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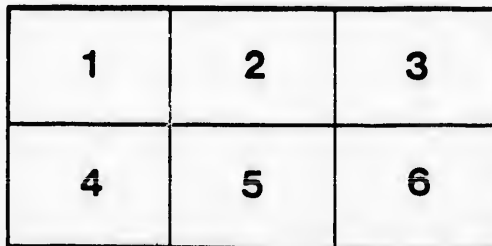
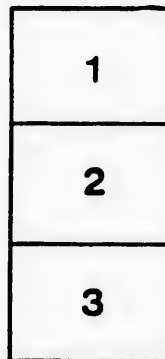
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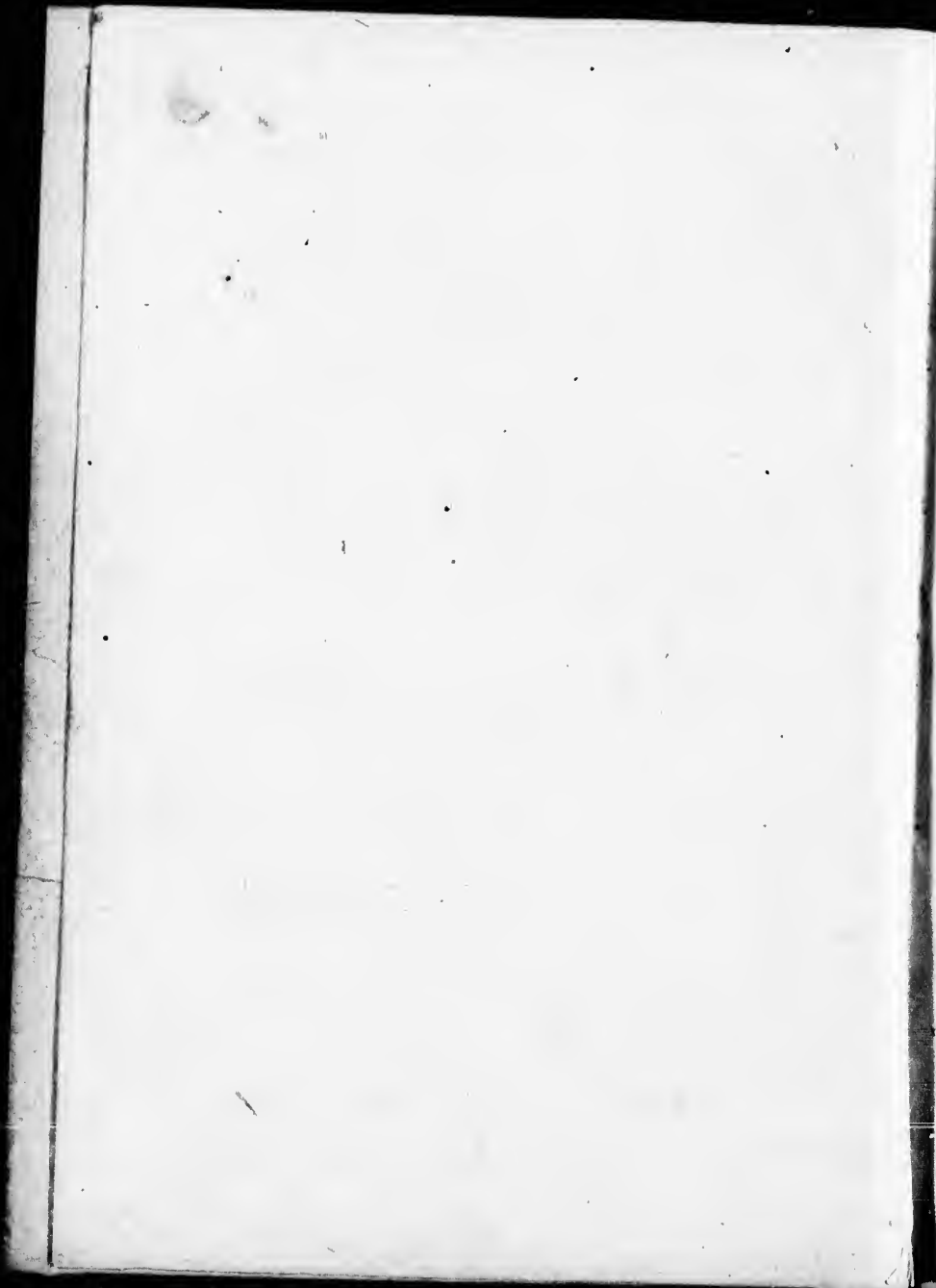
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A NEW SYSTEM
..OF..
HORSE TRAINING
..OR..
HORSE EDUCATION



AS TAUGHT BY
PROF. H. D. BRUSH,
FINGAL, ONT.

—o—

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PROF. W. A. BRUSH



PROF. H. D. BRUSH

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INTRODUCTION.

The subject of horsemanship is so closely allied and identified with all man's interests, that everything that can be said to promote a reform in that particular cannot but commend itself to everyone interested in that noble animal, and who is there that is not? For amongst the great number of animals under the control of man, the horse is the most serviceable—the most common transactions of everyday life cannot be consummated without his aid. The horse, according to the best accounts we can gather, has been the constant servant of man for nearly four thousand years, ever rewarding him with his labor and adding to his comfort

in proportion to his skill and manner of using him; but to those who govern him by brute force, and know nothing of the beauty and delight to be gained from the cultivation of his finer nature, he often becomes a fretful, vicious, and often dangerous servant; whilst to the Arab, whose horse is the pride of his life, and who governs him by the law of kindness, we find him to be quite a different animal. The manner in which he is treated from a foal gives him an affection, an attachment for his master not known in any other country. The Arab and his children, the mare and her foal, inhabit the tent together; and although the colt and the mare's neck are often pillows for the children to roll on, accidents seldom occur; the mare being as careful of the children as of the colt. Such is the mutual attachment between the horse and his master, that he will leave his com-


panions at his master's call, ever glad to obey his voice; and when the Arab falls from his horse, and is unable to rise again, he will stand by him and neigh for assistance; and if he lies down to sleep, as fatigue sometimes compels him to do, in the midst of the desert, his faithful steed will watch over him and neigh to arouse him if man or beast approaches. The Arabs frequently teach their horses secret signs or signals, which they make use of on urgent occasions to call forth their utmost exertions. These are more efficient than the barbarous mode of urging them on with spur and whip, a forcible illustration of which will be found in the following anecdote:—

A Bedouin, named Jabel, possessed a mare of great celebrity. Hassad Pasha, then governor of Damascus, wished to buy the animal and repeatedly made the owner the most liberal offers, which Jabel

steadily refused. The pasha then took recourse to threats, but with no better success. At length one Gafar, a Bedouin of another tribe, presented himself to the Pasha, and asked what he would give the man who would make him the master of Jabel's mare? "I will fill the horse's nose-bag with gold," replied Hassad. The result of this interview having gone abroad, Jabel became more watchful than ever, and always secured his mare at night with an iron chain, one end of which was fastened to her hind fetlock, whilst the other, after passing through the tent cloth, was attached to a picket driven into the ground under the felt that served him and his wife for a bed. But one midnight Gafar crept silently into the tent and succeeded in loosening the chain. Just before starting off with his prize he caught up Jabel's lance, and poking him with the butt end cried out, "I am Gafar! I have

stolen your noble mare and will give you notice in time. This warning was in accordance with the customs of the desert, for to rob a hostile tribe is considered an honorable exploit, and the man who accomplishes it is desirous of all the glory that may flow from the deed. Poor Jabel, when he heard the word, rushed out of the tent and gave the alarm; then mounting his brother's mare, accompanied by some of the tribe, pursued the robber for hours. The brother's mare was of the same stock as Jabel's, but was no equal to her; nevertheless he outstripped those of all other pursuers. and was even on the point of overtaking the robber, when Jabel shouted to him, "Pinch her right ear and give her a touch of the heel." Gafar did so, and away went the mare like lightning, speedily rendering further pursuit hopeless. The pinch of the ear and the touch of the heel were the secret signs which

Jabel had used to urge his mare to her utmost speed; Jabel's companions were amazed and indignant at his strange conduct. "O, thou father of a jackass," they cried, "thou hast enabled the thief to rob thee of thy jewel." But he silenced their upbraidings by saying, "I would rather lose her than sully her reputation. Would you have me suffer it to be said amongst the tribes that another mare proved fleetier than mine? I have at least this comfort left me, that I can say she never met her match."



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PREFACE.

My object in getting up this book on horsemanship was not merely for the dollars I would make out of it, but my object has been fully as much to place before the people what knowledge and experience I have had with horses. I am sure it will be a useful and instructive book to whoever gets it, and worth ten times the price charged for it. I do not claim it contains all that can be learned about horses, but only a small portion of it. I see every day very much need of a book of this kind, not that it is the only

book of the kind, but that I may be one with many others to plead for the much-abused animal—the horse—the most useful animal God ever gave to mankind. I see the horse abused through the thoughtlessness of man, not knowing how easily he is educated; for instance, you will see a good many take a colt that has never been handled and hitch him right in shafts and tell him to go and expect him to go when he has not learned one word of the language in which he is addressed, and therefore does not know what you mean and is generally afraid to move; and because he does not go right off they will pound the dumb animal almost to death, without his having the least idea of what they are pounding him for. If they get the colt to drive this way, after much abuse and cruelty, the next thing they are likely to do is to drive him under a shed, or in some narrow place, where

they will have to back him out; and the colt has another new word introduced to him, the meaning of which he does not understand; and because he does not understand, they will see his mouth raw with the bit, not thinking he does not know how to pick up his feet and step straight back at first, and that he is also afraid to do so. It very often happens, shortly after a colt is broken in this way, they will be driving him and he will get frightened at something and starts to run, and they shout hollow whoa! But does he stop? No! Why? Because he has not learned the meaning of the word. There are numbers of other instances which I might mention, but this will suffice to explain my meaning. If you wish to understand the position the horse is placed in, go among a people whose language you do not understand; or, suppose you were taken captive by that people and they

would give you orders to do certain things, and because you did not do what they told you to do they would pound you almost to death, then I think a person could understand to some degree the position the horse is placed in. My plan of training the horse is to learn him what is required of him before driving, learning him to give to the bit gee ! and haw ! and the meaning of "get up," "whoa," "back," getting him used to the traces, whip, etc. The way to do this is described in this book, and also taught in my class.

The idea of theory which I teach is to handle the horse with a double purchase; then you can handle him with ease, and compel him to do your bidding; but, when you attempt to handle the horse with a single purchase his strength is greater than yours; and if he is a high-strung colt or horse, he gets into bad habits.

This book is not presented to the public as an unexceptionable treatise on the horse. It is merely a plain, practical exposition of the best system of horsemanship. In order to gratify a desire expressed by those who have witnessed my operations, I write this book—which size is calculated for the pocket—explanatory of the system, so that many things which otherwise might escape their memory, can at any moment be refreshed by reference to the book. I will try to make every move with the horse so plain and intelligible, that those who have never witnessed my operations, can take hold of and manage the wildest colt or the most vicious horse. While I beg from the scrutinizing public a charitable criticism for any shortcomings that may be discovered, I yet feel great confidence that the work will meet with a hearty approval from horsemen generally, as it is my object to

be useful rather than offend or appear learned. It is also my wish that this work will prove a valuable auxiliary in bringing about the much-needed reform in the proper management and control of the most noble of the brute creation.

PROF. H. D. BRUSH.



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PROF. H. D. BRUSH'S

NEW SYSTEM OF



Horse Training.



NATURE OF THE HORSE.

Differing from most men, I claim that horses have reasoning faculties, at least to the limit of their experience. They

reason from effect to cause; hence we can only teach them by acts alone. Literally, with the horse "acts speak louder than words," and hence the absolute importance of commencing every movement with the horse right. No animal has memory equal to that of the horse, and none will reciprocate a kindness or resent an injury sooner. He is a close observer of everything passing about him. We cannot move or take any particular attitude, or hardly give an unusual expression of the face or voice without its being observed and having some meaning with the horse. Hence we should never show fear, anger or excitement, but always be cool and determined. There are no two horses whose habits and dispositions are precisely alike; and we should always try to ascertain as much of the character of the horse as possible, before we begin to handle him, so that every movement we make may have

some desired effect on the horse's mind. Yet notwithstanding there are no two horses whose dispositions are alike, there are certain things that affect all horses alike, namely:

1ST.—ENCOURAGEMENT.

When you pat or caress the horse, you say to him that whatever he is doing is right. You have only to get the horse to kick at you, balk or draw, and then caress him for it, and he will do it again when you ask him, for he thinks it is right. So never touch the horse until he has done what you ask, and then never fail to caress and encourage him.

2ND.—HOW HE LEARNS.

You cannot teach a horse a word of the English language without a sign; that is, you must either show him, or force the body to move, for a forced move of the horse's body is a sign to him,

and is equivalent in his mind to a willing move; if you only assure him by caressing afterwards that he has done what you want. So never ask a horse to do anything without you are in a position to force obedience. If you wish to teach the horse a word of command, repeat the word just before you give the sign, and he will soon learn to make the move without the sign.

3RD.—HOW THEY JUDGE OF OBJECTS OF FEAR.

All horses judge objects of fear by the touch of the muscles of the upper lip, or by the sense of smell. It is not so much the looks of an object that frightens a horse as the thoughts of personal injury. His nose is his fingers, and when he can once feel of an object and satisfy himself that it will not hurt him he will not care for its appearance. So do not strike him with the whip, for he will expect the whip

every time he is frightened, and he will start to run or shy from it. Thoroughly control his mouth so that he neither dare turn to the right or left, run back or go ahead when he hears "whoa," then give him time to examine it.

4TH.—WHERE TO CONTROL THE HORSE.

Much of my theory depends upon the important fact, that when you control the horse's mouth you control his whole body. I care not what habit it is, if I can work at the mouth at the time, I will break it up; yet there are certain habits, as jumping fences, etc., where it is not convenient to get at the mouth at the time, and other means must be resorted to. The horse may drive on ever so light a rein, ordinarily, but do not be deceived; whenever he attempts to run, kick, shy or bolt, you have no control of his mouth. You have only to control the horse's mouth so that

you can rid him of the fear of his heel, and he will cease kicking. Make him relax the muscles of the mouth and give in to a side rein and he will cease bolting and shying. Keep his attention on the bit and he will cease looking for objects to shy at.

5TH.—SIGNS OF A HORSE HAVING YIELDED.

When the horse yields submissively, he will relax the muscles of every part of his body. When the horse sets the muscles of the limbs rigid and stiff you cannot handle him without being in danger of getting kicked, for that is the way he tells you. Some people have supposed that if the horse had a stiff dock it was a sign that he was a strong horse; but I consider it is generally a sure sign that he is afraid of his tail and inclined to kick, for you have only to rid him of the fear and he will relax the muscles and give up the tail. The horse generally

shows fear and anger by setting the muscles of the ears, inclining them back, and hugging the tail. You must know that the horse has relaxed the muscles of the mouth and neck, and yielded to the bit, to break him of the habits of bolting, shying, kicking and running away. You must require this of every part of his body, and watch for it in every step of your training, and never forget to caress and encourage him for giving up the muscles.

TO CATCH AND HALTER THE COLT.

Walk round the colt as gently as possible in the pasture, working him quietly toward the barnyard or enclosure; then open the barn doors and hitch a broke horse on the back part of the barn floor; then commence walking round and about the colt, gradually approaching him, do not undertake to crowd him into the

barn, for by so doing you will attract the attention of the colt, and he will likely become suspicious of danger and attempt to escape. In a few moments the colt will walk into the barn; close the doors and take out the broke horse, getting alone with the colt. Never attempt to educate the colt or break the horse of any bad habits on the open street, where other objects can attract his attention, for while something else is occupying the horse's mind, it is hard to teach him what you want him to do, or make an impression that will be lasting.

Now let the colt examine you for a few moments. If you can approach and lay your hands on him cautiously, you will soon gain his confidence, and thereby rid him of all fear of you. But if he is very wild, turns his heels towards you, stands and trembles and attempts to kick whenever you approach him, prepare yourself

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with a good whalebone whip, and give him a sharp cut or two around the heels with it and he will soon turn and face you; then reach out with your whip and touch him gently back of the shoulder with the butt end of it, rubbing gently until you can approach so as to touch him with your hand, then commence scratching him just back of the shoulder; in a few moments he will begin to lean towards you; then commence rubbing him along up the neck, slip the "War Bridle" over his neck, and draw through your loop. Give the cord or loop a couple of twists around the butt end of your whip, slide it up towards the small end of your whip, raise the loop gently on the nose of your colt and draw out the whip.

TO HANDLE THE COLT.

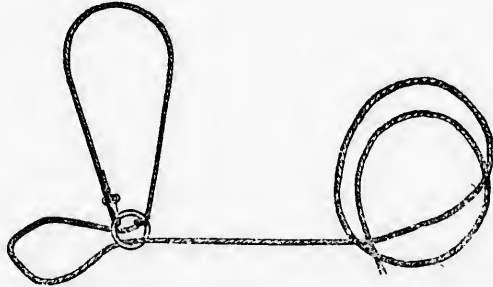
If the colt holds his head high and will not let you handle it, slacken the rope on

his nose, work your hand up gently behind his ear, touching the nerve with one finger, pressing on the back of his neck gently with the other hand, until he relaxes his muscles and ducks his head; when he does this encourage him by caressing; repeat this operation until he will rest his nose on the floor, or in any position you desire. While thus employed, gently tap him on the forehead, just below the eye, with the butt end of the whip. You will soon teach him to duck his head to the ground. By this operation you will teach your colt to take the bit or put his head through the collar. Then commence scratching the colt back of the shoulder, and rub every part of his limbs to the hoof, till he stands quietly. Now put one hand against the shoulder and crowd against the colt, throwing the weight upon the opposite foot; with the other hand at the fetlock,

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raise the foot from the ground only a little way, and put it right down again; do not carry it high enough or hold it long enough to frighten the colt, so that he will make an effort to jerk it away from you, for if he does, he will repeat it every time you take it from the ground; after caressing the leg a little while, lift it a little higher and put it right down as at first; repeat this process until he relaxes the muscles and will allow you to hold the foot as long as you please. Take a stick or hammer and tap the foot as if shoeing, rasping and tapping it in every position required by the blacksmith; now gradually work along his body to the hind feet (by caressing him), which you will handle in the same way, never attempting to grapple with the muscles of a strong horse, but teach them by kindness to relax the muscles of the leg, which is an infallible sign that they are willing you should

handle the foot as you please. Handle the feet on the other side in the same way, as handling on one side will not answer for both. Next commence handling his tail, lifting it up by steady pressure, till he relaxes the muscles. When they do relax, give him his tail and caress him; repeat the operation until you can get perfect control of it, caressing as he yields. Having thus rid your colt of all fear of yourself, he is prepared to be taught to lead in halter.



THE "WAR BRIDLE."

This is one of the most powerful weapons I have in controlling a horse. It is

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perfectly wonderful to see how quick you can thoroughly cure the horse of some bad habits by the use of this simple cord. If you put it on as here described, you will have nearly ten times as much power over the horse as you would on the Rarey plan. Get a cord 18 or 20 feet long, and $\frac{3}{8}$ of an inch in diameter; fasten a good snap in the end; tie an inch ring into the cord, far enough from the snap to go round the horse's neck; snap it in the ring and draw the cord through the ring double; and put it into the horse's mouth, and this is the great "War Bridle."

TO TEACH THE COLT TO LEAD.

