WORTHINGTON'S HORSE DOCTOR,

OR

HORSEMAN'S COMPANION,

CONTAINING THE CAUSES, SYMPTOMS, AND MOST APPROVED REMEDIES FOR THE VARIOUS DISEASES TO WHICH THE HORSE IS LIABLE IN THE NORTH, EAST, SOUTH AND WEST.

A GUIDE TO SHOEING,

AND

DIRECTIONS FOR KEEPING THE FOOT SOUND.

BEING THE RESULT OF CLOSE STUDY AND LONG PRACTICAL EXPERIENCE,

BY WM. H. WORTHINGTON.

TO WHICH IS ADDED THE MOST APPROVED METHOD OF

MANAGING VICIOUS HORSES.

MANY OF THE RECIPES IN THIS WORK ARE VERY VALUABLE.

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PREFACE.

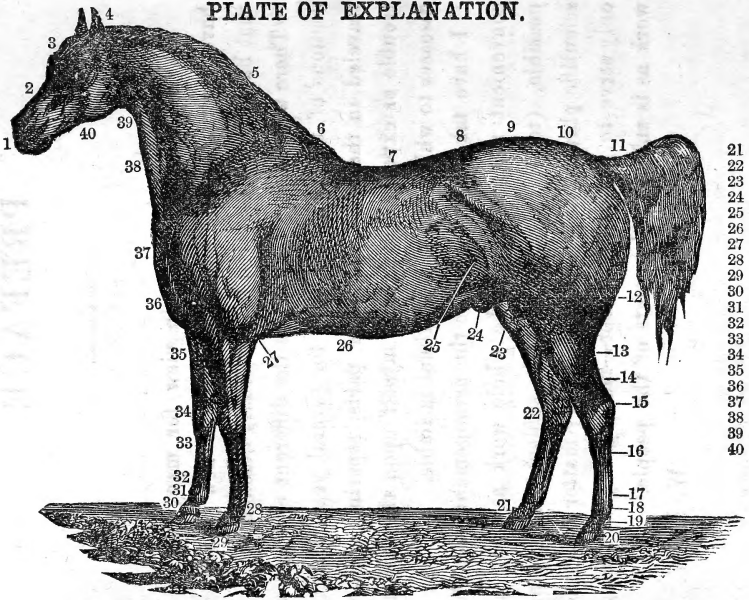
HAVING had this work in view for many years, I have carefully noted and preserved the new principles that have been discovered in Veterinary Science.

There are diseases peculiar to the different climates or sections of the country; and, for several years I have traveled in the West and other parts, (sparing neither trouble or expense,) to inform myself upon the various diseases to which this noble animal is liable.

I have taken care to make the arrangement easy for convenient reference, and the whole work as small as possible, (to do justice to each subject,) excluding scientific phrases, and such unnecessary matter as would only serve to puzzle the reader—making it just such a work as is suited to the wants of the people.

W. H. W.

PLATE OF EXPLANATION.



1 The Muzzle.
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5 Crest.
6 Withers.
7 Back.
8 Loins.
9 Hip.
10 Croup.
11 Dock.
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14 Ham String.
15 Point of the Hock.
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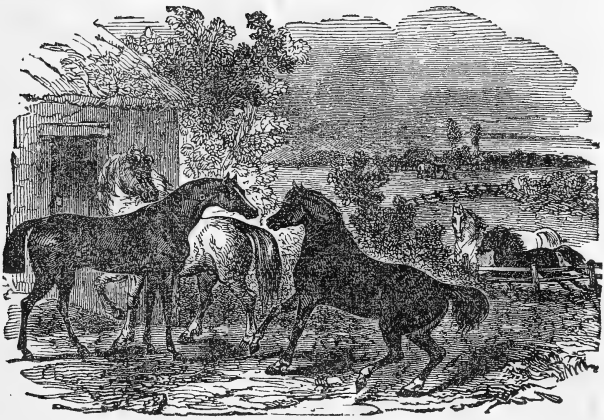


HISTORY OF THE HORSE.

AND

VETERINARY SCIENCE.

From the records of the Old Testament, we learn that upward of seventeen hundred years before Christ, horses were first domesticated and used by the Egyptians, who were at that time the most advanced in civilization, and before Greece was peopled. According to the writings of Moses, the ox, the sheep, the goat, the ass, and the camel, were subdued before the horse

became the servant of man. No sooner was he subdued, and his strength, docility and sagacity appreciated, than the others were comparatively disregarded, except on barren deserts where the horse could not live.

It is probable that the horse was first transmitted from Greece to other distant countries.

The Thessalians, the first and most expert of the Grecian horsemen, and also the inhabitants of Argos and of Athens, were colonists from Egypt.

Fifty years after the expulsion of the Israelites from Egypt, and fourteen hundred and fifty years before the birth of Christ, the horse was so far naturalized in Greece, that the Olympic games were instituted, including chariot and horse races. We have, therefore, sufficient evidence that the horse was, at a very early period, subjected to the dominion of man. Many years prior to the time referred to, an account is given in the 32d chap. Genesis, of the number of oxen, goats, sheep, camels and asses, that Jacob presented to Esau to appease his anger, but not one horse is mentioned, which, in all probability, would have been done, had the horse been known.

Chiron the Thessalian, a personage whom antiquity held in extreme veneration, and who, from his transcendent skill in horsemanship, and many other arts, was called the wise Centaur, lived to the age of the Trojan war. This great man descends to us as the father of medicine, and the instructor of Esculapius in that art. He was, on the concurrent testimony of antiquity, profoundly skilled therein, as also in the care and management of cattle.

In the days of ancient Greece and Rome, the most learned philosophers, statesmen and warriors, did not

disdain to instruct the tillers of the land in the cultivation of the soil, and on the management and diseases of dumb creatures, constituting as they do the substantial wealth of nations. Varro, Cato, Vegetius, and other illustrious men and princes, thought it not derogatory to lend their names or their pens to veterinary science. Virgil also found great favor with Cæsar for curing his horses, and by foreseeing and announcing the qualities of the produce of a mare and other animals.

We meet in Xenophon with proof, that veterinary science had been cultivated before his time. Sainbel says: "Before the fall of Carthage, Mago carried this, as well as every other branch of rural science, so far, that Columella does not scruple to call him the father of Roman agriculture."

The decline of the Roman empire, and the decay of arts and sciences, occasioned for a time the destruction of this, as well as every other branch of knowledge. But, while veterinary medicine was lost in the west, and was declining fast in Greece, it found an asylum among the Arabians, a nation destined, it should seem, by providence, to receive in trust the knowledge of Europe, until emerged from the abject state into which it was plunged.

It would be to no purpose to trace the progress of this art through all its vicissitudes.

In the twelfth century, a period at which Arabian learning was at its hight, the Moors of Spain boasted Ibnu, a native of Malaga. This learned man left behind him a large treatise on the virtue of herbs; on poisons; on metals; and on animals.

Abubecre, master of the horse to the Sultan of Egypt, who reigned near the close of the thirteenth century,

left a work on the medicine of horses, and on the art of breaking them.

Veterinary science had made but little progress until the beginning of the sixteenth century, when Francis the First, of France, gave orders to Ruelle, to collect together from the writings of the ancients, whatever might tend to improve this neglected division of the art, which collection was soon after made, and printed at Paris in 1530.

In 1762, there was established in the city of Lyons, a school, in which might be taught the knowledge and treatment of diseases of cattle of every description. There was, soon afterward, another school established at Paris, others at Vienna, Denmark, Sweden, Prussia, Piedmont, and Hanover. It was not until the residence in England of Sainbel, (through whose exertions arose the Veterinary College of London, 1792,) that true veterinary science began to be cultivated there. He was a man of transcendent skill, and stands the corner stone and original source of that knowledge and practice which was adopted in London, and prevails to some extent in the United States.

AGE.

When a colt is foaled he has no teeth in the front of his mouth; in about two weeks, two above and two below make their appearance.

At four or five weeks old, the next two teeth (one on each side) above and below, appear. At about four months old the corner teeth come up.

After this period the whole six teeth wear even, and so continue smooth and unmarked until two years and

a half, the corner teeth being still the less perfect, the front ones the largest. Between the second and third year, the colt sheds his two middle teeth, above and below; between the third and fourth year, the two next are changed.

Between the fourth and fifth year, the two corner teeth are changed.

About the end of the fourth year, or a little later, the tushes or bridle teeth appear in the horse's mouth. Mares seldom have any tushes. At five years old, the horse has a full mouth of permanent or horse teeth, well marked with dark-brown cavities or grooves in the end surface — six above and six below, in the forepart of his mouth—called gatherers or cutting teeth, and it is from these we know his age; and twenty-four grinders behind, from which we tell nothing of his age; then four tushes, two above and two below, making, in all, forty.

Toward the close of the sixth year, the black cavities, in the two middle teeth in the under-jaw, are filling up; and rising six, the next two begin to wear, and at seven years, the grooves in the middle teeth are about gone, leaving only a mark resembling the eye of a bean. Up to this age, the two corner teeth retain the mark, and that but slightly, when the horse acquires the term "aged," and in about another year, the two corner teeth fill up.

This is the state of the lower jaw at seven years old, but the teeth of the upper jaw do not fill up so fast by two years. The marks in the two front teeth of the upper jaw are not obliterated until eight years old, the next two about the tenth year, and the two corner teeth above do not lose their marks until about the twelfth

year. From this period, the teeth contract in size, become roundish, and leave a small space between them; which space increases up to the fourteenth or fifteenth year, when each tooth assumes an angular shape, and projects forward irregularly. In another year or two, the jaw becomes contracted, the gums recede considerably from the roots, and the shape of the teeth is then of an oblong, and contrary to the first.

The general indications of old age, independent of the teeth, are deepening of the hollows over the eyes, gray hairs, particularly over the eyes and about the muzzle, thinness and hanging down of the under-lip, sharpness of the withers, sinking of the back, and lengthening of the quarters, etc.

EYES.

The eye is a most important organ, and should be large and a little prominent, and the eyelid fine and thin. If the eye be sunk in the head, and the lid be thick, and if there be any puckering toward the inner corner of the eyelids, the eye is either diseased, or has been lately subject to inflammation. All weeping, cloudy, dull-looking eyes are unsound. When the horse is led out of a dark stable into the light, observe whether his eyes contract, and whether they expand in the shade; if they do, you may conclude that the eyes are good.

INFLAMMATION OF THE EYE.

The common inflammation is generally sudden in its attack. The lids will be found swelled, the eyes partially closed, with some weeping. The inside of the lid will be red, some red streaks visible on the white of the

eye, and the cornea slightly dim. This is sometimes connected with catarrh or cold, and sometimes caused by a blow or something getting within the lid. It may sometimes be necessary to give a gentle purge, though cooling applications to the eye, as the Goulard's Extract, will often be sufficient.

Recipe No. 1.

GOULARD'S WASH FOR THE EYES.

Extract of lead, . . . two drachms.
Soft running water, . . . one pint.

Mix and apply to the eye once or more through the day, getting as much in the eye as possible.

The following lotion is also good to lessen the pain:

Recipe No. 2.

Tincture of digitalis, . . . six drachms.
Soft running water, . . . one pint.

If one or both of the above lotions have been applied, and the inflammation is not reduced in a few days, it may be necessary to bleed him from the angular vein, at the inner corner of the eye, or turn the eyelids inside out and scarify them, or bleed largely from the jugular. A seton in the cheek, or under the jaw, is also useful in removing the inflammation from the diseased parts. If the disease continues to be troublesome, the following wash may be used with good effect:

Recipe No. 3.

Sulphate of zinc, . . . four grains.
Sugar of lead, ... six grains.
Water, ... half pint.

Rub them together until they are dissolved, and wash

the eye several times; introduce as much as you can within the lids.

HAWS OR HOOKS.

Sometimes what are called haws project on the forepart of the eye, and the eye is drawn back by the retractor muscle; and the haw or washer, having partaken of the general inflammation, becomes enlarged, and covers a portion of the eye, and the horse is said to have the hooks. When the inflammation subsides, the haw will return to its natural size. If the cooling lotions on the preceding page, with gentle physic, does not set all right, it may be necessary to cut it out, which can be done without any material injury resulting from it.

The following mild purgative may be serviceable, if given when the horse is first taken—mild purgative ball.

Recipe No. 4.

Aloes, ...	four drachms.
Castile soap, . . .	four drachms.

Mix with mucilage for one ball.

To be repeated if necessary, and the horse to have soft, digestible food, and not exposed to cold, disagreeable weather.

DISEASES OF THE TONGUE.

This disease often exists without the nature of it being known. Bladders will sometimes appear along the side and under the tongue. The bladders must be deeply lanced, and they will generally get well. The

following is an excellent wash for foul ulcers of all kinds, and will assist them to heal:

Recipe No. 5.

SOLUTION OF CHLORIDE OF LIME.

Chloride of lime, (in powder,) one and a-half drachms.

Dissolved in a pint of water, put in a bottle, and keep for use.

Wash the mouth and tongue; and should the ulcers continue offensive, it may be necessary to give a mild purge, and use the following wash:

Recipe No. 6.

ALUM WASH.

Powdered alum, . . . two ounces.
Water, ... one quart.

Bottle, and keep for use.

LAMPAS.

The palate of the young horse is more subject to inflammation than of the old. The bars of the mouth sometimes swell below the surface of the teeth, and become very painful when feeding, and the horse falls off in condition. Many persons recommend physic and bleeding of the bars, and object to the burning of them as a barbarous operation. Within the last twenty years I have burned them out with a sharp iron made for the purpose, and I have not known one case where they returned, and I have burned a great many. Take a flat piece of iron, heavy enough to hold the heat, and as wide as your three fingers, (less will do;) make the end sharp, file the corners a little round, and bend it

up about half an inch, heat it red hot, and burn about a quarter of an inch deep, or according to the size of the enlargement, and not above the first bar. (I take a piece out.) If properly done, it will be well in a day or two, so that the horse can eat hard food. The horse should have mashes in place of hard food, immediately after the operation is performed.

THE STRANGLES.

This is a disease common with young horses. It is preceded by a cough; and, at first, is very much like the common cough, except a greater discharge from the nostril, which is generally without smell. It is accompanied by some fever, weeping of the eyes, an inclination to eat and drink, without being able, on account of the pain resulting from the working of the jaws while chewing and swallowing. These painful symptoms are produced by a swelling which comes about the center of the channel under the jaw. It soon fills the whole space, and is, evidently, one uniform body, and may thus be distinguished from glanders, or the enlarged glands of catarrh. The swelling increases, the tumor bursts, and a quantity of matter is discharged, and the horse soon gets well. The best thing we can do for this disease, is to clip the hair off close at the part affected, to allow of greater effect from whatever we may apply to promote the ripening of the tumor. Mild cases will require only the assistance of a few poultices or stimulating liniment. Make a poultice of a pound of linseed meal, and add two ounces of common turpentine, and apply it to the part affected. If the tumor is very slow in ripening, apply the following stimulating liniment:

Recipe No. 8.

STIMULATING LINIMENT.

Mustard, powdered, . . one ounce.
Liquid ammonia, . . three drachms.

If there be symptoms of fever, give the following laxative drench:

Recipe No. 9.

LAXATIVE DRENCH.

Linseed oil, . . . one pint.
Water gruel, . . . one pint, Mix.

Meantime, when it is evident that the tumor contains matter, it should be freely lanced, the incision should be deep and large enough to allow all the matter to run out; there should be no squeezing the tumor to force the matter out; it must be kept clean, and if it runs slow, a warm poultice may be applied, or fomentations used to assist the discharge.

STRANGLES OF THE GULLET.

Sometimes there is an obstinate running at the nose, that lasts a long while, and sometimes ends fatally, by the animal wasting away in pulmonary consumption. Many persons mistake this disorder for glanders, but it may be known from that disease by a rattling in the gullet, and by the quality of the running, which is white and curdled, and the animal seldom, if ever, troubled with a cough, and then is very feeble, and shows frequent contractions of the windpipe.

BASTARD STRANGLES.

Hinds says, with a great show of truth, that "bastard strangles is a favorite term with some persons who would soften down the real fact of their horses having the glanders, which it really is, and not strangles. But bastard or not bastard, it is always infectious, and the animal either dies of strangulation, or the disorder becomes the glanders, producing a sanious discharge from the nose when the cough ceases."

FUMIGATION.

Take the leaves and root of marsh-mallows,—an arm full, water six quarts, boil them, and put the whole into a nose bag, and hang it round the head of the animal to make him inhale the steam, the bag may be made of stout cloth, but hung with the upper part quite open, to avoid suffocation, leave the bag at the animal's nose until no more steam will arise. This will be found a very proper remedy, in all cases of strangles, the first stage of glanders, and obstinate colds.

GLANDERS.

The most formidable of all the diseases to which the horse is subject, is glanders. Glanders may be either bred in the horse, or communicated by contagion. It is often produced by improper stable management. The air which is necessary to respiration is changed and empoisoned in its passage through the lungs, and a fresh supply is necessary for the support of life. In close and ill-ventilated stables, the air passing so often to the lungs becomes vitiated, and produces irtitation and disease, such stables often witness the ravages of

glanders. The membrane of the nose, possessed of extreme sensibility for the purposes of smell, is easily irritated by this poison.

Glanders may be produced by any thing that injures, or for a length of time acts upon, and weakens, the vital energy of this membrane.

