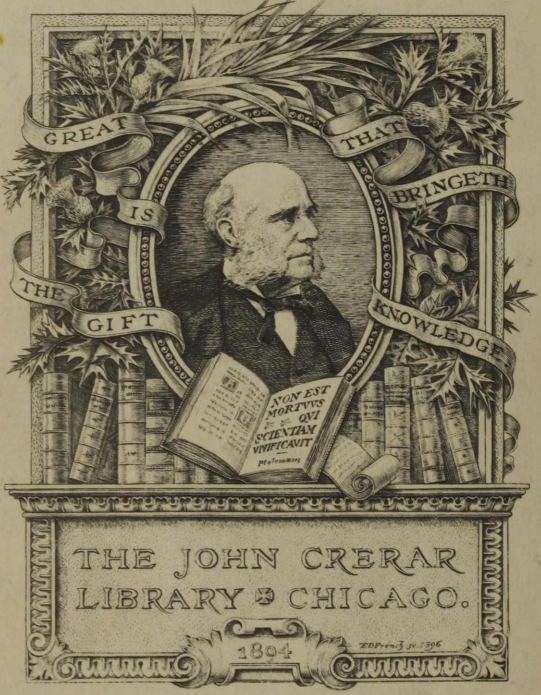

THE

AMERICAN FARRIER

AND

HORSE TRAINER,

BY

O. H. P. FANCHER.

L. A. Lange

TENTH EDITION.

PRINTED FOR THE AUTHOR.
1866.

TO PURCHASERS.

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INTRODUCTORY.

Our object in publishing this work is to give the general management of the horse in all things relating to the training, feeding, driving, and to the symptoms, locations, and cures of all diseases to which the horse is made liable. We say, *made liable*, because two-thirds of all diseases are brought on by our own mismanagement; and the same with all bad habits of the horse. There was never a naturally ill-disposed horse foaled. All bad horses are made so by bad treatment. Balky drivers make balky horses. We have always succeeded in making all horses in our hands kind and gentle for all uses.

We feel assured in saying that all persons who come in possession of this work, and live up to its directions, will be equally successful. There is in this book all that is needed for the breaking of any kind of a horse, and we have used no process not explained here.

We have been in possession of this valuable art since 1837, and we claim to have first introduced it into the United States. Similar systems have sprung from this, and some pamphlets have been written on the subject; but nothing was known of this process of taming, in this country, until I introduced it in 1837.

The principle on which we rest is kindness. We wish first to give the horse to understand that we are his friend, and to gain his affection. There are certain things which will attract him to us when we give them to him, and we believe there are articles which are thus suited to every animal; if we knew them, we could in the same way control the animal.

These articles do not affect the spirits of the horse, or make him your obedient slave at once; they only cause him to like you, and give him confidence when with you, because he feels that if you give him

just as well train our horses to drive without reins as we can our steers. Cattle are as wild in the field as colts are. We take a great deal of pains to teach our colts to pull on the bit. How is this done? First by hitching in harness before we have taught them to stop or how to do so; we then commence pulling with all our strength to stop them by the reins before they know what is wanted. By this process they learn to pull or bear on the bit, that being the signal to stop. Now it is just as easy to teach the horse to stop by a motion of the whip, or by any other motion or word; if we should say "Whoa," then start the horse, that would be the signal to go, with him; then if we should say "Go along," and at the same time stop him, why, then he would stop. There is no one word that is any more natural to the horse than another; it is only because we carry the act with the word that the animal understands it. We would save ourselves a great amount of trouble if we should practice this principle more perfectly, always bearing in mind that the word and act always go together.

To Break a Horse from Pulling at the Halter.

Take a strap with a two-inch ring, buckle it around the ankle of either of the hind legs; then use a long halter, run it through the hitching ring in front, then back to the hind leg; tie it in the ring; now go in front of the horse, let him pull back if he will; as he settles back, it will pull his foot out from under him; his mind is directed to

his foot, and he will start forward to ease his foot; try him again; every time he pulls, his foot is drawn forward; in a very short time he is cured of pulling back. Here is another plan: take a small cord, make a loop in one end just large enough to slip over the under jaw; pass the other end over his neck, and through the loop on the jaw, then back to his foot, the same as the first. This is very severe, but effectual. I have broken the worst of pullers with the cord in my hand; by jerking on it first one way and then the other, he will soon give up and refuse to pull on it at all; ten minutes will put any horse where he can't be made to pull. Either of these plans are good, and will cure any horse of pulling at the halter.

To Drive a Pair of Runaway Horses.

Harness and attach them to the carriage or wagon as usual; then fasten a rein or strap to the right front leg of each horse; pass this rein under the belly-band of each horse; pass them back into the carriage over the seat, so as to sit on them; now take the regular driving reins in hand and start off; get on a good road and let them off, give them to understand that they are running away; first try to stop them with the driving reins, then take hold of the other reins and pull up the feet; they will instantly stop, for each horse is now on three legs, and can't run any farther; after stopping them, get out and pat them kindly on the neck, and

speak in a soothing tone of voice; now get in and start them again; after getting them on a good trot, speak to them, "Whoa," and pull the feet up at the same time. Now, in this way, they will learn the word "whoa," and will stop at any time, at command. Even if you should pull off both bridles, they could not run away; you have more command over them in this way than with the bit. You can see at once that they can be anchored at pleasure. Safety is the great object of man, and at the same time to have a well-broke span of horses. The horse can be trained in this way to stop at any given signal, but remember that you must always carry the act with the word, when you say "Whoa;" pull up the foot—that stops them at once; repeat this and you have it perfect. Even in harness or out of it, this saves a great deal of hard labor and time, for I can train ten horses to stop at command where I could one in the old way of breaking. Time is money, and always being safe is still more valuable.

To Shoe a Vicious Horse.

Take a web or strap, put it around the neck near the shoulder, pass it through between the front legs, and back around the pastern; bring it forward on the near side, pass it through the loop around the neck, draw the foot forward, hold the strap in the hand, so as to give way on it as he struggles; let the foot nearly down, then draw it forward again, and turn the horse sufficient to

compel him to try to take his foot from you; he soon finds that he cannot get it away; be kind to him; move back so as to rub the leg if he attempts to kick; draw the foot suddenly forward and keep it there; pat him under the belly, near the flank, also on the thigh; hold it in this way until he has apparently given up; then slack up on the strap; now step back, keep close to his side; now take hold of the foot with the hand and handle it as much as you can with one hand; be sure to hold to the strap with the left hand, and be on your guard in case he makes an attempt to kick; draw the foot forward; in a very short time he will give up and allow the foot to be handled. I care not how bad or how long he has been so, this will effectually break him.. I do not claim that one operation will make him kind, but you always have the means at hand and can repeat it at pleasure; but remember and always be kind; show him that you are his master without abusing him. Never use the whip in such a case; if you do, it will only get up a feeling of resentment. Dont swear, nor speak quick or cross; the horse is very sensitive; kindness will always drive away wrath; if persevered in, it certainly is better than the whip; the latter may be used in certain cases, if used in reason.

Riding Vicious Horses without Bridle or Halter.

Approach the horse quietly, and proceed to fasten a strap on the right pastern or ankle; stand close to the horse, reach over the shoulder, take hold of the strap low down and draw up the foot;

whilst in this position proceed to mount; be very slow in getting on, and when on let the horse stand quietly if he will; pat him gently on the neck and side; speak kindly to him. A horse that wishes to throw his rider will always curve his back, his object being to get rid of his rider. It is impossible for him to think of two things at once. Now, as he is quiet, let the foot down; now let him start off, and as he curves or humps up his back pull up the foot; his back will settle down, for he is now thinking of his foot, and immediately stops: now this is a perfect anchor; don't hold the foot up, but take it up and let it down frequently; this confuses him; he will not run, for fear of falling, and in a few moments he will give entirely up, and will submit to be ridden or handled in any way. It is impossible for any horse to throw a person in this way, and he can be rode safe without saddle, bridle or halter. In breaking horses, of course you will use the bridle and saddle as usual.

Breaking Horses.

I will now commence and give the true, practical way to break all bad horses, let their tricks be what they may. The writer has never failed in accomplishing his designs, and he has had the trial on the worst that could be found. He has experimented on horses in the South, on bets of sixteen hundred dollars. Of course they would get the worst that could be found. In fact, they are the easiest subjects to perform on, for all am-

bitious horses are easily taught. I first commence by administering the articles used for that purpose. These articles create and secure the animal's attachment; then, by kindness, you increase this feeling and have the perfect control. But never work a horse to tire him, when you first commence; for by so doing it gets up an opposite feeling. He should be driven but little the first day, and that with a light load. Keep increasing his work day by day, and in one week you could have ten of the worst horses perfectly kind and gentle, to work anywhere or place. I am now speaking of all branches of breaking. There are so many that want to do all in one day. This would be taxing the patience and memory of the animal too much. Can the child learn its alphabet in one lesson, or the different branches, such as reading, writing and spelling, all at one lesson? No: but you expect the dumb brute to do so. I will admit that the horse can be learned more in the same length of time than the human can, but commence gradually, and you will accomplish more in less time. Now, when I show a horse how to do anything, I will give him one of the articles used in breaking, to eat from the hand; this encourages him to do the same again. In so doing, he remembers, and will always do what you wish him to. This mode of treatment creates confidence, and the horse fears nothing whilst in the hands of a kind master. If your horse should show any signs of fright, speak to him kindly, and he will pass any object, let it be ever so frightening. When the horse is broke in this way, he is always safe, and more so in the hands of a lady, for they are more kind. By liv-

ing up to this mode of breaking you will save time, life and limb.

To Feed, Water, and Drive.

Persons should be very careful not to feed and water heavy before driving. By filling the stomach with water and feed, the water destroys the juices of the stomach, and weakens digestion; the grain becomes swollen and generates a gas which fills the stomach with wind, and as soon as the stomach is diseased, the bot will work his head in the coating of the stomach; it also fills the bowels with wind, and would naturally cause colic: so you see at once, by overloading the stomach with food and water and then driving fast, it will cause disease; and many times when the horse comes in he is off his feed—will not eat—there is nothing to call for food; he will drool at the mouth, and will not regain his appetite for twenty-four hours. All grain will digest best whilst the horse is standing still, and all feed that passes off without digestion weakens the action of the stomach and bowels, and, in many cases, will scour the horse, and cause him to become weak. The less you feed before driving the better. Then, again, you should water very little on the road. Feed mostly at night; the food will then all digest and make flesh and blood. I should advise not more than two quarts in the morning, and the same at noon. I do not feed in the morning, neither do I water. If I were going to make a long and fast drive, I should feed twelve quarts

the night before, then my horse would be strong, and feel light and active, and do his work easy. By giving him little water, the horse will fully digest what he has eaten; but if you weaken the juices, of course you weaken digestion, and a horse should only be fed what he can easily digest. I think by so doing you will save one-third of the grain formerly given. The most of the diseases are caused by too much water and food; the water destroys the juices and disables digestion; so, by feeding the most of the grain whilst the horse is at rest, it will fully digest, and leaves the horse strong and able to do his work.

By giving a great amount of water, it diseases the blood and deadens the hair. The water must pass in some way; it can't all pass in the urine, and it passes off through the pores of the skin, and causes the hair to become gummed, and makes the horse very hard to clean. So much water passing off through the pores of the flesh destroys the roots of the hair, and causes it to look dull and faded; then, again, you should be cautious not to drive your horse in cold water when warm, or throw water on him; by so doing it chills the blood in the veins, separates the blood from the watery substances that the blood forms from, and causes disease; and the skin becomes full of small tumors, and the hair will fall off. By so diseasing the blood, he will be liable to many other diseases. By avoiding to give too much water on the road, and too much food before driving, and keeping the horse warm after driving, you avoid disease.

Breaking Horses from Scaring at any Object.

All that is necessary is to gain confidence in the animal. This you accomplish by the use of the articles described in another place. Take the horse and use the oils in the nostril; then the powder—this causes the horse to become fond of you. You will then proceed to take him to the engine, or near it; as you approach the object, if the horse shows signs of uneasiness, pat him gently on the neck; then give the powder on an apple, cut in small pieces, and talk to him kindly; speak low, and continue to pat and caress him; this proves to him that you are his friend; he will then become more mild. Don't take him to the cars the first time, unless he is willing to go without much trouble; but on the second or third trial, he will approach them with less trouble. It makes no difference what the horse frightens at; by this management he will be entirely released from this trouble. This treatment will break horses from all bad tricks, and make them entirely submissive.

In Breaking Kicking Horses.

After administering the articles used, take the horse and put the harness on; at the same time pat him, and give the powder on the apple; this creates fondness and confidence. If he is very bad, do not hitch him to any thing the first two or three times that you harness him; the object is to cause him to forget his bad habits; this he will do by different modes of treatment; and

when you do begin to drive him do not tire him, but frequently stop him and caress him, giving the article to eat from the hand; by this you can increase his labor, and through your kind treatment he has forgotten his tricks. Now don't think this too much trouble, for in a few days your horse is well broke; but if, on the contrary, you commence by abuse, you may work for months, and then fail in the attempt to make a kind horse. Now, my reasons for knowing that you will not fail by my mode of treatment is, because I, for fifteen years, have experimented on the worst of horses, and never failed in making a kind and gentle horse. These are my reasons, for we all judge from experience. If you have had the misfortune to fail in breaking a horse, you say, "Oh, I should like to see anybody break my horse," thinking of course that yours was the worst that ever was. Now, this is perfectly natural; but I assure you that you will never fail on this principle of management. All horses are susceptible of receiving more or less knowledge; the more ambition a horse has, the sooner he will learn. Now, don't get faint hearted, and say it can't be done; I know it will never fail, if you live up to the directions.

Breaking Horses to Harness.

First administer the three articles used for the purpose, then bit him with a bridle made for that use; after bitting the horse sufficiently, put the harness on and lead him about for a short length of time, petting and feeding the horse with the

powder sprinkled on small pieces of an apple. Then hitch the horse to a small log that he can draw very easy, with long traces, frequently turning him, so that the traces will draw lightly against his legs—frequently stopping and petting him; then hitch him to something heavier; then get behind him and drive him. By thus working with him, you will make a strictly true horse of him—he also gets so that he is not afraid of the traces or harness. You can then proceed to hitch him to a buggy or wagon. Persons should not drive fast, at first hitching a colt in harness; he should be handled very carefully at first. In handling colts in this way, you will have no trouble with them, but will have a much better broke horse, and one that would be more safe for a family. A horse broken in this way is not half so easily spoiled as a horse broken by any other process.

In breaking horses to ride, they should be handled in very much the same way as I have spoken of. After bitting them sufficiently, you may proceed to saddle them; then ride them; but never ride them over two or three miles at a time—not enough to tire them.

To Break Horses to Stand the Fire of a Gun.

You commence by administering the three articles first mentioned in the nostrils; that will prevent him from smelling the powder. Then load your pistol—but very light, so as to make as light a report as possible; every time you fire,

give him a small piece of an apple, with some of the powder on it; then rub and pat him on the head and neck. When you first commence firing, stand close by the horse's shoulders, and rest your arms on his withers. After you have fired a sufficient number of times in this way, then mount the horse and shoot from his back. By keeping up this practice for a short time, he will get so that he will not care anything about the fire of a gun, at any time or place. A person can break ten a week with ease.

In Breaking Horses to Come to you at the Crack of the Whip.

Take the horse and bridle him, and fasten a rein to his bits and make him run around you; then crack the whip, and at the same time pull the rein and make the horse come to you; then give him a small piece of an apple; then pat him on the neck, then start him again, let him run a short time, and pull him to you again, feeding him as before. By keeping up this practice a short time, he sees at once that by coming to you he gets what he is fond of; then your kind treatment has great influence over him, and increases the attachment between the horse and yourself. It must be remembered at the same time, that this powder must be used on the apple; you can dispense with these articles as soon as your horse is broken. By breaking in this way, the horse will always be gentle and kind to every person that will handle him gently.

To Break Horses to Stand without Hitching.

Prepare yourself first with the article used; then saddle and bridle the horse, or harness him; riding would probably be the most convenient. Then ride to some place where you will be alone; when you dismount, give the horse a piece of an apple; then put the rein back of the saddle centre; check him up tight, so that he can't get his head down; let him stand a short time, then go to him and uncheck him, and give him some more apple and powder. You should step behind some place, so that the horse does not know where you are. If he should start to leave the place where you left him, step out carefully and uncheck him, and lead him back to the same place, but don't give any of the powder. Let him stand a short time, then go to him, uncheck him again and feed him with the powder and apple. By doing this, he sees that if he moves from the place you leave him he don't get the articles he is so fond of; but by standing where you leave him he gets it. By handling the horse in this way, twice a day, half an hour each time, in three days he will stand anywhere you may leave him.

To Break a Horse from Scaring at a Buffalo Skin.

First administer the three articles used in the nostril, then approach the horse gently, with the skin rolled up under your arm; when you approach him, pat him on the neck, and rub him on the head; then let him smell of the skin; he can

smell nothing but the articles given him in the nostril; he thinks that the skin smells of the articles given him, which he is very fond of. You may unroll the skin and hold it up before him; then patting him gently on the head and neck again, spread the skin on his back very carefully. Then go through with your former treatment, rubbing and patting him kindly upon the head and neck, frequently feeding him with a piece of an apple with the powder sprinkled upon it. By keeping up this practice a short time, the horse will get so that he will not frighten at the skin or anything else. All persons that observe this practice strictly will always have a perfectly gentle and kind horse, both for gentlemen and ladies.

To Break Horses to Ride.

If it is a colt, you must first supple the muscles of the back before permitting much weight to be carried. You must keep in mind that he is not accustomed to carry weight, and that to put one hundred and fifty pounds on him would be entirely wrong. You must give the colt to understand that you are his friend. It will require but a few days to supple the muscles of the neck and back; then you have a horse that will guide easily. After the first three days, the horse will carry one hundred and twenty-five pounds easier than at first he would carry forty.

You will now fasten the saddle on, but not too far forward; buckle the girths tight, and let him remain a few moments; then approach him

gently, pat him on the neck, and draw up the reins taut with the left hand to the withers; put the foot in the stirrup, and bear gently on the saddle, then pat him gently on the back and rump, speaking very low during the time. Then rise gently, throwing the right leg over the saddle, and sit perfectly still for a few moments; then dismount and caress him, patting his head and back, and feed him the articles used in the taming. Then mount again, and after doing so a few times he will be as submissive as a lamb. You may now ride him a short distance, but remember and not tire him the first two or three times he is rode. If you are not accustomed to riding, it will be necessary to observe these rules:—Mount as directed above; you should bear about one-third of your weight in the stirrups; press the thigh to the saddle down to the knee; let the legs from the knee stand out with toe turned in; it will at first be somewhat tiresome, but the muscles will soon adapt themselves to this action, and then you are always prepared for a sudden shock, if the horse should dodge on one side. Conform to the action of the horse, then you are always with him, man and horse are one in riding, and there is no jostling about. Keep the reins only moderately taut; he should not be allowed to bear much on the bit, for this makes it hard for both horse and rider. The curb bit is the best for riding, and without martingales; they draw the head too much under, and have a tendency to keep it down, and without them you may give him a higher and much more graceful carriage.

Adhere to the above rules and do not get out

of patience with your horse. It is not manly or kind to get out of patience with a dumb brute; he will learn his lesson as quickly as a child can; then have as much forbearance with him, and he will repay you by being kind and gentle. One or two hours a day are enough to spend with him to learn him, until he has learned. It will need only a few days to accomplish this.

Means of Teaching a Horse to Pace.

First take nine or ten pounds of lead, divide in four parts, equal to three and three-quarter inches, by four and a half in size; make two holes in each end of these leads, then fasten two of them together and have them padded. Then fasten them on the horse's legs, one on each hind leg, just above the ankle joint. Ride your horse briskly with those weights upon his ankles, at the same time pulling each rein of the bridle alternately. By this means you immediately throw him into a pace. After you have in this way trained him to some extent, change your leaden weights to something lighter; leather paddings, or something equal to it, will answer the purpose. Let him wear these light weights until he is perfectly trained. By adopting this plan, you will speedily make a smooth and easy pacer of any horse.

To Teach a Horse to Lie Down.

Approach the horse gently, and upon the left side; fasten a strap or rope around the ankle of

his fore foot, then raise the foot gently, bring the knee against the breast, and his foot against the belly. When you have the leg in this position, proceed to fasten the strap around his arm, which will effectually prevent his putting his foot to the ground again. You will then fasten a strap around the opposite leg, and let it come over his shoulder on the left side, so that you can take hold of it; then start the horse somewhat, and when he goes to raise that foot, pull the strap, which will bring him to his knees; you will then commence patting him in a quiet manner under the belly, and in a few minutes he will lie down and submit himself entirely to your treatment. By still proceeding gently you will be able to handle his feet and legs in any manner you may choose, by going through this process a few times. However wild or fractious he may be by nature, you will find him perfectly gentle and submissive and ever disposed to follow you anywhere, and unwilling to leave you on any occasion.

Treatment of Horses and Mules.

In the morning, give one bundle of fodder, or a small handful of hay, with five ears of corn; always water before feeding. At noon, four ears will be sufficient with a bundle of fodder, and one or two gallons of water. At night, give two bundles of fodder or about six pounds of hay, and ten ears of corn.

It would amply pay the planter to grind his corn for all his stock; it would be a saving in

the course of the year, and, at the same time, it is a safer food. You had better always let them stand two hours after feeding, if you can so arrange it; then there will be less danger of indigestion. Give but little salt, for it occasions scours, and an unnatural thirst, to satisfy which he drinks a great quantity of water, which distends the stomach, and inclines him to staggers. In fact, indigestion is the cause of many of the diseases to which the horse is subject; and it is just as well to have the labor of our mules for fifteen years as to have them die from neglect in the care of them.

I have given a large supply of food above for the mules. I could keep a horse fat on it, and work him every day, and the mule does not require as much food as the horse. Every plantation should have a supply of wheat bran on hand, and if the mule gets off from his feed, give him a few bran mashes, and he will be in condition again.

Training Horses for the Chaise.

It will not require a very vivid imagination for those that use the chaise much to know that there is a great difference in the motion of the chaise; and what makes the difference? It is the gait of the horse; and those who would purchase a good chaise horse must look for a short-gaited one. A long-gaited horse gives an unpleasant motion to the chaise. Now, all horses of good action will make good chaise horses, if you will shorten the gait. To do this, you must

use a net. This net must be fastened to the collar and harness and worn like a breast collar; it must be two feet or two and a half long, reaching to the knees; the cords in the fringe to this must be about four inches apart, and on each cord there must be four balls of one inch and a half in diameter.

