HORSE EDUCATION.

T. J. MURRAY.

THOS. J. MURRAY.

HORSE EDUCATION:

A TREATISE

ON THE ORIGIN, CHARACTERISTICS, AND TRAINING

OF

HORSES;

WITH PRESCRIPTIONS FOR ORDINARY DISEASES,

ALSO

A SPECIAL DISCUSSION OF THE TRAINING OF

TROTTERS;

WITH AN APPENDIX GIVEN TO THE

Training of Dogs for the Field,

AND THE SELECTION AND CARE OF COWS,

BY

THOMAS J. MURRAY.

SECOND EDITION.

AURORA, ILL.:
PRESS OF BUNNELL & WARD.
1890.

Horse Education.

THE AUTHOR MAKES HIS BOW.

Books upon the horse abound, many of them apparently written on horseback. They are of two classes. One is learned, elaborate and expensive; usually written in technical language, above the range of the people needing the information. The other is prepared by men of little scientific knowledge of the horse, or of anything else. The object is to bring out some pet theory, or to champion a medicine, or to sell a book full of talks given first in the street and afterwards "published at the request of friends." The first class has to much learning to be of practical use, and the second, too little.

The people who most need a book on horsemanship are the men who raise two or three colts a year, and who ought to do the "breaking" at home; or men who keep a few horses for their own use. These two classes comprise the bulk of the horse-owners of this country, and I have written chiefly for them. I have shown them, I think, how to give to their horse advanced values by increasing their capabilities and serviceableness and by prolonging their life.

After twenty-five years' work in training over three thousand colts, and in treating more than four hundred vicious horses, my experience has given me confidence in my method. I think my statements are true, clear and strong, and are given without pedantry or parade. The first edition was so favorably received, and so promptly disposed of as to warrant plans for issuing the book on a larger and finer plan.

A FAIR TEST OF MY METHODS.

BREAKING UP ANY VICIOUS BEAST.

Until I rescind this notice in the Chicago *Horseman*, I will continue to go, on call, to any place within 500 miles of Chicago and cure, free of charge, any horse of any vicious habit, on the following conditions:

The horse must have his five senses and must be of sound horse mind; the breaking up of the vicious habit in question must have been tried and given up by the local trainers; I must be entertained free of charge, while it is necessary for me to remain; no charge will be made for the cure, but half of my traveling expenses must be paid or guaranteed in advance; the other half I will bear myself; if I fail to cure I will pay all the traveling expenses, both ways. Address the Author,

THOS. J. MURRAY,
SANDWICH, ILLINOIS.

January 1st, 1890.

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Ungovernable—Whirl Rouud and Run the Wrong Way.

SOMONAUK, ILL., Aug. 20, 1888.

I had a stallion in the year 1872, called Somonauk, that was four years old. He had a habit of turning round and starting after any team that he might meet in the road. In this habit he seemed ungovernable. After being in Mr. Murray's care a short time he was returned perfectly docile snd manageable.

H. WRIGHT.

A Stubborn Kicker and Tail-Switcher—Unmanageable.

SANDWICH, ILL., Aug. 20, 1888.

In 1887 I undertook to break a fine mare colt when she was three years old. She proved a stubborn kicker and tail-switcher, so as to be unmanageable by me. After Mr. T. J. Murray had her in training about three weeks she was returned to me a quiet, docile worker, without any bad habits, and so she continues in any kind of work on the farm.

C. P. COY.

He Would go Where he Pleased.

SANDWICH, ILL., Aug. 10, 1888.

Early in 1888 I traded for a three-year-old colt that I supposed was broken, but he was unmanageable in the harness. He would go where he pleased. After he had been in Mr. T. J. Murray's hands about one week he was brought back, fit for the cart or the buggy or any other kind of work. He has never since betrayed any kind of bad habit.

AVERY CONE.

A Hard Kicker in the Harness.

PLANO, ILL., Aug. 20, 1888.

About one year ago I had a three-year-old mare colt of so bad a disposition, and so apt to kick, that for the breaking I took her to Mr. T. J. Murray. From the first she was a hard kicker in the harness and a tail-switcher. After about a month he brought her back as quiet and tractable a farm horse as any in this country. I was so well pleased that I freely paid double the price asked for the training.

ALFRED DARNELL.

Spirited—Unmanageable—Made Perfectly Gentle.

SANDWICH, ILL., Aug. 20, 1888.

I had, in 1883, a spirited mare five years old that had been hitched up once or twice, but she was so wild as to make it very doubtful whether she could be made manageable at all. After she had been in the hands of Mr. T. J. Murray, of this place, she came back perfectly gentle, so that ever since a lady can drive her anywhere. With this one, and with others, I know that Mr. Murray has had great success.

E. A. MANCHESTER.

Could Never be Made to Work.

SANDWICH, ILL., Aug. 10, 1888.

In the year of 1883 Mr. T. J. Murray trained for me a very unpromising three-year-old filly. She was of a mare that could never be made to work, and this was the only one of her progeny that ever submitted to the harness. Mr. Murray returned her to me perfectly docile and tractable, and I sold her soon after for $175, to be used for a buggy horse for family driving. She has always since been a trustworthy worker, double or single.

STEPHEN ROGERS.

A Bad Balker—Useless Unless Cured—Fixed in the Bad Habit.

SANDWICH, ILL., Aug. 8, 1888.

This is to certify that I took to Mr. T. J. Murray a fine black colt, somewhat broken but only to be made, at it seemed, incurably balky. He was well known as a very bad balker and he was utterly worthless unless cured. He was firmly fixed in the bad habit. Mr. Murray kept him about six weeks, after which he worked right along and has never given trouble since. Soon after I got him back I sold him to Mr. Edward Thompson, of Sandwich, for a family horse for $185. He was afterwards sold to Mr. Henry A. Adams, of the Sandwich Manufacturing Company, and used as a fine family horse.

GEORGE MASON.

Col. Winchester's Eight Colts.

SANDWICH, ILL., Aug. 10, 1888.

I have been acquainted with Mr. T. J. Murray's method with colts and vicious horses for twenty-five years, and I was so certain that he would find an animal that was more than a match for him that I have kept an eye on his work. I have put in his training, at various times, eight colts of mine, because I saw that he was the master of his business. Several of them were trotters, and were nervous and hard to manage. Mr. Murray made a complete success with them all.

H. F. WINCHESTER.

Runaway Mustang Mules—Become Well Mannered.

SANDWICH, ILL., Sept. 20, 1888.

I am now driving a pair of mustang mules that were shipped here from Texas. At first they had to be tied and firmly held while being harnessed or hitched to the wagon, and when let go they would shoot away at full speed for three or five miles before they could be reined up. They were driven by several good drivers but they always had their own way. Finally I put them in Mr. Murray's hands, and after he had done the harnessing and driving in his own way, for about two weeks, they became good, quiet, tractable, well-mannered mules.

P. S. FAIRBANKS.

A High Tempered Colt—Trained, and Sold for $1100.

KINGSTON, N. Y., July 30, 1888.

To Whom it may Concern:

In 1883-4, Mr. T. J. Murray, of Sandwich, Illinois, broke and trained for me two high tempered colts. He was very successful with them and they became quiet, steady horses. After about four weeks handling I sold one of them for a family horse, and the other has since been sold for eleven hundred dollars, for a road horse. I cheerfully and very highly commend Mr. Murray's methods of handling horses.

EDWARD T. STELLE.

Formerly of Chicago, now of Kingston, New York.

Unmanageable Stallion—Kicked Furiously in Harness—Escaped from Keeper—a Biting, Kicking Terror.

SANDWICH, ILL., Aug. 14, 1888.

I had a stallion, in the year 1878, that had been raised by my son, that was always unmanageable until he was trained by Mr. T. J. Murray of this place. When he was two years old my boys could do nothing with him. They could not even take him out of the stable. When he was first put in harness he kicked furiously and broke a man's leg When he was three years old he was put in charge of an experienced keeper from whom he escaped and was retaken with difficulty. When Mr. Murray took him he would bite and kick and he was the terror of all who knew him. Mr. Murray had him in hand about three weeks, after which he was perfectly controllable, and he never afterwards gave his keepers any trouble.

ENOCH DARNELL.

SANDWICH, ILL., Sept. 20, 1888.

Mr. T. J. Murray and myself have been neighbors from our boyhood; for many years he has driven his colts in training past my house, and I know his methods well. As the best man for the business, I have put under his management, at various times, six colts, all fine bred, and valuable animals. One was nervous and high tempered, and one was a bad kicker. All of them came out alike; good, quiet, tractable drivers.

H. HENNIS.

Every Coltish Vice—Wild, Nervous and a Natural Kicker.

CHICAGO, Aug. 2, 1888.

To Whom it may Concern:

In 1882 Mr. T. J. Murray, of Sandwich, Illinois, trained a colt for me that had almost every coltish vice, which he inherited. He was wild, nervous and a natural kicker and exceedingly headstrong. He had never been hitched to any vehicle when Mr. Murray took him. He was returned to me, after three months, a good, quiet, safe driver. I drove him single and double about the city and boulevards for a long time with my family.

I consider Mr. Murray an excellent man to break vicious colts and horses and make them quiet and gentle. He is careful and even tempered.

IRUS COY.

OPINIONS OF THE BOOK.

EARLVILLE, ILL., Nov. 18, 1889.

I have read Mr. Thos. J. Murray s Book on the horse with much interest, and am pleased to say that it is clear, to the point, and full of valuable information to any man who owns a horse.

CHAS. M. SMITH.

KINGSTON, N. Y., Nov. 2, 1889.

Having read the book of T. J. Murray, I cheerfully endorse it as a most valuable work, one that every farmer and horse trainer should read and carefully and patiently practice in handling their colts. There would be fewer unruly, unsafe horses if all were broken as he directs.

EDWARD T. STEELE.

PLATTEVILLE, ILL., Nov. 14, 1889.

I cannot commend Mr. Murray's book to highly. It meets the wants of all who have anything to do with breeding or training horses. To any one, old or young, especially to every farmer, it is indispensable as a safe and correct guide. W. S. WEESE.

RIPLEY, N. Y., Nov. 23, 1889.

Mr. Murray's book meets the wants of the farmer and horse-fancier and the trainer of trotters. If the horse is at work on the farm, practicing on the track, or if he is on the sick list, this book is just what his owner needs. The first edition was admirable but it gives way to an enlarged and still more valuable work. JOHN PATTERSON.

ABERDEEN, DAKOTA, Nov. 16, 1889.

I have read Mr. Murray's first edition of his book on horse training with the greatest interest. I know of nothing so instructive on that subject to the practical breeder and trainer of horses. I look for the second edition, with its enlargement and its wider range of topics, as being indispensable to all who own or handle horses.

L. C. CULVER.

HIGHLAND STOCK FARM.
DUBUQUE, IOWA, Aug. 9, 1889.

We like your book well. It contains many things of interest and profit to any owner or breeder of trotters or other good horses.

H. L. & T. D. STOUT.

PENDER, NEBRASKA, Nov. 20, 1889.

It takes lots of patience, perseverence and common sense to be a successful horse trainer, and Mr. Murray is chuck full of these, and so is his book. I have read it with the greatest interest, and so should every man that owns a horse. It would put fresh money in his pocket every year.

EDGAR H. SEAMAN.

SANDWICH, ILL., Jan. 10, 1889.

I have just read Mr. Murray's Horse Trainer with the greatest interest. After some years of raising and training fine horses myself, I hardly expected to learn much, but the book had the charm of a romance, and at the same time it is practical and full of valuable information. No breeder of horses, or even owner, can afford to do without it.

E. P. JAYCOX.

SALE AND LIVERY STABLE.
SANDWICH, ILL., Jan. 12, 1889.

The Horse Trainer by T. J. Murray of this place is admirable as a practical hand book for all who handle horses. The new edition, with new plates and one-half more material, will be everything desirable for the breeder, trainer or owner of horses.

J. J. ELLSWORTH, Liveryman.

SANDWICH, ILL., Jan. 10, 1889.

For near thirty years I have known Mr. Thos. J. Murray's intelligent management of horses. His experience and success in training horses qualify him well as a teacher of his art. The second edition of his book is just what is needed by every farmer and horse-owner in the country.

I. M. ARNOLD.

OFFICE OF SANDWICH MANUFACTURING CO.
SANDWICH, ILL., Dec. 10, 1889.

Mr. Murray's Horse Trainer is full of the most valuable information to every owner of a horse. The new edition, with fine plates and one-half more of pages, will mrke a book indispensable to all trainers and all owners of good horses.

H. A. ADAMS.

PART FIRST.

WHERE LIVED THE FIRST HORSE?

CHAPTER I.

THE ORIGIN OF THE HORSE.

The horse has a respectable standing in the scanty records of pre-historic times. A horse with three toes, and a hoof on each toe, walked about in the hardening clay of the Chalk period, ages and ages ago. The present single-hoofed animal cannot be traced, with any certainty, to the three-toed horse whose fossilized feet are found both in Europe and America. As far as any records in the rocks are yet known, the horse of three separate toes, with a hoof on each one, went suddenly out of existence. The next record reveals a fossil horse that lived in the time of the mastodon, the exact horse of our own times. Our horse has but one hoof, and yet, as if he worked under a royalty from his three-hoofed and extinct ancestor, he has under the skin, just below the ankle joint, a little incipient toe. Who will tell us whether this budding toe is a record of what our horse once possessed or a prediction that he will some day sprout additional toes? One thing is certain, there are skeletons of a fossil horse that seems to be the direct ancestor of our present horse.

Julius Cæsar found in Britain a horse among the natives that was so inferior to the noble animals ridden by his cavalry that the native breed was at once improved by crossing. The Romans also carried their fine horses into Spain, where the mixed blood, under the fine climate, gained rather than lost. When William of Normandy entered England, in 1066, his splendid horse was of Spanish blood. The Moors also carried into Spain the showy Barbs, and this upon the old Roman stock made the best civil and military horse of Europe. The Turkish horse is directly related to the Arabian. The Germans and French have selected the best bloods of all the old countries, and for military work they are second only to the English. England surpasses Arabia in the quickness, speed and endurance of her horses. The Persian horse is a son of Arabia, with finer form, but he is less fleet. This horse came to England in the time of Elizabeth. James I., and Charles I. and II., all patrons of the turf, imported horses from Arabia, Turkey and Morocco. From so many fountains have come the beauty and power of the British horse.

