THE HORSE

AND HIS DISEASES.

A VALUABLE COLLECTION OF RECEIPTS AND MUCH OTHER VALUABLE INFORMATION.

BY

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PREFACE.

The horse is the noblest of all domesticated animals. He seems to have been expressly made for the service of man, and his beauty, knowledge, strength, and intrepid spirit, combined with his extreme docility, naturally renders him his faithful ally in all his pursuits, both for industry and pleasure. Thirty years constant study of this noble animal induces the author to say that the book which he now presents to the public is worthy of all horsemen's attention, and should be in the possession of every one engaged in the management of the horse. This book contains sixty-four recipes for the horseman or horse owner. It gives all the knowledge necessary to the cure of all the diseases, or nearly so, that are peculiar to the horse. One recipe alone in this book is worth twenty times the price of the copy. It is the one for making my Condition Powders. Conscious of the merits of the recipes herein, I offer them to the public.

EDWARD NEDDO, Veterinary Surgeon.

The Horse and His Diseases.

Botts.

In the early springtime, as in the summer, horses are much troubled by a grub or caterpillar which crawls out of the annas and fastens itself under the horse's tail, causing the horse a great deal of itching. Men are sometimes very much alarmed by these insects. They cannot be injurious to the horse in the least, for he will enjoy the best of health when the cuticular part of the stomach is filled with them. Therefore the wise man will leave them to themselves, and content himself by picking them off when they collect under the horse's tail and annoy the animal.

Bunches and Callous.

The Bone Spavin Ointment will remove bnnches and callous without fail. Rub the part affected with the Bone Spavin Ointment and rub it in well with the naked hand. Grease below the bnnch with lard. Apply once in two days on callous. Wash it off with soap and water, and grease it well with lard. Let the lard remain on for one day, and wash it off and apply the ointment.

Button Farcy.

Cause, overheat, high feeding, and want of exercise. Symptoms, the limbs swell and break out in running sores. To cure this disease you must be very careful not to get the matter on a sore or cut, as it is poison and will kill you. In the first stage, bleed and physic. Then take of gentian, 2 oz., ginger, 2½ oz.; make in a thick paste with a little flour. Divide into 10 parts and add to each separately 5 grains of arsenic.. Make into pills. Give one in the morning and one at night. At noon give him one of my Condition Powders. Then wash the sores clean and apply the Black Salve twice a day, and oftener if necessary. If not much better in two to three weeks, bleed and repeat the pill. Apply the Orange liniment to the legs if they swell.

Curb.

These are oftener injuries of particular parts of the hock. I have had occasion to frequently describe the ring-like ligaments which in the neighborhood of the joint so usefully tie down the tendons. From sudden or over-exertion these ligaments may be extended, and inflammatton, swelling, and lameness ensue, or the sheath of tendons in the neighborhood of joints, from their extended nature in these situations, and may be susceptible to injury. Curb is an affection of this kind. It is an enlargement of the back of the hock, about three or four inches below the point of the hock. For treatment, wash the part affected with hot water and soft soap, and let it get perfectly dry. Rub it well with the naked hand. Apply the Bone Spavin ointment; rub it it in well. Let it remain on for two

days, and wash it off with hot water and soft soap. Grease the leg with lard and let it remain one day, and then wash it off clean and apply the ointment again as before; and so continue until cured. Grease the leg below the curb with lard.

Corns—How to Cure Them.

Take the shoe off, cut the corn entirely out. Fill the hole with butyr of antimony; then cork the hole. Repeat once in two or three days, as the case may require. Then shoe the horse with a smooth shoe. Use the Hoof Liquid on the foot.

Colds.

A treatment for colds: Take 1 pound of honey, make it warm, add ½ pound of New Orleans sugar, 2 ounces of glycerine; melt it all together; add shorts and stir until it becomes thick. Then make it into a pill; make the pill about the size of a hen's egg. Give the horse three pills a day until relief is given.

Capped Hock.

The point of the hock is sometimes swelled. A soft, fluctuating tumor appears on it. This is an enlargement of one of those mucous bags of which I have spoken, and which sur-

round the insertion of the tendons into the point of the hock. It is seldom accompanied by lameness, but yet it is a serious business. It is usually produced by blows, and in a majority of instances by the injury which the horse inflicts upon himself by kicking. Therefore a horse with a capped hock is properly regarded with a very suspicious eye. The whole of the hock should be most carefully examined to discover whether there are other marks of violence, and the previous history of the animal should if possible be obtained. Generally the kicking is done in harness, but sometimes have the habit of kicking in the stable. It is possible, however, that lying on too thin bed or no bed may bruise the hock, aud produce the swelling, or it may even result from sprains of the hock, but I repeat that it is far oftener the consequence of external violence. Here again it is difficult to apply a bandage, and puncturing the tumor or passing a seton through it would be a most injudicious and dangerous practice.

A cure for capped hock: Lance the swelling, cut straight up with the knife. Rub the fluid all out well. Then use this liniment — 2 oz. of alcohol, 2 oz. of turpentine, and the white of 2 eggs. Let it stand six hours. Shake well in a bottle; add 2 oz. of raw linseed oil, and 1 oz. of ammonia. Shake well before using. Apply twice or three times a day. Rub it in well with the hand.

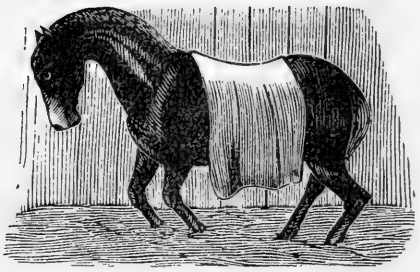
First Stage of Spasmodic Colic.

The horse will generally lie down; then raise his right fore leg as if to paw, then make a motion with both legs as if to paw, then throw himself down.

CURE FOR SPASMODIC COLIC IN THE FIRST STAGE.

Take 1 oz. laudanum, 1 oz. peppermint, 2 oz. niter, 30 drops of the oil of sassafras; drop in the niter. If not all right in two hours, repeat the dose once in two hours. Be sure the horse is not foul; if so, clean him, as this very essential.

Second Stage of Spasmodic Colic.

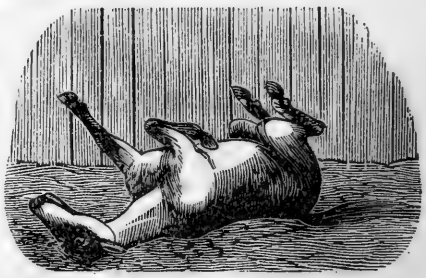


The horse will generally paw first one foot and then the other, and looks slightly around to his sides. Then he will paw violently, as if in great pain. Will lie down and get up. Then he will break out in sweat about his flanks.

CURE IN THE SECOND STAGE.

Take 1½ oz. of laudanum, 1½ oz. of peppermint, 3 oz. of nitre, and 40 drops of the oil of sassafras. Drop in with the nitre, shake in a bottle; put in one pint of water. Repeat once in two hours until relief is given. Do not work the horse for two or three days, for he is not fit for work. Exercise him moderately.

Third Stage of Spasmodic Colic.



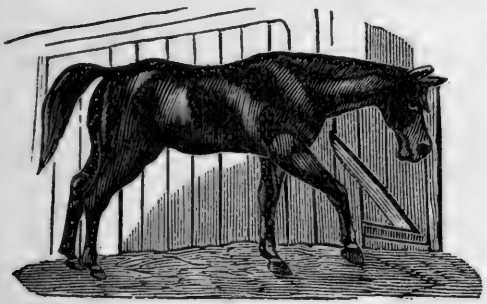
The horse will paw and kick with one foot, get up and down, but not so often as in the second stage, but will lie longer, roll over, frequently crack his heels together as he rolls over; then as he changes, he will become wet with a cold sweat, showing that death is near at

hand. He will lie on his back, head and tail straight out. This is the change to the fourth stage of colic.

Third Stage of Spasmodic Colic Cure.

Give 2 oz. of laudanum, 2 oz. of peppermint, 3 oz. of nitre, 50 drops of the oil of sassafras in the nitre; give it in one pint of water. If not showing signs of relief in three-quarters of an hour, give Chamberlain's Relief, 3 oz. in two hours after giving the first dose. Repeat the first dose again until a cure is effected. This will never fail. A sure cure if the directions are carefully followed.

Flatulent Colic.



THE FIRST STAGES OF FLATULENT COLIC.

The horse lies down and gets up often. He looks at his flanks. His ears and legs are very cold. The cause of this disease is, cold water or change of food, or it is caused by giving the horse a long, hard drive, then bringing him to the stable and giving him cold water to drink when he is very warm. This will generally produce what is called flatulent colic, or cramp in the stomach.

Cure for Flatulent Colic.

Give 1 pint of rye whisky and 1½ oz. of No. 6 in 1 pint of water. If the whisky is not at hand use 1½ oz. of No. 6 in nearly a pint of warm water, or 3 oz. of Chamberlain's Relief.

Diabetes.

Too free discharge of urine. Cannot hold his water. The cause sometimes of this affliction is by the horse eating dusty or musty hay, and dosing with turpentine and saltpetre, which is very injurions, that is, if too much is given to the horse; and then by giving the horse ashes in his feed, which will relax him. This should not be done. The horse troubled with this complaint should be bled. Take one pail-full of blood from the vein in the neck. Be sure to give clean food. Then give him ½ oz. the tincture of canthardies three times a day until a cure is obtained. Feed my Condition Powders twice a day for a week. Feed him soft feed; do not let him be turned out.

Distemper.

This is a swelling under the jaw. The horse cannot swallow. Sometimes a discharge will be seen coming from the nose. Sometimes there will be found a tumor under the jaw. Open the tumor by passing through a seton; wet this seton with turpentine. Put the Black Salve on from the ears down; heat the Black Salve in with a hot iron; use the salve twice a day. In the first stage use chamber-lye, 1 pint at a dose; drench him with it twice a day, 1 pint each time. Give 2 doses the first day and 1 the next. I have cured a great many cases with just the chamber-lye. Use my Condition Powders twice a day. Also, feed the horse bran mashes twice a week.

Elbow of the Horse.

The elbow is sometimes punctured by the horse lying on his foot, raising a bunch, or through the brutality of the groom. The swelling is often rapid and extensive, and fatal inflammation may ensue. Rest and the closure of the wounds are the most important considerations. For such a swelling, use the English Liniment, and cut it from the bottom of the swelling half way up. When it has the appearance of fluid in it, keep him from work a week or 10 days. Exercise him morning and night. Rub the liniment on two or three times a day until cured.

The Cause of Fouuder.

In the acute form there is great constitutional disturbance; the breathing rapid, the pulse quick and jerking, the eyes glassy, the hind feet are thrust under the body, the fore feet are thrust under the body, and the head thrown back in order that the weight of the body may be taken off of the inflamed fore feet. All the symptons go to show that the horse is suffering extreme agony. The causes are fast driving, over hard dry roads, standing upon the feet for a long time, or extraordinary labor of any kind.

HORSE WITH FOUNDER.

Cure for Founder.

Bleed the horse one pail full of blood from the neck veins, then give him 2 quarts of lard, melted; give it lukewarm. Wait 7 hours, then repeat the dose by giving three pints. Be sure and give him a good physic. Take 8 oz. of nitre, 4 oz. of the oil of sassafras; put these together. Shake well, then add 2 oz. of laudanum, take ½ oz. of tincture of fetty, 3 oz. of water. Shake well. Take 2 oz. for a dose, in a pint of water. Give 3 doses a day. Commence as soon as you bleed the horse, and keep it up until the horse is cured. Wash his legs and feet in as hot water as you can bear your hands in, then bandage his legs with hot cloths. Keep him well blanketed. This will cure the horse in three days or a week at the longest, if you follow all of the directions I have given. Remember much depends on your good care as well as the medicine. Use my Condition Powders. Feed soft feed. If you have pasture turn him out and place hoof liquid on all his feet.

Still Founder.

This is caused by fast driving, then when the horse is warm to let him stand in the cold, with the wind blowing on him, until he is chilled through. This will cause contraction of the muscles. Then the horse cannot move, which is quite a surprise to the driver to see that his horse cannot go. This is what is called still founder; Bleed this horse, from the neck vein — 2 quarts. Give him 2 quarts of lard; then in 6 or 8 hours give him another quart of lard; so continue until he has a free and easy passage. Then give him 4 oz. of nitre, 2 oz. of alcohol, 3

oz. of the oil of sassafras; put all together, and shake well. Add 2 oz. of laudanum; put into this 2 oz. of water, and shake well. Then give 3 times a day in 1 pint of water, 2 oz. of this medicine for a dose. This will not fail to cure, if you follow the directions here given, within 3 to 6 days.