Violent catarrh, long and continued discharge from the nostrils, violent inflammatory diseases, and any thing that will weaken and exhaust the constitution, may result in the appearance of glanders. It may be received by one horse rubbing against another, by the breath, and by a sound horse eating the slavered food of a diseased one; diseased stables, foul racks and mangers, and litter upon which a tainted horse has lain, will infect a sound animal, if unfortunately he is put into such a situation at the time the disease is active upon the thing infected.

The symptoms of glanders frequently vary, and to a most puzzling degree. Sometimes the discharge will be so slight as scarcely to be perceived, and known only by its stickiness; and the glands will not be in the least degree enlarged. At other times, a very small enlarged gland may be found adhering to the jaw, and may be stationary month after month, and the surgeon may be told that there has never been discharge from the nose. He will, however, be wrongly informed here; it has most assuredly existed, although perhaps in so small a quantity that the groom or driver will deny its existence; and he will principally satisfy himself with respect to it by its gluey feeling.

It is remarkable that the virus, in most cases of glanders, does not produce, in the beginning, any sensible alteration in the animal's health; the horse taken with it has neither fever, dullness, nor distaste to food; the

appetite is good, the digestion easy, and the secretions regular.

The inward cavities of the nose are lined in their whole extent by the pituitary membrane. Its texture is composed of nerves, arteries, veins, and excretory vessels, which proceed from a multitude of glands spread through its whole substance. These nerves are branches of the olfactory nerves, and constitute the organs of smelling. The arterial vessels proceed from a branch of the inward upper carotid artery; and the veinous vessels unite together, in order to flow into the jugular vein. In its natural state, this membrane is constantly moistened and lubricated by a mucilaginous liquor, which defends it against too strong an impression of the air, and preserves it from inflammation.

The want of fluidity in the blood and lymph occasions the obstruction of the vessels of the pituitary membrane. The irritation of the nerves, by producing a contraction of the vessels contributes to this obstruction.

The relaxation of the texture of the membrane, by depriving the vessels of their tone, occasions a stoppage of the fluid, and produces obstruction, and inflammation generally follows.

The inflammation of the pituitary membrane produces a discharge of limpid matter, sometimes slimy, always transparent in the beginning. If the inflammation increases, the stagnated humors become corrupt, and turn to a thick white pus.

If it lodges and remains in the cavities, it becomes sharp and corrosive, attacks the bony substance, lacerates the bloodvessels, and this mixed virus produces a discharge of a yellowish, green, or bloody appearance.

The flow of matter from the nostrils proceeds from

various causes; and it is necessary to become acquainted with the symptoms that attend the strangles, catarrh, asthma, and consumption, in order not to confound the glanders with other diseases.

No cough accompanies real glanders in its early stages; the first external symptom is a discharge at the nostrils, and that generally the left; and the gland of that side only is affected. Of eight hundred cases of glanders that came under the notice of M. Dupuy, the director of the veterinary school at Toulhouse, only one horse was affected in the right nostril.

As the disorder proceeds, it is apt to affect both sides; both nostrils run, and the glands within the under jaw, on both sides, will be enlarged. Glanders, however, will frequently exist at an early stage without these swelled glands, and some other diseases, as catarrh, may produce them. In glanders, the swelling may be somewhat large and diffused, but the surrounding enlargement soon goes off, and one or two small, distinct glands remain; and they are not in the center of the channel, but adhere closely to the jaw. They are simply hard tumors without any matter in them.

The membrane of the nose may be examined and will materially guide our opinion. It will either be of a dark purplish hue, or almost of a leaden color, or of any shade between the two; or, if there be some of the redness of inflammation, it will have a purple tinge; but there will never be the faint pink blush of health, or the intense and vivid red of inflammation.

When ulcers appear on the membrane of the nose, the constitution will be evidently affected. The horse will lose flesh; his belly will be tucked up, his coat will be unthrifty and readily come off, cough will be heard, the

appetite will be impaired, the strength will fail, the discharge from the nose will grow more purulent, discolored, bloody, stinking; the ulcers will increase, and the air-passages being obstructed, a grating, choking noise is heard at every act of breathing. The lungs are now diseased, the whole circulation does at length become empoisoned, and the animal presents one mass of putrefaction, and dies, an emaciated and loathsome object.

This disease, in its different forms, has been known to exist for two or three years, but, before its termination, becomes connected with farcy. Few horses die of glanders, without exhibiting some appearance of farcy; and farcy, in its latter stages, is often accompanied by glanders. They are different forms or stages of the same disease.

The remedies that have been applied to the afflicted animal, in this forlorn disease, are found of no avail, unless taken at an early period.

As soon as a horse is suspected of glanders, he should be kept separate from all others, and the fumigation of marsh-mallows applied, as prescribed at page 18, repeatedly; a purgative or an alterative may be given, according to the state of his body, and the usual remedies as for catarrh, continued for a week or ten days.

If the disorder does not lessen in this time, the following ball may be given:

Recipe No. 12.

BALL FOR GLANDERS.

Sulphate of copper, (powdered,) one drachm.
Gentian, ... one drachm.
Ginger, ... one drachm.
Linseed or palm oil, sufficient to form a ball.

Give one ball, morning and night, for about two weeks, and then daily as long as may be necessary, or the constitutional treatment recommended for farcy may be adopted, or five or six drachms of aloes may be given, and then the following:

The diniodide of copper. The union of two parts of the iodide of potassium with four of the sulphate of copper, has been given in the early stages of glanders, with success.

Recipe No. 13.

Iodide of potassium, . . half drachm.
Sulphate of copper, (powdered,) one drachm.

Make into a ball, and give one night and morning. The dose may be increased a quarter of a drachm each day, until two and a-half or three drachms is given. Little or no corn should be given. The horse should have green food or mashes.

If the symptoms still increase in virulence, the horse should be destroyed, and his body-clothing burned, and every thing about the stable scraped—washed first with soap and water, and then with a solution of the chloride of lime, (Recipe No. 5, page 15.)

Care should be taken that the hands of the person who gives the medicines are sound, for the disease has been communicated to the human being, and lives have been lost by it. Gloves and the balling-iron should be used.

FARCY.

This is also a contagious disease, and often attributed to bad stable management. It frequently runs its course

quicker than glanders, although, like that malady, it sometimes lurks long in the frame before its destructive effects are seen. They are intimately connected, and will run into each other, or their symptoms will mingle together; and before either arrives at its fatal termination, its associate will almost invariably appear.

It is produced by all the causes that give rise to glanders; there is, however, this difference, the farcy is more frequently generated, and if taken in its early stage, may be more successfully treated.

Symptoms.—Sometimes the first indication of this disease is the appearance of small tumors, resembling grapes, following the course of the veins, and painful when pressed with the finger. When very small, they may exist for several weeks without being observed. They are hard at first, but at length they increase in number and in size, and become softer and more painful, and begin to ulcerate. They are then termed farcy buds. They usually appear about the face or neck, or inside of the legs. In the latter case painful swellings of the limbs are seen.

In some cases, however, the disease commences in, and is, for a time, confined to one of the hind limbs.

These lumps may be distinguished from the surfeit lumps. They are more knotty, higher, and not so broad; and are oftenest found on the inside of the limbs instead of the outside, and following the course of the veins.

As the disease advances, there is swelling of the nose, lips, and sometimes over the body; a glanderous, offensive, bloody matter, is discharged from the nostrils, the animal becomes hide-bound, and losing flesh and strength, and finally dies a mass of corruption.

Treatment.—The treatment of farcy varies with the form it assumes.

When the buds appear, a mild purgative should be given, and the buds should be examined; and if any of them have opened, the budding iron, of a dull, red heat, should be applied to them; or, if they contain matter, and are not broken, they should be penetrated with the hot iron. When the slough of the cautery comes off, if they look pale, and foul, and spongy, and discharge matter, they should be washed with a lotion, composed of—

Recipe No. 14.

Corrosive sublimate, . one drachm.

Dissolved in two ounces of spirits of wine, and two ounces of vinegar, slowly added.

Or the following solution of the sulphate of iron may be used, instead of the above:

Recipe No. 15.

LOTION FOR FARCY.

Sulphate of iron, (green vitriol, powdered,) one ounce.

And dissolve it in a quart of spring water. To every pint of the solution add a quarter of an ounce of sulphuric acid, (oil of vitriol.)

Bathe the ulcers with this lotion two or three times a day. If the animal was, when the disease was discovered, in good condition, strong and vigorous, it is likely he acquired it by infection. If he is still fleshy, and the pulse full, take three or four quarts of blood, and give the following purgative:

Recipe No. 16.

PURGATIVE BALL.

Barbadoes aloes, . . . six drachms.
Castile soap, ... one drachm.
Liquorice powder, sufficient to form the ball for one dose.

The animal should be prepared with bran mashes, to facilitate the operation of the physic.

After the animal has been reduced by the above treatment, the following alterative may be given for three successive nights, then stop one night between each dose, until the disease is subdued:

Recipe No. 17.

ALTERATIVE BALL.

Camphor, ... one drachm.
Tartar emetic, ... one drachm.
Assafetida, ... one drachm.
Ginger, ... one drachm.

With mucilage sufficient to form the ball for one dose.

If the foregoing treatment does not seem to subdue the disease, try the diniodide of copper, (Recipe No. 13, page 23,) with the addition of from one to two drachms of gentian, and one of ginger.

The last mentioned preparation is, probably, the best medicine known for farcy and glanders. The gentian and ginger may be added or not; as a tonic and stimulant, they would, probably, be beneficial.

In speaking of farcy in its worst stages, Hinds says it "is that which is spread minutely all over the body and limbs, and has penetrated the whole system." In

whichever manner the animal may have acquired the disorder, we may safely presume that the mass of humors are hideously depraved; and mercury, in one or other of its varied forms, is the only antidote to be relied on for its extinction. Previously, however, the farcy buds and ulcers must be reduced to common sores, by means of the actual cautery freely applied to each. When these slough off, and the sores assume a healthy appearance, less of the mercurial preparation will be required; but if these retain a livid and, therefore, unhealthy hue, accompanied by a poisonous discharge, that ulcerates the adjacent parts, a thorough course of mercury is the only certain remedy, and this must be managed with caution.

Recipe No. 18.

MERCURIAL BALL, NO. I.

Æthiop's mineral,	two drachms.
Opium,	ten grains.

With Liquorice powder and mucilage to form the ball for one dose.

Give twice a day, until the patient's breath smells very offensive, and then discontinue the medicine a day or two, as you should also when the animal is found to stale inordinately, or the bowels be very much disordered. But, when the bowels are only slightly affected, increase the quantity of opium to twenty or thirty grains.

Recipe No. 19.

MERCURIAL BALL, NO. II.

Corrosive sublimate,	ten grains.
Tartar emetic,	half a drachm.
Opium,	half a drachm.

Mix with liquorice powder and mucilage to form the ball for one dose, and give as above.

Recipe No. 20.

MERCURIAL BALL, NO. III.

Corrosive sublimate, . .	ten grains.
Powdered gentian, . .	two drachms.
" ginger, . .	one drachm.
Linseed meal, . . .	half an ounce.

Make the whole into a ball with palm oil.

Give at night and morning for several days. The animal may be fed generously during the operation of this strong medicine, and its progress carefully watched, lest salivation or violent purging ensue; if he should appear very sick or greatly agitated, and off his appetite, the medicine should be lessened in quantity, or discontinued for a short time, or altogether.

In salivation, wash the mouth freely with the solution of chloride of lime, (Recipe No. 5, page 15,) and afterward by the following, if necessary.

Recipe No. 21.

INFUSION OF CATECHU.

Take two ounces of powdered catechu, pour a quart of boiling water on it, and set it aside in a covered vessel an hour; occasionally shake it, and pour off the clear liquor, add an ounce of spirits of wine, and bottle for use. In case of salivation, and after the mercury has been discontinued, the following alterative may be given morning and night:

Recipe No. 22.

ALTERATIVE BALL.

Black sulphuret of antimony, two drachms.
Sulphur, ... two drachms.
Powdered nitre, . . . three drachms.
Linseed meal, . . . two drachms.

Beat them into a mass with palm oil.

But, if much purging and griping have been produced by the mercury, starch or arrow-root may be freely given, and the following drink morning and night:

Recipe No. 23.

DRINK FOR PURGING FROM MERCURY.

Take powdered opium, two drachms, and rub in well the contents of one raw egg, and then add two more eggs, each well rubbed in, then add half pint thin gruel; mix well.

If the purging is not arrested in two days, the starch and arrow-root may be continued, and the following given morning and night until the purging begins to cease.

Recipe No. 24.

ASTRINGENT DRINK.

Powdered catechu, . . two drachms.
Powdered opium, . . one drachm.
Powdered ginger, . . one drachm.
Prepared chalk, . . five drachms.
The contents of one egg.

Rub them well together and add half pint thin gruel.

The treatment of farcy and glanders in some of their varied stages are so nearly the same, that it would be better to study well the symptoms and treatment of both diseases, in order to be better able to adopt the best

mode in each case. If no benefit is obtained from the use of the corrosive sublimate in ten or fifteen days, the following may be used with some benefit:

Recipe No. 25.

BALL FOR FARCY.

Sulphate of copper,	one drachm.
Powdered ginger,	one drachm.
Powdered gentian,	two drachms.
Linseed meal,	three drachms.
Palm oil,	to make one ball.

This ball may be given twice a day, and continued with safety for several weeks, or as long as may be necessary; or the diniodide of copper before mentioned may be used to better advantage, or either of the above may be used successfully without having recourse to the mercury at all. See pages 23 and 26.

If the hot iron is applied to the buds it must be done very carefully; sometimes blue vitriol is used for the same purpose.

WATER FARCY, OR DROPSY.

Dropsical swellings sometimes appear between the fore legs, on the chest, under the belly, and in different parts of the body; they sometimes accompany other diseases, and sometimes appear when there is no other disease than debility, resulting from some disease, or from the changing of the coat, foul feeding, or a long rainy spell of weather. The swellings are soft, and when the finger is pressed hard upon them, the hollow resulting from the pressure may be seen some time after.

The treatment will vary with the cause of the affection

or the accompanying disease. It is often necessary to make small holes or punctures in the skin with the lancet, taking care to avoid the veins. This may have to be done several times before the swelling subsides. It is generally best to give a gentle purge once a week for a while, and also, diuretics; bran mashes should be given, and gentle exercise; his feed may be increased by degrees. The disorder mostly happens to young horses that have not been used to high feed.

The following may be given every day, except the time when the physic is working:

Recipe No. 26.

Squills,	two ounces.
Camphor,	one ounce.
Castile soap,	one ounce.
Turpentine,	half ounce, or
Yellow rosin,	four ounces.

Make these into a ball with honey, and give one ounce at a time. These will work the water off by urine.

When the horse begins to recover, give him a pint of the following infusion every day for a fortnight fasting, and let him fast one hour after each dose.

Recipe No. 27.

Gentian root,	four ounces.
Black hellebore,	three ounces.
Jesuit's bark,	two ounces.
Camomile flowers,	four ounces.
Centaury,	one hand full.

Boil all together in six quarts of water for ten minutes, let it stand till cool, and then strain it through a cloth. An author of experience says this strengthening

drink will brace the fibers, cause the fluids to circulate quicker, and complete the cure.

NASAL GLEET, OR DISCHARGE FROM THE NOSE.

There is sometimes a discharge from the nose after other diseases have passed away, and the animal otherwise appears in good health.

If the discharge be not offensive to the smell, nor mixed with any matter, it is probably merely an increased and somewhat vitiated secretion from the cavities of the nose, and there being no fever, will generally yield to small doses of blue vitriol, from one to two drachms twice a day. If the discharge is offensive, gentian and ginger may be added to the copper.

Recipe No. 28.

Sulphate of copper, . . one drachm.
Powdered gentian, . . two drachms.
Powdered ginger, . . one drachm.
Palm oil to make one ball.

Better turn the horse out to grass if possible, for there is danger, if the discharge continues for some time, that it may terminate in glanders.

If there be any cough or fever accompanying the discharge from the nose, it may be catarrh, cold, or some other disease. The powders recommended for distemper, (recipe No. 61,) is good for old discharges that are not glanderous, and may be given in place of recipe No. 28.

STAGGERS, VERTIGO, MEGRIMS, APOPLEXY, PHRENITIS, FITS.

Many writers have divided this disease into several different parts under several different names, which only confound the reader instead of enlightening him.

Staggers is the common name given to all those disorders which are accompanied by swimming of the head, or terminate in affection of the brain. Violent exercise in a hot day, and the horse being fat and full of blood, more than the usual quantity will be sent to the head, or if the collar is too small, or the curb-rein too tight, the blood will be prevented from returning from the head, and thus the larger vessels of the brain will be too long and injuriously distended, and the small vessels which run through the substance of the brain will be enlarged, and the bulk of the brain will be increased, and almost without warning, delirium or apoplexy comes on.

Other causes produce the disorder; it arises from indigestion, or the horse not having power to discharge his over-loaded stomach, and it sometimes having been previously exhausted by long fasting, is unable to contract upon its contents; the food soon begins to ferment and swell, causing great distension; the brain sympathises with this over-loaded organ and staggers are produced. The mildest affection of this disorder, attended with drowsiness, is known by the name of megrims, sleepy, or stomach staggers; while phrenitis, or mad staggers, is that affection of the brain which causes the animal to kick, to dash himself furiously about, sometimes fall or become dangerous to persons about him, but apparently unconscious of what he is about, and with

no design to do mischief; sometimes the animal suddenly dies, or wears himself out in frightful struggles.