Put the "War Bridle" in the colt's mouth; never at first attempt to pull your colt ahead, for his strength is greater than yours. If he resists place yourself in such a position that you can force him to move in the direction required. Take

your position over the point of the hip; give the word of command, "Come here, sir," in a loud, distinct tone of voice, at the same time give a sudden jerk on the cord, which will compel him to move towards you; say "whoa," and caress him, to assure him that he has done all you require of him. Now step round to the other side and repeat the movements, keeping your eye on the colt's; whenever you see his eye beginning to follow you walk round to get your position, say, "Come here, sir," without jerking him, and he will turn towards you. Accept of anything towards what you want, and caress him for it. Repeat the operation until he will follow you on either side. If at any time he neglects to answer the word of command, punish him by a sudden jerk on the cord and a touch of the whip behind. Now step in front, give the word of command, "Come here, sir," and

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a sharp crack of the whip around the fore legs if he does not obey, and teach him to come in that direction. In a very short



SHOWING LOOP BEHIND FOR LEADING.

time you will teach him to follow you by the word of command,

ANOTHER WAY TO TEACH THE COLT TO LEAD.

Put a halter on the colt. Take a cord forty feet long and double it; take the centre of the rope and tie a knot, making a loop large enough to drop over his hind-quarters, letting the knot rest on his back just in front of his loin; now pass the ends of the rope each side of his neck and bring them through the nose-piece of the halter; step in front of the colt the length of the rope, give him a sudden jerk which will make him jump towards you; then caress him and he will soon learn to go with you, behind a rig or anywhere.

HOW TO TIE A COLT IN THE STABLE.

Put on a head stall of a halter, and tie a rope tight around the colt's body, back of his fore-legs; take a three-quarter inch rope and tie one end around his neck so the knot will not slip, pass the other end through the nose-piece of the halter, then through the hole in the manger from in-

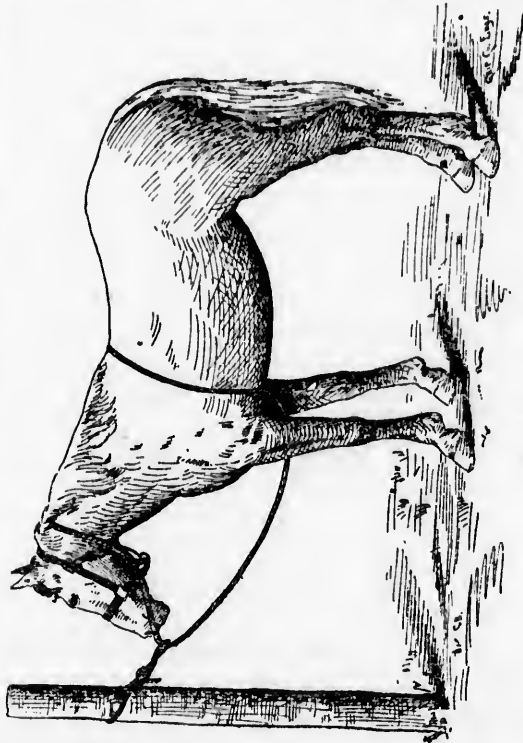
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TO TIE A COLT

body. Be sure your manger or the hitch-
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good and strong. The advantage of tying a colt this way is, he can only pull about one-third his strength, and he seldom or ever becomes a halter puller. The headstall is to keep the rope on the neck in its proper place. Now is a good time, while you have him tied in this manner, to get him used to the robe, umbrella, paper, etc. (before driving him), and putting his head in and out of the collar, by slipping the collar on the rope between his head and the manger, have the collar large enough so it will slip over his head easy.

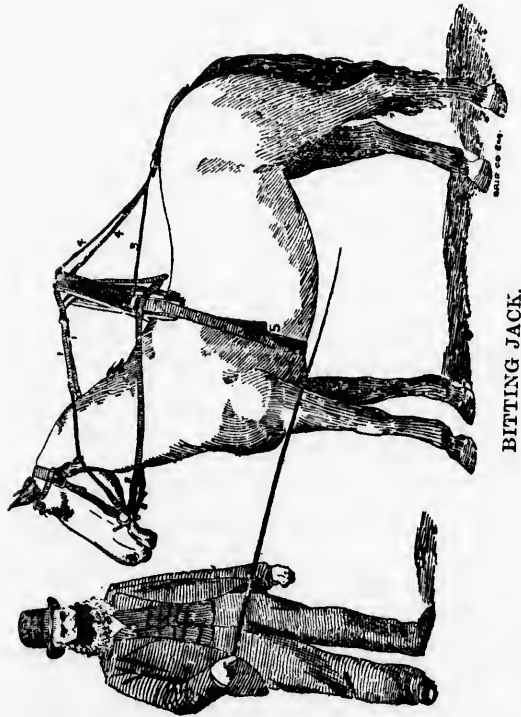
TO BIT THE COLT.

The above is a representation of Prof. H. D. Brush's biting apparatus, which is one of the best biting rigs in the world. Every person who has seen or used it acknowledges it to be by far superior to any other biting rig they have ever seen or

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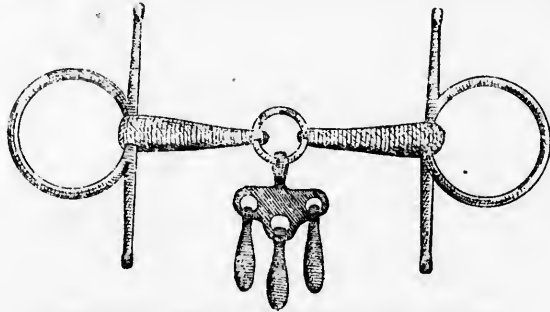
fastened like one end of a saw-jack, sloped
 out in the inside and padded, so as to fit

the horse's back with short pieces of leather, with a buckle nailed on the top ends of the jack and pieces of leather on the lower ends to buckle the surcingle to, another pair of buckles fastened a little below the centre of the jack. In the diagram, 1, 1, are the reins passing from the bit to the top of the jack; 2, 2, reins passing from the bit to the buckles below the centre of the jack; 3, back strap; 4, 4, straps passing back from the top of the jack, and joining the back strap with a ring at the rump. Use a large crupper to learn him to carry a good tail; 5, surcingle with a buckle on each end. Put the jack on, buckle the surcingle and crupper; put on the bridle and leave the reins perfectly slack, until he is accustomed to the bit, then draw in slightly on the top reins until you get the horse's head high enough, but, remember, only draw up a hole or two at a time. Do not buckle the

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lower reins until he has had it on two or three times, and never leave the jack on more than fifteen or twenty minutes, for the first two or three times, and not over half an hour after this. About the fourth or fifth time you put it on, slack the top reins a little and commence to draw in on the lower reins, so as to make the horse curb his head, buckling only a hole at a time, until you can get his head in the required position. When you wish to teach your horse to "haw" about, draw in the nigh rein a couple of holes, the shortest, and reverse it when you want him to "gee" about. In teaching him to turn about, never keep turning either way more than five minutes at a time, or it will make him dizzy, and he may fall and hurt himself. While he is jacked, put your coat on the jack and button it tight and you have one of the best riders that was ever on a colt's back. After he

has had a lesson or two of this, you can saddle him and ride him where you please. Always caress the horse when you bid him come to you, and always have a rein on to draw him in when you first bid him, and he will soon come without the rein.



THE KIND OF BIT TO USE ON THE COLT.

It is a "Snaffle Bit," with tongue plate and three beads hanging loosely. The idea of this bit is to give circulation of blood in the tongue and jaw, and to keep the horse champing the bit and tossing his head upwards in the position you require, and he will never hold any bit in his teeth or run away.

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TEACHING COLT TO BACK

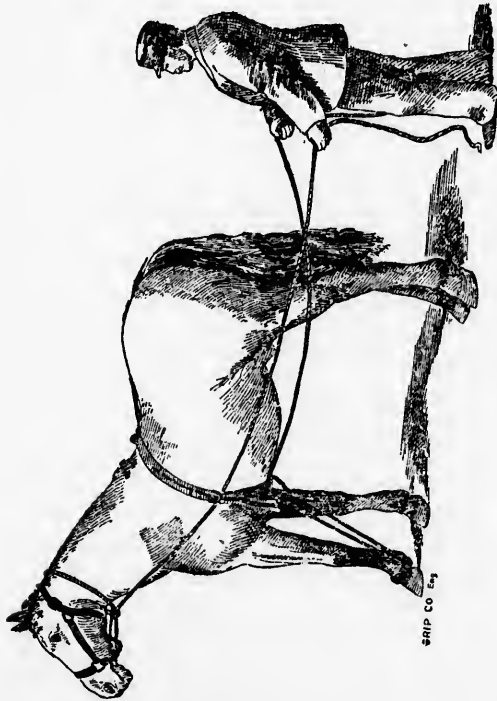
TO TEACH THE COLT TO BACK.

Put on a headstall of a halter. Take a cord thirty or forty feet long, take the centre of your cord and put it over the top of the colt's head, bring the cord down each side of his head, cross it through the mouth and pass it back through the nose-piece of the halter; take the ends back each side of the colt and tell him to "back," turning him in a circle first one way and then the other, as he does not know how to pick up his feet and step straight back at first, keep telling him to "back," and as soon as he steps back caress him, and he will soon learn to back straight. After you have learned him to back drive him around with the cord between his hind legs, so he will not mind the traces when you come to drive him.

THE TRIP ROPE.

Buckle a surcingle loose around the colt; take a strap an inch and a quarter

wide, well padded, with a ring sewed on it near the buckle, and buckle it around one fore foot below the fetlock; take a half-



TRIP ROPE.

inch rope, about twenty-five feet long, pass one end over the surcingle from back to

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front, down through the ring on the foot strap from outside to in, and tie the end back to the surcingle or belly-band of the harness, whichever you need to have on. This is one of the most useful and safe hitches a man can use in controlling the colt or horse.

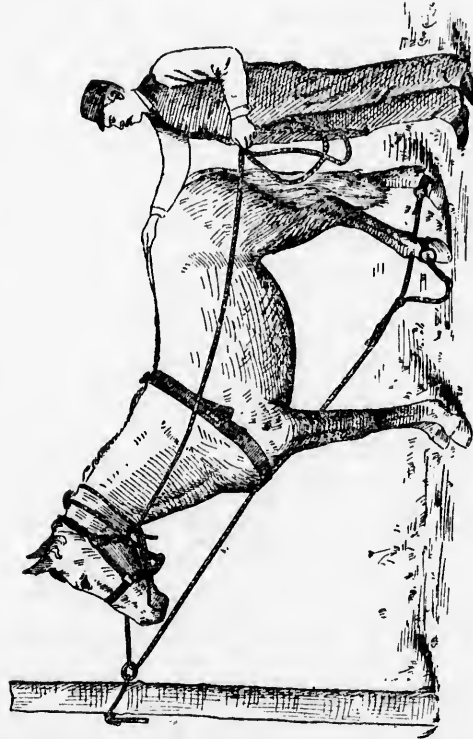
TO TEACH A COLT TO START AND STOP AT
THE WORD OF COMMAND.

Put on an open bridle with lines on each side of him and also the "Trip Rope," as described above; now drive him ahead of you, telling him to "go on," and when you want him to stop say "whoa," at the same time take up the front foot with the "Trip Rope," and he will soon learn to go and stop at the word of command.

TO TEACH A COLT TO STAND QUIET TO BUCKLE
ON THE CRUPPER.

Put on a good headstall of a halter and the "War Bridle." Take a three-quarter inch rope and tie one end around his neck so the knot will not slip, take the other

end through the nose-piece of the halter, and run it through a pulley (which you require to have tied solid to the ladder or



HOW TO CRUPPER COLT.

brace in your barn, a little higher than his breast. You might run the rope over a

rung of the ladder in your barn or through the hitching-place in the manger of a large stall, if you have no pulley). Take two strong hame straps, with a ring on each one, and buckle one on each hind leg, below the fetlock; hobbles are better than straps if you have them. If he will not allow you to buckle the straps on, fasten up one front foot, take a half-inch rope about seven feet long, double it and tie a small loop in the centre; take the ends and tie one in each ring (on the hind legs) with three half hitches; take the end of the rope—which you have run through the pulley—pass it between his front legs and tie it in the loop of the rope on his hind legs. Take a surcingle, with a backstrap and crupper attached, and buckle the surcingle around in front of his breast (this is to keep the rope up between his front legs). Take the “War Bridle” in your hand, step back behind

him and back him up tight in the ropes. Now you can handle his tail and crupper him with safety; handle him till you rid him of all fear of his tail and heels. Take a cart or a pair of shafts and get him used to them. Every colt should be handled this way before driving. This is also a good rig to break a halter puller, or one that is afraid of a robe or an umbrella.

TO TEACH A COLT TO STAND OVER IN THE STALL.

Tie him up in the stall with a good rope tied around his neck and run through the nose-piece of a halter. Take a cord about thirty feet long; take the centre of it, put it over the top of his head, bring it down each side of his head; cross it through his mouth; pass the ends back through the nose-piece of the halter, and take them back on each side of him; step behind him with a cord in each hand, and you can easily learn him to stand over to

the right and left. Caress him when he does your bidding.

TO DRIVE IN DOUBLE HARNESS.

1st.—To harness him. Take a good stout rope, tie it around the colt's neck, and draw through the collar and hitch solid to the manger; then raise the collar gently to his nose and let him smell it a moment; hold the collar in one hand and lay the other gently on the top of his head, touching the nerve behind the ear, until he ducks his head, and say "Put your head in, sir!" and he will soon learn to put his head into the collar; next take the harness and lay it gently over his back and buckle it up; put on your biting collar or an open bridle, the first time you drive the colt, that he may see all movements around him; hitch the colt with a well-broke horse. If he has been thoroughly drilled with the "Biting Jack" he will go without trouble. Let him

walk the first half mile, if he will. It would be well to drive him the first time or two with the "Trip Rope" on, putting it on the inside front foot; (the one next to the tongue) take the end of the rope back over the trace and into the rig with you. If he should be inclined to kick, run or scare at any objects on the road, you can check him with one hand, while driving with the other. Two or three miles is far enough to drive him for the first two or three times. Drive him on both sides, breaking him thoroughly double, before driving him single, for you have the broke horse to guide him with.

TO TEACH THE COLT TO "BACK" IN HARNESS.

After you have driven the colt two or three times, drive on some ascending piece of ground; stop your team and telling them to back. If he is inclined to throw his head to either side, step them up a little in the opposite direction, draw

suddenly on the lines and give the word of command, "Back, sir!" and, by the help of the broke horse and the surge of the waggon upon the colt you will soon teach him to back down hill, so that you can back him up hill if you choose.

TO BREAK THE COLT TO RIDE.

Give the colt a lesson with the "Bitting Jack," with a coat buttoned over the top of the jack; then take off the jack, leaving on the bridle, and get on him yourself. If the colt will not stand for you to mount him put on the "Trip Rope," and take up the foot till you get on; then let it down and caress him; keep the rope in your hand and if he attempts to throw you take up the foot again. Let him walk quietly; stop and caress him. By this process you will soon teach the colt to go without fear.

TO DRIVE IN SINGLE HARNESS.

Here is where you may fail in breaking

colts, by supposing that because the colt drives well double he should know all about driving in shafts, which is a great mistake, for he imagines himself so confined that he cannot move his feet, or is confused by the action of the reins in the mouth, or is frightened with the shafts at his heels and begins kicking. There is no place that we can put a colt where he requires such careful management and patient teaching as when we put him first in the shafts. I regard mismanagement in this step of his training as the cause of making more balky, kicking and runaway horses, than all others put together, which habits may be more easily avoided than cured. Lead your colt in front of the shafts; raise them quietly, rubbing him against the side; do not be in too much of a hurry about putting them in the fill straps until the colt becomes acquainted with the shafts. I would

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recommend the blind bridle for driving single at first, after he has been driven double with an open bridle; also put on the "Trip Rope" and a good hip strap over his rump, just above the root of his tail, and hitch him in a cart with strong shafts. Walk behind the sulky for a few rods and drive him as slowly as possible, having some one walking by his head to keep him in the right direction. Stop and caress; move him on gently, and in nine times out of ten you will have no trouble in breaking the colt in single harness. If they attempt to turn off into the ditch, draw their heads in the same direction, and they are sure to pull for the road again. A few lessons in this way and you have your colt broke in single harness.

TO TEACH A HORSE TO STAND WHILE GETTING
IN OR OUT OF THE VEHICLE.

Give him a good lesson on your barn floor or some inclosed place with the "Trip Rope;" make him go and stop

just as you tell him; then hook him in your rig, leaving the "Trip Rope" on, and if he does not stand, pull up his foot and say "whoa!" and he will be afraid to move till you bid him.

TO TEACH A HORSE TO STAND WHILST OPENING AND SHUTTING GATES.

Put on the "Trip Rope." Have your lines and rope long enough to reach behind your rig; drive him through the gate; jerk up his foot with the rope and say "whoa!" and he will soon learn to stand.

TO TEACH A HORSE NOT TO CROWD THE POLE.

Put the "Trip Rope" on the inside front foot; check him a little in his step, which will cause him to get out from the pole.

TO TEACH A HORSE TO WALK UP TO A STEPPING STONE FOR MOUNTING AND DISMOUNTING.

Walk by the side of your horse; take the reins in your left hand and your riding whip in your right hand over his back; touch him up with the whip on the

opposite side, and he will soon learn to walk up with you.

TO TEACH A HORSE TO CANTER OR TROT UNDER SADDLE.

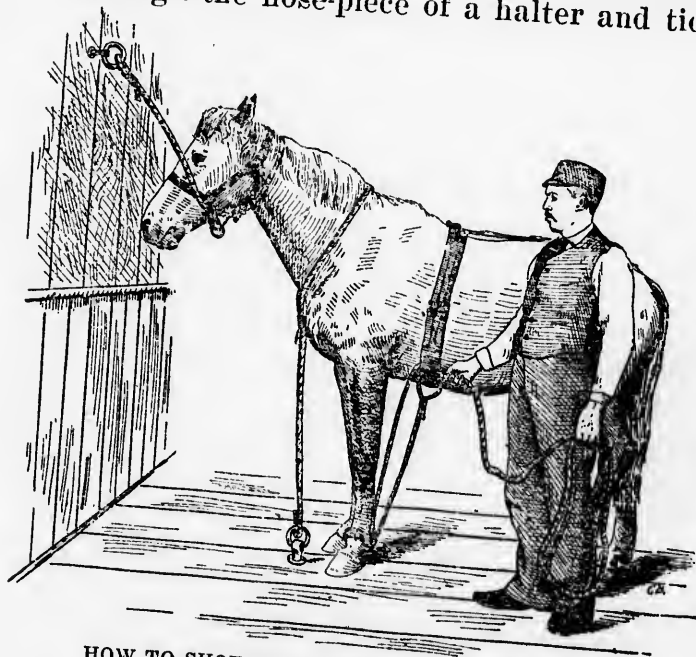
To make him canter, touch him on the shoulder with the whip and draw up on the reins, giving him the motion with the whip, and tell him to go on. He will of course strike a gallop at first; but hold him in gradually, and he will soon learn to canter as slow as you wish. To change his gait into a trot, throw yourself forward in your saddle, catch him about half way up the neck with one hand and pinch him, which will cause him to duck his head and strike a trot. Hold a steady rein.

TO BRIDLE A BAD HORSE.

Put on the "War Bridle;" slip the rope well down on his neck; draw it tight in his mouth and tie it. This will prevent any horse getting his head out of your reach, also throws his mouth open ready to receive the bit.

HORSE BAD TO SHOE ON FRONT FEET.