It is a little remarkable, that while the later geological formations of both the Americas abound with the fossil bones of the true modern horse, yet there did not exist on this continent a living horse when America was discovered, in 1492. The mustang of Mexico, the wild horse of South America and that of Australia, can all be traced to European introduction.

There are also found in Europe bones and rude but graphic outlines, carved on antlers and on stones, which depict a smaller horse than ours, of heavy build,

with large head and shaggy mane and tail, much resembling the wild horse of southern Russia. It is not likely that the present horse of Europe has come from a native European ancestry. It is more likely that Asia, which was the cradle of the human race, preserved the horse in his beauty and usefulness from the earliest times. The war horse described by Job, who wrote before the days of Abraham, was quite the equal of Rienzi, the charger ridden by Sheridan at Winchester. The light of civilization, which never was withdrawn from all parts of the earth at the same time, has always revealed the horse as we know him, toiling in the service of man. He probably entered Europe through Greece. He has been a powerful factor in every form of advanced civilization in all times, in both peace and war. It is due to climate and intelligent selection that in the varieties of horse there are such marked peculiarities as make the differences between the Shetland pony, the modern trotter, and the London dray-horse.

The handsomest horse in the world is the Arabian. No other is so nearly perfect. There is no fine family of horses now living but that is tinged with Arabian blood. The Arabian horse at home is scantily fed and is unstabled, except as he shares the same roof with the family, but his royal blood contributes beauty or speed to every race track of Europe and America. It is now nearly three hundred years since the improvement of the horse became almost a craze in Europe, especially in England. Nobility and royalty became rivals on the turf and in the importation of foreign blood. Three centuries ago, Barbs,

Persians and Arabs were candidates for the world's favor. They all left the contest defeated but their coveted honors crowned their descendants of mixed blood. Two hundred years ago there were the Darley Arabian and the Childers; one hundred years ago the Messenger; and nearly half a century ago was Rysdyk's Hambletonian. Each of these renowned horses formed an era in the history of the horse kind, and now their descendants can be found in every civilized land, surpassing their famous ancestry in both form and speed.

CHAPTER II.

THE EDUCATION OF THE HORSE.

In some countries, to this day, the people do not believe in educating boys. Instinct and painful experience they think will give them all the learning that boys need. In like manner many people who educate their children do not believe in the education of colts. If the colt is taught anything at all it is at the rough hands of the hired man. The horse is not allowed any credit for horse intelligence, for judgment, or sensitiveness, or gratitude; and it is an accident if he is not made balky, vicious or a regular runaway; or else lazy, stupid and uneven in temper and gait.

Not every boy will repay the expense of a fine education; it may only serve to put a label on his incompetency. He may belong to a race of giant minds among whom a dunce is as rare as a cyclone, but you cannot cipher up his good points with a tape measure. His speed and endurance, his strength and docility cannot be gauged till after expensive and toilsome years on the race courses of life. But the colt does not finish his first year till it is legible all over him, to any one who can read the colt language, exactly in what kind of work for man he can excel and to what school he had better be sent. Some fine colts are equal to only the common school of the plow-horse; others will do credit to the academy for horses and will shine as the general utility horse—useful, gay and

dashing, anywhere. The horse college turns out the trained and intelligent graduate that can do more sharp things than his governor can; he will understand a tone or look, or whatever his master says to him; he can play tricks on his groom and escape work when he wants to rest. The university horse begins with fine blood. His form and style are not made, but born; his lineage links him to such kings of his kind as were carried by the Queen of Sheba to King Solomon. He would pass on five points of examination: he is of purest blood, of large and lustrous eye, of thin and sensitive nostrils, of faultless form and unconquerable spirit; and of a capability of learning that has been sharpened by ages of refining cultivation. There is no mistaking him. He prances before the imperial carriage, or bears the commander-in-chief among bursting shells and whizzing balls; or he is degraded to draw a beer wagon; but his bearing is so noble, his inherited gentility so evident, as to say, "My education was worthy of my birth and I deserve honor of all who know a well-bred horse when they see him."

The art of the horse trainer seeks to make the most of the raw material offered him. No one can say that the limit of the improvability of the horse has been reached. The education of a horse in the cavalry line of service is not at all undertaken as an object, but the horse comes to know his duty and to know the meaning of military music, so that without a rider he will form in line, or make a charge. Professor Bartholomew's twenty-one performing horses obey five hundred different commands, comprising two thousand different words. The colt is not often left at

school long enough to be educated to the top of his capability. Much depends upon the way his owner puts him through his paces for the next year or two after leaving school.

CHAPTER III.

A WORD TO OWNERS OF COLTS.

Keep on good terms with your colt; he will feed better; he will have a better character. Do not make him live at the end of a long lash, nor as far away as you can throw a club. Let him increase the number of his human friends as rapidly as possible and attach himself to them so that he will leave his animal associates to go to them. Do not send a colt to school or to work when he is under the weather. How would it do to take a man out of the hospital and put him on the road? A little care and quiet rest may save a horse's life and also a veterinarian's bill. Do not wait for him to talk; you can learn that he is sick as easily as he can that you are out of temper.

Many a colt is timid by inheritance. It is not a fault, but a misfortune, and it should not be whipped out but treated out. It is not in his will but in his over-delicate nerves. You will lose time by becoming angry with him. Anger teaches nothing good to anybody. Suppress your angry tones and cruel strokes. Do not send his hot blood from his heart to his head to deluge his sensitive brain, driving him to frenzy, or blinding him with fear. First make him understand what you want him to do. Kind words and caressing touches will improve both his mind and temper. You will never fail in this way unless you delay the beginning too long.

When he tells you that he is afraid of the harness, or of a covered carriage, or an upturned load of hay, depend upon it this is not an affectation; it is a serious business with him. Flogging will not remove it. We propose to show you a way to convince him that he is mistaken as to the danger. Unless his mind can be changed from his aversions he will always be an uncertain, if not a dangerous horse. His old fear, uncorrected, may seize him any time. Convince him that he was wrong and then you have him.

A colt is always more valuable for not needing to be broken. When he is old enough to set up in business for himself he ought to know the horse alphabet well. The halter, the bit, the harness, the words that mean "Come," "Go on," "Stop," "Back," and the feeling of pleasure under the owner's hand, should all be familiar to him from colt-hood up. One whose education is begun so early will be sure to develop a good character. He will never be balky or scary; nor will he be a biter, or kicker, a runaway nor a fence-jumper.

Most of what we call vices in the horse-character originate in his instinct of self-defense, or self-preservation. When he uses his teeth or his heels, or becomes unmanageable from fright, he is resorting to the only means he knows of for defending himself. As soon as he learns that no harm will come to him while his master is obeyed, and that his efforts to take care of himself only injure him, he will reform. The highest art of the trainer is to preserve all the original spirit of the noble animal and to convince him that his owner is his best friend. He will then be a much better

and more valuable horse than that other one that was subdued into a broken-spirited horse after he had become a strong, full-grown colt.

Be gentle with the colt that is not wicked but nervous. Perhaps hard treatment has made him suspicious and timid. Some colts are frightened and will kick even when you give them a dry straw bedding. It means that in the process they have sometime been hurt with the pitchfork. Do not think him wicked for he is only nervous, and is on the alert to defend himself. Use the pole described in chapter IV until he understands that no touches about his body, legs or head, will at all hurt him. Take the pole instead of your hands, because the trainer may be hurt by being too near, before the colt has learned his lesson. If he is afraid of the harness, or of handling in any way, the pole will the most certainly and most speedily quiet his nerves, and teach him he is in no danger.

Training a colt is done more easily at the age of two years, than it is ever done afterward. At that age the colt has not learned many bad habits; he is not headstrong; he is tractable; will more readily give up. Even if the owner does not need the work of the two-year-old, it is better to give him his lessons and once in a while give him exercise in the harness for the next year or two, and he will be a better horse for it as long as he lives. No need then of surcingle and ropes, or of pulling him to his knees. If the owner raises but two or three colts a year they can be kept as tame and gentle as old horses, from colt-hood up.

PART SECOND.

PRACTICAL HORSE TRAINING.

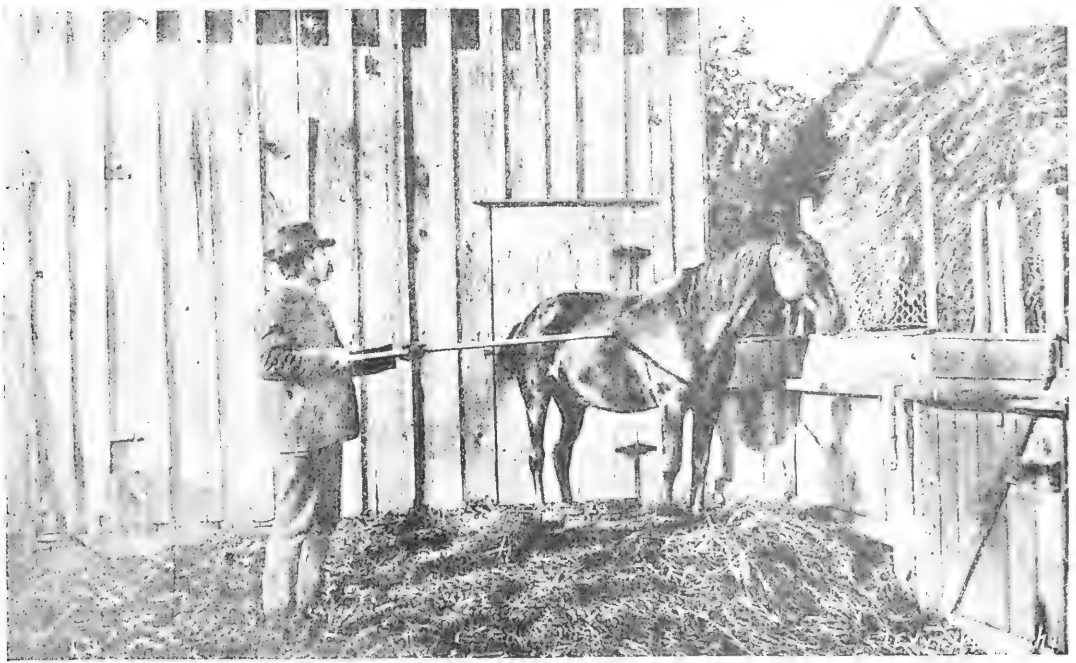
CHAPTER IV.

HOW TO HALTER AND LEAD A COLT.

It is an easy matter to halter and lead a colt that has been properly taken care of all his life. He will give no trouble in haltering and leading. He will never be wild nor unmanageable, and all the otherwise preliminary work of quieting him will be already done. He will be the better horse all his life for having been properly brought up. In the work of subjecting him to the bit and harness, the owner of the gentle and docile animal can pass by all that is said here of the wild native. If his owner has always given him proper care, no need to call in the neighbors nor the professional horse trainer. One of the boys can do all the harnessing and first driving himself. The colt will readily yield to every step of the process of training. But if he has always run out, without care, as most colts do, the violence with which he must be brought to terms may be attended with danger to him, and it certainly will demand a good deal of careful work. If he is wild as a deer he may meet with some misfortune, as a fall or a choking, that may severely injure him.

If the colt must be treated like a young horse from the plains, first drive him or coax him into a box stall, a paddock, or a small enclosure, being sure that he cannot escape, or hurt himself by getting under or over the sides. Procure a blunt pole, eight or ten feet long, and begin by touching him slightly, anywhere about his body, his neck and head, until he becomes quite used to it. At first he may appear shy, or even become excited, but by keeping at him and not hurting nor needlessly alarming him, you will soon be able to lay your hand on his neck and head. The great fear a colt has is the touch of a man's hand; but the most sensitive will, with the use of the pole, become quiet and will allow the touch of the hand upon the body or on the head or neck.

If he is vicious and inclines to kick, use the pole vigorously at the flanks, and, when he grows quiet, walk up to him and pat him on the neck and head, speaking kindly to him until he understands that he is not going to be hurt. Then proceed by taking the Eclipse halter in the left hand, letting the colt smell of it, and placing it against him and over him, till it does not disturb him. Then buckle the strap gently about his neck and slip the rope over his nose. This style of halter has great advantages over the old style war-bridle, as it prevents the tearing of the animal's mouth. Sometimes a horse never recovers from the effects of the misuse of his mouth by a mouth-halter of the old style. The first lessons given to the colt should be planned so that he is spared all needless cruelty. I reject all theories of horse-training whose first principle is to break the spirit of the colt by violent methods.



No. 1.—Catching and Haltering a Colt in Box Stall.

No. 2.—Teaching a Colt to Lead.

The colt being haltered, the next step is to teach him to lead. Always keep your colt as good natured as possible and do not allow him to grow sullen. Step away from the colt eight or ten feet; not directly in front of him but at a right angle from him, opposite his shoulder. Never try to lead him ahead till he understands the side pulls. Give him now a slight pull on the rope, saying, "Come here," and then allow the rope to fall slack. If he turns his head towards you pat him on the neck and talk kindly to him, but if he draws back or turns away, give a vigorous jerk on the rope. Keep at him on one side until he comes to you, and then try him on the other side. In fifteen or twenty minutes he will follow you about.

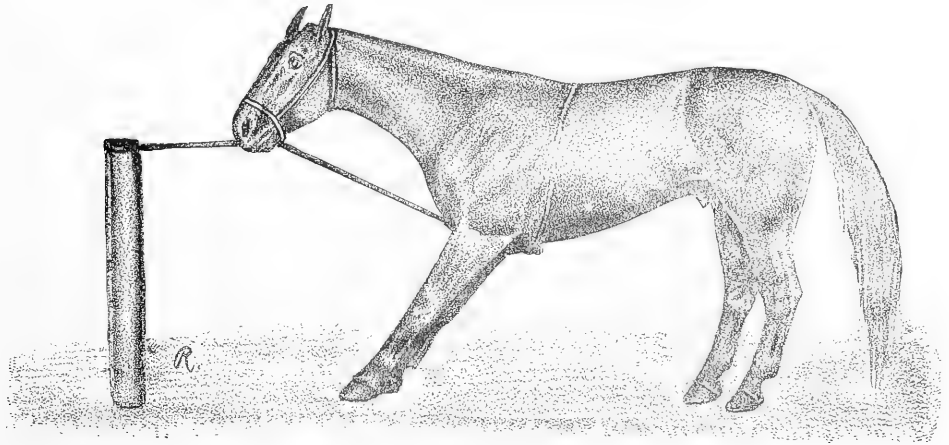
CHAPTER V.