These different symptoms are a different form or variety of the same disease, arising from the same causes, and require the same treatment, varied only according to the extent of the disorder. The first thing to be done is to relieve the brain from the pressure of the blood upon it by copious bleeding; and in mad staggers both jugulars should be opened, and the blood should flow until it produces faintness.

If there be foul stomach or costiveness, which is often the case, an active purgative should be given immediately; the most active of these is the croton nut powdered, and given in the dose of a half drachm, and followed by smaller doses of ten grains each, every six hours, with plenty of injections of warm soap and water until the bowels are well opened; or from thirty to forty drops of croton oil may be given instead of the meal or farina, as above mentioned. If the croton is not at hand, aloes may be given, dissolved in hot water, an ounce at the first dose, and two or three drachms every four hours until purging is produced; or the following preparation is probably better than either of the above:

Recipe No. 30.

STRONG PHYSIC DRINK.

Barbadoes aloes, . . . two ounces.
Gum arabic, ... one ounce.

Both being powdered, pour on them a pint of boiling water, and add twelve grains of farina or meal of the croton nut well rubbed down with a little of it, and the rest cautiously added; four ounces of this mixture may be given every six hours until it operates.

In all ordinary cases of Staggers, simply opening the

bowels, or a moderate bleeding, will effect a cure; and if the animal shows symptoms of a disordered stomach, the coming disorder may be warded off by a dose of physic.

If there is great depression of the system, blood letting should be abstained from; but if the pulse is strong, and fever or inflammation is denoted, and the animal appears phrenetic, bleeding is indispensable.

If the stomach is over distended, it may not be prudent to give the strongest purgative, although some recommend it; there is danger when the stomach is over loaded, that the strongest purgative may not find its way through, and a commotion might be produced, that might rupture the intestines, or result in inflammation. If the purgative is not given, recourse must be had to medicines that lessens the force of the circulation and consequently, the determination of blood to the head—the following is the best for that purpose:

Recipe No. 31.

Digitalis, ...	one drachm.
Tartar emetic, . . .	one drachm.
Nitre, ...	three drachms.

Given two or three times a day if necessary, or until ease is produced. The horse should be kept from food when laboring under these symptoms; and mashes, or green food given for sometime after. It would be better to turn him out to grass.

It may be necessary to give the purgative, and also to give an injection of warm soap and water, and to rake out the hardened dung.

If aloes have been given, and have not operated sufficiently, better not repeat them; but give in their stead the following, every six hours until the bowels are properly opened.

Recipe No. 32.

Linseed oil,	one pint.
Gentian,	two drachms.

When the physic operates, the following may be given if the horse has been suffering from indigestion:

Recipe No. 33.

ALTERATIVE TONIC BALL.

Sulphur,	one drachm and a half.
Physic mass,	one drachm.
Powdered nitre,	one drachm and a half.
Powdered gentian,	one drachm and a half.
Powdered ginger,	one drachm.

Beat them together with palm oil, and make one ball; it may be best to repeat this once a day for several days.

An author of experience recommends—if the horse is outrageous, he should be bled, and the following given:

Recipe No. 34.

Tincture of opium,	one ounce.
Syrup of poppies,	one gill.
Tincture guaiacum,	one ounce.

Be careful not to let him knock his head, for it will increase the disorder. If he get through the first fit, give him two ounces of crocus metallorum every day, to thin his blood, for fear of a relapse. It will be proper to give the following ball once a month for some time after: wfll

Recipe No. 35.

Powdered rhubarb,	one ounce.
Jalap,	half ounce.
Calomel,	one drachm.

To be made into a ball with syrup of buckthorn. This ball will be of great use in thinning the blood, and pre-

venting a return of the disorder; for when a horse has had one fit, he is very likely to have another, if care be not taken to prevent it.

There are two other diseases with which the Staggers may be confounded, and from both of them it may be readily distinguished, viz.: colic and madness [hydrophobia]. 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 violence, there is sometimes a determination to do mischief, and there is always consciousness.

LOCKED-JAW.

This is one of the most fatal diseases to which the horse is liable. It is a constant spasm of all the voluntary muscles, and particularly of the neck, the spine, and the head. But the muscles of the jaw appear the most powerfully affected. If a small fiber of some nerve has been injured, the effect of that injury will sometimes spread to the origin of the nerve, and the brain will become affected, and the whole action of the horse becomes diseased.

Locked-jaw will come from exposure to severe cold, after being over-heated; but it oftenest comes from a wound of some tendonous or ligamentous part. It is sometimes slow and very treacherous in its attack, and may not show itself until the wound is quite or nearly healed. It sometimes follows nicking or docking, whether well or ill performed, and it sometimes results from pricking the foot when being shod.

In treating this disorder, it is well to find out the local cause. If it be a wound of the foot, let it be touched with a caustic, or well opened; the new irritation thus produced may lessen or remove the old one. The wound may be dressed with some healing ointment or the following mild caustic wash:

Recipe No. 36.

MILD CAUSTIC WASH FOR WOUNDS.

Blue vitriol, powdered, . . one ounce.
Dissolved in a pint of water.

If there is any offensive discharge from the wound, the following may be applied:

Recipe No. 37.

SOLUTION OF CHLORIDE OF LIME.

Chloride of lime in powder, . one drachm.
Dissolve it in a pint of water.

Bottle, and keep it stopped when not in use.

If nicking is the cause of the disorder, the incision should be made deeper and stimulated by digestive ointment, or the above wash, No. 36; or, if it arise from docking, repeat the operation higher.

I will mention, that sometimes before the jaws are entirely closed, and while medicine may be given with tolerable ease, some, if not all, of the following symptoms may be observed: A stiffness of the jaws and neck, and the muscles hard and unyielding; the retractor muscle is affected, and the eye is drawn back, and the haw or washer protruding over a portion of it; and soon the ears and tail are erect, and the whole extreme-

ties become singularly and almost immovably fixed; the breathing is hard, and the countenance expressive of great agony.

In 1842, I remember being called to do something for a horse that had a nail run through the sole of his foot near the frog. The injury had been done several weeks, and others had been "doctoring it," until the symptoms just mentioned appeared. I found the horse in a suffering, pitiable condition. He was so very stiff that it required the assistance of several persons to keep him from falling, if they attempted to move him to either side, or to raise up his foot. The orifice was closed, and the poisonous matter was corroding the inside of the foot. The first thing I did was to cut away as much of the sole as would enable me to get at every part of the inside of the foot that had been affected — which proved to be about one-third—which I removed with the knife, and made what is called "a new wound." The wound was dressed, the horse was bled, and a relaxation of the spasm soon followed — and the horse recovered. I believe the recovery of the horse just mentioned was owing, more than from any thing else, to the removal of the cause that produced the disorder.

It is not always that the disorder can be treated so successfully, even in its early stages, and frequently defies every effort to give relief. When the disorder assumes this obstinate form, the animal must be bled copiously, unless he is in very low condition, when so much blood must not be taken. Chloroform should be applied to the nose, and the horse blistered along the whole of the spine; and heavy rugs, or what is better, sheepskins, warm from the animal, with the raw side inward, and changed as soon as they become dry or putrid;

they may be kept on twenty-four hours, if they are changed sides every few hours.

If the jaws are entirely locked, the foregoing treatment will probably produce a temporary relaxation of the spasm, so that a dose of physic may be given. Here also, that physic is best which will operate the quickest. The bowels, in these nervous affections, are very torpid, and there is very little danger of injury from a large dose of physic. The croton is the best for this purpose: half a drachm, powdered, for the first dose, and repeated in doses of ten grains, every six hours, until it operates. The operation of the physic may be assisted by injections, each containing a drachm of aloes dissolved in warm water; or warm water or thin gruel may be injected. The reader had better turn back a few pages, and see the strong physic drink recommended for Staggers, (Recipe No. 30,) and use that if it is at hand. The following ointment may be used for blistering.

Recipe No. 39.

BLISTERING OINTMENT.

Spanish flies, powdered,	five drachms.
Turpentine,	one ounce.
Hog's lard,	four ounces.

Mix well, and blister along the whole course of the back and spine. After bleeding, physicing and blistering, and the spasm has not broken, we must resort to other means. Give

Recipe No. 40.

Opium, powdered,	two drachms.

Give in a small ball, or with thin gruel, and give an additional drachm every four or six hours; if the jaws

are quite fixed, it must be injected. The bowels may be kept in a lax state by small doses of aloes, during the effect of the opium. Great patience and perseverance is necessary in treating this disorder.

COLIC

Arises from various causes: from violent exercise soon after overloading the stomach; from drinking cold water when overheated, or immediately after a large feed; the food is carried into the intestines before it is sufficiently elaborated in the stomach; the inordinate action thus produced, expels the mucous secretion that is designed for their defense—the swallowing of food too eagerly and without due mastication. The change of food, the bad quality of food, may have as great an affect in producing colic as the facility possessed by the food itself for passing rapidly into fermentation.

There is another kind of colic, which I will speak of directly, and which is necessary to be distinguished from this, namely: the inflammatory colic, which is brought on by the same causes, more severely incurred, as well as from severe costiveness, which is so often produced by impaired digestive organs.

As the treatment proper for either of these disorders will vary, the one requiring warmth and stimulation, the other a cooling and reducing treatment, the great object is to find out the cause and nature of the attack, for a mistake on this point might prove fatal. In order to assist the practitioner to distinguish between these two apparently similar disorders, I will insert a table of the symptoms; this table was prepared by Mr. Ryding many

years ago, and other authors have inserted it with some alteration, by no means for the better; it is here given with a very slight alteration.

A TABLE for distinguishing between the colic or gripes, and inflammation of the bowels, by the symptoms that mark the character of each.

SPASMODIC OR FLATULENT COLIC.	INFLAMMATION OF THE BOWELS.
1. Pulse natural, though sometimes a little lower.	1. Pulse very quick and small.
2. The horse lies down, and rolls upon his back.	2. He lies down and suddenly gets up again, seldom rolling upon his back.
3. The legs and ears generally warm.	3. Legs and ears generally cold.
4. Attacks suddenly, is never preceded, and seldom accompanied by any symptoms of fever.	4. In general, attacks gradually, is commonly preceded, and always accompanied by symptoms of fever.
5. There are frequent short intermissions.	5. No intermissions can be observed.

When horses are in health, the pulsations are from thirty-six to forty in a minute; to ascertain this, apply the points of the fingers gently to the arteries nearest the surface. Some prefer to feel the artery inside the fore leg, above the knee, and some prefer the artery under the jaw; too great pressure would stop the pulsation altogether, though by slightly pressing the artery against the bone, you can ascertain whether it be in such a rigid state of excitement as to denote high fever.

When the pulse reaches fifty or fifty-five, some degree of fever may be apprehended, and proper precaution should be taken. Seventy or seventy-five will indicate a somewhat dangerous state; few horses long survive a

pulse of one hundred, for by this excessive action the energies of nature are speedily worn out. A quick pulse indicates fever or inflammation, and requires the immediate and free use of the lancet. A slow, weak pulse, is caused by the feeble action of the heart; it is expressive of debility, and deficiency of nervous energy; it is the reverse of high fever and inflammation, and the lancet, if used at all, must be used with great caution.

An easy way, also, to discover inflammation is, to put your hand to the nostrils, and ascertain if his breath is hot.

In ordinary colic, and where inflammation has not set in, give the following:

Recipe No. 41.

COLIC DRINK, NO. I.

Ginger,	one tablespoonful.
Saleratus,	one tablespoonful.
Peppermint,	one teaspoonful.
Warm water,	one pint.

I will give several recipes, so that you can give either one of them according to circumstances.

The following drink will frequently give relief in a short time:

Recipe No. 42.

COLIC DRINK, NO. II.

Ether, (sulph.)	one ounce.
Laudanum,	one ounce.
Spirits turpentine,	two ounces.

Mix, and give with warm water.

If relief is not obtained in a short time, it may be better to bleed; because the continuance of violent

spasms may produce inflammation. If three-quarters or an hour should pass, and the horse is not easier, the dose may be repeated without the turpentine, or with half the quantity, and three or four drachms of ether added. In a clear case of colic, sometimes about half the last-mentioned drink is repeated, with five or six drachms of aloes dissolved in warm water. The stimulus produced on the inner surface of the bowels, by the purgative, may counteract the irritation which caused the spasm. The belly should be well rubbed; and clysters of warm soap suds, or a solution of aloes, must be injected with a large syringe, or an ox bladder tied on the end of a pipe. The horse should also be back-raked; a small hand—the fingers brought to a point, and dipped in lard or oil—should be gently introduced into the rectum, and remove any hardened dung that may be lodged therein. Sometimes the hardened dung lodges, and presses on the neck of the bladder, and obstructs the passage of the urine, which causes great pain, and has been mistaken for the colic.

This is also one of the best drinks that can be given:

Recipe No. 43.

COLIC DRINK, NO. III.

Laudanum, . . . one ounce.
Tincture of Cayenne pepper, one ounce and a-half.
Tincture of camphor, . two ounces.
Good whisky, . . . one quart.

Mix well, and give one gill every half hour, until relief is obtained.

If your horse is taken out on the road, away from home, and where you can not get, at all times, what

you want, you may be able to get the following, which will often cure, if given in time:

Recipe No. 44.

COLIC DRINK, NO. IV.

Gin or brandy, . . half pint.
Pepper, . . . one or two tablespoonsful.
Milk or warm water, . half pint.

Mix. Should relief not be obtained in twenty or thirty minutes, the dose can be repeated two or three times.

Another drink that can be obtained at almost every place, is—

Recipe No. 45.

COLIC DRINK, NO. V.

Whisky, . . half pint to a pint.
Gunpowder, . . half or two-thirds teacupful.

Mix well.

This drink sometimes gives relief in a short time, if given early.

Salt is efficacious as an aperient, and may be thrown up the rectum, or given as a drink. It sometimes cures the worst cases of colic in a short time.

Recipe No. 46.

COLIC DRINK, NO. VI.

Take common table salt one pint, and dissolve in a pint of hot water, and give half at one dose, and if relief does not soon follow, repeat the dose; some add vinegar to the salt and water, and insist that it makes the best colic drink they ever tried; but I do not like the vinegar if there is the appearance of gas in the stomach.

This disorder is very rapid in running its course, and often ends fatally; and, therefore, something should be done immediately to relieve the animal. It is for that reason that I have given such a variety of recipes.

In large establishments, where many horses are kept, and where such a medicine is so often required, the following will be found a first-rate medicine, and should be kept on hand:

Recipe No. 47.

COLIC DRINK, NO. VII.

Take brandy, . . .	one quart.
Sweet spirits of nitre, . .	four ounces.
Cloves, (powdered,) . .	three ounces.
Ginger, (powdered,) . . .	four ounces.

Steep the ginger and cloves in the brandy and nitre, and add about one teaspoonful of the oil of peppermint, bottle and let it stand a week, and it will be fit for use. The dose will be from four to six ounces in a pint and a half of warm water, and repeated in twenty or thirty minutes if the first does not give relief. If you buy the ginger and cloves and powder or bruise them yourself, you will be sure to have them good; the liquor must be poured off if they are only bruised.

I will here caution the reader against giving too many different kinds of medicine for any disease, before they give the first time enough to do any good; much injury has been done by this.

INFLAMMATORY COLIC.

This is sometimes called red colic, "strangullion," or "twisting of the guts," and is often treated as the

common colic. It is brought on from the same causes, more severely incurred, as well as from severe cold in the bowels, or costiveness and consequent heat, terminating in inflammation of the bowels, as does the spasmodic colic also, if not arrested. Sometimes pieces of dung, or excrement, in passing through the guts, becomes hard from an excessive degree of dryness or heat in the system; whence it comes to pass that the space of the gut where it rests is stretched and enlarged, which causes a narrowness or stricture of the adjacent parts, so that the excrement can not pass along; this causes inflammation, and the horse, if not soon relieved by cooling and relaxing medicines, dies of mortification in such part.

It is, therefore, very necessary to discriminate between those two kinds of colic, which may be best done by turning back to page 42, where I have laid down a table and accompanying remarks; but I will say, in addition to the symptoms there laid down to distinguish between common and inflammatory colic: the latter is attended with cold ears and legs, the breath hot, eyelids and membrane of the nose high colored, the belly painful, (to the touch,) and continuing without remission, the pulse being quick and irregular. The treatment should be, bleeding plentifully, and injections of thin gruel or soap suds should be given as I have described at page 44. They should be thrown up plentifully, and if there be any hardened dung, it should be removed by a small hand, as there laid down. A pint, or a pint and a half of linseed or sweet oil may be given inwardly to relax the intestines, and oil given by way of clysters will be of use in this case; the horse should also be encouraged to drink plentifully of warm water or thin gruel.

Recipe No. 48.

DRINK FOR INFLAMMATORY COLIC.

Caraway seeds, powdered,	two drachms.
Slippery elm, powdered, .	six drachms.
Digitalis, powdered, . .	two drachms.
Oil peppermint, . . .	fifty drops.

Mix well in a quart of hot water, and divide into two doses; if the first does not give relief in half an hour, give the other half.

If there is evident costiveness, the following may be preferred:

Recipe No. 49.