Take a three-quarter inch rope; tie one end around his neck; run the other end through the nose-piece of a halter and tie



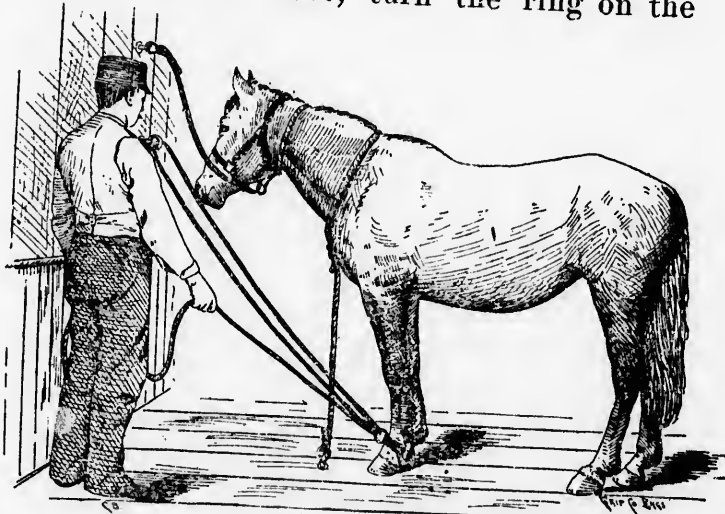
HOW TO SHOE A BAD HORSE ON FRONT FEET.

his head well up. Put a ring and a staple or a screw-bolt through the floor and into a sleeper about three feet from the wall.

Take another three-quarter inch rope and tie it around his neck just where the collar would rest, and tie him down tight to the ring in the floor; now you have him tied up so he cannot get down, and you have him tied down so he cannot rear. Then put a surcingle on him, also a ring and strap on the fore foot (which you wish to shoe) below the fetlock. Take a half-inch rope; run it over the surcingle from back to front, down through the ring on the foot from outside to in, and tie it back to the surcingle. Take hold of the loose end of your rope with one hand, placing the other hand against his shoulder to steady him; tell him to give up, and draw on the rope, which brings the foot up to the place you wish for nailing on the shoe. Hold the rope in your left hand, take his foot between your legs and nail on the shoe.

FOR CLINCHING FRONT FEET.

Leave him tied as described for shoeing so he cannot rear nor lie down. Take the rope off his foot; turn the ring on the



HOW TO CLINCH A BAD HORSE ON FRONT FEET.
foot-strap in front; take your rope, run it through the ring on the foot-strap, then up through the ring in the wall fastened a little higher than his breast, bring it back and tie it to the ring on the foot-

strap; then you have a double purchase to bring his foot forward as high as you wish; he cannot get it down until you choose to let him have it; he cannot raise an inch from the floor, and there is not a pound weight on the blacksmith.

HORSE BAD TO SHOE ON HIND FEET.

Tie him up to the wall and down to the floor the same as for shoeing the front feet. Put on the "War Bridle" having the rope render toward you; now take the rope in your hand, step back behind him and get him to step over it; then walk back to his side again and you have the rope or "War Bridle" around the leg you wish to handle. Draw his leg forward, buckle on a strap and ring below the fetlock, take the rope off his leg, run it through the ring, wrap the end of the rope over and under the part of the rope running from the mouth to the foot, place one hand against his hip, take the rope

double in the other hand and lift his foot. If he kicks hold on the rope and he punishes himself in the mouth. He is intelligent enough not to repeat it many times I



HOW TO SHOE A BAD HORSE ON HIND FEET.

assure you. If he is in the habit of leaning down on you, stand off from him and draw the rope; he soon learns that he must stand on three legs. As soon as he relaxes his muscles and gives up his leg,

caress him and let it down for a moment; then lift it again, caress as before, and he will soon allow you to handle it as you please. Let a man hold the rope whilst the smith sets the shoe. If he jerks the foot forward, stand him round across the corner of the shop, and put a ring and staple in the wall five feet high and about seven feet behind him: buckle another ring and strap around his foot below the one you have on, turning the ring behind; take another rope and tie one end to the ring in the wall behind him, run the other end through the last ring you put on the foot, and then back through the ring on the wall and you have a double purchase to pull his foot back and hold it. Have a man to hold each rope while you nail on the shoe. To clinch the nails draw the foot well forward, be sure to draw up all the slack rope between his head and the foot which prevents all danger to the blacksmith.

THE BALKY HORSE IN DOUBLE HARNESS.

First bit him thoroughly, then drill him well with the "Trip Rope," make him go and stop at the word of command before you put him in harness; then hitch him with a true, free-going horse, leaving the "Trip Rope" on the inside front foot; take the end back in the rig with your lines, give your true horse a touch with the whip and at the same time telling them to go, turning them a little either to the right or left and pull the front foot about six inches from the ground, which causes him to lunge ahead to save himself from falling; pull up his foot two or three times in succession, which will take his attention from balking. If he should refuse to go, take a binding chain with a running link, put it around his body just in front of the back-band, bring it through the running link and wind it a few times around the end of the tongue in front of

the neck yoke, but do not tie it. Should he throw himself, loosen the chain, let down his check and unhitch the traces to give him a chance to get up. If he will not get up, pour a little water in his nose or ear and he is not apt to throw himself again. All you require is patience and perseverance. As soon as he steps up to his place caress him. A few lessons this way will break the most of balkers and kickers. After you get him to drive well, commence loading him light.

THE BALKY HORSE IN SINGLE HARNESS.

First bit him thoroughly, then drill him severely with the "Trip Rope," making him start and stop right at the word before you put him in harness; then hitch him in the rig and he will generally go at the word of command. If he does not start put on the "War Bridle," give him a few severe jerks first one way and then the other, right and left, and he will soon

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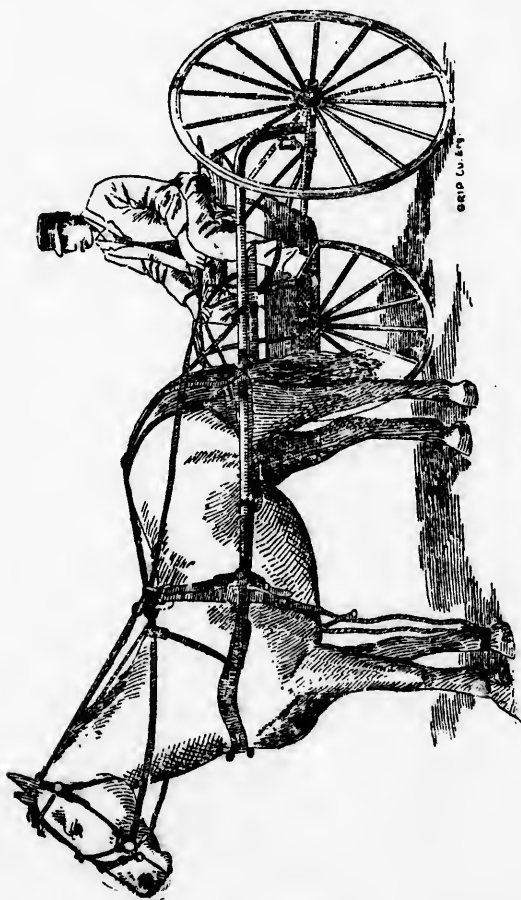
start. A few lessons this way will break the most of them. Never fail to caress him when he goes.

TO DRIVE A KICKER IN DOUBLE HARNESS.

Put the "Trip Rope" on the inside front foot, take the other end back in the rig with your lines, and when he attempts to kick check him by taking up the front foot. If he is a bad one put on the "War Bridle" as well, having it render to the inside. Now you can check him with the "War Bridle" and "Trip Rope," at the same time having some person to drive for you. If you should fail with this, use the "Trotting Rig."

TO DRIVE A KICKER IN SINGLE HARNESS.

Take two separate cords, put an end of each cord together and tie them a foot from these ends; tie the short ends in each ring of the bit, pass the long ends through a ring (tied on the top of your bridle) back through the rings of the back



HOW TO DRIVE A KICKER IN SINGLE HARNESS.

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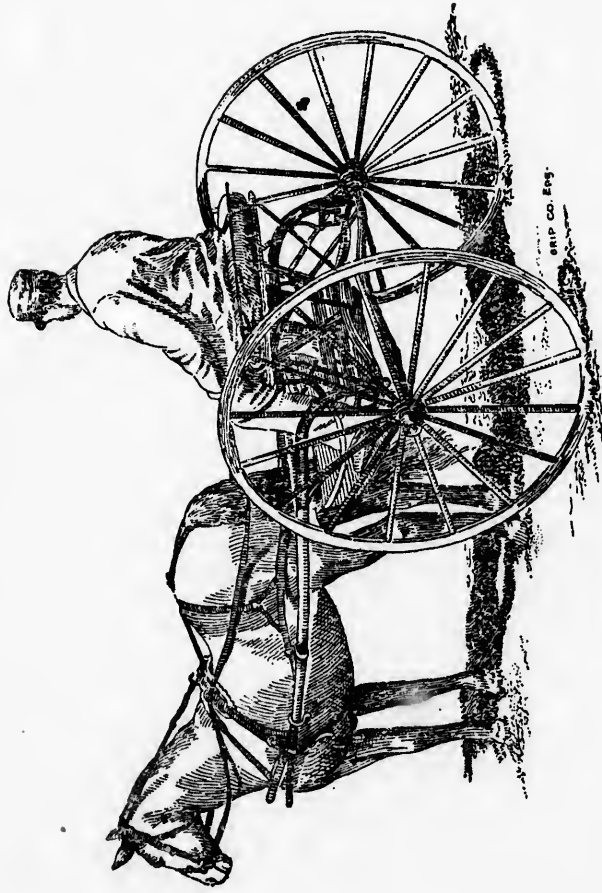
band and through a ring tied on the back strap about half way between the hip strap and the crupper; tie one to each strap just where the cross-bar fastens on the shafts, also put on a good hip strap and put on the "Trip Rope" to keep him from running away. Put him into a strong cart and you can drive the worst of them.



SWITCHING CRUPPER AND BACK STRAP.

HOW TO CURE THE SWITCHER.

Take a rod of iron three feet and a-half long and bend it in the shape of a crupper, flatten both ends, cover it with leather, and have the crupper come within four inches from where the tail rests on the rod, then fasten a small strap on the



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SWITCHING-RIG ON THE HORSE.

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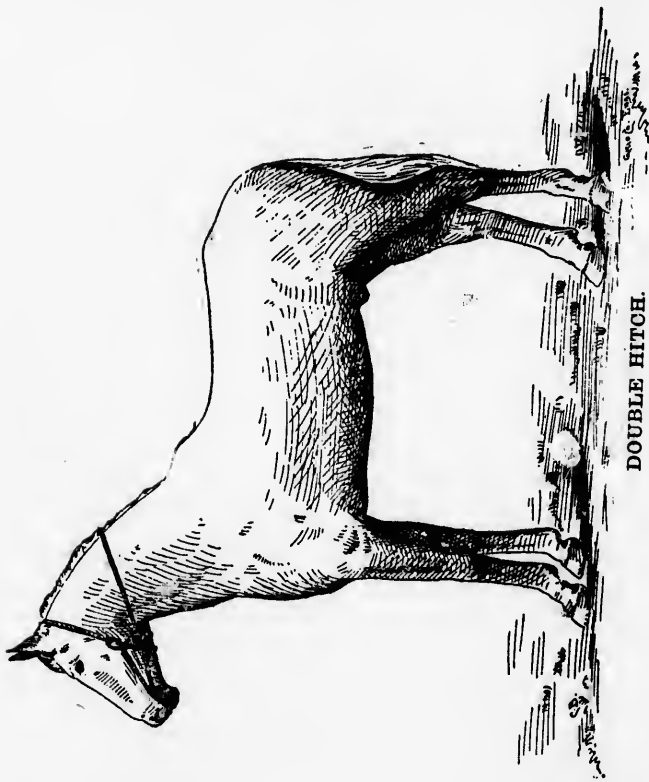
rod to buckle over the tail, to keep the tail firm in its place. This crupper will break up the habit of switching in two weeks or a month's time.

HUGGING THE REIN WITH THE TAIL.

Take the crupper and wind it with leather or something soft, until you have a roll that is three or four inches in diameter, and then put it under his tail and let him hug it; he will have no power to hug the tail below the roll, and every time he throws it over the rein, as you rein your team you pull it from under his tail in spite of him, which in a little time will rid him of all fear of his tail and you can remove the roll.

THE DOUBLE HITCH.

Take a cord, tie one end around the neck, pass it double back through the rope around the neck and put it in the mouth, then make a loop with your rope and put it up back of the ears and down



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under his upper lip and tie it. This is one of the most severe hitches you can put on a horse.

HOW TO BREAK CROWDING OR KICKING AT YOU
IN STALL WHEN BEING CLEANED OR
HARNESSED.

If the horse has the habit of crowding you or kicking at you when you pass in or out of the stall put on the "Double Hitch" as described above. Lead your horse into the stall and tie him with the halter, take the end of the rope from the "Double Hitch" in your hand as you pass out of the stall. Leave him for a little while, then attempt to pass in beside him, taking up the cord as you go in. If he attempts to crowd you or kick at you, tell him to stand over and give him a jerk on the cord, which will bring his head toward you and throw his hind parts over in the stall. Repeat as often as necessary.

HOW TO BREAK SCARING AT ROBES,
UMBRELLAS, ETC.

Put on the "Double Hitch" and let him examine the robe or umbrella with the muscle of his nose, handle him till you rid him of all fear. If he has been badly frightened, put on the rig the same as for handling a colt that is bad to crupper.

AN OLD HALTER PULLER.

Take a three-quarter inch rope, tie one end around his neck, run the other end through the nose piece of a halter, and through a pulley or hole in the manger; take two hame straps with a ring on each strap and buckle one around each front leg above his knees; take a half inch rope four feet long, double it, tie a loop in the centre, and tie an end of it in each ring; take the rope running through the pulley or hole in the manger and tie it in the loop. Now, when he pulls back he jerks his front legs—or braces—from under him.



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HOW TO BREAK AN OLD HALTER PULLER.

This will break a halter puller the quickest and best of any way I have ever discovered.

TO MAKE A HORSE STAND TIED OUTSIDE THAT HAS THE HABIT OF BREAKING LOOSE.

Take a good strong halter and shank, put it on over the bridle; take a hame strap and ring, buckle it tight around one front leg above the knee; run the shank through a solid hitching place and tie it in the ring at the knee. When he pulls back he walks himself up to the hitching post, and you will find him there every time.

TO BREAK A HORSE FROM BACKING TOO FAST.

Put on the "Trip Rope." When he goes to back too fast, draw up his foot, and you can make him back as slow as you wish.

TO BREAK A HORSE FROM THROWING HIMSELF IN HARNESS.

Put on the "Trip Rope." When he is just about to throw himself, try and pull

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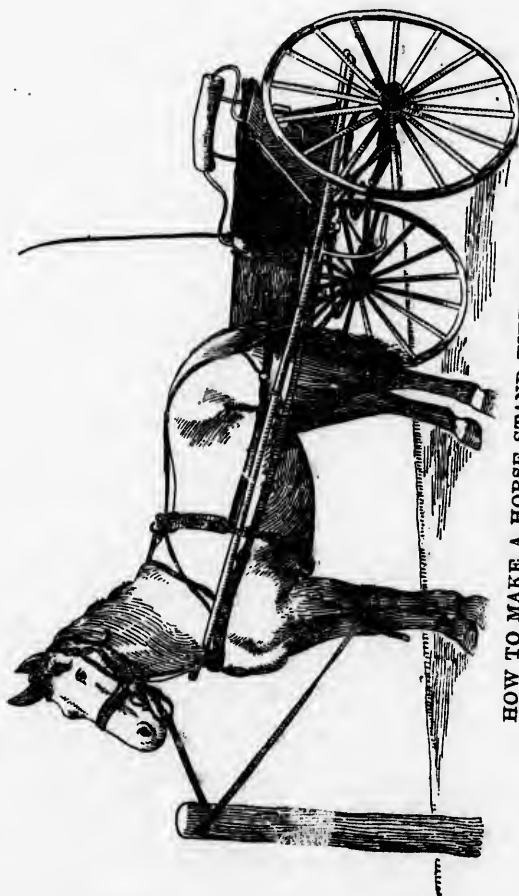
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HOW TO MAKE A HORSE STAND TIED OUTSIDE.

him down with the "Trip Rope"; and I will guarantee he will try and keep on his feet. Two or three lessons will break the worst of them.

TO BREAK A PRANCING HORSE TO WALK
QUIETLY IN HARNESS, EITHER ON
THE ROAD OR FARM.

Put on the "Trip Rope"; take your rope back over the trace and hold in your hands with the lines. Whenever he attempts to prance, draw gently on the rope, drawing his foot up a little, which makes him step short; and he will soon learn to walk quietly.

TO BREAK A RACKER TO TROT.

Put on the "Trip Rope." Draw the foot with a sudden jerk clear from the ground, which causes him to make a leap of two or three feet, give him the word of command "Go on! sir." This will break his gait and cause him to strike into a trot. If he should strike the rack again,

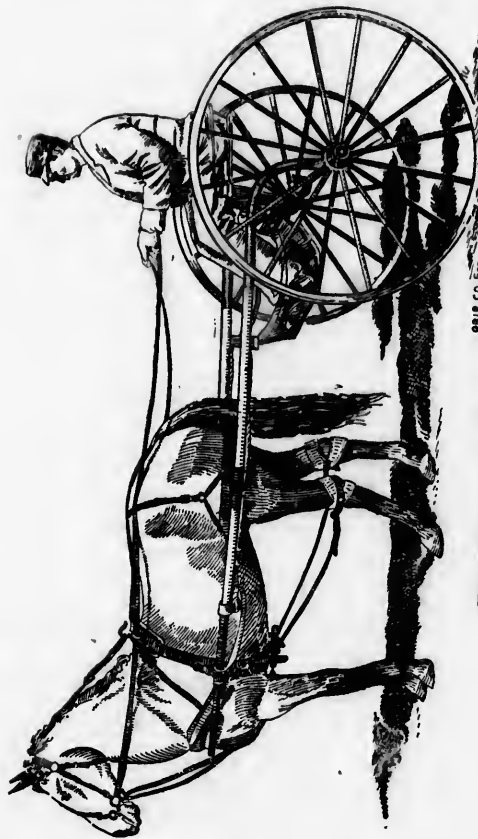


TROTting RIG.

strike him heavily with the rope under the belly: drawing up the foot as above. This is a sure cure with a few lessons.

TO TEACH A HORSE TO TROT WITHOUT
BREAKING.

Take a small block and pulley, tack a strap around it to run the belly-band of your harness through; have the pulley behind and a buckle on the front end; buckle a standing martingale to the block. Measure your horse from the centre of the belly-band of your harness to his hock as he stands straight, double the measurement, allow a foot on each end for lengthening and shortening; this strap is to run through the pulley; have it made round all but the foot on each end. Take a piece of strong paper, and cut it out to fit the horse's hock; take your pattern to the harness-maker and get a leather one cut out the same with a buckle on it to buckle around his hock;



SHIP CO. EN.
TROTting RIG ON THE HORSE.

have it lined with felt, also a ring sewed into it near the buckle. Buckle the ends of the strap running through the pulley, to each of the rings on the hock straps, and you have the trotting rig. If your horse is tender in the mouth, put on a strong halter under the bridle, and buckle the standing martingale to the rings in the nose piece of the halter; check him up well. Now he can trot as fast as he likes, but he cannot run. This is also a good rig to put on a kicker, either in single or double harness. It requires to be made strong.

SHYING, BOLTING AND RUNAWAY HORSES.