There must be a similar net on the breeching, reaching around the flank and meeting the front one; this net must hang below the gambrills; then use a string of smaller balls on the fore feet, these to be one inch in diameter. They will effectually shorten the gait. You must be careful in the first exercise after the putting on of the net. Drive or lead him around after the harness and net are on, before putting him to a chaise. After a short time, he can be hitched in and driven, but not fast, until his gait is confirmed. After a few days' practice, you will have a fine chaise horse. Some of the best chaise horses have become so from having sore feet, which made them step short. If you will attend to the remarks on shoeing, and take care of the foot otherwise, your horses will never have contracted feet.

To Train a Horse to Stand while Getting into a Carriage.

There are many horses that are very gentle after starting, but who will not stand to let more than one get in; they will then rear up and start very suddenly, and if stopped they become very stubborn, and refuse to start when called on. People then usually punish them with the whip, or by

kicking them, sometimes in the belly, which is very dangerous, as they have thus been ruptured. Now, with such a horse as this, you should commence in this way :—first use the articles in the nostrils, and feed the other from the hand when he is led out to the carriage. After he is hitched, caress him about the head, then take hold of the reins, and put your foot upon the step, and shake the carriage; if he starts, pull gradually on the reins, and at the same time speak low, "Whoa, my boy," or something like it. Then approach his head and give him a piece of apple with the powder on it; caress him on the head, between the eyes, and on the nose and neck; continue this kind treatment a few minutes, and when you do get in, don't allow him to start off in a hurry; walk him off. After a few repetitions of this, he will be perfectly submissive.

But you must not allow your passions to conquer your good sense; if you get mad, he will probably get the same, and be much worse, for he will hold as much spite as you can, and as long, too. By following the above directions you cannot fail in conquering your horse, and it is the only way of permanently correcting him, for it is on the great principle of love; and abuse is the only way to destroy your perfect command over his temper.

To those that Hire Horses.

It will be for your interest, reader, to use all precautions to prevent a horse from becoming sick while in your hands; this can be done by

adhering to certain rules, which I will note down. When you leave the stable, drive slow for a few miles, unless you know just how much the horse has been fed; if he has just finished his meal, it is really necessary that he should be driven at a moderate pace on the start: but if he has eaten a few hours before, this precaution is unnecessary. When you water your horse, never give over two quarts, and that once in three hours. Look at his mouth, and if it is moist with saliva, he does not need watering; but if the mouth is dry, if tepid water is at hand, wash out the nostrils and mouth with it; if not, use cold; but warm water causes the saliva to exude, and keep the mouth moist afterward.

If you are on a journey, stop at eleven o'clock, and let your horse stand without any food for a half or one hour; then give about one gallon of water; let him stand ten minutes, and then give three quarts of oats, or five ears of good bright corn, or three pints of shelled corn. Let him stand after eating, two or three hours, if you can, then you may put him on a brisk trot, without any danger of causing disease. I should rather have a horse driven seven miles an hour, treated in this way, than four, if started off directly after eating. By watering after feeding, and then driving off, gases are generated on the stomach, and give colic, or set the botts to work in the membrane of the stomach.

Then, again, if the horse is warm when you stop, be careful not to stand him in a current of air; he might take a disease in ten minutes that would carry him off; if in very warm weather, he had better stand in the sun than in a draught

of air. If in very cold weather, either stable him or clothe him when you stop, to keep the cold air from closing the pores of the skin. If you are compelled to stop in the wind, always turn the tail to the wind; then the cold air does not disturb the circulation of the blood. If in the winter in a northern climate, never allow a snow-ball to remain in the foot, especially if he has been driven fast and is warm. The coffin muscle is relaxed by heat, and the close proximity of the snow would cool off the foot so suddenly that the muscle would contract, and in a few days the hoof would shrink to the contraction and make him lame.

Always be cautious to keep the feet from cold water, when the horse is warm, and any sudden contact of cold with hot blood, either in the body or legs would be dangerous. These precautions should be taken, either in riding or driving. If you drive through water when the horse is warm, give exercise enough to keep up the circulation, and not allow the blood to be chilled in the veins. If you adhere to these rules, you will not be likely to have a horse injured by your management.

To make Horses Safe for Family Use.

For a family horse, we should select one with a full, prominent eye, and a broad space between them, full forehead, ears straight and pointed; when in action, the ear should be in motion, working back and forth, thus showing that he knows what is transpiring around him. He should

have a long, thin neck, and a full trumpet nostril. A horse of these points is not apt to tire on the road, for they indicate good blood. There is nothing to be told from the color of horses, one of one color is as good as one of another; color is a mere matter of taste. Some think that equestrian companies select the peculiar mottled horses they usually have for some traits of character indicated by the color; but it is not so; they only select them for show, as they attract more attention. The head and neck is the only part to judge character from.

A horse with the points above described is of high spirit, and very ambitious, easy to learn either good or bad habits; if he is taken from the field and ill treated, he will resent it, and you will call him bad, when it only proves that he has good sense, and knows when he is treated right. He is put in the bits, and then checked up, until the muscles become nearly rigid; then he is put in harness, and because he don't go when he is told to, he is whipped. Why do you punish him for not doing what you have never taught him to do? He don't know whether you are whipping him to go or to stand still; from thus ill-treating him he gets mad and stubborn, and who will blame him? If he is frightened at any object, and is whipped for it, the next time he will be more frightened, first at the object and then at the whipping. He is frightened because he has no confidence; will the lash give him confidence in you or any one? No, never! Neither will fastening up one fore-leg, as Mr. Rarey recommends, stop his kicking and other bad habits. No! but by giving the animal to under-

stand that we are his friend and protector, he will feel that he is safe, and have confidence in us. To assure him of this, we must caress him on the head and neck, and talk softly to him; then, if you have something that he is very fond of, by feeding it to him you gain his sympathy and confidence, and he will remember you and your kindness to him. To us this is most reasonable. So long as he is treated kindly, he will be kind and gentle himself to every one handling him. If he should frighten at any new object, by speaking gently, "So ho, my boy!" several times over, it assures him at once that he is safe. When your horses are harnessed to the carriage, and they wish to start before you are ready, don't jerk them or speak cross, but go to their heads, and caress and soothe them and when you get in, draw the reins up carefully, and talk kindly to them, and allow them to walk off slowly; in a few days, with such treatment, your horses will be perfectly tractable and gentle. A full-blooded horse is as sensitive as a well-bred man, and you must not hilloa to him as you might to a hog. This you may not believe, but it is so. You must never use the whip, except when the horse knows what and how to do, and will not do it, or is lazy, and requires the lash to increase his speed. Adhere to the principle of kindness, and you will not fail to have a well-trained family horse.

To Supple and Develope the Muscles for a Fast Trotter.

We commend early breaking; say at twelve or eighteen months. Then the muscles can be

developed more thoroughly, by judicious training, than they could be by commencing at four years old; and you can confirm him in his gait, so he will know no others than those you teach him. You must first gain his confidence, by caressing and petting him, and giving the articles used in taming. You can then commence giving him walking exercise by the side of the mother, or some other horse; give this for several days. Then commence trotting him. He should be put to the top of his speed for fifty or a hundred yards, but not to a break if possible; if he should break, don't jerk him back suddenly, as it might strain the back or back sinews. Keep up the walking exercise every day, with occasional trotting; for the action of the muscles is the same in walking and trotting, but not in running. When he gets large enough to ride, commence by putting on twenty-five pounds and leading him, but not over thirty minutes at a time. Increase the weight gradually, until he can carry a man. Then teach him to stop at the command, without pulling hard upon the bit, and this will learn him to be easy upon it, which is of much importance, as every pound of weight thrown on the bit is so much harder work for the propelling muscles. Do not raise the head but little above the level of the body, for as you raise it up by a hard pull upon the reins, the muscles press upon the bronchial tubes, and, in many cases, cause him to breathe hard, or whistle. He should be fed from a low place, as it is more natural for him to feed from the ground, and it helps to keep the front legs apart, giving more room for the lungs. When he is put in harness, it should be

as light as possible, and you must not pull hard upon the reins, but learn him to go with a light pull. It is the bitting harness, put on and drawn up tight for two or more horses at a time, that makes them *hog* upon the bit; ten pounds is enough for the horse to draw upon it.

It is just as easy to learn him so he will not break up, as it is to have him continually doing so. Supple and develope the muscles for walking and trotting only; then he can trot easier and faster than he can run, and it will be more natural for him, and those muscles will be the strongest. Continue on this principle of training, and you will have no cause for regret.

The Breaking of Horses for Trotting.

Take the colt at two years old, put a break bridle on, very loose, and let him run for one hour; then put about thirty pounds upon his back, with the circingle. Use sand or dirt in a bag; fasten on tight, and then check him up tight for fifteen minutes. Then take the bag off, but let him stand with the bits loose one hour longer. Repeat the same in the afternoon. The next day, repeat the same three times. Keep this up for four or five days. Then put a boy or light man on, and let him walk not over a mile; don't allow him to trot. He will be uneasy at first, but, in a few days, he will have more confidence. Then begin to urge him; you can increase the distance a little every day, to about five miles per day. After the first three weeks, his muscles will begin to develope, and his ac-

tions will be freer. Do not let him step too long but give him a medium stride, and, at the same time, a quick, active step. Do not let him know that he can trot for the first six weeks, or even three months. By this time he will have a free and active walk, and when he comes to trot, he will preserve the same liberal action.

The muscles of the limbs and back have, by this time, become somewhat suppled and strengthened. You can now give him a slight brush; say for a few hundred yards; he should be used just enough to keep his muscles in good growing order.

During the first year's training, he should not know that he can gallop or run with a person on his back, or in harness. The trotting muscles are thus suppled and strengthened, while the running ones lie passive. After he has his growth with this training, you may put him in a run and apply the whip; he will take to his trot as the easiest, for the muscles unused to running become tired, and the trot is easy to him. A horse with this training will attain the height of his speed at six years, or as soon as he has his growth, when, by other training, they don't reach it until they are about ten years old. Never rush them up hill, nor with a heavy weight behind them. The hind legs are the propelling power; the fore legs have to sustain the weight, and keep out of the way of the hind ones. If you push them up hill, or with a heavy weight behind them, it makes an uneven, unsteady trot, more like a hop, and their gait for the time is ruined. They can be broken from it by turning out one summer. You should both ride and drive in training. The colt can be

harnessed in a sulky after a few day's training and driven a short distance. You are too apt to give too much work when beginning to drive.

You can train them so as to throw them out and into a trot at pleasure, by any given signal —when driving, by a slight touch of the toe of your boot upon the rump, or a sudden pull of the reins; when riding, by a pressure of your knee to the side, or a touch of the hand on the neck. He will only give a few jumps before falling into his accustomed trot again, as the easiest for him; but when he breaks he will not lose. A horse, if trained well from a colt, only to trot, can trot nearly as fast as he can run; for the muscles brought into play in trotting are the strongest, and most easily worked, and the trot is, with this course of training, his natural gait.

I expect to see 2:10 made in the next ten years, for we are now only in our infancy in trotting; it is only a few years since three minutes was considered fast time.

In driving, if your horse breaks up, pull on one rein and slacken the other. This will throw him from a straight line, and make him catch his balance. Do this alternately, but not too suddenly; to saw on the bit will check his speed. If he hogs on the bit, shake him up suddenly. Hold your reins so that you can give at pleasure. Do not sit with the arms extended stiffly, but let them act as springs, in case of rough places. Bad driving has lost many a race.

Training Horses for Trotting.

The horse should be in good flesh. He should be driven moderately, with walking exercises every morning of about five miles. Before going into quarters, give him a brush for one hundred yards, at the top of his speed, and one or two miles of moderate driving, sufficient to sweat him; then rub dry with rubbing-rag; light rubbing is best—just enough to dry the hair. Hard rubbing on the bones or cords causes soreness. Rub the flesh and muscles well to harden them. When driving to sweat, put on two thick woolen blankets, and drive at full speed two miles. Then turn down the hood, or neck cover, and scrape the head and neck well, and rub dry; then cover dry and continue the same over the whole body, rubbing lightly and only enough to dry the hair. Then put on nice, dry covering, and let him stand. Sweating often in this way will weaken; it should be done but seldom.

Their food and drink should be of the purest kind; sift their oats free from all dust, and dust their hay, too. Give about a handful at a feed, morning and noon, and about twice that at night. From twelve to sixteen quarts of oats would be a great plenty per day; twelve would be a plenty for the majority. Give one gallon of water in the morning, and then two quarts of oats; this, three hours before driving in the morning. The same at noon. At night, give two gallons of water and a peck of oats, with treble the quantity of hay. You should not exercise any horse on a full stomach, for then, fast work hinders digestion. Grain lying in the stomach undigested, generates a gas by fermentation, which sets

the botts at work and gives colic. Indigestion is the cause of many diseases, and can be avoided by adhering to the directions for feeding and watering given in the first part of this book. If he is bound up and you wish to physic, give bran mashes. This will loosen sufficiently to answer all purposes. It is a bad plan to use purgatives, when it can be done by dieting, without any risk whatever. Purgatives are weakening, and should be avoided wherever you can do so. There is more medicine usually used in training than is of any use. None is needed unless the horse is sick. Then the first thing is to know what the matter is; and the next, what will stop it. Never give medicine until you know the effect it will have. There is much done in training which is worse than useless.

Rearing of Colts.

If you wish for a fine one, of course you must breed to a fine horse—thorough blooded.

The colt should not be allowed to shrink for two years, at least. If the dam has not milk enough to keep him plump, you must feed him on cow's milk. Feed him through the winter on oatmeal, dry, and give him cow's milk to drink. If a colt is allowed to shrink during the first two year's he will never fill out again, as full and plump, but his fine points will be undeveloped.

He should not be kept close in a stable, but allowed to run in and out at pleasure. He should not be allowed to stand upon a plank floor at all. In the spring, as soon as the grass is good, you can turn him out to pasture.

To Tell a Horse's Age by his Teeth.

The only sure way of telling the age of a horse is by the teeth, and these only for a certain time; after which time, there is nothing to be depended on, although you can guess very near by the front teeth of his upper jaw, until he is about twelve or thirteen; this, with the face of the horse, and some other marks enables one experienced in horses to guess pretty correctly.

There are six teeth above and six below, in the fore part of the horse's mouth, from which we may judge of his age; they are called gatherers. When a colt is foaled, he has no teeth in the front of his mouth. In a few days, two come in the upper jaw, and two below. Again, in a few days, four more appear; but the corner teeth do not come for several months—three or four. These twelve teeth remain unchanged in the front of the colt's mouth, until he is two or two-and-a-half year's old, when he begins to change them for permanent ones, although the manner in which he has been fed regulates in a measure the time of change.

Until he is in his eighth year, you tell his age by the front teeth in the lower jaw, so we will only speak of these. At first he sheds the two middle teeth of the six. These are succeeded by two permanent, or horse teeth, of a deeper color, and stronger, and grooved or fluted from top to bottom, with a black cavity in the centre. He is now about three. In the latter part of the fourth year, the teeth on each side of the tooth in the centre undergo the same process, and he becomes possessed of four horse teeth in the middle, with their natural black marks in the centre, and one

colt's tooth, only, on each side. He next sheds his corner teeth. When he has their successors, his mouth is full. He has the black mark now in all the six teeth, and is five year's old.

After the horse is seventeen or eighteen, the grinders wear down, and the nippers prevent the grinders from coming together, so that he cannot masticate his food. By filing off the nippers, he will masticate his food as well as a six years old horse.

Weights to be Carried in Trotting.

Weights to be carried by every trotting horse, starting for a match, purse or stake.

Every horse shall carry one hundred and forty-six pounds; if in harness the weight of the sulky and harness not to be considered. Pacing horses liable to the same rule.

Distances.

A distance of mile heats—best three in five—shall be one hundred yards; for one mile heats—eighty yards; and for every additional heat—an additional eighty yards.

The time between heats shall be, for one mile, twenty; and for every additional mile, five minutes.

Mules.

This animal should be used the same as the horse in all respects. They have generally been considered very stubborn, and as requiring more

or less whipping; but you will find them as kind and gentle as the horse, if you will treat them the same. They like to be petted, and only show proper resentment when ill-treated, as the horse does. The mule is subject to the same diseases as the horse, although not so liable to them. The probable reason for this is, they are not injured by the misapplied kindness of their owners, who neglect them, while they over-feed and water their horses, and use them too much at the time. Indigestion is one great cause of all diseases.

To put Horses in Good Condition.

They need good care and clean food. Do not use condition powders, or such medicines; they are not needed, and are humbugs. If your horse is hide-bound and out of condition, give him a good purge of linseed oil or castor oil—one pint. Then give bran mashes morning and evening; he will soon regain his appetite and be all right. At any time when your horse loses his appetite, check his feed and give a mash. Give as little medicine as possible. By this treatment you will have healthy horses.

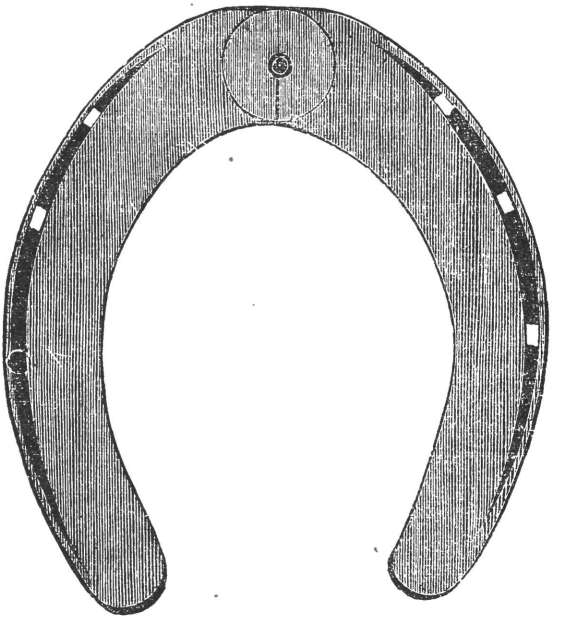
Shoeing Horses.

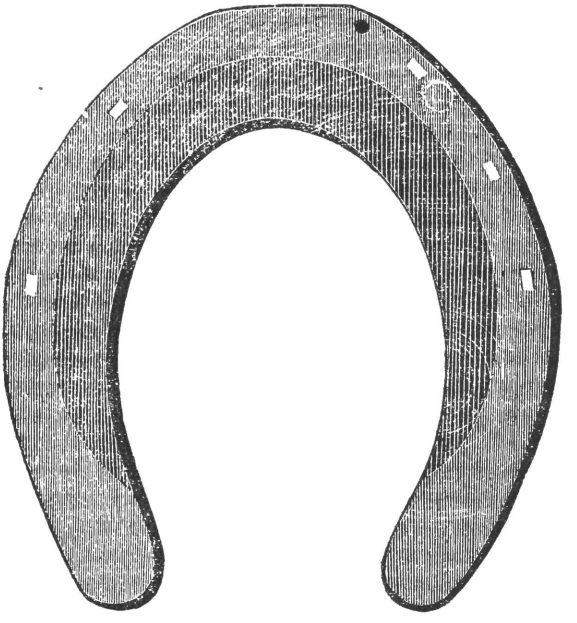
The shoe shown here is for a good natural foot. We would not advise more than five nails in a shoe—three on the outside and two on the inside, and near the toe. The shoe should be put on with a clip at the toe. It will be borne in mind that in travelling the shoe is driven back, and the

nails are loosened or bent; but the use of the clip will prevent this. Then, by using six or eight nails, they are driven so far back that the springing of the hoof will loosen the nails and break the shell of the foot; otherwise, it would prevent the hoof from spreading, and cause the heals to contract.

Sometimes the bearing is on one side; then there should be a clip at the side; but always use the nails as near the toe as possible. If the horse over-reaches, put the shoe on half an inch back from the hoof at the toe, leaving the hoof. This will stop the clicking noise. It is below the centre of the shoe that the toe hits. If the bearing is more on one side, the shoe should be dropped so as to leave the bearing more even. If we have a flat foot, we will shorten the hoof as much as possible, unless it is what is called a fleshy foot; in that case, it will not do to shorten the hoof, but to raise the heel as much as we can, so as to throw the bearing more even.

There are more horses injured in shoeing than in any other way. We should be guided in this somewhat by nature. The foot, before shoeing, is low and broad at the heel, so that the frog rests upon the ground. It always should be kept so. By allowing the heel to grow down, it raises the frog from the ground; the heel will then contract, and the foot may become diseased. Some persons are afraid of bruising the frog; this cannot be done. Before the frog has been cut, it is a spongy substance, and cannot be injured by a bruise; but after the frog has been cut it becomes a horny substance, something like a horn. By stepping upon any hard substance, it presses to





the quick, and causes the horse to flinch; then, again, the blacksmith will pare the foot, and set the shoe within a half or three-quarters of an inch from the toe, and dub the hoof off at the toe. The shoe then sits upon the inside of the rim of the hoof, which bruises the foot. The next time the horse is shod, you see that it looks as though it had been bloodshot. This manner of shoeing does great injury to the foot. The hoof should be pared as low as it will possibly bear. The shoe then should be made to fit the hoof; the pressure then comes alike upon the whole rim of the hoof. The shoe should be beveled in the inside; by so doing, when the foot presses on the shoe, it springs out instead of in. This will keep the heel broad. Then, again, the foot should never be rasped above the nail; if so, it will thicken and become brittle, and break in case the horse should lose a shoe. If persons would adhere to this principle of shoeing, there would be less crippled horses.

I will say a few words in relation to stuffing the feet with cow manure. This is the worst practice possible; it injures the foot and creates fever. This is what you wish to remove. You may take the healthiest foot and stuff it one night, and there will be a fever in the foot in the morning. This I have tried. If you wish to stuff the foot, do it with clay; this is more natural and healthy. The clay will draw the fever out, and leave the foot cool and healthy. This, you will see stands to reason; for it is not natural for the foot to stand in manure, but, on the contrary, very injurious.

Never allow a shoe to be spread while on the foot, by a screw or the smith's tongs; but a shoe with a joint at the toe is a good thing for contracted feet. Keep the feet moist during the dry weather, by clay. This is the best stuffing used. Always use a concave shoe, all of the same thickness. By keeping the foot moist in the clay, it will gradually spread, and in the course of three months it will be quite natural, if there is no contraction above; if there is, it must be treated the same as chronic founder.