DRINK FOR INFLAMMATORY COLIC.

Linseed oil, . . .	half pint.
Digitalis, powdered, . .	one drachm.
Sweet spirits of nitre, .	three drachms.
Grains of Paradise, powd.,	one drachm.

Mix well in half pint warm water.

If there is any delay in obtaining either of the above drinks, give the oil as above directed, and do not omit the injections. The following will also be found an excellent medicine, and should be kept on hand:

Recipe No. 50.

COLIC DRINK.

Ginger, ...	six drachms.
Caraway seeds in powder,	five drachms.
Jamaica pepper, powdered,	one ounce.
Purified opium, . .	three drachms.
Syrup of poppy, strong,	three ounces.

Mix in the opium with the warm syrup, and add the three powders; divide into five or six doses, and give with a little warm water.

In very severe attacks, you must get up a counter-irritation by blistering over the belly. Cantharides, spirits of wine, or turpentine, alone or mixed together, will, if well rubbed in, aid in bringing the heat to the surface. The horse should also have a blanket or rug thrown on him to aid in this matter; the legs should also be bandaged to restore the circulation to them. Do not put your horse to work too quick after a severe attack, but give soft, nourishing food, and some little time to recover his strength.

MOLTEN GREASE.

Some writers contend that the fat of a horse is sometimes melted (or is molten), and penetrates or passes into the guts, and comes out through the regular channel. I think it impossible, notwithstanding the additional testimony of the memorable Falstaff, who said he was so fat he "*pissed his own tallow!*" My opinion is, it belongs to one of the disorders last mentioned, colic or inflammation, in one of their forms, and should be treated as such. In extreme costiveness, the excrement is obstructed in its passage, it becomes hard, and a portion of the mucous secretions that is designed for the defense of the intestines, is expelled with the hardened dung, which gives rise to the name—molten grease.

YELLOWS, OR JAUNDICE

Is the introduction of bile into the general circulation, which is usually caused by some obstruction in the

ducts or tubes which convey the bile from the liver to the intestines. It is generally recognized by the frequent and feeble pulse, the yellowness of the eyes and mouth, high color of the urine, disinclination to eat, and a kind of drooping inactivity. It is first necessary to inquire whether this affection of the liver be not the consequence of the sympathy of this organ with some other part; for, to a very considerable degree, it frequently accompanies inflammation of the bowels and the lungs. These diseases being subdued, jaundice will disappear. If there be no other disease to any great extent, we must endeavor to restore the natural passage of the bile by purgatives, not large doses, lest there should be some undetected inflammation of the lungs or bowels, in either of which a strong purgative would be dangerous, but given in small quantities, repeated at short intervals, until the bowels are freely opened; and as calomel acts more immediately on the liver, give it in the following form:

Recipe No. 51.

Barbadoes aloes, . .	eight drachms.
Calomel, ...	two drachms.
Oil of Carraway, . .	half drachm.

Made into three balls, give one on three successive nights, unless the first two produce a thin stool. If the animal is fat, and the pulse strong and full, moderate bleeding may do good; but on the other hand, if in bad condition, and the pulse very feeble, which indicates low fever and debility, blood should not be taken; in the latter case, the following alterative may be given, instead of Recipe No. 51, particularly if the dung is loose or pale:

Recipe No. 52.

ALTERATIVE BALLS.

Tartar emetic,	three drachms.
Ginger,	one drachm.
Aloes,	nine drachms.
Hard soap,	one ounce.

Mix, and divide into three balls, and give one each successive night, unless the first two have operated. The following cleansing powders may then be given:

Recipe No. 53.

CLEANSING POWDERS.

Fenugreek,	four ounces
Black antimony,	two ounces.
Juniper berries,	two ounces.
Ginger,	two ounces.
Rhubarb,	two ounces.
Sulphur,	two ounces.

Grind them fine, and mix well, and give a tablespoonful once or twice a day till cured. Do not expose him to wet or bad weather; nor let him drink cold water for a few hours after taking the powders. This powder gives a good appetite, and fine coat, and life to the animal, when he is out of condition, or hidebound, as is often the case when suffering from distemper, cold, and other lingering disorders that arise from impurity of the blood.

INFLAMMATION OF THE KIDNEYS.

This disorder is sometimes brought on by other diseases, or by a hard blow across the loins, catching

cold when hot, or violent exercise beyond their power. When the kidneys become inflamed, they secrete or suppress more urine than in a state of health; but it is performed with great pain and danger. The early symptoms are those of fever generally. The horse looks round at his flanks; his hind legs wide apart; expresses pain in turning; shrinks when the loins are pressed, and some degree of heat is felt there. The urine is voided in small quantities, and often high colored, and sometimes bloody. The attempt to urinate becomes more frequent, and the quantity voided smaller, until the animal strains painfully and violently, but the discharge is nearly or quite suppressed. In the early stages, and when there is much fever, you must bleed pretty freely, and give the following:

Recipe No. 54.

Aloes, ...	three drachms.
Gentian, (powdered,) .	two drachms.
Digitalis, (powdered,) .	one drachm.
Oil of juniper, . . .	one drachm

Mix well, and add the yolk of an egg, and give at one dose.

If the symptoms do not abate, rub over the loins the following stimulant:

Recipe No. 55.

EMBROCATION.

Spirits of wine, ...	two ounces.
Camphor, ...	one ounce.
Soap, ...	two ounces.

Mix. If this disorder continues, it is likely to produce an irritation, or

DISORDER OF THE BLADDER, OR URINARY ORGANS GENERALLY.

The urine is constantly flowing from the kidneys through a large duct, called the ureter, to a larger reservoir, the bladder. The bladder is, therefore, the vehicle or outlet for several evils that take their rise higher up; and among these I have just spoken of suppression, or bloody urine, as a disorder of the kidneys, which the reader will examine before he goes any further.

Sometimes, however, there may be stoppage of the urine, when you can not immediately determine the cause, and something must be done to give relief; bathe under the belly with warm water or soap suds, and clean out the end of the yard or "penis." Sometimes there is a hard substance as large as a bean lodging in the end of the penis, and obstructs the passage of the water. If the water does not come from the last-named treatment, recourse must be had to diuretics, but they must be used with caution, and not pushed too far.

Recipe No. 56.

DIURETIC DRENCH.

Nitre, . . .	four to six drachms.
Oil of juniper, . .	two drachms.
Turpentine, . . .	two drachms.

You may give half a pint or more of gin, in place of the turpentine, or give a little along with it, as you may think best. I have given in desperate cases (where the horse was in intense agony from the stoppage of urine), as high as two ounces of nitre; but, as I have just intimated, diuretics should not be given too often, nor in

too large doses, particularly if there are symptoms of inflammation of the kidneys, as described a few pages back.

Bloody urine, calculi or stone, strangury, diabetes or excessive discharge of urine, suppression of urine, etc., have, by the ingenuity of some very scientific doctors, been subdivided and treated of as though they were diseases of themselves; but few, if any, are original, but arise from some defect or ill-cured disorder of the kidneys and bladder, or parts dependent thereon.

SCOURING, AND OTHER DISORDERS OF THE INTESTINES,

Sometimes comes from bad water, green food, or food that is not good; in either case, it should not be checked too suddenly, but rather promoted by an open diet, as bran mashes; for nature, by this means, may get rid of some offensive matter that might produce disease. If it does not stop in due time after a change of diet, give plenty of starch or arrow-root; should it still continue, or if the scouring is produced by the too free use of purgative medicines, the starch and arrow-root may still be given, and also the following:

Recipe No. 57.

ASTRINGENT DRINK.

Opium, powdered, . .	two drachms.
Catechu, powdered, . .	two drachms.
Ginger, powdered, . .	two drachms.
Prepared chalk, . .	four drachms.

Well mixed together, and add half a pint of thin gruel.

If the purging does not abate in ten or twelve hours, repeat the dose. Sometimes, when every thing else fails, the following will stop it:

Recipe No. 58.

Powdered alum . . two drachms.
Hot milk, . . . one pint.
Mix well and give warm.

COSTIVENESS.

I have already considered costiveness as belonging to colic and other inflammatory disorders of the intestines, as the reader will see by referring back to what is there said. Common costiveness may be distinguished from colic or inflammation of the intestines by the quiet state of the animal when he is down, which is not the case with either of those disorders, in which pain of the bowels is most evident. There is also a dullness about the eyes, and sleepiness; the breathing becomes difficult or nearly imperceptible; at length he tumbles down, regardless of his situation, until stupor and death ensue, if the sufferer be not relieved.

It is not always best to give strong purgatives if costiveness has lasted sometime; great injury might be done to the small intestines by forcing a passage, whereby a commotion might be raised in the stomach, and the medicine act inefficiently where the evil chiefly lies, viz.: in the large intestines and rectum. When the animal has not dunged for several days, there is a fullness about the flanks and fundament, and an unusual dryness and tightness is discovered at this latter part, and back-raking must be resorted to: the arm should be

stripped bare, the hand dipped in oil or lard, bring the fingers to a point, and gently introduce the hand and wrist, and draw out the dry, hardened dung. Repeat this two or three times, and give plenty of warm gruel, ale, or porter, or a pint or quart of each while the following is preparing.

Recipe No. 59.

LAXATIVE DRENCH.

Linseed or castor oil,	half a pint.
Prepared kali,	two drachms.
Aloes,	two drachms.
Water gruel,	one pint.

This may be repeated next day, without the oil, and doubling the quantity of aloes. After this, if you think it necessary, you can give a stronger purgative, as the following:

Recipe No. 60.

PURGATIVE.

Barbadoes aloes,	six or eight drachms.
Oil of caraway,	ten drops.

With enough mucilage for one ball, or it may be given as a drench; whenever balls are too large, they must be divided, and given in smaller doses.

DISTEMPER, OR CATARRH.

If your horse has the distemper, burn some tar under his nose, and let the smoke get into his nostrils plentifully; it will cause it to break and discharge freely, and in most cases, with proper care, the animal will soon be

well; but should the discharge not stop in due time, give the following powder:

Recipe No. 61.

POWDER.

Fenugreek,	half pound.
Blue vitriol,	half pound.
Alum,	half pound.
Rosin,	half pound.
Ginger,	four ounces.

Grind all fine, and give a tablespoonful two or three times a day; this powder is good for all discharges from the nose that are not glanderous, and may be used in place of Recipe No. 28. The reader had better turn back and see what is said under the heading, nasal gleet. (See Index.)

A COLD.

This is very common, and often too much neglected. Horses are more apt to take cold after the shedding of their coat, or by being worked hard and over-heated, and suffered to stand in, or be otherwise exposed to cold, disagreeable weather. If the owners of horses would consider, that chronic cough, broken wind, consumption, heaves, inflammation of the lungs, or lung fever, etc., are attributable to severe or neglected cold, they would perhaps pay more attention to it than they generally do.

The symptoms of common cold are, a dullness and weeping of the eyes, a mucous or watery discharge from the nostrils, a swelling about the jaws and ears, and

sometimes a slight cough, a heaving at the flanks and loss of appetite. In mild attacks, the cold will soon pass off, by clothing him comfortably, and giving a few bran mashes, and it may be better to give a tablespoonful of the following, twice a day with the food, or otherwise:

Recipe No. 62.

Powdered squills,	one ounce.
" liquorice,	one ounce.
Ginger,	two ounces.

If the animal is strong and there are any inflammatory symptoms, bleeding would do him good. If there is much swelling of the glands, a bran poultice may be applied, or hot flannels that have been dipped in boiling water, but the coat should be rubbed dry when the flannels come off.

COUGH

Sometimes remains after all the other symptoms of the last mentioned disorder, have nearly or quite disappeared; when that is the case, give the following ball:

Recipe No. 63.

Assafetida,	one ounce.
Liquorice powder,	one ounce.
Sulphur,	half an ounce.
Turpentine,	one ounce

Mix, and divide into four doses, and give one every night for four nights. Let him have moderate exercise,

and light, cooling diet. If the coughing does not abate, after giving the above a fair trial, give the following:

Recipe No. 64.

Liquorice powder,	two drachms.
Nitre,	two drachms.
Digitalis,	half drachm.
Tartar emetic,	one drachm.

Made into one or two balls with tar, and give all at one dose.

If there is a tendency to costiveness, the bowels should be kept in a proper open state, by a mild laxative given for a few days.

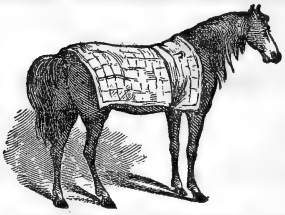
Recipe No. 65.

LAXATIVE BALL.

Aloes,	two or three drachms.
Ipecacuanha,	one and a-half drachms.

Mix with liquorice powder for one dose.

By examining what is here laid down, and what is said under the last heading, it is to be hoped that the practitioner will succeed. As the cough and accompanying symptoms disappear, a few doses of the cleansing powders (page 51) will assist in improving the animal's condition.



INFLAMMATION OF THE LUNGS, OR LUNG FEVER.

Former writers have considered this disorder under the heading of pneumonia, or inflammation of the lungs; but it is generally known throughout the "West" as lung fever. It is brought on by all the causes that produce cold, which will be found a few pages back; but the attack, in the present case, is more severe, and, probably, at a time when the animal is somewhat out of condition, or laboring under the effect of constitutional debility, and, consequently, less able to withstand the severity of the sudden check given to the circulation.

The symptoms follow each other rapidly—shivering, difficulty of breathing, loss of appetite, and sluggishness, quick action of the flanks, as if laboring to force the blood through the clogged vessels of the lungs, accompanied by hot mouth, and sometimes a hectic cough. The ears and legs become cold; he stands stiff, and cares not to lie down; or, being down, he rises languidly, as if mourning his fate. In the first place, the horse must be bled plentifully, which will tend to keep

off the inflammation which is so rapidly approaching the lungs. Place him out of the wind or current of air, but in a place where he can inhale pure air; and clothe him comfortably according to the season. Rub his legs well with the hand, or with straw, in order to restore the circulation and consequent heat; and clothe them with straw, not tied too tight. There is too much sympathy between the lungs and the intestines to give strong purgative medicines, but give that medicine which will diminish the frequency of the pulse, and allay the irritability of the system, and the following will be found the best for that purpose:

Recipe No. 66.

Tartar emetic, . one and a half drachms.
Digitalis, (powdered,) one drachm.
Nitre, . . . three drachms.

Mix well; make into a ball with linseed meal for one dose. This ball should be given two or three times a day, until the worst symptoms begin to disappear. It should then be given once or twice a day only. While this treatment is going on, great benefit may be derived from injections of warm soap suds, and a little salt, into the rectum.

If the animal was previously well kept, and strong, or should the pulsation and other inflammatory symptoms increase, after the above treatment; the bleeding must be repeated—say in eight or ten hours after the first bleeding. Though this operation is highly beneficial at first, when the animal system is in full vigor, it is extremely dangerous after the inflammation has continued some time. When (the fever continuing)

weakness is indicated by swelling of the legs, or nature seeks to relieve itself by a running at the nostrils, it should be borne in mind by every practitioner, that whenever the animal is found in this feeble, worn-out, and exhausted condition, that however necessary it might have been to take blood at first, the time has now past, and the operation of bleeding would only hasten his end.

In addition to the treatment just laid down, roweling between the fore legs and blistering about the breast are employed. It is a matter of doubt as to whether the rowel would act in time, but early blistering might assist in bringing the inflammation from the lungs to the surface; for this purpose turpentine and the tincture of Spanish flies, or recipe No. 55 may be used. The horse may be encouraged to take warm gruel, but not cold water without spirits of nitre in it; nitre will neutralize the temperature of the water.

It is to be hoped that the disease will give way by persevering in the treatment laid down; then he should have nourishing food until he regains his strength. Inflammatory disorders leave behind them a good share of weakness, which may require the aid of medicine to restore. The following will assist in restoring the appetite, and also the power of the digestive organs:

Recipe No. 67.

TONIC BALL.

Chamomile, . . .	two drachms.
Gentian, . . .	four drachms.
Ginger, ...	one drachm.

Make into a ball with palm oil, and give one a day, or every other day, as you think it necessary.

CONSUMPTION.

This is generally brought on by some of the diseases just mentioned, as severe colds, inflammation of the lungs, and other diseases severally incurred, and when the animal is yet weak and laboring under the effects of some ill-cured disorder he is put to work beyond his power. Some horses have weaker constitutions than others, and consequently their over-taxed powers will, sooner or later, most assuredly give way under these combined influences. Narrow or weak chested horses are more liable to be attacked by inflammation of the lungs, and it goes much harder with them than horses with a deep, full chest. The lungs are deficient in bulk according to the diminished contents of the chest, and are over-worked in supplying the quantity of arterial blood expended in the various purposes of life; inflammation of the lungs has consequently ensued and acquired an intense character, under circumstances by which other or stronger horses would be scarcely affected.

Consumption being generally the effect of some other disease, is attended with inflammation in the pleura and the lungs, terminating in a suppuration of those parts which is ejected at the nostrils, accompanied by a cough which increases insensibly. The horse has some appetite till the disease has come to a certain period, when he wastes rapidly.

Whatever good may be done will depend upon circumstances: if you give the animal more work to do than he is able to perform with ease, you will only hasten his end, for medicine would not save him; but if you will give him such light work only as he is able to do, he may last some time and be of considerable

service. Let him have an occasional run at grass, and when at work give him nourishing food, remembering that he is not able to sustain any great exertion; if, however, you find there is undue excitement, cough, or running at the nose, give the following:

Recipe No. 68.

