squills, $\frac{1}{2}$ pt. molasses, and 2 qts. of water; mix, divide into 4 parts, and give one every 12 hours.

QUINSY.

At the beginning of this disease the beast slavers much, thrusts out its head, and appears languid. Let the animal be brought into a warm stable, and the glands of the throat rubbed with the following ointment: equal parts of spirits of turpentine, linseed-oil, and hartshorn. It ought to be applied four times a day. If it is necessary to open the swelling, make a wash of 1 oz. alum and $\frac{1}{2}$ oz. camphor, and occasionally wash the wound until it is well.

WOUNDS.

Much depends upon the nature of the part where the wound is received. If it is in a fleshy part, endeavor to keep the wound sufficiently open to allow any matter that may collect to escape; if it is a bony part that is injured, keep the wound together by adhesive plasters. Slight wounds in cattle are healed very readily by applying the yolk of a fresh egg and turpentine twice a day. Another: take 4 oz. linseed oil, 3 oz. fine salt, $\frac{1}{2}$ pt. molasses, 1 oz. copperas; boil 10 minutes, let it stand until nearly cold, add 3 oz. turpentine and $\frac{1}{2}$ an oz. oil of vitriol; make the whole into a salve, and bind on a

small quantity at a time, changing it daily. When a wound has been a length of time in healing, proud flesh will sometimes appear. This can be eaten off with a very small quantity of red precipitate or blue vitriol.

Maggots in Wounds.—Wash the wound with weak soap-suds, and apply tar and lard, in equal quantities, keeping the wound from exposure to the weather.

STAGGERS.

This disease is most common in the spring to cattle that have been kept poorly during the winter.

Symptoms.—Drowsiness, inflamed eyes, head hanging down, and reeling.

Remedy.—Give a thorough dose of physic, and injections if necessary. (See staggers in horses, p. 21.)

BLOODY MURRAIN.

Cause.—Intelligent men widely differ as to the cause of this disease. It is, however, very certain, that the following are among the most prominent, viz.: bad water; sudden change of food, from green to dry; feeding in low, damp, cold, meadows and clay lands. In examining cattle that have died from this disease, their liver has been found to be perforated by worms resembling the common leach that is found in some swamp-lands.

Symptoms.—Loss of appetite; slight cough; heaving of the flanks; dulness of the eyes; coldness of the horns; shaking of the head; partial deafness; tenderness over the loins; stupidity; great debility; running at the eyes and nose; slight fever; nauseous breath, and sometimes small eruptions on the skin; staggering when walking; constant discharge of green, black, and sometimes bloody matter from the bowels. If not relieved soon, the animal discharges blood and water from the mouth and nostrils, reels, falls, and dies.

Remedies.—When the disease first appears, remove the animal from the rest of the stock (as this disorder is contagious) to a cool dry stable. Take 1 lb. Epsom salts, dissolve and give them in warm water. Take 3 pts. blood from the neck; rub well with warm water and vinegar. If the physic does not operate, give an injec-

tion of 2 oz. of linseed oil, 2 drams saltpetre, and 1 quart warm water; mix, and use while warm. If the bowels are now open, give $\frac{1}{2}$ pt. of linseed oil. Should it be desirable to stop the purging, take $\frac{1}{2}$ oz. ginger, 3 oz. powdered chalk, 1 oz. laudanum, and give in 1 qt. lukewarm water. While the animal is recovering, give stimulating drink occasionally. Let it run in a dry pasture. Another: At its first attack take away 2 qts. of blood; then give $\frac{1}{2}$ a teacupful of lard, and the same quantity of fine salt, in warm water. Another: melt 1 teacupful of lard, add 1 oz. ginger and 1 gill of turpentine, and give while warm, followed by 2 quarts of warm water. Another: take a teacupful of cedar berries, steep $\frac{1}{2}$ an hour, add 1 pint of molasses, and give while warm.

As this is among diseases that are difficult to cure, it may not be amiss to make the following suggestions by way of prevention: Give, occasionally, tar-water, or put tar in the bottoms of troughs where the cattle are yarded. Salt often, adding a little lime, sulphur, and ashes.

RED WATER.

Some of the symptoms of this disease, and some of the remedies for it, are similar to those under the head of bloody murrain. Cows are subject to it soon after calving; or it may be produced by injuries near the loins or kidneys, or by sudden changes from heat to cold.

Symptoms.—A slight attack of the dysentery, and a discharge of bloody urine, which is soon followed by red water, chills and fevers, hard breathing, dulness, and straining to discharge urine, attended with great debility.

Remedy.—Take away 2 qts. of blood, and give physic as prescribed in the last disease; and likewise give injections if necessary, to bring the bowels to a proper state. Another: after bleeding as above, give 4 oz. Epsom salts, 2 oz. ginger, $\frac{1}{2}$ oz. saltpetre, 3 oz. linseed oil, in 2 quarts of warm water, and keep the animal housed for two days. Another: when the disease assumes a chronic form, give $\frac{1}{2}$ pint linseed oil, 2 oz. ginger, and 1 pt. of molasses, at one dose, followed by moderate draughts of warm water. Another: take 4 oz. gum arabic, 2 oz.

castile soap, $\frac{1}{2}$ oz. balsam copaiva, 4 oz. Epsom salts, and $\frac{1}{2}$ pt. molasses, and give with weak rhubarb tea.

LICE.

As lice do not immediately endanger the life of the beast, it is often neglected, much to the injury of its owner, for it is almost impossible for an animal to thrive while thus afflicted.

Remedy.—Sprinkling snuff moderately on the animal will generally effect a cure. Another: take 2 oz. tobacco-leaves, boil in 2 quarts of water, and apply cold; this, however, is not considered as safe for the animal, as fresh buttermilk applied lukewarm. Another: take water in which potatoes have been boiled, add 2 oz. melted lard, and rub over the beast. Another: any kind of fish oil or lard well applied as above. Another: take equal parts of rye whiskey and warm water, and apply as above.

FEVER.

Cattle are more liable to be attacked with fevers, by the sudden changes in the atmosphere, in the spring and fall, than at other seasons of the year. Too much care can not be taken with *young* cattle, especially, that they be not exposed to storms and *severe cold*.

Symptoms.—Swelling and redness of the eyes, pulse quick, heat at the root of the horns, cold at the ends of the ears, dryness of the nose, dulness, and poor appetite.

Remedy.—Always bleed moderately in its earliest stages, but never let blood after the fever has progressed two or three days. If the fever does not immediately abate after bleeding, give $\frac{3}{4}$ lbs. Epsom salts, dissolved in warm water; should this not operate within half a day, give an injection of soap-suds and $\frac{1}{2}$ an oz. linseed oil; if this treatment does not bring the bowels to a proper state, give small doses of physic every 12 hours until it operates.

INFLAMMATION OF THE STOMACH.

This is produced by changing suddenly from dry to wet or green food, or by eating green corn and noxious weeds.

Symptoms.—Restlessness, lying down, soon getting up again, voiding water often, and wildness and redness of the eyes.

Remedy.—Purge freely with castor-oil, melted lard, Epsom salts, sulphur, or linseed oil; give the usual quantity.

INFLAMMATION OF THE BOWELS.

This is produced by the animal being too high fed, and want of exercise, or in going into the water after being over-heated or greatly fatigued, or a very sudden change of the atmosphere from heat to cold.

Symptoms.—Great costiveness, mouth and nostrils very hot and dry, fever, restlessness, and eyes inflamed.

Remedy.—Bleed 2 quarts, if the attack is very severe; or sometimes an active dose of physic will effect a cure. Should the physic not operate in half an hour, give an injection, and continue to give small doses of physic until it operates; after which feed on light food (such as bran) for 24 hours.

INFLAMMATION OF THE BOWELS.

Causes.—This is caused by being exposed to storms, great changes in the atmosphere, or being over-driven or over-worked and afterward lying on damp ground and taking cold.

Symptoms.—Discharging from the nose, cough, heated breath, coldness in all the extremities, languor, and drowsiness.

Remedy.—As soon as the disease shows itself, bleed 3 quarts; and in 6 hours give a small dose of physic, and give light food for 3 days. Another: after bleeding, give 1 pt. linseed or castor-oil, and feed on wheat or rye bran, giving warm drinks made of flaxseed, ginger, and molasses. Another: lessen the quantity of blood by frequent bleeding, by which the great efflux of blood upon the temporal artery may be lessened; take $\frac{3}{4}$ lb. glauber salts, 1 dram tartarized antimony, 2 drams camphor, $\frac{1}{2}$ a pint molasses, adding 3 pints boiling water, and give blood warm.

THE FRENZY, OR INFLAMMATION OF THE BRAIN.

Causes.—This is a heavy disorder, occasionally attacking cattle that are in high flesh, and usually in the heat of summer, and is occasioned by either rich food or heat of the sun, which induces a rush of blood to the head; or by wounds or contusions in the head, attended with violent inflammations.

Symptoms.—Acute fever, disturbed and frightful countenance, small signs of madness, trembling and staggering, loss of appetite, deafness, and partial blindness, and unless relief is obtained, the animal soon dies.

Remedy.—House in a dark stable, away from noise; bleed freely, which repeat, if necessary, in 12 hours; take 1 oz. jalap, 1 oz. asafœtida, 1 dram calomel, 2 oz. castile soap (cut fine); mix with 1 pt. of molasses. This is a powerful dose, but it will answer to give it at once to a large beast. When recovering, beware of over-exertion or solid food for three days.

MADNESS.

Cause.—This is occasioned by the bite of a rabid dog. It may sometimes be cured by cutting out all the flesh adjoining the wound, and causing it to bleed as much as possible, and applying lunar caustic, or chloride of lime, or potash. There is, however, no certain cure for the malady; therefore, when once the strong symptoms of the malady appear, it will be a mercy to kill the animal.

Symptoms.—Saliva running from the mouth, loss of appetite, eyes red and weeping, continual voiding of urine and dung, extreme thirst in its latter stages, terrible agony, attended with weakness and reeling, which continue till death.

Caution.—Great care should be taken while cutting out the wound that none of the poisonous matter be communicated to the operator, and that the knife be properly cleaned.

BOTS AND WORMS.

These are very seldom found in cattle, yet they have been known to catch them from horses, when confined

in the same stable with them. The treatment in such cases should be much the same as that pursued toward horses, only the doses should be smaller.

COLIC.

Cause.—This results from drinking very cold water, and other causes.

Symptoms.—Great restlessness, constantly lying down and getting up again, eyes red and watery; without *thirst* or *fever*.

Remedy.—Take 2 qts. water, add 1 oz. ginger, 1 gill rye-gin, $\frac{1}{2}$ pt. molasses or $\frac{1}{2}$ lb. coarse brown sugar, and give while moderately warm. Another: take 1 pt. of linseed or castor oil, and give with warm water as above. If this does not relieve the animal, give active injections, as before described. Another: take 3 drams castile soap, 1 dram ginger; boil 10 minutes in 1 qt. water, and give when lukewarm.

YELLOW, OR JAUNDICE.

It is difficult to detect the early approach of this disease, as it is not attended with much pain or striking symptoms. It comes on very gradually, and is occasioned by an affection of the liver, or gall stones, which accumulate in too large numbers to pass freely through the canal which leads into the larger intestines. It may likewise be occasioned by the altered quality of the bile, or by high food and little exercise.

Symptoms.—Dulness, yellowness of the eyes and skin, loss of appetite, high color of the urine, dry hard skin, great languor and drowsiness.

Remedy.—Take 2 oz. aniseed, 2 oz. tumeric root, 1 oz. salt tartar, 1 oz. castile soap, 1 gill molasses; add 1 qt. boiling water, and give blood-warm. Another: bleed moderately, and if the animal is costive, give a full dose of physic; after this has operated thoroughly, astringents may be given, such as drinks made of wild cherry bark, birch bark, or white-oak bark, with $\frac{1}{4}$ oz. laudanum added. As the beast is recovering, give warming drinks made of gentian root, ginger, pennyroyal, sage, or balm.

DYSENTERY, DIARRHŒA, OR LOOSE- NESS.

This is very common among cattle, and weakens them very much. There are many causes operating to produce this complaint, such as exposure to severe storms, change from dry to green food (especially clover), drinking lime-water, pasturing in low, marshy lands in the spring or fall, long fatiguing journeys, over-exertion, eating unripe fruit in large quantities, or poisonous plants, and sometimes from injuries about the abdomen.

Symptoms.—It is soon discovered by the dung, or by great efforts to void it, which indicates the first stages of the disease. It ought not to be checked under twelve hours from its commencement, if produced from over-eating green food. As the disease advances, the discharge becomes slimy, nauseous, mixed with mucus or the inner lining of the intestines, and often tinged with blood. The digestive powers do not discharge their functions, as the food passes off only in part digested. If the attack is only slight, it may pass in a short time without medicine, but it is necessary to see that the disease does not become seated, as it will then be more difficult to cure.

Remedy.—Take 2 qts. of blood from the neck; after which give $\frac{3}{4}$ lb. Epsom salts, with 1 oz. senna (or 1 oz. caraway-seed steeped 15 minutes), add 1 qt. warm water, and give in a lukewarm state. If this does not relieve the animal within 6 hours, take white-pine bark, white-beach bark, and white-oak bark, make a strong tea, adding 2 qts of new milk, and give *blood-warm*. Another: if it is not convenient to bleed, and the disease is violent, take white-pine wood, burn it to a coal, then pound 4 oz. fine, add to it $\frac{1}{4}$ lb. lard or fresh butter; mix the whole with 2 qts. new milk, and give warm, in 4 equal parts, at intervals of 12 hours. Another: take 2 oz. laudanum, 2 drams ginger, $\frac{1}{2}$ oz. powdered chalk; dissolve in 1 qt. new milk, and give warm after the animal has fasted 8 hours.

DIURETICS.