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To Keep Horses Free from Disease.

The stable must be clean and well ventilated. There is nothing so conducive to good health as pure air and clean food The ceiling of the stable should be at least ten or twelve feet high, with a ventilating box at the head four inches square, running out at the roof. The loft should be perfectly tight, so that the breath of the horse cannot rise and mix with the hay, which may be injured both in taste and wholesomeness. It is a bad plan to put hay in a rack; the horse breathes on it, and makes it less palatable and healthy. Feed from a box in front, and but little at a time; he will neither waste it or otherwise injure it. The ventilation in the wall of the stable should be as high up as possible, so as not to injure him by drafts of air, from which he should always be kept.

These currents of air are one great cause of inflammation of the lungs. Baltimore is one of the worst places for this disease, for this reason—it is one of the best markets for horses. They are brought up in Kentucky, and are taken by traders to small towns first, where they are well clothed and pampered; they are then brought to market, and put in large brick stables, with large doors at each end, and with a great many horses in the same stable. The air, from so many breathing it, is bad, and the hay is more or less injured. The doors are opened every morning at each end of the stable. The groom goes to work cleaning out his stalls, after which he unhitches a horse and backs him out of his stall into the centre of the stable, where the current of air is sweeping through. The groom goes to work, after he has stripped off the clothing, with his comb and brush. The pores of the skin are open, and by the time he has been in his stall five or ten minutes, he begins to shiver or has a chill, which may be the commencement of lung fever, quinsy, or some other disease.

Filthy stables cause weak eyes and a running at the nose, in many instances. The decomposition of vegetable matter, and the urine, give out stimulating and unhealthy vapors, and a very strong smell of hartshorn. How can it but cause inflammation of the eyes or lungs, or glanders and farcy? How common are these diseases in large cities at the horse markets. Be careful and have your stables so that the urine will run off; but don't raise the planking so that it will be higher at the front than at the back, for this will cause a strain of the back sinews, and lameness,

and thickening up of the same. For instance, try yourself to stand with your toes up, and see if it does not make the calves of your legs ache. It is an unnatural way for a man or horse to stand. This would also cause contraction of the heels, by throwing too much weight on the toes and removing the pressure from the heels, which tend most to keep them open.

The horse stalls should have holes bored in the planking, and they should be kept open. In summer, the horse should always stand on straw, or litter of some kind; it releases the feet in stamping. It is not necessary, however, if he stands on a dirt floor.

You should always have the stable light. It is very injurious to keep horses in a dark stable; it is very bad for the eyes, and many horses go blind from this cause. But you should likewise avoid a glaring light, or staring white walls. Give a mellow light, with clean stabling, clean food, clean litter, and all will be well.

Strength of Food used for Horses.

It will, perhaps, be interesting to the horse man and farrier to know how much nutritive matter is contained in the different kinds of food given the horse. The quantity cannot be considered as expressing the actual value of each, because other circumstances beside the simple quantity of nutriment seem to influence their effect in supporting the strength and condition of the horse. Yet many a useful hint may be learned when the

farmer looks over the produce of his soil. The list is taken from Sir Humphrey Davy's Agricultural Chemistry:

1000	parts of	wheat	contain	955	parts of	nutritive	matter.
"	"	barley	"	929	"	"	"
"	"	oats	"	743	"	"	"
"	"	peas	"	574	"	"	"
"	"	beans	"	570	"	"	"
"	"	potatoes	"	230	"	"	"
"	"	red beets	"	148	"	"	"
"	"	parsnips	"	99	"	"	"
"	"	carrots	"	98	"	"	"

Of the grasses, 1000 parts of the meadow cats-tail contains at the time of seeding, 98 parts of nutritive matter; narrow-leaved meadow grass in seed, and sweet-scented soft grass in flower, 95; narrow-leaved and flat-stalked meadow grass in flower, fertile meadow grass in seed, and tale-fescue in flower, 93; creeping soft grass in flower, 78; common turnips, 42; long-rooted clover, 39; white clover, 32; and lucerne, 23.

The Foot and its Diseases.

The crust, or wall, is that part which is seen when the foot is placed upon the ground, and reaches from the hair to the ground. It is deepest in front, where it is called the toe; shallower at the sides, which are called quarters, and of least depth behind, where it is termed the heel. It is placed flat upon the ground, but ascends obliquely backward, and possesses different degrees of obliquity in different feet. In a sound hoof, the proper degree of standing is calculated at forty-five degrees, or the fourth part of a semi-

circle. This crust is thicker in front, being about half an inch, and at the quarters and heel is very much thinner. It is also thinner at the inner than the outer quarter, where the most weight is thrown upon it. It is under the inner splint bone, on which so much weight rests, and being thinner, it is able to expand more—its elasticity is called more into play, and concussion and injury are avoided.

On account of its thinness and the additional weight which it bears, the inner heel wears away quicker than the outer—a circumstance which should never be forgotten by the smith. His object is to give a plain and level bearing to the whole of the crust.

Thus, it will be unnecessary to remove but very little, if any, from the inner heel, as it has worn away faster than the outside, from the greater weight it bears, which would cause corns and quarter cracks, and even splints, the concussion being so much greater. This may all be avoided by paying a little attention when shoeing.

The Frog.

In the space between the bars, and exactly filling it, is the frog. It is a triangular piece of horn projecting from the sole, almost on a level with the crust, and covering and defending a soft and spongy substance, and called the "sensible frog." It is wide at the heels, and above the crust or shell of the foot, and runs to a point like a wedge. This is to keep the heel apart, and prevent him

from slipping. It will adhere to the ice like rubber. There is a cleft, commencing at the back and running nearly two-thirds the length of the frog, which is firmly united to the sole, but of a nature entirely distinct from it, being a soft, spongy substance, and very elastic. It never can be bruised until it has been cut, when it becomes a hard and horny substance, and by treading on any thing solid in going fast, it springs or presses on the sensible part of the foot, and causes corns. Now, this frog never should be cut or pared in the least; let it look ever so ragged, it is then healthy. It sheds every three months; but if the knife is used, it is more or less injured.

The Sole.

This is the inner surface of the foot, and is both concave and elastic, and extends from the crust to the bars and frog. It is not as thick as the crust. Notwithstanding its situation, there is not as much weight thrown on it as there is on the crust; because it was intended to expand, in order to prevent concussion when the weight was thrown upon it. It is thicker at the toe and where it connects with the crust. The principle weight is thrown upon the toe, by the coffin bone wedging in. It is not brittle in health, and it is somewhat hollow, which gives spring to it, and lessens the shock of striking the ground when in rapid motion; for if the sole was flat, there would be no spring to it, and it would be bruised by sudden contact with the ground. Thus you see that by

cutting, the spring of the sole is injured, and the sole itself becomes dry, and hard, and brittle. But if never touched, it retains the moisture, keeps the foot from shrinking, and keeps it healthy.

The Coffin Bone.

Beneath the lower pastern, and entirely enclosed in the hoof, is the proper bone of the foot —the coffin bone. It fills about half of the fore part of the hoof, to which it is fitted. It is light and spongy, and filled with numerous holes, through which pass the blood-vessels of the foot. These are necessarily numerous, considering the important and various secretions there going on; and the circulation could not be kept up if these vessels did not run through the substance of the bone. The holes about the coffin bone carry the blood to the little leaves with which it is covered: those near the lower part go to the sole. As this bone is enclosed in the horny box of the crust, no inconvenience can arise from any outward pressure; for the bone allows free passage to the blood, and protects it from every obstruction.

The fore part of the coffin bone, besides being thus perforated, is curiously roughened for the attachment of numerous little leaves. On its upper surface is a concavity for the head of the lower pastern. In front is a striking prominence, into which is inserted the extensor tendon of the foot. At the back it is sloped for articulation with the navicular bone; and more underneath is a depression for the reception of the perforating flexor

tendon, continued down the leg, passing over the navicular bone, and then inserted into this bone. On either side are projections, called the heels of the coffin bone, and the bottom is hollowed to match the internal part of the sole. The most peculiar part of the coffin bone is the production of numerous little leaves around its front and sides. They are prolongations of the thick and elastic membrane covering the coffin bone, and consist of cartilaginous fleshy plates proceeding from it and running down the coffin bone, and corresponding with and received between the horny leaves that line the inside of the crust. The horny leaves are secreted from or produced by the fleshy ligaments, and being five hundred in number, their union with each other is so strong, that no violence can separate them.

When the animal is at rest, the whole weight is supported by these leaves, and not by the sole. It is the contraction of the coffin muscle that creates so much pain when the horse is foundered. The foot is then feverish, the blood-vessels are filled with hot blood, and the foot is very sensitive to the touch of the hammer or any jar upon the crust.

The elasticity of the sole prevents the foot from being bruised when in violent action.

Between the coffin bone and horny sole is the sensible sole, which is of a ligamentous or tendonous nature, well supplied with blood-vessels and with nervous fibres, so that it is very sensitive. A small stone under the shoe would cause great inflammation, and corns are caused by the same. The smith needs to use great care in setting the shoe.

Sometimes only *one* foot becomes contracted; this may be caused in a cold climate, by leaving a snow ball in the bottom of the foot after the horse has been exercised until he is very warm. The coffin muscle is then relaxed by heat, and the snowball cools it so suddenly that it contracts. In a few days the hoof shrinks to the muscle thus contracted, leaving a ridge in the hoof.

In a warm climate it may be caused by letting a horse stand, even a short time, in cool water, after exercising and heating the blood. If you wish to bathe your horse's legs, do it in warm water, always; then you avoid all danger, and leave the limbs soft and pliable.

Also, cutting away too much of the sole of the foot, deprives it of the very substance which holds the moisture and keeps the foot healthy. And cutting the frog makes it hard and horny, and the quick, causing fever. Both practices will cause contraction.

Cure.—When first discovered, bathe the leg from the knee down, in hot water; do this twice a day for two weeks, every night stuffing the feet with clay. His shoes should be concave, merely resting on the *rim* of the foot. Never use a shoe with a swell heel. When caused by cutting, stuff the feet with clay and use the concave shoes. Never use ointments or greese of any description upon the outside of the hoof, as they close the pores and create fever, without removing the cause of the disease.

Prick or Gravel in the Foot.

There are many causes for sudden lameness in the horse. The taking up of a nail or any hard sharp substance on the road or a prick by the blacksmith in shoeing, are the most common causes.

In removing the shoe to ascertain the cause of the lameness, every nail should be drawn separately and carefully and then examined to see if there is any moisture, or matter adhering to it, for the nail which has caused the prick will be likely to bring some signs out with it; then the foot should be pared off and examined. If punctured near the toe, it may not injure the foot much, as there is but little motion at that part, and it will soon heal; but a puncture in the centre of the foot, may wound the flexor tendon, and may even pierce through the tendon into the joint, and inflammation may ensue, which if neglected will prove fatal.

The smallest puncture in these parts is dangerous. When the lameness is caused by taking up a nail, the nail should be withdrawn; and the sole pared down at the opening. Then put in the wound one or two drops of antimony—the butyr—and put tow over it, and bind it on, let this remain on for two hours, then bind on a piece of raw fat pork, but if the foot becomes inflamed put on a poultice of flax-seed meal, or any other kind that is drawing, and if there is a slight formation of horn over the wound, cauterize it again with the antimony, and afterward poultice again. If there is an appearance of fungus sprouting from the exposed surface, the application of the

butyr should be frequent, and this treatment will soon heal it up. In searching the foot be careful not to pare away too much of the horn, and sole, after paring off the frog and sole, and smoothing it, you can ascertain by a few taps of the hammer on the horn if there be a prick.

In all cases of taking up a nail, or gravel, or a prick, the butyr of antimony, as a caustic, will kill the poison from the nail, and the poultice will relieve the inflammation.

The wound should never be stopped up, as many do, with pitch and tar, which keeps the virus in, and causes more to accumulate, and finally breaks out at the top of the hoof or coronet. The wound should be kept open in the first place a number of days, until it has discharged freely; it may then be necessary to use the horse salve to heal it up. In cases where there is much inflammation, a gentle purge should be given, of five drachms of aloes in a ball. He should first be prepared for it by giving bran mashes, a day or two before the purge.

To Keep the Feet Healthy.

When the horse is young the feet should be attended to; never allow the colt or old horse to stand in manure and filth; wherever the horses and colts run, in winter it should be kept clean; there is always cymical decomposition going on in horse manures and urine, that is disastrous to the feet; also to the eye and general health of the horse, especially if in the stable; the inhaling of ammonia is very injurious, and there is a

plenty of it in dirty stables. If the feet have become hard and dry, they should be poulticed. First they should be soaked in hot water; take a bucket, put a board, cut out to fit the bottom, and tack it on; then put the foot in as hot as he will bear it; put a gimlet hole through the bucket as high as the hoof would come; then pour in boiling water, a little at a time; keep it as hot as he can stand it for two or three hours. Then make a poultice of wheat bran; take hot ashes and put into hot water; mix the bran with the hot weak lye; put this on the hoof as hot as possible; do this as often as you think proper, to keep the hoof soft and healthy. The ashes will toughen the hoof; it will be found one of the best things ever used on the hoof. Don't cut the frog, if in health, and never allow the sole of the foot to be cut, unless the foot is so flat that it will have to be cut to level it; the sole of the foot is to hold moisture to keep it from drying up; the hoof should be levelled only to fit the shoes; the foot should always be kept clean; earth is not filth—that is healthy for the hoof. If the above cautions are adhered to, there will be no danger of disease of the foot.

To Prevent the Resting of One Foot on the Other.

Many horses, when standing in the stable, will rest one foot on the other, frequently cutting and disfiguring the hoof. This may be prevented by putting the heel cork on the inside, about one inch or one-and-a-half inches from the back part, or heel of the shoe. This will prevent them from

resting the foot in that way. It will also stop the horse from interfering, or cutting the ankle. The cork will have to be rivited into the shoe. We sometimes set the shoe forward, make it wider at the toe, and let it project nearly an inch beyond the hoof at the toe. This will balance the foot in a different manner from the usual way, and will prevent the resting of one foot on the other.

Thrush: its Cause and Treatment.

Thrush may be caused by a bruise. The frog, without doubt, was designed to protect the navicular; in health, it is something like rubber, and will give at any hard substance that it comes in contact with. The frog will be found full of sacks or pores, which secrete an oily substance that keeps it moist and soft. When in a healthy condition it cannot be bruised; but when cut and paired away, it often becomes a hard, dry, horny substance, and is then easily injured by being bruised, and in a short time there will be found foul discharges issuing from the cleft of the frog. The filth of the stable will generate the same disease. Can there be any wonder that the foot becomes rotten when it is thrust into such a mass of filth as is frequently found in stables? Unhealthy matter gets between the cleft of the frog and the horn of the foot; it closes the secreting parts, or pores. The shell of the hoof was designed to protect these parts. The issue from the cleft is of the most offensive nature; it will in some cases impregnate the whole stable with a most disagreeable effluvia. If the stable is so

filthy that the horn of the hoof decays, should it be considered a fit place for a horse to stand in? How much more sensitive the linings of the head and lungs than the hoof? Tainted atmosphere is the source of more than half the diseases that horse-flesh is heir to; in fact, almost all internal diseases originate from this cause.

The first thing to be done to effect a cure is to clean out the stable, and litter down with clean straw; then clean the feet, and put on a poultice of linseed meal or bran; use about a pint of wood ashes in two quarts of rain water; mix the meal or bran with the ashes and water; put on a thick poultice, and let it remain from six to ten hours; then wash clean with bar soap and rain water. Now use the knife; cut away all parts of diseased horn, clean out the cleft of the frog, and see that every particle of scurvy horn is removed. Then use three grains of chloride of zinc in one ounce of soft water; dress it well with this; take a flat stick and thrust tow or cotton into the cleft; do not wrap the foot up, but leave it to the air; bathe the frog three times a day. All that will be necessary now will be to keep it well cleansed. The foot will soon grow out natural again.

Cracked Heels.

This disease rarely shows itself only in the cold and wet months of the year. Even during this inclement weather, there would be no danger of disease, if proper care was bestowed. Should the hair that was designed by nature to protect

the heel be cut away, then the heel is liable to crack; but if the natural covering be left, then the heels are not so liable to become diseased. The heel with the hair on does not evaporate so fast when wet, and the moisture promotes warmth, and there is no danger of the heels cracking when warm; but when the hair is clipped short on the heels, then they are by sudden heats and colds liable to sudden contraction, which cracks the heels; but where sufficient warmth is kept up to dry the heels, there is no danger of this disease. The urine would be very bad in contact with the heels when hot; then it cools off suddenly. As soon as the horse comes into the stable, the legs and heels should be rubbed dry; light rubbing will increase the warmth and circulation in the extremities. There are but very few cases where it would be justifiable for a man to clip the coat of his horse, and that would be where he had the best of attendance and only one driver, and then great care should be used; he should never be allowed to stand in a draft of air, not even for five minutes, especially if he is the least warm. Nature never forms anything without its use, though man in his ignorance may not always be able to comprehend her intention. If it be the desire to gain a fine and short coat of hair, it may be accomplished by clothing and a warm stable; and the horse is more liable to take cold, he requires more care, and is not as vigorous in the spring. Shortening the coat by clipping certainly does stimulate the body, and the horse is capable of greater exertion for the time being; but at the same time he is ten times as liable to disease. The greatest caution should

be used to avoid the cold, or least draft of air when warm, as colds or lung fever may be the penalty. Then if the horse is clipped in the winter, he has less vigor in the spring, and at this time his labor should be very light. The horse that has been left with his natural coat comes out in the spring, after shedding his old coat for a new one, with much greater vigor than one that has been clipped. So my advice would be to those having fast horses to leave them with nature's own covering, and with good keeping and moderate exercise, sufficient to keep the muscles from shrinking, then he will be ready for anything.

But if the carriage horse or roadster has been clipped, and had bad treatment, he comes out with cracked heels; if they are not very bad, wash them with bar soap and soft water, rub them dry with cloths and use the following wash:

Glycerine, half a pint;
Chloride of zinc, two drachms;
Strong solution of oak bark, one pint.

Dissolve the zinc in soft water; mix the whole, and wash the heels three times a day; keep the horse quiet; no exercise should be given for a day or so; keep the bowels open by mashes.

But in case the cracks ulcerate, then it will require a different wash. Use animal glycerine, or phosphoric acid, two ounces; permanganate of potash, or creosote, half an ounce; water, three ounces. Mix, and wash the ulcers five times a day; as soon as the ulcers are arrested, return to the first wash until they are well. The best tonic to be used is liquor arsenicalis, half an ounce;

tincture of the muriate of iron, one ounce; and half pint water—every night. This acts on the skin; it is the best of anything used in horse practice; he will soon recover.

Grease Heels or Legs.

This is a disease brought on entirely by neglect; it will never occur where an animal has received any reasonable kind of treatment; filth is the only cause. It never makes its appearance in the fore legs. Grease is inflammation of the sebaceous glands of the legs. It will soon extend until the deep seated structures are more or less involved. White legs appear to be more tender and liable to it than those of any other color. The circulation of the blood in the fore legs is more active, they being nearer the heart; hence more resistance to throw off disease. The arterial current is impeded in the hind legs by angles, while the front ones are free and the circulation more active. Then, again, the hind legs come in contact with all the filth of the stable, and therefore are more liable to contract disease; and at the same time the very air becomes impregnated with foul odors. Carbonic gases taken into the lungs will generate disease. Pure oxygen is what is wanted; but how few there are that ever give it a thought.

Cutting the hair from the heels should never be resorted to, especially in the winter; then is the time when the legs most require the hair for warmth. This is a point where the blood flows

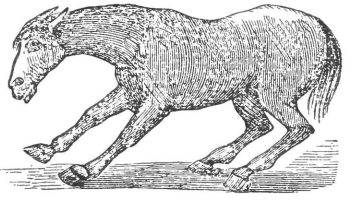
sluggishly, and here the greatest amount of warmth is required to stimulate its circulation at the extremities. Do not cut the hair from the legs; but when the horse comes in muddy, take a wisp of straw and dry the legs as soon as possible; the rubbing over the heels will create friction and will increase the circulation, and prove to be one of the very best preventives of disease.

One of the earliest symptoms of grease is enlargement of the legs and feverish indications. The animal will be uneasy in the stall, will stamp and try to scratch his legs, one with the other. Now, on examination, the legs will be found scurvy under the hair; and in a few days the hair will stand on end, and there will be a kind of mucous substance, like dew-drops, on the ends of the hair. The smell is offensive. It is very sensitive; a touch of the hair, on the very ends, will cause the horse to lift his feet with pain; it appears to be the most sensitive of any disease to which he is liable. I have known horses to suppress their urine for fear of splashing their legs.

The stall should be well littered with straw, but not back of the hind legs, for in this case the ends of the straw might irritate the legs. In the early stage of the disease, if there is any hair left, clip it off as short as possible, for it can do no good while the legs are sore. Use glycerine, half a pint—chloride of zinc, half an ounce—water, six quarts; wet three or four thicknesses of cloths and apply; change them as often as they get hot until the inflammation is gone. The cure will be sudden. A wash where it is badly ulcerated: Permanganate of potash or

phosphoric acid, one pint; water, six quarts. Apply as above until the leg shows a more healthy appearance. Perhaps one or two carrot poultices would be good; this will relieve it entirely from inflammation. Keep clean, and when it is well healed, the horse may be put to moderate use; but never allow the disease to return.

Founder.



Its causes. Founder is caused by contraction of the muscle. After heating the horse, then by allowing him to drink cold water, or stand in the cold air, the muscles become contracted. This causes the horse to become stiff and sore. The coffin muscle, which lies within the circle of the hoof, is most injured. If there is no relief given the hoof shrinks to the contraction of the muscle. It is then impossible to cure the horse within a short time; but if the proper remedies be applied the horse can be cured within a few days, as sound as he ever was.

There are many that hold that a horse can be foundered with grain. This is not so. The ar-

gument given is that they have driven horses, or have known cases where the horse was driven under a shed and fed without watering. This may be so, but that is no argument; for a horse may be driven and stand where there is a cold blast of wind that would chill a horse as bad as water. This would create founder as well as water; anything cold would create contraction; where, on the contrary, grain would create heat, instead of cold, and heat would relax; so that argument is worth nought. I will not pretend to say but that grain would injure a horse when hot. You might give corn meal, and it would bake in the maw, and there would be no passage; this would kill, but not founder. You are well aware that to heat a tire, then place it over the felly, it is perfectly loose; but when you put on cold water, it contracts to the felly and strengthens the wheel. So you will see at once that it is cold that causes the founder. Cold contracts and heat relaxes, and grain would create heat.