HOW TO HITCH THE COLT IN THE BARN.

Now that the colt has been reduced to the dominion of the halter, he may be taken into the stable and hitched in such a way as to prevent his ever becoming a halter-breaker. Take a three-quarter inch rope, about twenty feet long, and tie one end around his body just back of his shoulders. Do not tie the rope so that it can slip, but use a square knot, as the slip knot may prove damaging to a hard puller. Pass the other end of the rope between his front legs, through the chin piece of his halter, and tie to the manger. In using this rope a five-ringed halter must be used, instead of the first one put on.

Now that you have him securely fastened, shake something in front of his eyes, or in some way induce him to make the experiment of pulling back. A horse in pulling back, throws his head high in the air. That is prevented with this contrivance, as it keeps his head on the level with his shoulders and the manger, so that he has no brace for a strong pull.

A halter puller, or a bridle breaker, hitched in this way, will soon give up the habit. When pulling on the halter is corrected by making him draw on a rope placed under his tail, he is liable to injury and he may be disfigured, and it may make him sensitive for the rest of his life about the use of the crupper. Our method prevents a horse from shaking his head while



No. 3.—To Prevent the Colt from Breaking the Halter.

pulling, and by it, he cannot bruise his head or injure his eyes. This is the safest and best way of hitching colts and halter breakers, and from long experience I strongly recommend it for that purpose.

Now, here, at almost the first step in our work of training a wild colt, I enter my most emphatic protest againt all hitching of colts by the mouth, or by the tail, It is cruel. It is unhorsemanlike. It is liable to work great damage to the colt. It is of no use, for there are better methods. No man can work for me, or with me, who will use that needlessly severe and dangerous method of hitching colts.

CHAPTER VI.

GROOMING AND FEEDING THE SUBDUED COLT.

The time for training the colt should be taken when he is in fine health and spirits. If you select a time for schooling him when he is poor, weak and out of heart, you probably will have it to do over again. The colt, if at all wild, will never, while he lives, meet a harder day's work than that one in which he is haltered, tamed and hitched in the barn. He will need to be as well fed and groomed during the next forty days as though he were breaking prairie sod.

The first object of grooming the tied-up colt is to make friends with him. The manner of it must make it a pleasure to him, and nothing will so rapidly inspire in him affection for his new master as frequently to use the horse-brush on him. It is not so much to clean his coat that you rub him down, though comfort and cleanliness are as good for a colt as for a boy, but it is the best way to work for his good will and to cultivate in him docility of disposition. He must hear your friendly, assuring voice while he feels your soothing, comforting hand. Every gentle touch, each quieting tone, has a value in transforming the wild, sensitive, or even vicious colt into the docile, serviceable horse. Careful grooming has many advantages for any horse: it educates him, makes a friend of him, makes him trustful; it gives not only a polish to his coat, but it calls to the surface a fine oil, which

smooths his coat and prepares him to resist cold if he should be exposed to the rain, and it imparts healthfulness to his skin. A well-groomed horse will be sleek, and fat, and fine spirited on a smaller quantity of feed than the ungroomed.

As to feeding, two or three facts kept in mind will be a sufficient guide to the owner. The change from all hay, or from all grass, to grain, must be gradual. The horse's stomach is the smallest of all stomachs in proportion to the animal's size. Of the grain eaten by the horse, four times its weight of saliva will pass into the stomach with the food. Four quarts of oats, then, with the saliva, will completely fill his stomach. The food of the horse passes out into the intestines in the order in which it is taken; the later-taken hay will push out the earlier-taken grain, and vice versa.

It is to the advantage of the horse, and it is economical, to feed the light food, as hay, first, and at the last to give the grain, so that the most nutritious food will remain the longest in the stomach. Water, given just before feeding, lowers the temperature and dilutes and weakens the digestive fluid. If the water is given very soon after eating it will push out the food before it is well digested. Wheat, corn and rye are too heating for summer feed for a working horse, or for a fast driver. Oats, if coarsely ground, or soaked in tepid water, will give one-fifth more nourishment than if unground or dry. Corn meal and shorts are too rich for feed. A horse digests his food very rapidly, and after his stomach has become empty, which is in four hours after eating, he is weak, and to go on longer causes a great and needless exhaustion.

Better drive faster and feed every five hours regularly, than to drive slowly, keeping the horse hungry and faint. It is economy of food, and better for the horse, to give the feed with regularity. He will do more and better work for it..

Beside these facts so generally known, the owner must study the appetite of his colt. Horses differ greatly in their taste for different kinds of food, and as to quantities needed. If the old Grecian oracle had been controlled by the spirit of a good horse, after saying, "Man, know thyself," he would have added, "Man, know thy horse."

No. 4.—Bitting the Colt.

CHAPTER VII.

HOW TO BIT A COLT.

Place upon him a common blind bridle with long lines and lead him into some vacant field where you will have plenty of room. Throw one line on the opposite side of the colt and step back and draw gently on the inner line until he circles around you. When he will do this satisfactorily, throw the inner line over and make him go in the reverse direction. If he tries to jump or run away, drop one line and draw him to you with the other one. Sometimes, if wild and nervous, he cannot be controlled with the lines at all. If you throw the lines over, or around behind him, he may kick with fright and become only the more unmanageable. He will want a surcingle and foot ropes. See cut on page 42.

Nothing can be done with two lines when he begins to plunge or kick. Quiet the colt and go through the same process until he circles around you nicely, both ways. Now start him straight ahead, teaching him at the word "Get up," to start, and to stop at the word "Whoa." Drive him up to anything that you think might frighten him, and never let him leave anything that he is afraid of until he goes up to it and finds out that it will not harm him. Let him see it on all sides and let him smell of it. Have him understand it till he will remain quietly beside it. Do all this very quietly and leisurely. If he seems really afraid of it, go up to

it yourself and let him see you touch it. He will have need to be practiced with the bit in this way for three or four days, till he turns readily by the line to the right or left. Do not be in a hurry to set him to drawing anything. He will learn more readily when you are on the ground with him than he would if hitched to the cart, or to the wagon; he will more rapidly acquire confidence in you as his friend. It is likewise your best method of learning his disposition so as to adapt your measures to his temperament. While he is learning the use of the bit you will succeed better in getting scariness out of him than in any other way.

No. 5.—Surcingle and Foot Straps.

CHAPTER VIII.

THE SAFETY SURCINGLE AND FOOT STRAPS.

This surcingle is so important in the controlling of a colt, otherwise unmanageable, that its description is placed here. It is necessary in controlling any colt that is fretful, vicious, a kicker, a runaway or a balker. If there is anything else that comes of willfulness or stubbornness, this instrument is the simplest thing with which to secure obedience; and it is at the same time the most direct and the least harmful to the animal.

This surcingle is made of a strap of heavy leather, six-and-a-half feet in length and one-and-a-half inches in width, and it is doubled from the buckle to the third ring. This is the size of surcingle that I use, but it may be as much wider as you choose, although I have yet to see the horse that one of these dimensions will not hold. Use an inch-and-a-half buckle, and have holes enough cut in the strap so that it can be readily put on a small or a large horse. Put on it three rings, one-and-a-half inches in diameter. Fasten one about eight inches from the buckle, placing it lengthwise with the strap. Place the next one six inches from the first, fixing it crosswise on the strap, and then put the third one lengthwise, six inches from the second.

This is the kind of surcingle always alluded to in connection with the foot straps described below. It is not excelled by any invention for runaway or kick-

ing horses, and it should always be used in teaching a horse to become used to strange sights and sounds, such as umbrellas, bicycles, top carriages, loose papers or discharge of fire arms, and it can always be used to good advantage on a fretful horse.

To make the foot straps, take a strap of leather sixteen inches in length and one-and-a-half inches in width, and fasten on it an inch-and-a-half ring, about two inches from the buckle, or one inch from the loop. To use this surcingle with the foot straps, first put on the surcingle, with the rings underneath, and then buckle on the foot straps.

Now take twenty-five feet of half-inch cotton rope and pass one end through the belt ring on the surcingle, down through the ring on the left foot, then through the middle ring on the surcingle, through the ring on the right foot, and tie it to the third ring on the surcingle. This is the method if you are driving double and the colt is on the off side, but if the colt is on the near side commence to put on the rope from the right side, for in any event the rope should come between the horses.

No horse, unless he is perfectly gentle, should have his first lessons in the poles without the surcingle and foot straps.

This invention is just as useful for controlling cattle as for horses. When butchers bring an animal from the country it is very commonly done by two or three men on horseback, racing into every open field and garden, and so heating the blood and maddening the creature as to injure the beef. One man can, with the farmer's assistance, put the surcingle and foot

No. 6.—Controlling Colt with Surcingle.

straps on the cow or ox and quietly drive the creature anywhere. There ought to be a stringent law forbidding the usual method of driving cattle intended for beef. The nerves and blood passages become heated and the blood serves like steam to warm, unnaturally, the flesh. The meat does not keep so well; it is not so tender and juicy. If the surcingle and straps are used, the animal becomes quiet in a few minutes.

If a horse is at all wild it saves much time to use this method of controlling him. A colt can be trained in this way in ten days, when without it he may require a year to teach him to be steady and perfectly obedient.

CHAPTER IX.

THE USE OF THE POLE.

The pole is an insignificant implement in appearance, but it has a very important place in the trainer's art. It may be made of any light and strong wood as ash, walnut, cane, or even of pine. It may be eight or ten feet long, so that if it provokes a kick, the kicking may not hurt any one. The object of the pole is to touch the colt at unexpected times and places, and to teach him that no touching will hurt him.

To make certain that he will not be hurt, the executive end of the pole had better be covered with a ball, or a puffed and tightly stuffed cover, so that even by accident the animal will not be needlessly irritated.

The pole is now ready for use. It is the trainer's emblem of authority, and more potent than the magician's wand, or Neptune's trident. The reader will see in chapter IV that the first touch of the trainer to a wild colt is with the pole. He is not to be struck with it but to be touched with the end of it, only. This pole touching is to be continued on every part of his body and legs till it does not disturb him. If any part seems to be sensitive that part must be cultivated with the end of the pole till it does not annoy him at all. The process is to be continued till the touch of the pole is a signal to him to be still, so that feeling it at any time, or anywhere, he will stop and stand still.

When the harness is about to be put on for the first

time the pole process must be repeated till nothing about the harness will in any way alarm or trouble him. When he is driven along, he must learn that he is liable to be touched any time, or any where, about his body, legs, tail, neck or head, and the lesson is not fully taught to him till he understands that the touch is intended rather to quiet him than to disturb him.

The pole process will, more than anything else, help a young horse to overcome his nervousness. A runaway often results from the horse being touched by a strap, or a trace, or by other unexpected objects, endangering property, limbs and life. I have found at times that a colt seemed perfectly gentle and would bear the pole almost anywhere, but if suddenly touched at some point where the pole had never reached him, he would start in the greatest fright. The trainer's first lessons are not done till he has so familiarized the horse with the pole that it is restful to him to be touched with it.

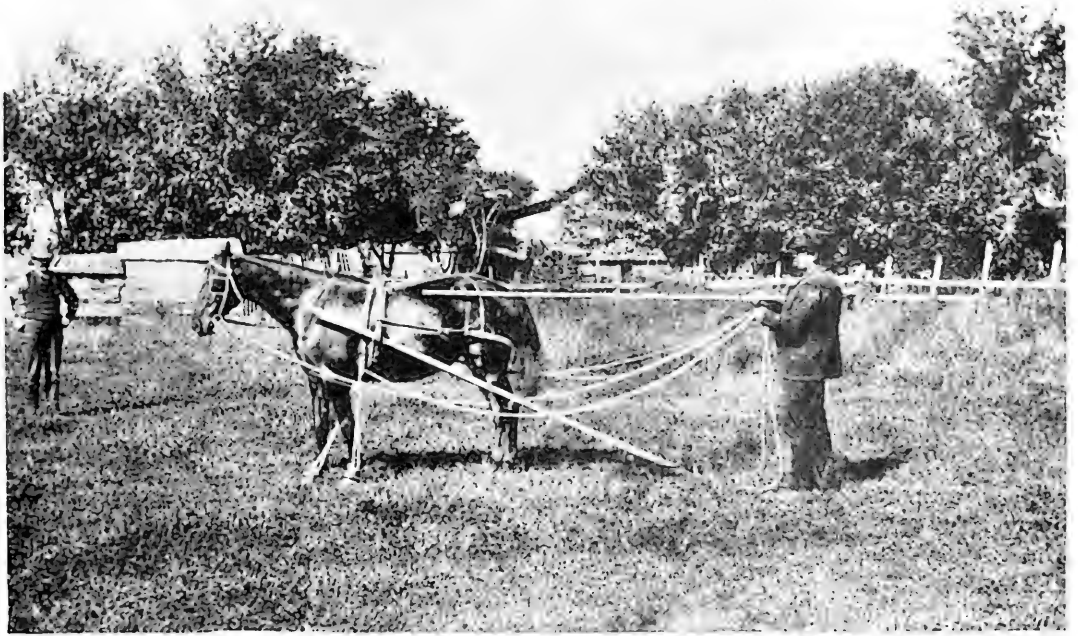
CHAPTER X.

HOW TO HARNESS AND DRIVE A COLT.

In harnessing a colt, first see that the harness is perfectly safe, and see also that it fits well. Many accidents have occurred from an insecure or loose-fitting harness. Allow the colt to see it and to smell it freely. Then lay the harness gently on his back. Never be too hasty about throwing it on his back, but do so deliberately. When the harness is once on take it off again and put it on, doing so until the colt does not mind it.

When first driving a colt with the harness on, do not put the lines through the terret rings, or the thill straps, for if he should turn on you he would be liable to run away, as you would have no way of bringing him to you, because drawing on one line would perhaps tangle him up, and you would eventually be obliged to drop the line.