Diuretics are often productive of good, causing a copious flow of urine, calculated to allay or prevent fevers

and other disorders. The following are generally used for remedies : rosin, gin, cream of tartar, turpentine, tobacco, saltpetre, carrots, turnips, apples, potash, pumpkins, and green corn-stalks. Care should be had that too large doses are not given.

BLACK TONGUE.

This is not a very common disease, but it is difficult to cure unless taken in its first stages. None pretend to account for the cause of this complaint ; it generally rages in very cold weather, and among cattle that are poorly fed.

Symptoms.—Dizziness, dulness of the eyes ; the tongue is very much swollen and of a black color ; it continues to swell until it cracks, and the disease extends to the vital parts, and the animal soon dies. Much can be done by way of prevention. When it appears in the neighborhood, cattle ought to have their bowels kept open by gentle purgatives, and kept apart from those that are diseased, and fed twice a day on turnips or potatoes.

Remedy.—When it first makes its appearance, put the beast in a warm stable ; take the inside bark of white-pine, boil it $\frac{1}{2}$ an hour, add 2 oz. cream of tartar, and wash the mouth freely ; take a small quantity of blood from the neck, and give $\frac{1}{4}$ lb. Epsom salts ; in 2 hours give 2 qts. weak tar-water, and repeat it every 8 hours.

HORN-AIL, OR HOLLOW HORN.

This disorder usually attacks cattle in the spring, after a severe winter, and likewise those that are in low flesh, or those that have been over-worked and exposed to severe storms, or reduced by other diseases, or predisposed to take it.

Symptoms.—Eyes dull and discharging yellow matter, dizziness, loss of appetite, shaking of the head, bloody urine, coldness of the horns, stupidity, and great debility.

Remedy.—When the symptoms first appear, house in a warm stable, rub spirits of turpentine and vinegar, in equal parts, round the roots of the horns and back of the ears ; take a double horse-blanket and girt the animal ; bleeding is sometimes resorted to, but it is very dangerous and often fatal ; take 1 oz. saltpetre, 4 oz. Epsom

salts, 2 oz. cream of tartar, dissolve in warm water, and give all at one dose, and repeat it night and morning if necessary. If the above does not operate, take 1 pt. of flaxseed, boil in 3 pts. water for 20 minutes, add 1 pt. new milk, strain, and add $\frac{1}{2}$ pt. linseed or castor oil, and 2 tablespoonfuls of fine salt, and give as an injection. Another: Give a moderate dose of physic, then take 1 gill fine salt, 1 teaspoonful of black pepper, and $\frac{1}{2}$ pt. of cider vinegar, and pour into each ear, keeping it in for a moment. Warm clothes wet in vinegar, applied to the horns for a length of time, and 1 oz. black pepper, and 2 tablespoonfuls of soot, have been found of great benefit.

HOOF-AIL.

Cause.—This is produced by driving cattle long journeys on hard, gravelly, or clayey roads, by letting them stand in the water while warm, and by other causes.

Symptoms.—Swelling above the hoof and between the claws, which occasions lameness, attended with fever.

Remedy.—Take $\frac{1}{2}$ pt. vinegar and strong soap-suds, and wash thoroughly; take fresh butter or lard, adding 2 grains of corrosive sublimate, and apply to the affected part, and put over this a thin wax plaster to keep the beast from licking it, as the corrosive sublimate is a deadly poison. Applying a solution of blue vitriol or opodeldoc to the hoof, after it has been well cleaned, will often effect a cure. Another: apply a poultice made of boiled turnips and lard.

MANGE, SCROFULA, SCURF, OR SCAB.

This disorder is not very common, yet it is dangerous if neglected. It is a cutaneous disease, caused by an impure state of the blood, arising from various causes.

Symptoms.—In the first stage of this disorder the skin is hot and dry, attended with intense itching, which will manifest itself by the animal rubbing his head and neck against the fence or stable; the next stage is the appearance of scabs, or small ulcers on the surface of the skin; small insects (or animalculæ), in great quantities, can be seen with a glass, which are the cause of the uneasiness of the animal.

Remedy.—Let the beast be separated from all others (as this disorder is contagious); give cooling, opening medicines, as the following: take 2 oz. cream of tartar, 1 oz. nitre, 4 drams calomel, and $\frac{1}{2}$ pt. molasses, and give in 3 equal parts within 24 hours. Another: take a card and carefully remove any loose scurf, then give the physic prescribed in the last article; after this, make an ointment of $\frac{1}{2}$ pt. olive-oil, $\frac{1}{2}$ pt. spirits of turpentine, $\frac{1}{2}$ lb. sulphur, $\frac{1}{4}$ lb. hog's lard, and rub the parts affected every other day. Another: after moderately purging, take $\frac{1}{4}$ lb. lard, 2 oz. sulphur, $\frac{1}{2}$ pt. tar, $\frac{1}{2}$ pt. castor or linseed oil, make into an ointment, and apply to the parts affected.

LOSS OF CUD.

This is sometimes occasioned by previous disease, which leaves the animal debilitated, or by indigestion or sudden injuries. Where there is but little fever, give a small dose of salts and ginger, or take $\frac{1}{2}$ pt. gin and 2 oz. ginger; make a cud of boiled clover, or take a cud from another beast and divide it. Afterward make a decoction of oak bark, hoarhound, and balm, and give for one day with dry food.

TAIL DISEASE.

This is a rotting or drying up of the end of the tail in young cattle. By cutting off the tail just above the decayed part and letting it bleed freely, or by slitting the end of it, the disease will generally be removed.

BLACK-LEG.

This malady is known by several names, such as black-blood, blood-striking, and blind-blood. It generally attacks young cattle that are kept high, or it is caused by a sudden change from poor to rich food, or eating unwholesome plants.

Symptoms.—In its first stages the eyes are red and protruding, with high fever, wildness, weakness and staggering of the hinder parts, starting suddenly, lying down and rising again quickly. As the disease advances, the breath is short, producing heaving of the flanks, legs

swell, ulcers appear, and bloody flux sets in, which soon destroys life.

Remedy.—As soon as the disease is apparent, house the beast in a cool stable and bleed 2 quarts; foment the parts affected with salt and vinegar; take $\frac{1}{2}$ pt. linseed or castor oil, 1 oz. ginger, 1 dram aloes, and give with 1 qt. warm water. If the physic should not operate within 6 hours, give injections, as before described. If the medicine operates properly, then give cooling drinks made of 2 drams saltpetre, 1 dram tartar emetic, 1 oz. cream of tartar. As the animal is recovering, give him tea made of flaxseed, raspberry, or sweet-fern.

Caution.—Never bleed except in the first stages of the complaint, and feed on bran or other light food during the continuance of the disease. Occasionally rubbing the limbs that have been affected, with a mixture of salt, vinegar, and mustard, has been found to be very useful in assisting the animal to regain his wonted strength.

OVER-HEATED AND OVER-WORKED.

Oxen are often overworked in warm weather by intrusting them to the care of inexperienced persons. The injury thus received is greater than is generally supposed, as it is difficult ever to restore the animal to his original strength and value.

Caution.—Never let the animal have access to cold water until he is perfectly cool.

Remedy.—Give at once to each ox from $1\frac{1}{2}$ pints to 1 quart (according to the size of the animal) of St. Croix rum, or the same quantity of gin, New-England rum, or whiskey, or a little less quantity of French brandy, followed by 2 quarts warm water, in the meantime driving the animal around the yard moderately, for a short time, when he will generally be out of danger. A mild potion of physic ought to be given soon after. Another: if ardent spirits are not at hand, take 1 oz. cayenne or black pepper, 1 oz. ginger, and $\frac{1}{2}$ pt. molasses; mix with 1 qt. warm water, and give, keeping the beast moderately moving. Where oxen have been over-drawn without heating, to 3 oz. castile soap dissolved in warm water add $\frac{1}{2}$ oz. ginger and 1 qt. new milk, and give at one dose

RUPTURE, BREACH, OR HERNIA.

This is occasioned by some external injury, by which the intestines protrude through the lining of the abdomen, although the skin may not be broken.

Treatment.—The animal must be cast, and the feet confined; then cut the skin somewhat larger than the rupture, taking care that the protruding intestines are not injured; return the intestines thus extending, carefully sewing the inner rupture; after which sew up the outer skin, and take salve of mutton tallow and beeswax and apply a little to the wound. If the injury be severe, draw a bandage close round the animal, and let it remain four or five days; or apply a large adhesive plaster of Burgundy pitch or common wax, and let it remain one week.

WARTS.

Remedy.—Confine the animal, lance the warts, apply blue vitriol in small quantities, and bind on a small piece of raw fat pork for two days. Another: take green turnips or carrots, with fine salt, and apply for two days. Another: take a fine silk or linen cord, and tie closely round the wart, and it will fall off in three or four days. Afterward apply strong alum-water occasionally for two days. Another: the bark of the common willow burnt to ashes, mixed with strong vinegar, and applied to the parts, will usually remove all warts and other excrescences.

WENS.

Remedy.—If the wen is troublesome or growing rapidly, cast the animal, and carefully cut it out. After letting it bleed freely (say 1 qt.), take a mixture of fine salt and powdered rosin, in equal quantities, mixed with a small quantity of tar-water, and apply to the wound, then sew up the skin, taking care that the stitches on each side are set opposite each other. Wens have been cured in their first stages by applying warm brine repeatedly.

Another: make a very strong brine, dip in a piece of flannel three times doubled, and apply it to the wen; keep it constantly wet, day and night, until suppuration takes place.

BRUISES AND SORES.

Remedy.—Over the whole sore or where the part is bruised, or where there is a tendency to suppuration, a poultice should be applied, and kept on with bandages. The poultice may be made of any kind of meal, fine bran, bruised flaxseed, or of mustard, turnips, carrots, &c. Another: take 1 qt. of wheat or rye bran, pour on a sufficient quantity of boiling water to make a thin paste; to this add enough of flaxseed powder to give it a proper consistence. This poultice may be kept on as long as required, changing it twice a day. After removing the poultice, cleanse the wound by rinsing it with lukewarm water once a day; after this, apply some mild ointment. (See next article.)

Ointment for Wounds, Bruises, and Sores, in Cattle.—After poulticing (as above described), and the bruise puts on a healthy or reddish color (not black or bloody), apply an ointment made of tallow, linseed oil, beeswax, and lard, proportioned to the consistence of butter; spread the ointment on linen cloth, and confine it to the affected part, by a *bandage* if possible, as a string is calculated to injure the tender flesh. If the discharge is not great, it need be changed only once a day. Another: take 4 oz. castile soap, 2 oz. camphor, 1 pt. alcohol or brandy, and apply twice a day. Another: take 2 tablespoonfuls fine salt, 3 do. of linseed oil, 1 pt. molasses, 1 oz. copperas, 3 oz. white vitriol, $\frac{1}{4}$ lb. lard; melt over a slow fire, *and use moderately*. Another (this is well adapted for strains as well as swellings): mix 1 pt. vinegar, 2 drams sugar of lead, 1 oz. laudanum, $\frac{1}{4}$ lb. lard, and apply twice a day.

STROKE OF THE WHIP IN THE EYE.

Remedy.—Make a weak decoction of tobacco-leaves and inject into the eye. Another: if the eye be inflamed, take $\frac{1}{2}$ oz. sugar of lead, 1 dram copperas, 20 drops laudanum, 1 pt. water; mix, and use once a day till cured.

CHAFE IN THE EYE.

Remedy.—Take 1 dram white copperas, and 1 dram sugar of lead, and blow through a quill into the eye of the animal; do not repeat it under three days.

FILM ON THE EYE.

This may be occasioned by some injury not noticed at the time, producing partial blindness. A film can be prevented, taken in season, by applying coarse brown sugar, dissolved in water, to the eye three or four times; molasses, also, is sometimes used.

Remedy.—Make a weak decoction of tobacco-leaves, adding molasses, and apply several times to the eye.

WEAK AND INFLAMED EYES.

This complaint results from the animal taking cold, and from various other causes. Wash them with a tea made of raspberry-leaves and sassafras bark, adding a small quantity of castile soap. Apply it cold.

HIDE-BOUND.

Symptoms.—The animal's hide is stiff, and adheres to the flesh. It becomes poor, walks stiff in its limbs, its eyes look dull, and it loses its appetite.

Remedy.—Take 2 oz. allspice, 2 oz. ginger, 2 oz. mustard, 1 pt. molasses; mix with 2 qts. warm water, and give in 2 doses, night and morning, after the beast has fasted for 4 hours. Another: take 4 oz. hoarhound, 4 oz. spearmint, 1 oz. rue; boil 10 minutes in 3 qts. of water, and give 1 qt. at a dose, at intervals of 6 hours each, and repeat, if necessary, weekly. Another: take balm, rue, saffron, and horse-radish, in equal parts, and make a strong tea, and give 1 qt. daily.

FEEDING OXEN.

Working oxen ought to be fed regularly, and worked uniformly. Have the yoke of sufficient length, and the bows to fit. Oxen that are worked constantly ought to have at least 2 quarts of meal each day, and be salted often.

SHOEING OXEN.

Oxen that are worked on a farm, will not need shoeing in summer unless they are very large, or unless the farm is very rocky; but those that are used for traveling on hard or gravelly roads, ought always to be shod with broad shoes, extending three eighths of an inch back of the heel on the fore-foot. Care should be taken that the ox is not strained while shoeing.

SORE NECKS IN OXEN.

This is caused by using yokes that do not fit the neck, or by working the oxen in wet weather. It can be prevented by using good yokes and applying oil or lard to the neck in stormy weather.

Remedy.—Use ointment made of lard and beeswax; or make a strong wash of white-oak bark, and apply it night and morning.

CURRYING CATTLE.

More advantage results to cattle from currying and carding than is generally supposed, especially to *working* oxen. It not only produces a healthy state of the skin, by keeping the pores open, but it adds greatly to the appearance and activity of the beast.

LOCKED JAW.

This is caused by running a nail into the foot, or by other injury to the nerves, or by a sudden chilling of the blood after being over-heated.