Inflammation of the Liver

Is a disease of rare occurrence in the horse. He is not exposed to the causes which produce that complaint in other animals. Although his food is sometimes highly nutritive, the work which is exacted from him prevents it from unduly stimulating this important organ, and when inflammation of the liver does occur it is with so much difficulty distinguished from that of the bowels that if yellowness of the eyes and skin are not presented, even the professional man is liable to be deceived. A treatment: Give the horse 7 grains of arsenic, divided into 20 doses, and 2 oz of ginger, 1 oz. of sulphur, 2 oz. of oil-cake, 1 oz. of fenegreak; mix that well with ½ lb. of my Cleansing Powder. Give the horse one large spoon-full 3 times a day, after that twice a day until relief is given. Give one arsenic powder every time you do the other.

Inflammation, or Hooks in the Eye.

The horse's eyelids generally swell, and water, more or less, runs from the eye. The upper part of the eyelid looks red and inflamed. The eye-washers refuse to wash the eye. You will

see a little hook on the front end of the eye-washers. Trim this off, but just a little. The object of this is to subdue the inflammation, and this is the quickest way. The horse should be bled below the eye, and roweled below the eye, sometimes, when they are very bad. Bleed in the neck, ½-pailful of blood. Keep the horse in the dark as much as possible, and exercise him every evening. Move the rowels twice a day, morning and night. Let the rowels remain from 12 to 15 days. Keep the horse on low diet, and do not overheat or work him very hard. Bran mash is the best grain to feed him; do not feed corn. Make a wash of 4 grains of chloride of zinc in 1 pint of rain-water. Wash the eye well, and be sure to get the wash into the eye. Feed my Condition Powders twice a day.

Inflammation of the Stomach,

Of inflammation of the stomach in the horse, except from poisonous herbs or drugs, I know little. It very seldom occurs, and then can with difficulty be distinguished from inflammation of the bowels, and in both diseases the assistance of a skillful veterinary surgeon is required. A cure for it: Bleed the horse in the right vein of the neck, from 6 to 8 quarts of blood. If not better the next day, bleed 6 to 8 quarts of blood from the left vein. Give the horse 3 oz. of nitre, 1½ oz. of laudanum, ½ oz. of peppermint or 10 drops of the oil of sassafras, in the nitre. Shake well in a large bottle together. Divide into two two doses, Give it two hours apart, each dose in one pint of water. If not showing relief in the course of 3 to 4 hours, repeat the dose. Also give the horse ½ pound of Cleansing Pow-

der, 4 oz. of pulverized cubebs, and 3 oz, of pulverized nitre root mixed well together. Give him three large spoon-fulls a day.

Inflammation of the Bowels,

The first is inflammation of the external coats of the stomach, accompanied by considerable fever and costiveness. The second is that of the internal or mucous coat, usually the consequence of an overdose of physic, and accompanied by violent purging. I will here speak of the first of these affections. It has been divided into inflammation of the peritonial coat and that of the muscular, but the causes, symptoms, and treatment of both are so much alike that it would be raising unnecessary difficulties to distinguish between them. Inflammation of the external coats of the stomach, whether the peritonial or muscular, or both, is a very frequent and fatal disease. It speedily runs its course, and it is of great importance that its early symptoms should be known. It the horse has been carefully observed, restlessness and fever have been seen to precede the attack in many cases; a direct shivering will be observed; the mouth will be hot and the nose red; the horse will soon express the most dreadful pain by pawing, striking at his belly, looking wildly at his flanks, groaning and rolling. The pulse will be quickened and small, the ears and legs cold, the belly tender and sometimes hot, the breathing quickened, the bowels costive, and the horse becoming rapidly and fearfully weak. A cure for it: Bleed 1 gallon from the neck, and give the following,— 4 oz. of nitre, 2 oz. of laudanum, 1 oz. of peppermint. Shake well in 3 oz. of water. Give 2 oz. of this 2 hours apart. If the

horse continues to scour, repeat the dose, at 3 oz. 1½ hours apart, adding ½ oz. of Perry Davis' Pain Killer, or Chamberlain's Ready Relief. Keep the horse warm, and rub his legs well with the hand, and bandage them with cloths. Take a blanket and dip it in hot water, and place it on his belly; and so continue until cured.

Jaundice.

It is the introduction of bile into the general circulation, and which is usually caused by some obstruction in the ducts or tubes which convey the bile from the liver to the intestines. The horse, however, has but one duct through which the bile flows, as quickly as it is formed, and there is no gall bladder in which it can become thickened, and even hardened into masses so hard as to be very appropriately call gall stones. Jaundice does, however, occasionally appear either from an increased flow or altered quality of the bile, or obstruction even in this simple tube. The yellowness of the eyes and mouth, and of the skin, where it is not covered with hair, mark it sufficiently plainly. The dung is small and hard, the urine highly colored, the horse languid, and the appetite impaired. Take the grain away from him. Do not work the horse, but exercise him a little, and keep him warm; also keep his bowels loose; feed him two or three bran mashes a week. Feed him this powder: Take 1 ℔. of my Cleansing Powder, 1½ oz. of red root, ½ oz. of saltpetre; have it all pulverized. Give one large spoon-ful 3 times a day. If you find the horse has a heavy fever, give to him, in addition to this powder, 2 oz. of pulverized cubebs and 5 grains of arsenic divided into 13 doses.

Inflammation of the Lungs.

FIRST STAGE OF INFLMMATION OF THE LUNGS.

The causes of inflammation of the lungs are changes from cold to heat or heat to cold; exposure to cold while the horse is hot, washing with cold water immediately after a hard drive, sudden exposure to cold after coming from a very hot stable, traveling in the face of a cold wind, the transferrence of general fever to the lungs, previously disposed to inflammation from the usual stable. Any change from heat to cold will produce it almost with equal certainty. The removal from a warm stable to a cold one, from grass to the stable, and from the stable to grass, will give rise to disease of the lungs. It may be distinguished from inflammation of the bowels by the pulse, which in the latter is small and wiry; by the membrane of the nose, which is not then so much reddened; by the indications of pain, such as kicking at the belly, stamping and rolling; by his eager scraping of the litter, and by the belly being painful to the touch, and also hot when the bowels are inflamed.

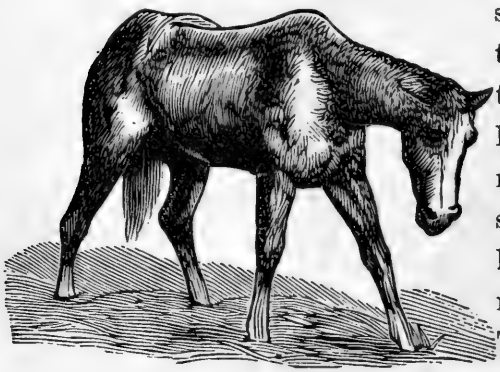
HOW TO CURE INFLAMMATION OF THE LUNGS.

In the first stages, drop on the tongue 30 drops of the tincture of didgatalis once in twenty minutes, until the horse sweats; then wash legs with red pepper and hot vinegar, and

bandage his legs up to the knees; keep his body warm; do not allow him to have any cold water for twelve hours. and then take the chill off; feed him soft food. Give the horse 2 oz. of nitre, ½ oz. of laudanum, ½ oz. of peppermint, and 10 drops of oil of sassafras in 1 pint of water. Shake well before using.

Lung Fever.

The horse is taken with a hard chill: then breaks out in a sweat; hangs down his head; never offers to lie down, but groans whenever he is made to move; his ears are deadly cold. and his legs the same. The causes of this disease are many. For instance, by giving the horse a large quantity of cold water when he has been overheated by a hard drive, or a change from a warm stable to a cold one, will almost always cause the horse to have lung fever.



POSITION ASSUMED IN THE LAST STAGE OF LUNG FEVER.

A treatment: In the second stages drop on the tongue 30 drops of the tincture of didgatalis; repeat this every 15 minutes until the horse sweats. Then rub the legs with hot water and red pepper, mixed well. Take 1 quart ot vinegar and ½ oz. of rep pepper; bandage the legs with flannel; do not feed the horse any grain, nor give him any cold water; give him milk-warm water, and feed him on gruel made

of 1½ lbs. of flour, and 1 pail of water—also put in a little salt; give in 12 hours 1½ oz. of spirits of nitre, ½ oz. of laudanum, ½ oz. of peppermint essence, in ½ pint of water, and do not work the horse for 10 days.

Lampers.

All young horses are subject to this trouble. It is nothing but inflammation of the gums. Cut the gums in several places until they bleed freely. Never burn the gums, because it makes a young horse look old. Feed him the Cleansing Powder.

Nasal Gleet.

The most frequent disease of the nasal cavity is an increased and thickened discharge of fluid from the nose. It is properly called nasal gleet. There is a constant secretion of fluid to lubricate the membrane that lines the cavity of the nose, which under catarrh or colds is increased in quantity and altered in appearance and consistence. But that to which I immediately refer is a continued and oftentimes profuse discharge, when every symptom of catarrh and fever has passed away—an almost incredible quantity of thickened mucous of different colors. If the horse is at grass, almost as green as the food on which he lives, or if in the stable, white, straw-colored, or even

bloody, and sometimes evidently mingled with pus or matter, and either running or snorted out in masses many times a day, teasing the horse and a perfect nuisance in the stable. I have known this to continue several months, and eventually destroy the horse. Stop working him; take ½ ℔. of alum, ½ ℔. of rosin, ½ ℔. of blue vitriol, ½ ℔. of ginger; add this compound to 1 ℔. of my Cleansing Powder; mix well together and have it all well pulverized. Give one large spoonful every meal. Give him 5 grains of arsenic divided into 13 doses. Give the arsenic the same as the powder. Keep the horse out of the wet.

Poll Evil.

This is caused by the horse rubbing or sometimes striking his poll (head) against the edge of the manger, or by bruising the part with the halter, or from a very hard blow on the poll. This will cause inflammation to come on, and a swelling will appear, hot and tender, and very painful.

A CURE FOR POLL EVIL.

Before it breaks rub the part affected well, with Black Ointment. Apply twice or three times a day; heat it in well with a hot iron until it draws a blister; after two or three days open the blister. Repeat if necessary.

Quinsy.

The horse runs at the nose a little, and often when he drinks the water runs out of his nose. The cause is, his throat is sore and swollen. The horse cannot eat well, and grows poor. The glands are swollen. The cause of this is catching cold and settling upon the glands, when the horse's blood is out of order.

Treatment: Rub the throat well with the Black Salve once or twice a day, and feed the Cleansing Powder three times a day. If the horse should be short of of breath give him 10 drops of dégatlis every 15 or 20 minutes. Feed him bran mashes three times a week.

Ring Bone,

Ringbone commences in one of the posterns, and nsually about the postern joint, but it rapidly spreads and involves not only the postern bones, but also the cartilages of the foot. When first the deposits are on the lower postern and on both sides of it, and produced by violent inflammation of the ligaments of the joints, is recognized by a slight enlargement, or bone tumor, on each side of the foot and just above the cornet. This is more frequent in the hind foot than in the fore, because, from the violent action of the hind leg in propelling the horse forward, the posterns are more subject to ligamentary injury behind than before; yet the lameness is not so great, because the disease is confined principally to the ligaments, and the bones have not been injured by concussion, while from the position of

the fore limbs and their exposure to concussion, there will generally be found in them injury of the bone, to be added to that of the ligaments. In its early stage, when recognized only by a bony enlargement on both sides of the postern joint, or in some cases on one side only, the disease may be cured by this treatment: Wash the leg off with hot water and soft saop; let the leg get dry, and then apply the Bone Spavin Medicine; let it remain on 2½ days, then wash it off; be careful not to rub the hair off; then grease with lard; let the lard remain on 1 day; then wash again, and apply the Bone Spavin Medicine as before. If the hair comes off it will soon grow out again, so do not be alarmed in regard to that, but follow well my directions, and the ringbone will soon disappear.

Bone Spavin.