Now, after he is accustomed to the harness, and understands when to start and to stop, he is ready to be hitched to the cart or poles. The poles are made of hickory, or any tough wood, nine-and-a-half feet in length, and two-and-a-half inches in diameter at the large ends. Put the small end of the poles through the thill straps, and pass the thill girth through the thill straps; and also through the staples in the poles sixteen inches from the front ends, and buckle tight. If the colt is wild, or nervous, use the safety surcingle. (See cut on page 49.)



No. 7.—Driving a Colt in the Poll.

If you wish to drive the colt double, hitch him on the off, or right hand side, as it will be more convenient in getting in and out of the wagon on the side next to the gentle horse. Be sure to make the old horse stop when you stop the colt. Have the rope so that it will come between the two horses. In driving single, have the rope in the left hand and the lines in the right. Give the colt a loose rein to start off with, and if he starts to run, or jump, pull the rope carefully. Do not throw him to his knees only as a last resort, and never allow the colt to run before you throw, for if he is thrown while running on a hard road he might be injured. On starting out, always drive the colt at a walk, as it will quiet his spirits, and it is no trouble to teach him to trot after you have him in the habit of regular movement. Keep the surcingle on him for three or four times, as it is better to use it once too often than not enough.

CHAPTER XI.

HOW TO HANDLE A NERVOUS HORSE.

Nervousness can never be taken out of a horse, any more than it can be taken out of a man, but in both cases its possessor can learn to control it. It does not harm him when once it is controlled. A horse that is capable of high intelligence is always of a delicate nervous structure, and he does not need to have the tendency to nervousness repressed so much as he wants to have it educated. The great thing that he must be taught is that the things which frighten him will really not harm him. To teach him this, he must be exposed to all the frightening things about him, and then be held quiet till he learns that they are all entirely harmless. For example, you can touch him with the pole till, instead of running or kicking, he will stop and stand still as soon as he is touched. Put on the surcingle and ropes and touch him with the pole, holding him steady and quiet by the control you have of his feet. Let him drag tin pans and kettles; let some one throw bags of straw down right before him. Of course he will start and try to run, but you will hold him fast. You may take a bag of straw and put it over him, hit him with it, throw it under his feet, throw it before him as he walks, until at last he becomes no more disturbed than when he hears his oats coming

A neighbor of mine owns a nervous young horse,

trained by himself from colt-hood. When Duke becomes frightened, he is quieted in a moment, on hearing his driver say, "All right, Duke, all right." He was once driven quite close to a noisy band, just as it struck a rattling tune; there was a precious freight in the buggy, and the young Duke became frantic. In a few moments he heard through the din and blare of the band the voice of his master saying, "All right, Duke, all right," and in an instant Duke was as quiet as if in the stable.

CHAPTER XII.

HOW TO HANDLE A FRETFUL HORSE.

A fretful horse is uneasy under the harness or saddle. He must trot when he ought to walk, and he is restless, and chafes if held back. He takes twenty steps when five would be better. He is angry if he is held back to an even step with a quiet horse, and he tires himself out while the quiet horse beside him is resting himself.

Fretfulness originates in unusual sensitiveness of nerves, but it is often cultivated by carelessness in first handling. The owner, or the trainer, has failed to give the time needed for his delicate work, or he has fretted himself and so he has started the habit in the colt. If you are cool and patient, and give as much time as you ought, you may do much to prevent the habit, or you may rescue him from it. If he is already fretful, hitch him on the cart after he has been practiced with the surcingle and the ropes, and obeys them well, letting him know that you have perfect control of his feet. Use a straight bar bit, and be very careful not to hurt his mouth. It will not do to let him get angry or excited. Start him slowly, and if he begins to trot let him go for a short distance and then draw on the rope; at the same time pull on the lines and steady him with soothing words. Do not take his feet away under any circumstances, unless you are absolutely compelled to, as it may make him more excited

and wild than ever. When he starts into a trot draw gently on the lines and the ropes, talking to him soothingly till he gets into a walk. If he will trot again, let him for a little and check him up easily, and he will soon be as willing to walk as to trot.

After you have slowed him down let him walk again, and repeat the process until he will obey the lines without your having to draw up on the foot ropes. Do not be easily discouraged if the horse does not readily learn. It sometimes takes from three to four weeks to train one of a fretful habit.

It should encourage the trainer to remember that a horse has a great deal more intelligence and more value for his having sensitive nerves. His perceptions will be more prompt, and his responses to his driver's words and signs will be more cheerful and more accurate. After he is convinced that nothing will harm him his manner will become affectionate, and even if not more than half trained, he will never disobey intentionally.

CHAPTER XIII.

HOW TO HANDLE A KICKER.

You will find, as a rule, that quite a large proportion of the mare colts are inclined to kick. This is one of the habits that cannot be coaxed out of a colt, but it usually requires severe treatment for some time. Hitch the kicking animal to the poles, first seeing that the surcingle is secure. After you have taught him that you can perfectly control him by this means, drive the colt ahead, and, at short intervals, turn him quickly to the right, or so that the pole will strike him on the legs. When he is about to kick, which you can tell by watching his head and ears, throw him to his knees and apply the whip smartly to his hind quarters. As soon as he is thrown, slacken the rope so that he can rise to his feet immediately. Always give him his feet instantly. When he gets used to the touch of the poles, use the hand pole by touching him on the legs and body, to test him thoroughly, and throwing him every time he makes a movement to kick. It will not be long till he will entirely get out of the kicking habit.

For single driving, till all sensitiveness is certainly past, use a kicking strap, which passes over the hips and fastens securely to the shafts on each side. Even if the colt seems to have entirely given up the habit of kicking, great care must still be taken till the owner is satisfied that there is no danger of its recurrence.

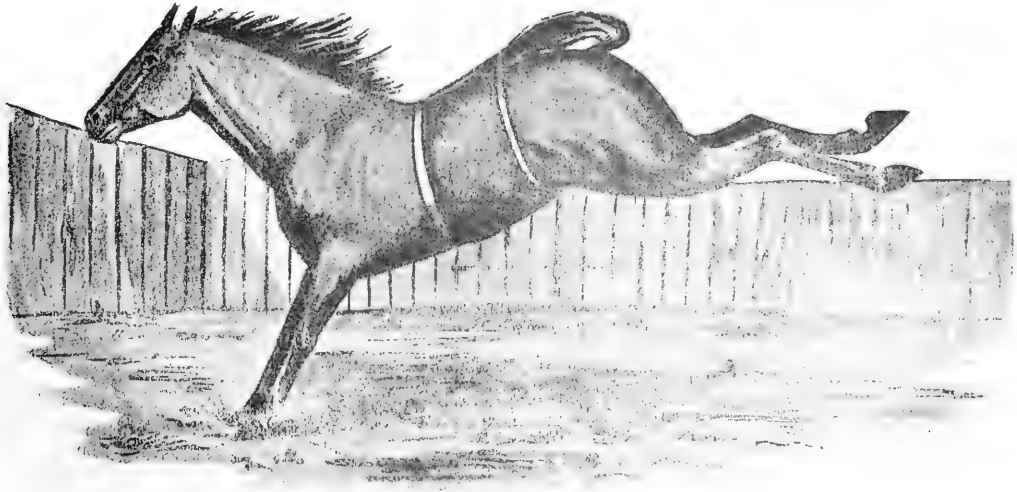
In training a kicking colt fix your harness so that some part or other will hit his heels, or strike his sides, and if he looks like kicking touch the ropes to let him know that you are ready at an instant's notice. Let him become used to having ropes and chains dangling round his heels, or striking his legs, so that when he is hitched to the plow or to the harrow, no flying chain or striking whiffletree will ever disturb him. If you would cure the kicking habit in a colt you must expose him to all the occasions of kicking, and at the sign of a kick, take his feet from under him instantly. Let the disagreeable punishment follow every attempt to kick, and he will soon be afraid to lift his foot. When he is standing in the stall, unexpectedly to himself touch his legs and body with the pole, and if he kicks, punish him for it with the whip.

As a general thing a colt that is a kicker is a tail-switcher. This habit can be broken at the same time. Procure a small rope from one to two feet long. Fasten one end of the rope to the end of the horse's tai and draw the tail over his back and fasten to back band of the harness. Now pass a surcingle around his flanks and over the tail, directly forward of the stifle, so as to hold the tail still. Great care must be taken, for, if he ever will kick, his heels will be up now. Start him forward, using the whip frequently on his hind legs, and bring him to his knees as often as he tries to kick. After having the tail in this position for an hour, it should be released. Care must be taken not to leave it tied in this manner more than an hour, as it will be seen that when the tail is freed it will hang limp and motionless for some time. Three or four lessons of this

sort will cure the worst tail-switcher. I have broken up the habit of kicking in a great many horses and I have never yet left one that was not broken entirely of tail-switching.

In 1883 Mr. Thomas Canham brought me a young mare that he was unable to hitch double on account of her kicking. He said he wanted her broken if it would not cost more than she was worth. She was a very bad kicker. This was not difficult to cure, but she was a very bad tail-switcher. I tied the tail back to the back band. The wriggling went on all the same. She kicked the box stall to pieces, got out doors and kept on kicking there. Then I unbuckled the straps and put on the surcingle and foot ropes, and then put another surcingle around her as far back as the flanks would allow, holding the tail where it could not move. She was then completely controllable and soon gave up this unpleasant trick. I returned her cured and quiet in three weeks. When the tail is so tied up, it is indispensable to use the surcingle and foot ropes, as otherwise the work is useless. This is a severe method on the animal, but the lesson may be for an hour or so only, and the process is effectual. Repeat the lesson till it is learned.

The line falling under the tail often causes a horse to kick, when danger always follows, and sometimes damage. What begins the trouble is suddenly and sharply pulling the line out from under the tail. A few raspings in this way may fix an ugly and dangerous habit. Begin with the colt, and leave a strap under his tail, as long as he chooses to hold it. Let him often have the line under his tail and do not pull it away.



No. 8.—To Prevent the Colt from Switching the Tail.

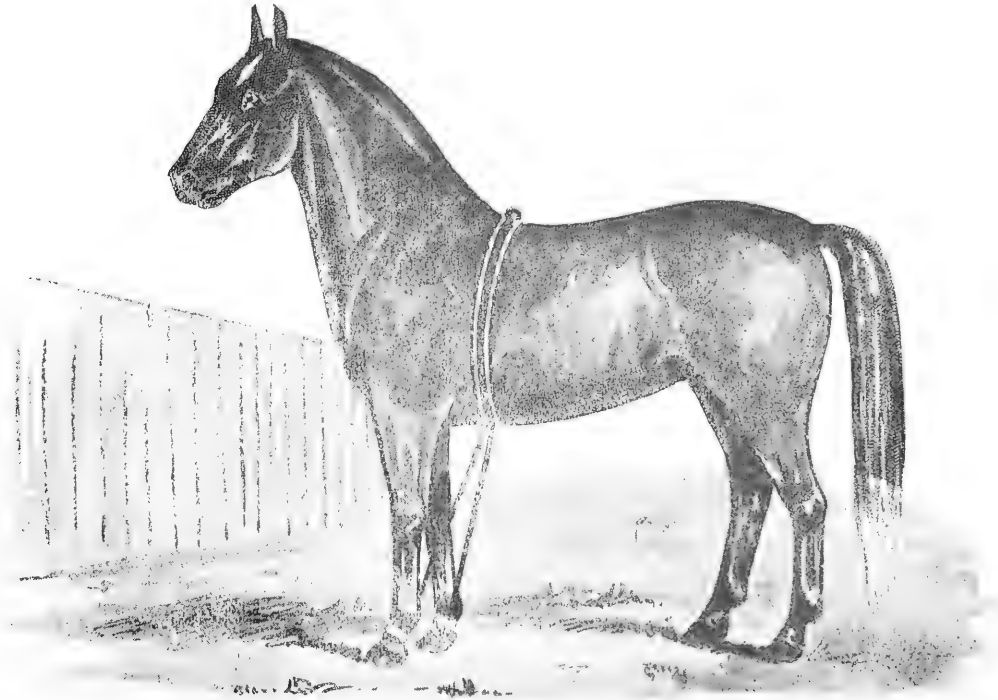
Wait till the pressure slackens, and then draw it out, or let it drop away. Only a few days are necessary to cure the sensitiveness of the animal about the line getting under the tail, but it can only be done by judicious and gentle treatment. The tail of a horse should be handled as gently as his head. When you adjust the crupper the tail must not be used roughly nor be rudely let fall when you are done.

CHAPTER XIV.

TO PREVENT FENCE-JUMPING.

Place the surcingle around his body with a ring directly behind each forward leg and a ring on his back. Put a strap, with a ring on it, around the fetlock of each front foot. Fasten a rope or strap to the ring on one of his feet,—say the left foot,—pass it through the lower ring on the same side and through the ring over his back, and then through the ring on the opposite side. Draw the rope or strap moderately tight. This gives the horse freedom in walking or trotting, but will prevent all efforts at running or jumping.

A horse is hardly accountable for the habit of jumping fences. The fence was poor to begin with, or the boys taught him to jump for the fun of it, or he followed the older horses that should have been broken of the habit long before. The habit is a great inconvenience, and it ought to be cured before another day.



No. 9.—To Prevent Fence-Jumping.

CHAPTER XV.

TO CURE THE HABIT OF RUNNING AWAY.

In driving a runaway horse some severe bit must be used; the best here is the Rockwell, in connection with the surcingle and the ropes. Take him into the yard and at every start pull on the lines, and also throw him to his knees. At the same time use the word "Whoa." And here notice that you should never use the word "Whoa" to the horse unless you want him to stop at once. After a short time you will find he will obey the slightest pull on the lines. In driving him, if he starts to run, let him go for a short distance, and then, if he does not heed the lines, draw gradually on the foot ropes, thereby impeding his progress greatly, as it does not give him free control of his limbs, and in this way diverting his attention from his running. Then let him run several times and repeat and he will soon find that you have perfect control of him.

Smaller towns and country roads are often made lively by the running away of teams. In the wagon or carriage there are often women and children who are unable to help themselves, and they are often taken up injured or killed. No man who handles horses should allow such things to occur. There is no need for it. The driver of a horse should inform himself as to the habits of his horse, and he should not risk the lives of the helpless portion of his family. With proper training any ordinary horse can be made

safe enough for a woman to drive him. One horse may need a certain kind of bit, another may need practicing under a firm and steady hand, but it is practically true that any horse can be made a safe driver. What shall we say of the man who, by his carelessness or his penuriousness, requires his wife and children to ride after a horse that every day endangers their lives?