Liquorice, (powdered,	one drachm.
Digitalis,	one drachm.
Nitre,	three drachms.

Mix for one dose; or you may give the following if there is much coughing:

Recipe No. 69.

Powdered squills,	one ounce.
Cream of tartar,	one ounce.
Ginger,	two ounces.

Give a tablespoonful once or twice a day in wet bran or otherwise.

For further information, see what is said under the heading cough, a few pages back.

THICK WIND, BROKEN WIND, OR ROARING.

This disorder is generally brought on by inflammation of the organs of respiration; it consists in short, frequent and laborious breathings, and especially when the animal is in exercise. A horse laboring under any inflammatory affection of the lungs, is thick-winded, because the pain which he feels in the act of breathing will not permit him to respire deeply, and therefore he must breathe quickly.

Sometimes there is previous inflammation of the

bronchial passages; the throwing out of some fluid, which is capable of coagulation, is the result; this deposit in the substance of the lungs, or in the bronchial tubes, from inflammation of those organs, must close many of the air-cells, and lessen the dimensions of others. Then, if the cells, fewer in number and contracted in size, be left for the purposes of breathing, the rapid and laborious action of the lungs must supply the deficiency. The examination of thick winded horses after death, has thrown some light on the nature of the disease. In the majority of instances, some of the small air-cells have been found filled up with a dense substance of a blue or darker color; in others, the minute passages leading to the cells have been diminished, and almost obliterated, the linings of these passages being unnaturally thickened or covered with hardened mucus; and where neither of these appearances could be observed, the lining of the cells has exhibited evident marks of inflammation, so that absolute pain prevented the full expansion or contraction of the lungs.

Thick wind is often the forerunner of broken wind. For, if so much labor is necessary to contract the air-cells and to force out the wind, and the lungs work so rapidly and so violently in effecting this; some of the cells, weakened by disease, will probably be ruptured.

Broken wind may, however, occur without much previous disease. If the horse is a gross feeder, and fills his stomach with provender that occupies a great bulk, and contains little nourishment, the lungs are squeezed into a less than natural compass. Let the horse be now suddenly and smartly exercised, more blood must be purified, and in the violent effort to accomplish this,

some of the air-cells give way. Therefore, we do not find broken-winded horses on the race-course, for although every exertion of speed is required from them, their food lies in a small compass, and the stomach is not distended, and the lungs have room to play, and care is taken that their exertion shall be required when the stomach is nearly empty.

This disease depends as much upon the cramped state of the lungs, from the pressure of an over-gorged stomach in the ordinary state of the animal, as on the effects of over exertion. Horses that eat their litter, and what other hard substances they come near, are similarly predisposed to broken wind, namely: by the great distension of the stomach and inability of inspiring a sufficient quantity of air to fill the lungs, whence the inert cells, or the portion not distended, fill up, contract, and become useless, or, upon sudden action and over distension, they burst at once.

The most that can be done for thick or broken-winded horses, must be effected by way of management, or as it is more generally termed, by regimen. Of course, you must avoid exposing the animal to fresh cold, and not push him too hard on a full stomach, for it may have been by this means, that the malady was brought on, therefore, his feeding and exercise must be as much as possible, regulated on moderate principles. Bracing air, and regular hard meat feeding—broken or sodden—and given in small quantities, will do more for the horse than physic of any sort.

When the animal seems to labor much in breathing, or the cough is troublesome, give the following:

Recipe No. 70.

Squills powdered, . . . one drachm.
Gum ammoniacum, . . . three drachms.
Opium, ... one or two drachms.

With mucilage for one ball.

If the animal swallows his corn without grinding it, as commonly happens, bruised or sodden oats should be given, and the bowels discharged by mild purgatives.

Recipe No. 71.

MILD PURGATIVE.

Barbadoes aloes, in fine powder, six drachms.
Ginger, in fine powder, one drachm.

Give in the most convenient form, at one dose, and let him have small quantities of water at a time, and frequently.

HEAVES—THUMPS—PALPITATION.

These are only the most popular names, with some people, for some of the disorders I have treated of—as cough, inflammation of the lungs or lung fever, consumption, broken wind, etc., etc. Horses, whose constitutions have been weakened by previous or ill-cured diseases, or whose constitutions are naturally weak, are exerted beyond their powers, and the result is heaves, thumps, palpitation, or other unpleasant symptoms; all of which I have endeavored to describe in their proper place, as may be found by referring to the internal or inflammatory disorders as laid down in this work.

SCRATCHES.

One of the causes that produce this disorder, is standing in dirty stables, and if it is not soon cured, it may terminate in the grease. If the animal is in good keep, bleed him; if there is a tendency to costiveness, give from five to eight drachms of aloes, and wash the fetlock joints with warm soap suds, and then with beef brine. If a few applications do n't cure, try the following:

Recipe No. 72.

Alcohol,	half pint.
Beef brine,	half pint.
Urine,	half pint,
Burnt alum,	one tablespoonful.

Mix well, and bottle for use, and bathe the parts, after washing with Castile soap suds.

GREASE.

This disease is brought on by want of proper cleaning, and by washing the horse's legs when they are hot, and letting him stand without rubbing them dry, or by a bad state of the blood. The symptoms are a swelling at the heels, mostly of the hind legs, and soon followed by a slight issue of greasy matter, which soon becomes offensive.

TREATMENT.—If the horse be full of flesh, it might be proper to bleed him, and if there are signs of costiveness, he must have a mild purge, and repeated when necessary.

Recipe No. 73.

PURGATIVE.

Aloes,	six to eight drachms.
Hard soap,	two drachms.
Ginger,	two drachms.

Mix for one dose, and give with warm water, or as a ball. The legs should be washed with warm soap suds, and with a brush get rid of as much of the running as possible, and after drying it well with cloths, use the following wash:

Recipe No. 74.

WASH FOR GREASE.

Goulard's extract,	two ounces.
Sulphate of zinc,	two ounces.
Water,	one quart.

Mix and wash the part two or three times a day; or, if there is no great inflammation, use the following wash:

Recipe No. 75.

Alum,	two ounces.
Sugar of lead,	two ounces.
Vinegar,	two ounces.
Water,	one pint.

Mix and use as the above.

When the disease has lasted a long time, there appears scurf and cracks about the heels. When that is the case, use the following:

Recipe No. 76.

Blue vitriol,	two or three drachms.
Alum,	three drachms.

Dissolve them in a pint of water, and use as directed above, after the legs have been cleaned.

When the inflammation has been subdued, and the cracks begin to look healthy, use the first wash, No. 74, twice a day; or, if that should be too stimulating, use the following ointment

Recipe No. 77.

HEALING OINTMENT.

Lard or palm oil, . .	two pounds.
Rosin, ...	half pound.

Melt them together, and when almost cold, add half a pound of calamine powder, well rubbed in. Apply after cleaning.

SURFEIT.

Gross feeding, as well as the effects of an ill-cured disease, will produce what is called surfeit. The skin will sometimes be covered with dandruff; and pimples or lumps will appear, and sometimes peel off, or rubbed off by the animal, on account of the itching that attends them. This disorder is sometimes traced to the immoderate drinking of cold water when the animal was hot. It is obstruction of some of the pores of the skin, and swelling of the surrounding substance, either from primary affection of the skin, or from its sympathy with the digestive organs.

Treatment.—If the pulse is high, he must be bled, and give a mild purgative, (see Recipe No. 73.) Should moisture be found to discharge from the lumps, wash with the following:

Recipe No. 78.

SURFEIT WASH.

Blue vitriol, . . .	one ounce.
Camphor, . . .	half an ounce.
Spirits of wine, . .	two ounces.

Mix in a quart bottle, and fill it with water. Wash with warm water and soap first, and rub dry, and apply the above wash once a day. Let the diet be cool and opening, as scalded bran or sodden oats; and if the horse is low in flesh, mix an ounce of fenugreek seeds with his food daily, for a fortnight, and see that he has moderate exercise.

MANGE.

The symptoms and causes of this disorder are partly laid down in the preceding page, for it sometimes follows an ill-cured surfeit. But it is, besides, an original disease, arising from filthiness, hard living, ill-usage, and the consequent depraved state of the system. It is contagious, and may be communicated by means of the touch, or using the same harness, or standing in the same stall that a diseased horse had left. As in surfeit, the horse is constantly rubbing and biting himself. Great patches of the coat are thus rubbed away, and ulceration frequently supplies the places. Scabs appear at the roots of the hair of mane and tail, large portions whereof fall away. When eruptions appear, they form a scurf, which peels off, and it is succeeded by fresh eruptions.

The propriety of bleeding, in cases of mange, must

depend on the condition of the animal. If poverty is the cause, and the animal is much debilitated, bleeding would be adding power to the cause of the disease; but physic must be used, and mercury seems to have more power in this disease than aloes.

Recipe No. 79.

Muriate of quicksilver,	one drachm.
Tartarized antimony,	one ounce.
Ginger, (powdered,)	three ounces.
Anise seeds, (powdered,)	two ounces.

Mix into one mass, with mucilage, and divide into six balls, and give one every morning until the eruption disappears. Also use the following:

Recipe No. 80.

MANGE OINTMENT.

Flour of sulphur,	half pound.
Train oil or lard,	one pound.
White hellebore, (powdered,)	three ounces.

Mix with turpentine enough to make a soft ointment, and rub the animal, wherever the eruption and scurf appear, with a brush or hair cloths, so as to get rid of the loose filth before applying the ointment. Rub it in well every other day; or, if the disease is very obstinate, you might change sometimes for the surfeit wash, (Recipe No. 78;) and also use the following, instead of continuing Recipe No. 79:

Recipe No. 81.

ALTERATIVE FOR MANGE.

Black antimony, (powdered,)	six ounces.
Grains of paradise, (powdered,)	two ounces.

Mix, and add turpentine enough to form the mass, and divide into about nine balls, and give one daily, while the rubbing is going on.

Give moderate exercise, and do not expose the animal to wet weather.

HIDE-BOUND.

This is not properly a disease, but sometimes the effect or remains of disease. It is also produced by bad digestion, and sometimes by poverty. It is necessary to know what brought it on, for the cure is generally a contrary treatment to that which produced it. If the stomach is empty, as is often the case, give plenty of food that is easy of digestion, and use the curry-comb and brush plentifully. If it come from other disorders, or from impaired digestive organs, let his work be light, and give the cleansing powders as directed, (page 51.) If very costive, give the following:

Recipe No. 82.

PURGATIVE.

Aloes,	twelve drachms.
Hard soap,	four drachms.
Ginger,	four drachms.

Mix, and make into three balls, and give one a day, until they bring away an easy stool.

When the practitioner thinks the animal requires a strong purge, one-half the above recipe may be given at a dose.

If the hide-bound is caused by worms, give worm medicine, which will be found under the next heading.

WORMS.

Worms of different kinds inhabit the intestines, but unless they exist in large quantities, they are not so hurtful as is generally supposed. The long white worm much resembling the common earth-worm, and being from six to twelve inches long, inhabits the small intestines, 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. Sometimes there is tight skin, rough coat, and tucked up belly, connected with their presence.

There is a smaller, darker colored worm, called the needle-worm, inhabits the larger intestines. These are a greater nuisance than the former, for they sometimes descend into the rectum in large quantities, and cause a very troublesome irritation about the fundament, which sadly annoys the animal. Physic will sometimes bring away great numbers of these worms, but when there is much irritation about the tail, and much of this mucus indicating that they have descended into the rectum, an injection of a pint and a half of linseed oil, or of an ounce of aloes dissolved in warm water, will be a more effectual remedy; in the absence of oil or aloes, use plenty of strong soap suds. If you find it necessary to give internal medicines, the following will be as safe as any to be effectual.

Recipe No. 83.

Calomel, . . . one and a half drachms
Anise seeds, . . two drachms.
Ginger, . . . three drachms.

Mix well, and divide into two doses, and give one dose at night; if it does not operate well the next day, give the other dose at night, and if it does not operate plentifully by the following morning, give a pint or pint and a half of linseed oil. Keep the animal out of the wet while the medicine is in him.

BOTS.

In the summer, there is what is called the gad-fly, seen flying about the horse, and depositing their eggs on the hair; the horse in licking himself touches the eggs; they burst, and a small worm escapes, which sticks to the tongue, and is conveyed with the food to the stomach, and it clings, by means of a hook on each side of its mouth, to the inside of the stomach, and its hold is so firm and so obstinate, that they will sometimes be broken before they will be detached; they have been known to eat through and destroy the horse. When the horse is suffering from the bots, he frequently lies down, and looks round at his side, his countenance expressive of great pain, and his upper lip is sometimes turned up. Take

Recipe No. 84.

Sweet milk, ... one pint.
Molasses, ... one pint.

And drench the horse, and in half hour after, give one quart of warm sage tea, and in three-quarters of an hour, give a pint or pint and a half of linseed oil, or you can boil the sage and milk together, and sweeten

with molasses, and give at once, and the oil after as stated above; this is generally the best and easiest way to get rid of the bots; but should they require stronger medicine, give Recipe No. 83, as recommended in the preceding page, for worms.

MALIGNANT EPIDEMIC.

Sometimes the distemper assumes a very malignant character, the discharges become very offensive, and it runs its course with fearful rapidity. When this is the case, do not bleed or purge, without there are evident inflammatory symptoms, or costiveness.

Recipe No. 85.

Gentian, (powdered,)	four drachms.
Chamomile,	two drachms.
Ginger,	one drachm.
Laudanum,	four drachms.

Mix for one dose, and give as a drink once or twice a day, until the worst symptoms disappear, and then give the powder (Recipe No. 61) for distemper. If there is any offensive ulcers about the nostrils or other parts of the horse, wash them with a solution of the chloride of lime—two or three drachms of the lime to one quart of water.

CHEST FOUNDER.

This is a rheumatic affection of the muscles of the breast, and much like the rheumatism in man. It is

sometimes hereditary, and sometimes produced by exposure in bad weather, and other ill usage.

Recipe No. 86.

LINIMENT.

Take two ounces of gum camphor, and dissolve it in half a pint of alcohol, then add four drachms spirits of hartshorn, one gill of turpentine, and half pint of linseed oil. Mix well, and rub the affected parts.

BIG HEAD.

This is a disease of frequent occurrence in the West, and it affects the horse in every part of the system; but the jaws seem to be its location, where it produces an enlargement. If it is not stopped in time, the horse becomes stiff all over, and the large muscles leading from the eye to the nostril become perfectly rigid.

Recipe No. 87.

STRONG EMBROCATION.

Aqua ammonia, . . .	two ounces.
Spirits turpentine, . .	two ounces.
Cantharides, (tinct.,) . .	two ounces.
Oil cedar, ...	two ounces.

Mix, and rub on the enlarged part with a brush, and heat it in with a hot iron. Do this once a day for several days; and if you find it makes too much of a blister, you can stop it by rubbing on lard or oil. Give a tablespoonful of saltpetre every second or third day. Another remedy is:

Recipe No. 88.

Corrosive sublimate,	one ounce.
Gum camphor,	one ounce.
Alcohol,	one pint.
Origanum,	one ounce.

Mix, and when dissolved it is ready for use. Give one or two tablespoonsful of sulphur every day; or you can take a piece of poke root, about twice the size of a hen's egg, put in six quarts of water, and boil down to three quarts, and give the horse one pint of it every other day as long as it lasts. Mix a pint of fresh water with each pint of tea as you give it. This is said to be an excellent medicine, and may be given in place of the saltpetre or sulphur; but the enlargement should be anointed with one of the mixtures every day, for several days, and the animal should be kept out of wet weather.

Another remedy for the big head is as follows:

Touch the parts most enlarged with aquafortis, and let it remain long enough to produce inflammation. If too much is applied, and the burning causes too severe pain, or is likely to go too deep, it may be stopped by applying a little lard or oil. In obstinate cases, a second or third application may be necessary, but not until the first has healed, and showed evident signs of not effecting a cure. It seldom happens, however, that a second application is necessary. The aquafortis is usually applied, with a feather or sponge, on each side of the jaw, and on each side of the face, between the eyes and nostrils.

Another remedy is: To cut through the skin over the enlargement. Take four or five grains of white

arsenic, in a small piece of paper or muslin, and put it all under the skin, and take a stitch, if necessary, to keep it in. In a short time the face will swell; and in a few weeks the diseased part around the arsenic will slough off, and leave an ugly place. The part may be washed, occasionally, with a weak solution of blue vitriol—an ounce; reduce it to a powder, and dissolve it in a pint of water. If there is any fungus, a little of the powder may be sprinkled over the sore, (see Recipes 92, 93.) The arsenic is a severe remedy, and should only be applied in extreme cases.

STIFF COMPLAINT.

This is another disease known in the Western States, and is, by some, attributed to the continual feeding of corn; but I think it may also be brought on by the animal being worked hard and over heated, and in this condition suffered to stand in, or be otherwise exposed to the cold, piercing wind peculiar to the western country. It is this sudden check given to the circulation, that produces the following most prominent symptoms of this disorder, namely: a clogging or obstruction of the free passage of the blood, a stoppage of the pores of the skin, and consequent paralysis or loss of action. The horse is sometimes stiff in one leg, when it will suddenly change to the other, and soon, if not relieved, will become stiff all over; and thus will these peculiar symptoms appear, until the disease seems to settle in the joints — particularly the lower joints of the legs, which become entirely useless.