Symptoms.—Attempting to eat, trembling, head raised and moving from side to side, no disposition to ruminate.

Remedy.—Dash a large quantity of cold water over the animal, repeating every 4 hours, keeping the beast moving about. Another: bleed very freely, and follow by a moderate dose of physic. Another: apply castile soap and opium, warm, to the wound that causes the difficulty, and cast 8 or 10 pails of water over the animal, after which bind on several blankets, and give warm drinks.

STINGS OF HORNETS AND BEES.

Remedy.—Dissolve salt in vinegar, and bathe for 15 minutes.

BITE OF POISONOUS SNAKES.

Remedy.—Cleanse the wound thoroughly with strong soap-suds, then apply a mixture composed of $1\frac{1}{2}$ oz. harts-horn and 1 oz. olive-oil, every 4 hours for 1 day; at the same time administer a large dose of physic.

ULCERS.

It is difficult to distinguish between ulcers and other swellings, until they break or are opened. It is better to

let an ulcer break of itself, after which take castile soap-suds, warm, and cleanse it carefully and thoroughly poultice for one day with boiled turnips or carrots; then use a wash made of 1 oz. spirit of turpentine, 2 oz. camphor, 2 oz. hartshorn, and 2 oz. vinegar, well mixed.

TREATMENT OF COWS.

A cow may have her first calf at about three years old, and should be *dried up* 8 or 10 weeks before calving, when the amount of nourishment should be lessened, especially of potatoes and other green food, which is calculated to induce milk to collect largely, producing a swelling or caking of the bag.

MILKING COWS BEFORE CALVING.

This sometimes becomes necessary from the high feeding of the cow. If the bag becomes distended and hard, it will require to be milked once a day, but never draw out more than half the milk at any one time.

MANAGEMENT OF COWS AT CALVING.

As the time of calving approaches, it will be necessary to watch her, as she will stray away as far as possible. Turn her loose into a roomy stable or enclosure, by herself, and let her not be disturbed, and she will generally get along without assistance.

TREATMENT OF COWS AFTER CALVING.

If the cow has been high-fed, a small dose of physic can be given. Feed on bran or light food for 2 or 3 days, and give warm drinks for a short time. When a cow becomes so weak that she can not rise, she ought to be assisted for a few times; and if a sacking can be placed under her, and fastened to the sides of the stall, and remain for 2 or 3 hours, it will greatly assist her. Cattle-doctors are not at all agreed whether it injures the cow to eat the cleanings.

TREATMENT OF COWS THAT WILL NOT OWN THEIR CALVES.

Let the cow remain for 12 hours without being milked, then milk her say one half dry, and it will relieve her so much that if the calf is put to her a few times it will effect the desired result.

MILK FEVER.

The milk fever is a very common complaint with cows at the time of calving, especially with those that have been well kept. Although this is not immediately dangerous, yet it requires attention. It usually makes its appearance within three days after calving.

Symptoms.—Swelled and inflamed udder, failure of appetite, wildness of the eyes, mouth dry and feverish, general debility, restlessness, and skin dry and hot.

Remedy.—If the cow is in high flesh, take away 4 qts. of blood, and in 4 hours give $\frac{3}{4}$ lb. Epsom salts and 1 oz. sulphur; if this does not operate within 12 hours, give half the above dose. Another: bleed 3 quarts, and give $\frac{1}{2}$ lb. Epsom salts, with $\frac{1}{2}$ pt. linseed oil.

SORE TEATS.

Remedy.—Bathe the teats with weak soap-suds, then apply cream, new milk, or goose-oil, night and morning. Another: bathe with warm water, and take equal parts of beeswax and lard, or fresh butter, and anoint the parts. Another: If the complaint is very severe, bathe with tea made of white-beach bark, barberry-bark, and alum-water, after which apply fresh butter.

GARGET.

This is a disease confined to the bag or udder, producing inflammation which, if not soon counteracted, renders the bag tender, with large bunches rising on the sides. This is oftener found in young than in old cows, and it is generally the result of high-keeping, *taking cold*, or an impure state of the blood.

Remedy.—Bleed freely, and give $\frac{3}{4}$ lb. Epsom salts with 1 gill linseed oil, followed with warm drinks, after which take $\frac{1}{4}$ lb. cream of tartar, dissolved in water, and apply with a linen cloth to the udder. Another: after bleeding and physicking as above, take scone-root or pokeweed-root, boil 15 minutes, and apply to the udder nearly cold. Another: take 1 oz. saltpetre, 1 oz. tobacco, boil 10 minutes, and apply to the udder.

CAKED BAG.

This is caused by the cow taking cold or going too long without being milked, and by other causes.

Remedy.—Take 2 qts. horse-radish, cut fine, and add $\frac{1}{4}$ lb. ginger; feed 1 pt. each day, with bran, meal, or potatoes. Another: take $\frac{1}{2}$ lb. of the root of the bitter-sweet herb, add $\frac{1}{4}$ lb. fresh butter or lard; boil 15 minutes, make a salve, anoint the bag morning and evening, keeping the animal warm.

KICKING COW.

Put the cow in a narrow stable, confine her head as high as can conveniently be done, and in this position milk her a few times. After this, choose some place in the yard where you wish always to milk her, and she will soon become quiet while milking.

COWS HOLDING UP THEIR MILK.

The only remedy found for cows holding up their milk, is by continuing to milk for a long time; the cow will soon become weary and give her milk as usual.

TO PREVENT A COW FROM SUCKING HERSELF.

Take soot and aloes, or a wash of aloes alone, and apply it to the teats night and morning (after milking) for a few days.

COWS DRYING UP SUDDENLY.

This may be caused by taking a sudden cold, obstructing the urinary organs.

Remedy.—Take $\frac{1}{2}$ oz. cream of tartar, $\frac{1}{2}$ oz. saltpetre, and give blood-warm; feed for a few days with pumpkins, carrots, green cornstalks, or other succulent vegetables.

MILKING.

It is of much importance that milking should be done regularly, quickly, and, if possible, by the same hand. Too much care can not be taken that the cow be milked clean; if this is not done, the quantity becomes less, and she will soon be dried up. Frequently cows are milked early in the morning and late at night, which is very injurious, especially in the longest days of summer, though in the heat of summer they ought to be milked sufficiently early in the morning to enable them to fill themselves before the extreme heat of the day commences;

and they require milking by six o'clock in the afternoon when that is the case.

CREAM.

If milk is heated to nearly the boiling point, immediately after it comes from the cow, and put in a cool place, the cream will soon rise. In the summer it ought to be churned every morning. Many dairymen let the cream sour before churning; when this is done, care should be taken that it does not remain in that state too long. The operation of churning ought to be done in the shortest possible time.

CHURNING THE WHOLE MILK.

This is done in some countries with profit; it yields a larger quantity of butter, which is said to be of better quality and will keep longer; it is, however, not much practised in this country. It requires machinery to perform the churning with advantage.

CHEESE.

Perhaps in no production of the farm is there so great a difference in its quality as in that of cheese. This is owing to the variety of cows, quality of the milk, quantity and quality of the rennet used, pressing, &c. It is needless here to say that cleanliness is absolutely necessary in everything connected with the dairy. If the richest kind of cheese is desired, do not skim the milk at all; but cheese of a sufficient richness can be made from milk half of which has been skimmed.

RENNET.

Rennet is made from the stomach of the calf, and is prepared by partly filling it with coarse salt, rolling it up for a few days, and then opening and exposing it to the sun or to a fire to dry; or by putting it into salt and water for four days, and then sprinkling it with fine salt, and drying it as before. When the rennet is wanted for use, cut off a piece according to the quantity of milk to be used, put it into a small quantity of lukewarm water, adding a little salt, and it will be ready for use in eight hours.

DRYING UP A COW.

Bleed freely, and take half of the milk out of the bag once a day, for 3 or 4 days, then give 2 oz. alum and 2 oz. rochealum in lukewarm water. Or, take one half of the stomach of a fresh-killed calf, put it into 3 qts. water, boil $\frac{1}{2}$ an hour, add 1 oz. alum and $\frac{1}{2}$ oz. ginger, and give at one dose. Or, take 3 oz. green sage (or $\frac{1}{2}$ oz. dry), boil 10 minutes, add 1 gill fresh milk and 1 oz. powdered alum; let it stand until nearly cold, then bathe the bag night and morning. If the bag is greatly distended, draw away a small quantity of milk every morning.

TREATMENT OF CALVES.

As soon as they are able to stand, they should be left to follow the instincts which nature has implanted in them. It is the most natural and economical, as well as the least troublesome way to rear a calf, to let it run with the cow until it is old enough to wean. A good cow will thus rear two calves, provided they are all permitted to range in a fresh pasture or clover-field. If the calf is destined for the market, he ought to have all the milk of one cow, and if he craves more, milk-porridge or thickened milk can be given him. He ought to be kept until he is seven or eight weeks old.

Many farmers dislike to have the calf run with the cow; in that case the calf ought to remain with the mother long enough to learn how to draw the milk, which he will generally do in two days, when he can be kept so far from the cow that they can not hear each other's call. Take fresh warm milk, apply the finger to the mouth, and gently lead him to the vessel containing the milk, and he will very soon learn to help himself. The milk of the cow, for the first three days, except what is given to the calf, is only fit for swine. If the new milk is valuable, it will answer to gradually lessen the quantity, and add skim-milk scalded and thickened with corn or oat meal, with a little salt.

If calves are troubled with lice, turn them among the sheep for a few days, and they will disappear. Calves require a dry, warm shelter, a good bed, and to be fed three times a day. Their food should occasionally be

changed. If they are allowed fresh clover, it will at first produce the scours, and they ought to be removed frequently to less luxuriant pasture. For the first winter they will need much attention; they should be kept separate from other cattle, and furnished with small quantities of chopped potatoes or turnips each day in addition to sweet tender hay and rowen.

SCOURS IN CALVES.

This is a common complaint with calves, especially when separated from the cow, or brought up by hand. If the attack is slight, it will not be attended with any injury.

Remedy.—Take 1 oz. laudanum, 2 oz. powdered chalk, and 1 pt. water, and give a gill (lukewarm) 4 times a day. Another: take 1 teaspoonful of powdered chalk, and the same quantity of allspice, with a teacupful of hot water, and give every 12 hours. Another: take 1 fresh egg and beat it up, add 1-4 oz. laudanum and 1 gill water, and give at one dose.

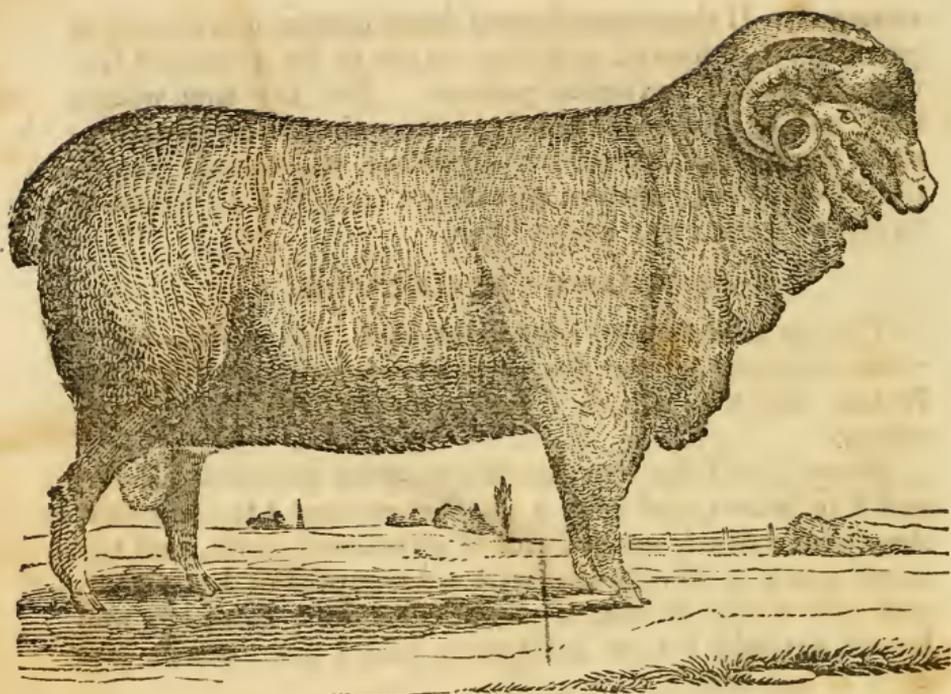
HOOSE IN CALVES.

This is occasioned by taking cold, exposure to storms, or sudden changes of the atmosphere, which produce a cough and difficulty of breathing.

Remedy.—Take 1 pt. cider-vinegar, 2 oz. aloes, 2 oz. linseed oil; dissolve, and inject a teaspoonful into each nostril every other morning. Another: take 2 oz. asa-fœtida, 1 pt. vinegar, 3 oz. hartshorn; mix, and pour a teaspoonful into each nostril every other morning until relief be obtained.

THE SHEEP.

FROM the earliest ages sheep have been classed among the most valuable of domestic animals. Previous to the deluge they were offered in sacrifice, and since that period their flesh has been used for food and their wool for clothing, in all quarters of the world. The limits of this work preclude a particular description of the numerous



species of this animal. The stock originally raised in this country was derived from Great Britain; this has generally given place to the Merino, the first importation of which was made by the American minister at the court of Versailles, Chancellor Livingston, in 1802. Since that period Merinos have been bred of either pure or mixed blood, in almost every sheep-growing county in the United States and the Canadas. The Saxon sheep were introduced into this country in 1824, and are now to be found in various sections of the Union.

MANAGEMENT OF SHEEP DURING THE SPRING.

As soon as the mild weather of spring appears, and long before all the snow has disappeared, sheep exhibit an inclination to leave their long confinement and seek their food in the meadow or pasture. It is well, however, to keep them confined until the snow has mostly disappeared, and the ground becomes nearly dry. Sheep at this season should be yarded where they can have access to the ground in the daytime, and be fed occasionally with potatoes and turnips.