There is no need for it and one who is once fairly warned, as is the reader of this page, should be held responsible by public opinion. No horse properly trained will ever endanger a life by running away.

After all a trained colt is much like a boy who has some good habits but that has not seen much of the world. He does not know everything nor is he proof against surprises. He is not equal to every emergency. It will be the safest to test the young horse well before putting the reins in the hands of a woman for driving. A lady's driving horse ought to be used in a livery for a year, or be driven daily for as long by a careful man before he ought to be called a lady's horse.

No. 10.—Training a Mustang for Riding.

CHAPTER XVI.

HOW TO RIDE A HORSE.

In describing this I will explain the manner in which to ride a mustang, and after one has accomplished this he will be able to ride any horse, for the mustang is the hardest of all horses to break to ride.

Place the saddle securely and use a bridle with long lines. Take him into the barn-yard and teach him to guide as you would in breaking a colt. Be very careful of the pony's mouth, as their mouths are very tender, and if they once become sore the animal grows ugly and unmanageable. After he begins to understand which way to turn, and when to start and stop, put on the safety surcingle, described in chapter VIII, the saddle in the meantime having been taken off and the long lines substituted for reins. Keep hold of the rope only and teach him that you can at any moment take his feet from under him.

If he is extremely wild keep him down, walk up to him and pat him on the head and different parts of his body. It is best with particularly wild horses to have one to hold the rope and the other to keep near the horse, patting him when he is down and trying as much as possible to quiet him. After he becomes sufficiently pacified, jump up against him and if he springs away or backs, take away his feet. Then hang upon one side and drop off again, repeating this until he shall allow you to mount him without draw-

ing back or kicking. If there are any reasons to believe that your colt has a very unruly spirit, take no chances with him. Advance slowly and surely. After you have taught him the use of the foot ropes and surcingle, with these and an open bridle upon him, let some alert rider mount him. You can stand in the center holding the rope that controls his feet. Then let him go around you, turn him and let him go in the opposite direction, then straight forward, let him trot, or even gallop a few steps. Do not let the rider use the bridle except very gently, as the use of the bit may exasperate him. A few lessons with the surcingle and foot ropes will suffice to break any horse or mustang for riding. No horse trained for the saddle, in this way, will ever be given to bucking or to any other vicious habit.

CHAPTER XVII.

TO HOLD THE HORSE.

It is often desirable to have a horse stand still to be bathed, or where there is no hitching post. If he has a sore neck or a sensitive back, or if he must have any treatment, you can easily hold him in the following manner: Take two hame straps, with a ring in one of them, and buckle one around each ankle below the fetlock, and then using the ring and one of the straps buckle the feet closely together. Then the horse will stand anywhere, and for any length of time. It will answer instead of hitching. This would be cruel on a horse in time of flies, but it is a great convenience in dressing a wound on him. If this is needed frequently a strap with a buckle on it, with a ring in the middle of it, is very convenient.

CHAPTER XVIII.

TO TEACH THE COLT IN HARNESS TO BACK.

Put on the colt a single harness and lead him into a narrow stall. Take hold of the lines and pull his head around to the right, cramping him well round in the narrow stall. Hold his head in that position, and pulling on your lines, say, "Back, back, sir." As he cannot turn around in the stall he will yield to the steady tension of the line and will back out, and he will soon connect the word with the pressure, and before long he will obey the word without the pulling and will walk straight back. Continue the exercise till he obeys satisfactorily. Now take him out of doors and practice him there until he will back readily. Put him in the harness and drive up to a barn or to a fence and stop and back him. Keep at him in this way till he has it thoroughly learned.

It is only a matter of a week or two to teach a horse to back as much as he can pull, and also to obey the word without your touching the lines.

CHAPTER XIX.

TO PREVENT THE FEET FROM GETTING OVER THE HALTER STRAP.

Buckle a strap around each front leg between the fetlock and the knee. In each of these straps fix a ring. Now take a small rope or cord and tie one end of it to one of these rings, and the other end to the other ring, so that there will be about eighteen inches slack. This will allow a free enough movement of the feet, but not so that either foot can be raised over the halter strap. He will soon learn to move around in his stall, and to lie down and to get up, without hurting himself, and he will soon forget the old habit. In tying him to the manger do not give him more than two feet of halter strap.

CHAPTER XX.

THE HORSE CARRIES HIS TAIL TO ONE SIDE.

There is many a fine horse whose value is greatly lessened, if not quite destroyed, by his tail hanging to one side. It is a disfigurement that unfits for almost any work, and though he may have blood and spirit and form worthy of high honors and prices, yet he must spend his life in the dray, or before the plow or the horse cars. The cause of this defect is the greater strength of the tendon on one side of the tail than on the other. Two remedies have been proposed:

The first method is to find the exact tendon whose contraction makes the deformity, and cut it off. This mode is a cruel one at best, and it is quite uncertain, as cutting too much or too little, or in the wrong place, will do nothing towards a remedy. Many a charlatan would gladly undertake the operation.

A wiser and better mode is to braid a small cord into the tail, and draw the tail tightly round on the opposite side from the way he carries it, and fasten it to a tightly buckled surcingle with a ring on the side, to which you will tie the tail. By this means you stretch the tendon or cord upon one side, and give the other, on the opposite side, a chance to contract. The cord released from tension, and shortened upon itself by the relaxation, will soon naturally and sufficiently contract. If the tail is kept in that position for a week or ten days, it will always after hang as it should

No. 11.—Straightening a Crooked Tail.

CHAPTER XXI.

KICKING IN THE STALL.

In the first place fasten a surcingle around him tightly. If he kicks with but one foot, use the foot straps by placing one strap on the kicking foot and the other on the forward foot, directly in front of the former. Fasten a rope in one ring, passing it through the surcingle and tie to the other one, drawing it tight. In this way, every time he kicks he throws his forward foot from under himself. If he kicks with both feet, place the rope in the same manner, connecting all four of his feet. It will soon put an end to kicking. This remedy makes it impossible to continue the habit of kicking; and a discontinued habit is soon forgotten. This method will also cure the horse of kicking at a person who enters the stable, or kicking at another horse. The animal should be tested well before being pronounced cured of the habit.

Some have tied weights to the legs, which fly back and hurt the legs; others put prickly ash against the posts that are kicked; others connect the heel with the lower jaw by a rope. All these methods are liable to serious objection. The method given above is easy, effectual and reasonable.

CHAPTER XXII.

THE ECLIPSE HALTER.

This halter is made of a strap of heavy leather, thirty-six inches long and one-and-a-quarter inches in width. Two rings are used: the first is a one-and-a half-inch "D" ring, and it is set upon the strap crosswise, six inches from the buckle. The other, a common ring, is placed lengthwise with the strap, about one-half inch from the first ring. The strap is doubled from the buckle to the second ring.

In fastening the rings in place, put two rivets between the rings, and four on the outside of each.

For the ring which is placed lengthwise, a large rivet can be placed between the thickness of the leather for it to work upon, such as can be seen on all five-ringed halters.

Tie an end of a half-inch cotton rope, twenty feet long, to the "D" ring. Hold the buckle of the strap in the right hand, and pass the other end of the rope through the other ring from the right to the left hand. Buckle the strap on the colt so that the rings come under the neck and the buckle on the right side. Then place that part of the rope that is between the rings over his nose.

Held by this halter a horse will stand for quite a severe surgical operation, and also while being shod.

The Eclipse is the best instrument in use for making an untamed colt docile and leadable. I have gone

No. 12.—The Eclipse Halter.

to the country to bring to town a wild colt that had never been bridled or approached for the purpose, and in half an hour after first seeing him, I have had him following the halter anywhere. I have then got in my buggy and with the rope in my hand, led him to town without any inconvenience.

If a horse resists bridling, put on the Eclipse halter and give one or two quick, energetic jerks with it, and then try and bridle him again. In a short time you will bridle him easily and without any trouble whatever.

With a halter of this kind you can soon have a wild colt ready to follow you anywhere. While this halter is strong and resistless it is not cruel. It is adapted to the nature of the average colt. As a writer in the Horseman says: "He is naturally very desirous of doing to the best of his ability whatever he understands his master desires of him. But he is timid, disposed to be nervous and excitable, and when his nerves get the better of him his power of thinking and realizing what you want him to do becomes impaired temporarily. You should be able to see when he is so affected, and to distinguish the indications of that condition from those of vicious obstinacy or temper. It will do no good to whip him when he has an attack of the nerves. That will only make him worse. In fact that is the general effect of the whip. Soothe him, encourage him, let him see you, speak placidly and kindly to him, let him touch you with his nose as you do so, and he will soon be calm, intelligent and willing."

CHAPTER XXIII.

THE BALKY HORSE.

There is much said about the cure of the balky horse. If a colt balks it is the result of a mistake in his training. It is possible also to injure and abuse an under-fed or over-burdened horse till he loses heart, and he is never true again. For the time being he can be cured of it, but if he is allowed to rest for a few days he will fall into the vice again. If it is deemed worth the while to cure him, for a few days' work, try it. Put him alongside a steady, true horse. Take a half-inch rope about twenty-five feet long, and in the middle, wind in and out old cloth, to make for two feet or so of length, a strong solid rope, about two inches or more in diameter. Place the middle of this enlarged part under his tail; cross the other two parts over his back and carry one through each of the rings of the harness that hold up the neck-yoke, before him. Then fasten the ends to the end of the tongue of the wagon. Have a stay chain behind the other horse. When fastening the rope be sure that the horses stand even. Then start them and they will both go. The balky horse must not be injured by the rope. It must be made so large as not to cut or bruise the skin. He will step up to his work and if he has no vacations, or holidays, in which to forget, he will never balk again. But let him rest, as in harvest, or in winter, and he balks again all the same.

If a colt in training develops the balking habit it is by some foolishness in his handling, and nothing but instant and severe measures will save him. Put him in single harness, in the poles. Make a whip with a strong stock eighteen inches in length, and for a lash take a harness tug split in two, about fifteen inches in length, tying or nailing the lash firmly to the stock. Then start him. If he goes, all right. If not, strike him over the face with the lash, avoiding the eyes. Strike on till he moves away. If he throws himself, keep on till he gets up and goes on. Then if not inclined to stop himself, stop him soon, and after resting a little start him again.

After working with him at the poles in this way for a while, put him in a breaking cart and get in to drive. If he will not go at all, give him more of the same treatment, or, if he will only go when you are on the ground, and not when you are on the cart, apply the lash again till he will go. If he refuses to go when you are on the cart, but offers to go when he hears you get off, do not let him then, but give him more of the lash over the face and ears. Then, if he will go, let him, and you get on the cart. If he is struck on the body or on the legs he will stand and stubbornly resist, apparently not knowing that he is to move. But surprised and pained at the assault on his face, where he is so tender, he will make a start, and any start being made, he is likely to go on. Then if he stops again make a noise as if you were getting off the cart, and if he will go, all right.

There can be no objection to the exhaustion of all milder measures before resorting to this. If any milder

method can be found, so much the better. There would be no need for this, if it were not for the mistakes of persons who have taught the vice of balking, instead of training to better habits. A horse is like a man, in preferring to be struck anywhere except in the face. One blow in the face counts for more than a hundred on the body or legs in scaring him out of anything. I rarely strike a horse. I never carry a whip except for the two bad habits of balking and kicking. In training a vice of any kind out of a horse it is not wise to give up till one succeeds. It may not be done in one day, nor in a week. Patient, reasonable work will surely succeed in the end.

It is not wise to become angry even if you have to beat him. If you allow yourself to become angry you are unfit for such work as training a horse.

I have hesitated about giving my experience in the use of the whip on a horse. What I say here must not be taken for license for any needless severity; not one unnecessary stroke. I have never had the slightest trouble in avoiding the balky habit in colts whose training I began myself. The severity is only necessary to correct the errors of men who were ignorant of their business.

CHAPTER XXIV.

THE BOLTING HORSE.

A young horse is liable to form the habit of bolting down some lane, or bolting into the road to the barn, in spite of all his driver can do. If permitted to form this habit when young, he will take the street that leads home whenever he is so inclined. It is singular that he never bolts equally to both sides, but only to the one to which he first starts with the habit. He will not turn to either the right or left, according to the way in which he is going, but he will shoot down only to the right, or only to the left. It is a very inconvenient habit and may result in damage.

The most direct remedy, and always effectual, is to put on him the surcingle and ropes, and guide him past the bolting corner till he does not regard it. If he offers to turn, take him down with the ropes and let him know that he is powerless whenever he turns that way. Then hitch him in the cart, with the ropes upon him, and drive him past the bolting corner, and let him lose his feet from under him unless he yields promptly to the lines. Touch him with the whip sharply to keep his attention to his restraints. He will not need more than three or four exercises like this till he gets entirely out of the habit of bolting.

CHAPTER XXV.

THE HORSE HANGING OUT HIS TONGUE.

A horse will sometimes form the habit of carrying his tongue outside of his mouth, on one side or the other, under the bit, or above it. This he does only when he is bridled, and generally only when he is driven. It is no sign of weariness, or exhaustion, or thirst; it is a meaningless and unsightly habit. When once the habit is fixed, no one will willingly buy or use such a horse.

The trouble is not difficult to remedy. Take a strip of cotton cloth about two inches wide, and long enough to tie under his jaw. With your knife cut a slit in the cloth large enough to slip his tongue through. Put his tongue through this, and draw his tongue under the bit, and tie the strip of cloth tightly under his jaw. Do this every time you drive him till you are sure he has given up the habit.

CHAPTER XXVI.

ABOUT STARTING IN THE BUGGY UNBIDDEN.

Buckle the forward feet together with a strap before you put on the harness, and let him plunge about until he gets accustomed to the restraint. After he is done fighting the strap, unbuckle it, and harness him. If he is unruly, or at all vicious, put him to the cart for a lesson, or if he is quiet-spirited hitch him to the buggy at once, and buckle the strap on his feet again. Take up the lines as if to start, without speaking to him. If he starts to go, set him back with the lines, saying: "Whoa, Sir." Then shake the buggy as if it were going, and if he offers to start set him back. Take up the lines and let them come down on him gently, and if he offers to start unbidden, set him back with the lines and a "Whoa, Sir." When you think he is ready to obey, and you see that he is quiet, take off the strap and let him go for some time. Again stop, alight, put on the strap again and go on as before, to test his understanding of the lesson. This is to be repeated till he can remember and obey.