TREATMENT. — The amount of bleeding should be regulated according to the strength of the animal; some blood, however, should be taken, and the orifice should be large, so as to let the clogged blood pass out. In the mean time have a tub of warm soap suds ready, and the horse in a comfortable place, out of the draught of air, and wash him all over, and rub him perfectly dry, and clothe him comfortably, according to the weather. This operation should be done thoroughly and in good earnest; and it would be best to repeat it, taking care to rub dry every time, and to have the suds as hot as he can bear.

Recipe No. 89.

Oil of sassafras, . . . one ounce.
Spirits of turpentine, . . . one ounce.
Gin, ... half pint.

Mix, and give at one dose, and repeat in four or five hours unless a free circulation is already produced. This having been done, give the following powder:

Recipe No. 90.

Madder, . . . quarter of a pound.
Sulphur, . . . quarter of a pound.
Fenugreek, . . . quarter of a pound.

Mix, and give two tablespoonsful twice a day for a few days, and then one spoonful once or twice a day, until the horse gets a good appetite and fine coat; and do not put the horse to work before he has thoroughly recovered.

I will here say, should costiveness appear at any time, the other medicine should be withheld until the bowels are opened, which may be done by giving six or eight

drachms of aloes, or Recipe No. 82, and rub the affected part with the liniment, Recipe No. 86.

POLL EVIL.

This is often caused by bruises about the head, either from accident, carelessness, or brutality; and is first discoverable by inflammation, tenderness, and swelling about the poll. As soon as the swelling is discovered, and before matter begins to form, it may be dispersed or driven back by the following:

Recipe No. 91.

Alcohol, ...	half pint.
Goulard's extract, . .	two drachms.
Turpentine, ...	two ounces.
Gum camphor, . . .	four drachms.

Mix, and when dissolved, it is ready for use. Apply once or twice a day. If it blisters, grease it with lard or oil.

Another remedy. — Take a small white lead keg, or other small vessel open at one end, and put in, say half full of soft soap, boiling hot, then tie three or four thicknesses of heavy cotton cloth over the open end, and turn the keg bottom upward on the poll, and hold it there three or four minutes; three or four applications are sufficient. The horse should have a twitch on, and a loop over the knee, so that he can not put his foot to the ground, or confined in some way while the operation is going on.

If our efforts fail to disperse the swelling, or as soon as it is found that matter is beginning to form, we

should pursue a contrary course to that just laid down, and do all we can to hasten the process of ripening. Poultices of linseed-meal with an ounce or two of turpentine added, or any other good poultice should be applied, and when the tumor becomes soft, and the presence of matter is no longer a doubt, it should be immediately opened. This having been done, the abscess should be carefully examined with a probe, and the deepest part of it ascertained, and through that a seton or rowell should be passed, coming out on the side of the neck below the tumor; this will allow the matter to run out as fast as it is formed, and the inside will be kept in a healthy state. Setons should be passed in this way through every distinct pipe or sinus; make the lower opening large and free. The wound should be kept clean with warm soap suds, and if it assumes an unhealthy appearance, it should be washed with the following lotion, using a sponge:

Recipe No. 92.

MILD CAUSTIC WASH FOR WOUNDS.

Blue vitriol, powdered, . two ounces,
Dissolved in a quart of water.

If fungus or proud flesh spring up, and this wash is not strong enough to repress it, the vitriol may be increased, or a powder may be lightly sprinkled over the sore.

Recipe No. 93.

CAUSTIC POWDER FOR WOUNDS.

Sugar of lead, . . . } equal parts.
Verdigris, . . . }

Mix and rub them till they become a fine powder; a

little of this powder may be sprinkled over the fungus granulations, and the wound may be covered with a pledget of tow or lint dipped in the mild caustic wash. If costiveness appear, give Recipe No. 82, or six or eight drachms of aloes.

FISTULA IN THE WITHERS.

This requires the same treatment as the poll evil, and the reader will turn back one page, and see the treatment there laid down. I will add, however, in addition to what is there said, that when the swelling first makes its appearance, and before any matter is formed, it may sometimes be cured by roweling each shoulder just below the swelling. Keep the parts clean with warm soap suds, and wet the rowel with the following stimulating liniment once a day, to promote the running:

Recipe No. 94.

STIMULATING LINIMENT.

Origanum, ...	four ounces.
Turpentine, ...	six ounces.
Gum camphor, ...	two drachms.
Linseed oil, ...	half pint.

Mix well, and rub the affected parts with it once or twice a day, and move the rowels once or twice a day, to encourage the running, and keep them in two weeks or longer; but if there is the appearance of matter forming in the swelling, this whole course of treatment must be immediately stopped and a contrary treatment substituted. Suppuration must be encouraged by warm

fomentations and poultices, and when the tumor is sufficiently ripe, it should be freely opened, and proceed to healing as laid down on page 82 for poll evil. The early remedies there prescribed, are also applicable to fistula in its first stages.

WARBLES AND SADDLE GALLS.

Warbles are small tumors resulting from the pressure of the saddle, and when they ulcerate they sometimes become sitfasts.

If it be practicable, the horse should have rest, or, at all events, the stuffing of the saddle should be so contrived, that every degree of pressure be removed from the part. Warbles and saddle galls will frequently disappear without medical treatment, or by the application of strong salt and water, mixed with a fourth part of tincture of myrrh. If they will not disappear by this treatment, the same means must be adopted, that are recommended for poll evil, namely: at first, try to prevent the accumulation of matter by repellants, such as Recipe No. 91, or apply, in the same manner, the following:

Recipe No. 95.

COLD LOTION.

Alcohol, ...	three ounces.
Superacetate of lead, .	two ounces.
Vinegar, ...	three ounces.
Water, ...	half pint. Mix.

If these should not succeed, adopt the contrary mode of treatment, and bring the tumor forward to suppura-

tion by poultices, and when sufficiently ripe, open with a lancet; encourage the escape of the offensive matter, and proceed to healing the sore as laid down a few pages back for poll evil.

SITFASTS, HARD TUMORS, ETC.

A sitfast is a hard tumor, that has neither matter nor motion in it; and may arise from a gall or bruise, which has produced no inflammation, and consequently no matter has been engendered. It may also come from an ill-cured warble that has closed, leaving a hard, insensible swelling behind. If they do not yield to the treatment just laid down for warbles, etc., the parts beneath must be roused to activity. A strong blister should be applied over the part, as Recipe No. 87; or the following will effect the same end:

Recipe No. 96.

OINTMENT FOR SITFAST.

Blue ointment, . . . six ounces.
Gum ammoniacum, . three ounces.
Oil of turpentine, . seven ounces.—Mix.

In a few days, the sitfast will fall off, or may be separated without difficulty. The wound should be treated as a common sore, and should it heal too fast, and proud flesh appear, apply the caustic wash or powder, (see Recipes 92, 93,) or touch it lightly with lunar caustic. This course of treatment is applicable to all hard tumors; or at first, they may be taken out with a knife in skillful hands.

WOUNDS.

When the skin is much torn from the flesh, and you are at hand when the wound is quite fresh, take a needle and small waxed thread, and sew it up. Put the needle in straight, one side over against the other, draw the skin as tight as practicable, (keeping the lips or edges of the wound down,) and tie a knot at every stitch, and cut the thread off. Let the stitches be three-quarters or an inch apart, leaving room for the matter to escape. In deep lacerated wounds, it may sometimes be necessary to remove a few ragged parts before they are brought together; and they may be of such a nature, or so situated, that a light bandage or sticking-plaster may answer the place of sewing. Whichever be the case, care should be taken that an opening is left in the lowest part of the wound for the matter to escape freely.

The wound should be cleansed from dirt and extraneous matter, and if there is inflammation, cooling poultices may be applied, but not continued after the inflammation is subdued and the parts are beginning to look healthy. If the wound is healing too fast, and proud flesh appear, take.

Recipe No. 97.

Red precipitate, . . three drachms.
Basilicon, ... one ounce.

Mix well, and apply part of it to the proud flesh. This is also good to apply to wounds that look dull and discharge an unhealthy matter. If this is not strong enough to subdue the fungus granulation or proud flesh, apply Recipe No. 93, and if that is not strong enough, touch the parts lightly with lunar caustic, or lay on a

little corrosive sublimate. Must I repeat, that wounds, ulcers, etc., should be kept clean with warm soap suds? Castile soap is best for this purpose; and when ulcers are very foul, they may be washed with a solution of chloride of lime, say one drachm to a pint of water. For further information, see pages 82 and 85.

VIVES, OR SWELLING OF THE GLANDS, ETC.

This is a swelling of the glands under the ear toward the angle of the jaw. It generally comes from a cold, and young horses are more subject to it than old ones. In common cases, the cure may be effected by poulticing the parts, or fomenting with warm water or marsh-mallows, and after it has been well dried, clothe the parts to keep off the air. In stubborn cases, bleeding is sometimes necessary, with mild purgatives. But whether we bleed or not, it is best to leave open the main road for such humors to escape by. To assist nature, however, employ the following:

Recipe No. 98.

LOTION.

Subacetate of lead, . .	one ounce.
Salammoniac, . . .	half ounce.
Vinegar, ...	six ounces.

Mix, and rub the part well twice a day.

Low diet, plenty of water gruel and bran mashes, to which half an ounce of nitre may be added daily, will reduce the thickened state of the blood, which generally attends this species of tumor. But, as in poll evil, warbles, sitfasts, and other swellings, tumors, etc., (a few pages

back,) it is sometimes found impossible to remove the vives by this kind of treatment; that is to say, if it is evident that matter is about to form in the tumor, all our labor is rendered vain, as quite a different treatment must be adopted. The animal must be restored to his ordinary diet, and suppuration must be promoted, and when sufficiently ripe it must be opened; bread or linseed meal, with chopped onions, will form a good poultice. I have said so much in the last few pages about all manner of swellings, tumors, etc., that it seems like writing the same thing over again, (see poll evil and warbles). If the swelling becomes hard it may be blistered, (see sitfasts.) For purgatives, see Recipe No. 82.

SPRAINS, BRUISES, ETC.

The back, shoulders, legs, etc., are liable to sprains; and they all resemble each other. If the skin is broken, you must examine the treatment just laid down under the heading, wounds. But when the skin is not broken, you must examine whether there is inflammation, and if there is, you must apply cold water, or salt and water, or the following lotion until the inflammation subsides:

Recipe No. 99.

Laudanum, ...	one ounce.
Salammoniac, . . .	one ounce.
Common salt, . . .	six ounces.
Vinegar, ...	half pint.
Cold water, ...	one quart.

Mix well and bathe the parts two or three times a day.

When there is no inflammation, the following will be found good as a general liniment for man and beast:

Recipe No. 100.

GENERAL LINIMENT.

Oil origanum, . . .	one ounce.
Gum camphor, . . .	one ounce.
Hartshorn, ...	one ounce.
Laudanum, ...	one ounce.
Turpentine, ...	one ounce.
Linseed oil, ...	six ounces.

Mix, and add half pint of good soft soap.

The following is also a good liniment for sprains, bruises, etc.

Recipe No. 101.

LINIMENT.

Turpentine, ...	half pint.
Gum camphor, . . .	two drachms.
Vinegar, ...	half pint.

The yolk of three or four eggs. Mix well.

SWEENY, SHOULDER JAM, BIG SHOULDER.

For Sweeny rowel just below the affected part, and rub well with the strong embrocation, Recipe No. 87; if it blisters, rub on lard or oil. Move the rowels every day, and keep them clean with warm water or soap; the rowels must be kept in for several weeks, or until the cure is performed, and occasionally wet with turpentine. A friend of mine says, he has tried the following often, and knows it to be a good remedy for shoulder jam or

big shoulder. Take soft soap, one quart; turpentine, one or two tablespoonsful; mix well, and rub it in well over the parts affected, and in twelve or fifteen hours, apply clay over the parts to prevent its blistering; in about twenty-four hours, wash the clay off: and repeat the whole operation two or three times, and a cure will be effected. The clay must be mixed with water to such a consistency that it will stick

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SPAVINS, WIND-GALLS, THOROUGH-PIN, CAPPED HOCKS, CORBS, SPLINTS, RING-BONE, BLISTERING.

When these enlargements seem to contain a fluid or wind, as blood spavin, capped hock, or wind-galls, they may, if taken in time, be cured by cold discutients, as Recipes No. 98 or 99. But, if not taken at an early stage, they will require stronger remedies. It is often necessary to blister the parts, or to pass a rowel (seton) through the lower part of the enlargement, or make small punctures through the skin, which may be done by driving sharp tacks through a thick piece of leather, and then tacking the back of the leather to a small block of wood to prevent the heads of the tacks from pushing back. Apply this to the enlargement and give it a tap, but do n't let the ends of the tacks be longer than just to go through the skin. When the last-named operation, or the seton, is employed, a stimulating liniment should be applied at the same time, and the seton wet with it once a day to make it discharge freely; it should also be kept clean with warm water and soap. The stimulating liniment, Recipe 94 or 100, will answer for

this purpose. But if you want to use it for blistering, it should be stronger, as Recipe 87, 88 or 96. Either of the above may be applied when the enlargement becomes hard, (callous,) as is often the case with corbs, bone spavin, splints, ringbone, etc. The two last-named, particularly, require strong blistering, and the reader would do well to examine the treatment of sitfasts, big head, etc., for in the last several pages back, I have treated nearly every variety of enlargement or tumor. After the hair is cut off from the part that is to be blistered, the following ointment may also be applied with good effect:

Recipe No. 102.

Biniodide of mercury, . two drachms.
Lard, ... two ounces.

Mix well, and rub about a teaspoonful or less on the enlargement, daily, until it blisters; when you want to stop the blistering, wash the parts with warm water and soap, and rub on lard or any soft oil.

Thorough-pin, is an enlargement near the hock, projecting on both sides of the leg; they are generally soft, like wind-galls, and should be treated as such.

ROWELS, SETONS.

Setons are pieces of tape, passed, by means of a sharp instrument or large needle, through abscesses, or the base of ulcers with deep pipes (sinuses), or between the skin and the muscular or other substance beneath. They are retained there by the ends being tied together, or by a knot at each end. The tape is moved in the

wound two or three times a day, and occasionally wetted with spirits of turpentine, or some stimulating liniment, in order to increase the inflammation which it produces, or the discharge which is intended to be established.

In abscesses, such as occur in fistula or poll evil, setons should be passed from the top to the very bottom of the swelling, for except some orifice be made for the matter to flow from the bottom of the wound, it will continue to eat deeper into it, and the healing process would be very difficult to accomplish.

To form a rowel, the skin is raised between the finger and thumb, and with a sharp knife or lancet, the skin is cut through, and about an inch in length, and the skin is forcibly separated from the substance beneath, until there is a circular cavity two or three inches wide. Into this a piece of tow is inserted, sufficient to fill it, and previously smeared with turpentine or blister ointment; this causes considerable inflammation and discharge. If a little of the tow be left sticking out of the incision, the discharge will conveniently dribble down it. The tow should be changed every day, with or without the ointment, according to the action of the rowel or the urgency of the case.

In horse practice, rowels and setons are, it seems, by most people, understood to be the same thing; it is for that reason, that in recommending rowels or setons throughout this work, I have mostly written rowels. They are intended to produce the same effect—accomplish the same purpose—but setons may be more effectual as a general thing, because they can be moved about easily in the orifice, to promote the discharge without being taken out, while rowels should be renewed every day. **Care should be taken, that the setons are not**

torn out; they should be washed every day with warm water and soap. For the removal of hard tumors, as sitfasts, bone spavin, splints, etc., a blister is more effectual than setons; but in soft enlargements, as blood spavin, wind-galls and thorough-pin, setons may be used to advantage.

STRINGHALT.

For this, use Recipe No. 100, twice a day; rub it in well.

FRACTURES.

When the shank bone or pastern is fractured, the first thing to be done, is, to get the horse into the stall that he is to remain in, and then the hair should be cut close from the part, and the fractured edges brought, as gently, and as evenly together as possible, and a strong pitch plaster, or any other strong adhesive plaster, applied well around the part, and over this another strong linen bandage may be applied, and then bind on splints, before and behind and on each side; let the splints reach a considerable way above and below the fracture. If the fracture is near a joint, the hollow places should be filled with tow before the splints are applied, in order to give them an equal bearing; and if these are not sufficiently strong, other, longer and stronger splints may be applied over these. A strong piece of canvas may be so arranged under the body, that the animal can bear a portion of his weight upon it, when he is tired of standing; but it is seldom, if

ever, necessary to sling a horse, for he could not survive it long. When you are applying the splints, do not let any part of the limb sustain undue pressure, so as to cause inflammation. The bandage over the fracture may be occasionally moistened with the cooling lotion, Recipe No. 99, and if at any time there is the appearance of inflammation, the limb should also be bathed freely with cold water.

MAD DOG BITE, OR HYDROPHOBIA.