Cure. When the horse is foundered, even if it be one of the worst possible cases, the first thing to be done is to heat water to a boiling heat; then take two buckets; get an inch board cut out to fit the bottom of the bucket; fasten to the chimes, or set the bucket on to it, so as to prevent breaking out the bottom. First put in one gallon of as hot water as he can bear the foot in; put a front foot in each bucket; after standing a short time in it, he can bear it much hotter. Have the boiling pot handy; now dip and pour into buckets as hot as it can be; keep this up for three hours. At least, this will take away all inflammation and soften the hoof.

Then stretch an old pantaloon leg over each of his fore legs, bind it around the hoof, then fill it with hot, boiled oats; give as a drink sassafras tea, made from the root; and give bran mashes, with a table-spoonful of pulverized resin. He should have a mash once a day for three or four days.

But in case of founders of long standing, or even if the hoof has shrunk to the contraction of the muscle, it will be necessary to treat it somewhat differently. The bleeding should be omitted, the legs bathed twice a day, and the feet should be poulticed with flax-seed meal three times a week; the hoof should stand in clay mortar three times a week, at night, or in day time, if he is not at work. If he could run out to a marshy pasture, it would not be necessary to poultice. But he must have something to act on the blood. Take of digitalis four drachms, emetic tartar four drachms, nitre six drachms; divide this into two doses, and give one in three days. Between the days that this is given, give bran mashes mixed with sassafras tea. This physic may be given once in every three weeks, with the feet always to be kept moist. It will take three months to effect a cure. When of long standing, the muscles of the shoulder sometimes contract, as in sweeney. In this case a seton of from nine to fifteen inches must be used, according to the contraction.

Navicular Disease.

This disease is very common, especially in cities. Directly under or back of the lower part of the lower pastern bone, and ahead of the coffin bone, is a wedge-like bone; it might be called a floating bone. This is the navicular bone. Immediately under it is a sac called synovial; under this is the perforans tendon. This sac is to facilitate the motion of the bone on the tendon, and contains oil, or at least acts the same as oil on machinery. This tendon becomes bruised by the frog becoming hard and dry, which would not occur if it was not cut away. The frog was without doubt designed to support the weight of the horse; but as soon as it becomes dry and hard, then the tendon is liable to become bruised, and we have what is called the navicular disease. Now, with this disease the horse will point—set the foot forward, not exactly as he does with the shoulder disease. In setting the foot forward with the navicular disease, it will rest on the toe; but with shoulder disease, it will set the foot flat.

Cure.—For navicular disease the foot must be soaked in water as hot as the horse can bear, for two or three hours a day. Then poultice the hoof with brand and wood ashes, put on hot. This should be kept up until the disease passes away. This treatment will cure in all early stages of the disease. The disease is not what it has been thought to be. There is but very little inflammation; in the second stages it is ulceration, and when it becomes chronic, it is almost impossible to effect a cure; but in all early stages, the above treatment will be successful.

For this, pare with a sharp knife from the hair down, taking away the whole back part of the hoof down to the quick; then pair the other down thin; then set your shoe only so far as the hoof runs. By this means the shoe cannot spring down on to the heel. The hoof will then grow down firm and sound.

Heaves: Reasons why they are not in the Lungs.

First—If the disease was in the lungs, it would create inflammation and have the same effect as inflammation of the lungs by cold. The horse would be weak and drooping, without appetite, any really could not be driven two miles, as any person would naturally drive a horse. But a heavey horse can be driven from eight to twelve miles within the hour. This is positive proof that they are not in the lungs.

Second—Take a heavey horse and turn him out to pasture forty-eight hours, and he will breathe clear and easy, showing no signs of heaves. The grass has not reached the lungs, still it has stopped the hard breathing; but if you will give the horse cold water to drink, he will cough. Has the water touched his lungs? No, but it has touched the disease. This is another reason why it is not in the lungs.

I will tell you where the disease is, and what it is caused by. First: A dainty horse is not liable to heaves, but a hearty eater is liable to this

disease,—not from the amount of food that he eats, but from the hoggish way of eating. There are two pipes leading to the stomach and lungs; where they meet there is a throttle valve. A horse on eating coarse food scratches his throttle; then, by a hard drive and warming the horse, he takes cold in this wound, and it becomes a running sore or canker. By turning the horse to grass, the juice cleanses and washes the wound; the grass being cool takes the inflammation from the disease; the swelling is gone, and the horse breathes free and easy as ever. This is positive proof that it is not in the lungs. Then, by feeding with coarse and dry hay, it irritates and creates inflammation, and causes the horse to breathe hard again.

Cure. Take balsam of fir and balsam of copaiva, equal parts; add enough calcined magnesia to make into balls. Give a middle-sized ball, night and morning, for ten days, or two weeks; a ball about the size of the yolk of an egg. This is a sure cure. I never made a failure in any case. You should be careful about feeding for two weeks after giving the medicine. Cut feed, and wet the hay. A little brown sugar in his food for a few days would be good.

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Lung Fever.

This disease always makes its appearance by a chill; the horse will shake and tremble like a person with the ague. Whilst the chill is on, take a half pint of fine salt, put it in a bottle of

water, shake well and drench the horse. This will release him entirely from the chill, and create perspiration, and he will be quite sick for a few minutes; but it will drive the cold entirely out, and he will look bright, and feel entirely well in a few hours. But if you should not discover him while the chill is on, it will require different treatment. If he has been free from the chill for five or six hours, the symptoms will be, eyes inflamed, nostrils distended, breath short and quick, and he will stand with his head down; his pulse from fifty to one hundred. You will find it under the jaw, just below where you buckle the throat latch. By putting your ear back of the fore leg, you will hear a quick, heavy beating of the lungs. He will have no disposition to move or eat, but will drink; he never lies down. These are sure symptoms of inflammation of the lungs.

The causes of inflammation of the lungs are many. It may be brought on by filthy stables, but it is usually by sudden changes from heat to cold, and *vice versa*. The membrane that lines the cells of the lungs is very sensitive; there is also an intimate connection between the lungs and the pores of the skin; by stopping the insensible perspiration, a cold and cough ensue. A horse is driven until a sensible perspiration is pouring from him; then he is left in a current of air, which closes the pores of the skin, thus arresting the perspiration, and driving the inflammation which it causes to the lungs. The majority of cases are very sudden. At first, the pulse is not much quicker, but the artery is plainly to be felt under the finger, and of its usual size. The pulse no longer indicates the expansion of

the vessel; in some cases, it eludes a most delicate touch; the legs are cold, and the nostrils expanded; the flanks begin to heave with a quick and hurried motion, a symptom of pain; the membrane of the nose is very red; he stands with his legs abroad; his countenance indicates suffering, and he looks mournfully toward his flanks; he is unwilling to move—scarce ever lies down; if he does, 'tis only for a moment, from actual fatigue.

The duration of this disease is very uncertain. It will in some cases destroy in from twelve to twenty hours, and sometimes they will last for weeks. In sudden attacks of this kind, the lungs are entirely destroyed, resembling one black mass of blood.

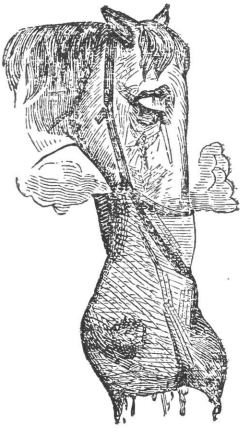
The disease invariably makes its appearance with a chill, this contracts or closes the pores, which prevents the heat from passing off; still the internal fires are kept up, causing a partial suffocation or internal fever. The closing of the pores of the skin makes the labor of circulation much greater; increases the internal heat, which is fever. Now the object should be to relax the surface, which would open the pores, and give more room to the veins and arteries; if we can get up a perspiration, it will give great relief, causing the internal heat to pass off freely. The best treatment after the fever has been on a few hours, is to cover the horse with warm blankets or buffalo robes; anything to cause warmth; see that no cold air blows on him; keep him from a current of air. Now take of veratrum viride, half an ounce; tincture of aconite, one quarter of an ounce; laudanum, four ounces; mixed and

well shaken, and give a table spoon half full every four hours, in about a gill of sweetened water. If this dose does not bring down the pulse, it may be increased gradually to a spoonful, until the pulse is down to about fifty. If the attack is a severe one, blister the breast and sides as high as the elbows; use mustard, and if that does not answer then use a liquid blister: tincture of cantharides, four ounces; oil of turpentine, six ounces; wet the mustard with this liquid; this will draw a blister. At the same time, bathe the hind legs with hot water; then wet the legs well with hot pepper sauce; then bandage with flannel; keep the extremities warm; this will draw off a portion of the blood from the lungs. If the bowels are not loose it will be well to use clysters; use four ounces of Barbadoes aloes to two quarts of warm rain water, injected; if the bowels are very hard it may be necessary to back rake; he will recover much faster if the bowels are loose, and as he begins to recover his appetite you may give oat meal gruel or flax-seed meal gruel, two or three times a day, with bran mashes or green food of any description.

We have been very successful in fermenting or steaming the belly with hot water; cover the body over with blankets; let them reach down to the ground or floor. Now set a tub half full of hot water, and steam them; heat stones and put into the water; this relaxes the whole system and causes a natural circulation of the blood and an easy respiration. We have invariably been successful in the cure of this disease, if taken in any reasonable length of time; it should be treated

immediately; the horse should not be put to work for a week or more.

Colds.



The horse is made liable to colds almost every day—especially so are the roadsters—but not so much when in hands of temperate, thinking men; but, then, how many men are there who really *reason* when on the road with a fine horse? The animal is put through until he reeks with perspiration, and is finally halted at the door, where until some business is transacted, he is, perhaps, kept standing in a cold blast of wind; then he is hurried on again to the next stopping place, where

he undergoes the same treatment. Here, perhaps, a few drinks are to be taken, and then there is less judgment than ever used. He is now pushed to a "slamming" gait, and at last arrives home again in reeking perspiration. He has been exposed, when overheated, to the cold winds. Is it a wonder that the noble animal has taken cold? Or, is it not wonderful that seven out of every ten do not take cold?

A mild cold is readily alleviated. A mash or two, with rest, and it is thrown off; but where the disease is deeply seated we shall have to use more care and time; then the horse becomes dull and somewhat stupid; the hair is rough, the legs cold, the cough begins, the appetite is gone, and there is running at the nose. The treatment is simple. The pores of the skin are closed. Depletion should not be resorted to under any circumstances. The horse requires all of his strength to recover from the effects of his cold. Put him in a warm stable and clothe him well; then bathe his legs with hot water, and use plenty of good clean straw for a bed; then get a sea-grass coffee sack and four quarts of saw-dust;—if that is not handy use bran. Make the sack about a foot longer than the nose when it comes up nearly to the eyes, where it may be confined by a strap over the head. Cut a hole or flap in the sack just below the nose of the horse; put the saw-dust or bran into the lower part of the sack; then take one ounce of spirits of turpentine, mix it well with the dust or bran and pour on boiling water, and put it on the horse's head; add hot water every few minutes for an hour; repeat five times a day, until the nose runs freely; then twice a

day will do for a day or two longer. Bleeding or physicing should not be practiced. Strength is what is wanted; no medicine will be required; good nursing is the best treatment. The animal in a few days will be ready for light work; keep him warm, and be sure that the circulation of the blood is kept up in the extremities; there will then be no danger. Medicine is worse than nothing and should not be used in such cases. Now, don't think that a little of this and a little of that will be good for your horse; it is the idea that something must be done that kills more horses than all the disease that horse-flesh is heir to. Doctoring kills more than disease; so never give medicine if nursing and diet will restore; medicine should only be used to assist Nature to assert her sway.

Adhesive Plasters.

These plasters should be used over parts that have been strained, or otherwise weakened, and on deep-seated inflammation of the loins or back sinews. They are always to be applied warm, when they will adhere for a long time. The following is a good plaster:

Take of Burgundy or common pitch five oz., of yellow wax one oz., of tar six oz. Melt together. When cooled to blood heat, add half a drachm of pulverized cantharides. Stir well together.

When you apply it, warm or melt it over, and rub it well into the hair upon the sprain; then,

while it is warm (for it should be applied as hot as possible), spread over it a lint of tow, well picked; pat down with the hand. This will make a strong covering, and will remain for months. It will gradually remove deep-seated inflammation, and, by its pressure, promotes the absorption of any callous or thickening beneath; at the same time, as a bandage, it gives strength to the parts.

Physicing.

There is more injury done in the practice of this than in any other medical treatment of the horse. The old practice has been to physic and bleed every spring, and this is necessary where the horse is really sick. When you change him from the pasture to the warm stable and dry food, it is also good, but the horse must be prepared for it. Give three or four mashes before the physic, and in the majority of cases, they will be sufficient without it, especially if the bowels are slightly moved, for really the less medicine given the better.

After the physic is given, the horse should have walking exercise for an hour or two; but, when it begins to operate, he should be kept still as possible, or the medicine would be likely to gripe, and perhaps irritate the intestinal canal, and cause inflammation. You can give him a small amount of hay, and as much mash as he will eat, and as much water with the chill off as he chooses to drink; if he will not drink tepid water, give him about a quart of cold water every hour.

When the purging ceases, give a mash twice a day until you give more physic, which should only be once in a week.

Barbadoes aloes is the best purgative, being always sure and safe. The dose, with the horse prepared by bran mashes, would vary from five to seven drachms, the latter sufficient for any horse. You can dissolve in warm water, and give as a drench, or make into a ball with linseed oil, and lay upon the roots of the tongue, letting go the tongue at the same time.

The next best purgative is the Croton nut; the farina or meal of the nut is used. It should be made into a ball with linseed oil. Give from a scruple to half a drachm, according to the state of the subject. It acts more speedily than aloes, but causes more debility. Linseed oil is uncertain, but safe, in doses from a pound to a pound and a half. It leaves the horse in a very good condition.

Poultices.

Few horsemen are aware of the value of these simple preparations, in abating inflammation and relieving pain, cleansing wounds and causing them to heal. They are the best kind of fomentations; they continue longer, and keep the pores open. In all inflammations of the foot, they are very beneficial, and in cases of contractions. A poultice that retains the heat and moisture longest is the best. They will relieve swellings, take out the soreness from the pores, and draw out the un-

natural substances. Linseed meal makes the best poultice; it will hasten any tumor that it is necessary to open, and cleanse any old one, causing a healthy discharge where it is offensive. But in this case—where the ulcer swells badly—add two ounces of pulverized charcoal, or chloride of lime —half an ounce to one pound of meal. This is good to use in grease or cracked heals.

A poultice should never be put on tight. Carrots are very good, mashed fine, after boiling soft. The coal may be used in this also, where the parts smell offensively.

Wind Galls.

These appear oftener on the hind than on the fore legs. It is a filling in of mucous fluid in bags or sacs. It is caused by undue pressure from violent action, and by straining the tendon. These bags inflame and fill larger and harder; they always form about the joints, as so many tendons concentrate there. Very few horses are perfectly free from them. When they first appear they may cause lameness, but in the majority of cases they do not. It has been thought that these bags were filled with wind, and in some cases they have been opened, but this treatment causes inflammation and is likely to lame the horse. The tendons are incased by a membrane which if strained would take on inflammation, which would cause an increase of secretion of synovial fluid, causing a distension of the sheath of the tendon. At first they will be found

soft; and after a few miles' drive they will scarcely be seen, but will fill by standing. In a few cases they may cause lameness, in the first stages, but that will soon pass off. They do not interfere with the action of the animal and rarely cause unsoundness, but without doubt their existence would injure the sale of a horse.

CURE.—The first object should be to take up the inflammation if there is any. We will first apply wet cloths, keeping them wet for a day or more; then double cloths, like pads, and apply on the enlargement, and use a flannel roller or bandage. In some cases we would use bags of fine shot, so that they would rest on the enlarged parts. After the enlargement has disappeared, we would recommend a blister, so as to prevent a return. Use the ointment used for spavin; it is the deepest blister that can be used; in very slight cases the liquid blister will do—one ounce of cantharides, one ounce oil turpentine. In either case, after blistering use the oak bark wash, boiled down strong; it will act as a stringent. This is all that is necessary. Keep up the bandage, every night or every other night, for some time.

The Action of the Kidneys on the Blood.

The blood contains a great quantity of watery fluid, unnecessary for the nutriment or repair of the frame. There also mingles with it matter which would become noxious, if allowed to accumulate too much. The kidneys are actually employed in seperating these fluids, and in car-

rying off a substance which, as an ingredient in the urine, is called the urea, and consists of what would be poisonous to the animal if remaining. The kidneys are two large glandular bodies placed under the loins, very much the shape of a kidney bean. The right kidney is forward under the liver; the left is back by the stomach and spleen. A large artery runs to each, and carries about one-sixth part of the whole blood that circulates through the frame. It divides into numberless little branches, most complicated, and coiled upon each other. The blood has waste parts, which, if allowed to remain, would be very injurious; and these must be separated from it.

The fluid separated varies materially in quantity and composition, even during health—more so in the horse than in any other animal; and there is no organ so much under our control as the kidneys. Diuretics are the most useful medicines, and, at the same time, the most injurious if improperly used.

In fevers and inflammation generally, for a diuretic, use nitre and digitalis, on account of their sedative effects. They stimulate the kidneys to separate more than the usual quantity of water from the blood, and lessen the quantity of the latter. The object in this is to reduce the circulation, and thus ease the heart in its labor by calming the excitement. An overflow of blood gives quicker action to the heart, and causes the heavy beating you will notice in lung fever. Diuretics lessen the blood, and give more perfect control over the heart.

In cases where the legs are swelled, the absorbents set to work and take up and pour into the circulation the fluid which has been effused into them.

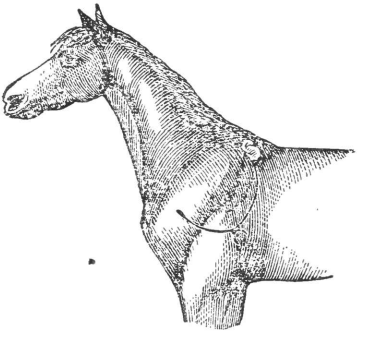
The legs of some horses cannot be rendered fine, nor kept so, without the use of diuretics; nor can what is called grease heels—frequently connected with these swellings—be cured without the use of these medicines; but in the use of them always let the horse have plenty of tepid water—the more the better. . You must also be careful not to keep him too warm; for if he sweats, the medicine, instead of stimulating the kidneys, passes off in perspiration.

Antimony.

There are several valuable preparations of this. The black sulphuret of antimony, a compound of sulphur and antimony, is a good alterative. It is

given with more sulphur, and with nitre, in varying doses, according to the disease, and the slow or rapid effect to be produced. The dose, if you expect to continue it, should be at the most four drachms. It should never be bought in powder, whatever the trouble may be to pulverize it, for it is frequently adulterated with lead, magnesia, forge dust, and arsenic.

Sweeney.



This disease is on the side of the shoulder. The horse suffering with it will be quite lame, and will stand with one foot before the other; or if it is both shoulders, he will change them from one to the other. The use of the shoulder is sluggish, and in backing he will drag the foot, instead of raising it from the ground. It is caused by a strain or bruise, or by favoring the foot when diseased in some other part.

The membrane or muscle of the shoulder will shrink much. When the horse has not been lame long enough to know how to ease himself by standing, you can easily tell what the trouble is by pressing with the thumb upon the muscle, which may be shrunk but a little; yet when you press the point affected, he will shrink from the touch.

CURE. The only way this can be cured is by a seton or rowel. The object of this is to create inflammation of the membrane. The seton in these diseases should be from five to fifteen inches in length. The best article to use for it is tarred rigging rope; this should be turned every day for from two to three weeks. To insert this you must make an incision at the top through the skin and the membrane under the skin; the same at the bottom. Procure a long, thin iron needle, with a large eye, and thread with strong twine, to which fasten the rowel; run the needle through the two openings, drawing the rowel through, and then tie, leaving eight inches slack to tie with. In some cases it will be necessary to wet the rowel with oil of turpentine or tincture of cantharides, either will do. Bathe the shoulder every day with as warm water as he can bear. If it has the desired effect, it will discharge freely. This will relax and loosen up the membrane, and make the parts fill out smooth. Keep clean by soft water and soap, so that the discharge will not remove the hair. If you apply grease on the hair under the cut, it will prevent the hair from coming off.

Hide Bound.

This is not so much a shrinking of the fatty substance between the skin and the muscles, as it is an alteration in the skin itself. It is a drying up of the oily moisture of the skin; it thus becomes dry and hard, the scales of the cuticle no longer yield to the skin, but separating in every direction, turns the hair and gives it a staring rough look, which is an indication that the horse is out of condition. The vessels of the skin and bowels, as well as the stomach, are deranged. It is a symptom of disease of the digestive organs.

At first, give a bran mash, and if it can be had, sassafras tea. But in severe cases, use levigated antimony two drachms, nitre three drachms, sulphur four drachms—given every night in a mash. The antimony acts on the skin, the sulphur on the bowels, and the nitre on the urinary organs. Rub him and give him warm clothing. The skin will soon become loose, and the horse be in condition again.

Coughs.

Use elecampaine root, horehound and smartweed, with six red-pepper pods to two ounces of ginger root; boil till all the strength is extracted, then strain through flannel; add two quarts of molasses to every gallon of this extract, and boil all together for half an hour. Give one gill twice a day. Use an ox horn, or a tin, crooked horn. Raise the head, and draw the tongue out on the left side; put the small end of the horn on the roots of the tongue, and empty the contents;

then let go the tongue. Swab the throat every night with this mixture, using a whalebone with linen wrapper on the end. This is a sure cure for coughs.

Anti-Spasmodics.

There are but few of these, and the horse is subject to but few spasmodic diseases. Opium is the best for its general effect, and that exerted particularly in lock-jaw; and oil of turpentine as a specific for spasms of the bowels.

Anodynes.

Of these there is but one in horse practice. Opium is the only drug that will lull pain. It also acts as an astringent, in doses of one, two, or three drachms.

Worms in the Horse.