A very serious affliction; ranks under the name of spavin, and is an affection of the hock joint bone. I have observed that the bones of the leg, the shank bone and the two little splint bones behind, support the lower layers of the bones of the hock. The cube bones rest principally on the shank bone, and in a slight degree on the outer spint bone. The middle wedge bone rests entirely upon the shank bone, and the smaller wedge rests in a very slight degree on the shank bone, but principally, or almost entirely, on the inner splint bone. Then the splint bones sustain a very unequal degree of concnssion and weight. Not only is the inner one placed more under the body and nearer the centre of gravity, but it has almost the

whole of the weight and concussion communicated to the little wedge bone carried on to it. It is not therefore to be wondered at, that in the violent action of this joint in galloping, leaping, especially in young horses, and before the limbs have become properly knit, the inner splint bone, or its ligament (the substance which connects it with the shank bone), should suffer injury. The blacksmith increases the tendency to this by his injudicious management of the feet. It is a common notion that cutting and wounds in the feet, from one foot treading on the other, are prevented by putting on a shoe with a corking on the outer heel—that is, the extremity of the heel of the shoe being bent, and thus the outer heel considerably raised from the ground. It is not unusual to see whole teams of horses, and that all the year round, with the outer heel of the hind foot considerably raised above the other. This unequal bearing or distribution of the weight cannot fail of being injurious. It will place an unequal strain on the ligaments of the joints, and particularly of the hock joint, and increase the tendency to spavin. When the spavin is forming there is always lameness, and that io a very great degree. When the membrane of the bone has accommodated itself to the tumor which extends it, the lameness subsides or disappears, as depends upon the degree in which the bony deposits interfere with the motion of the joint. We often see horses with exceedingly large spavins that are only slightly lame, or that merely have stiffness in their gait at first starting, and that gradually goes off after a little motion. There is always the peculiarity in the lameness of spavin that it abates and sometimes disappears on exercise, and therefore a horse, with regard to which there is a suspicion of spavin, should be examined when first it is taken from the stable in the morning. Spavined horses are generally capable of slow work.

They are equal to the greater part of the work of the farm, and therefore are not to be rejected by the small farmer, and may generally be procured at little price. These horses are not only capable of agricultural work, but they generally improve under it. They become less lame, and even the bony tumor to a certain degree diminishes.

HOW TO CURE A BONE SPAVIN.

Take 1 lb. of lard, 1 oz. of powdered Spanish flies, 1 oz. of powdered gum euphorbium; melt the lard—not too hot, put in the powdered Spanish flies first, then the euphorbium; stir well until it becomes cold and mix it well in a clean dish. Follow the directions here given: Rub the hump well with the naked hand until it becomes warm, and then apply the ointment, and rub well; at the end of two days. apply more of the ointment, rubbing well, as before, and let it stand four days; then wash it off with soap and water, very clean; have the water warm; as soon as the leg becomes dry, grease the part affected with lard; grease below the spavin, so that the ointment will not take the hair off. The horse may be worked every day; if not worked he must be exercised. Repeat the treatment every four days until cured.

Bog Spavin.

The hock is plentifully furnished with mucous bags. Some of these are found on the inside of the joint. From overexer-

tion of the joint they become inflamed and considerably enlarged. They are wind-galls of the hock. The sub-cutaneous vein passes over the inside of the hock, and over some of these enlarged bags, and is compressed between the skin and the enlarged bag, and consequently the passage of the blood through it is partially stopped. The blood, however, continues to be returned from the leg and foot; and being thus arrested in its course, a portion of the vein below the impediment and on the side of the hock is called bog or blood spavin. This is a very serious disease, attended with no great pain, but often permanent lameness, and a disease too apt to return when the enlargement has subsided under medical treatment. It must be considered as decided unsoundness. In a horse for slow work it is scarcely worth while to even attack it. In a horse destined for rapid traveling the probability of a relapse should not be forgotten when the chances of success and the expense of treatment are calculated. The old and absurd practice of passing a ligature above and below the enlarged portion of the vein, and then dissecting out the tumors, is not in the advanced stage of veterinary science, and is not practiced by any surgeon who has a regard for his reputation. The only method of relief is this process: Wash the part affected with hot water and soft soap, and leave plenty of suds on the leg. Let it stand six hours before applying the ointment; apply the Bone Spavin Ointment to the part affected; rub the part well before applying the ointment; also afterward, rubbing the ointment in well with the naked hand; let it remain for three days with the ointment on; grease it below the bunch with lard, so that the ointment will

not take off the hair; at the end of the third day wash it off with hot water and soft soap, and grease it again with lard; and so repeat every three days until cured.

Blood Spavin

Does not always cause lameness, except when the horse is very hard worked, and then it is doubtful whether the lameness should not be caused by the enlarged mucous bag, rather than by the distended vein. Both of these diseases, bone or blood spavin, renders a horse unsound, and lessens his value.

TREATMENT.

Rub the blood spavin with the Black Ointment twice a day, and heat it in with a hot iron, for three or four days. Then wash it off clean and use the English Liniment.

Splint.

The splint is invariably found on the cutrical of the small bone, and generally on the inside of the leg. Why it should appear on the side of the small bone it is difficult to explain, except that the space between these bones is occupied by an

important mechanism (which will be presently described), and. as in the case of abscess, a natural tendency was given them to determine outward, that vital parts may not be injured. The causes of their almost exclusive appearance ou the inside of the leg admits of easier explanation. The inner splint bone is placed nearer the center of the weight of the body than the other, and from the nature of its connection with the bones of the knee receives more of the weight than does the outer bone, and therefcre is more liable to injury and inflammation, and this conseqnent deposit of bone. The inner bone receives the whole of the weight transmitted to one of the small bones of the knee. It is the only support of that bone. A portion only of one of the bones rests on the outer splint bone, and the weight is shared between it and the shank. In addition to this it is the absurd practice of many smiths to raise the outer heel of the shoe to an extravagant degree, which throws still more of the weight of the horse on the inner splint bone. These tumors occasionally appear on other parts of the shank bone, being the consequence of violent blows, or other external injuries. When the splint is forming, the horse is generally lame. The periostum, or membrane covering the bone, is painfully stretched, but when this membrane has accommodated itself to the tumors that extend it, the lameness subsides and altogether disappears, unless the splint be in a situation in which it interferes with the action of some tendon or ligament, or in the immediate neighborhood of a joint. Pressing upon a ligament or tendon it may cause inflammation of these substances, or being close to a joint it may interfere with its action. Splints, then, do not necessarily cause unsoundness, and may not lessen the value of the horse in the slightest degree. All depends on their situation. When I have described the situations and causes of

the suspensary ligaments, we shall be enabled to enter more fully into this. As for the old remedies, many brutal enough, bruising the splint with a hammer, boring it with a gimlet, chipping it off with a mallet, sawing it off, stifling down the skin periosteum over it, sweating it down with hot oil and passing a seton over it, the voice of humanity and the progress of science will consign them to a speedy oblivion. The inside of the leg, immediately under the knee and extending to the inner splint bone, is subject to injury from what is termed the speedy cut, A horse with light action, and in the fast trot violent, strikes the part either with his hoof or the edge of the shoe. Sometimes bony enlargements are the result, at others great heat and tenderness, and the pain from the blow seems occasionally so great that the horse drops as though he were shot. The only remedy is to take care that no part of the shoe projects beyond the foot, and let the inner side of the shoe be beveled. This part of the hoof, being unfettered with nail, will expand when it comes in contact with the ground, and contract when in the air and relieved from the pressure of the weight of the body; and although this contraction is of no great extent, it will be sufficient to carry the foot handsomely by the leg. Care should be taken that the shoe be of equal thickness at the heel and toe, and that the bearing be equal on both sides. Immediately under the knee we find one of those ligament rings by which the tendons are so usefully bound down and secured, but if the hinder bone of the knee, the trapezium, be not sufficiently prominent, this ring will confine the flexos tendons of the part too tightly; the leg will be very deficient in depth under the knee. This is called being tied in below the knee. Every horse man recognizes it as a most serious defect. It is scarcely compatible with speed, and most assuredly not with continuance.

Such horses cannot be ridden far or fast without serious sprains of the back sinews. The reason is plain. The pressure of the ring will produce a degree of friction inconsistent with the free action of the tendons; more force must therefore be exerted in every act of progression, and although the muscles are powerful, sufficiently so for every ordinary purpose, the repetition of this extra exertion will tire and strain them. A more serious evil, however, remains to be stated. When the back sinews or tendons are thus tied down, they are placed in a more oblique direction, and in which the power of the muscles is exerted at a greater disadvantage, and therefore both for extraordinary and even ordinary action a greater degree of exertion is required, and fatigue and sprain will frequently result. There are few more serious defects than the tying-in of the tendons immediately below the knee. The fore-leg may be narrow in front, but it must be deep at the side, in order to render the horse valuable, for then only will the tendons have free action, and muscle-force be exerted in the advantageous directions. The recollections of the reader will convince him that there are few good race-horses whose legs are not deep below the knee. If there are exceptions it is because their exertions, although violent, are but of short duration. The race is decided in a few minutes, and during that period the spirit and energy of the horse may successfully struggle with the disadvantages of form. As they descend the back part of the leg the tendons of the perforated and perforating flexor muscle should be far and distinctly apart from the shank bone. There should be space free from thickenings for the fingers and thumb on either side to be introduced between them and the bone, and that extending from the knee to the fetlock. In a perfect leg, towards the lower part there should be three distinct and perfect projections visi-

ble to the eye as well as recognizable by the fingers, at the sides of the shank bone, the most forward of the three the suspensory ligament, and hindermost of all the flexor tendons. Where these are not distinctly seen or felt, or there is considerable thickening about them or between them, and the leg is round instead of flat, there has been what is commonly but improperly called the sprain of the back sinews.

A treatment: Wash the part affected well with hot water and soft soap; Let it remain until perfectly dry; apply the Bone Spavin Ointment to the part aeffcted; rub it in well with the naked hand; let it remain two days, and then wash it off with hot water and soft soap, and grease it with lard; let the lard remain on 1 day, and if necessary repeat. Grease the leg below the splint with lard.

Mad Staggers.

The horse suddenly begins to heave at the flanks, his nostrils expand, his eyes unclose, he has a wild and vacant stare, and delirium comes rapidly on. He will dash himself furiously about. There is no disposition to do mischief, but his motions are sudden, violent, and accompanied by perfect unconsciousness; and he becomes a terrifying and dangerous animal. This continues until his former stupor returns, or he has literally worn himself out. There are only two diseases with which it can be confounded, and from both of them it is very readily distinguished—colic and madness. In colic the horse rises and falls, but not with so much violence. He sometimes plunges,

but he more often rolls himself about. He looks frequently at his flanks with an expression of pain, and he is conscious. In madness there may be more or less violence. There is a determination to do mischief, and there is always consciousness. Over-exertion when the horse is too fat or too full of blood, or during very hot weather, is a frequent cause of inflammation of the brain, but what will produce general fever may be the cause of mad staggers.

A treatment: Bleed one pailful of blood from the right vein in the horse's neck; give him 2 oz. of nitre, ½ oz. of laudanum, 20 drops of sassafras in the nitre; put it all together and shake well; add 1 pint of water; drench the horse with this; repeat if the horse is not all right in two or three hours; the next day bleed 1 pailful of blood from the left vein in the neck. Give him my Cleansing Powder twice a day for a week; after that once a day.

Sweeny, or Stiff Shoulder.

Introduce a seton from the top of the shoulder blade, running it down as far as it is affected, which is known by the flinching. First cut through the skin, then two striffins. Introduce the needle through or under the striffin. Use a blunt instrument; move it backward and forward as far as it is tight to the muscle. Let the seton stay in 16 days. Apply the Bone Spavin medicine to the string, and in the upper part of the sore put in some of the Black Salve. Use the Common Hoof Liquid on his feet, for in many cases the disease commences in

the feet. Take the seton out the 17th day, then rub well the shoulder with my Black Salve; heat in well with a hot iron. This will not fail to cure. Don't fail to move the seton every morning, by drawing it up and down, and keep the part clean.

Scratches, or Grease Heels.

Is caused by high feeding and not giving the horse good care, when the horse is taken to the barn for the night, and by not keeping the barn clean. As a horse that is taken into the barn with his feet covered with mud, and let to stand in that condition, will take fever, and will in time produce scratches, and if this disease is not cured, it will terminate in grease heel. Grease heel is still a greater disease. This is known by cracks that break below the fetlock, and sometimes above; cause the legs to swell; sometimes matter will ooze from them. This disease is called almost incurable, although I have cured hundreds of cases with the recipe here given: Give the horse 2 lbs. of Cleansing Powder, add 1½ oz. of saltpetre, 1 oz. of pulverized red root, ½ lb. of sulphur; pulverize; give him a large spoonful morning and night; wash the leg with hot water and soft soap; apply the Black Ointment twice a day, morning and night, and do not wash off for 4 days. Wash as before; apply the Black Ointment as before, if necessary, and so continue until cured.