MANAGEMENT OF SHEEP IN SUMMER.

Sheep require pastures that are dry. They thrive best on high table-land or mountain ridges, abounding in bitter plants and aromatic herbs. A trough fastened to the ground, and containing salt, ought always to be accessible to them. As sheep roam over a large space of ground, it is well to divide their pasture into small portions, removing them often from one to another. The flock will require to be examined several times each week, in order that the diseased ones, if any are found, may be at once removed, to prevent others taking the malady. During the extreme heat of summer it is important to the health of the sheep to keep them in fields that contain plenty of shade-trees and running water. The husbandman will be well repaid by giving white beans to his flock as often as once a week. By the middle of summer select the sheep designed for market, always preserving the best ones for breeding; and they should be early separated from their lambs, to enable them to regain their usual flesh before the commencement of winter. It will be necessary to give a small quantity of potatoes, meal, or grain, to those preparing for market.

MANAGEMENT OF SHEEP DURING AUTUMN.

In the early part of autumn sheep are subject to several complaints, some of which may be averted by putting tar in their salt-troughs, or applying it with a brush to their noses. At this season all the very fat ones should be taken to market, as it is doubtful whether they can ever again acquire so much flesh. Sheep require housing when the frosty nights commence, and should be permanently taken from the pastures before they begin to lose flesh by the scarcity of food and the severity of the weather.

MANAGEMENT OF SHEEP DURING WINTER.

Before the extreme cold weather commences, they should be brought into winter-quarters, and the young and feeble be separated from the strong and healthy,

and the diseased be so far removed from the others that the disease be not communicated to the flock. Long experience has proved that sheep require, in the winter, dry yards, pure water, room to exercise, access to the ground, regular time for feeding, and frequent change of food.

FEEDING SHEEP IN WINTER.

No other animal requires so much attention to its food during winter as the sheep. When first brought in for the winter, they are usually confined in so small a space, and in such numbers, that the air becomes impure, and will soon produce disease. It will be a great preventive of disease to besmear their noses with tar as often as once in two weeks during the winter. Although no better food for sheep exists than ripe well-cured timothy hay and clover, yet an occasional change to rowen and other kinds of hay, for a day or two, will be found of essential benefit. They will thrive on oat, bean, or pea straw, provided it be cured green, and they have a supply of potatoes, turnips, and carrots, at the same time. Much grain does not agree with sheep; it is too solid; yet they eat much less hay, and thrive much faster, by giving each one gill of peas or beans, or half a pint of oats per day. This keeps them in good heart, and is calculated to prevent them shedding their wool. Sheep suffer much during the winter by being deprived of green food, and not having access to the ground. If possible, let them have a few feet of turf, loam, or gravel; should this become frozen, break it up occasionally with a crow-bar or axe. Feed them once a week, or oftener, with potatoes, turnips, beets, parsnips, or carrots, and a few green boughs of the hemlock, pine, cedar, or spruce, or of the sweet-fern herb. Separate troughs, with salt, wood-ashes, tar, sulphur, and clay, ought always to be within their reach. While it is true that sheep at large in the summer and autumn will make the heavy dews a substitute for water, yet during their long winter confinement, when nearly all their food is dry, they will need water several times a day.

MANAGEMENT OF SHEEP AT YEANING-TIME.

For six weeks before yeaning-time, the ewe should be deprived of most of her accustomed supply of potatoes, &c., as these are calculated to produce an over-supply of milk, which may seriously injure her; at the time of yeaning, however, should a *small* quantity be given her, it will tend to strengthen her. Sheep turned into the field at such a time, generally need no assistance, yet they ought to be looked after night and morning, and, if possible, kept separate from the flock during the night, or kept only with others in like condition. If yeaning-time comes while the nights are cold and frosty, the ewes should be warmly housed.

MANAGEMENT OF LAMBS.

Lambs, for a few days from their birth, are very feeble, and require particular attention. It frequently happens that young sheep will not own their lambs; and where there is a large flock the lambs frequently get changed. In either of the above cases, it is necessary to hold the sheep until the lamb has drawn the milk a few times; first, however, uncapping the teat, and taking away a small quantity of milk. It sometimes happens that the lamb is too weak to stand; it then becomes necessary to lay the sheep down and put the lamb to the teat; and if, from ignorance, the lamb should refuse to draw the milk, the teat must be put in its mouth, and the difficulty will soon be obviated. Should there be an abundance of wool on the sheep's bag, calculated to prevent the lamb having free access to the teats, it may be sheared off. In cold weather it frequently happens that lambs are dropped in the field or yard, and are found cold and stiff, and apparently beyond resuscitation; their lives can, however, often be preserved by conveying them to a moderately warm room, enveloping them in woollen cloths, and giving them warm new milk. In case sheep produce twins, the ewe may not afford a sufficient supply of milk for both. One of the lambs can easily be brought up by hand, or the sheep can be fed liberally with potatoes or turnips to increase the quantity

of her milk. Sometimes lambs appear pining and swollen without the cause being discovered. This is frequently caused by the excrements adhering to the body and closing the vent. It can be prevented by rubbing the parts with clay or red earth.

WEANING.

If lambs are left to run with their dams to a late period in the fall, it not only greatly injures the sheep, by preventing their recruiting sufficiently before the winter commences, but the lambs do not get accustomed to dry food before cold weather sets in, and thus both sheep and lambs are unfitted for the rigors of winter. At this season the sheep should be turned into a poor pasture for a few days, while the lamb should have fresh rowen or clover-hay. After the ewe has been poorly fed for three weeks, it should then have good fare for the remainder of the season; for if winter overtakes her in low flesh she will remain so until spring. Lambs preparing for market should have good feed, and remain with their dams as long as the welfare of the sheep will allow.

CASTRATION OF LAMBS.

This ought to be attended to when they are not over four or five weeks old, for the longer it is neglected after that age, the more hazardous it becomes. When catching the lambs they should not be worried, as in that case their blood becomes heated, and it is dangerous to perform the operation. It is customary with many to apply salt to the wound, but tar mixed with lard or fresh butter has been found to be far more safe. The lambs are liable to take cold while the wound is healing if they are exposed to storms or severe cold nights.

WASHING SHEEP.

This should never be performed until the weather is moderately warm, as they are liable to contract a cold which will lead to other diseases, if performed in cool weather. As a general rule it can be attended to from the 20th of May till the 10th of June, always selecting a warm day and attending to it in the morning, that the fleece may become dry the same day.

SHEARING.

This operation requires some experience to perform it skilfully. Care should be taken to separate all the tags before rolling up the fleece. Should wounds be made, apply a mixture of tar and grease before turning them out. The branding and marking operation should be attended to at this time. For four or five weeks after shearing they require a shelter during cold storms. For want of this protection many perish during the month of June.

TO PREVENT SHEEP FROM TAKING COLD AFTER SHEARING.

Sheep are sometimes unavoidably exposed to cold winds and storms after shearing. To enable them to endure this exposure, wash them immediately with a brine made of 1 qt. of salt and 1 pailful of water, applied with a brush. This simple operation will not only enable them to withstand the weather, but it will destroy any nits that may adhere to them.

TO LEARN THE AGE OF SHEEP.

Their age can be ascertained from the front teeth. At one year old there are eight full teeth; at two years, the two middle ones fall out, and two much larger ones appear in their place; at three years, one on each side of these last named likewise fall out, whose places are filled with two larger ones; at four years, two more fall out, which are supplied by others; and at five years, all the small teeth are gone, and the full set of large ones appear. After this, the exact age can not be known, but it can be nearly determined by the wear and long appearance of the teeth.

RACKS, MANGERS, FEEDING-TROUGHS.

Too much attention can not be given to these indispensable appendages of the barnyard. If the hay is suffered to be placed on the ground, the ripe seeds and small particles will not be saved, and when the yard is wet, or the ground covered with snow, much of the hay will be trodden under foot and lost. Racks are usually preferred to mangers, but when these are used, troughs

made of boards ought to be placed at the bottom to catch the seeds, leaves, and fine hay, that otherwise would be lost. Troughs can be made very cheap of boards, and secured by stakes driven into the earth, so that they will rise from eight to twelve inches above the surface of the ground. In these ought to be kept a supply of salt, wood-ashes, tar, and occasionally a little sulphur.

SHEEP-BARNs, OR SHELTERS.

Sheep require constant and pure air, and for that purpose their food should be taken in the open air, except during severe storms or extreme cold weather; where it is convenient, it is well to construct their shelter on a side-hill, where it can be stoned up on three sides, with an opening toward the south; at the same time so to construct it that a free circulation of air can always be kept up. Where a sheep-enclosure is connected with the horse or cattle barn, it ought to occupy the warmest portion, and each species of animals should be kept separate from the others.

DISEASES IN SHEEP.

With a general knowledge of their physiological construction, and a timely attention to their wants, most of the diseases to which sheep are subject can be easily managed. It requires great judgment to administer medicine at the proper time, and in suitable quantity. In the use of it, it is safe to follow the rules laid down in this work for neat cattle. The quantity prescribed for a full-grown ox or cow will be sufficient for twelve sheep or twenty lambs.

ROT.

This is not very common in this country, but it occasionally infects large flocks, and first shows itself by dullness, hanging of the head, inflamed eyes, and general debility.

Remedy.—Make a strong decoction of the bitter-sweet branches, and give $\frac{1}{2}$ a teacupful every morning, with a good supply of salt, and feed on dry food for 3 days.

FOOT-ROT.

It is supposed that this disease results from sheep being kept in low, wet, or clayey lands, producing inflammation of the foot, and an unnatural growth of the hoof.

Remedy.—Whenever the disease appears, let the foot be washed, and the hoof pared off as much as possible, not to make it bleed. Let the sheep stand upon a dry stable-floor, sprinkled with lime, for four hours; after this he may be kept in a dry pasture without further danger. Another: take 1 oz. verdigris and $\frac{1}{2}$ oz. blue vitriol, dissolve them in warm vinegar, and after the foot is pared, apply a small quantity, and bind a cloth over the foot and let it remain for 4 days. Another: after the foot has been pared, apply spirits of turpentine and blue vitriol, in equal parts, and bind up as before. The foot must be often dressed, and the sheep kept on a dry floor or in a green pasture. Those that are diseased should be kept separate from the flock, as the disorder is infectious.

FLIES ON SHEEP.

Make a very thin composition of $\frac{1}{2}$ lb. sulphur, 1 pt. tar and linseed oil or soft grease, and apply it to all parts of the body; this may be repeated every three weeks. It requires only a very small quantity for each sheep.

LICE AND TICKS ON SHEEP.

These are found to attack sheep that are poorly kept. The only effectual cure is to make a strong brine, or, take $\frac{1}{2}$ a barrel of cold water, adding $\frac{1}{2}$ lb. tobacco-leaves boiled in 4 qts. water, and dip the sheep (all except the head), pressing as much of the liquid out of the wool as possible after dipping.

STAGGERS.

This is a disease of the brain, caused by unwholesome or improper food, which produces extreme constipation of the bowels, occasioning staggering and general weakness.

Remedy.—Take $\frac{1}{2}$ pt. fresh butter or lard, and give in a melted state. Another: dissolve 2 oz. asafœtida in 3 quarts of warm water and give 2 tablespoonfuls 3 times

a day. Give half the quantity the following day if necessary.

STURDY, OR WATER IN THE HEAD.

Cause.—That this disease is occasioned solely by a chilliness in the back, appears from the following facts: 1st, it is always most general after windy and stormy weather; 2d, it is most destructive on farms that are ill-sheltered, and on which sheep are most exposed to severe storms; 3d, it preys only on sheep about 1 year old, whose wool separates above, leaving the back exposed to the wet and cold.

Symptoms.—As this is a disease of the brain, it manifests itself by giddiness, staggering, dulness, wildness, loss of flesh, sudden starting, and, finally, a faintness, attended with blindness, prostration, and death.

Remedy.—If the attack is slight, it may be removed by placing the sheep in a dry pasture, after purging freely; but if the disease is violent, trepanning is usually resorted to. It has been cured by boring into the soft part of the skull, with a small gimlet, and letting the water escape. Close the wound, and apply some adhesive plaster. Another: the following is the most difficult, but at the same time the most sure method of giving relief, if skilfully performed: the disease is seated exactly in that part where the divisions of the skull meet, and consequently in a right line with the top of the nose; put a sharpened wire up the nostril quite through the middle of the brain, and by that means perforating the bag which contains the fluid causing the disease. The operation must be performed with a stiff steel wire, of the size of a coarse knitting-needle. The operator must place his thumb on the soft part of the skull, and insert the wire up the nostril, in the direction of the thumb, until he feels the end of the wire, when it is to be immediately withdrawn, and the animal let go free. The operation must be done carefully and quickly, and if the right direction is given to the wire, relief is instantaneous. Keep the sheep in a dry pasture, giving daily one gill of corn or one pint of oats for a few days, and it will soon regain its wonted health.

SCAB.

This is a very troublesome and contagious disease, showing itself on the back and neck of the sheep, producing a severe burning or itching, and causing the animal to rub itself until the blood flows from the neck and head.

Remedy.—A weak decoction of tobacco in dry weather, or juniper oil, berries, or boughs, in wet weather, will effect a cure. Another: take 1 lb. hog's lard, 2 oz. sulphur, and 1 oz. red precipitate; mix well, and anoint the diseased parts with a very small quantity.

SCOURS, OR DIARRHŒA.

If the attack is slight, it need excite no fears, unless it be of long continuance.

Causes.—Overloading the stomach, over-driving in warm weather, eating noxious weeds, change from poor to very rich food, sudden change of the weather from heat to cold or cold to heat, &c.