There are several different kinds of worms in the intestines, and they are hurtful only when in large quantities. The long white worm resembles the common earth-worm, and is from six to ten inches long. They are in the small intestines, and when in large numbers, consume much of the nutritive part of the food, or the mucous of the bowels. Then, the smaller and darker colored worm, called the needle-worm, in the large intestines. In many cases they descend into the rectum in large quantities; they irritate the fun-

dament and annoy the horse. This is the trouble when he rubs the tail very much.

The horse shows this disease by a falling-off in flesh; his hide will be tight, and the hair looks bad and sets forward; the eye has a dull look, and at times he will scringe and shrink down; he sometimes passes worms, and he cannot be kept in good condition.

Cure. One ounce of aloes dissolved in warm water and given as an injection. This will succeed in most cases; if not, give one pint of neatsfoot oil as a drench, and one pint as an injection. These will not fail. Give mashes after this for a few days.

Button Farcy.

This is a disease of the absorbents in the skin. The small arteries are employed in building up and nourishing the different parts of the body; and another set of vessels are busied in taking up and carrying away that which is useless. There is no part of the body on which thousands of these little tubes are not open. Those of the skin are not only employed in removing useless material, but in taking up various substances and fluids which may be in contact with the skin. The vessels which are thus occupied collect together and form large branches, and run in company with the veins; and from this, farcy was once supposed to be a disease of the veins, as the tumors which mark it accompany the course of the veins. The poison which they take up produces inflammation in them, which gradually causes the absorbents to swell.

These minute vessels contain valves, which permit the fluid to pass only one way ; it cannot turn back. Thus, the inflammation causing the valves to swell retards their usual play, and hinders the natural flow of the fluid, whose poison, thus stopped, inflames the valves more, and causes the tumors of the button farcy. They will generally be found on the inside of the legs, along the course of the veins. Sometimes the horse will lose his appetite for several days before the legs swell, or the farcy buds appear ; and then, again, he will not droop for several days after they show themselves. But, from the first, his hair will look dull and rough, and he will lose flesh. These farcy buds are larger than those caused by surfeit.

Farcy is a most perplexing disease ; sometimes one of the hind legs will swell in one night so that he is quite lame ; then it may suddenly remove to the other leg. It should be bathed, as soon as possible, in water as hot as he can bear, and then wrapped in blankets to keep the heat in as long as possible ; this will open the pores and stop the swelling.

In other cases the head will swell first, and discharge at the nose, and the heels will crack.

When the buds have broken open, or feel as though there was matter in them, take an iron at a dull red heat, and touch them all. In a day or two, the scab will come off. If they look pale, they should be washed with a lotion composed of one drachm corrosive sublimate, dissolved in one ounce of rectified spirits. All of these buds should be opened as soon as you ascertain that there is matter in them ; then wash with the above

lotion. You may use aloes for a physic in this disease, and give sassafras tea for a drink; make from the roots or bark of the roots. After the purge is stopped, use two drachms of gentian and one of ginger, morning and night, until the ulcers disappear. During this treatment, the horse should be kept in a dry place and clothed. Bathe the legs every night in hot water, into which put a shovel of hot wood ashes, making a weak ley. When he regains his appetite, be very careful in feeding. Give him mashes at least twice a day, until he gets his strength; then give green food, if possible.

In very severe cases of farcy, internal medicines will be necessary. Use of corrosive sublimate *ten grains*—increased to a scruple, with the two drachms of gentian, and one of ginger; repeat morning and night, until the ulcers disappear.

Pleurisy.

This is an attack of the membrane covering the lungs, and the lining of the chest, called the "pleura." The symptoms are nearly the same as in inflammation of the lungs. The horse has no disposition to lie down or move about; the neck will be the same as in lung fever; nostrils distended, and the membrane of the nose very red; he breathes very hard, with a kind of grunt; the legs will be cold, and he will have a hard, full pulse. The blood, however, is not obstructed in its passage through the lungs. By pressing on his side, he will give symptoms of pain in a very decided grunt.

Cure. Blister both sides of the chest, and bathe the legs in hot water. Or boil bran, and then put an old pantaloon leg on over his, and fill in around with hot bran; this will get up a circulation in the extremities. Then give one and a half drachms emetic tartar, two drachms digitalis, three drachms nitre. Keep well covered with warm clothing. Use one ounce of cream tartar in two parts of tepid water for a drink. Be sure to keep the legs warm by hot applications and bandages. Use these medicines until a cure is effected.

Staggers.

There is but little of this disease in the Northern States, but it exists to a great extent in all Southern. The food is the principal cause; there is a great quantity of diseased corn used, and too much of any kind is usually given; then as much water as he will drink after it, which generates an unhealthy gas in the stomach, and causes distension; the blood is inflamed, and rushes to the head, and the brain is somewhat inflamed. The horse staggers about, or becomes sluggish, and stands with head down; the eye looks glassy; in some cases he will rear, and fall back, or run; he will not eat, but holds the hay in his mouth, and then drops it; he sweats profusely, and in a short time will fall and die.

Cure. First, physic with one ounce of aloes dissolved in warm water, and given as a drench; in one hour give half an ounce more of aloes, and continue this until it operates. As soon as

the first aloes is given, blister the head, with a strong fly blister; apply this over the brain, from below the ear, *nearly* down to the eye; then bathe the legs with as hot water as you can use, and bandage them with flannel; keep them as warm as possible. Then give one drachm of digitalis, one and a half of emetic tartar, and three drachms of nitre. If it is to be repeated, use half of the above amount in three hours. Then, if he has any disposition to eat, give bran mash, with one table-spoonful of pulverized resin; use this for a week as he recovers, and feed and work him lightly until he regains his strength. If he is bound up, it may be necessary to use injections, which are always beneficial.

Warbles, Sitfasts, and Saddle Galls.

These are caused in many cases by using a blanket under the saddle in hot weather, thus scalding the back, and causing these little lumps to appear; and when they ulcerate they are called "*sitfasts.*" The ulcer has a calloused spot in the centre. When they first make their appearance, rest will remove them; but if the horse is to be used, you must remove the stuffing from the pad of the saddle, that the bearing will not come on the ulcer. Bathe in strong salt water, to remove the enlargment; but if it does not effect this, and it is really a sitfast, apply a blister; this will dissolve it; then apply the resin and honey ointment, to heel it. A horse with high wither, long back and broad loins, will make the best saddle nag, and carry his rider with ease. In

hot weather it is a good practice to bathe the back with salt water, when the saddle is removed at noon and night.

Stoppage of the Water.

This, in most cases, is from allowing the horse to become foul; then what is called a bean forms in the end of the penis. The horse will stand and weave, or stretch out; then paw and kick his belly with his hind legs; he may drop down in harness, and sometimes breaks out in a profuse sweat. The only thing to be done in this case is to draw his yard carefully, and run the finger around the head, where you will find two or three hard substances; withdraw them, and wash the sheath clean, and grease it with lard.

In some cases, it originates from contraction of the muscles of the loins, or inaction of the kidneys. To cure this, bathe the loins with hot water for half an hour; then bathe with hot vinegar and pepper-sauce; then cover the loins with three or four thicknesses of blankets. Then mix of turpentine one ounce, sweet spirits of nitre two ounces, and give as a drink. Give a bran mash, with one table-spoonful of resin in it, every day for a week, and the cure is complete.

Colic, or Cholera, in Mules.

This appears to be a prevalent disease on the plantations, and is brought on by giving too much food and water at one time, and then immediately putting them to work. The hard work retards

digestion, and a gas is generated from the food and water, which fills the stomach and bowels, and sets the bots at work. The gas would kill the bot, and to save himself, he bores into the membrane of the stomach, or tries to get out at the meat-pipe, or by the passage between the stomachs. They will thus stop up the passages, sometimes, and kill the animal. But if the passages are open, the gas will pass into the bowels, and then the disease is colic. He will be much swollen and distended, breathe short and hard, and will fall, or lay down, and get up ; ears will lop over on each side, and eyes look dull and heavy. When the horse is first taken, take him out of the stable and keep him as still as possible, and, in a majority of cases, he will recover without the use of medicine.

Cure. If he does not thus get over it, take one ounce laudanum, one ounce ether, two tablespoonfuls of soda, two drachms of peppermint; put with half pint hot gin, and give as a drench. Then give injections of one ounce of aloes dissolved in warm water. This is an effectual cure.

Colts Brought up by Hand.

It is a frequent remark, that cosset colts are worse to break than those that have never been handled up to two or four years old. The reason is that they are spoiled by petting them, and allowing them to do as they please. When playing with colts, you should always make them do as you wish, and then, if they are learned to do as

you will in playing, they will not become stubborn when you wish them to work. The great object in laying the horse down is to make him understand that we can do as we please with him, and then he sees there is no use in resenting, and we have gained our point. After this, he obeys without difficulty, and that stubborn, willful feeling is subdued. You may then teach him anything you please.

The Raising of Colts.

I will give my experience in keeping young horses. As soon as cold weather sets in, colts should have a shed or stable to run into. It should be so arranged that they can go in and out at pleasure. The place should be kept clean; no manure should be left in it, for the reason that there is decomposition going on all the time that is poisonous to the feet. The ammonia would also operate as poison on the lungs. Everything around the premises should be kept clean.

Now, in reference to the food. It should not be kept before them all the time, but should be dealt out three times a day, in small parcels. They should never be allowed to shrink while growing; if they do shrink, they will never fill out so as to become as perfectly-formed horses as if they had been kept all the time in good growing condition. The most nutricious food they can have is cooked food; this will not injure them. Shell the corn and boil it, and give each colt three pints a day, with not over fifteen pounds of hay. The colts will be in fine, slick growing condition, and will mature much sooner than if otherwise

fed. As soon as they have a full mouth they will be matured in every point; in fact, at four years of age they will have better bone and muscle than horses generally have at six, if only half fed and attended to. Corn boiled is worth double to make blood, flesh, bone and muscle, what it is raw, with any kind of stock. Try it, and save money, and keep your stock better and cheaper.

To Restore the Appetite.

Use of pulverized caraway seed and bruised raisins four ounces each, of ginger and palm oil two ounces each. Always use twice as much of the first as of the last, in whatever quantity you wish to make it. Give a small ball once a day until the appetite is restored; use mashes at the same time.

Salve for Man or Horse.

For all kinds of old sores, use honey and resin melted together; then add lard enough to make a paste; when cool it is fit for use. There is no salve better than this; its medicinal qualities are excellent.

To Soften the Feet.

Spirits of tar, two ounces; fish oil, four ounces. This is very penetrating, to use where the feet are hard and brittle. Rub it in with a brush upon the crust and sole every night.

Luxation of the Patella.

Luxation of the patella, or the stifle thrown out. This may take place at any time by accident; and still we have seen only three cases in twenty years where the stifle was really thrown out; but it is more generally the case that it is only a strain of the stifle muscles. In this case the horse will drag the toe, but where the joint is actually out, the leg will be thrown back so that the toe will scarcely touch the ground, at the same time the head will be elevated and the nose thrust out. The muscles of the whole body appear to be drawn upon, and there is a quivering observable. The horse can bear no weight on the foot, but will hop on three legs. We have known the joint to be thrown in by the crack of a whip, caused, of course, by the sudden action of the muscles; a sudden fright of the horse would have the same effect. Sometimes it can be put back by pressing from the outside; but if it cannot be put in in this way, then a rope must be used. Fasten one end around the ankle; the other over a beam in front of the horse. Now draw on the rope, pulling the foot forward and pressing on the outside. When it is once in, keep the foot drawn forward and fasten to the front foot. Then use the whites of four eggs, with two or three ounces of alum, pulverized and mixed with the egg. Rub on in front and on the side; heat it in with a hot iron. Use the same for a strain of the stifle muscles. With a few days' rest, a cure will be effected.

Tonics.

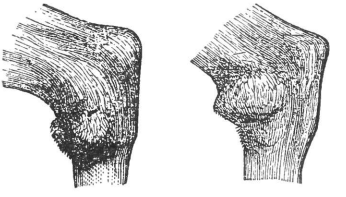
Where it is necessary to use tonics, gentian is one of the best vegetable, especially in chronic debility. It is best united with chamomile and ginger. Gentian, four drachms; chamomile, two drachms; ginger, one drachm; give in balls.

Murcurial Ointment.

Of quicksilver one ounce, lard three ounces; stir until there are no globules to be seen. This is used sometimes in preparing splints and spavins for the regular spavin ointment, rubbed on once a day, for two or three days, before using the ointment.

For all sprains, bruises, and swelling of the limbs, use thoroughwort and mullen, steeped and applied as hot as possible with bandages.

Best Spavin and Ringbone Recipe.



The first-named disease comes at the lower part of the gambrel joint. It is caused by a strain or bruise—either will cause it; this opens the

pores, and causes the substance to concentrate at one place, and forms in a grisly or bony substance, and causes the joints to become stiff and sore. The horse sometimes becomes lame before enlargement is scarcely perceivable. In some cases it will continue to grow for two years; it will then become a hard bone. The enlargement at this stage cannot be removed, but you may kill the disease and stop the lameness. The great object, in this disease, is to stop the leakage. There has nothing been used as an astringent; when, by removing the lump without the astringent, it leaves the parts loose and open, but if used it closes and stops the pores; then, by letting the horse stand until it heals, it becomes firm.

To prepare a spavin for the blister ointment: Clip the hair from the enlargement, and apply iodine once in four days; apply it three times, and wet the skin well each time.

Cure. Four ounces gum euphorbium, fine; one ounce Spanish flies, pulverized; four ounces iodine; four ounces corrosive sublimate; four ounces red precipitate; six ounces white pine turpentine; six ounces lard; melt the lard and turpentine together; after it is nearly cold, add the other articles, and stir until it is cold; it is then ready for use.

Then rub the enlargement until it is warm; then rub on the ointment and let it remain for twenty-four hours; then take lard and rub upon it until all of the ointment is taken out. Let it remain ten days, then apply the medicine again; keep this up until the enlargement is gone; then use oak bark as an astringent to bathe it in, and

bandage until well, keeping it well saturated with the oak bark water.

You may use the same ointment for "thorough-pain." After it is blistered sufficiently deep, use the oak bark, and bandage until healed. The same for blood-spavin and wind-puffs. It will be necessary to use a pad under the bandage, in "thorough-pain," to make it bear evenly.

Keep the horse quiet, while using these medicines, and on a low diet.

Bots or Grubs.

There has been a variety of ideas in reference to the real action of the bots, and what they were designed for; whether they were injurious to the horse or beneficial to him. I will here give the reader my experience, for I have taken some trouble to experiment with them. I was for several years employed in catching wild horses in Texas and Mexico, and I took the opportunity to inform myself as much as possible in reference to actual causes of disease in the horse. We used for experiment nine-years-old horses.

The first subject—I fed four quarts of corn; I then cut a small orifice in the side of the horse; after he had eaten half an hour, the orifice is kept open, so that the stomach could be seen; there appears to be an alternate motion in the stomach during the process of digestion. The horse is now killed, and the stomach immediately opened. The bots are all loose in the stomach; they have no hold on the membrane; the stomach is now

closed up and blankets spread on the body to retain the warmth of the body. One hour and a half after this the same stomach is reopened; now every bot within the body has worked or bored his head into the membrane of the stomach; some of them were almost through the coating. We never found the bots attached to the mucous membrane of the stomach if the body was opened immediately after death; but where the body has been allowed to remain for one or two hours before opened, in every case the bots have been either fastened to the stomach, or they have passed out of it. Then we have found the orifices passing out or opening into the stomach blocked up by the bots trying to make their escape from the stomach. The bots will be found on examination to have from five to eight rings of beard around them, and that beard is quite stiff. Now, what is all of this for? It is for some purpose. I think that the bots really assist in the digestion, and I have come to that conclusion after numerous examinations of the stomach. It will be remembered that the bots have rings of stiff beard around them; then, again, we find them loose in the stomach when the horse is first killed, and attached to it from one to two hours after death. Now, in this alternate motion, the beard of the bots irritates the mucous membrane of the stomach, and keeps those motions strong and regular, and in that manner assists in the digestion of the food. Then why should the bots ever attack the membrane of the stomach before death? They never attack the stomach when in health. But in case of disease then it is different. The bot lives by absorbents, and when the an-

imal is diseased (especially when gases accumulate in the stomach, which will sicken and kill every bot in the horse), they, to save their own lives, commence to work their heads into the membrane of the stomach. The absorbing vessels in the bot are just back of the head. If the bots work through the stomach, they cause death. This is in the case of a gradual generation of gas; but in case of a sudden filling of the stomach with gas, then the bots are hurried, have no time to work on the membrane, and commence to leave, and in passing the cardiac orifice they block it up, and in this way they kill the horse. Then they try to pass the peloric orifice (the outlet of the stomach) and that becomes blocked or wedged up by them in the same manner the cardiac was closed. The cardiac is the opening of the meat-pipe into the stomach; the peloric is the outlet of the stomach. I have seen the bots in the œsophagus, or meat-pipe, attaching themselves to the membrane of this pipe, passing up to the epiglottis, where they have choked the horse to death.

It seems that there are some three different ways by which bots may be compelled to kill the animal. It is also evident that bots will never do injury providing the stomach does not become diseased. They do not work on the membrane for food; that does not appear to be their object. By neutralizing the gas in the animal's stomach, the bots stop their operations. The symptoms are the same as in spasmodic colic; it is, without doubt, the same disease;—the bots commence to work their heads into the membrane of, or try to leave, the stomach.

Cure. One ounce of sulphuric ether, one ounce laudanum, two table spoonfuls of soda, all well mixed together. This will give ease to the horse in half an hour or less; if not, repeat the dose. I have been successful with a quart of hot blood and two ounces of soda. Put the bottle in a bucketful of hot water; bleed into a bottle; when full drench through a horn; use one table spoonful of fine salt in the blood. This goes to the stomach much warmer than the natural blood, relaxes the bots and they let go. After giving this I have seen bots pass the horse profusely.

Quinsy.

The symptoms of this disease are something like inflammation of the lungs — difficulty of breathing, eyes inflamed, nostrils distended, breath quick and short; the horse stands with his head down, and has no disposition to move about, and you will hear a rattling in the throat, caused by an accumulation of mucous matter in the glottis or throttle, which becomes swollen so as to be perceivable on the outside of the throat. A horse with this disease sometimes has an inclination to eat, but with lung fever, never. Quinsy is entirely an affection of the glands of the head and throat; it is distinct from the lungs.

Cure. Take one ounce pulverized aloes to one-half ounce oil of sassafras, mix with a little flour to make it thick, and then make into balls about the size of a black walnut, or the yolk of an egg; this quantity is for one dose. Open the mouth, pull out the tongue, put the ball on the

roots of the tongue; this is the easiest way to give medicine. A thick, heavy blister should be drawn on the throat, with a mustard or fly poultice, to draw the inflammation to the surface. Bathe the limbs with hot water, and bandage them well from the hoof to the knee; bathe three or four times a day. When he has a disposition to eat, give a mash of scalded wheat bran—two quarts twice a day. Give no hay or grain for three or four days; then if he breathes easy you can increase the feed. Keep the horse from the wind, and well blanketed.

Nicking.

There are two different modes of nicking: I will give the best and easiest. To make a horse carry an elegant tail is attended with some uncertainty. It much depends upon the spirit, disposition, form and vigor of the bone of the tail, &c. A horse of good spirits, tolerable shape, and a small bone in the tail, can be made to carry an elegant tail with the greatest ease, particularly if he carries a tolerably natural tail; but a dull, leather-headed, flop-eared horse, with a remarkable large bone in his tail, will set you a task, although you may break the bone in two or three places. Indeed, there is so much difference in horses, that some judgment must be exercised about the mode best to be adopted to the accomplishment of the object in view.

Nothing can more disfigure the appearance of a horse than to be half nicked. The form of the

tail, when this unfortunately happens, departs from the simplicity of nature, and never attains the elegance of art.

I shall now proceed to the best method of nicking every description of horse, and which, if well attended to, will seldom or never fail to succeed. The horse should be confined in stocks, fitted for that purpose. The tail should then be plaited up and clubbed at the end, turned over a small stick and securely tied with a string. Being provided with a knife made for that purpose, turn the tail up within a direct line with the back; commence the operation by making an incision about one inch from the rump, close to the hair; cut the cords in one place on each side, leaving an incision only the size of the knife-blade; be very careful not to touch the bone with a knife, for if so it would create inflammation, and the hair would come out. Great pains should be taken to have the weights equal, in order to keep the tail in a perpendicular direction, and prevent it from turning to either side during the time of healing, as a horse that carries his tail to one side, instead of being elegantly nicked, is ruined.

The horse many times carries a crooked tail before he has been nicked. To straighten the tail, cut the top cord—the under cord depresses the tail, and the top one raises it. When standing the tail is straight. You will see at once that it is the top cord. In cutting the cord to straighten, cut the long cord, and the short cord will push the tail straight, and the long cord will pass by on a lap, and grow together, leaving the tail as strong as ever. Pulling is not required in straightening the tail.

Scours.

This is a disease which requires no description; you will know it when it comes. It is the same as cholera in a man, but is very easy to manage. In a warm climate, it is very dangerous, as two-thirds of the horses taken with it die in three or four days.

CURE. Boil red or white oak bark to a strong ooze; put two table-spoonfuls of cream of tartar to one quart of this decoction; give to drink, or as a drench; then use the bark water for injections. Keep this up until the purging is stopped; then give a mash of scalded wheat bran, twice a day. Give no hay or grain, or you will cause a relapse. He will have a good appetite, but be very careful for several days, and when you commence feeding feed very light. A positive cure.

Blind Staggers.

The cause of this disease is too much feed and water. In giving as much as a horse can eat, then giving as much water as he will drink; in driving, the grain becomes swollen, and the stomach distended by undigested food. The distension of the stomach prevents the passage of blood, which causes it to flow to the head, and makes him crazy and blind. Sometimes he will fall back; at other times run, and is apt to run off from a bluff or against any object that may be in his way.

CURE. If the disease is in its worst stages, split the skin of the forehead and fill with salt and black pepper; then if you can get sassafras roots, boil to a tea; give one gallon twice a day; bleed one gallon from neck vein. Feed light with bran mash; don't use any very hearty food for two weeks. This is a sure cure.

For Weakness Across the Loins.

This originates many times from a stoppage of water. It is not always what would be called gravel; it may be from contraction of muscle across the loins. The more the horse strains, the more contraction it would cause. He becomes stiff, and it is difficult for him to move his hind parts, and he will stretch and strain as though he was going to make water. The symptoms are plain and easy to distinguish.