See Cleansing Powder.

See Black Ointment.

Swelled Legs.

The fore legs are often subject to considerable enlargement, but much oftener the hind ones, when the horse does not seem to labor under any other disease, and sometimes from apparent shifting of inflammation from other parts. Inflammation of the lungs or eyes not infrequently changes its seat. The hind legs suddenly swell to an enormous degree from the hock and almost from the stifle to the fetlock, attended by heat and extreme tenderness of the skin; excessive and very peculiar lameness. It is acute inflammation of the cellular substance of the legs, and that most sudden in its attacks, and most violent in its degree, and therefore attended by the pouring out of a great deal of fluid in this cellular substance. It occurs in young horses which are overfed and little exercised, without previous inflammation in any other part. Horses seemingly in perfect health and on full allowance of food, if they remain several days without exercise, will have swelled legs. The arterial capillary vessels have conveyed a great deal of fluid to the extremities; from over-feeding, want of muscular exertion, and the perspiration connected with it. The fluid has accumulated, and is lodging in the extremities because the vessels have not the power to return it.

A cure for it: Wash the part affected well with hot water and soft soap; leave plenty of suds on the leg; exercise the horse every day; bandage the leg with cloth very tight every time you wash it; apply the English Liniment; let it remain until dry before using the liniment; rub it in well with the hand, and give him 3 oz. of nitre, 1 oz. of laudanum, 1 oz. of peppermint, in 1 pint of water; shake well, and divide into 2

doses; give it one hour and a half apart; feed the horse 1 lb. of Cleansing Powder; give him a large spoonful night and morning; give him 13 doses of arsenic, I dose a day. This never fails.

String Halt.

There is a peculiar twitching of the hind leg, or convulsive action of the muscles by which it is bent. Is termed string halt. This is an affection of some of the nerves which communicate action to these muscles. It is principally observed when the horse is first taken from the stable, and gradually ceases after he has been exercised a while. It is unpleasant to the rider, but it cannot be called a determined unsoundness. On the contrary, common opinion has given to the horse with string halt a more than usual share of strength and endurance, and if it be an excess of nervous energy, although irregularly exerted, we find no difficulty in associating it with general powerful muscular action. A cure for it: If you find three little lumps along the line of the back, place a seton in each one; put the Blister Salve on the seton; move the seton once or twice a day; let the setons remain in until relief is given; after removing the setons apply the Black ointment, and heat it in well with a hot iron.

Slovenish Horse.

The horse will mope along lazily; don't act right or drive as he did; acts as though he could not move, even if he is per-

suaded by the use of the whip. The food does not seem to do him any good in the way of producing strength or flesh; some will carry flesh, while others will continue to grow poor, and will eat all that is given them. Such a horse should be bled; take 1 pailful of blood from the neck. Then give him this powder: Take my Condition Powder, make 13 powders; put 1 tablespoonful in each powder; then add 4 grains of arsenic, divide into 13 parts; mix with the powders; then take 3 grains of black antimony, divided into 13 parts, and mix with the powders; give twice a day for two or three days; then give my Condition Powders, 1 tablespoonful at noon each day; then give the little powders once a day after the first two days until they are all gone; continue the Condition Powders until he is restored to perfect health. Feed him bran mashes two or three times a week.

The Stifle.

The upper bone of the thigh is united to the lower by a somewhat complicated joint. It terminates by two round prominences behind, which are received in two slight depressions on the upper surface of the lower bone, and in front is a curious groove, over which plays a small, irregular bone. The whole is called the stifle bone. When the horse is stifled use this liniment: 4 oz. of turpentine, 4 oz. of alcohol, and the whites of 4 eggs; put into a bottle and shake well; let it stand 4 hours; then add 1 oz. of ether, and it is ready for use. Rub this liniment on three times a day.

Sore Mouth or Tongue.

The mouth runs water; the horse throws the hay out of his mouth. The cause of this sometimes is by placing a frosty bit in his mouth, or by a sharp tooth. Take ½ oz. of pulverized alum, ½ oz. of honey; dissolve the alum in 3 oz. of strong sage tea; add the honey; wash his mouth with this twice or three times a day. This will never fail.

Thrush

Is a discharge of offensive matter from the cleft of the frog. It is inflammation of the lower surface of the sensible frog, and during which pus is secreted together with, or instead of, horn. When the frog is in its natural state, the cleft sinks but a little way into it. But when it becomes contracted or otherwise diseased, the cleft extends in length, and penetrates even to the sensible horn within, and through this unnaturally deepened fissure the thrushy structure and action of the frog takes place. It is found in the hind feet oftener and worse than in the fore, for in most of the stables the hind feet are exposed to the dung and urine moistening and at the same time irritating them. The distance of the hind feet from the center of circulation, would cause in the case of grease more exposure to the acccumulation of fluid and discharge of this kind. In the fore feet thrushes

are usually connected with contraction. I have stated that they are both the cause and effect of contraction. The pressure of the frog from the wiring in of the heels will produce pain and inflammation, and the inflammation, by the increased heat and suspended functions of the part, will dispose to contraction. Horses of all ages, in all situations, are subject to thrush. Thrush is not always accompanied by lameness; in many cates the appearance of the feet is scarcely altered, and the disease can only be detected by the peculiar smell of the discharge. In all cases have the horse shod with a smooth shoe. Spread the heel so that the foot has no chance to contract, and pour butyr of antimony on the frog until it fills the creases; apply the butyr of antimony twice every day for four days; after that once a day. In very bad cases in loss of frog I have found it necessary to poultice the foot with human dung for a couple of days; then apply the butyr of antimony for six weeks. This produces a new frog. Be sure to have the frog perfectly dry; after applying the medicine drop a little water on the frog, and be sure not to drop any butyr of antimony on the hair.

Warts.

These are tumors of variable size, arising from the cuticle, and afterwards connected with the true skin by means of the vessels which supply the growth of the tumor. They are found sometimes on the eyelids and on various parts of the skin, and on the prepuce. They must be removed by an operation. If the roots be very small, it may be snipped asunder with a pair

of scissors close to the skin, and the roots touched with muriatic acid, two or three times. Then use the Orange Liniment to heal it up with. This is the only sure way of curing them permanently. This will kill them every time, but be sure that you dissect them well before you apply the muriatic acid. Then there is no danger of their ever growing out again.

Whites.

This is a discharge caused by weakness, also very injurious to the mare. She will lose flesh, look dull, will not travel as she should, but stray along lazily, with head down as though she is tired and worn out. Give the mare the following, which will effect a cure: Take 1 lb. of my Condition Powders ½ lb. of sulphur, 1 oz. of red root, pulverized; mix all well together, then give 3 or three tablespoonsful a day. It will be well to give my Condition Powders for a few days before giving this medicine. The mare should be washed out clean with 1 quart of soft water; chloride of zinc until it looks like suds or scales; give her an injection with this medicine every morning and night for 2 or 3 day. This will cure every time if you follow these directions.

Worms.

The horse eats, but will not thrive; his belly is large, his hair stares. Give him a dose of physic; take 3 pints of lard; next

morning 2 pints; make the lard milk-warm; wash the mouth after you give him the lard; feed him the Cleansing Powder and 5 grains of arsenic divided into 13 doses; give it to him twice a day for three days, after that once a day.

Water Farcy

Is confunded by some with common farcy, by which much confusion has been caused—and a great deal of mischief. It is a dropsical affection of the shin, either of the chest or limbs, generally.

A treatment: Feed the horse my Cleansing Powder twice a day in soft bran mashes; exercise the horse twice a day; take 1 ℔. of my Cleansing Powder, ½ ℔. of salts, 4 oz. of ginger, 2 oz. of pulverized red root, 4 oz. of sulphur; mix well; feed the horse this powder three times a day. Rub the swelling with the Orange Liniment two or three times a day; if the swelling does not disappear within two or three days, put a seton in it.

Wind Sucking.

This bears a close analogy to crib-biting; it arises from the same cause, the same purpose is accomplished, and the same results follow. The horse stands with his neck bent, his head drawn inward, his lips alternately a little opened and then closed, and then a noise is heard as if he were sucking. If I may judge from the same comparative want of condition, and

the flatulence which I have described, either some portion of wind enters the stomach, or there is an injurious loss of saliva. This diminishes the value of the horse almost as much as crib-biting; it is contagious, and it is inveterate. The only remedies, and they will seldom avail, are tying the head up except when the horse is feeding, or putting on a muzzle with sharp spikes towards the neck, which shall prick him whenever he attempts to rein in his head for the purpose of wind sucking.

Wind Galls.

Use the Black Ointment; apply it to the part affected and rub it well with the hand, heat it in with a hot iron; apply twice a day until cured.

RECIPES.

A Recipe for Black Ointment.

One pint of turpentine, 10 oz. of organum, 10 oz. of vitriol (get it all by weight), and 4½ lbs. of lard. Melt the lard in an iron kettle, pour in the turpentine first, organum second, and vitriol last; stir until cold.

I am indebted to Mr. Crofoot for the recipe of this salve, which I now give to the public.

Condition Powders.

This powder is a compound of minerals and vegetables, acting as a tonic, removing all obstructions of the liver and kidneys. As a tonic, it restores lost appetite. It should be given to all horses that are moulting, or shedding their coats, as it is generally termed. It is given in jaundice or yellow water, it

acts as a diuretic, and should be given to remove all obstructions of the urine. It is perfectly safe, and should be given to the mare when in foal.

For worms of all kinds annoying the horse, this powder should be given by adding 5 grains of arsenic to one large spoonful of this powder. Give it each evening for 15 or 20 days. This will never fail. In all cases give 1 large spoonful each day until you have restored the animal to health.

Every horseman should be in possession of the recipe for compounding this powder.

Take ½ ℔. of hickory or tamarac ashes, and 1 ℔. of corn meal; sift them both together, and mix them well with the hand; let them stand 24 hours; then add 2 ℔s. of oil cake, 1 ℔. of sulphur, ½ ℔. of black antimony, and ½ ℔. of annis seed, and mix it all together well with the hand.

A Cure for Cracked Heels.

Take the Black Ointment and melt it in an iron spoon. Pour it into the cracks twice a day, morning and night.

This will cure the worst case of cracked heels.

Egg Liniment.

Take 4 oz. of turpentine, 4 oz. of alcohol; take the whites of 3 eggs; let it stand 12 hours before using (the older this liniment the better it is).

This liniment is good for man or beast, on wound or sore; in applying on fresh sores there is no danger of taking cold.

Applying this liniment on swellings and rubbing well will reduce them.

English Liniment.

Take 4 oz. of turpentine, 4 oz. of alcohol, the white of 3 eggs; shake well; let it stand 3 hours; add ½ pint of linseed oil and 2 oz. of ammonia. This for horse only.

Directions: Rub the part affected well with this liniment morning and night.

Eye Wash.

Take 5 grains of Chloride of zinc, a pint of rain water or distilled water; shake well before using.

This wash is proper for man or horse; get it into the eye.

Hoof Liquid.

Take 1 pint of fish-oil, 1 pint of oil of tar, 2 oz. of organum, 2 oz. of glycerine; put it all into a bottle and shake well.

COMMON HOOF LIQUID,

Which should be kept in all barns: Take 1 pint of fish-oil, 4 oz. of oil of tar, 1 oz. of barbadoes of tar. Shake well; apply 3 times a week, up to the hair.

The Best Heave Powder Out.

Two pounds of brimstone; take a bar of cast steel, heat to a welding heat, then quickly place it over the anvil, pass the brimstone over it while it is at a welding heat; touch the brimstone over it lively; as soon as the heat is off, stop putting the brimstone on. Be very careful with your hands, so as not to burn them; it would be better to wear gloves. Let the contents of this drop into a pail of water; it will look like sucker, or, in other words, like rubber; take this and dry it in an oven, then pulverize into powders. Feed the horse 3 spoonsful a day for 4 days; feed in the bran, and feed marsh hay wet.

I have cured very hard and difficult cases with this recipe; keep the barn neat and clean, especially the horse's manger; don't feed much hay.

Common Heave Powder.

Give the horse troubled with this complaint 1½ ℔. of ginger, 1½ ℔. flax seed, 1 oz. of black antimony, 3 oz. of annis seed and

5 cents worth of lampblack; mix all together, stir it all up nicely, so that it will be well mixed.