When you are ready to go, pull a little on one line, not always on the same side, and speak to him to go on, and he will soon understand it, and he will not start till he gets the sign. The habit of starting untold may cause a fall or a broken limb, or a ruuaway, and you cannot be too careful in teaching a young horse to be still until the driver is ready to go. You must

be careful not to let him break the rule that he has just learned. It is not his fault, but his trainer's, if he does not learn the lesson readily, and remember it while he lives.

The principle that is involved in breaking the bad habit of the horse starting unbidden, pervades every part of the process of training. It is that the horse must absolutely have no will or discretion of his own. There is to be but one will and that is the will of the driver. It must be exercised wisely and for the good of the horse as well as for the safety of the owner. An unexpected start might cost a life, or a limb. The trainer should not leave this item of education to the last, nor deem it unimportant, but every day and every lesson should impress it on the memory of the colt.

CHAPTER XXVII.

ELECTRICITY IN THE HORSE.

There is good reason to believe that a spirited horse throws off considerable electricity. This everybody knows who has ever run his fingers over a horse's coat early on a frosty morning. We know that an electrical apparatus will generate or accumulate electricity when a grindstone will not. So also there are some facts about a spirited horse imparting a vitalizing force to his driver, that are well known, but which are difficult of explanation. For example here are some of such facts: An invalid, well enough to drive is more helped by holding the lines of an energetic horse than by having another person drive; the vitalizing force is felt more in driving after a trained and vigorous horse than after a colt; it is felt more in the morning than in the evening, more before a storm than after.

There is very little rousing of the nerves by a buggy ride except for one who holds the lines. Instead of asking at the livery for a quite horse for an invalid, we ought to ask for the most spirited animal in the stable. Then let the invalid hold the lines if he is possibly able. There is a thrill runs along from the horse's head to the driver, in case of the horse's sudden fright, and the telegraphic news is recorded by the driver's nerves before the horse gives a start. In like manner if the one driving is frightened the horse

learns it by the electrical current that runs along the lines, before he hears the tremulous tones of the timid driver.

I wish to set the reader to thinking, and to asking questions. These suggestions are in the neighborhood of experiences, though they are not yet classified among accepted truths. Let a question or two point towards electricity. Why is it when you go out to drive on a fine morning, with your horse in fine spirit, that you soon feel exhilarated as if you had taken a glass of wine? Why is it you cannot acquire the same elasticity of feeling by a ride in a street car, or behind a dull old horse, or behind a colt? Why is this exhilaration felt chiefly by the one who holds the lines? Would you feel it more with a copper wire running down the lines to your bare hand? Would you feel the electric current more on a bright morning when, on running your hand over your horse's coat, the electric sparks will shine and snap after your fingers?

Here is a line of inquiry well worth the study of the scientific horseman. It may result in our having electric lines upon our harness, or it may make a buggy a sanitarium on wheels.

CHAPTER XXVIII.

TO PRESERVE THE HORSE'S LIFE.

"For want of a nail the shoe was lost, and for want of a shoe the horse was lost, and for want of a horse the man was lost." The advantages derived from good grooming are not generally understood. Many people who exact plenty of hard work from their horses will, nevertheless, begrudge them careful grooming, apparently regarding that as merely a luxury, which can be spared just as well as extra fine clothes. This is a great mistake. Grooming does not necessarily mean plaiting the mane and shining up the hoofs; it means keeping the animal's hair and coat cleaned and well brushed. Good grooming will not only add to the animal's comfort, but to his healthfulness. It is as essential in this respect as cleanliness and care are to children. Moreover, it tends to render the horse docile and to inspire in him affection for his master. Gentle handling is a great factor in securing a horse's good will, and nothing will enable a man to get the best work from his horse more than the animal's good will. Who that has had anything to do with horses needs to be reminded of how much greater efforts will be put forth by a good horse in response to his master's friendly voice, than in response to an angry tone or to the crack of the whip?

Perhaps we have here one of the causes of the frequent complaint that it is hard to find a man who can

take care of horses. The ability to care for horses as they should be cared for, is much more rare than the ability to be a good bricklayer or carpenter, or to do any other purely mechanical work. To succeed with horses a man must be ever watchful of them; he must get to know them and love them. Their health and comfort must be his constant care, and grooming must be a labor of love, and not a tiresome duty. Especially do horses need care after a spell of hard work, and every humane master will at such a time wipe them dry of perspiration, taking off the harness, if possible to do so, even if he has to put it on again immediately. Let the legs, from the knees and hocks down, be well hand-rubbed, and, if fevered from over-driving, they should be bandaged in wet cloths, to take away the heat. The best thing to clean a horse with is a corn-cob scrubbing-brush. It never can scratch his legs, as the curry-comb of tin does, while it does more work in the same time than curry-comb and brush put together.

The habit of reining in horses very tightly finds less favor with many persons than it did. It is not easy to see in what way the habit originated. If a man has a load of anything to pull, he wishes to get his head as far forward as possible to pull with ease. But the horse is denied this. His head is reined back tightly, thereby making it much harder for him to pull the load. To our view, a horse looks better, and we know he feels better, when pursuing a natural, leisurely, swinging gait. It is as necessary for his head to oscillate in response to the motion of his body, as it is for a man's hands to do the same thing. A horse

allowed his head, will work easier and last longer than one on which a check is used.

M. P. Cartledge, member of the Royal College of Veterinary Surgeons, urges the great necessity of allowing an unlimited supply of water to horses; and he alludes to the very mistaken notion among grooms and others having the control of horses, that water, as much as he likes, is injurious. While grooms and others drink without stint themselves, they profess to know when a horse has drunk sufficient, and so take away the pail before his natural wants are half satisfied. Horses will not drink to excess if watered frequently, and in that case drinking does no harm.

Bad driving will often fatally injure a horse in a few miles, while skillful driving would make the journey in less time and leave the horse as fresh as when he started. Drive slow when the animal is full of food and water; but after the muscles are limbered and the system emptied, increase the speed. Then check up and let the horse cool off before stopping, and there would be less danger of taking cold and of stiff muscles, and less necessity for rubbing down. Drive slow up hill and down, and make good time on level ground and on moderate descents.

Never keep the same gait and speed for a long time, for a change of gait is equivalent to a rest. Never drive a horse without first making his acquaintance and securing his good will. Go to his head, speak kindly, pat him, look in his eyes. Whether you are a friend or foe, he will judge by your voice, your breath. Horses judge a man as quickly as a man does a horse. Feed and water abundantly at night after work and

the animal has had time to rest and cool off. Feed moderately in the morning or before work. Parthians and Arabs prepare their horses for hard drives by fasting rather than feasting. Horses are injured by hard driving on a full stomach. Never let a horse eat or drink much when he is hot from work. Study your horse, treat him according to his nature, make him your friend, and he will do better and safer service. This done for his first twelve years, he will live twice as long as he will if indifferently treated.

CHAPTER XXIX.

KICKER, PULLER, RUNAWAY, BALKER OR WILD

If you have a colt that has a vice, the only way to help him to get rid of it is to take him when he is practicing it. What you want to persuade him to do is to quit his meanness. If he is a kicker you are to bring about the conditions that make him kick, and you are to show him that he cannot do it. Do not make a silent agreement that he is to be good and gentle. Give him occasion. Make him kick. Let him understand that you are controlling the kicking business and the sooner he quits it the better. In chapter XIII., the reader will see how a kicker can be outwitted, till he will as soon undertake to fly.

If halter-pulling is the vice, put him in a halter, as directed in chapter V, and make him try it. Let him keep up the effort; make him feel that it is useless, for it cannot be done. He will then soon forget to try.

But he is a runaway. Then let him run. Make him run. Treat him to chapter XV. Let your science meet him in every act, and he will strike a run as reluctantly as he will run through a fire.

If he is a balker, give him no occasion to balk. Never let him do it. Do not let him see a chance. Do not let him know it can be done, and he will soon be out of danger of the habit.

Do not expect to put an old horse's head on a wild colt. Give him a chance to learn, the same as you do a

boy in a business that is new to him. A German farmer told the writer that he never allowed any nonsense with his colts. He said he always put the harness on the colt and hitched him alongside a team at the plow. He drove him along with the old horses among the corn stalks and let the chains strike him, so that he can learn the meaning of the horse words, and be used to the noises of the work, and be afraid of nothing. Before he stretches a chain he will know how to learn, and that is what some men do not know till they are fifty.

Another farmer said, I never teach a colt anything till I go to plowing and then I set him to work. That is bad for his growth, and for his spirits, and he will make a stupid, dull horse. Let him learn his a, b, c's before you put him in the rule of three, and he will keep the freshness of his spirits down into old age.

CHAPTER XXX.

GAITING THE HORSE.

There is no part of the trainer's work requiring more skill and attention than gaiting the colt. And no part of it is liable to receive so little attention as this, not because he does not know its importance, but because the owner only wishes the colt to be tamed, and then he hopes to do the gaiting himself, yet he rarely does it, and still more rarely does he know anything about it. If it should take an extra month for the trainer to gait the colt it will be time and money well expended. The gait of the horse will oftener sell him than his style, size or color. If bad habits of movement are once saddled on him it is hard to break them up. The gait of the horse is defined and formed in the first few times that he walks away in the harness. No doubt he feels awkward, for his movements prove it. If his gait is left to accident it will most likely be a bad one, and it will greatly lower his value and abate the comfort of his owner, or driver. But when you shall have gaited him well, you have improved his appearance, and his serviceableness, and you have doubled his value.

The horse, as we know him, has four natural movements of his limbs, viz: walking, pacing, trotting and galloping. In the first he raises his feet a little above the ground, lifting one forefoot and the hindfoot of the opposite side. Any horse can be trained to have

a smart walk, both light and sure. He should be practiced with walking till his step is free, even, regular and strong. His walk should have a litheness in it which shows that every joint is free and that his movements are a pleasure to himself. He should be urged into a cheerful walk in which every motion he makes, bends and plays all his joints, as of the shoulders, knees and feet.

A good walk is the foundation of excellence of gait. A young horse is apt to fall into the habit of a slow, fretful walk. While the horse beside him is walking about as slowly as a horse can move, the colt of unformed habits has a most annoying, little, chopping trot, that is still more slow. The method of treatment should be radical. Put on him the surcingle and foot straps. Let him understand he is to walk ahead, and if he will not, pull up on the rope gradually and that will set him into a walk. His mincing gait will soon leave him. Make him a good walker, free, easy and strong. Give him time to form the habit of graceful walking, and then quicken the step into a supple trot, and then into a spirited trot.

When he has acquired a good walk it can be quickened into a trot. This may be the flexible, easy trot in which every muscle is at easy play, or it may be the rapid trot in which the horse gathers up all his strength and distributes it equally through all of his joints. Whichever of these trots he enters upon he should be kept at it till he evidently acquires the habit of it. You may know that he is at his best, both in vigor and speed, when, with a little urging, he springs into a gallop. The tracks on the ground, as left by a

horse, are always exactly alike as to position, whether walking, trotting, or galloping, and beginning at any one you count five to make what is called a stride. The action of a horse's feet is just the same in a walk as in a trot, the only difference being that the motions in the latter are more quick. Then to make an easy, free, rapid, graceful trotter he must first be a good walker. The trot should be firm, quick, even paced and strong, the fore legs pushed rapidly by the hind ones. If trained properly the trotting horse will of himself carry his head high and keep his body straight and steady. If the haunches rise and fall alternately, or if the crupper rocks from side to side, the horse is too weak for rapid motion. The gallop is the resort when the horse tries to make speed.

The pace is not desirable in harness, but it is often desirable to have a pacing horse for the saddle. His gait is easy to the rider for a short journey, and he is generally desired by ladies, because when he ambles at a gait anywhere between a walk and a canter he is easier paced than a trotter. His step differs from that of all other gaits in this, that he is a side-wheeler. He lifts the two feet on one side at the same instant, and then alternating, lifts the two feet on the other side. Some colts take to this style naturally, some can only trot, lifting one fore foot and the hind foot of the opposite side at the same time. Others are able naturally, to trot or pace, and are called double gaited, a style very unsatisfactory and undesirable. It is not difficult to teach a trotter to pace, or a pacer to trot. It has often occurred that a pacer has reached great distinction in speed, and then, having been trained to trot, he

has excelled as a trotter. The fastest flight over a mile ever made has been done by a pacer, as Westmont, by Almont, with running mate Firebrand, to road wagon, at Chicago, made one mile in 2:01¾. Johnston, g., paced in harness one mile in 2:06, while the fastest mile ever trotted was by Maud S., at Lexington, Kentucky, 1884, in 2:08¾.

The English method of making a trotter into a pacer, is to ride with a severe curb bit and spurs. In this country he is urged out of a walk into the amble and the step is defined by hoppling the feet, tying together the two on the right and then the two on the left, and either riding or driving him. He soon acquires speed while wearing hopples made for the purpose, and a touch of the reins will be enough to remind him if he forgets to put his best foot foremost.

For a great many purposes a fast walker is desirable, and a horse that can walk five, or even four miles, is sometimes in great demand. Ladies and invalids want the pace and canter, drivers want the trot. The gallop is of rare use in this country beyond the actual trial of speed, and some of the uses of the army. If you want to have a well-gaited horse, commence his training with the walk, for that is the foundation of gait.

CHAPTER XXXI.

THE OVER-DRAW CHECK.

The over-draw check is modern. Most horses that are well up in years never wore one in their youth. Without this appliance, when the driver draws hard on the lines, he draws the horse's chin up to his breast. If the horse is mischievous, or wants to run, he can take the bit in his grinders and go. Holding the horse's chin up to his breast prevents full breaths, and it injures all the respiratory organs. But checking high with the over-draw check carries the head so high as to be painful. There is an impression that the horse will step farther if his head is drawn to the highest point. Accordingly this method is sometimes carried to such an extent that the animal is in terrible torture. Sometimes on the trotting track a horse is checked so high that you can stand behind him and see the star in his face.

Many men check their horses without reason, and really subject themselves to arrest for cruelty to animals.