CURE. Give one ounce pulverized aloes; one ounce sweet spirits of nitre; one ounce oil sassafras. Give this as one dose, after making into small balls. Then bathe the loins with hot pepper sauce. Blanket the horse well, putting several thicknesses over the loins. As soon as he can stand, give two quarts bran mash, with one table-spoonful of powdered resin. Give this for two or three days, and keep the loins as warm as possible. Also use as a liniment, origanum, two ounces; oil of sassafras, two ounces; spirits turpentine, two ounces; well mixed together, and bathe the loins twice a day.

Stocked or Swollen Legs.

This is caused by sudden heats and colds.

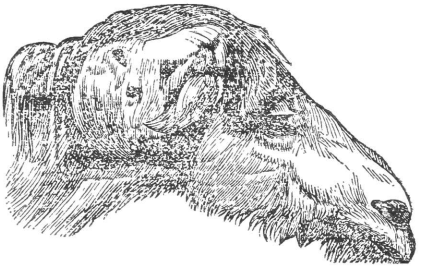
CURE. Bathe the legs, from the hoof to the knee, in as hot water as he will bear, and then bandage them; the hot water opens the pores and thins the blood, which has become thick and will not circulate well. Make a strong tea of sassafras roots, and give it to drink. If not easily procured, give as a purge one pint of linseed oil, half an ounce oil of sassafras. Feed light, give bran mash, with one table-spoonful of cream tartar, for a few nights.

Colic.

This is caused by giving too much feed and water, or by watering often on the road. The water reduces the juices of the stomach, disabling digestion, and causing the grain to swell, generates a gas in the stomach, which, passing into the bowels, causes the acute pain of colic. He becomes very restive, lies down, rolls about, and gives many signs of pain. Many times the horse has bots and colic, at the same time; the only difference in the symptoms is, that in colic his ears are cold; in bots they are warm.

CURE. Take one and a half ounces laudanum, one ounce ether, two table-spoonfuls soda, in half a pint of warm water; give as a drench. Do not exercise the horse with this disease, as exercise causes the gases to move from one part of the bowels to another, each time causing pain; therefore keep him as quiet as possible.

Poll Evil.



This disease is caused by a blow from the but-end of a loaded whip with a fool at the other end, or by pulling back at the halter, and by striking the head against the beam in the stable; in some cases it may come by rolling in a stumpy field, and striking the head against a stump, or in a stony field by coming in contact with a stone; all caused by coming in sudden contact with a hard substance. We find the most numerous cases in a new country. Lumber being scarce, the stables are built very low. The horse suddenly lifting the head, comes in contact with the scaffold above. The first symptoms will be seen by the horse sticking his nose out; his ears will lop on the side of the head; next a slight swelling on the poll. Put the hand carefully on the part swollen; if there is no soft place to be found, it can be cured without an operation by using a liquid blister: tincture of cantharides, applied with a brush immediately on the part swollen. Apply this until it is much irritated. In this way it may be driven away; but after it has been swollen for some time, and pus has formed, it

will require a different treatment. Apply the hand, and if there is a soft place, then pus has formed; if it is deep, apply the liquid blister for a few days; it will draw it nearer to the surface. Vinegar and salt should be applied for a few days in place of the blister; this will draw it to a break. But as it becomes soft, indicating the near approach of pus, the horse will have to be cast, and with a sharp knife open them; with a soft sponge, or with a lint swab, cleanse out the pus or matter; then cut away all diseased parts of flesh; then wash with soft water and chloride of zinc, one grain to one ounce of water. It must be dressed at least twice a day. It may be necessary to use the lunar caustic; but keep the wound covered with a cloth saturated with tar, and keep it well dressed, and there will be no more trouble.

Scratches.

This is a disease that injures the horse very much. It is caused by standing in filthy stables, by leaving the mud on the legs when it is muddy going, and by heating the blood and then driving through cold water. This closes the pores of the skin, and prevents the absorbing vessels from being relieved, chilling and thickening the blood, and causing the legs to swell, and if not cured to crack open. The horse of course is not in good condition. If before it is cracked, bathe in as hot water as he can bear, and bandage to the knee, but not very tight. If it cracks, take a feather and wet with iodine in the cracks, or chaps, once

a day. If this does not dry it up in a day or two, sprinkle pulverized verdigris in all the cracks, every alternate day poulticing with linseed meal.

Before applying any remedies, the legs should be washed clean with bar soap and soft water. Give a light purge, but first prepare him for it by giving bran mashes three or four days, twice a day; then give five drachms of aloes; if this does not act as an active purge, repeat the dose the next day; keep his bowels loose for two weeks at least. As he is cured of this he will improve in condition, but it is very difficult to keep a horse in good case with such a disease on him.

After washing clean the parts diseased with bar soap, the next object should be to carry away the inflammation. Use the following:—Glycerin, half a pint; chloride of zinc, half an ounce; water, six quarts; take cloths, four or five thicknesses, wet them in this lotion and apply them to the diseased parts. As fast as they become warm take them off and wet them again. Keep this up until the inflammation is gone. This is always to be used before anything else; then apply the above remedies, as directed.

For Kicks, Bruises, Cuts, or Swollen Legs.

Bathe the swollen parts with hot water three times a day. As soon as you are through bathing, bandage the leg, but not too tight. Take off the bandage every time you bathe. By using hot water, it opens the pores and leave everything soft and pliable, and entirely removes the swell-

ing, and prevents it from becoming calloused. If the cut is large, and a bad sore, use a salve made of pulverized resin and honey, which is the most healing of anything that can be used.

Horses that cut themselves by interfering, and the pastern becomes swollen and sore, bathe with hot water; it will keep it from enlarging, and will heal it up and leave the leg smooth. Liniments are very bad; usually, they thicken the skin and leave the parts affected enlarged. But by bathing and bandaging it will leave the leg smooth as before cut.

Weak Eyes.

There is no such disease as hooks—it is only caused by inflammation, which causes the washer of the eye to become swollen, and protrude, and some say that this is hooks;—they never should be cut. By roweling at the side of the eye, it will draw the inflammation from the eye to the surface and cure the disease. Sometimes the eye becomes weak from wolf teeth; these should be knocked off; they will be found on the upper jaw. I would not advise the use of medicine in the eye—it will increase the inflammation.

Sprung Knees and String-Halt.

These diseases are both from one cause; it is contraction of the muscle, caused by a strain, bruise, or by long standing. String-halt comes from these causes; sprung knee is invariably

caused by a strain, which contracts the muscle of the arm; by the contraction of this muscle it draws the cords, and causes the knees to become weak and crooked. The cords are swollen, which causes persons to doctor the cords; this will do no good; for it is impossible to relax a cord; in fact the cord itself is not contracted; it is the contraction of the muscle which draws the cords so. By relaxing the muscle, it would drop the cords to their proper places, and give relief. String-halt is the same; it is the contraction of the inside muscle of the thighs. By relaxing this muscle you cure the disease.

CURE. Take the common land turtle and try them down, and use the oil by rubbing on the muscle; this will relax and cure the disease.

Blistering.

The most effectual blister is to make a blister ointment, as follows:—One drachm of flies, one drachm of resin, and four ounces of lard. Melt the resin and lard together; then add the flies. Rub the parts with the hand until you create a heat; then apply the blister. This is good for strain in the pastern.

The best liquid blister is cantharides and turpentine—equal parts.

Blisters, or any stimulating applications, must not be used on any part already inflamed. It increases the fire, instead of putting it out.

Thumps in the Horse.

This disease is caused by too much feed and water, and fast driving. By filling the stomach with food and water, then driving fast, the stomach becomes distended with undigested food, which prevents the inflating of the lungs; the muscles of the lungs become sore and weak, and causes them to thump. If this disease is of long standing, it will be incurable; but by a moderate amount of water, and a reasonable quantity of grain, you will prevent this disease. It is brought on entirely by heavy feeding, watering, and fast driving.

Big Head and Big Jaw.

This disease is peculiar to the Western and Southern States. We have never known a case of this disease in the Eastern or Middle States. It appears to be confined to those parts of country where they feed corn in the ear or shelled. We have taken it on ourself to investigate this subject as far as in our power to do so. We find horses in the city that are fed on oats or cut food are not liable to this disease. Corn is hard and flinty; it requires much more power to masticate this food than any other kind. The teeth become sore, brings on irritation of the muscles of the superior maxillary, or upper jaw; also, of the lower jaw. This irritation causes an increase of synovial fluid, causing the synovial membrane to bag, and inflammation appears, sometimes on the upper and other times on the lower jaw. This synovia becomes hard and ossified, if not treated

in time to prevent. It should be treated at the first symptoms shown, which will be a slight stiffness, he appears dumpish, the eye waters, and the upper or under jaw will be slightly enlarged and inflamed. It should be treated in the following manner: Poultice the parts affected, and on the poultice sprinkle one drachm of powdered opium; one drachm of camphor. After the poultice, rub the disease with equal parts of oil of camphor and chloroform. After the pain and inflammation has disappeared, use the following ointment; Iodid of lead, one ounce; lard, eight ounces—mixed; applied night and morning until the symptoms have disappeared. This in the first stages is a sure cure. After it has become osseous or bone, use the spavin ointment just the same as for a spavin; treat it the same as the directions for spavin.

Cribbing.

This is a disease which has baffled nearly all who have attempted to explain it, even where they were well skilled in most ailments of the horse. Some say it is caused by the teeth growing too close, and pressing so hard against each other as to cause pain, and they bite or crib to relieve the teeth. But I ask you who use this argument, will the horse crib if you buckle a strap around the neck? No! Well, does this strap loosen the teeth, or ease them in any way? Of course not. But still some say they have cured it by filing between the teeth. Yes, but for how long? They don't know; they sell him while

the teeth are yet sore, and it hurts him to touch anything with them; as soon as they are well he will crib again.

Some are called wind-suckers, who do not bite the crib, but are said to suck the wind. Now this is not so; they are doing what the horse does when he is cribbing, simply belching; that is in the first stages of it. Instead of swallowing wind (which he could not do, as wind drawn in goes to the lungs through the wind-pipe only,) he is belching up gas which has generated in the stomach. By putting the strap around the neck taut, he cannot use the muscles which he needs to gulp up the gas. This explanation will bear any test that may be applied to it, and prove conclusively to all that my theory is correct.

One of the surest causes of cribbing is feeding with cut or chopped feed; it is usually fed too wet, which makes it ferment and generates gas. This distends the stomach, and causes pain or uneasiness, and to ease himself he learns to catch at the crib, holding upon that to belch forth the gas. Watch him, and you will see the same action as you will see in a man belching wind, as they say, or gas. Some horses are almost filled with gas, bloated as if with colic; then it is dyspepsia.

To cure cribbing, you must stop the generation of this gas in the stomach. One way is to feed your meal dry; it is not as liable to hurt him in this way as when fed in slops. You can just dampen the hay or straw, and the meal will adhere to it.

In order to relieve the horse from all danger of biting such objects as the rack or feed-box, every-

thing of the description should be removed from the stall, or the habit of biting such things may be kept up even after the desire to belch is gone. He should be kept in a box, or in some stall where there is no rack or permanent feed-trough. Everything should be put out, so that there will be nothing he can get hold of. Then he should be fed out of a broad, shallow box, on the floor. The food, which should be fed dry, should be scattered on the bottom of the box; then he should be fed with a bit in the mouth, so that he shall be compelled to feed slow, and will masticate everything he eats. Most cribbers eat very fast and only half masticate their food, which, if swallowed whole, is more liable to generate gas in the stomach than if properly eaten. We have never failed in curing this disease by close application to these directions.

CURE. Take one pound of pulverized charcoal, one pound of soda, one pound of oak bark (pulverized); take the inside of the bark—the best part of it—dry it well, then run it through a coffee-mill until it is perfectly fine; mix all well together and give one table-spoonful twice a day, morning and night. About two weeks will be required to effect a cure; but keep him in the same stall for some time; in fact all horses should be fed from the floor.

The Pulse.

The most convenient place to feel the pulse is about four inches below where the throat latch is buckled, on the lower jaw. Some horsemen feel

for it at the side; but, although they can count it there, they cannot tell its quality. Beneath the jaw it can be pressed against the jaw bone, and the quality as well as quantity can be easily ascertained.

As the pulse is of great assistance to a physician, particularly in treating a child, who cannot describe his pains, so to the veterinary surgeon it is an invaluable assistant.

The number of pulsations in any artery show the condition of the heart, and of the rest of the body. In a healthy working horse, the pulse is about thirty-six to the minute; but in a thoroughbred, or smaller horse, it is forty or forty-two. This is the standard pulse. When the pulse is fifty or fifty-five, there is some fever, and he needs attention; at seventy or seventy-five, he is in a dangerous state, and a pulse of one hundred or more would wear him out in one or two days.

But great care should be taken not to excite the horse, when about to feel the pulse. If you approach him hastily or speak roughly, it will affect him as it would a sick person. It will excite him, and his pulse will quicken ten beats per minute. Even when approaching him quietly, and speaking gently, the pulse will be somewhat disturbed, and before leaving him, you should feel the pulse again, to note if there is any difference.

Where a quick pulse indicates fever and irritation, a slow pulse indicates diseases of an opposite character, where nervous energy is wanting. The hard pulse is a sure indicator of considerable fever, for the heart is excited to more violent as well as frequent action; it contracts more powerfully upon the blood, and drives it with greater

force through the arteries, and the vessels are thus expanded violently and suddenly.

In the first stages of this, bleed in the neck vein; get as large a stream as you can, and keep the finger on the pulse; let it flow until the pulse is slower and more regular.

The hard, jerking, yet small pulse, denotes a very dangerous state of disease, and almost always accompanies inflammation of the bowels. The heart is so irritated that it contracts before the ventricle is filled, so the stream is not great though forcible.

In sudden cases of inflammation of the lungs, their minute vessels are obstructed by such an overflow or pressure of blood, that the action of the heart can hardly move the stream along, and then you find the oppressed pulse.

In bleeding, the finger should be held upon the pulse, and the quantity of blood taken should be regulated by it.

To Stop Horses from Kicking in Harness.

Get a curb bit that has shafts from six to eight inches in length, with a curb chain under the jaw. Harness the horse as usual. Then attach an extra rein to the lower part of this bit, and carry it back through the terrets, down to the shafts of the buggy, opposite the hock. Here a ring or pulley should be fastened to each shaft, and the rein run through these rings or pulleys, passing up over the hip through a loop which should be made where the hip straps are attached to the back-band.

Draw this rein taut to the position in which he usually holds his head, but so as not to interfere with his traveling. Then if he attempts to kick, the action draws the gag up to the roof of the mouth, and draws up the chain under the jaw, thus throwing up the head. You can see it is impossible to kick up when the head is thrown up. The driving reins should be fastened to the rings opposite the bit, so that in driving, the reins will not act upon the gag. This will effectually break any horse of kicking.

To Stop Horses from Striking their Knees.

All horses that strike the knee are close travelers, and at the same time they have a peculiar rolling action with the fore-legs; they also step high, and strike only when going fast. The only way to prevent this is to give him a wider gait. To do this, make a pad to fit in between the fore-legs; it should be stuffed full and hard, so as to press the fore-legs apart. Fasten it the same as a choke-strap, to the belly-band and collar. The horse should be driven every day, and in this way the action of the muscles will be changed, and he will always have a wider gait. It may take three or four weeks to accomplish this change. I have succeeded in spreading the hind legs in the same way—by a pad fastened between them.

Fomentations.

The benefit, derived from these, results from the warmth of the water, and not from any medicinal property in it otherwise. Fomentations increase the warmth of the skin, and open the pores, promoting perspiration, and thus relieving inflammation, lessen the tension and swelling of the part.

Fomentations, to be of benefit, should be frequent and long, and as hot as the horse can bear. There is no way to relieve the distended vessels so quickly as by these.

For all external inflammations, and in the early stages of internal, cold water bathing will be best. Dissolve one ounce of nitre in one pint of water, and it will make the water much colder; use as soon as it is dissolved, and do not bandage for an hour after bathing; then bandage to strengthen the leg.

To Select a Horse for Speed.

The haunch bone, or hip, should be long; the femuror thigh, which connects with the haunch above, and with the stifle below, should be of about equal length; the tiba, or proper leg bone should reach down to the hock, or gambrel, and should be very long, with very heavy muscle; the bone should be broad and well muscled; the flank should be loose and open, to give room for the stride; the hock should be wide, and from the point down to the upper pastern should be straight. A curve just below the point of the hock is a sign of weakness, and is liable to curb; but a straight, wide one is a sure sign of strength.

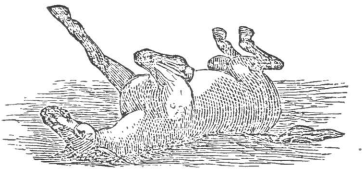
The quarters are the parts whose good proportions are most essential to speed; here lies all of the propelling power. They should be of great depth, with broad loins. For speed, the muscles of the quarters should be so well developed that when you stand behind the horse, the muscles on a line with the stifle should be as wide as the hips. This indicates great strength. The shoulders should set well back, with high withers and heavy muscles. He should have a long arm, but be short from the knee to the upper pastern.

The Liver.

I will use but a few words where I might use many, as the limits of this work forbid enlarging on any one point. The blood returning from the stomach, spleen, pancreas intestines, and mesentery, instead of returning directly to the heart by the veins, as from other parts of the body, passes first through the liver, which it enters by two large vessels, which, separating into minute branches, spread all through the liver. Here the bile is separated from the blood, and changes the nutritive part of the food from chyme to chyle, separating the useless from the nutritious, and promoting the process of digestion. This bile in many animals flows into a gall bladder, from which it is used as digestion requires; but the horse has no gall bladder, because the stomach is very small, and the food passes quickly out of it, the bile performing its work at the same time it separates from the blood, and passing quickly into the intestine.

The horse having so small a stomach, is not in danger of being injured by its pressing upon the lungs and diaphragm, if we use him for hard exercise; but still care should be taken not to exercise him very hard, until the food has had time to pass from his stomach, which it does very quickly. The horse works on the strength of the food already digested, which has given him flesh, blood and muscle; but not on that yet in the stomach, and hard work before it has left it retards digestion, keeping the food longer in the stomach and making the horse liable to be sick, from the unhealthy gas it will there generate, if detained there long.

Spasmodic Colic.



When the action of the muscular coat of the intestines—which by its contraction and relaxation passes the food through the intestinal canal—is much increased, the food passes more rapidly, and purging is the result. But the muscles of the whole system are liable to spasmodic action, and the muscular coating of the intestines may be thus affected. The ileum is the usual seat of this disease in the horse, but the spasm may be confined to a small part of the canal.

The horse when attacked by colic, which is often very sudden, becomes very restless, looking at his flanks, pawing and striking his belly with his hind feet; he will lie down and roll on his back. Then the pain abates for a few moments, and he will commence eating; but the spasm returns with augmented violence, and if not relieved in an hour or two, inflammation sets in, and death is sure.

Colic is caused sometimes by drinking cold water when he is warm, or by standing in a current of cold air, or by eating grass when hot. He should be relieved as quickly as possible, to prevent inflammation.

Cure. Three ounces of spirits of turpentine, one ounce of laudanum in a pint of warm ale if at hand, otherwise warm water. Give injections of one ounce of aloes, and one ounce of bar soap dissolved in two quarts of warm water, and given above blood heat. Keep the body quite warm, but let him inhale good pure air. Never give gin or whiskey and pepper, as they increase the inflammation, and are the worst things ever given.

Fever.

If there is any local inflammation in the horse, the whole system sympathises with it, and sometimes causes fever, and sometimes there is a general fever of the system, caused by colds taken by being kept in ill-ventilated stables, and being taken suddenly from them into the extreme cold.

But the lungs are so weakened by this treatment, and the feet so tender from bad shoeing and careless management, that a general or pure fever will not run long, before it settles into inflammation of these parts, but sometimes the fever will run its course as such.

The horse when taken with fever often shivers as if cold; he does not seem inclined to move, and his hair will be rough, set forward or up, and his feet cold. Then follows a warm turn, only that while some of the legs are warm, the others will be very cold. His pulse is quick, soft, and sometimes you can hardly feel any; he breathes hard and unnaturally; has but little appetite, and becomes very costive.

During the course of the fever the shivering fit returns at about the same hour every day, followed by the warm one, with slight sweating, until it runs its course, or settles into local inflammation.

It will be dangerous to give an active purge; but one drachm and a half of aloes should be given at night and morning, until the bowels are slightly relaxed. About an hour after giving the aloes, give digitalis, emetic tartar and nitre, one drachm each, until the pulse becomes more regular; make a ball of this, and roll up in tissue-paper; then give white hellebore, half a drachm, night and morning. As soon as he will eat, give him bran mashes twice a day, and boiled oats the same, about a quart at a time. If symptoms of inflammation of the lungs should appear, clothe him warmly, and keep his stable well ventilated, and treat him otherwise as given under the head of inflammation of the lungs.

Stabling Horses.

The first and one of the greatest objects should be good ventilation. How is this to be obtained? It can always be done by an opening in the wall, just above the head, fifteen inches by three, the box running up to the roof, on the outside of the building. This gives a draft ventilation, which is always good. There should be one opening for every two horses. It is the oxygen that heats and purifies the blood. It will not be necessary to give medicine, if we only see that the horse has pure air to inhale.

The next thing to be thought of is, how and in what manner he shall be fed? Never put a rack in the stable; there are numerous objections to them, and we will name a few. The horse is compelled to raise his head to get his food, which is unnatural, bringing dust and hay-seed into the eyes, on the head, in the foretop, and in the nostrils; all objectionable. Nature designed that the horse's head should reach the ground when getting food. Make the feed-box so that the bottom is within one foot or six inches of the floor; put the grain on one side and the hay in the other. If he is a ravenous eater, scatter the grain on the bottom. He will not gather it so fast, and will masticate it better. If he is fed with his head raised, he will swallow the grain whole, and it will be liable to swell and generate gases in the stomach.

Make the floor level; do not slope it back. If the back part of the floor is lowest, it is liable to strain the back tendons of the front legs, lame the horse, and also spring him in the knees. Bore holes in the floor to let off the urine, or put a

grate in, and keep it open with the fork tine when cleaning up the bedding. Attend to these things, and you will have healthy horses. Give nothing in the shape of medicine to prevent disease, for it will do no good.