Give the horse three tablespoonsful three times a day, 1 in the morning, at noon and night; do not allow the horse to drink any water except that you will prepare by putting in blueing, such as is used for washing.

A Cure for a Pain in the Stomach or in the bowels---Good for Man or Beast.

Take ½ oz. of laudanum, 1 oz. of the best of nitre, oz. of peppermint essence, 50 drops of oil of sassafras; put in with the nitre 1½ oz. of water; then add the other medicines; put in a bottle and shake well; take 1 teaspoonful of this in half a cup of water once in 20 minutes; will feel relief in 5 minutes.

This medicine I always keep in my house, and use it myself, and have used it for years, for it will never fail to cure any pain in the stomach.

For a dose for a horse give from 1 to 2 oz., according to the horse's complaint.

Orange Liniment.

Take 1 pint of raw linseed oil, 2 oz. of spirits of ammonia, and shake well before using. In case of rheumatism add 1 oz. of tincture of capsicum.

This is one of the best liniments now before the public. It is not only good for horses, but equally good for the human subject. For chillblains, frozen feet, chapped hands, chapped lips, neuralgia, burns, stiff neck, contracted tendons, and swelled glands.

Apply it night and morning, rubbing well with the hand. For frosted feet bathe the part well before going to bed, and draw on a woolen sock.

For the horse it is used for sore shoulders and back fistula, poll evil, sprains of the limbs or stifle, scratches or grease heel. It is perfectly safe to use it upon fresh cuts or wounds, upon man or beast.

In using this liniment for scratches or any old sore, first wash the part with soft water and soap of any kind; then, when dry, apply the liniment with the hand night and morning. Never tie up a wound on your horse if you use the Orange Liniment.

For sweeney in the first stage use this liniment every evening, rubbing well the part affected. If of long standing, you will have to use the seton.

Physic Balls.

The ½ oz. of aloes, 3 drachms of gamboge, 3 drops of the oil of juniper, and make into a pill with a few drops of honey.

Tartarmatic for Heaves.

This medicine is given to horses that have the heaves. You will find that it will soon relieve a horse, especially after he has had a hard drive, or been worked hard. They will heave very much as a general thing. Then give 1 teaspoonful of tartarmatic for a dose, three times a day. This will relieve the animal in a short time.

Exercise,

My observations on this important branch of stable management must have only slight reference to the agricultural horse. His work is usually regular and not exhausting; he is neither predisposed to disease by idleness nor worn out by exertion; he, like his master, has enough to do to keep him in health, and not enough to distress or injure him; on the contrary, the regularity of his work prolongs life to an extent rarely witnessed in the stable of a gentleman. My remarks on exercise, then, must have a general bearing or reference to those persons who are in middle stations in life; who manage to keep a horse for business or pleasure, but cannot afford to maintain a servant for the express purpose of looking after the horse. The first rule I would lay down is, that every horse should have daily exercise. The horse with the usual stable feeding, if he stands idle for three or four days, as is the case in many establishments, must suffer. He is disposed to fever or grease heels, or to most all of the diseases of the foot. And if after these three or four days of inactivity he is ridden fast or far, he is almost sure to have inflammation of the lungs or inflammation of the feet. A gentleman's or tradesman's horse suffers a great deal more from idleness than he does from work. A stable-fed horse should have two hours exercise every day, if he is to be kept from diseases. Nothing of extraordinary or even of ordinary labor can be effected on the road or in the field, without sufficient daily exercise. It is this alone which can give energy to the system or develop the powers of any animal. How, then, is

this exercise to be given? As much as possible under the superintendence of the owner. The exercise given by the groom is rarely to be depended upon. It is as inefficient as it is extreme. It is in many cases both irregular and injurious. It is dependent upon the caprice of him who is performing a task, and who will render that task subservient to his own pleasure or purpose. In training the race-horse regular exercise is the most important of all considerations, however it may be forgotten in the usual management of the stable horse. The exercised horse will perform his task, and sometimes a severe one, with ease and pleasure, while the idle and neglected one will be fatigued ere one-half of his labor be accomplished, and if he be pushed a little too far dangerous inflammation will ensue. How often, nevertheless, does it happen that the horse that has stood inactive in the stable three or four days, is ridden or driven thirty or forty miles in the course of a single day? The rest is often given to prepare the animal for the extra exertion, to lay in a stock of strength for the performance of the task required of him; and then the owner is surprised and dissatisfied if the animal is fairly used up, or perhaps becomes seriously ill. Nothing is so common and preposterous as for a person to buy a horse from a dealer's stable, where the animal has been idly fattening for many a day, and immediately to give him a long drive, and then complain and think he has been imposed upon if the horse is exhausted before the end of the drive and is compelled to be led home, suffering from violent inflammation. Regular and gradually increasing exercise should be given. A young horse requires more than an old horse. Nature has given the young horse every kind of a disposition to activity, but the exercise should not be violent. The rapid trot or even the gallop may be resorted to in the middle of the exercise, but

the horse should be brought in cool. If the owner would seldom intrust his horse to boys and would insist on the exercise taking place in the neighborhood of his residence, many an accident and irreparable injury would be avoided. It should be the owner's pleasure and is his interest, personally to attend to all these things. He manages every other part of his business, and he may depend on it that his horse suffers when he neglects or is in a manner excluded from the stable.

Crib Biting.

This is a very unpleasant habit and a considerable defect, although not so serious a one as some have respresented it to be. The horse lays hold of the manger with his teeth, violently extends his neck, and then, after some convulsive action of the throat, a slight grunting is heard, accompanied by an apparent sucking or drawing in of air. Whether, however, air is drawn in and thus the horse becomes more subject to the colic, or a portion of air is expelled, showing the previous existence of flatulence and a disposition to colic, are questions that have not been settled among veterinarians. The horse is evidently making the edge of the manger a fixed point by means of which he may overcome that obstacle which formation of the soft palate and the back part of the mouth would present to either the expulsion or drawing in of the air, it accomplished through the medium of the mouth. When we consider, however, that any air expelled from the stomach might easily find a passage through the nostrils, without the action of crib-biting, while it would be difficult or impossible without some material alterations in the natural form and action of the parts at the back of the mouth, and particularly the covering of the wind-pipe, to convey air to the stomach. I am inclined to the belief that this fixed point is used to enable the animal to accomplish this

alteration and suck up and convey a certain portion of air into the stomach. The effect of crib-biting is plain enough. The teeth are injured and worn away, and that in an old horse to a very serious degree. A considerable quantity of corn is often lost, for a horse will frequently crib with his mouth full of corn; the greater part will fall over the manger, and much saliva flows out while the manger is thus forcibly held, the loss of which must be of serious detriment, as impairing his digestion. The crib-biting horse is notoriously more subject to colic than other horses usually are, and to a species difficult of treatment and even dangerous. Although many crib-biting horses are stout and strong, and capable of all ordinary work, these horses do not generally carry much flesh, and have not the endurance of others. On this account crib-biting has very properly been decided to be unsoundness. It is one of those tricks that are very contagious. Every companion in the stable with the crib-biter is likely to acquire the habit, and it is the most inveterate of all habits. The edge of the manger will in vain be lined with iron or with sheepskin, or with sheepskin covered with tar or aloes, or with any other unpleasant substance. In defiance of the annoyance which these may occasion him, the horse will again attack his manger. A strap buckled tightly around the neck will prevent the possibility of this action; but the strap must be worn constantly, and its pressure is too apt to produce a worse affection, an irritation in the throat which terminates in rearing. Some have recommended turning out for five or six months, but this has never succeeded except in a young horses, and then rarely. The old cribber will employ the edge of the gate for the same purpose as he will his manger, and I have seen him gallop across the field for the same purpose, of having a grip at a rail. Medicines in cases similar

to this will be altogether thrown away. The only remedy is a muzzle, the buttons sufficiently wide to enable the animal to pick up his corn and pull his hay, but not to grasp the edge of the manger. If this be worn a long time the horse may get tired of attempting what he cannot accomplish, and may possibly for a while forget the habit; but in the majority of cases the desire will return with the power of gratifying it. The causes of crib-biting are serious, and some of them beyond the control of the proprietor of the horse. I have said that it is often the result of inaction, but it is more frequently the consequence of idleness. The high fed and spirited horse must be in mischief if he is not usefully employed. Sometimes, not often, I believe, not often, it is produced by partial starvation, whether in a bad straw yard or from unpalatable food. An occasional cause of crib-biting is the frequent custom of grooms, even when the weather is not severe, of dressing them in the stable. The horse either catches at the edge of the manger or at the edge of the partition on either side, if he has been turned, and thus forms the habit of laying hold of these substances on every occasion.

Grooming.

Of this much need not be said, since custom and apparently without ill effect, has allotted so little of the comb and brush to the farmer's horse. The animal that has worked all day and is turned out at night requires but little more done to him than to have the dirt brushed from his limbs. Regular grooming, by rendering the skin more sensible to the alterations of temperature and the inclemency of the weather would be predjudicial. The horse that is altogether turned out needs no grooming. The dandruff or scurf which accumulates at the roots of the hair is a provision of nature to defend him from the wind and cold. It is to the stabled horse, highly fed and worked but little, that regular grooming is of so much consequence. Good rubbing with the brush or the curry comb opens the pores of the skin and circulates the blood to the extremitier of the body, and through the minute vessels of the skin, and produces free and healthy perspiration, and stands in the room of exercise. No horse will carry a fine coat without either heat or dressing. They both effect the same purpose—they both increase the insensible perspiration; but the first does it at the expense of health and strength, while the second, at the same time that it produces a glow or gloss on the skin, and a determination of the blood to it, rouses all the energies of the frame. It would be well for the proprietor of the horse if he were to

insist upon it, and to see that his orders are really obeyed, that the fine coat that he so much delights in, is produced by honest rubbing and not by a heated stable and thick covering, and, most of all, not by stimulating or injurious drugs, as so many think. When the weather will permit the horse to be taken out he should never be groomed in the stable. Without dwelling on the want of cleanliness when the scurf and dirt that is brushed from the horse lodges in the manger and mingles with his food, experience teaches us that if the cold is not too great the animal is braced and invigorated from being dressed in the open air to a degree that cannot be obtained in the stable. There is no necessity, however, for half of the punishment which the groom in many cases inflicts upon the horse in the act of dressing, and particularly on one whose skin is thin. The curry comb should at all times be lightly applied. With many horses its use may almost be dispensed with, and even the brush need not be so hard, nor the points of the bristles so irregular as they often are. A soft brush with a little more weight of the hand will be equally effectual and a great deal more pleasant to the horse. A hair cloth, while it will seldom irritate and tease, will be almost sufficient with horses that have thin hair, and have not been neglected. Whoever would be convinced of the benefit of friction to the horse's skin and the horse generally need only observe the effect produced by well hand rubbing the legs of a tired horse. While every enlargement subsides and the painful stiffness disappears, and the legs attain their natural warmth and become fine, the animal is evidently and rapidly reviving; he attacks his food with appetite, and then gently and quietly lies down to rest.

Cow Hock.

The lines of direction of the legs beneath the hock should not be disregarded. The leg should descend perpendicularly to the fetlock. The weight and stress will then be equally diffused, not only over the whole of the hock, but also the postern and the foot. Some horses, however, have their hocks closer than is natural to each other, and the legs take a divergent direction outward, and the toes are likewise turned. These horses are said to be cat or cow hocked. They are generally supposed to be possessed of considerable speed, and I believe they are, and thus account for it: The cow hocked horse has his legs not only more turned outward, but bent more under him, and this increases the distance between the point of the hock and the the tendons of the performing muscles. Then the point of the hock, moved by the action of the muscles, is enabled to describe a greater portion of a circle, and in proportion to the increased space passed over by the point of the hock will the space passed over by the limb beneath be increased, and so the stride of the horse may be lengthened, and thus far his speed may be increased. But this advantage is more than counterbalanced by many evils. This increased contraction of the muscles is an expenditure of animal power, and I have already stated, the weight and the concussion being so unequally distributed by this formation of the limb, some part must be overstrained and overworked, and injury must ensue. On this account it is that the cow hocked horse is more subject than others to thorough pin and spavin, and is so disposed to curb that these hocks are denominated by horsemen curby hocks. The mischief extends even further than this. Such a horse is peculiarly liable to windgall, spavin of the fetlock, cutting and knuckling.

Warbles, Sitfast, and Galls.

On other parts of the back, tumors and very troublesome ulcers may be produced by the same cause. The little tumors resulting from the pressure of the saddle are called warble, and when they ulcerate they frequentlv become sitfasts. The ulcer has a portion of callous skin in the centre of it, resembling leather in its appearance. and so closely adhering as not to be separated without great force, or dissection; hence the name of this peculiar ulcer.