Remedy.—The treatment should depend upon the causes that produced the disease. If it is the result of eating green food, give dry grain and hay for two days. If exposure to wet and cold be the cause, remove to a warm stable and give dry food. Where over-heating has produced it, remove to a cool enclosure, and give a small dose of physic, and in 4 hours after give 2 grains opium and 1 oz. powdered chalk mixed with $\frac{1}{2}$ a pint of wet bran or oats. Where unwholesome food has occasioned the malady, it is not safe to check it at first; it is well to give a tablespoonful of castor oil that the system may become properly cleansed, then make a tea of the white-pine bark, and give in small doses; or take $\frac{1}{2}$ oz. castor-oil, adding 25 drops of laudanum, and give in $\frac{1}{2}$ pint of warm water, after which give dry food, with a small quantity of oats or bran, and salt. Another: boil 1 qt. of new milk, add $\frac{1}{2}$ pt. rye-flour, and give lukewarm.

SCOURS IN LAMBS.

If this takes place when the lamb is but a day or two old, remove the sheep to a warm stable, and feed on corn or oats for two days. If the lamb is large, take powdered chalk, and mix a small quantity with its food.

Another: give 15 drops laudanum and a teaspoonful of ginger. Another: give a teaspoonful of castor-oil, and feed on boiled new milk thickened with rye-flour.

DYSENTERY.

This is generally the result of long-neglected scours, &c., though sometimes produced by unwholesome food and other causes. It will show itself not only by a discharge, often discolored with blood, but by severe gripping pains, which often terminate fatally.

Remedy.—Give 2 tablespoonfuls of castor-oil, and in 6 hours after, give 25 drops of laudanum, with a teaspoonful of ginger and 1 pint of boiled bran, and also cooling drinks. Another: Six hours after giving a moderate dose of physic, of castor-oil or Epsom salts, take 1 teaspoonful of powdered charcoal, adding 1 oz. fresh butter; mix with bran, and give at one dose. Moderate bleeding is sometimes beneficial in this disease.

FOUL NOSES.

This disease manifests itself by the inflammation and running of the eyes, weakness in the back and hinder parts, drooping of the head, and loss of appetite.

Remedy.—Lobelia (Indian tobacco), either dry or green, given in a weak tea. Or, applying warm tar to the nose, and giving a small quantity of tar-water, will soon effect a cure.

SORE EYES.

This complaint is the result of a cold, sudden change of the weather, or very low flesh.

Remedy.—Put the sheep in good condition, and the complaint will generally disappear. New milk applied to the eyes is very serviceable.

CAKED BAG.

This is caused by the loss of the lamb or the lamb being unable to draw all the milk. If the lamb is lost, substitute another in its place; and if the lamb is not able to draw all the milk, it can be taken away a few times by hand, and keep the sheep on dry food for a few days.

HOVEN.

Sheep, like neat cattle, when put into a fresh clover-field, will sometimes have their stomachs distended by wind to that degree that they must be relieved at once, which can be done in the same manner as for cattle. The swelling rises the highest on the left side, and on this side let the incision be made. (See cattle, p. 39.)

COSTIVENESS.

Remedy.—Give $\frac{1}{2}$ oz. Epsom salts or two tablespoonfuls of castor-oil, or feed on green clover for one day.

COLDS AND INFLUENZA.

These are caused by exposure to storms and cold, and sometimes by lying on wet and marshy grounds, and by sudden changes of the atmosphere.

Symptoms.—The indications of this disease are a discharge of mucus from the nose, weakness, dullness of the eyes, loss of appetite, and wheezing.

Remedy.—When the cold is slight, give them a few white-pine boughs to browse upon, with a good supply of salt and tar. If the disease does not yield to mild treatment, moderate bleeding must be resorted to, with warming drinks made of pennyroyal, sage, or catnip. Another: if the disease is far advanced, attended with diarrhoea, give 20 drops of laudanum with a teaspoonful of powdered chalk, once a day until relieved; after which give white-pine or hemlock boughs.

INFLAMMATION OF THE LUNGS.

This is caused by exposure and cold, which settles on the lungs, attended with the same symptoms described under the head of colds and influenza, only in an aggravated degree.

Remedy.—Put the sheep into a warm enclosure, bleed freely, and give a tablespoonful of castor-oil, or the same quantity of lard; after which give warm nourishing drinks.

INFLAMMATION OF THE BRAIN.

Cause.—Over-heating, overdriving, breathing impure air, or high feeding with solid grain.

Symptoms.—The ears stand erect, eyes red and fiery, fierceness, raving, starting, and madness.

Remedy.—Bleed freely in the head; give 1 oz. Epsom salts or 2 oz. castor-oil, bathe the head for 1 hour in cold vinegar and water (in equal parts), give $\frac{1}{2}$ pt. sage tea mixed with $\frac{1}{2}$ pt. molasses; repeat the bathing and tea if necessary.

PELT-ROT.

In this disease the wool falls off, leaving the skin covered with a white thin crust.

Remedy.—The only remedy for prevention is good feeding, warm keeping, and anointing the parts from which the skin is off with a thin ointment of tar and grease.

SMALL-POX, OR COW-POX.

This disease shows itself in blisters, first on the flanks and afterward spreading over the body. It is usually produced by drinking stagnant and impure water.

Remedy.—Give slightly purgative medicines, anointing the blisters, as they break, with sweet-oil, and removing them where they can have access to pure water. The disease is infectious.

SORE AND SWOLLEN MOUTH.

This is occasioned by eating irritating or poisonous plants, as the Johnswort, hemlock, nettles, and some other plants.

Remedy.—Tar-water, or putting tar in the mouth, and a teaspoonful of sulphur in oats or bran. Or, an ointment of fresh butter and sulphur applied to the affected part will usually effect a cure.

WOUNDS AND CUTS.

Wounds received by being hooked by neat cattle, or from the bite of a dog, should be left to bleed a short time; then sew up (if the wound is large), and apply salve made of beeswax and lard, and keep the animal still for a few days. If the cut is on the leg, it ought to be dressed as above, with bandages.

FEVERS.

Fevers are the result of various causes, and are to be treated much the same as in cattle; but the dose for 1 ox

is sufficient for 12 sheep. If the sheep is costive give a tablespoonful of castor-oil, followed by cooling drinks. (See cattle, p. 28.)

DOCKING SHEEP AND LAMBS.

At 4 weeks old place the lamb on the floor, draw the skin up toward the body, and cut off the member 2 inches from the body, between the joints, and the skin will return over the wound. After the operation is performed, apply tar and grease, which will keep off the flies, and cause it to heal soon. If the operation has been neglected until the animal becomes old, attend to it early in the spring or in the fall.

STRETCHES.

This disease is the result of being kept confined during long winters, or extreme costiveness.

Symptoms.—Loss of appetite, stretching on the ground, dullness of the eyes, passing the head quickly from side to side, and frequent unavailing efforts to void dung.

Remedy.—The only remedy is purging. Give to each sheep 3 tablespoonfuls of melted lard, or 2 tablespoonfuls of castor-oil, or 1 oz. Epsom salts. Slight attacks can be cured by giving moist food for a few days. If sheep have occasionally a few potatoes, turnips, &c., or green boughs of hemlock or pine, they are never troubled with this disorder.

GAD-FLIES, WORMS, OR MAGGOTS, IN THE HEAD.

The disorder produced by the gad-fly (*Æstrus Ovis*) is very fatal among large flocks of sheep, frequently carrying off numbers without the cause being suspected. In July, August, and September, these insects deposite their eggs in the nostrils, where they remain for some weeks, when they hatch, and, being small at first, continue there till the next spring or summer, when they creep up into the head, producing disease and death.

Symptoms.—This complaint generally appears as warm weather approaches, and becomes manifest by water or matter running from the nose, frequently discolored with blood; drooping of the head, running with the nose near the ground, snorting, starting suddenly,

loss of appetite, loss of flesh, the wool falling off, and in the latter stages of the disease, the animal becomes frantic, suddenly falling and soon expiring.

Remedy.—If the attack is slight, it may sometimes be removed by smearing the nose with tar, or putting salt and tar in the trough. Another: when the symptoms first appear, let the sheep run in a fresh-ploughed field for one week. Another: take a tobacco-pipe, well-lighted, and blow up the smoke in each nostril for a short time, repeating the operation once in three days. Another: take 1 lb. Scotch snuff and 1 oz. powdered ginger, pour upon them 3 qts. boiling water, mix well, and, when cold, pour a tablespoonful of the decoction into each nostril, holding the head well up for a short time. Where snuff is not at hand, take 1 lb. of leaf or $\frac{1}{2}$ lb. plug tobacco, boil it 15 minutes, and add to this a small quantity of ginger, and use as above. When this is given to the sheep it produces a stupefying effect for a few moments; they will, however, soon recover. It is a good precaution to administer a small quantity of the above liquid to the whole flock once in 4 weeks during the winter. Another: take spirits of turpentine and a weak decoction of tobacco, in equal quantities, and inject a teaspoonful into each nostril, holding the head for a moment in an elevated position. A little train-oil or rancid butter may be applied to the nose after the worms are expelled, which may prevent a second attack.

POISON.

This is occasioned by eating laurel, wilted leaves of the wild cherry, and some other shrubs and plants.

Remedy.—Take of the twigs of the white-ash, boil for 2 hours, and give $\frac{1}{2}$ a teacupful of the liquor with a gill of molasses, in a lukewarm state, to each sheep. Unless relief be obtained within 1 hour, the dose may be repeated, reducing the quantity one half. Another: give immediately $\frac{1}{2}$ a teacupful of melted fresh butter or lard.

BLEEDING.

In sudden attacks of disease, it aids the recovery of an animal to bleed freely, provided he is in high flesh. There are various ways of performing this operation.

Where a small quantity of blood is to be taken, it can be done by opening a vein under the tail, but the usual and most preferable parts of the body are the face and legs. The prominent veins of the face are easily accessible. When the operation is to be performed, the thumb should be applied to the vein below where the incision is to be made, and soon the vein will fill. When the required amount of blood is taken (which depends upon the size and condition of the animal), insert a pin through the vein and tie a thread close around it.

TO PROTECT SHEEP AND LAMBS FROM DOGS, FOXES, AND WOLVES.

Take equal parts of sulphur and tar, adding a small quantity of aloes, powdered, and smear their necks and legs once a month through the summer.

SWINE.

THE breeds of swine raised in this country are so numerous, that the limits of this work will not admit a detailed or particular description of them. It is, however, practically sufficient to say, that the Old English and the Berkshire are considered as decidedly the best, and are to be found in all sections of the United States.

BREEDING.

For breeding purposes, choose the largest, and those having the longest body; and none should be selected under one year of age. They should have a pasture or large yard to range in, and be given, occasionally, green food. They should be kept as much as possible to themselves at the time of littering. For three or four days after littering, the sow should be fed on boiled bran or other light food, and protected from annoyance. If the litter is large, the sow will need much green or liquid food, yet care should be taken that the scours, or diarrhœa, is not produced. Sometimes sows devour their pigs; this can be prevented by giving them fresh meat for a day or two.

MANAGEMENT OF PIGS.

Pigs will soon learn to eat green herbs, and should have a few oats daily, with a good supply of milk. Should they be attacked with scours, new milk boiled, and thickened with flour, will soon relieve them. When they are ten weeks old they can be weaned, keeping them out of the sight and hearing of the sow. It is well not to take all of the pigs from the mother on the same day. The sow should be fed on dry food for one week, thereby lessening the amount of milk. When it is desirable to fatten pigs fast, give them boiled rice.

GENERAL MANAGEMENT OF SWINE.

It only requires good management to make the raising of swine one of the most profitable occupations of the farmer. In the summer season swine will greatly improve by being allowed to run in a clover-field or pasture, also having the whey of the dairy and wash of the house, with salt every other day. When swine are not permitted to range at large, allow them occasionally to have access to a trough containing salt, tar, sulphur, wood-ashes, and a small quantity of Epsom salts and charcoal.

PENS.

It is an impression with many that swine thrive well when kept in filthy or wet and muddy pens; this has been proved to be a great mistake. They will thrive much the best in a perfectly *dry, clean, and comfortable shelter*. The pen ought to be built in a warm location, protected from piercing winds, with free access to the open air. It should be divided into three apartments, one for eating, one for sleeping, and one for evacuation. The first two should be on the highest ground. The troughs should be fastened to the floor or ground, and not more than five inches deep, that no great pressure be made on the throat while drinking.

FATTENING.

After bringing them from the pasture, and in preparing them rapidly for the market, they will require a gentle purgative, unless green cornstalks or other green food be given them, as dry grain is liable to produce costiveness. To save trouble, corn, potatoes, &c., are frequently given to swine in their raw state. Where this is done, at least one third of the nourishment is lost. Grain should always be ground and cooked, or soaked until fermentation is produced, and potatoes and other roots boiled and salted. Experience has proved that grain and roots given alternately, greatly conduce to the thriving of the animals. They should be fed regularly three times a day, and be allowed fresh earth, rotten wood, or a small quantity of



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pulverized charcoal, three times a week. Food should never be given of a higher temperature than blood-heat. It is unwholesome if it is given hot, often producing the measles.

DISEASES OF SWINE.

It is no less true, though perhaps mortifying to the animal that *walks erect*, that in its internal economy and general physiological structure, the hog bears a close resemblance to the human being; and, therefore, its diseases require, in a measure, the same treatment. As its maladies, however, are but little known, and are also difficult to cure, care should be taken, as far as practicable, to preclude the necessity of the use of medicine. In addition to the precautions before given, we would say, that swine should, if possible, in spring, summer, and autumn, have access to running water.

MEASLES.

This disease is seldom found in swine, yet when it does attack them it is difficult to remove it. It is caused by high-feeding or giving very warm drinks, producing small tumors in the throat. This disorder is not easily discovered while the animal is alive, and can only be known by its not thriving or fattening as the others.

Remedy.—Give $\frac{1}{4}$ oz. Epsom salts after fasting 12 hours. Another: take 2 grains powdered antimony and give in new milk. Another: give $\frac{1}{2}$ oz. sulphur twice a week with their food.