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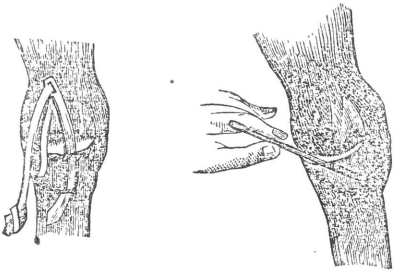
Broken Knees.

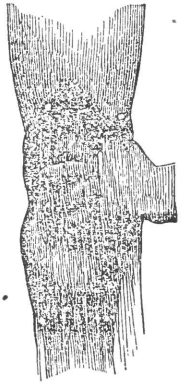


This is the result of accident, or stumbling on the road, and is frequently of a very serious nature. Sometimes it is mere ruffling of the hair; at others, a deep cut of a serious nature, cutting or bruising the covering of the tendons crossing the knee, or it may be only a slight cut. Any bruise or cut, at this point, is more or less dangerous. As the dirt may cover the point, it will be difficult to tell the depth of the wound. The horse should be taken to the stable, the knee washed, but not rubbed, as that would only irritate the wound. Take a large sponge, with a bucket of warm water, and fill the sponge with water and hold it above the wound, letting it run down on the wound and soak out the dirt. After

washing it as clean as possible, take a probe, and commence very carefully; don't bear upon the probe, as that would be liable to puncture some of the linings. There may be found a sac in the skin, under the cut; if so, the seton needle will have to be used. Take a piece of tape, pass it through the eye of the needle, tie a large knot in the tape, pass the needle through the bottom of the sac; tie a knot at the other end after drawing the tape through. Move it two or three times a day. The dirt will work out of the hole below. Now cut the knot at the upper end and draw it out; then dress with the following: two ounces of tincture of arnica to two quarts of soft water. Take a soft sponge, wet it with the lotion and hold it above the wound, and squeeze it on the wound for a dozen times or more during the day. This is cooling, and keeps down the inflammation, and will cure any moderate form of bruised knees; the hair will be restored, and the knee will hardly be noticed.

But there is a much more difficult injury than the above mentioned, caused, in a like manner, from the falling of the horse, and in many cases by checking the horse too high. Persons often expect to get the head of a horse, with low withers and ewe neck, just as high as the horse's head with a high crest; this is all pride and very abusive to the horse. The horse with low withers and ewe neck can't see with his head raised so high, and that is the cause of stumbling. He is pushed at a slashing gait, and all of a sudden comes to the ground, cuts the knees through the skin, and the structures beneath the skin are penetrated. The synovial sheath is divided; the

sheaths of the joint may not be divided from the fall, but they may be bruised so that they may open by the slough that takes place after. It matters not how the synovial bursæ sheaths may have become punctured, they will have to be treated in the same way. These sheaths are all alike, and each one around the tendons or over the joint or bone membrane are all of the same structure, and are all separate, one from the other. This covering is like a bladder, and the synovial fluids are like the white of an egg, and are the same to the tendon joint or bone that oil is to machinery. It is to lubricate and facilitate motion.



Never use cold, but warm water to an open joint. Wash as clean as can be, but do not rub; hold the sponge above, and rinse out as carefully as possible without touching the wound with the hand. After washing clean, examine if the substance escaping is of a reddish color; if so, it is

favorable; but if there is a thin transparent fluid, then some of the sacs have been penetrated; if only a small portion of fluid escapes, there may be only one sac opened; but if the escape is profuse, clear and thick, the joint membrane may be open, and it must be very large, deep cut, and it will be more apt to be the opening of a sac of synovia. The examination is now to be made with the probe, and if there is a sac in the skin below the wound, it must be opened to let out any grit or dirt.

Take a thin hickory stick, cut as thin as it can be, so as to leave strength enough to press against the leg at the lower part of the sac at the knee; then take a sharp-pointed knife, roll up a small piece of beeswax, as large as a pea, and put on the point of the knife, and then run the blade of the knife down to the sac, the edge of the knife sideways with the leg. The wax acts as a probe and lets the knife down to the bottom. Now thrust the blade through the skin, with the flat stick pressed against the knee below; the point will come out above the stick. It must be done very quick, and must be withdrawn so as not to cut anything but the skin. Now the grit, dirt and pus will escape. Treat this the same as the first case of broken knees, viz: Two ounces of tincture of arnica, and one quart of soft water; mix them well together and take a fine, soft sponge and bathe by holding the sponge above the wound; let the lotion run into the wound without irritating it. This should be kept up until the inflammation is subdued.

If the animal is uneasy, it will be noticed by his holding his head high, with his ears stuck up.

Try the pulse; if it is regular, he will get along well; if it indicates fever, and the eye is continually in motion, give sulphuric ether one ounce, laudanum one ounce, water half a pint. Give this with an ox horn (the very best thing that can be used with which to give liquid medicine.) Make no disturbance in giving it; everything should be given as quickly as possible. Repeat this medicine draft until he becomes quiet.—Sometimes a bulb forms over the wound, of a whitish color; do not disturb it; as it acts like a bandage, and will drop off when the wound is healed. Never bandage a broken knee; leave it open to the air.

Strangles, or Colt Distemper.

This is a disease to which all colts are liable, unless in the purest atmosphere. A congregation of numbers, in a badly ventilated stable, will bring on the disease. Colts running in the field are not so liable to this malady as those in stables. The first symptoms perceivable are a dull, stupid feeling or actions, and finally a swelling under the throat will be seen; it should be watched attentively. At length the tumor softens, and it becomes prominent at one particular spot. It should now be opened, and perhaps a pint or more of pus escapes, and the colt soon recovers. Do not flatter yourself that all cases of this disease will terminate in this way; this is a mild form.

The colt should never be purged or bled, as this will only weaken, and give greater hold on the

horse by leaving him weak. He should be well fed, in order to give strength. As soon as the disease shows itself, the colt should be fed with gruel or boiled oats. After the neck has begun to swell, it will be difficult for the colt to eat anything like hay or grain; give him food of any kind, for he should have all the nourishment possible. Give him green food of any description, cut grass and gruel; such feed will keep the bowels open. No grooming should be resorted to, as that would annoy the feverish body. Suppose we have an aggravated case; the swelling is large, and the colt breathes with difficulty. Our object should be to draw it to a head; but do not resort to poultices, as they soon become cold, and do more harm than good. We want suppuration, and the best way to accomplish it. We prefer stimulating with the following mixture: Spirits of turpentine, two ounces; laudanum, two ounces; spirits of camphor, two ounces. This may be applied with a brush for three times a day, until you produce soreness. Now take thick flannel, three or four thicknesses, in order to keep it warm; bandage it well, and as soon as you can find a soft place, lance it; it should not be permitted to break on the inside, if it can be prevented. It is liable to make the horse thick winded or a whistler, and in all cases everything should be done to encourage him to eat. Green grass and mashes are all that will be necessary to keep the bowels open. Sassafras tea is very good where the roots can be had; boil until the strength is extracted; when cool, give it to drink twice a day. Flax seed tea is excellent for the colt, soothing to the throat, and loosening to the

bowels. He should be kept warm and dry, with plenty of soft, nutritious food. With the above treatment, he will soon be restored to health.

One Great Cause of Disease.

No man, possessing a fine horse, is willing he should perish, either through his or the neglect of his groom; his interest is in the prolongation of his life, — and it is clearly his duty to inform himself in reference to the causes of disease, and the general management of the animal. It is only through the ignorance of man that horses have diseases at all. In eight years, myself and company caught and trained five thousand eight hundred head of horses. Not one of that number had a single blemish, and some of them were fifteen years old. Now, if the horse is naturally liable to disease, why not the wild horse, as well as those already domesticated? It is plainly the want of a proper knowledge how to manage the horse, in order to keep him free from disease, that occasions the difference. In the first place, never breed from a diseased mare, and never allow a sound one to be served by a diseased horse; these are the first two causes of disease. Then, in the rearing, never allow the colt to shrink during the first year; keep in full growing condition; in fact until he has done growing, and then you have a perfect horse. He may be trained at two years old; but his labor should be light; not sufficient to strain him in the least, but merely to keep his muscles well developed, until the bone has had its full growth, when the horse may be

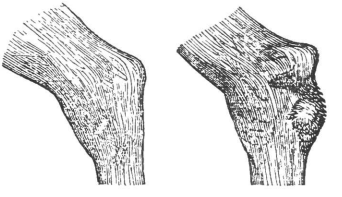
put to full labor. The only way to avoid disease is to feed horses only with what they will digest. It depends upon what kind of labor, whether fast or slow; with what kind of food, and how you should give it. If the work is on the farm, always feed half what you feed, in twenty-four hours, at night, viz.: six quarts, with eight pounds of hay; in the morning, three quarts, with four pounds of hay, and at noon the same. If the horse eats in a hoggish manner, put the feed-box on the floor, and put a little bran with the grain, and spread it on the bottom. He will then eat slow and masticate better. It will then digest and make flesh, blood and muscle. This is what gives strength to do their labor. A horse that will not keep fat, and labor constantly, on this amount of food, I would rather that some other person would own than myself. The treatment of a roadster will be a little different. A horse, constantly on the road, if he be a large one, will require sixteen quarts of oats per day—ten at night, with ten pounds of hay; three quarts in the morning, with two or three pounds of hay. The harness should not be put on in less than two and a half hours after he has finished his eating. He will then be in a fit condition for driving. One gallon of water before feeding will be a geat plenty in the morning or at noon, and two at night. The first hour after starting on the road, drive about a five mile gait; after this from seven to ten may be driven, as the condition of the roads will permit. With this kind of treatment, the food will all digest; he has received the whole strength of such food. Suppose we feed him with six quarts in the morning, and that he

is hitched to the vehicle, with his mouth filled with food; he is driven, say six or seven miles per hour; the food will ferment in the stomach, and pass without digestion; it has not given strength, nor has it made blood, flesh, or muscle. No, but it has passed without doing any good, and at the same time has been liable to generate gases, that might cause flatulent colic. Again, those persons who are so anxious to feed so much, are also liable to give water on the road. Well, ought not the horse to have water on the road? I think not. Does the water make flesh, blood or muscle? Neither; then, why give it? for it fills the coecum or water reservoir, presses against the diaphragm, and prevents distension of the lungs, and in this manner may cause the horse to become broken winded. Too great distension would rupture the air cells of the lungs, which is broken wind. Avoid it, then, by never working the horse full of food or water. It should be the object of every one to keep his horse free from disease. When the horse comes up to the door reeking with perspiration, don't leave him in the wind without covering him up, and turning his head from the wind, even if he stands only ten minutes. Many a horse has taken inflammation of the lungs in half of that time. The pores of the skin being open, the least dash of cold wind closes them, when he is all of a tremor. He is also liable to become stiff by standing in a current of air. It will require but a few moments to give a disease that would require weeks to cure.

Never give any medicine to the horse when he is well; not one particle of anything except

clean food and water. When the horse has disease, then is the time to treat him, and not before. When the horse comes in, after a hard drive, if it is warm, wash the legs with warm, soft water, and dry them as soon as possible. In cold weather give the legs a light rubbing, to get up a full circulation as soon as possible in the extremities. If the circulation is good in the legs, it will be all over the system.

Curb.



This disease makes its appearance on the back part of the leg, just below the point of the hock, and is brought on more by carelessness, than by any other manner. Starting and stopping very suddenly are great causes of the disease. A narrow hock is the most liable to be curbed. It is not an attachment to the bone, but a disorganization of the perforan tendon; and still we are inclined to think that the sheath of the tendon is more diseased than the tendon itself. The tendon will give way to treatment much sooner, than the membrane around the tendon. But by careful examination we find that the tendon has become strained or slightly stretched; at the same time that the membrane around the tendon becomes

diseased, the membrane would exhibit disease before the tendon would show the slightest symptom of disease. The fluids are contained in this sheath that lubricate the tendons; by strain or bruise, this lubricating substance becomes concentrated and inflamed. At this time it will be found hot, and the object should be to get rid of the inflammation. The way to do this is to take five or six thicknesses of cloth, wet them with cold water and keep them constantly wet, until the inflammation subsides; then use the blister ointment; one application may answer; if not, use the second in about ten days. During the application of the cold water the horse should be kept perfectly still, and also during the whole treatment.

How to make the Ointment for Curb. Two ounces gum euphorbium, pulverized; one ounce Spanish flies, fine; one ounce corrosive sublimate; one ounce red precipitate; two ounces white pine turpentine; two ounces of lard; melt the lard and turpentine together, and when about blood warm put the articles in and stir until cold.

It is now ready for use. Clip the hair and rub on the ointment; leave it on for twelve or twenty-four hours, and then take fresh lard and rub until the ointment is all off the surface. Now saturate a sponge with strong liquor of oak bark; keep it wet with the same several times a day, four or five days. In a few days after the enlargement is all gone, the horse may be put to light work, although it would be better to let him have more rest. If the enlargement is not gone, treat the same as before with the ointment. It is very

seldom that it is necessary to use the ointment on a curb the second time. Remember that the ointment must all be taken off from the surface, after having been on one day. Use the fresh lard until it is all off from the skin; then use the oak liquor until it is healed up. In a few days it will do to exercise him lightly; it is now well.

Mange.

This is a troublesome disease, not very common in this country, and seldom attacks the horse when in good condition; but it will readily be known when it does make its appearance, by its terrible itching. The animal will be found rubbing against the fence or post; anywhere that he can find anything to rub against. Mange is caused by an insect that gets in the skin, but to the naked eye nothing will be seen but a scurf. Sometimes by scratching up this scurf and putting it on a sheet of white paper and holding it to the window, where the sun shines in very bright, the little insect can be seen.

Liniment for Mange. Animal glycerin, four ounces; creosote, half an ounce; oil of turpentine, one ounce; oil of juniper, half an ounce. Mix all together, shake well, and it is ready for use. It is difficult to tell how much to make of this; the size varies so much. Anoint the horse well with this, and let it remain on for three or four days; then wash with soft soap, and let the horse stand in the sun until he is dry, and then brush him out clean. The disease will be killed,

but in a few days, if there is any signs of the disease, give him another rubbing with the liniment; wash clean, as before, and dry in the sun.

Ringworm.

This disease if neglected becomes very troublesome. When first seen, the hair falls off in little patches, leaving the skin scurfy, like scales of bran; if neglected, the parts thicken up, and if left any length of time, the edges will ulcerate, and be more difficult to eradicate. The first thing to be done is to wash clean with soap and soft water, and when perfectly dry use the ointment by spreading it thickly on the spot diseased.

To make the Ointment. Glycerin, one ounce; spermaceti, one ounce; iodid of lead, two drachms. Rub the first two articles well together, and when thoroughly mixed, add the lead; rub well together and anoint the parts affected. A drink may be used for ringworm, to give a more healthy action to the skin. This is one of the best things that can be given when the horse is out of condition.

Liquor arsenicalis, one ounce; tincture of the muriate of iron, one ounce and a half; water, one quart. Mix, and give every night, half a pint at a dose. This drink should be continued until the disease has entirely disappeared. This is considered one of the best preparations ever used to restore the healthy secretions of the skin. At any time, when the animal appears to be out of condition, this will restore to health, and give

a lively appearance to the hair; a glossy bright look, especially when proper attention is paid to his other wants.

Surfeit.

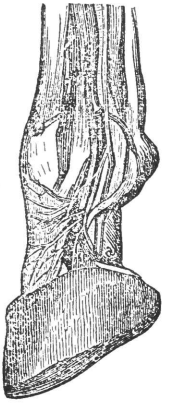
This appears to be a disease of the skin; it becomes rough and scurfy; blotches are raised on the outside of the body. It may be caused even whilst on the road, when the horse being warm, and the pores of the skin all open, by a sudden dash of cold rain, the pores are closed and drive back the secretions, in many cases causing fever or lung diseases. In case of surfeit, the following drink is the best that can be used: Liquor arsenicalis, one ounce; tincture of the muriate of iron, one ounce and a half; water, one quart. Mix, and give one pint a day for a dose. The horse should have bran mash once a day, and green grass, but do not turn him into the pasture. His legs should be bathed in hot water, and bandaged. Keep up the circulation in the legs, and as soon as he will bear it, give him strong food, the object being to get strength. The skin will, in a short time, become smooth and healthy.

Warts.

There are two kinds of warts; one appears to be in something like a sac, with rather a smooth surface; the other is of a scraggy kind, and is inclined to spread. The best and quickest way

to get rid of them is to take a sharp knife, and put the point in at the lower edge, and cut upward; the sac wart readily comes out, but should be cut out and dressed with chloride of zinc, one grain to one ounce of water. But if you wish to take them out by the use of caustic, use a paste made of sulphuric acid and powdered sulphur applied by flat stick. This will kill the wart. The next best remedy is butyr of antimony applied on the wart; or the nitrate of silver. All of these are considered good; they should be taken off immediately when first seen.

Neurotomy, or Separating the Nerve.



We may say that there are two sets of nerves; one of action, and communicating directly with the muscles, and the nerve of feeling. The nerve of action does not extend below the knee, but the

sensitive nerve continues to the foot and spreads over the whole foot. In separating the nerve of feeling, we have nothing whatever to do with the action of the animal, the object being to relieve the foot from pain; so in cutting the nerve below the knee, we do not touch a single fibre connected with motion, but we take away the sensibility of feeling in the foot, and relieve the horse from pain or torture. We have said all that is necessary in reference to the action of the nerves, and will now proceed to decide the best mode of operation. Cast the horse and fasten his feet securely, except the one to be operated on. The best point to operate is above the pastern, the upper one. Shave the hair close to the skin, and make an incision, about two inches long; the nerve will be readily distinguished from the vein or artery from its white, glistening appearance, and its firmness. With a crooked needle, run under the nerve and lift it up with a heavy silk thread. To be sure that it is the nerve, prick it with the needle, when, if he gives a sudden start, we are all right. Cut next to the body, and now all feeling in the foot is gone; cut off three quarters of an inch. Turn the horse over, and cut the same on the other side of both legs in the same manner; draw the wound together, and fasten with a plaster, and bandage. Keep the horse still for at least ten days; he will then be ready for use. The nerve will be seen at *a* in the cut, representing the nerves, veins and artery.

All sense of feeling is now gone from the foot, and it does not hurt him to travel on the road for the time being; but fast driving will be apt to bruise the foot, or injure the coffin bone, or the

navicular bone. He will last for years, however, for farm use.

The above operation will answer for all chronic diseases of the foot, founder, or contraction, or of ringbone, &c., &c., in all cases of foot disease where the hoof is strong and firm; but where the bottom of the foot is convex, it would not do to cut the nerve.

The Camanche Bitting Bridle.

This mode of bitting colts I cannot recommend, except in the hands of men of good judgment. It was so much abused, that I discarded it after my second publication in 1845. Those having my work, published in 1844, have it. I mention this only because others have claimed the introduction of this mode of treatment, and I will not recommend its use now with colts. In cases where the horse has been very vicious and stubborn, it will answer very well. The bridle consists of a small cord, with a six or eight inch loop at one end, and a two foot loop at the other. Slip this loop around the lower jaw, under the tongue; pass the other end over the neck from the right side; then pass the end through the loop on the jaw. It will be seen now that we have a great purchase on the lower jaw, and one to which he will suddenly yield. Step back near the hip, and say "Come here," at the same instant pulling him toward you; in a very few minutes, he will come at the call, and very promptly at that. The warping of the horse, first one way and then the other, will soon give you perfect con-

trol over him. As soon as he obeys you, caress him and feed him from the hand with a small piece of an apple, or anything to encourage him. This bridle should be used with great care.

The Camanche Indians use this as a riding bridle. The cord used by them is a sinew of the buffalo or deer, or raw-hide; some use braided hair. It is the only bridle used by them, as I have the best reasons for knowing, for I was taken a prisoner by them in 1839, and remained with them nearly eight months.

The Articles used in Training.

These articles are used in the nostrils as scents. The first thing to be done, on approaching the horse or colt, after driving him into the stable, is to close the door after you carefully, and with as little noise as possible, commence approaching him, talking to him in a low tone of voice, "whoa, Billy," or by any name you may wish to call him. Keep repeating his name very often, but in a very kind manner. Never make any quick motion toward him, for that will frighten him, and you will lose all that had been previously gained. When you can touch him, chafe him with the hand on the nose, head and neck, using the same kind tone of voice. He will soon become accustomed to the human voice. As soon as you can handle his head, use a scent in the nostrils. Take the oil of anise and the oil of rhodium, or the oil of cummin. Any two of these oils will answer. Use one or two drops of the oils in each nostril, put in with the finger. The object of this is to

attract the attention from other things, to concentrate the mind. He is now thinking of these, not of other things, that he might dislike. He cannot now smell anything, except what he has in his nostrils, and of course is not thinking of anything else. We now have control of his mind, and the object is to keep it. We will put the halter on, in the most expeditious manner, which can be done with a pole eight or ten feet long. Make the nose loop very large, and drive a nail about a foot from the end of the pole, and cut a notch in the end of the pole; put the head-piece in this notch, the other side of it over the nail; then hold it in front of his nose, let him smell of it; he will like the smell, for he cannot smell anything except the oils that are now in the nostril, and he thinks that everything smells the same. As the nose passes into the loop, turn the head-piece over the ears, and pull quick and carefully; the halter is now on. As we wish to teach him to lead, step back near the hips, with the halter in hand, and as we wish him to come to us, we say "come," and instantly pull very quick on the halter. This will pull him half around. Now pat him on the neck, and caress him; at the same time, bear it in mind that when you say "come here," he must come, for every time you tell him to come, pull him sideways to you, and pat him every time. That is carrying the act with the word; otherwise he will not know what the words "come here" mean. As you have compelled him to come to you when you say "come," he does not know that he can do anything else. You have proved to him that you are the superior, and can make him do what-

ever you may wish. Now step in front, and pull a very little on the halter, and say "come here," and he will come, for he does not know that he can do otherwise. Never let the horse get the advantage of you, and never exhaust or tire the colt; for if you do, it may create a dislike for you, and that should be avoided. Always encourage him in every way possible, for this is the only true way of subduing him. The control obtained in this manner is lasting, for we have the love of the animal, and everything should be on the same principle.