Warbles are too often but little regarded. They will frequently disappear without medical treatment, but they will at other times degenerate into sitfasts. If it be practicable the horse should have rost, or, at all events, the stuffing of the saddle should be so arranged that every degree of pressure be removed from the part. Use the Orange Liniment.

For galls there is no better application than the Orange Liniment, common sense, and common humanity. I would suggest the necessity of chambering the saddle and the collar, and not suffering the animal with sore places as broad as the hand to be unnecessarily tortured by the rubbing of the rough and hardened stuffing.

Setons

Are pieces of tape passed by the means of an instrument called a large needle, either through abscesses or the base of ulcers with deep sinews, or betwecn the skin and the muscular or other substance beneath. They are retained there by the ends being tied together by a knot at each end. The tape is moved in the wound twice or three times a day, and wet with spirits of turpentine or some liquid in order to increase the inflammation which it produces, or the discharge which is intended to be brought about by the use of the seton. In abscesses such as tumors in the withers or the poll, and when passed from the summit to the very bottom of the swelling, setons are highly useful, as discharging the fluid and suffering any fresh quantity of it that may be secreted to flow out, and by the degree of inflammation which they excite on the inside of the tumors it helps to throw out healthy granulations which gradually occupy and fill the hollow in deep, fistulous wounds. They are indispensable, for except some orifice be made for the matter to flow from the bottom of the wound it will eat deeper, and the healing process can never be accomplished. On these accounts a seton passed through the bottom of the ulcer in poll evil and fistulous withers is of much benefit. Setons are sometimes useful by promoting a discharge in the neighborhood of an inflamed part, and thus carrying away a portion of the fluids which overload or would otherwise more distend the vessels of that part; then a seton is placed in the cheek with considerable advantage when the eyes are inflamed.

Clipping.

As to this new method of clipping and its supposed improvement, shaving the horse, such deviations from nature come to no good. There may not be so much perspiration hanging about the hair when the horse is warmed by a fast drive and comes to a standstill on a cold day; therefore the cooling process of evaporation in such a situation may not be so long continued. But then let it be remembered that the cold is more intense when the frosty air comes in contact with the horse's heated skin. It is during these pauses in action that the animal wants something to protect him from the cold upon the opened pores of the skin. While the horse is in action a supply of heat is obtained by the effect of that action, but when the action is suspended some clothing, natural or artificial, something through which the animal heat shall not escape, is necessary to prevent the chilling of the horse, the exhaustion of vital powers and the dangerous reaction of fever. My advice is, not to clip a horse, but let nature alone. Good care will keep him looking just as well, if not better, than the process of clipping.

Not Lying Down.

It not uncommonly happens that a horse will seldom or never lie down in the stable. He sometimes continues in good health and feeds and works well, but generally his legs swell or he becomes fatigued sooner than another horse. If it is impossible to let him loose in the stable, or to put him in a spare box, I know not what is to be done. No means, gentle or cruel, will force him to lie down. The secret is, he is tied up and has either never dared to lie down through fear of confinement of the halter, or he has been cast in the night and severely injured. If he can be suffered to range the stable or to have a comfortable box in which he may be loose, he will usually lie down the first night. Some few horses, however, will lie down in a stable, and not in a loose box. A fresh, well made bed, will generally tempt him to lie down as soon as any method I know of.

Bleeding,

This operation is performed with a fleam or lancet. The first is the common instrument and the safest, except in skillful hands. The lancet, however, has a more surgical appearance, and will be adopted by the veterinary practitioner. A blood-stick (a piece of hard wood loaded at one end with lead) is used to strike the fleam into the vein. This is sometimes done with too great violence, and the opposite side of the coat of the vein is wounded. Bad cases of inflammation have resulted from this. If the fist be doubled, and the fleam be sharp, and struck with sufficient force with the lower part of the hand, the blood-stick may be dispensed with. For general bleeding the jugular vein is selected. The horse is blindfolded on the side on which he is to be bled, or his head turned well away; the hair is smoothed along the course of the vein with the moistened finger; then with the third and little fingers of the left hand, which holds the fleam, pressure is made on the vein, sufficient to bring it fairly into view but not enough to swell it too much, for then, presenting a rounded surface, it would be apt to roll or slip under the blow. The point to be selected is about two inches below the union of the two portions of the jugular vein, at the angle of the jaw. The fleam is to be placed in a direct line with the course of the vein, and over the precise centre of the vein, as close to it as possible, but its point not absolutely touching the vein. A sharp rap with the blood-stick or the

hand on that part of the back of the fleam immediately over the blade, will cut through the vein and the blood will flow. A fleam with a large blade should always be prepared, for the operation will be materially shortened, which will be a matter of some consequence with a restive horse; and a quantity of blood drawn speedily will have far more effect on the system than double the weight slowly taken: while the wound will heal just as quickly as one made by a smaller instrument. There is no occasion to press so hard against the neck with the pail or can, as some do; a slight pressure, if the incision has been made large enough, and straight, and in the middle of the vein, will cause the blood to flow sufficiently fast; or, the finger being introduced into the mouth between the tushes and the grinders, and gently moved about, will keep the mouth in motion, and hasten the rapidity of the stream by the pressure and action of the neighboring muscles. When sufficient blood has been taken the edges of the wound should be brought closely and exactly together, and kept together by a small, sharp pin being passed through them. Round this a little tow or a few hairs from the horse's mane should be wrapped, so as to cover the whole of the incision; and the head of the horse should be tied up for several hours to prevent his rubbing the part against the manger. In bringing the edges of the wound together and introducing the pin, care should be taken not to draw the skin too much from the neck, as blood will insinuate itself between the skin and the muscles beneath, and cause an unsightly end sometimes troublesome swelling. The blood should be received into a vessel the dimensions of which are exactly known, so that the operator may be able to calculate at any period of the bleeding the quantity that is subtracted. Care likewise should be taken that the blood flow in a regular stream into the center of the vessel;

for, if it be allowed to trickle down the sides, the blood will not afterward undergo those changes by which we partially judge of the extent of the inflammation. The pulse, however, and the symptoms of the case collectively, will form a better criterion than any change in the blood. Twenty-four hours after the operation the edges of the wound will have united, and the pin should be withdrawn. When the bleeding is to be repeated, if more than three or four hours have elapsed, it would be more prudent to make a fresh incision than to open the old wound.

Few directions are necessary for the use of the lancet. They who are competent to operate with it will scarcely require any. If the point be sharp, the lancet can scarcely be too broad-shouldered, and an abscess lancet will generally make a freer incision than that in common use. A spring lancet has lately been invented by which any one may bleed from the jugular or from a smaller vein safely and certainly. Whatever instrument be adopted, too much care cannot be taken to have it perfectly clean and very sharp. It should always be carefully wiped and dried immediately after the operation. Otherwise in a very short time the edges will begin to corrode.

For general bleeding the jugular vein is selected, or the largest superficial vein, and the most easily got at. In every affection of the head, and in cases of fever or extended inflammatory action it is decidedly the best place for bleeding. In local inflammation blood may be taken from any superficial vein. In supposed affection of the shoulder, or of the fore-leg or foot, the plate vein, which comes from the inside of the arm, and runs upwards directly in front of the hinder extremity, may be opened. Blood is sometimes abstracted from the saphoena or thigh vein, which runs across the inside of the thigh. In foot cases it may be taken from the coronet, or, much more

safely, from the toe; not by cutting out, as the farrier does, a piece of the sole at the top of the frog, which sometimes causes a wound difficult to heal and followed by festering, but cutting down, with a fine drawing-knife called a searcher, at the union between the crust and the sole, at the very toe, until the blood flows, and, if necessary, encouraging its discharge by dipping the foot into warm water. The mesh-work of both arteries and veins will be here divided, and blood may be generally obtained in any quantity that may be needed. The bleeding may be stopped with the greatest ease by placing a bit of tow in the little groove that has been cut, and tacking the shoe over it.

Air in the Stable.

A supply of pure air is necessary to the existence and health of man and beast. In some stables the supply, if not too great, is carelessly and injuriously admitted, for the wind blows in from every quarter, and beats directly upon the animal. When he has been well seasoned to this it does not seem to do him any harm, except that he has an unthrifty coat and is out of condition. The common error, however, is to exclude as much as possible every breath of air, and to have the breath of the stable hot and unwholesome. The effect of several horses being shut up in the same stable is to render the air unpleasantly hot. A person coming from without cannot breathe many minutes without profuse perspiration. The horse stands hour after hour in it, and sometimes clothed, and then his covering is suddenly stripped off, and he is led into the open air, the temperature of which is thirty or forty degrees below that of the stable. Putting the humanity of the thing for a moment out of the question, I ask, must not the animal thus treated be subject to rheumatism, catarrh, and inflammation of the lungs? It has been replied that the horse keeps himself warm while he is thus exposed, by exercise, and that a man using strong exertions cares but little about the quantity of clothing upon him. The horse constantly in motion after his great coat and all his body clothes have been stripped from him, and he has been turned out naked, when the mercury in the thermometer

is below the freezing point, does he not often stand hour after hour in the road or street, when the owner is warming himself, and this after he has been driven very fast, and his susceptibility to the painful and injurious influence of cold has been exerted to the utmost. It is not so generally known as it should be that the return to a hot stable is quite as dangerous as the change from a heated atmosphere to a cold and biting air. It is the sudden change of temperature, whether from heat to cold or cold to heat, that does the mischief, and yearly destroys a great many horses. The stable is large according to the number of horses it is destined to contain. A stable for six horses should not be less than forty feet in length, and fourteen feet wide. If there be no loft above, the inside of the roof should be plastered to prevent direct currents of air and occasional droppings from broken tile, and the heated and foul air should escape and cool and pure air be admitted by elevation of the central tile, or by large timber carried through the roof with caps a little above them, to prevent the beating in of rain, or by gratings placed high up in the walls. These latter apertures should be as far above the horses as they can conveniently be placed, by which means all injurious draughts will be prevented. When disease begins to appear among horses in illy ventilated stables, is it wonderful that it spreads among them, and that the plague spot should be, as it were, placed on the door of such a stable? When distemper appears in the spring it is in very many cases to be placed or traced first of all to such a pest-house. It is peculiarly fatal there. Of nothing am I more certain than that the majority of the ailments of the horse, and those of the worst and most fatal character, are to be attributed to the unnatural heat of the stable, and the sudden change of the animal from a high to a low, or from a low to a high temperature.

Slipping the Halter.

This is a trick at which many horses are so clever that scarcely a night passes without their getting loose. It is a very serious habit, for it enables the horse sometimes to gorge himself with food to the imminent danger of staggers, or it exposes him as he wanders about to be kicked by the other horses, while his restlessness will often keep the whole stud awake. If the web of the halter, being first accurately fitted to the horse's neck, is allowed to slip only one way, or a strap is attached to the halter and buckled round the neck, but not sufficiently tight to be of serious inconvenience, the power of slipping his collar will be taken away.

Weaving.

This consists in a motion of the head, neck and body from side to side like the shuttle of a weaver passing through the web, and hence the name which is given to this peculiar and incessant action. It indicates an irritable, impatient temper, and a dislike to the confinement of the stable, and a horse that is thus incessantly on the fret will seldom carry flesh, or be safe to ride or drive. There is no cure for it but the close tying up of the animal except at feeding time.

Light.