Put on the "War Bridle" and drive your horse upon the road; if he sees anything to shy at, bolt, or try to run away, give a sudden jerk with the cord and say "whoa." Never strike a horse with the whip for shying, for he is in a state of excitement, and will think it is the object

he sees that hurts him, or expects to get whipped whenever he is frightened, and will bolt into the ditch and run away; but thoroughly control his mouth so that he neither dare turn to the right or left, but stands perfectly still and examines the object for a moment, then approaches and passes by without doing you any harm.

If he is bad to run away, put on the "Trip Rope," pull up his foot and hold it; play the whip to him and make him go till he is glad to stop. Two or three lessons this way will satisfy the most of them.

TO LAY THE HORSE DOWN.

Get a good strong and padded leather surcingle with back strap and crupper, have a ring fastened in the top of the pad and another ring running loose on the girt under the belly; put on your surcingle and buckle it, also the head-stall of a halter; take a hame strap with a snap



HOW TO LAY THE HORSE DOWN.

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on it, and buckle it around the left front leg below the fetlock; take a half-inch rope fifteen feet long, tie one end around his neck, run your rope single over the nose-piece of your halter into his mouth from left to right, take the end back on the right side of your horse's neck and draw it through the ring on the top of the girth. Snap up his front foot to the ring on the belly-band. Now stand off from the horse, pull gently on the rope and lay him down without injury to yourself or the animal. While you have your horse down you can hold him there with one hand and handle him all over as you please.

HOW TO MAKE A TEN CENT BRIDLE.

Take a piece of cord or plow line ten feet long, place the centre over the ears, cross it in the mouth, bring it back over the neck and tie it. You can mount, ride and guide the hardest mouth horse

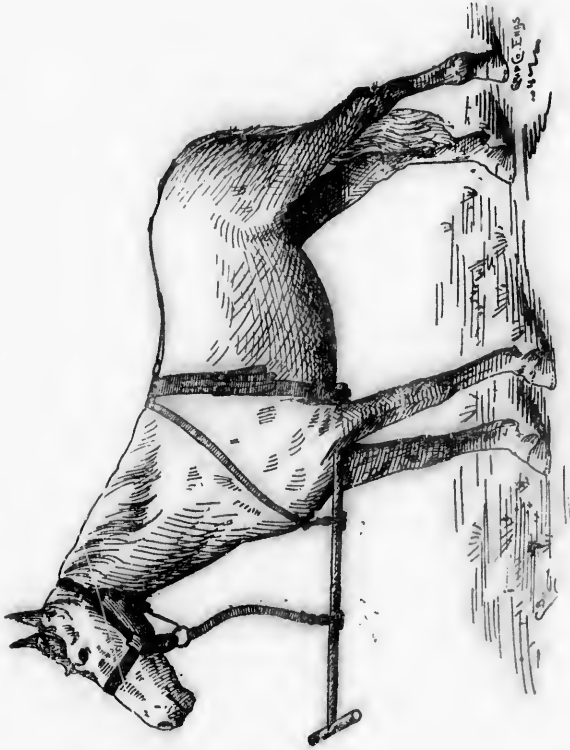
with this there is in existence, and he will soon learn to comply with your wishes instead of running away with his own evil habits.

HOW TO BREAK A LUGGER ON THE BIT.

Take two rings a little larger than the rings on your bits, fasten a piece of leather in each of these rings the same size and length of the check pieces of your bridle, run them through the rings of the bit, and buckle them into the check pieces of the bridle. With this you have a double purchase, something similar to the ten cent bridle.

HOW TO PREVENT HORSES FROM JUMPING AND SHOVING DOWN FENCES.

Prepare yourself with a strong surcingle, back straps and crupper, a straight stick like the handle of a pitchfork. Put a staple in one end to run the surcingle through, another staple in front of the horse's breast. Put a strap through this staple and around the horse's neck to rest on his withers, then a short strap from



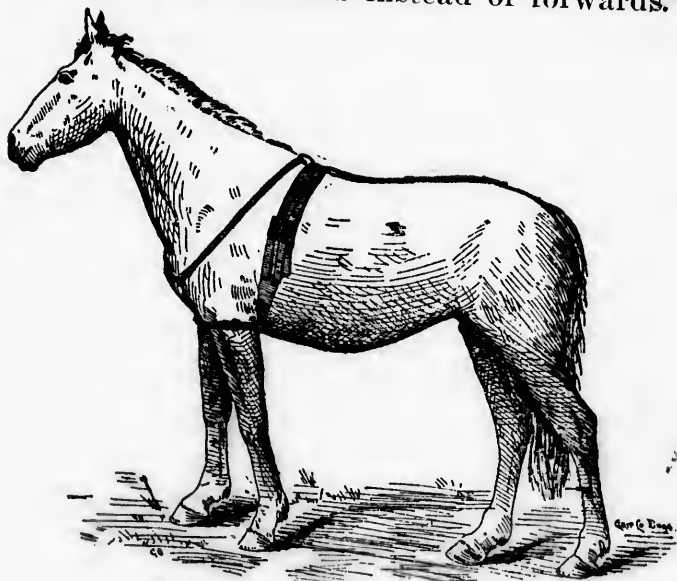
BREACHY RIG.

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this to the top of the surcingle and another staple just below the horse's nose to tie the halter stem to. Tie it long enough so he can eat each side of the stick. Have the stick run out in front of him far enough so he cannot get his halter fast on the end of it. Put a short cross-piece on the end so he cannot hurt another horse with it. The halter shank prevents him from shoving down the fence with his breast, neither can he throw it down with his teeth.

Put on a surcingle, take a strap a little wider than a hame strap, run it through the surcingle and buckle it around his arm, buckle another strap around his neck and down to the one around the arm. This is to keep the strap on his leg from working up and down and wearing the hair off, then another short strap from the top of the surcingle to the strap around the neck. This is to keep the strap around the neck from dropping down over his head while

feeding. When the horse throws out his legs to jump the fence the strap around the arm catches him on the muscles and he jumps backwards instead of forwards.



BREACHY RIG AROUND THE ARM.

TO PREVENT A HORSE FROM THROWING A
FENCE WITH HIS HINDQUARTERS.

Prepare yourself with a surcingle, back-
straps and crupper, also with a wide piece

of heavy leather. Cut two holes about six inches apart, drive a few short tacks on each side of where the tail comes, tie this to the crupper. This will not hurt him until he backs up against the fence.

TO PREVENT A HORSE RUBBING HIS TAIL.

Wash his tail thoroughly and rub in raw linseed oil, then put on a surcingle, back strap and crupper. Take a piece of heavy leather, cut two holes about six inches apart, drive a few short tacks on each side of where the tail comes, tie this to the crupper.

HOW TO BREAK A HORSE THAT IS BAD TO CATCH.

Put on the "War Bridle," then buckle a strap over the cord and around the under jaw, so that he cannot spit it out of his mouth. Put on a surcingle with a ring on top, draw the end of your "War Bridle" through this ring and turn your horse into a small enclosure. Bid your horse come toward you, saying "Come

here, sir," and if he does not readily obey, pick up the loose end of this cord, which may be fifty or sixty feet long if you choose, and give it a sudden jerk; this will teach him to obey the word of command. A few lessons of this will answer the most of them. When he comes to you feed him something he likes, and once in a while, when you don't want him, go to the field and feed him and he will soon learn to come when you call him.

HOW TO BREAK A HORSE FROM REARING AND STRIKING.

Take four hame straps and buckle one on each leg below the fetlock. Take two pieces of rope and tie each front leg to the hind one on the same side. This is the side hopple which prevents him from rearing and striking. Give him a few lessons with this on and you will soon break up the habit.

HOW TO BREAK A HORSE FROM KICKING DOWN STALLS.

Put on the "Side Hopple" as described above for rearing and striking. When he kicks he jerks his front foot from under him. Have your stall well bedded, and he cannot hurt himself.

HOW TO BREAK HORSES FROM PAWING OUT BEDDING.

Take a strap and a short piece of chain without a hook, buckle the chain on his front leg above the fetlock. When he paws, the chain will rap him on the leg and will soon break up the habit.

Another way is to fasten his front legs together about a foot apart.

HOW TO BREAK ROLLING IN THE STALL.

Drive two staples into the ceiling, one by the side of the stall and the other directly over his head. Fasten a ring to the top of his halter. Take a cord, tie it to the ring on the top of the halter, run the other end through the staple over his

head and then through the one at the side of the stall, tie a weight to the rope heavy enough to draw up the slack when he raises his head, leaving it long enough so he can just get his nose to the floor. No horse can roll and get cast in the stall unless he can get the top of his head to the floor.

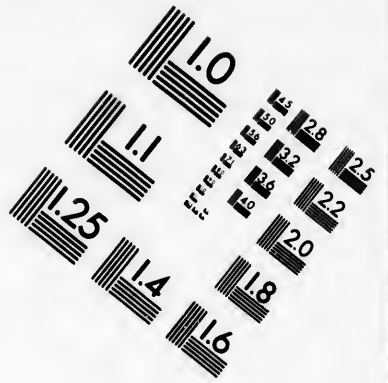
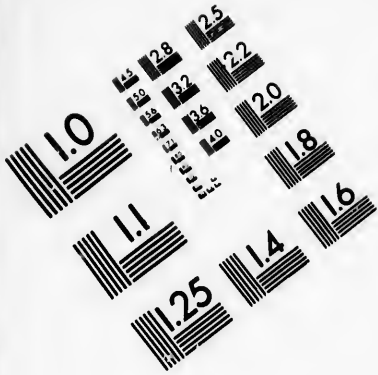
TO BREAK A KICKING COW.

Put a surcingle on her with a ring on; also a hame-strap with a snap on; buckle the strap around the right front leg below the fetlock; lift the foot and snap it up in the ring. They cannot raise the right hind leg to kick, as they cannot stand balanced on two legs on the one side.

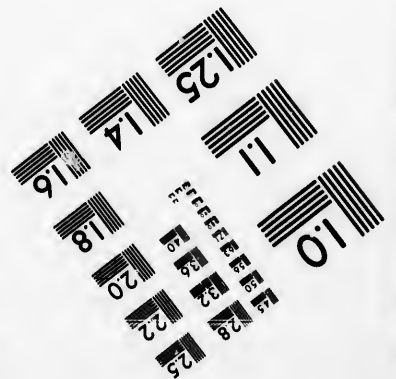
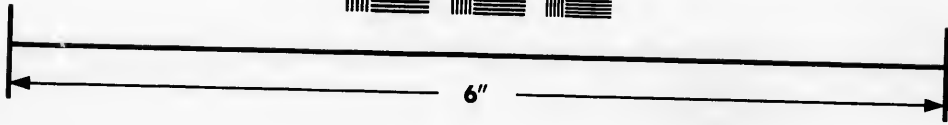
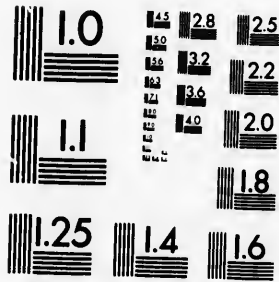
THE COLT'S MOUTH.

A colt, as ordered by a wise Creator, we might say is like a child, comes into the world generally without any teeth, and after a few days have elapsed, they require more food for nourishment than the



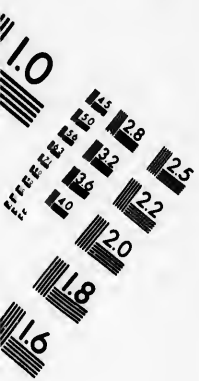


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milk; they get four front nippers for nipping the grass and other feed; also, they get eight of the front grinders or molar teeth. In about six weeks four more nippers or incisors will be seen, one on each side of the first; and about the same time four more grinders appear, making twelve grinders, just one-half of the molars and two-thirds of the front teeth. At two months the centre nippers will have reached their natural level, and between the second and third month the second pair will have overtaken them. Between the sixth and ninth month the corner nippers appear, making six above and six below, completing the colt's mouth in front, and four more back teeth, which make two-thirds of the molars, after which the only observable difference is in the wear of the teeth. At the age of one year and a-half the mark called a cup or groove, in the central nippers, will be

much shorter and fainter than in the other two pairs, which have undergone an evident change. At two to two and a-half years old the corner nippers become full and round like a horse's teeth at twenty, with no cups in them, and now, at about this period, likewise commences another process. The first teeth are adapted to the size and wants of the young animal. They are sufficiently large to occupy and fill the colt's jaws; but when these bones have expanded with the increased growth of the animal, the teeth are separated too far from each other to be useful, and another and larger set is required. The second teeth then begin to push up from below, and the fangs of the first are assorted and approach the surface of the gum, when they generally drop out but not always. Then they should receive the forceps and be extracted, for if allowed to remain they not only cause much

inconvenience to the horse in feeding, by hanging fast to the gums for days and sometimes weeks, as I have seen them and been called on to examine the mouth of the colt to see why it could not eat.

I frequently find two rows of teeth instead of one. By the colt champing his feed, the first teeth hang to the gum, often lacerating it, bedding themselves completely in, as the permanent teeth come up directly under the temporary ones, and not by the sides as I have read in some other men's writings, unless they are crowded out on one side by the first ones. This is often the case with colts when casting their teeth. It not only causes much inconvenience to the colt when eating or drinking, by crowding the teeth out of place, but you will, on examining your colts thoroughly, find the upper lip cut into the nerve by the fangs or sharp enamel of the first teeth, until it is impossible for the colt to gather up its food or drink for days, just merely enough

to sustain life, and often injuring the sale of the horse. This, gentlemen, often is the cause of those flip flop lips on so many of our horses. I have cured some such when called on in time, after some of our Farriers pronounced it incurable and said the nerve back of the under jaw was injured by wearing a poke. Such doctrine is not sound logic and the author should be sent to school until he learns better. Then the reader will please bear in mind that at the shedding of these four central nippers, when the colt is rising three years old, he also casts off eight of the front grinders or molar teeth, making twelve in all; and very often the caps of these front molars are thrown off with the tongue, turning them out next to the cheek. The outside of the gum still holds there, and the long, sharp fangs, from three-quarters to an inch long, are left there for days, sometimes lacerating

the tongue and cheeks of the animal, sometimes causing starvation and death. An old gentleman, who lived near the Sable River, Ont., in the year 1868, told me that he had lost a three-year old colt, valued at \$100, from this very cause. After the death of the colt he determined to learn the cause of the lump in the colt's cheek. He slit it back, or "bock," as he gave me the broad Scotch of it, "and behold you," said he, "I found nothing but one of the caps or double teeth you are telling about." It is at this age when the colt needs the most care, but generally gets the least; as the owner thinks the colts not old enough to work, they must hunt their own living both summer and winter. They're often turned out to some old pea-straw stack or something worse; for it is generally in the winter and on until in the spring when the greater part of them cast these teeth. Instead of such care as that, they should be sheltered on a ground floor and

have soft food, either chopped or boiled oats or barley, and bran mash occasionally. Then your colts will not come out in the spring so poor, and covered with lice so thick that you have got to lift them up by the tail. I often dislike to handle colts at this age for this very reason. I prefer them fat and full of ginger. They are the ones for me to handle. The colt rising four years old casts off four more of the nippers, one on each side of the first four; also four of the centre molars. At four coming five they cast the four corner ones and no molars; there are six molars in each jaw; they cast the three front molars in each jaw; the three back ones they never cast. Then rising five years old they lose the last and corner temporary incisors, these being the last and all they have to cast off; they have all served their time, done their work and gone to decay. The nip-

pers between the central and corner ones often get wedged so tight by the central ones coming in always wider and larger than the first, so it causes them to bind each other in very many instances, that they require the forceps to assist them in shedding their teeth, where the front ones are crowded zigzag out of place, but it also causes them to bind so tight that it often causes them to bite every post and pole, or neckyoke and manger that comes in their way, until they become bad wind-suckers or crib-biters, as it is often called. The grinders are often injurious to the young molars, rising up against the fangs and hard enamel of the first ones, causing them to grow out of place and very uneven, and the under teeth to lacerate the tongue, as the under teeth of all horses project in, and as they wear off grinding the food, the corners that are very uneven are as sharp as a saw tooth, many times

injuring the tongue, causing it to hang out of the mouth. Then they are called lollers, and a bit is recommended by nearly all our Professors, which cures very few. I recommend the bone rasp, which cures all, unless it is of too long standing, or caused by cruelty. Either by holding on the tongue while drenching, and the horse jerks his head and tears it loose underneath, or tying a rope to it because he balks, and then goes in front of the horse and pulls on it to make him draw, tearing it loose or cutting it clear off. I have seen horses that have been served in this way. This is cruelty to dumb brutes, and the man or men who did it ought to be punished severely. The upper molars often cut the inside of the cheek in gashes from one to two inches long, which causes them to throw the oats with their nose out of the manger rather than eat them, because the ends are sharp

and irritate these sores, and the sharp, dry hay and thistles are still worse. At five or six years old the colt, or horse, as he is generally called at that age, has bridle teeth, as they are often called, or tusks protrude through the gum. They grow to their full length, which is nearly an inch long, and sometimes so sharp as to cut the under side of the tongue and require the rasp. They may be seen from four to six in horses; mares seldom have them; some cast the four-year-old nippers and molars at three-and-a-half, and the five-year-old teeth at four, showing a five-year-old mouth at four.



Two weeks old.

Six weeks old.

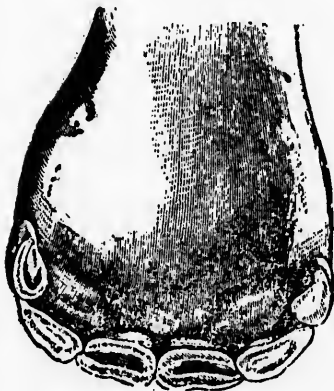
One year old.



Two years old.



Two-and-a-half years old.



Three years old.



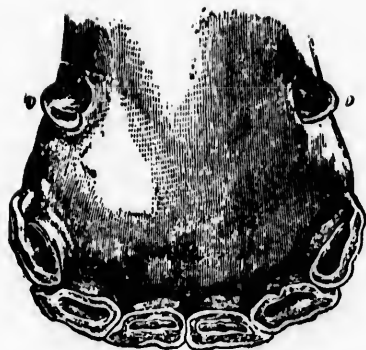
Four years old.

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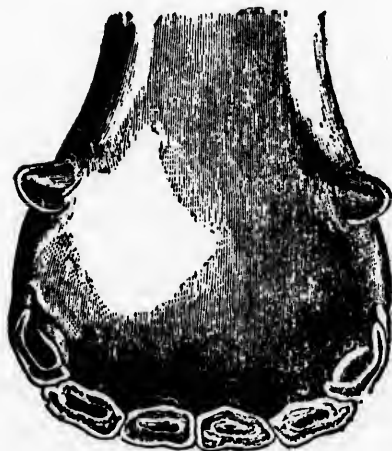
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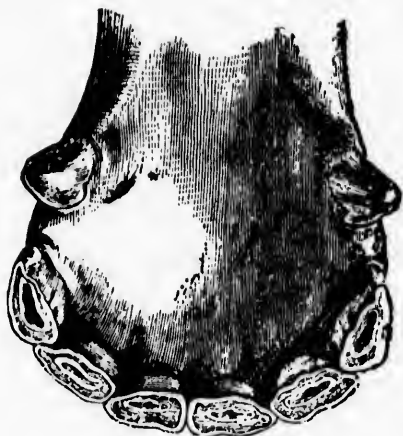
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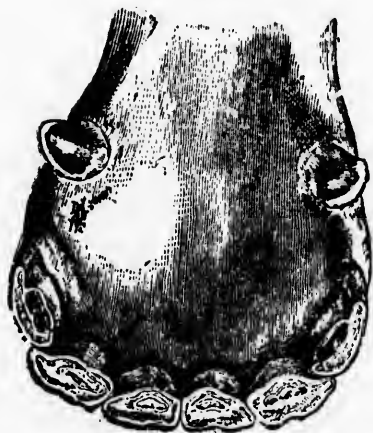
Five years old.