ISSUES.

Unlike most other animals, hogs have no insensible perspiration from the body, but have a number of small issues on the inner side of their fore-legs, below the knee joint; here, it appears, is the outlet for the superfluous fluid of the body. When these become obstructed by mud, clay, or any other substance, the animal becomes sickly, loses his appetite, and is thirsty and feverish.

Remedy.—The only relief known is to open the issues by rubbing them with a stick or cob, and anointing the parts with a small quantity of sweet-oil, to prevent their closing again.

QUINSY.

This disease shows itself by a stiffness of the legs, inaction, difficulty of swallowing, taking hard food into the mouth and casting it out again, often lifting the head, stretching the neck, and a swelling of the glands of the throat. It results from taking cold or from the closing of the issues and other causes.

Remedy.—Bring them into a warm enclosure, and see that the issues are well open; take 1 qt corn-meal, $1\frac{1}{2}$ oz. Ep-

som salts, 1 oz. castor-oil, 1 tablespoonful of sulphur, 1 qt. new milk, and give at once, keeping salt and tar in their troughs.

SORE THROAT.

The symptoms are similar to those of the preceding complaint, with this exception, that the glands of the neck are not swollen.

Remedy.—Take a teacupful of molasses, $\frac{1}{2}$ a teacupful of vinegar, a tablespoonful of melted butter, and a teaspoonful of black pepper, and give when nearly cold. Feed for two days with fresh clover or potatoes and turnips.

COLDS, COUGHS, AND INFLAMMATION OF THE BRAIN.

Owing to the very light covering allotted to this animal, he is peculiarly liable to these complaints. The only preventives are warm pens, proper attention, and, more than all, a thick lining of fat under the skin, which will enable them to endure storms or extreme cold weather. Swine that are poorly kept are very subject to these complaints, while those that are well kept almost invariably escape. The symptoms are more or less violent, according to the severity of the attack.

Remedy.—If the cold or cough is not severe, moderate purgatives and a warming diet will generally effect a cure, but if the disease appears to affect the lungs, bleed 1 pint, and give gentle physic, of Epsom salts or castor-oil and sulphur.

RUPTURE.

What is called a rupture is a hole broken in the rim of the belly which causes a part of the intestines to come out and lodge between the rim of the belly and the skin, having an appearance similar to a swelling in the testicles. The male pigs are more liable to this disease than the females.

Remedy.—Geld the pig thus affected, and cause it to be held up with its head downward; flay back the skin from the swollen place, and, from the situation in which the pig is held, the intestines will naturally return to their proper place; sew up the hole with a square-pointed needle, with a bend in it, as the rupture is frequently between the hind legs, where a straight needle can not be used. After this is done, replace and sew up the skin. Apply a salve made of mutton-tallow and bees-wax, and feed sparingly for one week.

SCOURS.

Scours are caused by overloading the stomach, eating unwholesome food, or over-driving.

Remedy.—The same medicines can be given as for cattle (p. 49) only the dose for an ox is sufficient for 10 or 12 swine. Take 1 gill of pulverized charcoal or 2 tablespoonfuls of pow-

dered chalk, and mix with the food; or take 25 drops of laudanum mixed with 1 quart new milk.

BLIND STAGGERS.

This disorder is generally confined to pigs under one year old, and is caused by high feeding, impure air, or excessive heat, producing a determination of blood to the head.

Symptoms.—Partial blindness, foaming at the mouth, staggering, weakness, and grinding of the teeth.

Remedy.—Examine and see that the issues on the legs are open, purge freely, and in 6 hours after give 1 gill of brandy or rum, and a teaspoonful of pepper.

BRUISES AND CUTS.

These require much the same treatment as in other animals. (See cattle and sheep, pp. 42, 54, 76.)

SWELLINGS.

Swellings can generally be scattered by rubbing thoroughly with warm spirits or vinegar, adding a small quantity of black pepper. If the swelling is but small, apply warm soap-suds. Should the swelling be large and soft, it may require poulticing. After it is opened, apply drawing healing salve, made of beeswax and mutton-tallow.

CATARRH.

This is the result of colds and exposure, manifesting itself by an unnatural discharge from the nose.

Remedy.—Take 2 oz. coriander-seed, 1-2 pt. molasses, and 2 oz. ginger; boil 15 minutes in 2 qts. new milk, and give warm, keeping the animal warm, and feed on dry food for a few days.

ITCH, SCAB, OR MANGE.

This complaint is produced in young pigs by drawing nourishment from the *sow* after she has eaten some unwholesome food, and by other causes.

Symptoms.—The pigs are often seen rubbing their necks, sides, and bellies, producing a red and inflamed appearance of the skin. As the disease progresses, small fiery blisters appear, rendering the animal emaciated and restiff, which frequently terminates fatally unless relief be obtained.

Remedy.—Immerse the pig in lukewarm water, and, after drying, apply to all the parts affected an ointment made of 1-2 lb. lead and 1-4 lb. sulphur. If the pig is old enough to drink, put a small quantity of sulphur in his food.

FEVERS.

These are occasioned by colds, exposure, or the stoppage of the issue.

Remedy.—Examine the issues, and give a moderate dose of physic and a few boiled parsnips, and other cooling liquids. (See fevers in cattle, p. 45.)

COSTIVENESS.

Remedy.—Give a small quantity of Epsom salts or castor-oil in the food, and a few handfuls of fresh clover if it is in season. (See cattle, p. 49.)

KIDNEY-WORM.

The symptoms are great weakness of the loins and hinder parts, followed by entire prostration. It is seldom cured unless attended to in its earliest stages. This disorder is prevented by a range of pasture, and mixing a teacupful of wood-ashes with their food every week, or putting tar and saltpetre in their troughs.

Remedy.—When first attacked, anoint the loins with spirits of turpentine, or soak corn or rye in lye made from wood-ashes, and feed every morning; or give 1 grain of calomel, and keep the animal warm for a few days.

SWINE-POX.

This shows itself by a fine eruption of the skin near the joints, and by a redness of the eyes.

Remedy.—Take $\frac{1}{2}$ an oz. saltpetre, dissolve it in $\frac{1}{2}$ pt. vinegar and a teacupful of sweet or linseed oil, and a tablespoonful of honey, and give lukewarm, in 3 parts, every morning.

BLACK TEETH.

This generally attacks swine early in the spring, and is occasioned by being kept long from the ground. Its first symptoms are the teeth turning brown, and soon after black, which soon affects the whole system, producing dizziness, trembling, weakness of the hinder parts, loss of appetite, and wildness of the eyes.

Remedy.—As the black teeth not only injure the general health as well as the sound teeth, they ought to be extracted. Examine and see that the issues are open, give 1 oz. sulphur and 1 oz. pulverized charcoal, with tar-water, and fresh green food. Keep the diseased swine separate from the rest for a few days.

MURRAIN.

This disorder is the most prevalent toward the close of warm weather, when the blood becomes thick and inflamed, producing fever, shortness of breath, weakness, inflammation of the eyes, drowsiness, and inaction.

Remedy.—Boil $\frac{1}{2}$ lb. elecampane-root $\frac{1}{2}$ an hour, in 6 quarts water; add $\frac{1}{2}$ lb. sulphur, $\frac{1}{2}$ lb. pulverized aniseseed, $\frac{1}{4}$ lb. liquor-

ice ball, $\frac{1}{4}$ lb. ginger ; bottle, and give in pint doses every morning. Keep on green food for a few days.

UNIVERSAL SPECIFIC.

Many farmers, when their swine show signs of illness, feed them with corn-meal, mixed with 2 oz. sulphur and the same quantity of tar, charcoal, and salt, removing them to a warm, dry shelter. This, of course, will not cure all diseases, but will prevent most of them assuming a violent form.

PHYSIC.

It is customary with many people, when medicine is to be administered to swine, to put a rope in their mouths and draw their heads up. This is a very injurious practice, for should the hog attempt to squeal, the liquid will go down the wind-pipe and choke him. The only safe and effectual manner of giving medicines, is with milk or other food.

BLEEDING.

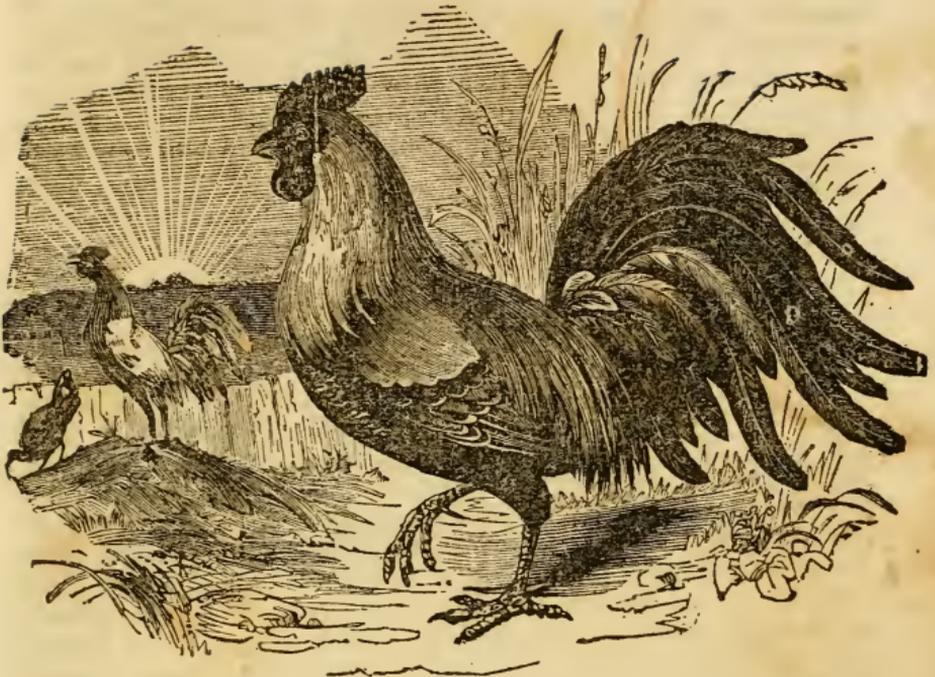
Most of the diseases to which swine are subject, will yield to mild treatment ; but where the attack is violent, and nothing else will avail, it will be necessary to confine the animal, and bleed from an artery just above the knee, on the inside of the forearm, or from the roof of the mouth. It is somewhat difficult to stop the blood where the mouth is lanced, but it can usually be done by partly filling the mouth with dry bran. Where a vein is cut, the bleeding can be stanchd by inserting a pin through the vein and tying a thread around it.

PREVENTING SWINE FROM ROOTING.

Take the pig when young, and cut off the gristle on the top of the snout ; apply a little tar, and it will soon heal.

POULTRY.

There are many ways in which poultry may be rendered more valuable to the husbandman than is generally supposed. The keeping of domestic fowls not only occupies much of the attention, and calls forth many of the kindlier feelings of children, assisting also to while away many an idle hour, but, if properly attended to, they will yield a larger profit, in proportion to the food they consume, than any other stock raised on a farm. It is estimated that the value of poultry produced in the United States, in 1847, was \$35,000,000.



HENS.

The hen is the most highly prized of all of the domestic tribes. There are many species of this fowl, each having its peculiar excellences, and being more or less productive, making it difficult to recommend any of them above the others. Hens properly kept, will pay three or four times their first cost and feeding yearly.

FOOD.

Hens can be kept on almost any kind of grain or roots, though they thrive best where they are allowed a variety of food. They will eat freely corn, oats, barley, buckwheat, or boiled potatoes, and green turnips. They likewise will devour green cabbage, lettuce, clover, chickweed, plantain, &c. They, however, prefer corn to all other kinds of food. While permitted to range the fields, they will obtain sufficient animal food by devouring insects, but in winter they should have, once a fortnight, a small quantity of fresh meat, chopped fine. It is generally supposed that hens do not produce eggs as rapidly in winter as at other seasons; but if proper attention be shown them, the difference will be scarcely perceptible. Corn, either boiled or ground, is the most natural food for them; yet they require some lighter food, such as apples, boiled potatoes, turnips, and other roots. It would be well to give them frequently

oats, rye, buckwheat, or bran. They should in winter have access to the ground, or have a quantity of gravel within reach, as without the aid of gravel-stones, digestion can not be carried on. Where hens are high-fed, and precluded access to the ground, for a length of time, to prevent their eggs being produced without shells, a small quantity of slaked lime, pounded oyster-shells, or ashes and salt, should be given them, with fresh water daily. During the cold season warm food should be allowed them.

HEN-HOUSE.

It is usual for some farmers to allow their hens to roost in trees, or in the barn, during the warm season of the year. This can not always be avoided, yet if a little timely expense were incurred in building a house for them, it would result in much greater benefit than is generally supposed. No reflecting man will long allow his flock of hens to occupy a barn well filled with all kinds of unthrashed grain. The house can be constructed in a great variety of ways, according to the wishes of the owner. It should be built on perfectly dry ground, in a warm location, without any floor, well lighted with glass windows, so arranged that they can be opened and shut at pleasure; the entrance about three feet from the ground, by means of a plank 10 feet long, one end of which resting upon a stone placed upon the ground, and the other end connecting with the opening. Around the sides of the house separate boxes, 15 inches square and 10 inches deep can be placed, in tiers, one above another, with the openings so arranged that they will not face each other, as the hen, while sitting, wishes to be undisturbed. In the boxes place hay and straw for a nest, having a sufficient number of them to prevent the hens from trespassing upon each other. In severe storms, close the windows, leaving openings for ventilation.

BREEDING.

The hen usually selects a retired place for her nest, and frequently produces a brood of chickens at the commencement of winter, when they are nearly worthless. It can be known when she is sitting (as it is termed) by a noise peculiar to her at that *season*. If it is desirable to prevent her from sitting, she can be watched closely for a short time, as she will not remain long from her nest, and her place of concealment can be found, the eggs removed, and the nest so thoroughly destroyed that she will not return to it. Hens require a warm, dry, and secluded place for their nests, and will generally hatch all of their eggs. There may be a difference of from 12 to 24 hours in the time of the hatching of the brood; in that case it may be necessary to remove those first hatched, to prevent

them from wandering from the others as well as to prevent the hen leaving the nest too soon.