This is a most fearful disorder, and is caused by the bite of a rabid animal, and most frequently the dog. The poison of the saliva remains in the wound for an uncertain time, varying from three to eight weeks in the horse, and then begins to produce its dreadful effects on the system. The attack is generally sudden; the animal may be at his usual work, when he will suddenly stop, tremble, stagger and sometimes fall. This should not be mistaken for the staggers, because the animal is sensible of what is going on, which is not the case in staggers, (megrims.) The horse should be led home as soon as possible, and secured, so that he can not do mischief, for the progress of the disease is very rapid, as a writer says: "Sometimes a state of the highest excitation speedily ensues. The horse kicks and plunges in the most violent manner, attempts furiously to seize and bite the other horses, or his attendants, and will level with the ground every thing before him, himself sweating and snorting and foaming amid the ruins." The eyes become glassy, fiery or red; loss

of vision; tongue sometimes shoved out, and gnashing of the teeth; the raging symptoms will increase, and the horse will beat himself to death, or he sometimes drops and dies.

When a horse has been bitten by a mad dog, or other rabid animal, cut out as much of the wound as possible, and apply lunar caustic, or a few drops of muriatic acid, having previously washed the wound with warm vinegar, or a solution of the chloride of lime; two tablespoonsful of the chloride of lime, to half a pint of water; wash the wound often with this solution. Sometimes the acid is put on tow, and bound to the wound.

Another remedy for the bite of rabid animals, is, spirits of hartshorn; the wound should be bathed with it freely and repeatedly.

RATTLESNAKE BITE.

The spirits of hartshorn is a good remedy for the bite of the rattlesnake, and other poisonous reptiles; the wound should be bathed with it constantly, as mentioned above for mad dog bite. It is now generally known, that spiritous liquors, when taken in large quantities, have cured rattlesnake bite; large draughts, and repeated at short intervals, until a pint or quart, has been taken by men with complete success, and without producing intoxication.

The Medical Journal says, the following is an infallible cure for rattlesnake bite:

Recipe No. 103.

FOR RATTLESNAKE BITE.

Iodide of potash,	four grains.
Corrosive sublimate,	two grains.
Bromine,	five drachms.

Mix, and keep it in a stoppered vial well secured.

Ten drops of this mixture, diluted with a tablespoonful or two of wine or brandy, constitute a dose for a man, which is to be repeated, if necessary, according to the exigencies of the case. If given to the horse, it will require at least eight times this quantity to make a dose.

WARTS.

The best way to remove warts, is to cut them off with a sharp, red-hot iron. This, if properly done, will prevent the bleeding.

DOCKING.

Always select a joint near the desired length of the tail; then turn the hair back, and tie it round with tape for an inch or two above this joint; and that which lies immediately upon the joint is cut off. If a knife is used for this operation, it should be sharp; and take care not to strike or bruise the tail, but lay the tail next the block, and, at one blow, drive the knife through a joint, if possible. Be prepared with an iron, moderately hot, to sear the end of the dock, and stop

the bleeding. A hole of sufficient size should be made in the iron, so as not to burn the bone; and take care not to hold it on too long, or burn too much. It would be much better to perform this operation when the colt is very young.

If, in any case, the bleeding should be troublesome, tie a piece of tape tight round the tail, about two inches above the wound. Take a large bunch of tow, and dip it in the following styptic wash, and put it on the end of the tail, and over that put another pledget of tow dipped in tar. A piece of strong cotton cloth can now be laid over that, and fastened on in the most convenient way, and should not be removed for eighteen or twenty-four hours:

Recipe No. 104.

STYPTIC WASH—STOPPING THE BLOOD.

Alum,	one ounce.
Nitrate of silver,	one drachm.
Sulphate of zinc,	one drachm.

Dissolve in a pint of water, and keep for use.

I will here mention, that in bleeding a horse in the mouth, the blood is sometimes difficult to stop. When this is the case, take a bunch of tow and wrap it round a piece of strong tape, and tie it securely over the orifice. It may be dipped in a solution of alum.

In case of accident, when any of the veins or arteries are much ruptured, it may be necessary to tie them up. Sometimes burnt copperas or gunpowder is useful as a styptic.

FOUNDER.

This is a serious disorder, and one which has rendered useless more horses than any other disease. Numerous are the causes that produce it. Prominent among these are: Improper feeding, over-working, obstructed perspiration—which is caused by sudden changes, and too often from cooling off suddenly when the animal has been over heated. The attack, which is of an inflammatory character, seems to be made more directly upon the feet, which, if they have been previously weakened by improper shoeing, or other ill usage, are rendered more susceptible. This sudden attack is more than the vessels of the feet can bear, and the result is, they distend and fall into inflammation.

The early symptoms of founder are too well known to be mistaken. The horse appears stiff and feeble in his forequarters; and if he is forced to move forward, he will evince the greatest pain. He shifts his forelegs frequently, as if unable to bear his weight on either of them. He collects his body, as it were, into a heap. He brings the hind feet as far forward under him as he can, in order to remove the weight of the body from the forelegs and feet. He then moves his forefeet forward, and sets them to the ground with great pain. His foreparts are very hot, and the legs are often swollen and painful when pressed with the hand. As the disorder increases, the arteries at the pasterns will throb violently, and sometimes there will be swelling about the fetlocks and coronet; and if one foot be lifted, it gives so much pain to the other, that the animal is in danger of falling, and his whole appearance

shows plainly that he is laboring under a most painful inflammatory affection. As soon as the disease is discovered, a few quarts of blood may be taken from the plate vein, a little above the fetlock joint; or it may be taken from the toe of each of the feet, by cutting through the sole close to the wall—(see cut (*z*), page 102) —the shoes having been already taken off, and the soles pared moderately thin. If the blood does not flow freely, put the foot in warm water, and the flow will be increased; and, when enough has been taken, the orifice may be filled with tow, and the shoe tacked very lightly over it for a short time. Purgatives should not be given, unless there be evident costiveness, and then only in sufficient quantities to open the bowels gently, for which purpose Recipe No. 82 may be used. This having been attended to, give the following Recipe:

Recipe No. 105.

Digitalis, . . . one drachm and a half.
Tartar emetic, . . one drachm and a half.
Nitre, ... two drachms.
Sulphur, ... one drachm.

Mix, for one dose, and give twice a day while the inflammatory symptoms continue, and rub the legs well with wet salt, and then rub them dry, and clothe him comfortably. The animal should have mild diet and moderate exercise; but do not force him or put him to work before he has recovered, for in so doing there is danger of the disorder returning with increased virulence. In cases of relapse, or founder of long standing, I make an opening in the soles, just inside the wall of the feet, and have known great quantities of yellow viscid matter

to be discharged, and relief would invariably follow. About the worse affected horse I ever saw, was relieved by this simple operation. He was a favorite of the owner, and had (a short time previous) temporarily recovered from an attack of founder, and was put to work too soon, and the disorder returned with fearful malignity. It required the assistance of several men to bear him up while I performed the operation, (with a small farrier's knife.) It seemed that the whole effects of the disease had settled in the lower extremities, and were now escaping through the outlet I had made in the feet. The discharge of this offensive, gluey matter continued for some time. It seemed to run from above the feet; and before it ceased, the horse began to stand erect and strong, and, in a short time, he thoroughly recovered.

THE ORGANIZATION OF THE FOOT.

The wall, the sole, and the frog constitute the external parts of the foot; these form a strong, elastic box, which is designed to sustain the greatest part of the weight of the body, and to protect the internal parts, which are as sensitive as those of the human being. The wall is that hard, insensible, outside portion which receives the nails of the shoe, and reaches from the hair to the ground. The wall at the toe of the forefoot is the thickest and strongest portion of the hoof, and less expansive than any other part, but it gets thinner toward the quarters and heels, the inner quarter being thinner than the outer. This is not the case with the hind feet, the wall or horn of which is thicker at the

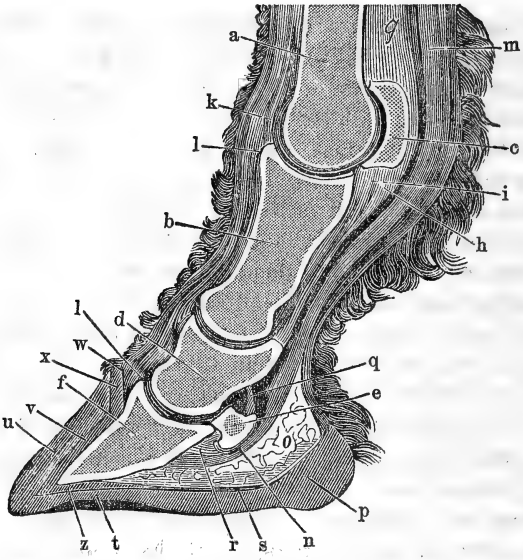
heel than at the toe. This difference in the thickness of the wall is beautifully adapted to the weight which each part has to sustain. The bars or binders are continuations of the wall, turned inward at the heels toward the center of the foot, where they meet, forming an acute angle; and, acting by mutual resistance from within, oppose the contraction of the heel.

The frog occupies the greater part of the space between the bars, and is united to them only at their upper edge, the sides being unattached, and forming a kind of channel or space between them. It is of a spongy, yielding texture, and less compact than the bars or sole. The sole occupies the whole bottom surface of the foot within the wall, excepting the frog; and in a well formed foot it is moderately concave. Too great a concavity indicates contraction.

There are three bones within the foot—viz.: the coffin bone, the navicular or shuttle bone, and part of the coronet or small pastern bone. These three bones combine to form what is called the coffin joint. (See sectional view, page 102.)

The smallest of these is the navicular bone, which is situated behind the coffin bone and under the small pastern or coronet bone. It is joined to those two bones by ligaments, and is so situated as to be continually exposed to danger.

The navicular joint is formed between the under surface of the navicular bone and the upper surface or tendon of the flexor muscle, which passes immediately under this bone, and onward where it connects with the coffin bone. It is a sort of false joint, and, from its peculiar position, is frequently the seat of severe lameness. (See *n*, page 102.)

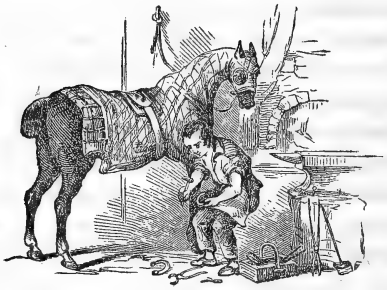


SECTIONAL VIEW OF THE LEG AND FOOT.

a The shank bone.
b The upper and larger pastern bone.
c The sessamoid bone.
d The lower or smaller pastern bone.
e The navicular or shuttle bone.
f The coffin bone, or bone of the foot.
g The suspensory ligament inserted into the sessamoid bone.
h A continuation of the suspensory ligament inserted into the smaller pastern bone.
i The small inelastic ligament tying down the sessamoid bone to the larger pastern bone.
k A long ligament reaching from the pastern bone to the knee.
l The extensor tendon inserted into both the pasterns and the coffin bone.
m The tendon of the perforating flexor inserted into the coffin bone, after having passed over the navicular bone.
n The seat of the navicular joint lameness.
o The inner or sensible frog.
p The cleft of the horny frog.
q A ligament uniting the navicular bone to the smaller pastern.
r A ligament uniting the navicular bone to the coffin bone.
s The sensible sole, between the coffin bone and the horny sole.
t The horny sole.
u The crust or wall of the foot.
v The sensible laminæ to which the crust is attached.
w The coronary ring of the crust.
x The covering of the coronary ligament from which the crust is secreted.
z Place of bleeding at the toe.

The coffin bone is the proper bone of the foot. Its shape corresponds with the inside of the hoof, where it is situated. It is of a light, spongy texture, and filled with holes, through which the vessels of the foot pass, which are very numerous. Between the hoof and the coffin bone is a collection of secretory vessels, forming a juicy, elastic substance, that prevents concussion, as would necessarily happen at every step but for this provision of nature. But this substance, in like manner, pervades the concurrence of all other bones of the foot, only differing in quality. The holes about the body of the coffin bone convey the nutricious juices to the little leaves with which it is covered. Those near the under part go to the sole. Considering the manner in which this bone is inclosed within the hoof, and the important parts around and below it which are to be nourished with blood, this circulation, which is carried on through the very body of this bone, is one of the most beautiful provisions of nature that is to be found in any part of the frame. The vessels which are distributed through the internal part of the foot are the arteries, veins, nerves, and lymphatic vessels—the secreting and excreting vessels. Two branches of the nerve distribute themselves equally on both sides; two branches of arteries descend into the foot at the coronet near the quarters, and supply the coffin bone with fine blood for its reproduction. The formation of new horn is derived from the blood, which is sent hither in good quantity, and particularly into the coffin bone. In this bone there is a cavity, or rather three hollows, communicating with each other, in which the horny matter is generated; in other words, this is the proper reservoir for such particles of blood as are suited to the formation of hoof, as it may

be required and called for by the process of nature. If we closely observe the natural laws of the growth of the hoof, we will perceive that it grows from the top downward, and from within, outwardly, so that the internal part pushes forward the middle part, and takes its place —while the latter, in its turn, is converted into the dead, horny substance, which is naturally destroyed by time, wear, and tear.



PREPARATION OF THE FOOT WITH A VIEW TO ITS PRESERVATION.

As I have already said, the wall, the sole, and the frog form an elastic box, which may be expanded, contracted, or depressed; either of which is attended with pain and more or less injury to the parts within. How important, then, it is to preserve these parts in their natural strength, and not to sacrifice any part of them by an injudicious use of the shoer's knife. There is more or less difference in the natural structure of the feet; some are wider or rounder than others; the walls of some feet are thicker and stronger than others; while some have a

tendency to low heels, and the soles are inclined to become flat; or in other words, some feet being of weaker construction will sooner give way to ill usage or an improper use of the knife.

Although there is some difference in the structure of the feet, there are few, if any, but what may be kept in a healthful state by judicious management.

A shoer should be acquainted with the internal organization of the foot, the structure of the foot and leg (see cut—page 102), and if possible, the whole frame; for it sometimes happens that a faulty position of the foot upon the ground—as the horse standing too high or too low, crooked or straight, or the toes turning inward or outward—is attributed to the bad formation of the foot, when it properly belongs to the awry structure of some portion of the leg.

Before he begins to shoe a horse, he should know whether the foot is free from defect; whether it is proportioned to the leg; whether the hoof be too large or too small, too wide or too narrow, too long or too short; the heels too high or too low; whether the frog is in proportion to the other parts; the soles strong or weak, and to notice their degree of concavity.

With regard to the paring or preparation of the foot for the shoe, it would be impossible to lay down any rule applicable to all feet. The overgrown portion should be cut off, but the weak or deficient parts should not be touched with the knife. (I can not say that I have always been free from the errors I am now pointing out; but close study and long practical experience have proved to me, that the suggestions I am making, for your guidance, can not be successfully controverted).

The operation of paring the foot is attended with

some labor, and it sometimes seems very difficult to keep the knife from the parts that are easy to cut, although they are the parts that generally need the least trimming.

In shoeing a young horse the first time, if there be plenty of hoof, and there is no defect, the bottom surface of the wall should be pared level, to give the shoe a solid bearing; but the sole, the bars, or the frog should not be meddled with, except there be ragged portions, which should be removed. What is the main object in shoeing horses? Sainbel, who wrote near three-quarters of a century ago, very truly said: "It is to furnish an additional strength for the foot, to render it capable of resisting the hardest bodies to which it may be exposed; but if at the very time we make this addition, we destroy with the buttress those parts which nature has formed with the very same intent, we not only do not increase the resources of the foot, but we destroy that organ by predisposing it to a multitude of ailments."

If the bars are overgrown, they may be pared level with the heels; but the sides should not be cut away, which is so often done "so as to show an apparent increase of width between the heels, which may, for a time, deceive the eye, but it is a mere illusion purchased at the expense of impaired power of resistance in the bars, and ultimate contraction of the feet. It is self-evident, that the opening out the heels, or cutting away the sides of the bars, must diminish their substance, and render them weaker, and consequently less able to resist contraction."

The frog seldom requires the knife, and I fully concur with William Miles in saying, that "The layer of

horn, that covers the frog, is thinner in substance and more delicate in texture, than that of any other part of the foot, and when once destroyed, is very imperfectly and sparingly reproduced. The first stroke of the knife removes this thin horny covering altogether, and lays bare an under surface totally unfitted, from its moist, soft texture, for exposure either to the hard ground or the action of the air; and in consequence of such unnatural exposure, it soon becomes dry and shrinks, then follow cracks, the edges of which turning outward form rags; these rags are removed by the smith at the next shoeing, whereby another such surface is exposed, and another foundation laid for other rags, and so on until at last the protruding, plump, elastic cushion interposed by nature between the navicular joint and the ground, and so essential to its preservation from injury, is converted by the mischievous interference of art, into the dry, shrunk, unyielding apology for a frog to be seen in the foot of almost every horse that has been regularly shod for a few years." Cutting the frog to the quick often causes the thrush, a very common disorder, but it would seldom appear if the frog was not too much pared. It would be best to cut nothing more away than the dead or ragged parts, which naturally detach themselves by the laws of growth and reproduction.

The sole should not be pared beyond the dead or proud parts; for if it is too much cut away, it will be weakened and unable to maintain its natural concavity or distance from the ground; either the cavity may be increased, which indicates contraction, or the sole may descend (particularly if there be the least predisposition to flatness), and become convexed at the bottom, which is the worst possible form it could assume. In addition

to this, the inner part of the sole, divested of its outside covering and protection, will be exposed to the air and hard substances, and will consequently become dry, hard, and brittle, to the injury of the parts within. In making these suggestions, I have had in view, more particularly, the preservation of feet that have not received any material injury, but they are also (with very few exceptions) applicable to all feet.