Now suppose the horse to dislike the smell of the buffalo robe; we have seen those that were afraid of the robe, even when they could not see it; this is from smell alone. The horse likes these oils, and after applying them in the nostril, he can smell nothing else, and now is the time to give him confidence in the robe. Take it to him, rub him with it, spread it on him, pet and caress him. All this has a tendency to give him confidence. We also use the castor or button from the horse's leg; this is the scent of the horse and smells like him. We pulverize this, and put it on pieces of an apple, and feed it to the horse, every time after showing him what we wish him to do. This answers to encourage him, and proves to him that we are his friend and protector, and he will always look to us for protection; but if we use means to exhaust and tire him, he will protect himself and will dislike man. Man, without doubt, was designed to control and protect the animal kingdom, but not by abuse. We have experimented with the horse in all modes, and have given what we consider the best both

for ourselves and the horse, and we can positively assert that we never have failed in subduing every subject we ever have handled. The horse is naturally of a very kind disposition, one of the most sensitive, and, at the same time, one of the most sensible animals in the world. Whatever you wish to do with the horse, always encourage him by giving him something from the hand, until he is perfectly gentle; then always use kind words.

Spasm of the Urethra.

This affection is generally called spasm of the neck of the bladder, but it is not the case. It is the urethra muscles that have become excited or contracted, so that the urine is almost entirely prevented from escaping. What little does escape is in drops only. The horse will straddle, and will not want to move. The distension of the bladder is very painful, so much so that it is sometimes taken for spasmodic colic, but it is easily distinguished from it. The countenance is

haggard; the perspiration copious; he will look at the flank, the straddling gait, and will strain to urinate; but to be positive of the disease, grease the hand and arm and insert it up the rectum, and when advanced near its length, press downward very carefully with the hand; the distended bladder will be discovered. Now we are positive of the disease. The best remedies are sulphuric ether and laudanum, four ounces each in a quart of cold water; must be given as a drench. Remember an ox-horn is the best to give liquids in; the same amount with three pints of cold water as an injection should be used.

If the horse is taken where the medicines cannot be had, he should be bled. Open the vein on both sides of the neck; let the blood flow freely until the water flows freely, or until he nearly falls. This should never be resorted to, if medicines can be had. The blood depletes; he should now have a week or ten days' rest, to recover strength.

—

Yellow Wash.

This may be used for all old sores on the horse or man, and is one of the best washes used; from twenty to thirty grains of corrosive sublimate to one ounce of rain water. Apply by wetting the parts affected, three or four times a day; it will cleanse and give a healthy action to the part diseased.

For Strains, Bruises, or any Inflamed Parts. Take tincture of arnica, two ounces to one quart

of water; keep the parts wet until the inflammation abates; then use twice a day until the horse is well.

A Wash for Old Ulcerated Sores. Permanganate of potash, or phosphoric acid, one pint; water, six quarts. This must be applied with cloths, wet with this lotion, and applied as often as they become hot; when the inflammation has subsided, stop the use of this to twice a day.

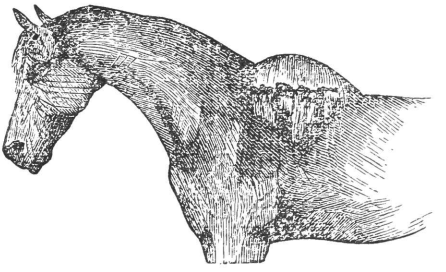
One more lotion for the same diseases: Take chloride of zinc one ounce, creosote four ounces, strong solution of oak bark one gallon. Used the same as the above and for the same diseases. Either of these lotions will be found useful in all old ulcerated sores.

Chloride of Lime.

This should be used wherever horses with distemper or glanders have been stabled. Wash the feed trough or manger and rack with a solution, half and half of chloride of lime and water; wash the sides of the stalls, and whatever the horse has touched with his nose.

It is also excellent to use in all cases of fistulous withers or cracked heels, or grease heels. It may be used as a wash for old sores; it should be used with twenty times its quantity of water to one of chloride of lime. It may be put in all poultices that are applied to old sores; it is one of the very best of disinfectants.

Fistulous Withers.



Fistula is caused by a bruise, either by the ladies' saddle or a large collar setting too far back on the side of the shoulder. It may also be caused by rolling on a stone or any hard substance, and thus causing a bruise. The first thing discovered, in this disease, is an enlargement of the shoulder; the parts injured become swollen. It may now be treated with success by the following operation: Take a sharp knife and split the tumor in the centre; then dress the wound with lunar caustic; put in a small piece and cover the wound with tarred cloth. Two or three days after this dress the part with chloride of zinc, one grain to the ounce of water. In a very few days the wound will be healed, and the horse will be fit for light work, with a breast collar. A bad case of fistula will have to be treated a little differently. The swelling will be much larger and very much inflamed; it is very painful, and is broken, or about to break, in two or three places. The points that have broken out are so many mouths for the issue of pus of a very offensive description. The proper way, and much the

quickest, of treating this, is with the knife. Cut across the enlargement; then cut from each hole or pipe; then turn back the lips and cut away all the diseased parts, and clean it all out; dress the parts with chloride of zinc, one grain to the ounce of water; cover the parts with a tarred cloth; dress three times a day until it heals.

In the third stage of fistula, the disease works down to the bone; the bone is diseased, and it will be necessary to scrape it. The bones in the back will, in some cases, have to be cut—those that stick up; the ends become diseased and must be cut and scraped smooth; then dressed as before mentioned, with chloride of zinc, one grain, to one ounce of water. There need be no such case as this if it is treated in time. It should be attended to the instant it makes its appearance in the same manner first spoken of.

Ventilation of Stables.

More diseases have been generated by the want of proper ventilation in stables than by almost all other causes. Drovers will remember that in nearly every case in collecting a large number of horses, after starting on the road, that their horses have been taken sick, and especially after the third night. Distemper is the disease most prevalent, and is caused by huddling too many together in ill-ventilated stables; the upper stories of these stables are stored with hay, preventing all escape of the obnoxious gases, except that absorbed by the hay above, making that obnoxious

and unfit for fodder. These stables are closed up at night, and locked. We find on entering them in the morning, a warm, feverish smell, almost sickening; this is very unhealthy. There can be no health without pure air. It is not necessary now to attempt to discuss the constituent parts of atmospheric air, presuming them to be generally known. Its consumption, however, by a horse is less known. The lungs of a middle-sized horse draw, at one inhalation, about one hundred and twenty cubic inches. In an ordinary process of breathing, he will consume seventy-two thousand cubic inches per hour, and one thousand seven hundred and twenty-eight cubic feet per day.

The principal object of the consumption of this air is, by means of its oxygen, to bring the carbon of the blood into combustion, thus maintaining the necessary heat. The animal receives this carbon through its food. It may be assumed, then, that a horse acquires nine pounds of carbon per day, which is brought into combustion by respiration. This operation requires about two hundred and eighty-eight cubic feet of oxygen forming but the fifth part of the atmospheric air, so that one thousand four hundred and forty cubic feet of atmospheric air are requisite for the process of combustion going on in the body. The product of this is carbonic acid, and is well known to be a poison, and, if inhaled, would produce instant death, and even when mixed with the air, at the rate of six or eight per cent., would be altogether unfit for respiration by animals.

To put a horse, in the space of fifteen feet long, ten high, and twelve wide, and to seal it tight, would be to kill him, in from three to five hours.

There have been many ways devised to ventilate stables; an opening directly in front of the horse is almost useless, especially unless there is an opening opposite, and this would cause a draft of cool air over the horse, which would be injurious, especially if the horse was warm. Then, again, holes are made in the floor, and corresponding ones in the ceiling. This would also make a draft over the animal, and a draft of cold air under the horse is liable to produce colic. In putting the horse into the stable, when warm, we should avoid all drafts of cold air. By a sudden chill, the pores of the skin become closed, and when in this condition, fever may set in, and end in death.

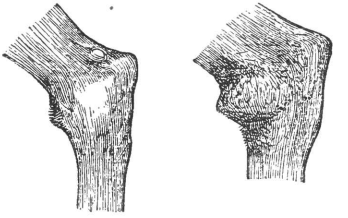
Clean stables are essential to good health. Colts are frequently put in shed stables, and left during the winter; some claiming that the manure, so left, will keep the stable warmer. The products of this decomposition, carbonate of ammonia and sulphuretted hydrogen, will particularly show their effects. These gases, far from sustaining the process of respiration, will, by their caustic properties, affect the animal, irritating the pituitary membranes of the nose and eyes. The equalization for the circulation and purification of the air should be ranked among the indispensables of the stable. We frequently see the eyes water and the nose drip from the effects of these gases. Colts become blind, and other diseases are caused, by the same neglect of ventilation.

Trotting Horses Pulling on the Bit.

We claim that the horse should not pull over five or ten pounds. At least he should not pull any more than would draw the wagon, or sulky, and driver; for every pound after that would draw the breeching against the propelling muscles, and, of course, must check the stride. The stronger he pulls, the more muscle it requires to propel him. The cause of *hogging* on the bit is by bad bitting. The horse has been bitted too tight, causing him to *hog*. Such a bit should be selected as will not hurt the mouth.

Again, some excellent horsemen, those who have had experience in driving trotting horses, say that it helps the horse to pull—that when the breeching is drawn tightly against the muscles, it throws the feet under him, and he propels better, or faster. It may be so, in some cases; but it will not answer for a general rule; it will be the exception—a case where the horse cannot get his legs under him without some assistance; so you can all act accordingly.

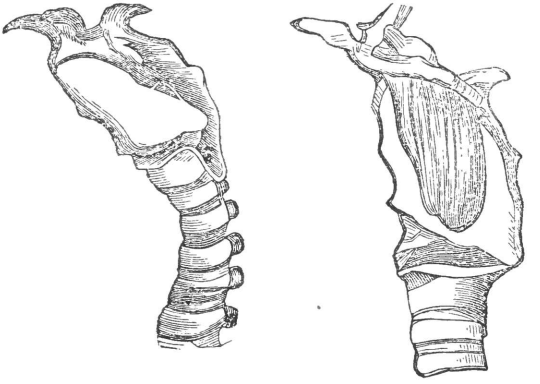
Thorough-Pin.



This disease is so called because, in some cases, it pierces through the thinnest part of the hind

leg. It appears on both sides of the hock; it is a strain of the synovial sac of the joint and a filling in of synovial fluid, causing distension. It seldom makes the horse lame, and should be treated much like windgalls—by a pad on the distended parts, and by bandages on the parts affected. After lessening the enlargement by bandages, use a blister, and treat the blister the same as the sprain blister precisely, using it only once in ten or twenty days. Be guided by the treatment of windgalls.

Roarer, or Whistler.



High checking, or bitting, is the cause of a roarer, or whistler. The larynx is a sensitive and delicately constructed organ, and is formed upon different pieces of cartilage. This substance is lowly organized, and very yielding. The structures of the youthful horse's frame are not con-

firmed. All are soft, especially a substance naturally semi-elastic. The baring rein forces the head upon the neck; the larynx is compressed and curved in the young horse by the rein; as he matures, the structures harden, and the distortion of the larynx is fixed, as the cuts will show. The curved one is injured by high bitting when young, and in this way he becomes thick-winded, or a roarer or whistler. We will not say more on the subject, as it will speak for itself. Reason will tell you to avoid high checking.

Foot-Rot in Sheep.

This is a disease easily treated, if attended to in season. As soon as it is discovered that there is a lame sheep in the flock, it should be caught at once, and examined. If it is the rot, there will be a soft, tender spot around the outer edge of the sole of the foot, where the sole and shell of the hoof join. Take a sharp knife and cut away the horn around the edge, as far as the diseased parts. Sometimes the foot will be found full of worms or grubs; in either case there is a sure remedy.

Cure. The farmer should always keep on hand two or three ounces of butyr of antimony; it should be kept in a small bottle with a glass stopper. Put a few drops of the antimony on the diseased part of the hoof; wet it well, and then put the sheep in a dry place. The next day, put on more; this will kill the worms, cauterize the diseased parts, and cause a healthy action. This is one of the best of cures.

ONE MORE. Take three grains of chloride of zinc and one ounce of rain water. Use the same as the first. Wet the parts well, and if it is a very bad case, it will be well to poultice the foot. Linseed meal is the best; if that is not handy, use bran, mixed with weak lye. Let it be on one day, and then apply either of the above medicines. This will never fail. If properly attended to there is no need of losing a sheep with foot-rot; but it must be cared for as soon as possible.

To Prohibit the Horse from Kicking in Harness.

We shall endeavor to put the horse in such position, that it will be impossible for him to injure us or himself, or anything that he may be hitched to. Use a strong rope for this purpose by tying it around his neck where the collar would work; tie so that it will not slip. Now slip a strong ring on the rope, and let it come back under the belly-band or circingle; now double the rope back and tie the end to a loop around the neck; that will leave the ring about six inches back of the belly-band. Now use two straps with rings in them around each hind leg, above the upper pastern joint; then take a strong rope and tie in one ring; now run the other end of the rope through the ring under the belly-band, and fasten the other end to the ring on the other leg, making it sufficiently tight that he can't kick back; or you can tie the rope around each hind

leg. Now you see he can't kick either in single or double harness, at the same time he has full play with his legs, to step; as one leg goes forward the rope plays freely through the ring under the belly. Use him in every way possible to show him that he can't kick; work him this way until he gives up all idea of kicking. You are in no danger whatever in driving any horse in this manner. Use kindness to the horse, and don't try to make him kick when the ropes are off, the object being to make him forget his bad habits through a different treatment from that which he has formerly had, and at the same time making yourself perfectly safe and the horse also.

The rope in kicking may be fastened to the collar, or you can use a common rope head-halter; either is effectual; after working him until you consider him safe, we would still use caution, and put on the light kicking cord; take a small quarter inch cord, about eighteen feet long, double in the middle; put the center of this cord on the top of the head, and run each end down through the rings of the bit; then up through the gag terrets, and back through the rein terrets, back to a ring fastened to the back strap; run both ends of the cord through this ring, then down with the hip straps, and fasten the end of the rope to the shafts opposite of the stifle on each side. Now you see if he attempts to kick, it will throw his head up, and his hind parts will go down, it being impossible for both ends to be up at the same time. This will be effectual with the most of horses in single harness, without the ropes on the legs.

A New Bit in Place of the Camanche Bridle.

Use a snaffle bit with two loose rings on the bit; use the bit with a common head of bridle; use a strap buckled in one of the loose rings on the right side, over the nose, and pass it through the loose ring on the left side; then use a cord fastened in the right ring of the bit over the neck, and passing through the ring on the left side of the bit. Use it the same as the Camanche bitting bridle; it answers a better purpose.

A New Kicking Rein.

Use a snaffle bit with two loose rings on; then have two small straps buckle into these loose rings on each side of the nose; let them pass over the head; the right strap passes through a loop sewed on to the head piece of the bridle, near the left ear; the left strap crosses the other opposite to the eye, and passes through a loop sewed on to the head piece of the bridle, near the right ear; the two straps will have a ring or gag terret sewed on each end; now run the reins through these terrets, buckled into the rings of the bridle; now pass the reins through the terrets and use them to drive with, or you can pass them through a ring at the hip where the hip straps pass over; then fasten each end of the reins to the shaft opposite to the stiffle, and use another set of reins to drive with. This makes a very safe rein; the horse can't run nor kick with them on.

To Prevent Horses from Breaking up in Trotting.

Put on a leather or web halter, with a strap long enough to pass under the bellyband; now

slip on a strong iron ring, and double the strap back to the head and fasten; leave the loop with the ring about six inches back of the belly-band of the harness; then two straps, about two inches wide, with a strong ring sewed on the strap, just long enough to buckle around the legs, above the upper pasterns of the hind legs; then take a smooth strong cord, or a leather, made round; pass it through the ring under the belly-band, and fasten the ends to the ring of the straps on the legs; do this as the horse stands, leaving the cord without any slack. A small pully where the ring under the belly-band is would be better; this would play easier and with less friction. It will be seen that as one foot is passed forward, the slack of the cord is taken up, so that there is no chance of getting tangled, and nothing to prevent the horse from trotting with perfect freedom; but in case he breaks into a gallop, the distance from the head to the hind feet is taken up, and the head will be drawn down, and it is with great difficulty that he can navigate at all, but as he drops back to his trot, he gains his freedom again; so you see it will be impossible for him to break out of his trot. If the horse has been allowed to gallop at pleasure, the muscles are also developed for the gallop; but if he is not allowed to go any other gait but a trot, then the muscles will be suppled and developed only for this gait, and he is enabled to trot with greater ease than he can go any other gait. This is the true principle of training trotting horses and should strictly be adhered to if you want speed.

The Safety Shafts for Horses that Frighten.

Take three poles, fifteen feet long and three inches thick; bring the ends of two of them together so that they almost touch the shoulder on each side. Now bend a strap of iron in front like a breast collar; now pass a strap over the neck to keep them up; then a strong belly-band; then a ring or staple for the britching straps to fasten to; then fasten the other pole to the back ends of the shafts permanently; then rivet on an iron to the back end of the two shafts. This will prevent any horse from running back, and at the same time from turning around. Now hitch in the horse, and drive to the engine; his first object will be to run back; as he does this, the back end of the shafts run into the ground, and stop him; his next motion will be to whirl around and run, but here he is foiled again. Now perhaps the next object will be to run forward. Well we will be prepared for this, with the foot strap, and as he makes the attempt to run we will take up the foot; so you see we have defeated him in all of his designs; he is frequently so badly frightened that the sweat will drop from him, and he will tremble all over. We will now caress him, talk to him, and use every means in our power to calm him. By proceeding in this manner, we can break any horse to be safe around the cars. The horse requires man's encouragement; show him that we are his only friend, and it will repay us for all our trouble.

Pulling at the Bridle or Halter.

Take a strong rope, long enough to double; then put it on the tail the same as a crupper.

Now cross it over the back and pass each end of the rope through the rings of the bit; then fasten to a post or any other firm substance. Now come up in front of the horse with any object that will cause him to go back; as he settles back on the rope, the strain comes on the tail, and he will rush forward to get away from the hurt. Now you see it is the same when he pulls on the head halter—it hurts the head, and he will pull the harder to get away from the hurt. I have never known the horse to pull over three times with this way of fastening; it is a positive cure for pulling.

To Keep Colts or Mules from Jumping.

Make a head-piece out of a rope with a brow-band and nose-piece; now take an old boot leg and cut it about ten inches wide, or a little wider than the horse's head is at the eyes; then fasten this leather to the brow-band; then split it up from the bottom even with the lower part of the eyes in the center of the leather. Now turn each side around and fasten to the cheek-piece of the head-stall or halter; this will prevent him from seeing over anything, and the horse or mule never jumps over what he can't see over, for he can see no room to get over. This is effectual with horses, mules or cattle, so far as I have known it to be tested.

To Teach the Horse to say Yes and No.

Take a pin and stand at the shoulder; take the pin in the right thumb and finger, and prick

him slightly on the neck in the mane, and ask him at the same time if he wants to be whipped; he will shake his head; this is caused by the prick on the neck. So you can ask the question so that the shaking of the head is the answer. Now you wish him to say "Yes," prick him on the breast. This will cause him to bow his head, and answers for yes, and by repeating this many times, he will learn what the question is, and will answer. Always ask the question so that the bow or shake of the head will answer the question asked.

Putting the Tongue out of the Mouth.

Take a piece of sheet iron, about two inches wide and four or five inches long; punch two small holes about half an inch apart, near each edge at the center of the plate; now fasten this on top of the bit; the bit should be well up in the mouth. This will prevent the putting of the tongue over the bit, and they seldom put the tongue out of the mouth when it is under the bit. If the tongue is run out under the bit, fasten a wire on the bit, about three inches long; bend it down, so that the tongue will pass through between the bit and wire. This will keep the tongue from being thrust out of the mouth.

To Break the Balky Horse in Double Harness.

First put on the cord, small loop, around the under jaw; pass it over the neck, from the right side, down through the loop under the jaw. Now

pull him very suddenly from right to left, giving him to understand that you can take him where you please. Now put on the harness, and hitch in with the other horse; then take a small pole, about two inches thick, bore a small hole through one end; now pass the cord through this hole, and fasten it; the pole runs back to the single-trees; if the off horse is balky, fasten the pole to the right end of the near horse's single-tree. Now get in the wagon, and speak to the horses to go. The balky horse refuses, the gentle one starts; this draws the cord on the jaw of the balky horse, and causes him to start; let them go a few rods, then stop; let them stand a moment, and start again. You see the horse is compelled to go or be severely punished, and he will not stand the pressure but a few stops and starts; the balky horse will start first. There should be no load on the wagon at first; work them gradually and very lightly at first, and in a few days he will be a true horse. If you use him single, it must be done with the cord; work him up well with the cord with the harness on sideways, and in front, before hitching in the shafts; every time you pull him to the right or left, use the word that you generally use in starting your horses. Now when you get in and cluck or say go along, he thinks he is compelled to go; and if he refuses to start, get out, and surge him one way, and then the other, and then ahead. I will assure you he will start every time you ask him. In a very short time, when he is willing to go, don't whip him any but get out once in awhile, and pat him on the neck and talk to him in a kind manner; this is inclined to give confidence, and assures him that you are

his real friend. There is no horse but what can be made kind and gentle, by this process; use the whip as little as possible, it should only be used to correct the horse.

Kicking in the Stall.

Many horses are liable to kick as you enter the stall, or crowd one up against the stall in entering. To prevent this, put on the cord a small loop, around the under jaw; pass it over the neck and down through the loop on the jaw; pass out of the stall and fasten the cord to the side of the stall, so that as you wish to enter, take the cord in the hand and speak firmly to the horse to stand around; and if he shows the least inclination to kick or crowd, give a sudden jerk or two on the cord. This will disconcert him and cause him to stand around. Always speak firmly; but as you enter the stall, speak kindly and pet and caress him; he will soon learn that you are not afraid of him, and that if he don't obey he is punished. This will break any horse from striking, crowding, kicking and biting when you enter the stall.

To Break Cows to Milk.

Take a cord and put in the mouth, the same as the horse, and around the neck; now pass back and take hold of the teats; if she attempts to kick, give a sharp and quick pull on the cord a few times; then try to milk again; every time she offers to kick pull on the cord. This has

proved effectual with the worst of kickers. I have known several dairymen to try this with good effect.

A strap on one foot will also prevent them from kicking. I put the strap on and draw the foot up, and run the strap under the other leg and take a half hitch; this prevents them from putting the other foot down; it is now very easy to milk them; they cannot kick. This, by repeating a few times, will break the worst of kickers; be very gentle with them; do not whip or abuse them in any way; they soon become very gentle, and will allow you to handle them in every manner possible. Give them a little corn to eat from the hand.