DISEASES OF HENS.

Hens are liable to but few diseases, and these, by a little attention, are easily prevented or cured.

GAPES OR PIP

Is caused by drinking unwholesome water, or by long confinement.

Remedy.—Remove the scab, or white blister, from the tongue, and apply salt and vinegar, and give some oily substance with their food. Spirits of turpentine, and ginger, mixed with their food, is a preventive.

ROUP, CROUP, AND CATARRH.

The symptoms are swelling of the head, thirst, inflamed and swelled eyelids, difficulty of swallowing, loss of appetite, and an offensive watery discharge from the mouth. These diseases are produced by long confinement, impure air, or unwholesome food.

Remedy.—Put them in a warm place, bathe their heads in warm, weak soap-suds, or warm new milk, giving them a small quantity of ginger, mustard, or pepper, mixed with their food. Should they refuse to eat, it should be forced down their throats. A small quantity of pulverized charcoal, mixed with corn-meal will sometimes effect a cure.

COSTIVENESS.

Remedy.—Mix lard, castor-oil, or honey, with their food, or dissolve a teaspoonful of Epsom salts in 1 quart of water, in which soak oats or corn, and give to the fowl.

FLUX, OR LOOSENESS.

Remedy.—Take 10 drops of laudanum and $\frac{1}{2}$ a pint of water, in which soak oats or corn, and give the hen. Or, take the yolk of an egg boiled hard, cut up fine, and give with food. Or, give a small quantity of lard and pulverized charcoal.

LICE.

These are destroyed by placing ashes and sand for the hen to wallow in, and by putting a little sulphur in their food. Or, immerse them in a weak decoction of tobacco-water, or sprinkle snuff over their bodies.

GEESE.

These are not as profitable as some other fowls, yet if they are permitted to range on commons and unoccupied lands, they will yield a fair return for the capital invested. They will

thrive on most kinds of grain, potatoes, and turnips. A warm, dry, and secluded place, is required for their nests. They need much the same management as the hen while rearing their young. The general principles regarding the symptoms and cure of diseases to which hens are subject will apply to geese and turkeys with but little variation. It is said that geese will thrive well on raw turnips cut fine, and put into a trough with water. It can hardly be necessary to say that this is a *water-fowl*, and consequently requires pure running water. If the goose is full size and well fed, it will yield about $1\frac{1}{4}$ lb. feathers during the season. It is not merciful or profitable to pluck them so late in the fall that winter overtakes them without any covering. While fattening they require some kind of green food, such as clover, cabbage-leaves, lettuce, &c.

TURKEYS.

We have no account of the existence of this bird previous to the discovery of the western hemisphere. They were then found in immense numbers in their wild state. They have, like the savage, gradually disappeared as the white man's axe has levelled the forests. Wild turkeys are not at present found in any considerable numbers east of the Allegany ridge; they are, however, domesticated in all sections of this continent, and with proper attention they are rendered a valuable fowl for market. Turkeys require much the same care and management while rearing their young as other fowls, only the hen-turkey requires to be confined for a few days after the brood is hatched, as her propensities for rambling are such that her young will not have sufficient strength to follow her. This fowl is subject to but few diseases, the worst of which is a kind of dropsy in the crop. The symptoms are loss of appetite, trembling, and swelling of the crop. Give them a small quantity of pepper and ginger, with light food, every morning. If this should not soon produce relief, make a small incision with a lancet, in the lower part of the crop, when a watery substance will be discharged. It can be sewed up carefully. Feed lightly for one week.

DUCKS.

These do not require as much attention as others of the fowl tribe. They are peculiarly fond of meat, fish, insects, worms, and young frogs. They need fresh, pure, running water, and are not particular where they drop their eggs, which they produce in large quantities. They can be fattened rapidly on all kinds of grain. Ducks are subject to but few complaints, and these soon yield to the same treatment as is bestowed upon other fowls. It is considered the most profitable to set the

eggs of ducks under hens, as they will faithfully rear a family not really their own.

DOVES, OR PIGEONS,

Require a high, airy situation, on the south side of the barn, if possible, with their house perfectly tight from within, that they may not be disturbed by rats, &c. Their presence around the farm-house is very pleasing, more especially to the young. It reminds the older members of the family of their youthful days and joyous pleasures.

The Guinea-hen and the peacock are so seldom raised in this country, that it is not deemed important particularly to notice them in this work.

CANARY AND OTHER BIRDS

Require their cages to be frequently washed, and white-washed on the inside. Their food consists of different kinds of seeds, such as hemp-seed, canary-seed, and others. Give occasionally stale bread or crackers, with a small quantity of corn-meal. Change their water daily, and keep a supply of charcoal, sand, gravel, ashes, or lime, and cuttle-fish bone, always in their cages.

THE DOG.

A SINGLE dog on a large farm may be of some service, and a few remarks respecting the two or three diseases to which he is subject, with directions for their proper treatment, may be of practical benefit. Among the various breeds, the cattle or shepherd's dog is the most valuable for the purposes of the farm. He is easily learned, very active, and his sagacity is truly wonderful. By proper training, which is easily accomplished, he will go after the cows to any part of the farm, and bring them into the yard as well as a boy. In brief, he can be taught to do all that can be required of a dog.

COLD.

The dog is frequently attacked with a cold, which shows itself by a discharge from the nose. Give warm purgative drinks, keeping him from exposure to severe weather for two days. Should the cold be attended with a cough, give a small quantity of sulphur and Epsom salts followed by light food for two days.

PURGATIVE DRINK FOR DOGS.

Take 1 scruple jalap, 1 dram aloes, 10 grains ginger, 1 gill molasses; mix, and give at one dose.

DOG DISTEMPER.

Symptoms.—Inaction, eyes inflamed, drowsiness, and loss of appetite.

Remedy.—Give $\frac{1}{4}$ oz. laudanum with 5 grains tartar emetic.

DOG-AIL.

Symptoms.—Inflamed eyes, loss of appetite, stupidity, fever, running at the nose, great thirst, wheezing, and sometimes dizziness.

Remedy.—Give strong salt and water, lukewarm, until it produces vomiting, then give a small dose of sulphur or Epsom salts, and feed on dry food for two days.

RABIES, OR MADNESS.

Symptoms.—The symptoms manifest themselves so gradually that the disease makes considerable progress before the alarm is taken. At first the animal manifests a slight uneasiness, going from place to place, often lying down and rising up again, wildness of the eyes, often gazing fiercely at man and beast. As the symptoms increase, his appetite fails, yet often taking food into his mouth, and dropping it again, with occasional vomiting. After this the animal becomes impatient, foaming at the mouth, eyes glaring and inflamed, biting everything within his reach, loathing water, and unnatural barking or howling. All these terrible symptoms continue to rage until the animal expires.

Too much caution can not be taken in every stage of the disease, that the dog be not permitted to lick the hand, for should there be a crack or injury, and the saliva from his mouth come in contact with the broken skin, the poison will surely be communicated. When a dog is bitten it is not safe to let him remain at large, as no calculation can be made how soon the poison will develop itself.

Treatment.—When an individual is bitten by a dog, a physician or surgeon should immediately be called, yet not a moment should be lost in cutting away every part of the flesh that has been touched by the teeth. Should the knife enter the wound while cutting, it must be thoroughly cleaned before continuing the operation, as there is great danger of extending the poison. After the operation of cutting is completed, wash the wound with chloride of lime, mixed with water, every 2 hours, for 30 hours, keeping on bandages for several days.

Another: The first step should be the application of a tight ligature above the wound; 2dly, the speedy and complete excision of the wounded part; and 3dly, the long-continued affusion of an alkaline solution, as pearl-ash in water, over the excised parts. The wound should afterward be dressed with Spanish flies, in order that a discharge may be kept up for a considerable length of time. Where it is impossible to cut out the flesh around the wound, make a solution of pure potash, or apply, with a pencil, lunar caustic (nitrate of silver). Nitric acid is applied, by some, as the safest means of preventing the evil consequences arising from the bite of rabid animals, but it is not always attended with success, even when taken in its earliest stages.

APPENDIX.

THE BEE.

PROVIDENCE, who delights in exhibiting beneficence as well as beauty all over creation, has wisely formed the bee as an humble, but active and untiring, agent in gathering up for the most important purposes, and converting to the most valuable uses, the scraps and fragments of nature which would otherwise be scattered by the "viewless winds," and spread through the "ambient air." He has adorned the song of the poet, pointed the tale of the moralist, and furnished food to the hungry in the desert. Virgil calls the bee a ray of divinity; Plutarch pronounces her a magazine of virtues; Quintian asserts that she is the greatest of geometricians; and Watts has pointed to her industry as an example to interest, improve, and delight the youthful mind. Philosophy has stooped to examine her habits, and to watch over her haunts; she has presented the models of science, and called forth the attention of scientific men; by her the husbandman, when sitting in his cottage garden, is soothed in his evening reflections on his day of toil; and in whatever light she may be viewed, there is none who can declare that he has no interest in her ways.

CONSTRUCTION OF A BEE-HIVE.

It is important that a bee-hive should be made of well-seasoned boards, free from shakes and cracks; it should be planed very smooth, both inside and out; joined as near as possible, to make it air-tight; and painted white on the outside. Glass hives are being introduced into various parts of the country, and it is probable that they will soon come into very general

use. Hives of the medium size have been found best adapted to the purpose for which they are designed.

IMPROVED MACHINE FOR FEEDING BEES.

Prepare a board, a little larger than the bottom of the hive, in the centre of which make an opening about 10 inches in diameter; then form a frame of half-inch board, to consist of four sides, each about 3 by 12 inches; make the angles firm with small wooden blocks, to which affix the before-mentioned board. A door should then be made in a side of the frame, sufficiently large to admit a deep plate, or small dish, to contain the food. By the use of this machine, the bees are fed quietly, and protected from the cold weather, and the intrusion of other bees. It is scarcely necessary to observe further, that the door of the machine should face such part of the bee-house as best suits convenience. The dish of food to be placed under should be covered with a piece of thick paper the size of the plate or dish, pierced with holes, through which the bees will feed; and a quantity of short pieces of straw also put into the dish, will prevent the bees from daubing themselves. They should be fed at night, and the dish only taken away early on the following morning; to do this, the face and hands should be covered. The autumn and early part of the spring are times proper to examine if any hives require feeding; but always commence before the stock is in absolute want of food, or the bees will be so poor and weak as to be unable to come down.

TO HIVE BEES.

Bee-keepers should have spare hives by them, prepared to hive the bees as soon as they are settled; for should the sun shine hot on the swarm, it may take another and be lost. The manner of hiving them must be regulated by the nature of the place on which they settle. Have ready a cloth whereon to place the hive, and a wedge to raise it; if the swarm should settle on a limb of a tree, shake the best part of it into the hive, place it on the cloth on the ground, and continue to disturb where it settled, and the hive being left underneath, they will all go in: or cut off the branch, and gently place it in the hive. should the bees settle on the ground, place the hive over them; and though bees are not apt to sting at this time, the hiving should be performed quietly. Avoid taking and breathing on them. If any of them are crushed they will resent it; therefore, to prevent accident, use a bee-dress, or a veil and gloves. All swarms are to be sheltered, and left near to where they settle till the evening; thence to be removed very gently to the appointed place.

TO TAKE THE HONEY WITHOUT DESTROYING THE BEES.

In the dusk of the evening, when the bees are quietly lodged, silently approach the hive and turn it gently over. Having steadily placed it on the ground, with its bottom upward, cover it with a clean new hive which has been properly prepared with a few sticks across the inside of it, and rubbed with aromatic herbs. Having carefully adjusted the mouths of the hives to each other, so that no aperture remains between them, take a small stick and beat gently round the sides of the lower hive for about fifteen minutes, in which time the bees will leave their cells in the lower hive, and ascend and adhere to the upper one. Then gently lift the new hive, and place it on the stand from which the other hive was taken. This should be done by the 15th of July, that the bees may have time, before the summer-flowers are faded, to lay in a new stock of honey, which they will not fail to do for their sustenance through the winter.

TO DESTROY THE BEE-MILLER.

To a pint of water sweetened with honey or sugar, add $\frac{1}{2}$ a gill of vinegar, and set it in an open white vessel (as anything white attracts their attention), on the top or by the side of the hive. When the miller comes in the night, he will fly into the mixture and be drowned.

PRESERVING OLD HIVES.

When bees die, the hive should be thoroughly cleared of its contents, the sides well scraped out and rubbed with a cloth wet in cold water, and be kept in a dry place until wanted for use. Old hives thus prepared, are far better than new ones, from the fact that the arduous and difficult task of attaching the *comb* to the walls of the hive has been accomplished by the previous swarm.

WINTER MANAGEMENT.

When autumn approaches, it is highly important to know the exact condition of the bees, in regard to their supply of food for the winter, and if all the hives be made of the same *size* and *weight*, after a little practice the quantity of honey contained in each can be readily ascertained by gently weighing it. There should be found 15 or 20 pounds of honey in every hive, of the usual quantity of bees, to carry them safely through the winter. When the quantity of honey is insufficient, the bees can be fed as before described. Southern honey that costs from 4 to 6 cents per pound, will answer the purpose. Where honey can not be obtained, brown sugar can be used. Dissolve the sugar with a sufficient quantity of water

to make it of the consistence of honey. This must be done over a fire, and taken off as soon as it commences boiling, and the scum taken off. It is of great importance so to place bees that they will have the least possible desire to leave their hives during the winter. If two stocks should be placed side by side, and the one so managed that the bees should remain within constantly, without being confined, while those of the other should be on the wing during every tolerably warm day, the mortality of the bees remaining within would not be half so great as that of the others; for the reason, that many bees come to an untimely death in the winter season, by being suddenly chilled while abroad, and never regain the hive. Hives thus depopulated can not possibly thrive so well in the following spring, as those which are kept from going abroad; hence it follows, that to be successful we must ascertain in season whether a sufficient amount of food is furnished them to carry them through the winter season.