One who desires to make the most of his horse, will ascertain at what point the animal can carry his head so as to give him the best appearance consistent with safety, speed and comfort, and he will not check him one-eighth of an inch higher. Now that the checking is reasonable and carries the head of the colt well up, see what you have secured. First,

you will have better control of him if he should undertake to kick, for he must lower his head before he can make much of an effort. Second, he will rarely run away, for he can not take the bit in his teeth, and the bit will press just where it will control him the most easily. Third, it will put him in his best attitude, and he will show every inch of the horse that he is. Fourth, he will be less likely to scare at objects by the roadside. He will be above them.

With all these advantages it must be remembered that unless a colt has been well checked up from the first, he will probably never adjust himself to it, except as to a great cruelty.

CHAPTER XXXII.

HOW MUCH INTELLECT HAS A HORSE?

It is a problem for the philosopher rather than for a book on horses, to give the measure of a horse's mind, for everybody knows that he has a mind of some measure or other. One who undertakes to train a horse, or even to feed him, ought to have some idea as to whether the horse or the driver knows the most about the business in hand. One makes but little progress in educating a horse till he knows what faculties the horse has with which to acquire his education.

It is certain he has perception, and that he gains ideas through the eyes, ears, and nose. From being afraid of nothing he comes to be afraid of everything, and he has need to learn that nothing that he sees will hurt him. He is capable of learning the meaning of many hundreds of words; and the nerves of taste and of smell are so delicate that they can teach the sense of sight, for he learns not to even look at objects of unpleasant taste, or odor.

He has memory. He remembers persons and places. He soons learns which is his own stall. He recalls the time of day for his feed and calls out, or stamps, or paws, if it is late coming. He remembers roads and the barns where he has been fed, and the corners at which he has turned. If the boys have for mischief taught him to jump fences, he will go from the poor pasture to the best one on the farm. All edu-

cation of the horse is built on the faculty of memory. After we have told him a thing as often as we have to tell a new thing to a boy of fifteen, we expect him to remember it, and he generally does.

He has a limited degree of the power of reason. The colt brought up with the use of a lariat can reason this way: I must not put my foot over that cord, or if I do I must take it back again, or I will hurt myself. He can judge of distance and measure the ground for a leap before he lifts his feet. A lady in England was riding a fine thoroughbred, after the hounds, with a large company. The fox was seen close at hand on the other side of a canal that was too wide for jumping. A canal boat chanced to be passing, and the horse without hesitation, or guidance, leapt upon the boat in the mid water, and made the other half of the way at the next bound, and went in among the hounds.

The horse understands the language of signs as well as that of the voice. If brought up on an American farm he understands English words, but if need be he very soon learns German, French, or Italian.

There is a great deal of union of feeling and sympathy between an intelligent horse and a considerate owner. If an accident should occur an intelligent horse knows what to do about as well as his driver. If the master has a quiet spirit, so has the horse. If the master fumes and blusters or gets afraid, the horse becomes restive, and he is afraid when he is controlled by such a man, for he sees more danger than he can tell. A horse that has had a good education is not a brute; he is man's most useful animal ser-

vant. What a shame it is to let so noble a creature come up in ignorance. An animal of such intelligence ought to be treated in a reasonable way. When he is first harnessed he ought not to be put to draw a plow or a heavy wagon. His muscles and tendons, never under tension before, become painful and cause a suffering that is distressing to him. He droops, can hardly move, loses all his coltish elasticity, and his driver thinks it is because he is acquiring sense. It is really because he is too tired and sore to move. The reader can imagine how he would feel himself if, until he reached man's full size, he had never made any more exertion than to take his food, he should suddenly be set to work alongside a strong, hard-muscled man and he made to keep up.

What would a dude say to you, if on coming out from the city to you he should be set to carrying rails on his shoulder and keep up with an old rail splitter? or what if you should set him to digging ditches, and to keep up with an old ditcher? If a dude ever kicked he would kick then. So would the colt if he had no more sense than his owner had intelligence.

CHAPTER XXXIII.

A LADY ON HORSEBACK.

No other than a most finely trained saddle horse should be offered for her first few lessons on horseback. A lady's riding on horseback is not an art; it is the science of drawing willing obedience out of a well trained horse. The suggestions of this chapter are not for one who seeks an equestrian accomplishment, but for the help of a lady or a child just now learning to sit safely in a side-saddle, while the horse goes on at a gait that is pleasurable to the rider. According as the person is a child or a large person so the saddle should be small or usual size, and it should be set a little back and be well fastened on. If she rides often it is best always to have the same horse, and the animal should be so tractable that the smallest flaxen twine would guide or hold him. Every lady's horse should do all his paces well. When she goes to mount she should take with her a lump of sugar, an apple, or a carrot, to give him with many caressive touches and tones of kindness.

She will stand close to the horse and place her right hand on the pommel of the saddle, and with her left foot in the right hand of her attendant and her left hand upon his shoulder, she will rise naturally and gracefully to her seat in the center of the saddle. The reins evenly adjusted, will be put in her left hand with the palm down and the whip in her right; the left knee

will rest easily against the saddle, and the left foot in the stirrup with the heel lower than the toes, the left hand will rest on nothing and yet be at rest, and the left elbow will be on a line from the shoulder to the hand that grasps the reins. The whip-hand—the right—will be held to the front, not down, nor back, and if the horse needs the whip, a thing entirely unlikely, he must have it straight down the shoulder, remembering the saying that a good rider never needs it and a kind one never uses it. The riding habit must not be pinned underfoot. Before starting she must sit up erect and keep that attitude; hold the reins securely but gently, and not hard, and they must not be used to help her keep her seat. She must study to acquire a graceful balance of person, that will not bound out of place by any movement of the horse.

Now, ready for a start, if the child or lady has a friend skillful in the side saddle and wise, she will repeat to the learner her parting advice: "Do not lean forward. Cultivate in the saddle the graceful attitudes of the parlor. Do not take a distant clasp of the bridle and then lean toward it. Keep the horse under the rider's will and control every instant. Turn him around corners. Urge him to do his best walking. The first exercise should only last an hour and have neither a trot nor a gallop. Be content to take the alphabet first. At leaving the saddle, have a little reward ready for the horse, a lump of sugar, or an apple, or a carrot, and talk to him in kindly tones and with caressive touches of the hand on his neck and head and nose, which he will remember and repay in service."

The next hour of riding should be again a rapid walk with frequent turning of corners. This will teach the horse whose will it is that controls his movements. In later lessons the horse may trot. The trotting should continue long enough to acquire perfect ease and grace of posture. After this is done well the horse may canter. Here will come back a tendency to lean forward, but it must not be allowed. If a horse is trained for a lady's riding at all he will, in a canter, throw his right foot first. The attitude on the saddle makes this the easiest for the rider. If he breaks in with the left foot first, stop him at once and start him again. The rider will soon learn to tell him by a twitch of the bridle how to put his best foot foremost. After being assured of her position, and she and the horse understand each other, she can change him from the left foot canter to the right without stopping him.

If the horse should rear, she is to somewhat loosen the reins, pass the whip to her left hand and double up her fist and strike him with it between the ears. Show no fear. If he comes up again hit him again. If you turn round and go home he will rear next time when he wants to go home, but if you keep him down by strokes between his ears, and keep him going, he will most likely never rear again. At the same time you must be very sure that there is nothing the matter with the saddle. Look to this well before starting.

It is a great mistake to dismount when the horse rears. Give him the reins so that he can go on if he will. A stroke no stronger than with a resolute lady's fist on top of his head is a stunner, and will generally bring him to terms.

A gentleman and lady were riding in England when the horse reared and he told her to slip off. She did not, but struck the horse on the head. The horse came up again and she saw his feet pawing above her head. The gentleman said,“ Let yourself drop from the saddle, I always do.” But she dealt the horse another blow that brought him down and he never needed another.

As to kicking, no horse can do this unless he is allowed to throw his head down. A horse generally gives notice when he is going to kick by the way he frisks his head and sets his ears. A gentle, steady pull on the reins will set his head too high to allow of any kicking.

It is not only ungallant, but dangerous, to give a lady a horse that is any other than perfectly safe and well trained. Neither should she take risks of changing her saddle horse. Her attendant should not trust to the groom to see that the saddle girth is strong and tight, and that the bit and the reins are all that they should be. A lady who rides, ought herself to become a judge of her outfit, and test it before starting.

A lady needs presence of mind and security of position if the horse should rear or kick. This fact shows the wisdom of the first suggestion to practice thoroughly in the first lesson. If any lady or child will study thoroughly these hints, and practice carefully, she will excel as a skillful and graceful equestrian.

CHAPTER XXXIV.

WHY NOT USE THE SADDLE HORSE?

The *American Agriculturist* asks why the farmers do not ride more on horseback. And we ask, why do not young people promote health, gracefulness and pleasure, at the same time, by horseback amusements? It is strange that a people descended directly from the English, whose lives may almost be said to be passed in the saddle, should have so entirely abandoned this healthful and convenient means of locomotion. It is very rare to find, on an ordinary farm, a saddle and bridle suited for better work than the plowing of corn; and to find a thoroughly good saddle, one easy for the horse and for the rider, is almost impossible.

Perhaps one reason why there is not a more active general demand for really good saddle horses in this country is, because every effort to obtain such an animal is pretty sure to result in disappointment. The article does not, in reality, exist in this country, except in such rare cases as not to form an important exception to the general rule. The saddle horse should be lithe, short-backed, strong-loined, long-necked, free in his action, and perfect in his temper. Such an animal is susceptible of any amount of training that an amateur rider may choose to give him; but, in the furore for trotting horses that rages throughout the whole country, where almost every point that is desirable for the saddle is disregarded, and attention is wholly given

to the making of time by mere propulsive power, which is almost the least desirable thing for saddle use, it seems quite hopeless to look for the breeding of the desired animal, and the result that we have long hoped for must be sought by slow and easy stages, and through a stimulus which can be secured in no other way so well as by the adoption of horseback riding by farmers, and their sons and daughters. In going about the farm, in going to the post-office, in paying visits, and in all journeying where heavy articles are not to be carried, the saddle horse ought to be used here, as he is in nearly all other countries of the world; and if there is any class of the community who should use him regularly, and should as a matter of pride, know how to use him thoroughly well, how to ride strongly, gracefully, and securely, it should be the robust young farmers of the country.

In England, where it is estimated that during the hunting season a hundred thousand people ride daily to fox hounds, fully one-half the number being farmers, who go out to enjoy the sport or to practice their sale horses, there is, of course, a more active demand than can be expected in this country, at least for a very long time; but, even at this day, in the New York market, a perfect saddle horse, nearly thoroughbred, perfectly bitted and broken, and in all respects suited for the use of a lady or gentleman, may be readily sold for from $2,000 to $3,000. And when we consider the facts that the animal belongs to a race that arrives at early maturity, while his whole training may be incidental to the doing of errands and the necessary recreation of the younger members of the farmer's

family, it seems that the opportunity for a combination of pleasure and profit should be enough to induce the giving of greater attention to the saddle horse.

In some countries there are livery stables with hundreds of saddle horses, many of them very superior animals, and trained so as to know a great deal more about saddle horse duties than does the average young man in America. There can be no doubt of the benefit of health that there is in an early morning, or an early evening, gallop. There is both fortune and fame before the young farmer who has taste and opportunity to make and to meet the rising market for finely trained saddle horses.

CHAPTER XXXV.

THE FUTURE OF HORSE RAISING.

Mr. Henry Stewart, in the *New York Times*, has recently given some very telling facts in reference to the comparative values of horses, mules, and cattle. From this authority we learn: Whereas cattle at 3 years old average a value of $21, and cows of the same age $27, 3-year-old horses are worth $71, and mules of the same age about $80. All farmers know that this relative difference in value exists, but it is doubtful if they give much consideration to the fact. From close figuring it is found that a fairly good ordinary colt can be reared the first year for $25, the second year for the same, and the third year for $30—in all $80. At that age the animal may be completely trained to work, and if he is sold for more than $160, the profit is 100 per cent on each year's cost. A 3-year-old cow or steer cannot be reared for much less and would sell for about $40 to $60 at present prices. If the cost of rearing were but half this there would be far less profit in the animal. It is needless to comment upon this statement, for no doubt it will be accepted as the plain, unvarnished truth. But we may be pardoned for saying a few words as to the future prospect for a regular business of breeding horses upon farms. It is a special business, and it may be feared that the supply may overrun the demand if a large number of farmers should go into it. This,

however, is altogether improbable and, so far as experience of the past goes, wholly impossible. It takes three years to rear a horse for work. Under our present high-pressure system a large number of horses, are worn out in three years. There are about 40,000 horses in the car stables of New York city alone, which require to be replaced every three years. We doubt very much if this number is not too small, and this is only to replace the present supply and has no reference to the enormous growth of business, and horses which are not worked so hard and have a longer life. This is but a drop in the bucket as compared with the needs of the whole country. Every railroad built, and every additional train of freight cars put on existing roads, call for more horses at each station. The demand is insatiable. Thousands of farmers never do, and never will, rear their own horses, and all these are eager purchasers of fresh stock. A neighbor who recently bought a good horse for $275. said it was the third in eight years; this is an outlay of more than $100 yearly for horseflesh, and it is merely a sample of what is doing constantly every day in the year all over the country. Moreover, a change in the habits of the American people is impending. Riding is being found a cheaper way of preserving health than paying doctors and buying drugs. The saddle is becoming popular and American ladies are adopting the more athletic and healthful habits of their English sisters, and a saddle horse is kept in the suburban home where it was never thought of before. This pleasing recreation will become popular and will stay so. Already there is a call for trained saddle horses

far ahead of the supply, and it is only the beginning of it. There never was yet known in history a surplus of horses, and there never will be. Horses are the most profitable of farm stock to the breeder, and with the demand in sight, and the plain scarcity of these animals, and the profit of them, there is certainly no more remunerative, easy, and pleasant business for the farmer, who has the will and the tact for it, than this

CHAPTER XXXVI.

TEACHING A HORSE TRICKS.