This neglected branch of stable management is of far more consequence than is generally imagined, and it is particularly neglected by those for whom these treatises are principally designed. The farmer's stable is frequently destitute of any glazed windows, and has only a shutter, which is raised in warm and shut down in cold weather. When the horse is in the stable only during a few hours of the day, this is not of so much consequence, nor so much to horses of slow work, but for carriage horses, as far as the eyes are concerned, a dark stable is little less injurious than a foul and heated one. To illustrate this, reference may be made to the unpleasant feeling and the utter impossibility of reading distinctly where a man, suddenly coming from a dark place into the full blaze of day. The sensation of mingled pain and giddiness is not soon to be forgotten, and some minutes pass before the eye can accommodate itself to the increased light, and if this were to happen every day or several times a day the sight would be injured or possibly blindness would ensue. Can we wonder, then, that the horse taken from a dark stable into a glare of light, and feeling probably as we should under the same circumstances, and unable for a time to see anything around him distinctly should become a starter, or that the frequently repeated and violent effect of sudden light should induce inflammation of the eyes, so intense as to terminate in blindness. There is indeed no doubt in the mind of

any one familiar with the subject that horses kept in a dark stable are frequently notorious starters, and that starting has been evidently traced to this cause. Farmers know and should profit by the knowledge, that the darkness of the stable is not infrequently a cover for great uncleanness. A glazed window, with leaden divisions between the small panes, would not cost much, and would admit a degree of light somewhat more nearly approaching to that of day, and at the same time wonld render the concealment of gross inattention and want of cleanliness impossible. If plenty of light be admitted, the walls of the stable and especially that portion of them which is before the horse's head should not be of too glaring a color. The constant reflection from a white wall and especially if the sun shines into the stable, will be as injurious to the eyes as the sudden change from darkness to light. The perpetual slight excess of stimulus will do as much mischief as the occasional but more violent one when the animal is taken from a kind of twilight into the blaze of day. The colors of the stable, therefore, should depend the quantity of light. Where much can be admitted the walls should be of a gray hue; where darkness would otherwise prevail frequent whitewashing may in some degree dissipate the gloom. For another reason it will be evident that the stable should not possess too glaring a light. It is the resting-place of the horse. The work of the farmer's horse, indeed, is confined principally to the day, but the laborer's or others, are demanded at all periods. The hour of exertion having passed, the animal returns to his stable to feed and to repose, and the latter is as necessary as the former, in order to prepare him for renewed work. Something approaching to the dimness of twilight is required to induce the animal to compose himself to sleep. This half light, more particularly suits horses of heavy

work, and who draw almost as much by weight of carcass that they can throw into the collar as by the degree of muscular energy of which they are capable. In the quietness of a dimly lighted stable they obtain repose and accumulate flesh and fat. Dealers are perfectly aware of this. They have their darkened stables in which the young horses with little or no exercise are fed upon mashes and ground corn, and made up for sale. The round and plump appearance, however, which deludes the unwary, soon vanishes with altered treatment, and the animal is found to be unfit for hard work, and predisposed to every inflammatory disease. The circumstances, then, under which a darkened stable may be allowed, will be easily determined by the owner of the horse, but as a general rule dark stables are unfriendly to cleanliness, the frequent cause of the vice of starting, and of the most serious diseases of the eye.

Apoplexy.

The attack sometimes assumes a much more violent form than at others. The horse falls and dies at once. It then resembles, or is the same as, apoplexy in the human being. To this more serious form of the disease the horse is subject in the stable and even at pasture. But there is generally some warning; he will be seen with his head low, extended almost to the ground, and supported against the manger; he staggers as he stands; if moved he appears as though he would fall; his sight and hearing are evidently affected. This is not mad staggers, for no inflammation of the brain is found; nor stomach staggers, for there is no distention of the stomach. The horse will continue in this way from one to twelve hours; he then falls, grinds his teeth, his eyes are open, protruded, and fixed; the pupil is dilated; there are twitchings about the frame; the muzzle is cold; the vein in the neck is evidently swelled; he is unable to swallow; the drink is returned by the nostrils or the mouth; the dung is often voided involuntarily; the twitching increases to strong convulsions, and death speedily closes the scene. If there be time for medical treatment, the course to be pursued is plain enough. Bleed copiously; take at once eight or ten quarts of blood (from a vein in preference to an artery, for an artery which supplies the brain cannot be got at). Bleed from the jugular, or common neck vein, for that returns the blood from the brain, and a large quantity taken from this vein may

possibly give relief. Next back-rake, or remove the dung from the lower intestines with the hand, and give a dose of physic. But the case is generally hopeless, and the most decisive and skillful treatment alone can avail. I decidedly object to two methods of cure employed by some farriers, and farmers, too. The first is to blow pepper, and Cayenne pepper, if they can get it, up the nostril of the horse. The violent sneezing that is produced if the horse is not too insensible, will probably, and almost certainly, rupture some of the vessels already over-distended. The other practice is to give spice and bark to rouse the animal. The effect of these would be to quicken the circulation and to send yet more blood to that organ which already has a great deal too much.

Physicking.

This is a mode of treatment necessary under various diseases, but which has injured more horses, and in fact absolutely destroyed more of them, than any other thing that can be mentioned. When a horse comes from grass to hard meat, or from the cool open air to a hot stable, a dose of physic, or even two doses, may be useful to prevent the tendency to inflammation which must be the necessary consequence of so sudden and great a change. To a horse that is becoming too fat, or has surfeit, grease, or mange, or that the horse is out of condition, a dose of physic is often most serviceable. But I do enter a protest against the periodical physicking of all horses in the spring and fall, and particularly against that severe system which is thought necessary to train them for work, and the absurd method of treating the horse when under the operation of physic. A horse should be carefully prepared for the action of physic. Two or three bran mashes on that or the preceding day are far from sufficient when a horse is about to be physicked, whether from custom or to promote his condition. Mashes should be given until the dung becomes softened—a less quantity of physic will suffice, and it will more quickly pass through the intestines and be more equally diffused over them. I would give bran mashes for a week or ten days, three times a day, in preference to a dose of physic.

Worms.

Worms of different kinds inhabit the intestines, but except when they exist in very great numbers they are not so hurtful as is generally supposed. although the groom may trace to them hide-bound, cough, loss of appetite, gripes, and a variety of other ailments. The long white worm, much resembling the common earth worm, and being from six to ten inches long, inhabit the small intestines. It is a formidable looking animal, and if there are many of them they may consume more than can be spared of the nutritive part of the food, or the mucus of the bowels, and I have seen a tightened skin and rough coat and tucked up belly connected with their presence. They have then, however, been voided in large quantities, and when they are not thus voided I should trace these appearances to other causes. A dose of physic will sometimes bring away almost incredible quantities of them. Calomel is often given as a vermifuge, but the less this drug is given to the horse the better. It is the principal ingredient in some quack medicines for the expulsion of worms from the human subject, and thence it came to be used for the horse, but in him I believe it to be inert as a vermifuge and only useful as quickening the action of the liver. When the horse can be spared, a strong dose of physic is an excellent vermifuge, so far as the long round worm is concerned, but perhaps a better medicine, and one not interfering with the feeding or working of the horse may be found by referring to page 38 of this book.

Color.

The color of the hair admits of every variety, and each color becomes in turn fashionable. The color of the hair, like that of the skin, is influenced by, or depends on, that of the mucus mesh-work under the cuticle.

There are comparatively few white horses now remaining. The snow-white palfrey, with its round carcass and barb head, originally from Spain, or perhaps from Barbary, and rarely exceeding the size of a Galloway, is now almost extinct. Some yet remain in the possession of the Duke of Montrose. They are of good constitution, and pleasant in their parts. The majority of white horses are those that have become so. Light grey colts begin to grow white before they are five years old, especially if they have not much dark mixture about the joints.

Grey horses are of different shades, from the lightest silver to a dark iron-grey. The silver-grey reminds the observer of the palfrey, improved by an admixture of Arab blood. He does not often exceed fourteen and a half hands high, and is round carcassed, light legged, with oblique posterns—calculated for a carriage or a lady's riding—seldom subject to disease, but not very fast, nor fit for hard work.

The iron-grey is usually a large horse, higher in the withers, deeper and thinner in the carcass, more angular in all his pro-

portions, and in many cases a little too long in the legs. Some of these greys make good hunters and carriage horses. But their defect is in their feet, which are liable to contraction, not so often accompanied by lameness, however, as in many other horses.

The dappled-grey is generally a handsomer and a better horse than the iron-grey. All the angular points of the iron-grey are filled up, and with that which not only adds to the beauty, but to use. There are not, however, so many dappled-greys as there used to be, because the bays have been bred with so much care. The dappled-grey, if he be dark at first, will usually hold his color to old age. Some of the greys approach to a nutmeg, or even to a bay color. Many of these are handsome, and most of them strong.

The roans of every variety of color and form are composed of white mixed with bay or red or black. In some it seems to be a natural mixture of the colors; in others it looks as if one color was powdered or sprinkled over another. They are very pretty horses for ladies or light buggies, and many of them are easy in their paces, but they do not usually display much blood, nor are they celebrated for endurance. If they should have white fore-legs and white hoofs, they are too often tender-footed, or become so even by a little hard work.

The strawberry horse is a mixture of sorrel with white, usually beautiful and pleasant, and more adapted for these qualities than for strength and endurance.

The pied horse is one that has distinctive spots or patches of different colors, but almost invariably of white with some other

color. They are not liked on account of their peculiarity of color, nor in teams of horses, but they look well when matched before a phæton or light buggy. Their value mostly depends on their breed, but of themselves they have no peculiar characteristics, except that a white leg and foot is as suspicious in them as it is in the roan.

The dun, of the Galloway size, is often attached to the curricle or the phæton; but the larger is the true farmer's or miller's horse, and with no extra speed, and not always extraordinary strength, and sometimes a little drone, yet a good-tempered, good-feeding, and a good, useful horse. Varieties of the dun, shaded with a darker color, or dappled, and not standing too high, are very handsome, and are for light carriages and particularly for ladies to drive.

The cream-color of Hanoverian extraction, with his white iris and red pupil, is appropriated to royal use. Attached to the state carriage of the monarch he is a superb horse. His bulky, yet perfectly formed body, his swelling crest, and his proud and lofty action, as if conscious of his office, qualify him for the service that is expected from him, but we have no experience of how far he would suit other purposes.

Of the chestnuts there are three varieties—the lightest red, or the sorrel, usually with white about them, either on the face or legs, generally lightly made, yet some of them bulky enough for the heaviest loads. Their color is generally considered objectionable, many of them have no breeding at all, and the best bred are supposed to be somewhat deficient in endurance. The light chestnut, with less red and a little more bay or brown, is considered a preferable horse, especially if he has no white

about him, or only a small portion of it; yet even he, although pleasant to ride, is sometimes irritable and generally weak. I except one variety, the Suffolk Punch; a very heavy horse, and adapted for slow work, but perfect in his kind, which no labor can daunt, no fatigue overcome. This is a breed unfortunately now nearly extinct. The present variety, however crossed, is not equal to the old Suflolk. The dark chestnut is as different a horse from the light chestnut as can be easily imagined. Round in the carcass, powerful in the quarters, but rather fine in the legs; possessed of great endurance, and with a constitution that rarely knows ailment, except that the feet are small and liable to contraction, and that accompanied by lameness, and the horse is often of a hot and unmanageable temper.

Of the bays, there are many varieties, and they include the very best of our horses of every description. The bright yellow bay, although very handsome, and especially if his mane and tail are black, is least valuable of constitution. The proper bay. with no white about him, and black from the knees and the hocks to the feet, is the most desirable of all colors. He has generally a good constitution, naturally good feet, and if his conformation is not faulty he will turn out a valuable horse for almost every purpose. As we approach to the brown, we find in the bay brown not always so much show and action, but more strength and endurance, and more usefulness. He usually has more substance than the lighter bay, and more deft leg; and could we find the same degree of breeding he would be as handsome and more valuable. A good bay-brown or brown horse with a sufficient quality of blood is indeed a good horse.

When we arrive at the brown, it is necessary to examine the

degree of breeding. This color is not so fashionable, and therefore there have been many neglected. There are many good ones, and those that are good are valuable. But many of them are only a half or quarter bred, and therefore comparatively coarse, yet useful for the saddle, and for the harness, and for slow work, and occasionally for that which is more rapid. The black-brown is generally more neglected, so far as its breed is concerned, and deserves to be examined more carefully. He frequently retains much of the goodness of constitution of the brown and bay-brown.

Of the black horse greater care has been taken. The heavy black of Lincolnshire and the midland counties is a noble horse, and would be almost beyond price if he could be rendered more active. The next in size form the majority of our wagon horses, and perhaps our best; and there is a smaller breed still, and to the improvement of which much attention has been devoted. Many of our cavalry are mounted on black thoroughbreds, and black hunters have been seen; but the improvement of this color has not been studied except for the purposes that have been mentioned. Their peculiarly high action, while not unobjectionable for draft and desirable for parade, would be unbearable in a roadster, and some have said that the black horses are more subject to vice, diseases and blindness than any other color. This charge is not, perhaps, true to its full extent, but there certainly are a great many worthless black horses in all parts of the country. After all, there is an old saying that a good horse cannot be of a bad color, and it is far more necessary to attend to the conformation and points of the animal than to his color. These observations, however, although they admit of many exceptions, may be useful in guiding to the judicious selection of the horse.

The Arteries.