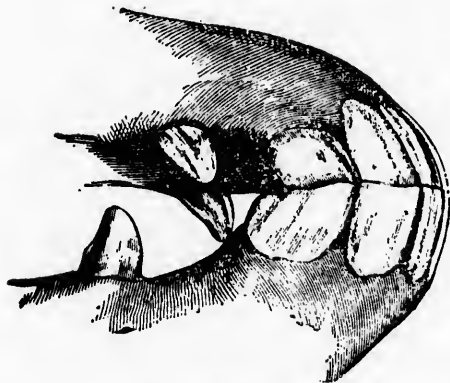
Six years old.



Seven years old.



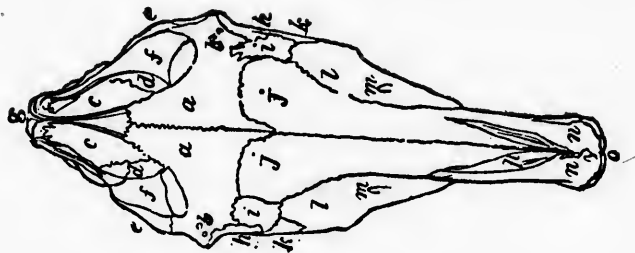
Eight years old.



Full Mouth.



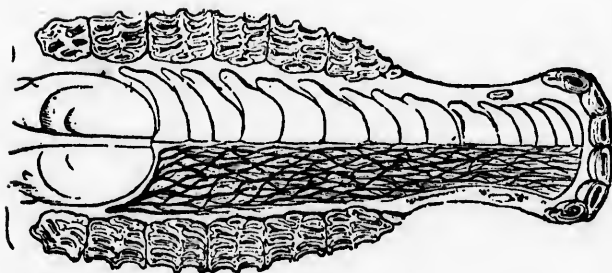
Parrot Mouth.



Horse's Face.



Molar Tooth.



Upper Jaw.

 HOW TO TELL A HORSE'S AGE BY THE TEETH.

A horse has 40 teeth, 24 molars, 12 incisors, 4 canines.

A mare has 36 teeth, 24 molars, 12 incisors, and sometimes 4 canines, but not often.

14 Days old	4	N.I.
3 Months old	4	M.I.
6	“ “	4	C.I.
1 Year old, cups leave		N.I.
2	“ “ “		M.I.
2½	“ sheds		N.I.
3	“ full size		N.I.
3½	“ sheds		M.I.
4	“ full size		M.I.
4½	“ sheds		C.I.
5	“ full size		C.I.
6	“ large cups in		C.I.
	small one		M.I.
	and still smaller		N.I.
7	“ cups leave		N.I.
8	“ “		M.I.

9 Years old cups leave.....	C.I.
10 to 11 years old, cups leave upper	N.I.
12 to 13 " " "	M.I.
14 to 15 " " "	C.I.

N.I. stands for Nipper Incisor.

M.I. " Middle "

C.I. " Corner "

You can also observe from five to twenty years of age a continual change in the shape of the teeth; in a young horse the nippers are wide, but every year they grow narrower, until they are nearly round, and then they get wider in old age, the opposite way from the young tooth. In a young horse the gums on the upper nippers are nearly across the teeth; but in the aged horse they are quite the reverse, becoming quite pointed up the teeth. The bridle teeth of a young horse are nearly flat on the inside; but as he gets older they fill up, and in an old horse they are quite round and

TEETH.

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12 in-

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C.I.

N.I.

M.I.

N.I.

N.I.

M.I.

M.I.

C.I.

C.I.

C.I.

M.I.

N.I.

N.I.

M.I.

blunt. By this you can tell an old horse from a young one in the dark, by feeling of his bridle teeth.

HOW TO TELL A HORSE'S AGE BY THE WRINKLES IN THE UNDER EYE LASH.

In the upper corner of the lower eye-lash you can see a small wrinkle at nine years old, and one for every year after right along down under the eye in a curved line; you will find one for every succeeding year after nine years old. You can tell the age of about two-thirds of the horses by these wrinkles after nine years of age.

HOW TO TELL A HORSE'S AGE BY THE NECK.

About half way between the point of the shoulder and the under jaw you will find a lump on the side of the neck about the size of a small peach pit, at five years old; at ten another lump above the first; at fifteen one below the first and reverse back and forth for every five years until

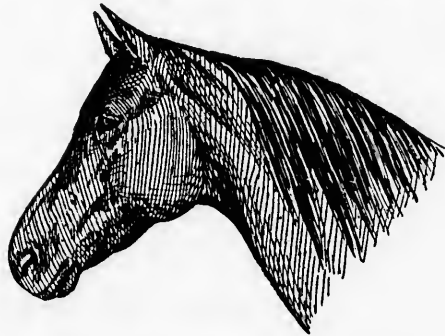
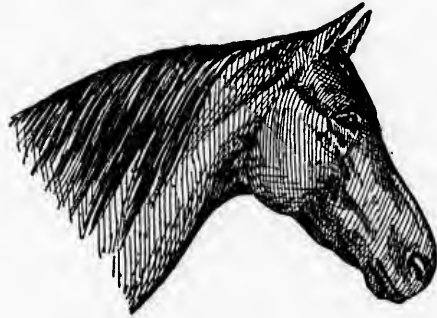
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twenty-five years old. You can feel these lumps plainest on a long, slim-necked horse.



THE HORSE'S TEETH.

Every colt's mouth at three and four years of age, especially four, should be

carefully examined, for they are shedding the temporary molars and getting the permanent molars — which very often develop uneven and grow above the level of the table (or the teeth on each side of them), on account of their mates, the opposite teeth, not coming up at the same time, and the teeth require to be kept on a level in order for them to masticate their food properly and live to a ripe old age. There are a great number of horses that die in their teens, or even before, that would live well into the twenties if their teeth were looked after as they should be. Every man that owns a horse should make a study of the shedding and wear of a horse's teeth. A mare has thirty-six teeth, a horse has forty; he has the bridle teeth—tusks or canines—which the mare seldom has. The thirty-six teeth common to the horse and mare are divided into six separate tables, with six teeth in

each table, and these tables require to be kept on a level with each other. With a great many horses the molars wear below a level of the front teeth, and when in this shape they can only mash their food instead of grinding it. The teeth are continually growing and wearing, and when the wear is not going on even then there are over-projections in the way which come in contact with tender parts of the mouth, the cheek, the tongue, or the gum, and from this cause many a valuable horse has lost his life, and from this cause there are tons of feed fed that is not properly masticated. I find from years of experience in dentistry among horses that the teeth should be examined once a year, then if they are wearing right we have no need to touch them, and if not they require to be properly treated, for we not only relieve the dumb brutes, but we save it in feed, we gain it in

flesh, in strength and in health, in our horses, which means dollars to the pocket. The twenty-four molars are the mill-stones for the horse, and the grain should be properly cleaned before it is given to them to grind, for when it is not cleaned they very often get small gravel stones and other hard substances, which make bad work with their teeth. I find a great many split teeth in horses from this cause, and usually find two to one on gravelly soil to what I do on clay. I also find in colts and horses of all ages a great many curious teeth, caused by the irregular wear of the teeth and the want of attention. It is no uncommon occurrence to find extra teeth in horses (that is, more teeth than they should have) especially molars. They are liable to come anywhere in the mouth; quite frequently I find them in the back part of the mouth, and as there are no teeth to match them, they

soon come in contact with the opposite gum and jaw bone, which prevents them from masticating, and starves them to death, and when they are at the back part of the mouth they are very often overlooked. Mares and horses are both subject to wolf teeth, as they are commonly called, which should be extracted when a colt is a year or two years old. They should never be knocked out.

NOTES.

Never jump at conclusions when you examine a horse's mouth, but examine carefully and you will avoid mistakes which are too often made.

When a horse's mouth is treated remember that it is not only getting the trouble out of sight that is required, but it is the shape the mouth is left in that completes the operation.

Never burn the colt's or horse's mouth for lampers, as it is not only cruelty to the dumb brutes, but it spoils the mouth.

From one to two years old is the proper time to extract the wolf teeth. They should be properly extracted; never knock them out.

Horses, cattle and sheep have more or less trouble with their teeth.

SHOEING.

If we examine the horse's feet in their natural state, they will be found to be almost round and very elastic at the heel; the frog broad, plump, and of a soft, yielding nature; commissures open and well defined; the sole concave, the outside crust from the heel to the toe increased from a slight bevel to an angle of forty-five degrees; consequently, as the foot grows it becomes wider and longer in proportion to the amount of horn secreted

and narrower and shorter in proportion to the ground surface. If a shoe were fitted nicely and accurately to the foot after being dressed down well, it would be found too narrow and short for the same foot after the lapse of a few weeks. If any unyielding shoe of iron is nailed firmly to this naturally enlarging and elastic hoof, it prevents its natural freedom of expansion almost wholly, and does not allow the foot to grow wider at the quarters as it grows down, in proportion to the amount of horn grown as before shod; consequently the foot is changed by the continued restraint of the shoe, from a nearly round, healthy foot, to a contracted and unhealthy condition, as generally seen in horses shod for a few years.

The principles which govern in shoeing are few and simple, and it is surprising, considering the serious results involved,

that it should be done with so little consideration. The object of the shoer in trimming and preparing the hoof for the shoe should be to keep the foot natural, and this involves, first, the cutting away of any undue accumulation of horn, affecting in the least its health and freedom; second, to carry out in the shape of the shoe that of the foot as nearly as possible; third, to fit and fasten the shoe to the foot so as least to interfere with its health, growth and elasticity.

The preparation of the foot requires the cutting away of about the proportion of horn which, coming in contact with the ground, would have worn off, or which has accumulated since being last shod; if the shoes have been on a month, the proportion of horn secreted in that time is to be removed; if two months, then the proportion of two months' growth. No definite rule can be given, the judgment must be

governed by the circumstances of the case: the stronger and more rapid the growth of the foot, the more must be cut away; and the weaker and the less horn produced, the less, to the extent of simply levelling the crust a little, the better to conform to the shoe; there is generally a far more rapid growth of horn at the toe than at the heels or quarters; more will be required to be taken off there than off the other parts; therefore, shorten the toe and lower the heels, until you succeed in bringing down the bearing surface of the hoof upon the shoe to almost a level with the live horn of the sole. Be careful to make the heels level; having lowered the crust to the necessary extent, smooth it down level with the rasp, the sole and frog detach by exfoliation as it becomes superabundant. The sole would not need paring were it not for the restraining effect of the shoe upon the

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general function of the foot, which is liable to prevent such detachment of the horn. The cutting away of the bars, to give the heels an open appearance, is inexcusable, and should never be done. In a natural, healthy condition, the frog has a line of bearing with the hoof, and by its elastic nature acts as a safeguard to the delicate machinery of the foot immediately over it, and helps to preserve the foot in its natural state, by keeping heel spread. It seems to be wisely intended to give life and health to the foot. Permitting the heels to grow down, with the addition of high-heeled shoes, raises the frog from its natural position, and causes it to shrink and harden, and bears, in consequence, an important influence in setting up a diseased action that usually results in contraction of the foot. If the heels are square and high, and the hoof presents rather a long, nar-

row appearance, and is hollow on the bottom, there is a state of contraction going on and you must not hesitate to dress down thoroughly. Do not hesitate because the hoof appears small. Cut away until you are well down to a level with the live horn of the sole; and if the foot is weak, use the same prudence in not cutting it away too much. The shoer must always bear in mind that the sole must not rest on the shoe. Let the foot be so dressed down, and the shoe so approximate, that the bearing will come evenly upon the crust all the way around without the sole touching the shoe. This requires the crust to be dressed down level, and although well down to the live horn of the sole, it should always be left a little higher. The corners between the bars and crust should be well pared out, so there is no danger of the sole resting on the shoe, which is our next consideration.

THE SHOE.

The main object should be to have the shoe so formed as to size, weight, fitting and fastening, as to combine the most advantages of protection, and preserve the natural tread of the foot the best. In weight it should be proportioned to the work or employment of the horse. The foot should not be loaded with more iron than is necessary to preserve it. If the work of the horse is principally on the road, at heavy draught, the shoe should be rather heavy, in order that it may not be bent by contact with hard, uneven earth; it should be wide in the web, and of equal thickness and width from the toe to the heel, that it may as much as possible protect the sole, without altering the natural position of the foot; it should be well drawn in at the heels, that it may not rest on the bars, thereby protecting the corn place, or angles between the bar

and crust, and should in no part extend beyond the outer edge of the crust.

It is too often the case that the shoe is made according to the smith's notions of what the form of the horse's foot should be, and the foot is pared, burned and rasped until it fits the shoe. Now, it should always be borne in mind that the shoe is intended for the foot and not the foot for the shoe, and that it is therefore particularly proper to make the shoe fit the natural form of the foot. It is impossible to have the foot of a horse sound and safe for work and use, after bringing it to an unnatural figure by the use of the knife and rasp. The foot of the horse being elastic, it expands to the weight of the horse in precisely the same degree, whether resting upon the most open or most contracted shoe. Therefore the shape of the shoe cannot possibly affect the shape of the foot. The form of the foot is determined

by the situation of the nails. If the nails are placed so that the inside quarters and heels are left free to expand in a natural manner, no shape we can give to the shoe can of itself change the form of the foot. It must not be inferred, however, from this that the shape of the shoe is of no importance; quite the contrary being the case, as I have already shown. In forming the shoe we must always adopt that which produces the greatest number of advantages with the fewest disadvantages.

We find that the sole surface of the foot is by nature concave in form, which seems to offer the greatest fulcrum of resistance to the horse when travelling. It is important to preserve the natural mechanical action of the horn and sole, therefore the ground surface of the foot, that is to say, the ground surface of the shoe, should be levelled cup fashion; its

outer edge being prominent, corresponds to the lower and outer rim of the hoof, while the shoe being hollow, resembles the natural cavity of the sole of the foot. The ground surface of the shoe should always be concave.

The pattern that nature has presented to us in making the sole concave cannot be improved upon by the smith with all his skill. The expansion of the heels and growth of the foot require that the shoe should be long enough and wide enough at the heels to allow of the natural growth of the foot in the time it is calculated the shoe should be on before being re-set; for as the foot enlarges the shoe is brought forward until it loses its original proportion and becomes too short and narrow. The shoe may be about a quarter of an inch wider and longer than the extreme bearing of the heels, and the nail holes should be punched fine and well in on the

web. The manner of fastening the shoe is what really affects the foot, and what requires the most special attention in shoeing; for the foot being elastic, expands in proportion on the rough as on the nicely fitted shoe. It is the number and position of the nails that really affects the foot. If they are placed well back in the quarters, four on a side, as is common, the crust is held as firmly in this unyielding shoe as if in a vice, which utterly prevents the free action necessary to its health. Inflammation is produced, which causes contraction and the consequent derangement of the whole foot. If the free natural expansion of the foot, and the spreading of the quarters in proportion to the growth of the hoof is prevented by the nailing of the shoe, irritation of the fleshy substance between the crust and coffin-bone will result, and ultimately create so much diseased action of the

parts as to cause contraction and nervous disease. Shoes may be fastened without causing such mischief, if the following method of nailing be observed.

In experimenting, for the purpose of ascertaining how few nails are absolutely necessary, under ordinary circumstances, for retaining the shoe securely in its place as long as it should remain upon the foot, it has been satisfactorily established that five nails are amply sufficient for the fore shoes and seven for the hind ones; three should be placed on the outside of the foot and two on the inner side, near the toe, thereby leaving the foot free to expand in a natural manner. The nails should not be driven high up in the crust but brought out as soon as possible. Another mistake with most smiths is in rasping the clinches away too fine; they should be turned broad and flat. It is also a custom with some to rasp and sandpaper

the whole surface of the hoof, for the purpose of making it look nice and smooth. Such a practice should never be tolerated; the covering thus removed is provided by nature to protect the too rapid evaporation of the moisture of the hoof, and when taken away causes the horn to become dry and brittle. It has so long been customary to use as many nails as could be conveniently driven in; in fact, in fastening the shoe as if it were to a lifeless block of wood, that the fear is very commonly entertained that the shoe will not be held in its place with so few nails. Such fears are utterly groundless, as both theory and practice demonstrate. If the presence of a nail in the crust were a matter of no moment, and two or three more than are really necessary were merely useless, no great reason would exist for condemning the common practice of using too many nails, but it is

far otherwise; the nails, aside from confining the natural expansion of the hoof, separate the fibres of the horn, which never, by any chance, become united again, but continue apart and unclosed, until by degrees, they grow down with the rest of the hoof, and are finally, after repeated shoeing, removed by the knife.

As these holes cannot possibly grow down and be removed, under three shoeings, it will be found, even with a small number of nails, that three times that number of holes must exist in the hoof all the while, and as they are often, from various causes, extended into each other, they necessarily keep it in a brittle, unhealthy state, and materially interfere with the future nail hold. As the position of the hind foot, and the nature of its office render it less liable to injury than the fore foot, consequently it less frequently lames; however, disease of the

nervical bones of this foot is by no means impossible. The same care should be taken as with the fore foot. Calks, although they may be turned down of perfectly even length on each side (which is seldom done), are objectionable appendages, and should be dispensed with, except perhaps for heavy draughts, or when the roads are frozen or covered with ice.

TO PREVENT INTERFERING.

Remove the portion of crust that hits the ankle and have the shoes well set under the foot.

The hoof should be lowest on the outside, to turn the ankle, that the other hoof may pass clear. The shoe should be light and of narrow web, with only two nail holes on the inside, and those near the toe.

OVER-REACHING.

Young horses are more subject to over-reaching than old ones. It very fre-

quently disappears as the speed of the animal is increased. At a moderate gait the front feet do not always get out of the way in time for the hind ones, as they are brought forward. Sometimes the heels are cut or bruised badly, and occasionally the shoes are torn from the front feet. To prevent this have the front shoes a little heavier, the animal lifts them more quickly. The hind shoes made a little lighter causes him to lift them more slowly, and the difficulty is at once removed in most cases, although there are some that require to be shod quite the reverse.

ANOTHER GOOD PLAN FOR FORGING OR
OVER-REACHING.

Colts often forge and gradually grow out of it. Concave the ground surface of the fore shoes, set the toe-calk of hind shoes well back on the web, put a piece of sole leather between the hind shoe and

the foot, letting it extend out beyond the wall about a quarter of an inch; check him a little higher.

CRACKED HOOF.

This disease, also called sand-crack, occurs only in the hoof that is dry, brittle and contracted. The hoof, in a natural, elastic condition, can be bruised but not split up, if double the force that splits the dry, contracted hoof is applied. The crack occurs most generally at the quarters, and almost always in the fore feet, they being almost alone subject to contractions. If the crack extends through the hoof it causes very painful lameness.

For treatment, the foot must be carefully examined to see that no dirt has worked in under the hoof; the loose parts of the horn must be cut away; a pledget of tow, saturated with sulphate or chloride of zinc, or tincture of myrrh, should be applied, and a bandage carefully put

on to keep it in place and to keep out the dirt. As soon as the new horn has grown down a little, draw a line across the top of the crack with a knife or firing-iron, and apply a little tar or hoof ointment. If the crack is at the toe, a shoe with a band running across from the heels at a little below the coronet in front, and united by two screws, will often be all that is required, and the horse may be kept at work; but in quarter crack it is unsafe to use the animal, particularly if it extends through to the soft parts. If the frog is in a healthy condition, which is rarely the case, a bar shoe, eased at the quarter, will be found beneficial.