I do not wish to be understood as saying that the overgrowth should not be pared away. Was it not for the habit of some people (who ought to know better) of carving the foot into shape at every shoeing, destroying heels, sole, bars, and frog, which nature, if ever able, may require years to reproduce, I should not, perhaps, say so much against it.

If the heel should grow too high and throw the knee too much forward, it should be pared down to its proper place; the toe also should be cut away, if it should grow too fast and throw too much strain on the pastern.

DIRECTIONS FOR FITTING THE SHOES, ETC.

The wall should not be so much pared, as to destroy the natural cavity of the foot. Where it receives the shoe, it should be pared perfectly level, inclining neither inward nor outward; the shoe should likewise be level at the seat of bearing. The soles of most feet that have never been injured, have sufficient cavity (if the wall is not too much cut away) to leave enough space between the sole and the shoe; but if the sole should be too flat from any cause, the inside of the shoe, and

so much only as covers the sole, should be made concave, leaving the seat of bearing level. This level bearing all round, will enable the foot in its elastic-growing state, and the heels particularly, to act without restraint, and keep their natural distance from each other.

The sole in its natural state, and enjoying all its strength, may, without risk, receive a slight share of the weight, particularly in that part which adjoins the wall; but its concave form proves, that it was the intention of nature to keep it a proper distance from the ground, in order to preserve it from too great a pressure, which would certainly prove hurtful to the fleshy part of the sole.

When the foot has been too much weakened, and the sole descends, and becomes convexed, it is sometimes the case that there is not enough substance in the wall to furnish a sufficient seat of bearing for the shoe; in this case the *sole* must of necessity bear a portion of the weight. This deplorable condition of the foot, is generally caused by an improper use of the knife, and is sooner brought about when there is a natural tendency to flatness; what strength or substance it now possesses, should be preserved, and the growth of the parts should be encouraged, but it is seldom, if ever found, that any art or science can restore the sole to its proper place. The shoe should be wide and of sufficient thickness to keep its proper shape, and great care should be taken that it corresponds with the circumference or outline of the foot, and sets well in, and firm upon the heels. This important principle is too often neglected, for the reason, that a great many people like to see the shoe set well off at the heels. Miles was right in saying, that "it imposes upon the understand-

ing by deceiving the eye, and is in the last degree hurtful to the horse's foot. When a shoe is thus set off at the heels, it imparts to the foot an appearance of greater width than it really possesses; but if the shoe happened to be made of glass, or some other transparent substance, the deception would be at once detected, for then the *outer* edge of the foot would be seen to rest on the *inner* edge *only* of the shoe, and the whole of the remaining width of web would be seen projecting beyond the hoof, forming a convenient clip for another horse to tread, but utterly useless as affording support to any part of the foot itself. A common observer, on taking up a foot with a shoe so fitted, looks only to the space between the heels of the shoe, and if he find *that* to be considerable, he does not stop to inquire what quantity of the foot is exposed by the opening, but seeing what he calls 'a good open foot,' is satisfied, forgetting altogether that his inspection never extended to the foot at all, but was confined exclusively to the shoe."

In addition to this, we must know, that the shoe being thus set off at the heels, which, not having sufficient bearing, they will in a short time push down between the shoe, and be confined as though they were in a vise; this must produce contraction, the very thing intended to be remedied.

When the frog appears too large, as it sometimes does in cases of flat feet, which have generally very low heels, it is better to supply this defect by a slight increase of thickness in the heels of the shoe, than to strip the frog of its horny covering. By this means the heels are raised to a level with the rest of the foot, and the weight is equally distributed to every point of the circumference of the foot.

There is a deep-rooted, but unnecessary prejudice against the application of a hot shoe to the foot; sometimes the over-growth becomes so hard that it is almost impossible to cut it, and it is then necessary to soften it with the hot shoe, but the burning should not be so much as to affect beyond the part that is to be cut away. The shoe being applied moderately hot, will also afford the advantage of detecting such projecting portions, as would cause an uneven bearing of the shoe.

CONTRACTION.

The causes have been noticed in the last few pages.

The best remedy for contraction is to take the shoes off, and turn the animal out. If he can not be spared for this purpose, the most of feet can be opened by judicious shoeing, but not by setting the shoe "well off at the heels," as is so often supposed, and as I have shown at pages 109, 110; for this purpose, (instead of paring the wall or seat of bearing perfectly level, as I have recommended for feet that are free from defect,) I pare the sole moderately thin—the wall concave to the outer edge—particularly the heels; and instead of making the shoe level or concave, as described at page 108, it should be reversed, so as to press the foot out as the horse bears his weight upon it. The shoe should not project beyond the foot at any part, but should fit neatly for the purpose; the nails as few as possible, and put in well toward the toe, so as to allow the heels to expand. When the heels open, the shoe should not be suffered to remain on and press altogether upon the sole, but

should be taken off and opened to suit the foot, and nailed on as at first, and repeated until the foot acquires its proper form, when this mode of shoeing should be discontinued.

I am aware that some writers have no great opinion of this mode of shoeing; but, if properly done, I believe it (from experience) to be the easiest and most effectual remedy we have, including the various screw or joint shoes, which may, for the time, force the heels open, but too suddenly for the benefit of the parts within, and, besides, they are more trouble.

THRUSH.

This is a disorder of the frog, caused by contraction and by cutting away too much of the horny covering, and exposing the tender parts to hard substances, etc. Its early symptoms are a slight issue of offensive matter from the cleft, and if not checked in time, may cause considerable trouble.

Recipe No. 106.

SALVE.

Calamine powder, . . .	six drachms.
Sulphate of copper, powd., .	four drachms.
Alum, powdered, . . .	five drachms.
Tar, ...	one pound.
Lard, ...	half pound.

Melt the tar and lard together, and when they begin to cool, add the other ingredients, and stir them well. Take a small pledget of tow and dip it in this mixture, and put in the cleft as neatly as possible, and then a

larger pledget should be put over this. In bad cases, I frequently put a bar over the shoe by making one or two nail holes at each end of the bar to correspond with the holes in the shoe, and let the nail-heads rest on the bar, (or the bar may be welded on,) this will keep the pledgets in, and protect the frog.

The ragged portions should be cut off before the foot is dressed, and the foot should be kept from water. If proud flesh appear, apply a powder of burnt alum or blue vitriol, and if that is not strong enough to repress it, add a little corrosive sublimate, or touch it with the butyr of antimony. Sometimes a portion of the fungous growth can be removed with the knife. If the reader wants any further information with regard to healing, etc., let him turn back to pages 82 and 86.

CANKER, QUITTOR, GRAVEL.

There sometimes appears an ugly horny or fungous growth about the hoof, called canker. The enlargement should be cut away, and the remaining parts touched with a caustic, as the butyr of antimony. Should the canker be so situated as to leave an orifice or opening after it has been cut away, it may be dressed with a pledget of tow and salve as described in the preceding page. It will sometimes grow again, but the treatment should be repeated until it is destroyed.

In case of quittor or gravel, so much of the outside horn, around the edge of the sinus, must be cut away as to enable you to get at the inside, which may be washed with a weak solution of blue vitriol, in the proportion of one drachm to half a pint of water, and the

orifice may be dressed with a pledget of tow and salve, (page 112,) referred to above. Put it in neatly so as to keep the dirt out, and the feet should be kept as much as possible out of the water.

SAND-CRACK.

This is a crack or split in the hoof, frequently of the inside quarter, but sometimes in front, and if not attended to in time, it may be very troublesome. Take a sharp hot iron, and burn to the quick, just above the crack, transversely; if it is on the quarter, a strong clip should be made to the shoe, and fit neatly to the cracked quarter, so as to keep it firmly to its place. The dirt should be cleaned out, and the crack filled with tow and tar, or the salve at page 112, so as to keep the dirt out. I have cured sand-crack in this way when it was split up to the hair. If the crack is in the front of the foot, good may be done by making a large clip on each side of the shoe, and one also at the toe, so as to keep the parts firmly together; but if the crack is very bad, it may be better to put a band over the top or front of the hoof, which every shoer should be able to do. The two pieces that form the band should be very thin, except at the top or front, where they are connected with a screw, and not more than three-quarters or an inch wide; and the lower ends may be fitted neatly under the shoe, and receive one of the quarter nails, which may be as strong as practicable for the purpose. I have found this better and less trouble than welding them on to the shoe. Clean out between the cracks, and fill them up as directed above.

METHOD OF TAMING WILD HORSES.

THE art of horse taming was successfully practiced in England and Ireland half a century or more ago, by the Jumper, and by Sullivan, better known as the Whisperer; but, it seems, that their secrets were not known after their death. Some years after this, in 1814, Mr. Willis J. Powell discovered some valuable principles with regard to the taming and management of wild horses, which were published with some additional and useful instructions.

It seems that Powell's system was not much noticed until within the last few years, when we find it practiced with some additions, and recommended by the most expert horsemen of the present day.

About ten years ago, Mr. Offutt, of Kentucky, made some valuable discoveries on the management of wild horses, but I am not aware that he ever (intentionally) made them public.

Within the last few years several books (from different authors) have made their appearance on the secret or modern art of taming wild or vicious horses. These works are all about the same thing; although each of the different authors claim the paternity of the art.

I never saw one of these books until about two years ago, when I purchased one from an agent—of the original (as I supposed) of the modern authors—with the right to do with it as I pleased; but I have never used it up to the present time. I have seen several since, and they all contain the very same principle with regard to subduing vicious animals—that I had practiced many years before—in the operation of shoeing. But I never published them, or carried the principle so far as others have in training horses, etc. These principles are undoubtedly good; and if I knew who first found them out in this country, I would give him the proper credit.

POWELL'S SYSTEM OF APPROACHING THE COLT.

He says—"A horse is gentled by my secret in from two to sixteen hours. The time I have most commonly employed has been from two to six." And goes on to say—"Cause your horse to be put into a small yard, stable, or room. If in a stable or room, it ought to be a large one, in order to give him more exercise with the halter before you lead him out. If the horse belongs to that class which appear only to fear man, you must introduce yourself gently into the stable, room, or yard, where the horse is. He will naturally run from you, and frequently turn his head from you; but you must walk about extremely slow and softly, so that he can see you; and whenever he turns his head toward you, which he never fails to do in a short time—say in a quarter of an hour, or half an hour; I never knew one to be much longer without turning toward me—at the very moment he turns his head, hold out your left hand toward him, and stand perfectly still, keeping your eyes upon the horse, and watching his motions, if he makes any. If the horse does not stir for ten or fifteen minutes, advance as slowly as possible, and, without making the least noise—always holding out your left hand, without any other ingredient in it than what Nature put in it. If the horse makes the least motion when you advance toward him, stop, and stand perfectly still till he is quiet. Remain a few minutes in this position, and then advance again in the same slow, almost imperceptible manner. Take notice, if the horse stirs, stop without changing your position. It is very uncommon for a horse to stir more than once, after you begin to advance, yet there are exceptions. He generally keeps his eye steadfast on you till you get nigh enough to touch him upon the forehead. When you are thus near to him, raise slowly, and, by degrees, your hand, and let it come in contact with that part just above the nostrils, as lightly as possible. If the horse flinches, (as many will,) repeat, with great rapidity,

those light taps or strokes upon the forehead, going a little further up toward his ears by degrees, and descending with the same rapidity, till he will let you handle his forehead all over. Now, let the strokes be repeated, with more force, over all his forehead, descending, by lighter touches, to each side of his head, till you can handle that part with equal facility. Then touch, in the same light manner, making your hands and fingers play around the bottom or lower part of the horse's ears, coming down now and then to the forehead, which may be looked upon as the helm that governs all the rest. Having succeeded in handling his ears, advance toward the neck with the same precaution, and in the same manner—observing always to augment the force of the strokes whenever the horse will permit it. Perform the same on both sides of the neck, till he lets you take it in your arms without flinching.

"Proceed, in the same progressive manner, to the sides, and then to the back of the horse. Every time the horse shows any uneasiness, return immediately to the forehead, as the true standard, patting him with your hands, and from thence rapidly to where you had already arrived—always gaining ground a considerable distance further on every time this happens. The head, ears, neck, and body being thus gentled, proceed, from the back, to the root of the tail.

"This must be managed with dexterity, as a horse is never to be depended upon that is skittish about the tail. Let your hand fall lightly and rapidly on that part next to the body, a minute or two, and then you will begin to give it a slight pull upward every quarter of a minute.

"At the same time you continue this handling of him, augmenting the force of the strokes, as well as the raising of the tail, till you can raise it and handle it with the greatest ease, which commonly happens in a quarter of an hour in most horses; in others, almost immediately; and in some much longer.

"Begin, by degrees, to descend to the legs, always ascending and descending, gaining ground every time you descend, till you get to his feet. Let him hear the sound

of your voice, 'hold up your foot,' etc., at the same time lift his foot with your hand. He soon becomes familiar with the sounds, and will hold up his foot at command. Then proceed to the hind feet, and go on in the same manner; and, in a short time, the horse will let you lift them, and even take them up in your arms. All this operation is no magnetism, no galvanism; it is merely taking away the fear a horse generally has of a man, and familiarizing the animal with his master. As the horse, doubtless, experiences a certain pleasure from this handling, he will soon become gentle under it, and show a very marked attachment to his keeper."

TO PREVENT A HORSE FROM FRIGHTENING.

Every one that has paid attention to horses, has noticed his inclination to smell of every thing which, to him, looks new and frightful. This is their peculiar mode of examining every thing; and when they are frightened at any thing, though they look at it sharply, they seem to have little confidence in the examination; and are not fully satisfied until they touch it with the nose. When this is done, their fear of the frightful object is gone, and they are perfectly satisfied.

If you want to satisfy yourself of this fact, turn your horse into a large stable or barn-yard, and then gather up something that you know will frighten him, a buffalo robe, red blanket, umbrella, or something of that kind; hold it up so that he will see it. He will stick up his head and snort. Then throw it down in the inclosure, and walk off to one side. Watch his motions, and if he is frightened at the object, he will not rest until he has touched it with his nose. You will see him walk around the frightful object and snort, but getting a little closer, as if drawn by some magic spell, until he finally gets within reach of it. He will then cautiously stretch out his neck, merely touching it with his nose, as though he thought it might fly at him; but after he has touched it a few times, he will find out,

by the sense of feeling, that it is nothing that will do him any harm, and he is ready to play with it, and if you watch him closely, you will see him take hold of it with his teeth, and raise it up and pull at it. This should be repeated with horses that are subject to being frightened, until they perfectly familiarize themselves with the object that frightens them.

TO SUBDUE OR DRIVE VICIOUS HORSES.

This requires kindness, patience, and perseverance; always bear these three things in mind. To subdue a vicious horse, take up the left foreleg, and bend it until the foot is bottom upward; slip a loop over the knee, well up, and tie a second strap in the middle of it, so that he can not get the foot down; this will leave him standing on three legs. Sometimes the horse strikes out desperately with his right foreleg, but you can keep out of his reach, he can not kick or do mischief, and when he finds that he can not get his leg down, he will quiet down and become perfectly gentle. There is something about this that conquers a horse quicker and better than any thing known. I have shod the worst kind of mule this way, long before I ever heard of the new secret, or seen one of the books. If you want to carry this process further, and make him more gentle, so that you can handle him as you please, lead him about on three legs, (with the left fore foot tied up as I have just described,) until he is tired; (it will not be long,) then take another long strap, and fasten it around the right foreleg just above the foot; bring this strap over his shoulder from the off side, or under the surcingle. You must stand on the left side, with this long strap drawn tight in your right hand, and your left hand hold of the bridle or halter close to the mouth, bear against his shoulder till you cause him to move. As soon as he moves or lifts his weight, pull the long strap, which will bring him on his knees. Keep the strap tight in your hand, so that he can not

straighten his leg; hold him in this position and bear against his side with your shoulder, lightly, and in a short time he will show a willingness to lie down. When he is down on his side, if he should attempt to rise, you must prevent it by keeping his head down, and bearing it toward his shoulder. In most cases, as soon as a horse lies down in this way, he will be completely conquered, and you can take the straps off, and handle him as you please. As soon as he is done struggling, caress his face and neck, handle every part of his body and legs, and make yourself as familiar as possible. If you do not think he is thoroughly subdued, after he has been quiet for about twenty minutes, let him rise, and repeat the operation immediately, taking off all the straps as soon as he is down, and if his head is kept down or pulled toward his shoulder, it is impossible for him to rise. After throwing him in this way a few times, he will become perfectly submissive, and you can handle him as you please. When you take off the straps, straighten out his legs and caress him. It takes longer to subdue an old horse than a young one, as his habits are more confirmed. A very wicked horse should have at least two lessons a day, and about the fourth or fifth lesson he will be completely conquered and made to lie down, by lifting up the foot, and telling him to "lie down," having previously made him familiar with those words. Bear in mind that the horse should not be forced down by violence, but he must be tired out till he has an inclination to lie down. Take care not to throw the horse upon his neck. A soft place with plenty of room, is best to perform this operation, which is called "taking him down."

If it is a horse that has been dangerous to drive, you may tie up one foot, and walk him about until he is tired, (as described in the first part of this article,) and hitch him to a sulky, and drive him on three legs until he becomes submissive, when his leg may be let down; but if he should be an old horse, whose wicked habits are more confirmed, it may be necessary to "*take him down*" a few times.