The vessels which carry the blood from the heart are called arteries. They are composed of three coats. The outer or elastic is that by which they are enabled to yield to the gush of blood, and enlarge their dimensions as it is forced along them, and by which, also, they contract again as soon as the gush of blood has passed. The middle coat is the muscular, by which this contraction is more powerfully performed, and the blood urged on in its course. The inner or membraneous coat is the mere lining of the tube. This yielding of the artery to the gush of blood forced into it by the contraction of the heart constitutes the pulse.

The Veins.

These vessels carry back to the heart the blood which has been conveyed to the different parts by the arteries. They have but two coats, a muscular and membraneous. Both of them are thin and comparatively weak. They are more numerous and much larger than the arteries, and consequently the blood, lessened in quantity by the various secretions separated from it, flows more slowly through them. It is forced on partly by the first impulse communicated to it by the heart, partly, in the extremities and external portion of the frame, by the pressure of the muscles, and in the cavity of the chest its motion is assisted or principally caused by the sudden opening of the ventricles of the heart, after they have closed upon and driven out their contents, and thus causing a vacuum which the blood rushes on to fill. There are curious valves in the veins which prevent the blood from flowing backward.

The Pulse.

The pulse is a very useful assistant to the practitioner of human medicine, and much more so to the veterinary surgeon, whose patients cannot describe the ailment or pain. The number of pulsations in any artery will give the number of beatings of the heart, and so express the irritation of that organ and of the frame generally. In a state of health the number of beats in the pulse of a farmer's horse is about thirty-six times in a minute. In that of the smaller and in the thoroughbred horse the pulsations are forty or forty-two. This is said to be the standard pulse, the pulse of health. It varies singularly little in horses of the same size and breed, and when it is found regular there can be little materially wrong. The most convenient place to feel the pulse of the horse is at the lower jaw, a little behind the spot where the sub-auxiliary artery and vein and the parotid duct come from under the jaw. There the number of pulsations can be easily counted, and the character of the pulse, a matter of fully equal importance, will be clearly ascertained. Many horsemen put their hand to the horse's side. They can certainly count the pulse, but they do nothing more. We must be able to press the artery against some hard body, as the jaw-bone, in order to ascertain the manner in which the blood passes through it, and the quantity which flows. When the pulse reaches fifty or fifty-five some degree of fever may be apprehended, and proper care should be taken. Seventy or

seventy-five will indicate a somewhat dangerous state, and put the owner and the surgeon not a little on the alert. Few horses long survive a pulse of one hundred, for by this excessive action the energies of nature are speedily worn out. Some things, however, should be taken into account in forming our conclusions from the frequency of the pulse. Exercise, a warm stable or fear will increase the number of pulsations. When a careless, brutal fellow goes up to a horse and speaks harshly to him and handles him roughly, he adds ten beats per minute to the horse's pulse, and will often be misled in the opinion he may form of the state of the animal. A judicious person will approach the patient gently, and pat and soothe him, and even then the circulation will probably be a little disturbed, and he should take the additional precaution of noting the pulse a second time before he leaves the animal.

If a quick pulse indicates irritation and fever, a slow pulse will likewise characterize diseases, of an opposite character. It accompanies the sleepy stage of staggers, and every malady connected with a deficiency of nervous energy. The heart may not only be excited to more frequent, but also to more violent action. It may contract more powerfully upon the blood, which will be driven with greater force through the arteries, and the expansion of the vessels will be accomplished with greater force and more sudden.

Then we have the hard pulse, the sure indicator of considerable fever, and calling for the immediate and free use of the lancet. Sometimes the pulse may be hard and jerking, and yet small. The stream, though forcible, is not great. The heart is so irritable that it contracts before the ventricle is properly

filled. The practitioner knows that this shows a dangerous state of disease. It is an almost invariable accompaniment of inflammation of the bowels.

A weak pulse, when the arterial stream flows slowly, is caused by the feeble action of the heart. It is the reverse of fever, and expressive of debility.

The oppressed pulse is when the arteries seem to be fully distended with blood. There is an obstruction somewhere, and the action of the heart can hardly force the stream along, or communicate pulsation to the current. This is the case in sudden inflammation of the lungs. They are overloaded and gorged with blood, which cannot find its way through their minute vessels. This accounts for the well-known fact of a copious bleeding increasing a pulse previously oppressed. A part of the blood being removed from the distended and choked-up vessels, the remainder is able to flow on.

There are many other varieties of pulse, which it would be tedious here to particularize, and I will conclude my remarks on it by observing that, during the stage of bleeding its state should be carefully observed. Many veterinary surgeons, and gentlemen, too, are apt to order a certain quantity of blood taken away, but they do not condescend to superintend the operation. This is unpardonable in the surgeon, and censurable in the owner of the horse. The horse is bled for some particular purpose; there is some state of disease indicated by a peculiar quality of the pulse, which we are trying to alter. The most experienced practitioner cannot tell the exact qnantity of blood that must be abstracted to produce the desired effect. The change of the pulse can alone indicate when the object is ac-

complished, and therefore the operator should have his finger on the artery during the act of bleeding, and, comparatively regardless of the quantity, continue to take blood until, in inflammation of the lungs, the oppressed pulse becomes fuller and more distinct, or, the strong pulse, of considerable fever, is evidently softer, or the horse shows symptoms of faintness.

The arteries divide as they proceed through the frame, and branch out into innumerable minute tubes, termed capillaries (hair-like tubes), and they even become so small as to elude the eye. The slightest puncture cannot be inflicted without wounding some of them. In these little tubes the nourishment of the body and the separation of all the various secretions is performed, and in consequence of this the blood is changed, and when the capillaries unite together and begin to enlarge, it is found to be no longer arterial, or of a florid red color, but venous, or of a blacker hue. Therefore the principal termination of the arteries is in the veins. The point where one ends and the other commences cannot be ascertained. It is when the red arterial blood, having discharged its functions. is changed to venous, or black blood, but this is a process gradually performed, and the vessel is gradually changing its character. Branches from the ganglial or sympathetic nerves wind around these vessels, and endue them with energy to discharge their functions. When the nerve communicates too much energy and these vessels consequently act with too much power, inflammation is produced. If this disturbed action be confined to a small space, or a single organ, it is said to be local, as inflammation of the eyes or lungs. When this inordinate action spreads from its original seat and embraces the whole of the arterial system, fever is said to be present, which usually increases in proportion as the local disturbance increases, and subsides with it.

The Farmer's Horse.

The farmer's horse is an animal of all work, to be ridden occasionally to market or for pleasure, but to be principally employed for draught. He should be higher than the road horse. About fifteen hands and two inches may be taken as the best standard. A horse with a shoulder thicker, lower, and less slanting than would be chosen in a hackney will better suit the collar, and collar work will be chiefly required of him. A stout, compact horse should be selected, yet not a heavy, cloddy one. Some blood will be desirable, but the half-bred horse will generally best suit the farmer's purpose. He should have weight enough to throw into the collar, and sufficient activity to get over the ground. Farmers are now beginning to realize the superiority of the moderate sized, strong, active horse over the bulkier yet slower horse of former days. It is not only in harvest or when a cold, frosty morning must be seized to cart manure that this is perceived, but in the every-day work of the farm, the saving of time, and the saving of provender, too, will be very considerable in the course of a year. It has often been said that a horse used much for draught is neither safe nor pleasant for the saddle. The little farmer does not want a showy, complete hackney. He will be content if he is tolerably well carried, and if he has taken a little care in the choice of his horse he has selected one with sound feet, shoulders not too thick, and legs not too much under him, and if he keeps him in good condition and does not scandalously overweight him the five days' carting or harrow work will not materially unfit him for the saddle, especially if the rider bear in mind what I have termed the golden rule of horsemanship, always a little, to feel of the mouth of the animal he is upon.

A farmer, and especially a small farmer, will prefer a mare to a gelding, both for riding and driving. She will not cost him so much at first, and he will get a great deal more work out of her. There can be no doubt, taking bulk for bulk, that a mare is stronger and more lasting than a gelding, and in addition to this the farmer has her to breed from. This and the profit that is attached to it is well known in the breeding counties, but why the breeding of horses for sale should be confined to a few northern districts is not easy to explain. Wherever there are good horses with conveniences for breeding colts, the farmer may start as a breeder with a good chance of success. If he has a few useful cart mares, and crosses them with a well-knit half-bred horse, he will certainly have colts useful for every purpose of agriculture, and some of them sufficiently light for a carriage. If he has a superior mare, one of the old Cleveland breed, and puts her to a bony three-fourths bred horse, or, if he can find one compact enough, a seven-eighths or a thoroughbred, he will have a fair chance to rear a colt that will amply repay him as a carriage horse. The mare need not be idle while she is breeding. She may be worked moderately almost all the time to the period of foaling, and with benefit rather than otherwise. Nor is there occasion that much of her time should be lost even while she is suckling. If she is put to horse in June the foaling time will come and the loss of labor occur in the most leisure time of the year.

There are two rocks on which the farmer often strikes. He pays little attention to the kind of mare, and less to the proper nourishment of the foal. It may be laid down as a maxim in breeding, however general may be the prejudice against it, that the value of the foal depends more on the dam than the sire. The Arabs are convinced of this, and no price will buy

from them a likely mare of the highest blood. They trace back the pedigree of their horses not through the sire but through the dam. The Greek sporting men held the same opinion long before the Arab horse was known. The farmer, however, too frequently thinks that any mare will do to breed from, and if he can find a great prancing stallion, with a high-sounding name and loaded with fat, he reckons on a valuable colt; and should he fail he attributes the fault to the horse, and to his own want of judgment. Far more depends on the mare than is dreamed of in his philosophy. If he has an under-sized or a blemished or unsound mare, let him continue to use her on his farm, for she will beat any gelding, but let him not think of breeding from her. A young mare with some blood in her and with most of the good points about her will alone answer this purpose. She may have about her the marks of honest work, but the fewer of them the better, and she must not have any disease. There is scarcely a malady to which the horse is subject that is not hereditary. Contracted feet, curb, spavin, rearing, thick wind, and blindness, notoriously descend from the sire or dam to the foal. The foal should be well taken care of the first two years. It is bad policy to half starve the growing colt. The colt, whether intended for a work or carriage horse, may be earlier handled, but should not be broken in until three years old, and then the best breaking in for the carriage horse is to make him earn his own living. Let him be put to a harrow or light plow. Going over the rough ground will teach him to lift his feet well and give him that high and showy action admirable in a carriage horse, but excusable in no other. In the succeeding winter he will be perfectly ready for the town or country market.

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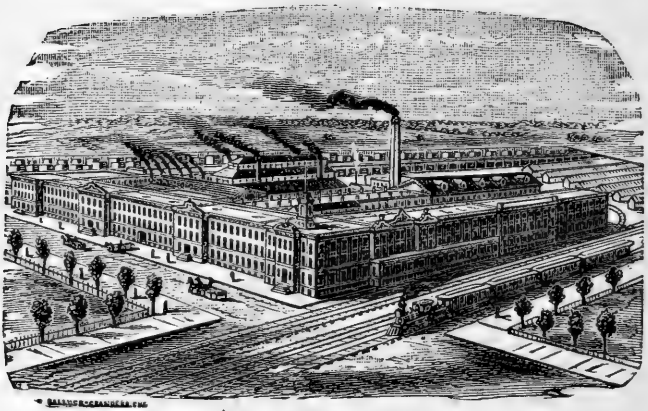

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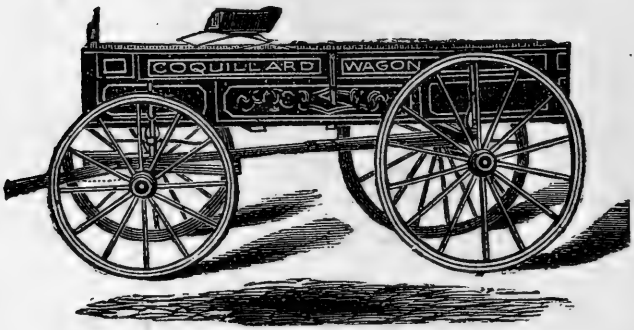

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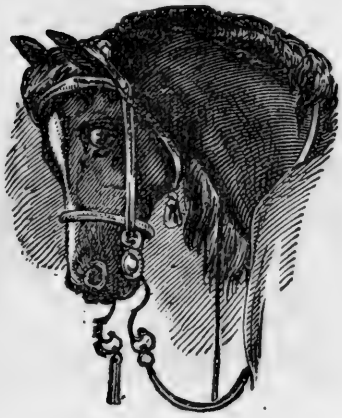

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