SOLE BRUISE AND GRAVEL.

Accidents frequently occur to the feet of horses from them striking them forcibly upon stones and other hard substances. Pressure of the shoe upon the sole is the occasional cause of bruises of

that part of the foot, and tender heels more frequently arise from bruises than from any other cause.

For treatment if pus is secreted within the hoof—which may be discovered by the acute pain caused by the light tap of the hammer on that part of the hoof under which the matter is situated — the hoof must be cut through that the matter may escape, as it will gradually work its way upward and make its appearance at the top of the hoof, thus rendering its treatment more difficult. After the matter escapes through the opening so made throw in an injection of sulphate of zinc in solution, one drachm to a pint of water. For the treatment will be the same as recommended in quidder. Gravel sometimes works in these wounds, which must always be removed and the parts carefully washed.

PRICKING.

This is an accident of too frequent occurrence, and happens in various ways, as by treading upon sharp bodies, such as broken glass, nails, &c. It occurs more frequently, however, in shoeing, owing to the nail not being properly pointed, or, in some cases, from the iron not being good splits, one part turning inward and the other outward. These accidents are not always the fault of the smith, and he should not be unjustly censured for what he could not obviate. If such punctures are properly attended to serious consequences rarely ensue. The practice of closing up the wound after removing the nail, glass or other sharp substances, cannot be too strongly condemned. It is doubtless in consequence of this senseless practice that so many horses are lost from lock-jaw, which does not generally make its appearance until the animal has apparently recovered from the wound,

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though upon an examination of the foot pus will often be found secreted within the hoof.

When a horse pricks up a nail or is pricked by the smith, a poultice should at once be applied to the foot and kept on for several days; a cathartic ball should also be given that the bowels may be in good order. After the removal of the poultice apply the tar ointment and no further trouble may be anticipated.

TO CURE CORNS.

Cut the corn well down, but not to the quick, turn the bottom of the foot well up, wrap a damp rag around the foot, drop in a few drops of spirits of turpentine and touch a match to it. After you have burnt about a dozen drops fill with tow and tar under the shoe. Horses with corns must be oftener and more carefully shod than those free from them.

FOUNDER REMEDY.

Give from one to four ounces of saltpetre, according to the severity of the case. For a severe case draw about one gallon of blood from the neck, then drench with linseed oil, one quart; rub the fore legs with water as hot as can be borne without scalding, continuing the washing till the horse is perfectly limber.

HORSE OINTMENT.

Resin, 4 oz.; beeswax, 4 oz.; honey, 2 oz.; lard, 8 oz.; melt these articles slowly, bringing gradually to a boil; remove from the fire. and slowly add a little less than a pint of spirits of turpentine, stirring all the time this is being added, and stir till cool. This is an extraordinary ointment for bruises of the flesh, or hoof, or broken knees, galls or bites, or when a horse is gelded to heal and keep off flies.

CONDITION POWDERS.

Poenugrec, cream of tartar, gentian sulphur, saltpetre, resin, black antimony, and ginger, of each 1 oz.; cayenne, $\frac{1}{2}$ oz.; all finely pulverized. Mix thoroughly. It is used for yellow water, hide bounds, colds, coughs, distemper, and all other diseases where a condition powder is needed. They carry off gross humors and purify the blood.

Dose.—In ordinary cases one table-spoonful once a day. In extreme cases give twice daily. This powder has never failed to give entire satisfaction.

MAGIC LINIMENT.

Take 2 oz. oil of spike; 2 oz. origanum, 2 oz. hemlock; 2 oz. wormwood; 4 oz. sweet oil; 2 oz. spirits ammonia; 2 oz. gum camphor; 2 oz. spirits turpentine; 1 quart proof spirits. Mix well and bottle for use. Cork tight. For sprains, bruises, or lameness of any kind this liniment is

unsurpassed. This is the same liniment, leaving out the turpentine, which has achieved such wonderful cures for human ailments.

A more simple liniment can be made by putting into spirits of turpentine all the gun camphor it will cut. For ordinary purposes it is fit for use; but if you wish to reduce pain, add as much laudanum as there is turpentine.

FOR RINGBONES, SPAVINS, CURBS, SPLINTS, ETC., WHEN THEY ARE JUST STARTING, ALSO DISTEMPER.

When swelled under the throat. For Distemper—one or two applications, wash off and grease with lard to save the hair.

Best vinegar and mustard, mix to form a thin paste; rub it in the hair well with the hand on the enlargement; wind with cotton rags, tie them on snug, so they will not turn on the legs; hitch the horse middling short in the stable, then he will

not blister his mouth with it. In the morning remove it, wash with castile soap; in three days blister again. Two or three applications will effect a cure. Wash and grease with lard in two days after each application; wash again before blistering.

BONE SPAVIN CURE.

1 oz. of oil of vitriol; 1 oz. of aquafortis;
 $\frac{1}{2}$ oz. of quicksilver; 1 dram Spanish fly.

Add double the quantity of hog's lard. I add to the above 1 oz. of spirits of turpentine. Rub the spavin with the mixture, until blistered; then wait until it heals; then apply it again, until the third time blistering; wash well with suds before each application, and rub over the part with a smooth stick to squeeze out a yellow substance; then wipe dry before applying again, and about 24 hours after each application; cleanse well and grease with lard to save the hair.

BONE SPAVIN—FRENCH PASTE.

Corrosive sublimate, quicksilver, iodine, of each 1 oz., with lard only sufficient to form paste.

Directions.—Rub the quicksilver and iodine together, then adding the sublimate and finally the lard, rubbing thoroughly; shave off the hair the size of the bone enlargement, then grease all around it, except where the hair is shaven off. This prevents the action of the medicine only upon the spavin. Now rub in as much of the paste as will lie on a three cent piece each morning, for four mornings only. In from seven to eight days the whole spavin will come out; then wash out the wound with suds, soaking well for an hour or two, which removes the poisonous effects of the medicines and facilitates the healing, which will not be done by any of the healing salves, but I would prefer the green ointment.

GREEN OINTMENT.

White pine turpentine and lard, $\frac{1}{2}$ lb. each, honey and beeswax, $\frac{1}{4}$ lb. each. Melt all together and stir in $\frac{1}{2}$ oz. finely pulverized verdigris.

SORES FROM CHAFING OF THE BIT.

Chloroform and sulphuric ether, equal parts of each; keep closely corked, sponge off with water every time the bits are taken out; then wet well with the mixture. It will also be found valuable to remove soreness, from any cause, on horses.

FOR SORE SHOULDERS.

Hog's lard and spirits of turpentine, equal parts. If the shoulder is swollen full of watery substance, take the hand and press it down from under where the collar rests, and lance, so as to allow the fluid to escape. Then bathe with the mixture, rubbing in well.

A RECEIPT FOR BOWEL COMPLAINT.

Take a quart of good gin and 1 lb. of sulphur; put into the bottle; shake well before using. Take one tablespoonful every two or three hours, and it will cure the worst bowel complaint ever known, on old or young; reduce for children, and sweeten to suit the taste and age.

If the above cannot be procured take one teacupful of timothy seed; steep well and drink freely. This is another great remedy. This is good for a horse as well as a man.





TRICKS

As many wish to know how to teach their horses tricks, I will explain how it may be done. Teaching a young horse a trick serves greatly to keep up an interest in him, and makes him appear intelligent, fearless and affectionate. In teaching your horse to perform tricks, it is best to give him one or two lessons of half or three-quarters of an hour each, daily.

TO COME AT THE CRACK OF THE WHIP.

Put on the "War Bridle;" stand off a few feet from his head, holding the end of your bridle in your left hand, and the whip in the right; crack the whip a little and say, "Come here, sir;" he does not know what this means, but show him by pulling on the bridle a little, which he will obey by moving forward a few steps. If he does not move readily give him a sharp crack around the fore legs, which will soon move him; for this movement you thank him by stepping forward and giving him a little salt and white loaf sugar, and caress him; then repeat in the same way. Your horse loves sugar as well as your children. Cattle also will drink syrup enough to kill themselves. Each time he comes to you talk to him kindly, and do not fail to reward him. You can now take off the "War Bridle" and turn him loose, and repeat until he fully comprehends that the

way to avoid the whip is to come to you. The encouragement of rewarding him will soon inspire him with confidence, and he will come to you and follow like a pet lamb. Be very cautious about the use of the whip or harsh language, remembering that perfect cheerful obedience is your object, and that can be secured only by great patience and gentleness.

TO MAKE A BOW.

Take a pin in your right hand, between your thumb and forefinger, and stand up before, but a little to the left of your horse. Then prick him on the breast very lightly as if a fly biting, which to relieve he will bring down his head, which you will accept as "yes," and for which you will reward him by caressing and feeding as before. Then repeat and he will bring his head down the moment he sees the least motion of your hand towards his breast, or substitute some signal which will be readily understood.

TO SAY NO.

Stand by your horse near the shoulder, holding the pin as before, and prick him lightly on withers, and to drive it away he will shake his head. You then caress as before, repeating until he will shake his head at the least inclination you show of touching him with the pin.

TO LAY DOWN.

To teach a horse to do this quickly, lay him down repeatedly as described in another place. When he begins to come down without assistance give the word of command, "Lie down, sir," then caress to encourage him for coming down. When he does this readily, let down the foot that has been strapped up, grasp that about the fetlock with the left hand, and take hold of the cord with the right hand over the horse's back; say, "Lie down, sir," and pull on the cord, keeping hold of the foot and drawing it well back. Repeat until he comes back readily in

this way; then take a switch and touch his foot, which will cause him to take it from the ground, and pull on the cord and he will lie down. Gradually slacken the cord until he will come down by touching his foot. Repeat this until he will come down whenever told.

TO SIT UP.

When your horse will lie down readily, you can teach him to sit up like a dog, easily. If young and not very heavy and strong, you can easily prevent him from getting up without tying down.

First, cause him to lie down; having on him a common bridle, with the reins over the neck, then step behind him and place the right foot firmly upon the tail, the reins in your hand and say, "Sit up, sir." The horse, rising from a recumbent position, first turns on his belly, throws out his forward feet and raises himself on them, springs forward

and raises on his hind feet. Now, standing upon his tail firmly, and pulling back upon the reins when he attempts to spring forward and up, will prevent him doing so, and you hold him sitting up. Hold him firmly a few seconds, talking to him kindly, before permitting him to raise to his feet. Repeat a few times, when instead of springing up, he will sit upon his haunches a short time, which you will accept as complying with your wishes. Always say, "Sit up," and hold him in his position as long as he will bear, by fondling and feeding with something he likes from the hand, and your horse will soon learn to sit up for you as long as you please. But if your horse is heavy and strong, it will be necessary to resort to other means to hold him down at first. This you do by putting on his neck a common collar, and causing him to lie down; then fasten a

piece of rope or rein to each hind foot and bring forward through the collar and draw up close which will bring the hind feet well forward; then step behind, as before and when he attempts to rise on his hind feet he finds it impossible to do so, because you hold them firmly with those straps. Repeat two or three times, when it will not be necessary to resort to such force.

TO TEACH YOUR HORSE TO KISS YOU.

Teach him first to take a lump of sugar or an apple out of your hand; then gradually raise the hand nearer the mouth at each reception until you require him to take it from your mouth, holding it in your hand, telling him at the same time to kiss you. He will soon learn to reach his nose up to your mouth, first to get the sugar, but finally because commanded to do so. Simply repeat until your horse understands the trick thoroughly.

TO SHAKE HANDS.

Tie a short strap or piece of cord to the forward foot below the fetlock; stand directly before your horse; hold the end of the strap or rope in your hand, and say, "Shake hands, sir," and immediately after commanding him to do so, pull upon the strap which will bring his foot forward, and which you are to accept as shaking hands, and for which you will caress him and give him a lump of sugar, and so repeat until when you make the demand he will bring his foot forward in anticipation of having it pulled up. This is a very easy trick to teach a horse. By a little patience a horse may be easily trained to approach, make a bow, shake hands and follow like a pet lamb, lie down and sit up, which makes him appear both polite and intelligent. Never lose courage or confidence in your ability, because you may not bring about good results easily.

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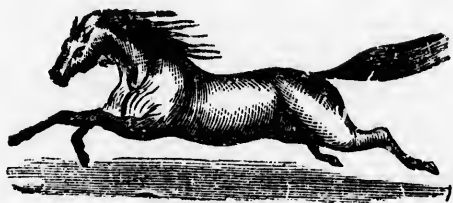
TO TEACH THE HORSE TO MARK OFF
HIS AGE.

Take a pin and touch him just in the arm, and as soon as he stamps his foot caress him for it, and if he will not move his foot, take hold just by the knee and put it forward, telling him to mark off his age, and as soon as he makes as many strokes with the foot as you want, raise your hand and caress. A few lessons given in this manner will teach the horse to mark off his age at the word of command.



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HISTORY OF THE HORSE.

To man, whether as a civilized being or a barbarian, no animal is more useful than the horse. The beauty, grace and dignity of this noble creature, when in a properly developed state, are as marked as his utility. As an intelligent animal he ranks next in the scale to the dog, that other companion and friend of man. Taking into consideration then his usefulness, his attractive appearance, and his intelligence, what is known of his history cannot prove unacceptable.

In order to ascertain the special land which can claim the proud honor of being the parent country, the birth-place of this noble animal, recourse must be had primarily to the pages of Scripture, as being the most ancient and best authenticated of all existing histories. By reference to those pages we find that, although the ass was in early use among the children of Israel, the horse was unknown to them until after the commencement of their dwelling in Egypt; and strong evidence exists for the belief that he was not brought into subjection, even in that country, until after their arrival. Clear it is, at all events, that Arabia which many have supposed to be the native home of the horse, did not possess him until within a comparatively recent period; while his introduction into Greece, and thence into those countries of Europe and Asia in which he is now found,

either wild or domesticated, may be traced with much certainty to an Egyptian source.

Although in the history of Abraham frequent mention is made of the ass, of the camel, of flocks and herds, sheep and oxen, there is no allusion to the horse; nor do we find any such until we reach the time of Joseph. In the reign of that Pharaoh, in whose service Joseph was, waggons were sent by the King's command into Canaan to bring thence into Egypt, Jacob and his sons, their wives and their little ones, during the prevalence of the famine against which Joseph had provided. It is not recorded that those waggons were drawn by horses; but the inference that such was the case is by no means irrational, when we remember that it was during the continuance of this famine that horses are first mentioned, having been taken by Joseph

in exchange for bread from the Egyptian cultivators and cattle-breeders; that on the death of Jacob, his funeral was attended by "both chariots and horsemen;" and lastly, that we know from the writings of Homer, and from the ancient sculptures of Persepolis and Nineveh that the horse was used for purposes of draught for some time previous to his being ridden.

From this time the horse appears to have been speedily adopted for use in battle. At the Exodus some fifteen hundred years before the Christian Era, the pursuing army contained "six hundred chosen chariots and all the chariots of Egypt," together with all the horsemen. And when the Israelites returned into Canaan we find that the horse had already been naturalized in that country, since the Canaanites "went out to fight against Israel with horses and chariots very many."

From these considerations, and from the fact that so late as six hundred years after this date, Arabia had still no horses, it is by no means an improbable conclusion that the shepherd kings of Egypt, whose origin is unknown, introduced the horse into Lower Egypt; and that, after this period, the country became the principal herding district of this animal, whence he was gradually introduced into Arabia and the adjoining Asiatic countries. From the same stock is doubtless derived the entire race in all the southeastern parts of Europe. As Egypt is not, in any respect, a favorable country for horse-breeding, still less for his original existence in a state of nature, the source whence he was first introduced into that country is in some degree enveloped in uncertainty; though the better opinion, based upon much indirect testimony, is that he was an original

native of the soil of Africa, which alone was the parent country of the Zebra and the Quagga—in some sort his kin.

It is questionable whether the horse is still to be found in a state of nature in Arabia; although it is asserted that they exist thinly scattered in the deserts, and that they are hunted by the Bedouins for their flesh, and also for the purpose of improving their inferior breeds by a different kind of blood. In Central Africa, however, whence the horse is supposed to have been first introduced into Egypt, and thence into Arabia, Europe and the East, wild horses still roam untamed far to the southward of the great desert of Sahara, where they have been seen by Mungo Park in large droves. At the period of the first Roman invasion the horse was domesticated in Britain, and in such numbers that a large portion of the forces which resisted the invaders were charioteers and cavalry.

In Europe, however, with but few exceptions, the horse, for purposes of warfare, was slowly and not till the lapse of ages, brought into use; even the Spartan, the Athenians, and the Thebans, when at the height of their military renown, having but inferior and scanty cavalry services.

In the oldest sculptures probably in existence—those removed by Layard from the ruins of Nineveh, and illustrative of almost every phase of regal and military life—the horse is uniformly represented as a remarkably high-crested, large-headed, heavy-shouldered animal; rather long-bodied; powerfully limbed; his neck clothed with volumes of shaggy mane, often plaited into regular and fanciful braids; and his tail coarse and abundant, frequently ornamented similarly to his own mane and to the beard and hair of his driver—an animal, indeed, as unlike

as possible to the low-statured, delicate-limbed, small-headed Arabs and Barbs of modern days with their basin-faces, large full eye, and long, thin manes, from which the blood horse of our time has derived his peculiar excellence. The same remarks may, in the main, be made as to the Greek and Roman horse, from the representations which have come down to us. The English blood-horse, being confessedly the most perfect animal of his race in the whole world, both for speed and endurance, and the American blood-horse directly tracing without mixture to English, and through the English to Oriental parentage, some account of the former variety may be of interest to the reader.

It has already been remarked that large numbers were found in Britain at the first Roman invasion. It is to be added, that Caesar thought them so valuable that

he carried many of them to Rome; and the British horses were for a considerable time afterwards in great demand in various portions of the Roman Empire. After the evacuation of England by the Romans and its conquest by the Saxons, considerable attention was paid to the English breed of horses; and after the reign of Alfred running horses were imported from Germany, this being the first intimation given us in history of running horses in England. English horses after this were so highly prized upon the continent, that in order to preserve the monopoly of the breed, in A. D. 930 a law was passed prohibiting the exportation of the animal. In Athelstan's reign many Spanish horses were imported; and William the Conqueror introduced many fine animals from Normandy, Flanders and Spain,—circumstances which show the strong desire,

even in that early period, to improve the English breed. In the reign of Henry I. is the first account of the importation of the Arab horse into the country, at which time it is evident that the English had become sensible of the value and breed of their horse; and in the twelfth century a race-course had been established in London—namely, Smithfield—at once horse market and race-course.

King John imported Flemish horses for the improvement of the breed for agricultural purposes; and in his reign is found the origin of the draught horse, now in general use in that country. Edward II. and Edward III. imported horses for the improvement of the stock, the latter introducing fifty Spanish horses. In the reign of Henry VII. the exportation of stallions was prohibited; but that of mares was allowed, when more than two years old, and under the value of six

shillings and eight pence. In the reign of Henry VIII. many very arbitrary statutes were passed for the improvement of the horse; and it was during the same period that an animal race was run at Chester. In the reign of Elizabeth the number and breed appear to have degenerated; for it is stated that she could collect but three thousand horses throughout her realm to resist the invasion of Don Philip.

With the accession of James I. to the throne, a great improvement was systematically wrought in the English breed; and from this period a constant and progressive attention was paid to the matter of breeding. This monarch purchased an Arabian horse at the then extraordinary price of five hundred pounds; but he proving deficient in speed, Arabians for a time fell into disrepute. Race meetings were then held at various places (Hay-

market, among others) throughout the kingdom, the races being mostly mates against time, or trials of speed or bottom for absurdly long and cruel distances.