SPRING MANAGEMENT.

The queen commences her spring laying on the approach of mild weather, in March or April. Even in February, should there be two or three weeks of warm weather, she may commence her spring-laying. The indications of this are, the activity of the bees in going abroad, and their return loaded with pellets of pollen upon their thighs. The latter is a sure indication. Should this be the case as early as the month of February, in the latitude of New York, the bees will be placed in a very critical situation; for cold weather must, as a matter of course, intervene before the approach of mild settled weather. Under such circumstances, should the weather continue mild, the bees will consume more honey in a week than during a month of steady cold weather; and if their supply be not abundant, feeding in the general way as before described, should be resorted to. In any case when the spring opens prematurely, the greatest care is necessary, for the reason that if the bees are on short allowance, their destruction is inevitable, unless they are fed. Should the bees be placed in any situation cooler than that which is intended for them in the summer, such as on the north side of some building (which is a good plan in a mild winter), they should be kept in that position till permanent mild weather; but care should be taken not to leave them too long, as their spring increase might be greatly retarded thereby. The great object of every one should, at this season, be to get early swarms. One swarm in May is worth two in June. Bees usually swarm from the 10th of May to the 10th of June.

TO CULTIVATE BEE-FLOWERS.

Bees are most fond of those places where their favorite flowers are found; therefore bee-keepers should encourage the growth of such shrubs and flowers as are known to supply honey and wax in the greatest abundance. In most situations bees do not fly far for food—generally not more than half a mile; they may be observed to return with great precipitation to the hive, as the storm approaches. The following are the most favorable for pasturage, and those which blossom early are the most desirable:—

Shrubs.

Sallow, or the gray willow,
Rosemary,
Barberry-tree,
Gooseberry-tree,
Raspberry-tree,
Apricot, and other fruit-trees,
Lime-trees,
Furze,
Broom,
Heath.

Flowers.

Lemon-thyme,
White clover,
Garden and wild thyme,
Barage,
Winter-savoy,
Hyssop,
Mustard,
Turnip,
Cabbage,
Scarlet and other beans when
in bloom,

TO MANAGE BEES GENERALLY.

The best situation for bees is to the north. The stations for the hives must be six yards asunder, and never nearer than three yards. The board on which they are placed ought to be of one piece; or if joined, the under side of the joining should be lined with a thinner board, fixed closely with wooden pins. The edges of this rounded standard should project four inches all round the hive. Place it on three wooden pillars sixteen inches above the ground, but six inches should be firmly thrust into the earth. The pillar in front should be an inch shorter than the others, and three pillars should be within twelve or fourteen inches of the outer edge of the board, to exclude rats and mice. For the same reason, no tall-growing plant, no wall, nor any means of ascent, should be within three or four feet of the hive. In fine weather, the entrance to the hive must be five inches long and an inch and a half in depth. In the beginning of the fine season, when the bees can get food, or have stores remaining, the bee-master has nothing to do but to keep the ground about the hives clear from weeds, and from whatever might enable vermin to climb there. Yet, as a thriving stock inclines very soon to swarm, the hives must be frequently looked after, from eight in the morning till three in the afternoon. The symptoms are generally these: the little city seems crowded with inhabitants; they are in continual motion

during the day ; and after working-time they make loud noises. The drones may be seen flying about in the heat of the day, and the working bees go with a reeling motion and busy hum. When the bees come regularly out of the hives, let no noise, no interruption, incommode them ; but if they fly long, as if they were unsettled, some tinkling noise, or the loud report of a gun, will make the fugitives repair to the nearest lodging. If there is an empty hive with combs and some honey in it, they will readily go there. If a new hive is used, remember to smooth it well within. Perpendicular sticks should never be employed. Four cross-sticks, at equal distances, will support the combs. It is to be observed, that great haste in forcing a swarm into the hive, may disperse them. Give them time to settle undisturbed, though keep a steady eye on their motions ; but when they gather into a cluster, lose no time in placing the hive over them. If the hive rests on anything that can be brought to the ground, spread a clean linen cloth ; lay two sticks on it, two feet asunder ; lay the body on which the swarm have fixed, gently on the sticks, covering it with the hive by a motion the least perceptible, and taking care that the edges of the hive rest upon the sticks. Cover hive and all with a cloth, for the heat of the sun may cause them to rise again. When they have gone into the hive, cover it with its own board, and carry it cautiously to its station. Great care should be taken that the ground around and under the hives should be kept free from weeds and grass. A hard, smooth surface is best, as many a weary bee, on returning home, fails in reaching the alighting board, and falls to the ground, in which case, should the ground be encumbered with long grass, and weeds, she might become entangled, and thus fall a prey to spiders that infest such places. The best way to kill the grass and weeds, is to saturate them in the spring with boiling-hot brine, which will effectually put a stop to vegetation. This being done, lay a strip of board along in front of the hives, with a rising point for the bees that return home heavily laden, and fall around the hives, which often does occur, and they fail to get upon the wing until they ascend some eminence from which they take a start and regain the hive.

TO PURIFY HONEY.

Expose the honey to frost for three weeks, in a place where neither sun nor snow can reach it, and in a vessel of wood, or other substance which is not a good conductor of heat. The honey is not congealed, but becomes clear.

CHOICE FRUITS.

A FARMER finds no little difficulty, and perplexity in making his selection of fruit-trees from a nursery of many hundred kinds. To avoid this difficulty, the writer proposes to give a short description of a few varieties that will give general satisfaction, but our limited room will not permit us to mention a large number.

APPLES.

Early Harvest.—Fruit medium size, bright straw-color, flavor fine—ripe in August.

Summer Queen.—Fruit large and oblong, striped with red and yellow; high flavor, and very fine—ripe in August.

Rhode Island Greening.—Fruit large, skin greenish, flesh slightly acid, and of fine flavor—keeps till May.

Swaar Apple.—A celebrated winter fruit, in some parts of New England and New York; of fine flavor, skin greenish yellow, with red tinge—keeps till March.

Newtown Pippin.—A valuable apple of two kinds, the yellow and the green; no difference in quality; keeps till June and retains its flavor; the best fruit for pies and general family use.

Fall Pippin.—This is the most valuable of all fall apples. Fruit large and oblong; skin smooth and greenish, slightly tinged with orange; flesh tender and mild—ripe in October, and keeps till February.

Baldwin Apples.—In many markets in the United States, this kind of fruit commands the highest price: color bright red, tinged with yellow; flesh sweet, rich, and juicy—ripe in November, and keeps till spring.

Lady Apple.—Fruit small, color bright, deeply tinged with red on one side; flesh brittle and pleasant—ripe in November, and keeps till May.

PEACHES.

Yellow Rareripe.—Skin red and yellow, flesh rich and delicious—ripe in September.

Morris Red.—Fruit large, skin greenish yellow—ripe in September.

Columbia.—Fruit medium size, skin rougher, color a dark reddish, flesh yellow—ripe in September.

Morris White.—Fruit large, skin yellowish, flesh white; flavor rich; valuable for preserves; ripe in September.

PEARS.

Dearbon's Seedling.—Medium size—ripe in August.

Bloodgood.—A large fruit, with russet spots—ripe in August.

Steven's Genesee Pear.—Of large size, color light green—ripe in August.

Pound Pear.—Fruit large; excellent for winter.

Seckle.—This is considered by many one of the best pears in the country, color brownish, slightly russet-tinged, with red next the sun; flavor very rich—ripe in September.

Marie Louisa.—A fine pear, skin yellowish green, darkish russet, flesh rich and mellow—ripe in October.

CHERRIES.

May-Duke.—Fine and round; grows in clusters; skin dark red; flesh rich and juicy—ripe in June.

Ox-Heart.—Fruit large, and heart-shaped; color pale yellow; an excellent quality—ripe in June.

Black Ox-Heart.—Fruit large, fine, and delicious—ripe in July

PLUMS.

Orange Egg.—A large, beautiful fruit—ripe in August.

American Yellow.—Beautiful shape, color bright yellow—ripe in August.

Green Gage.—So well known that a description is unnecessary, it is the most desirable plum known—ripe in August.

Blue Magnum Bonum.—Size large, color blue; excellent cooking—ripe in September.

Fall Gage.—A valuable fruit, good when the season is past for other plums—ripe in October.

AGRICULTURAL SOCIETIES AND FAIRS.

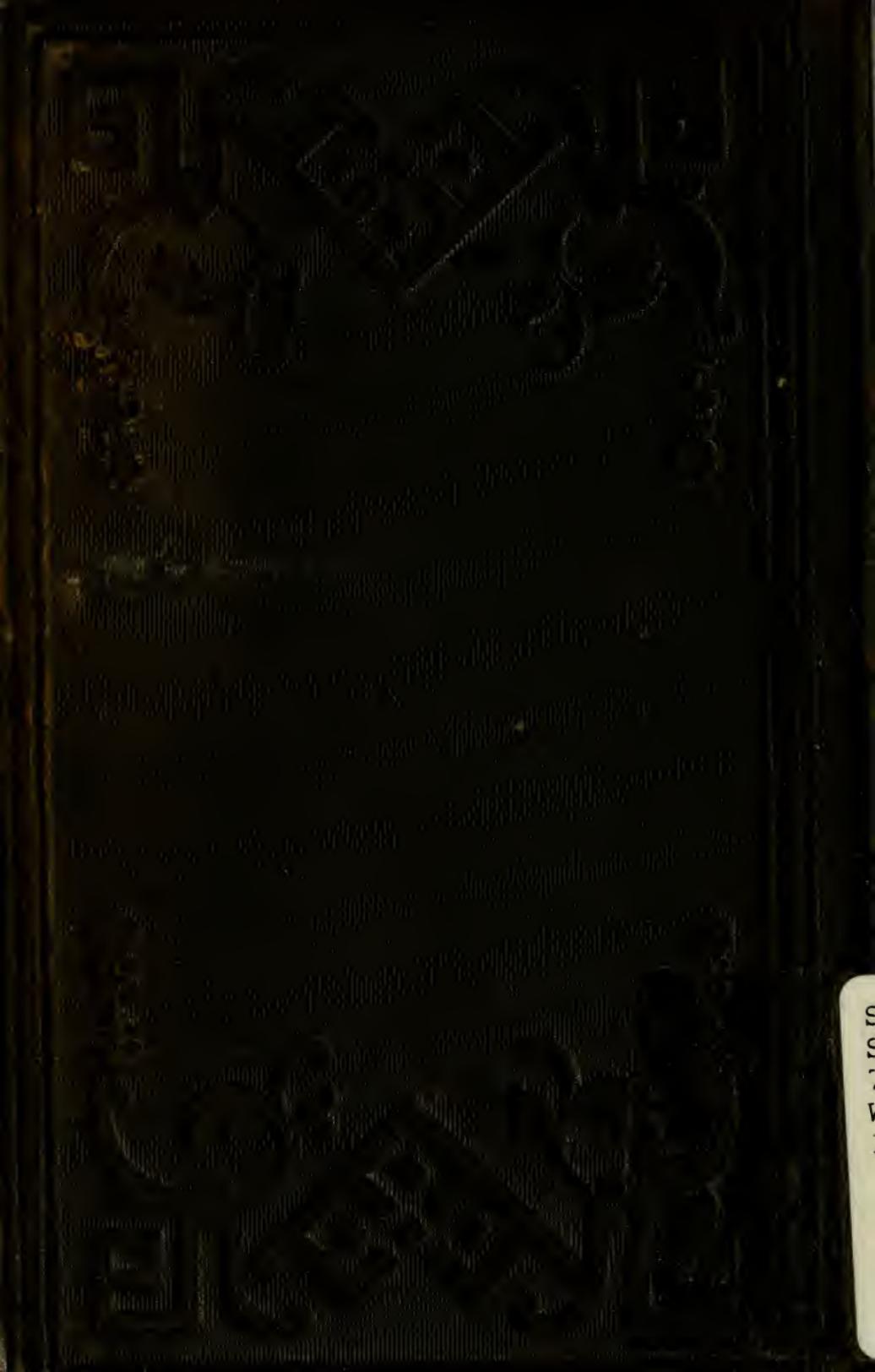
The great benefits arising from agricultural societies are not yet duly appreciated by the large portion of American farmers, but every succeeding year produces a change in the agricultural public. Through the benefits of associations, stock has been improved and their diseases guarded against; the quality of nearly all sorts of grain has become superior, and the quantity increased; barren and sterile lands have become fertile, and swamps that were once valueless have been drained and changed to luxuriant gardens; in short, mankind have been benefited by their effects. The great improvement that has taken place in agriculture and the breeding of stock throughout England and America within the last fifty years, is owing mainly to an interchange of knowledge and experimenting thereon. State agricultural societies have been formed in nearly every portion of the Union, and county societies, already numerous, are on the increase. Many agricultural papers are now published in our country, diffusing a vast amount of knowledge which is obtained at a comparatively low price. Individuals who feel the importance of becoming members of agricultural societies and patronizing the press, by subscribing to and reading some one of the many papers that are now published on the subject, will soon feel and appreciate the benefits of being in possession of the experience of others. The premiums offered to those who excel in productions from their farms and work-shops, are not the only incentives to improvement; the meeting together once a year, at the annual fair of the state and county societies, of so large a number of farmers, mechanics, and artisans, and there beholding their products, incites in them a spirit of emulation and rivalry which nothing else would produce, the result of which is apparent in communities where the most attention has been paid to the subject. The above are only a few suggestions in relation to a subject which will more or less interest every reader of this little book and should the hints herein expressed meet the approbation of the class for which it is designed it will be no little satisfaction to the writer.

THE END.



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