Although Cromwell, during his Protectorate, was obliged to forbid racing, yet he was an ardent lover of the horse and an earnest patron of all pertaining to horsemanship, and to his strenuous exertions the present superior condition of the English blood-horse is in no small degree owing.

Before proceeding to the history of the American horse—which is the main concern in the present branch of this work—a concise summary of the different varieties of this useful quadruped cannot fail to interest. We commence with the horse of Asia.

HORSES OF ASIA AND AFRICA.

THE ARABIAN.

In this country the horse, even in its wild state (in which condition, as before remarked, it is rarely found), is possessed of a beautiful symmetry of form, and a disposition of the greatest gentleness and generosity. His size is small, averaging in height generally between thirteen and fourteen hands (the hand being reckoned at about 4 inches of our measure); color, a dappled gray, though sometimes a dark brown; mane and tail short and black. The only mode of capturing him is by snares carefully concealed in the sand, as his exceeding swiftness prevents all possibility of taking him by the chase. The fondness of the Arab for his steed is well-known, having long since passed into a proverb. The horse of the poorest

wanderer of the desert shares with his master and his family every attention and caress which the strongest attachment can prompt. Mares are always preferred by the Arab to horses, as they endure fatigue and the hardships incident to a desert life much more patiently, and can be kept together in greater numbers without the risk of quarrels and mutual injuries. Great attention is paid to the coat of the animal. He is carefully washed each morning and evening, or after a long ride; is fed only during the night, receiving throughout the day nothing but one or two drinks of water.

The head of the pure Arab is light, well made, wide between the nostrils, forehead broad, muzzle short and fine, nostrils expanded and transparent, eyes prominent and sparkling, ears small, neck somewhat short, shoulders high and well thrown back, withers high and arched,

legs fine, flat and small-boned, and the body somewhat light.

THE PERSIAN.

This horse is slightly taller than the Arab; is full of bone and very fast. The Persian feeds his horse as does the Arab, the food given him being coarse and scant. Hay is utterly unknown for the purpose, barley and chopped straw being generally substituted. Although this variety is in most respects less esteemed than the Arab, it is in some points its superior.

THE TARTARIAN.

Like the Persian, this variety is swift; but the horses are heavy-headed, low shouldered, and altogether very awkwardly put together. The Tartars eat the flesh of their horses and drink the milk of their mares, from which they also make excellent cheese.

THE TURCOMAN.

This is a variety of the Tartar; but superior to it; bringing even in Persia, fre-

quently from five hundred to a thousand dollars. Its average height is some fifteen hands, and in general appearance it bears a strong resemblance to a well-bred English carriage horse. Though possessed of considerable speed, it is not enduring. This variety is often foisted upon the ignorant as the pure Arabian.

THE TURKISH HORSE.

This horse is a cross between the Persian and the Arabian, and is of slender build, carrying his head high, lively and fiery, and possessing a gentle and affectionate disposition. The tail of the horse is regarded in Turkey and Persia as a badge of dignity, princes measuring their rank by the number of tails they carry; those of the highest rank being allowed three.

HORSES OF HINDOSTAN.

In India, the horse, owing to the peculiar climate of the country, is invariably found to degenerate, unless great

attention be paid to breeding. The principal breeds are the Tazee, the Takan, the Folaree, the Cutch and the Datt-yarr.

Passing from the Asiatic horse to the African, it is to be remarked that Egypt has long since lost its character as a breeding country, its horses being justly deemed much inferior to those of Persia, Barbary or Arabia.

THE BARB AND OTHERS.

This variety—the principal of the African race—is taller than the Arabian, and remarkable for the height and fullness of its shoulders, drooping of the haunches, and roundness of the barrel.

The Bornou race, in the central parts of Africa, is described as possessing the qualities of the Arabian, with the beauty of the Barb, as being fine in shoulder and of general elegance of form. The Nubian horses are stated by travellers to be even

superior to the Arabian. Dongola has a noticeable breed, of large size, their chief peculiarities being extreme shortness of body, length of neck, height of crest, and a beautiful forehead.

EUROPEAN HORSES.

THE RACER.

As the varieties of the horses in Great Britain are the most noticeable of any in Europe, we append a brief description of the principal breeds at present in use.

The Racer, which excels in beauty, speed and endurance, that of all other nations, was gradually formed by the introduction of the best blood of Spain, Barbary, Turkey and Arabia, which bears a strong family likeness to each. The characteristics of this breed are a high

and lofty head, bright and fearless eye, small ear, expanded nostril, arched neck, curved on the upper surface, with no curve underneath, the neck gracefully set on, the shoulder lengthened and laying well back, the quarter ample and muscular, the fore legs straight and fine, but with sufficient bone, the hinder legs well bent and the pasterns long and springy.

THE HUNTER.

The best horses of this breed stand fifteen or sixteen hands high, head small, neck thin, especially beneath the crest, firm and arched, and jaws wide; lofty forehead, shoulders as extensive and oblique as that of the racer and somewhat thicker, broad chest, muscular arm, leg shorter than that of the racer, body also more short and compact, loins broad, quarters long, thighs muscular, hocks well bent and under the horse.

THE HACKNEY.

This horse is still more compact than the Hunter, with more substance in proportion to his height, forehead light and high, head small and placed taperingly upon the neck, shoulders deep and spacious, laying well back, back straight, loins strong, fillets wide and withers well raised. Too high breeding is considered objectionable in this species, as being ill adapted for ordinary riding upon the road.

THE CART HORSE.

The principal varieties of this class are the Cleveland, the Clydesdale, the Northamptonshire, the Suffolk Punch, and the heavy black or dray horse. The Clydesdale breed obtains its name from being bred chiefly in the valley of the Clyde. They are strong and hardy, have a small head, are longer necked than the Suffolk, with deeper legs and lighter

bodies. The Suffolk Punch originated by crossing the Suffolk cart mare with the Norman stallion. Its colour is yellowish or sorrel, large head, wide between the ears, muzzle rather coarse, back long and straight, sides flat, fore-end low, shoulders thrown much forward, high at the hips, round legs, short pasterns, deep bellied and full barrel. The modern-bred cart horse of England originated from a cross with the Yorkshire half-bred stallion, and is of much lighter form and stands much higher. This horse is hardy and useful, kindly and a good feeder. The heavy black horse is chiefly bred in Lincolnshire and the Midland counties.

GERMAN, FRENCH AND SPANISH HORSES.

The horses of Germany, with the exception of the Hungarian, are generally large, heavy and slow. The Prussian, German and the greater part of the French cavalry are procured from Hol-

stein. They are of a dark, glossy bay colour, with small heads, large nostrils, and full dark eyes, being beautiful, active and strong.

The horses of Sweden and Finland are small but beautiful, and remarkable for their speed and spirit, those of Finland not being more than twelve hands high, yet trotting along with ease at the rate of twelve miles an hour.

The Iceland horse is either of Norwegian or Scottish descent. They are very small, strong and swift. Thousands of them live upon the mountains of that barren country, never entering a stable, but taught by instinct or habit to scrape away the snow or break the ice in quest of their meagre food.

The Flemish and Dutch horses are large, and strongly and beautifully formed. The best blood of draught horses is

owing, in a great degree, to crosses with these.

The best French horses are bred in Limousin and Normandy, the provinces of Auvergne and Poitou producing ponies and galloways, which are excellent saddle horses and hunters.

The Spanish horse of other days, as the Andalusian charger and the Spanish jennets, exist but in history or romance. The modern Spanish horse resembles the Yorkshire, half-breed, with flatter legs and better feet, but a far inferior figure.

The Italian horses, particularly the Neapolitan, were once in high repute, but owing mainly to intermixtures of European rather than eastern blood, they have sadly degenerated.

THE AMERICAN HORSE.

At a very remote period in the history of America the horse began to be imported from Europe by the early settlers, it being conceded that, although the horse had at some former time existed on this continent, as is proved by his fossil remains which have been found in abundance in various parts of the country, he had become extinct previous to its colonization by the white nations.

It is generally believed that horses which are found in a wild state on the pampas or plains of South America and the prairies of North America as far east as the Mississippi River, are the descendants of the parents set loose by the Spaniards at the abandonment of Buenos Ayres. This opinion, however, is combated by some on the ground that this date is too recent to account for the vast

numerical increase, and the great hordes of these animals now existing in a state of nature, and they are inclined to ascribe their origin to animals escaped, or voluntarily set at liberty, in the earlier expeditions and wars of the Spanish invaders, the cavalry of that nation consisting entirely of perfect horses or mares.

An opportunity of such an origin must undoubtedly have been furnished in the bloody wars of Mexico and Peru, since upon the issue of many battles which were disastrous to the Spaniards, the war horses, their riders being slain, could have recovered their freedom and propagated their species rapidly in the wide, luxuriant and well watered plains, where the abundance of food, the genial climate, and the absence of beasts of prey capable of successfully contending with so powerful an animal as the horse, would favour their rapid increase.

We know, moreover, that De Soto had a large force of cavalry in that expedition in which he discovered the Mississippi, and found a grave in its bosom, and when his warriors returned home in barques which they built on the banks of the "Father of Waters," there can be little doubt that their charges must have been abandoned, since their slender vessels, built by inexperienced hands for the sole purpose of saving their own lives, must have been incapable of containing their steeds.

The first horses imported to America for the purpose of creating a stock were brought by Columbus in 1493, in his second voyage to the Islands.

They first landed in the United States, were introduced in Florida in 1527, by Cabeca de Vaco, forty-two in number, but these all perished or were killed. The next importation was that of De Soto,

before mentioned, to which is doubtless to be attributed the origin of the wild horses of Texas and the prairies, a race strongly marked to this day by the characteristics of Spanish blood.

In 1604, L'Escarbot, a French lawyer, brought horses and other domestic animals into Acadia, and in 1608 the French then engaged in colonizing Canada introduced horses into that country, where the present race, though somewhat degenerated in size, owing probably to the inclemency of the climate, still show the blood, sufficiently distinct, of the Norman and Breton breeds.

In 1609 the English ships landing at Jamestown, in Virginia, brought, besides swine, sheep and cattle, six mares and a horse, and in 1657 the importance of increasing the stock of this valuable animal was so fully recognized that an Act was passed prohibiting its exportation from the province.

In 1629 horses and mares were brought into the plantations of Massachusetts Bay by one Francis Higgins, formerly of Leicestershire, England, from which country many of the animals were imported. New York first received its horses in 1625, imported from Holland by the Dutch West India Company, probably of the Flanders breed, though few traces of that breed yet exist, unless they are to be found in the Conestoga horse of Pennsylvania, which shows some affinity to it, either directly or through the English dray horse, which latter is believed to be originally of Flemish origin.

In 1750 the French of Illinois procured a considerable number of French horses, and since that time, as the science of agriculture has improved and advanced, pure animals of many distinct breeds have been constantly imported into this country, which have created in different sections and districts distinct families easily recog-

nized—as the horses of Massachusetts and Vermont, admirable for their qualities as draught horses, powerful, active, and capable of quick as well as heavy work; the Conestogas, excellent for ponderous, slow efforts, in teaming and the like, and the active, wiry horses of the West, well adapted for riding, and being in most general use for American cavalry purposes.

It is evident, then, that the original stock of the unimproved American horse is the result of a mixture of breeds, the French, the Spanish, the Flemish and the English horses having all sent their representatives to some one portion at least of the United States and British provinces, and probably still prevailing to a considerable degree in some locations, though nowhere wholly unmixed—while in others they have become so thoroughly mixed and amalgamated that their identity can no longer be discovered.

In New York, for example, the early importation of thorough blood and the constant support of horse-racing, appear to have so changed the original Dutch or Flemish stock, that the characteristic of her horses is that of the English race, with a decided admixture of good blood. In Massachusetts, Vermont, and the Eastern States generally, the Cleveland bay, and a cross between that and the English dray horse blood, with some small admixture of thorough blood, predominate. In Pennsylvania, the most distinct breed appears to be of Flemish and English dray-horse origin. In Maryland, Virginia and South Carolina, English thorough bloods prevail to a great extent; so much so as to render the inferior class of working horses undersized. In Louisiana and many of the Western States, French and Spanish bloods partly prevail, though with a mixture of English blood. It may, in short, be generally

assumed that, with the exception of the thoroughbreds, there is scarcely any breed in any part of America wholly pure and unmixed; and that there are very few animals anywhere which have not some mixture, greater or less, of the hot blood of the East transmitted through the English race-horse.

Indeed, with the exception of the Conestoga horse, there is in the United States no purely-bred draught or cart horse, nor any breed which is kept entirely for labor in the field or on the road, without a view to being used at times for quicker work and for purposes of pleasure and travel. Every horse, for the most part, bred in America, is intended to be in some sense used upon the road; and it is but asserting a well-known fact when we say that for docility, temper, soundness of constitution, endurance of fatigue, hardiness, sure-footedness and speed, the American

roadster is not to be excelled, if equalled, by any horse in the entire world, not purely thoroughbred.

Of roadsters, two or three families have obtained, in different localities, decided reputations for different peculiar qualities; such as the Narragansett pacers, the families known as the Morgan and Black Hawk, the Canadian, and generally what may be called trotters. No one of these, however, with the single exception of the Narragansett, appears to have any real claim to be deemed a distinctive family, or to be regarded as capable of transmitting its qualities in line of hereditary descent, by breeding within itself, without further crosses with higher and better blood.

Of the Narragansetts but little can be said with certainty, for there is reason to believe that as a distinctive variety, with natural powers of pacing, they are extinct,

and their origin is in some degree uncertain. The other families clearly owe their merits to a remote infusion of thorough blood, perhaps amounting to one-fourth or one-third part some three or four generations back.

NATURAL HISTORY OF THE HORSE.

The horse, by far the noblest of the genus, is easily distinguished from the rest of the group. His varieties are exceedingly numerous, and differ widely in physical appearance. The effects of climates and other agencies are displayed in his frame. It has been asserted, though not on sufficient basis, that he arrives at the greatest perfection between the fifteenth and the fifty-fifth degrees of northern latitude. The mare is found

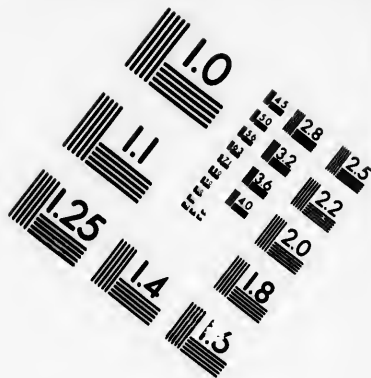
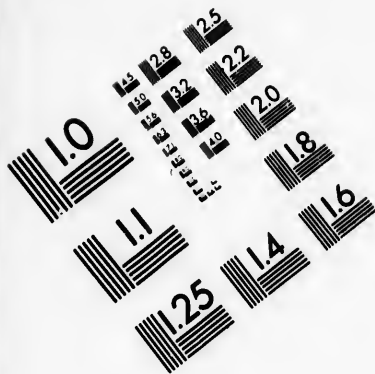
capable of generating her species as early as the second year of her existence; but it is detrimental to her form and the future energies of her offspring, thus prematurely to tax the productive powers of her frame. It would be far more profitable to delay this important function to the fourth or fifth year, when the outline of her form approximates more closely to that of the adult, and the vital energies of the animal economy become more confirmed. Mares, in common with the females of many other quadrupeds, are subject to a periodical appetency for the male, which in them is termed horsing. The natural season of its first occurrence is from the end of March to July, and so providential is this arrangement, that the foal will be produced at a time when nourishment is plentiful for its support.

Common assertion fixes the period of gestation, or the time intervening between conception and foaling, at eleven months;

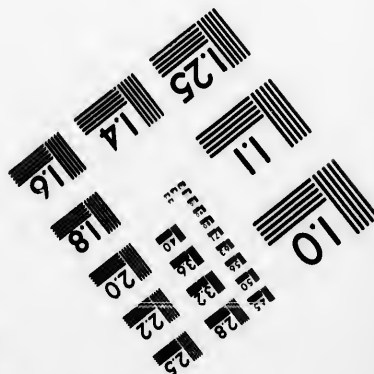
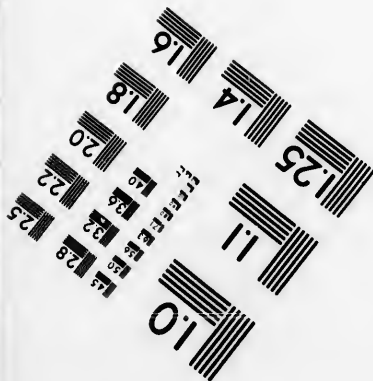
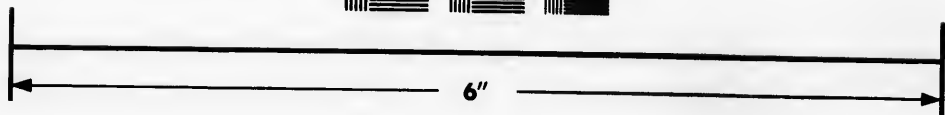
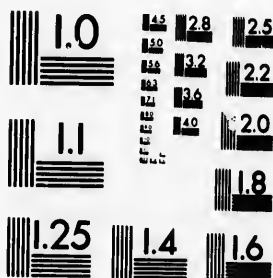
whether lunar or calendar is not explained. This discrepancy will appear the more unsatisfactory when it is recollected that eleven calendar months want but two days of twelve lunar months. By various investigations made in France it has been established that the term of eleven calendar months was often exceeded by several weeks; and sometimes, though less frequently, parturition took place within that period. Some breeders entertain an opinion that old brood mares carry the foal considerably longer than young ones; but no satisfactory evidence is offered by them in support of this opinion.

The indications of approaching parturition are enlargement of external parts of generation, and a gummy exudation from the orifice of the teats. Birth generally takes place within twenty-four hours after the appearance of the latter symptom;





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but the first acts as a warning by preceding it for several days. It is but seldom that the mare requires manual assistance at the time of foaling, which generally takes place without difficulty or danger in the night. The mare, unlike the generality of quadrupeds, foals standing. She rarely produces twins, and when double births do occur the offspring almost invariably die.

As a great facility of motion appears to have been designed by nature in the formation of the horse, many physical peculiarities contribute to insure that end. A bulky pendulous udder, like that possessed by some of the *ruminantia*, would be incompatible with that quality. The *mamma*, therefore, is small, and furnished with only two teats, which supply milk of a highly nutritious character, and possessing a larger quantity of saccharine matter than any other animal is known to possess.

The disproportionate length of the foal's legs, which is so strikingly apparent, when compared with those of the adult animal, is thought by some naturalists to be provided by prescient nature to enable the young animal to keep pace with its dam during flight from menacing danger. Linnaeus attempted to ascertain the future height of the colt by admeasurement of its legs; but so much is found to depend upon the quantity and character of the nutriment with which it is provided during the period of its growth, that little reliance can be placed upon early experiments of this kind. The historian, the warrior, and the horseman Xenophon, has long since alluded to the same subject in his treatise upon horsemanship. "I may now explain," said he, "how a man may run the least risk of being deceived when conjecturing the future height of a horse. The young horse

which, when foaled, has the shank bone the longest, invariably turns out the largest. For, as time advances, the shank bones of all quadrupeds increase but little; but that the rest of the body may be symmetrical, it increases in proportion."

Puberty commences in both sexes as early as the second year, but all the structures continue to be gradually developed until the end of the fifth year, by which time the changes in the teeth are perfected, and the muscles have acquired a growth and tone which give to the form the distinctives of adolescence. It is during the term which elapses between the period of adult age and that of confirmed virility, that a further progressive change takes place in the animal economy; the powers of the whole frame continue to acquire strength, and although there is no further increase in height, the

parietes of the large cavities and the muscles of voluntary motion assume a finished and rotund appearance, and render the animal more capable of enduring continued privation and exertion; the vital endurance and resistance being greater than during the period of adolescence. The fire and expression of the head, the spirit, character and disposition, become also more marked towards the termination of this epoch.

The natural period of the decay of the vital powers, senility and mature death, may be conjectured to be about thirty years; but few horses, owing to our barbarous treatment, attain that term.

The walk, the trot and the gallop, are the usual well-known natural paces of the horse; but the fact of some individuals contracting the pace called amble (which is neither racking nor pacing) without previous tuition, has induced many writers

to regard that also as a natural method of progression.

In England and other northern countries, on the approach of mild weather, the horse, by a natural process, analogous to moulting in birds, divests himself of his winter's clothing of long hair, and produces one of a shorter and cooler texture; and again before the recurrence of cold weather, re-assumes his warm and lengthened coat to protect himself from the inclemency of the approaching season. The autumnal change is not by any means so general as that which takes place at the commencement of spring; in America, however, at least in the northern parts, this change is invariable. The hair is not so completely changed; only a portion of it is thrown off, and that which remains, with that which springs up, grows long and is adapted to the temperature of the atmosphere. The al-

ternate changes are not so well marked in countries possessing an even temperature, nor even are they so plainly seen in horses kept in the warm atmosphere of a close stable all the year round. When the shedding of the coat commences, the bulbs of the old hair become pale, and by the side of each a small black globular body is formed, which is soon developed into the new hair. Thus the matrix of the new hair is not the old bulb, but it is based in another productive follicle. The long hair of the mane, tail and fetlocks, is not shed at definite periods with that of the body but is replaced by a shorter and more uniform process. The hair of the mane and tail will, if protected, grow to an almost incredible length.

The property of changing the color of the hair with the season, possessed by many animals of the Arctic region, adapting them to the temperature, is manifested

in the horse, although in a much less degree, for it may be seen that when constantly exposed to the elements, the long winter coat assumes a much lighter hue than that of its predecessor.

The horse, in common with many other animals, is provided with a thin subcuticular muscle, covering the shoulders, flanks and sides, whose use is to corrugate the skin, shake off the flies and dislodge other annoying substances.

The sense of smell is so delicately acute in the horse that perhaps he is not exceeded in this function by any other animal. The nose is provided with a very extensive surface for the distribution of the olfactory nerve by the curious foldings of the turbinated bones. It is principally by means of this faculty that he is enabled to distinguish the qualities of the plants upon which he feeds, and to reject such as are of a noxious or poison-

ous description. "Nature," said Linnaeus, "teaches the brute creation to distinguish without a preceptor, the useful from the hurtful, while man is left to his own inquiries. On putting the fingers into the nostrils, at the upper and outward parts, they pass into blind pouches of considerable dimensions. These curious cavities have nothing to do with smelling, because they are lined with a reflection of common integument, but they may possibly be of use in mechanically distending the external entrance of the nostrils, and thus materially facilitate respiration during violent exertion. They are also brought into use when the animal neighs; and the Hungarian soldiery slits them up to preclude the possibility of being discovered to the enemy by the exercise of this habit. It is worthy of remark in this connection that the preference of Arabs for the mare to the

horse, for warlike purposes, is attributable to the fact that they do not neigh when they scent the vicinity of other horses, as stallions invariably do—the Arabs never attacking save by surprise. Those nations which fight by open force have no such preferences, but mainly use the stallion. On the lower part of the nostril, towards the outer edge, may be seen the mouth of a small tube, which conveys the tears from the inner canthus, or corner of the eye. It opens on the skin just before it joins the lining membrane of the nose. This little cavity has often been mistaken, by unqualified persons, for an ulcer common in glanderous affections, and the poor animal has frequently fallen a victim to the error.

Their eyes are large in proportion to those of some other quadrupeds, and the pupiliar opening is of an oblate elliptic form, with its long axis parallel to the

horizon, thus increasing the lateral field of vision. Round the edges of the pupil is a curious fringe of deep, plum-colored eminences, supposed to be serviceable in absorbing the superabundant rays of light which may be transmitted to the eye. The horse's sight is excellent, and although not regarded as a nocturnal animal, he can distinguish objects at night with great felicity. There are but few horsemen who have not benefited by this power when the shades of night have fallen around them.

The ears are comparatively small, but the couch is endowed with extensive motion, so as to catch the sound coming from any quarter. Their hearing is quick, and, although blindness is so distinctly prevalent among horses, deafness is exceedingly uncommon. During sleep one ear is usually directed forward and the other backward; when on a march at

night in company, it has been noticed "that those in front direct their ears forward, those in the rear backward, and those in the rear laterally, or across; the whole troop seeming thus to be actuated by one feeling, which watches the general safety." In contests of speed the ears are generally laid backward, so as to afford no opposition to the rapid progress of the animal. It must be evident that if the concave surface of these organs be presented forward they would gather the wind and slightly impede progression. Another reason assigned for this deflection is that the animal may avoid the inconvenience, if not pain, which the current of air produced by this velocity would inflict on that delicate organ.

The different vocal articulations to which the horse gives utterance, are collectively termed neighing; but some variety of intonation may be discovered

in the expression of its passions; as, for instance, a cry of joy or recognition differs in a marked manner from that of desire; and anger from playfulness. The females do not neigh so frequently nor with so much force as the males. Castration is known to have a modulating effect upon the voice. It is supposed that neighing is produced by the vibration of two small triangular membranes found at the extremity of the Glottis. In the ass and mule the structure is wanting; but they are supplied with a more singular apparatus. Hollowed out of the thyroid cartilages is a small concavity, over which is stretched a membrane similar to the parchment on the head of a drum. When air is forced behind this substance a very considerable noise is produced, though from the absence of muscularity the vibrations are without modulation, and consequently dissonant.

The intellectual character of the horse is scarcely excelled by that of any other quadruped. His perceptions are remarkably clear and his memory excellent. Attachment to those who attend him with kindness, forms a prominent trait in his character. The feats which he is often taught to perform, evince a high intellectual capacity. Travellers in the desert assure us that horses possess the faculty of directing their course to the nearest water when hard pressed for that necessary article.

Horses swim with the greatest felicity, and the distances they have been known to perform in the water exceed our expectation. A horse that was wrecked off the coast of South America swam seven miles, thus saving his life.

There exist some important differences in the animal economy of the equine family and that of other herbivorous

animals, which, as the inferences from them are of some consequence, it is necessary briefly to notice. The horse naturally requires but little sleep, and even that it often takes standing. In a state of nature, when fodder is short, to support itself properly, it is compelled to graze twenty hours out of the twenty-four. Ruminating animals eat with greater rapidity, and lie down to chew the cud. The horse eats no faster than it digests. Digestion in the former is interrupted, in the latter continuous. This explains why the horse has no gall-bladder, as it requires no reservoir for that necessary fluid; for, as fast as the bile is secreted by the liver, it is carried to the intestines to perform its important action on chymous mass. The stomach of the horse is also remarkably small and simple, differing widely from the capacious and complicated structures of the *rumin-*

antia; but the intestines are long, and the *cacum* capable of containing a large quantity of fluid, of which it is considered the receptacle. The *mamma* of the mare is by no means so pendulous and bulky as that of the cow. The horse's feet, from their compact, undivided nature, are much less liable to injury during fleet exertions than those of the ox. All these circumstances tend to establish the individuality of the horse, and are so many proofs of admirable design for the purposes to which man has applied him; for without these peculiarities he would not be so valuable and superior, as a beast of continued and rapid motion, and would consequently occupy a very inferior station.

Linnaeus asserted that the male horse was without the rudimentary *mamma* invariably found in males of other animals; but this naturalist was mistaken, for they may be seen on each side of the sheath.

and, although of no possible use, still their existence preserves the uniformity of nature's operations.

The horse and the zebra possess horny callosities on the inside of the fore legs above the knees, and on the hocks of the hind legs; the ass and the quagga have them only on the fore extremities.

In a state of nature the horse is purely a herbivorous animal, but under the restraint which due mastication imposes, his habits become changed, and grain and dry grasses form the principal article of his diet. Domestication is known to originate many diseases totally unknown in a natural state, but it appears to have the effect of augmenting the muscular power of the animal far beyond its uncultivated state.

It may be remarked, in addition to what has been previously said as to the limit of life allotted to the horse, that

there is some difficulty in estimating the average length of his life, since many obstacles oppose an enquiry on a scale of sufficient magnitude to be satisfactory. The numerous evils entailed on him by the arduous labours and the restricted and unnatural habits of a domesticated state tend greatly to abbreviate life. From these and other reasons it cannot be much doubted that his age is greatly underrated. Horses are most erroneously termed aged on the obliteration of the mark from the lower incisor teeth, which occurs by the completion of the eighth year; and though it is far from being the natural term of age and debility, or even of the decline of the vital energies, it too frequently happens that by that time bodily infirmities have been prematurely induced by over-exertion of their powers. Horses at twenty years of age are often met with in cases where the least human-

ity has been bestowed on their management. Eclipse died at the age of twenty-five; Flying Childers at twenty-six; Brom's mare, Maggie, reached more than twenty-nine years. Bucephales, the celebrated horse of Alexander of Macedon, lived till thirty. The natural age is probably between twenty-five and thirty. A faint and uncertain guide is found in the register of the ages of the most celebrated racing stallions, recollecting, however, that several of them were destroyed on becoming useless for the purposes of the turf. The united ages of ninety-three of these horses amounted to two thousand and five years; or rather more than twenty-one and a half years to each horse.

As a matter of civil economy it is important to judge correctly of the age of the horse. This is chiefly accomplished by observing the natural changes which

occur in his teeth, the periods at which they appear, are shed and replaced, and the alterations in their form and markings.

The teeth of some animals offer some criterion by which their age can be estimated with more or less accuracy. The teeth are nearly the sole indices of the age of the horse, ass, elephant, camel, dog, and the polled varieties of the ox and sheep; while in other domesticated animals, as the elk, deer, goat, common ox and sheep, the horns also present legible indications of the progress of time.

Reference to the teeth to ascertain the age of a horse is not by any means of recent origin. Xenophon, in his work on horsemanship, from which we have already quoted, alludes to it as an established custom used in the selection of cavalry for the Grecian armies; he pro-

perly advised the rejection of such horses as have lost their dental mark. The same facts are subsequently noticed by Varro, Columelia, Vegetius and other Roman writers.

The horse, when fully mouthed, possesses forty teeth—twenty in each jaw. They are named from their use, position and character. Those in the front of the mouth, whose office is to gather food when grazing, are termed *incisors*, or more properly *nippers*. They are twelve in number; six above and six below. They do not overlap each other as is the case in man, but meet in a broad tubular surface. From these teeth the age of the animal is principally deduced. For the sake of description they are usually ranged in pairs, as they appear; and the first pair is called the *central*, the second the *dividers*, and the third the *corner nippers*. The *tushes*, or *canines*, come next,

one above and one below on each side. They are of a pointed form, and are convex on the outer sides, and slightly concaved on the inner surface. They scarcely ever appear above the gums in mares, although their rudiments may be discovered on dissection imbedded in the maxillary bones. They are consequently regarded as sexual distinctions. It is difficult to assign their use; their position precludes the possibility of their being used as weapons of offence or defence. They may be viewed as a link of uniformity so commonly traced in the animal world. The *grinders* or molars are twenty-four in number. They are teeth of great power. By them the food is crushed or ground into small particles and prepared for the digestive action of the stomach. In order to fit them for this office they possess additional interlayers of enamel, which prevent their too rapid wear.

In common with most animals the horse is provided with two sets of teeth; those appearing first are known as the temporary deciduous or milk teeth, and are succeeded by the permanent set. On comparing the different magnitudes of the jaw-bones of the colt and the adult horse, the necessity of such a change is at once apparent. By it the teeth are adapted to the maxillary bones. The teeth, from their peculiar character and mode of growth, do not admit of any material increase of dimension; and nature was therefore forced either to place the large permanent teeth in small and disproportionate jaw-bones, or to adopt the size of teeth by displacement to the growth of the bones that contained them. The latter process is adopted, and constitutes one of those remarkable evidences of creative power with which the living frame is replete.

Three substances enter into the structure of the teeth; first, the enamel; secondly, the dental bone or ivory; and thirdly, a cortical envelope surrounding the fang. The enamel differs but little in chemical constitution from the bony body of the teeth, and that principally results from the absence of animal matter in it. It appears closely analogous to the univalve procellaneous shells, and is the hardest and most indestructible substance of the body. The dental bone is distinctly tubular in structure, these tubuli taking a perpendicular direction, being exceedingly small, but capable of absorbing ink by capillary attraction. No such tubuli have been traced in the enamel. The teeth, both incisors and grinders, are being constantly worn away at the crown; but the loss is supplied by the gradual, continuous and equivalent growth from the root. The horse's teeth are sometimes, but not

frequently, subject to disease. It is seldom that any of them are lost from age, as is the case with man and most other animals.

It has been remarked that the constitution of horses and men may be considered as in an equal degree of perfection and capability of exertion, of debility and decay, according as youth or age preponderates. Thus, the first five years of a horse may be considered as equivalent to the first twenty in man; or thus, that a horse five years old may be comparatively considered as a man of twenty; a horse of ten years a man of forty; a horse of fifteen, as a man of fifty; a horse of twenty as a man of sixty; of twenty-five as a man of seventy; of thirty, as a man of eighty; of thirty-five, as a man of ninety. So far from this comparison being in favour of the horse, it may rather be regarded as too little. Horses of thirty-five years of age

are as common as men of ninety, provided it be taken into account that there are twenty human subjects for every horse; and unquestionably a horse of forty-five is less rare than a man of one hundred and ten.

To this it may be added that the early English racers appear to have been more addicted to longevity than those of modern days, and the American horse generally than the English, probably because, in the former case, the horse was not put to hard work until his powers were developed by an advance toward maturity. Two and three year old training was unknown until a recent date; and in the latter case in America horses are little used in harness, or for general work, until they have attained to five or six years.

WARRANTY.

In the purchase of a horse the buyer should take with the receipt what is termed in law a warranty. The best means of expressing it is in this form:

St. Thomas, August 1, 18—.

Received of William Inglis, three hundred dollars, for a black mare, warranted only five years old, sound, free from vice, and quiet to ride and drive.

\$300.

Edward Riddle.

A receipt which includes simply the word "warranted," extends merely to soundness. "Warranted sound," has no greater extent; the age, freedom from vice, and quietness to ride and drive,

should all be especially named. This warranty embraces every cause of unsoundness that can be detected, or that is inherent in the constitution of the animal at the time of sale, as well as every vicious habit which he has previously shown. In order to establish a breach of the warranty and then be enabled to return the horse or recover the price paid, the purchaser must prove that it was unsound or viciously disposed at the time of sale. In case of cough the horse must have been heard to cough previously to the purchase, or as it was led home, or as soon as he had entered the stable of the purchaser. Coughing even on the following morning will not be sufficient; for it is possible that he might have caught cold by a change of stabling. If he is lame it must be proved to arise from a cause that could not have occurred after he was in the purchaser's possession. No price will imply

a warranty, or be deemed equivalent to one, the warranty must be expressly stated.

A fraud in the seller must be proved, in order that the buyer may be enabled to return the horse or maintain an action for the price. A warranty should be given at the time of sale. A warranty or a promise to warrant the horse given at any period previous to the sale, is of no effect; for the horse is a very perishable commodity, and his constitution and his usefulness may undergo a considerable change in a few days. A warranty after the sale is also of no effect, as it is given without any legal consideration. In order to complete the purchase there must be a transfer of the animal, or a written memorandum of agreement, or the payment of some sum, however small, as earnest money. No verbal promise to buy or sell is binding without one of these accompaniments;

and the moment either is effected the legal transfer of the property, or its delivery, is made, and whatever may happen to the horse the seller retains, or is entitled to the money. If the purchaser exercises any act of ownership—as by using the animal without leave of the seller, or by having any operation performed upon him, or medicines given to him—he makes him his own.

If the horse should afterwards be discovered to have been unsound at the time of warranty and sale, the buyer may return him. Although not legally compelled to give notice to the seller of the discovered unsoundness, it is best that such notice should be given. The animal should then be tendered at the house or stable of the seller. If he refuses to receive the animal, humanity dictates that he should be sent to a livery stable in preference to

tying him up in the street; an action can be maintained, after the horse has been tendered, for the necessary expenses of keeping him, as well as for the price paid. The keep, however, can be recovered only for the time that necessarily intervened between the tender and the determination of the action. It is not legally necessary to return the animal as soon as the unsoundness is discovered. The animal may be kept for a reasonable time afterward, and even proper medical means may be resorted to for the removal of the unsoundness, but courtesy, and indeed justice, will require that the notice should be given as soon as possible. Although it is laid down, upon the authority of an eminent English judge, that "no length of time, elapsed after the sale, will alter the nature of a contract originally false," yet there are recorded cases in which the buyer was prevented from maintaining his

action, because he did not give notice of the unsoundness within a reasonable time after its discovery. What will constitute a reasonable time depends upon many circumstances. It was formally supposed that the buyer had no right to have the horse medically treated, and that he would vitiate the warranty by so doing. The question, however, in such a case would be whether the animal was injured, or his value lessened by such treatment. It may be remarked that it is generally most prudent to refrain from all medical treatment, since the means adopted, no matter how skilfully used, may have an unfortunate effect, or what is done may be misrepresented by ignorant or interested observers.

When a horse is returned and an action brought for the price, it is indispensable that in every respect except the alleged

unsoundness the animal should be as perfect and valuable as when sold.

The purchaser may, possibly, like the horse, notwithstanding the discovered defect; in which case he may retain him and bring an action for the depreciation in value on account of the unsoundness. Few, however, will do this, because the retaining of the animal will give rise to a suspicion that the defect is of no great consequence, and consequently will occasion much cavil about the amount of damages; the suit terminating, probably, in the recovery of slight, if any, damages.

When there is no warranty an action may be brought on the ground of fraud, but as this is very difficult to be maintained, few people will hazard it. It will, in such a case, be necessary to prove that the seller knew the defect, and that the

buyer was imposed upon by his false representations; and that, too, under circumstances in which a person of ordinary carefulness and circumspection might have been imposed upon. If the defect was palpably evident, the purchaser has no remedy, for he should have exercised more caution; but if a warranty was given it covers every unsoundness, evident or concealed. Although a person should ignorantly or carelessly buy a blind horse, warranted sound, he may return it—the warranty is his protection, and prevents him from examining the horse as closely as he otherwise would have done; but if he buys a blind horse, supposing him to be sound, and without a warranty, he is without any remedy. The law supposes every one to exercise common circumspection and common sense.

A person should have a more thorough knowledge of horses than most possess, together with perfect confidence in the seller who ventures to buy a horse without a warranty. If a person buys a horse and warranted sound, and discovers no defect in him, sells him again, relying upon his warranty, and the unsoundness is discovered by the second purchaser and the horse returned to the first buyer, or an action commenced against him, the latter has his claim upon the first seller, and may demand of him not only the price of the horse, or the difference in value, but all expenses which may necessarily have been incurred.

Exchanges, whether of one horse absolutely for another, or where a sum of money is paid in addition by one of the parties, stand upon precisely the same

ground as simple sales. If there is a warranty upon either side, and that is broken, the exchange is violated; if there is no warranty, deceit must be proved.



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