The horse was never made for a juggler. It seems incongruous to teach tricks to an animal that is, in his nature, so honest and so serious. You can depend on his speed, and on his strength any time, but it is a fraud on him to ask him to help you to deceive anybody. All horse tricks depend chiefly on one fine quality that he usually displays, viz: exact obedience. The cuteness of the trick never enters his head. He knows what it is to be obedient without knowing why, and he can learn to obey orders about almost anything without knowing why. He can remember also where and when to expect his food. The one who teaches tricks to a horse first commands him, and then rewards him. It makes a horse seem to be wise when he appears to obey a command to do something that is cute for a horse. He seems to understand what you say to him, though really he does not. He is either blindly obeying your command, or else he remembers that the chance has come to get something good to eat. His feats in picking up gloves and pocket handkerchiefs, and even pulling triggers, orginate in efforts to find oats or apples.

A new circus horse was once trained, on an emergency, for a show, with only four days of schooling. Boys who handle colts that belong to them, soon teach them to do things apparently wise, as for example, the

boy will tell the horse to stretch out his feet and rest himself. "Stretch" is the only word the colt remembers. After being often tapped gently on his forward heels, and told to "stretch" and after getting a nice bite to eat, he comes to obey without being touched. By repeatedly asking his colt to shake hands, and at first pulling up the foot with a strap, and petting the colt, and giving him a few grains of corn, or an apple every time, the boy will find that the colt will politely extend his foot when asked to shake hands. As the right foot is the only one ever touched or asked for, it will be the only foot offered. It makes a horse look very sociable and friendly to hold out his right foot for a salutation, and he is, just like his owner, liable to get credit for more intelligence than he possesses.

You can just as easily teach him to make a bow. Take a pin in your right hand, standing near enough to his breast to touch him. With the pin touch him lightly, like the pricking of a fly. Instinctively he throws the lower part of his head downward to relieve himself of the supposed fly. This must be accepted and rewarded at once as his bow, or as his reply of yes, whichever you may have asked for. This must be repeated till he will bring down his head for seeing your hand move toward him. Or, you may from the beginning give him the signal by raising your left hand. Any sign agreed upon between you and the horse will do.

Just as readily he can be taught to say no, by pricking him with a pin in the withers. To drive away the supposed fly he will shake his head. Each attempted obedience must be rewarded with caresses or with

some dainty bite. Before long he will shake his head to say no, at each motion of your hand towards his withers, without waiting to feel the pin. You can soon train your colt in these ways to stretch, to shake hands when you come to him, and make a bow to you as you begin to talk to him, and alternately to say yes and no in quite a conversation.

It is a little more difficult to teach a horse to lie down. It is always more easy to teach a colt to do this, for he is less suspicious, and he is easier to handle than is a horse. The near fore leg is easily disabled by being tied or strapped up to the arm; then take a small strap and tie it around the right fore foot below the pastern. Then pulling quickly on the bridle, as he obeys it, you take up his right foot by pulling on the strap over his back. This carries him to his knees, where you hold him a little while, caressing him and talking kindly to him. If he offers to rise, draw promptly on the bridle and on the strap, and he will unwittingly obey you as you say, "Lie down, sir." Hold him down a while, talking to him and caressing him, till he loses his aversion to the posture. This lesson must be repeated often. After a while the right hand strap only need be used, then he will surrender by only taking up his foot, and telling him what to do. Then with practice he will obey the word; afterwards he will obey a motion of the hand. This is a severe lesson. It puts the colt in unnatural attitudes, and it is tiresome to him, and it is complicated, but if the trainer is patient, and firm, and rewards the horse well with kind words and good things to eat, he will soon obey the order to lie down as easily as he does the call to his

dinner.

A horse seems to do a cute thing when he sits up like a dog and seems to enjoy it, with a long face, while everybody laughs. It is not a hard thing to teach him to do. You must first notice the natural manner of a horse getting square on his feet from the posture of lying on the ground. When he is half way up it is not hard to stop him and have him stand, the front end fully up, and the other not yet moved from the ground. When he is quietly lying down, take your place behind him, with the bridle reins in your hand and the the foot of a strong man planted on his tail. As he will spring up and straighten his front legs out as you call out, "Sit up, sir!" you tighten the rein suddenly and he will hold himself there. Now keep him still a very little while, talking appeasingly to him, and tell him again to get up, which he will very promptly do. This must be done again and again, always saying distinctly, "Sit up, sir!" when that is what you mean, and always fondling him and giving him something nice to eat. There is no difficulty in inducing a colt, or a young horse, to go through these lessons. It can be done for an older and heavier animal as well, but with some more care and patience.

These simple methods of teaching the horse cunning tricks are enough to show that almost anything may be taught to a young horse. It shows also that the best method is kindness; and that by as much as you make him obedient to your voice, by so much you make him a more safe and a more valuable family horse.

CHAPTER XXXVII.

TRICKS OF HORSE JOCKEYS.

The reader of the Vicar of Wakefield will remember how his poor, verdant son, Moses, fell among thieves when he took the horse to the fair and was himself taken in hand by the jockeys. If one goes to the dictionary it will seem a very innocent thing to be called a jockey, that is, a rider of horses, and yet it is commonly understood to mean a man who habitually trades in horses that are bad or indifferent. It is generally believed that he can take any kind of diseased or crippled horse, and doctoring him for the occasion, can cover, for the time, a fatal or incurable disease. If he has access to your sound horse for a few minutes, he can make him appear to be laboring under a chronic malady that makes him worthless. He can take his own horse, really lame in one leg, and by making him lame in the other, sell him for a quick stepper.

The wisest man in the world, as to horse flesh, will be the gainer, in the long run, if he does not trade at all with a horse jockey, buying, selling, or swapping. If he does, he must expect to pay the expenses. Many a man is so fond of trading that he will barter away all the value he may have had in horse flesh when he began. A man, who could be named if necessary, traded often, for a year. He had two very good horses to begin with. At the end of the year he had two horses yet, but not worth half as much as

the others, and he had paid out, in boot money, a little over $500. The moral of this is, a man had better know with whom he trades, so that he may know what kind of goods he may expect, and he may as well learn to know a horse at sight before he sets up to make a fortune by trading horses.

A horse jockey, if he can get access to your horse, can make him appear to be badly foundered when there is nothing the matter with him. A horse can be made to seem permanently lame by running a hair from the tail, by the aid of a needle, through a certain muscle. By a miserable trick he can make the horse stand by his food and not take it till some one, who knows the art, comes and undoes it. He can take a cribbing horse, or a wind sucker, and stop all sign of the disease, for the time, by a certain operation on his mouth. A young countenance can be put on an old horse; a heaving horse can be made to appear perfectly well, and a true pulling horse can be made to balk, all by methods that injure a horse to do them. In fact, it has occurred that a man has sold his horse for utter unfitness for riding or driving, giving his character truthfully, and after the animal had been doctored and trimmed and painted, he has bought him again at ten times what he sold him for, under a written guarantee that he could do a large number of, what was for him, impossible things.

No reference is made here to the legitimate business of breeding, buying or selling horses. These occupations are usually in the hands of high minded and honorable men. They have nothing of character in common with the miserable frauds just described.

As a general rule you can only get an honest horse from an honest man. Give the sly and slippery horse trader a wide berth. In the language, very little altered, of Longfellow:

I know a trader fair to see,
Take care!
He can both false and friendly be,
Beware! Beware!
Trust him not,
He is fooling thee!

He has two eyes, so soft and brown,
Take care!
He gives a side-glance and looks down,
Beware! Beware!
Trust him not,
He is fooling thee!

CHAPTER XXXVIII.

HOW TO RUIN A COLT.

Always allow the traces to keep the hair worn off the sides of the horse, and the hair of his tail to hang in ropes. His mane may toss on either side, or both ways. The lines and traces, from being often tramped, become weak in places, and being liable to break any time, runaways will be frequent. The horse being left to cool in a cold wind, naturally coughs. There are draughts through the stable, and he has signs of rheumatism. The odors of the stable from the fermenting manure-heap are at all times stifling and the horse remains thin and weak, and liable to excessive sweating with the least exercise. Corn stalks are nourishing food, and cheapest when the horse gathers them himself. They are good enough in the mild weather of October, but in November they are scantier as the weather is frostier, till in December he will both starve and freeze looking for broken stalks under the snow. For the rest of the winter he can eat oats straw, and as his appetite is better when he runs out of doors, out he stays all winter.

When he is off for a drive for ten miles, give him the first mile on a tight run, and keep up the tune with the whip for the next nine. With a tight check-rein his head will be very nearly parallel with his spine, and he will look spirited. On arriving, hot, hungry, thirsty and tired, cool him at a post without

a blanket, without a let-up to his body or a let-down to his head. After two hours he returns the same way, and, as he is hot and jaded, let him rest at the fence before going to the ventilated stable. Feed oats in a manger with holes in it. In the spring he is too light for plowing or driving, and will be sold for a little beyond the value of the miserable hide, and the colt that takes his place meets the same fate. That is the way *not* to do it. This system even poorly carried out would ruin Rysdyk's Hambletonian, or Alexander's Abdallah, in twelve months.

CHAPTER XXXIX.

THE HARDEST CASE YET.

Many horses are incurably injured by improper handling. It is not often that a horse is incorrigibly bad for want of intelligence, nor is it often on account of a vicious disposition. An intelligent horse made vicious by ill treatment is worse than a stupid one. Since a part of this book was in type I was called to see a fine young English shire colt. He was imported at the age of one year; he is now three, of excellent form and would weigh 1,500. He is uncommonly intelligent, and is not naturally vicious, but by some mistake in handling he had become unmanageable. His attendant could do nothing with him, and at length he was not able even to bridle him. When they would go to whip him into obedience, they made the mistake of whipping him around the legs, which only made him worse. In turn, he would crowd the man up against the wall to the great danger of his life. At times he would break his halter in a fit of anger and make it dangerous for anyone to go into his stall. When I went to see him he had been unhaltered in his stall for several days, no one daring to risk himself with him, armed with a whip or club. I first called him to the door of his box stall, where I succeeded in putting on him the eclipse halter, (see description in Chapter XXII) with which I led him out. He reared and plunged so as to be uncontrollable without the foot

ropes as described in Chapter VIII. No one could go near his feet to put them on. I used the pole. (see Chapter IX.) Getting him well used to being touched, and he would presently allow the pole, but not the hand. We then blindfolded him, so that he could not know whether he was touched by hand or pole. It was easy then to put on the foot straps and the surcingle; then with one man at the ropes and another at his head, his education was begun. On being led out, his habit was to rear upon the person leading him. This was impossible while he had on the ropes. As he was then unable to strike with his feet, he made a grab for me with open mouth, when his head was not more than two feet from mine. He aimed at my side, but he caught only my vest and shirt, both of which, his teeth took back with them. He yielded to treatment with apparent good temper till he seemed perfectly tractable. He was then hitched in his box stall with the unbreakable halter described in Chapter V. Every chance was given him to break the halter, which he had often done before, but when he found it impossible he ceased to try.

To prevent his crowding his keeper in the stall, a chain was fastened so as to crowd him to one side of his stall, and bridling became easy.

Since his first lesson his owner has had no trouble in controlling him. Once in a while he shows his recollection of his old habits, but with the owner's prompt use of severe discipline he returns at once to quiet manners. He bids fair to become a perfectly quiet and safe horse. He is certainly very intelligent, and not naturally vicious, but he has been the victim of bad

training.

Any cautious and resolute man can handle any such colt successfully if he only knows how. If the colt is at all dangerous, take no chances with him. Fix him so that he can be handled with safety. Let the trainer put his intelligence against that of the horse, and put him in a condition in which he cannot do harm in the process of learning to obey.

CHAPTER XL.

TO BECOME A GOOD HORSE EDUCATOR.

The first animal that one has need to practice upon is himself. Until the man can control himself so that he will never become disconcerted, or outwitted, or out of temper, he had better let out horse training to some one else. Unless he first makes a conquest of himself he will sometime either let a horse have the better of him, and become injured, or else he will injure the horse or leave him no better than he was at first.

Some men say they can train a horse without a book. So they can if they know how. But the object of the study of books is to get the advantage of years of experience of other men. If one can do as well before he knows how, let him go on without a system and succeed if he can. But if he succeeds at all it must be on some well considered plan, which he has well in mind, and this may be his own or another's. It cannot be a guess so, or a happen so. He must be so prepared that he never becomes surprised, but he must be ready for any trick, or any stupidity, or wickedness, and he must know the next step, at least as readily as a horse does.

It is also one of the indispensables, with or without books, to study the horse's disposition. Before he can do this he must have the faculty to learn such things. Depend upon it, as soon as a horse finds he is going to have anything to do with a man, he studies

him well, and makes up his mind what kind of a man he has met. If the horse is young he always determines to outwit his new acquaintance if he can, and he proceeds with his experiments. If you undertake to treat horses without thorough study and preparation, you had better reconsider it and apply yourself to some profession in which you will only have to treat man.

To be a good horse educator is to be more than a mere tamer of horses. The educator must be able to impart an education that makes a higher grade horse. The way to give a horse a higher value is to increase his capability of knowing what he is to do, and then cultivating his disposition to do it well. Any body can break the spirit of a horse, but not every one can develop a horse's mind as an education develops the mind of a boy. If a man deserves the name of horse-educator, he will promote the animal's mental improvement and his self-control.

PART FOURTH.

TROTTING.

CHAPTER XLI.

TROTTING IN AMERICA.

A fast horse is somewhat like a diamond—no one is certain to find one. The variety of them makes the circle of their fortunate owners very small. Only the wealthy can afford them, and among those who fancy them and who feel they must have them, money is not an object. While the pride of possession is ample remuneration for the expense, there are various sources of income to the horse owners who covet the laurels of Maud S. or Jay-Eye-See. Among all the animals that go upon the ground, the fastest horse is as rare as the finest diamond is among precious stones. They are alike in this, that both will always be rare and dear, and again unlike in the fact that the fast horse only can be both serviceable and profitable; and also unlike, because the diamond will never increase in value nor be free from unrequited expense to the owner.

It is just about one hundred years since trotting came into special notice in America. In 1788, on a bright morning in May, at the foot of Market street, Philadelphia, there was landed the English stallion,

Messenger. He was gray, fifteen hands three inches high, was said to be thoroughbred, and was eight years old. He was a horse of fine build in the main, though lacking in several particular points. The shoulders were upright, the withers low, the neck short and straight, and the head large and bony. His loins and hind quarters were large and muscular, the windpipe and nostrils very large, while fat and clean shanks went down from large hocks and knees. Whether in rest or in action he would strike the stranger as a remarkable horse. On the voyage he had three equine fellow passengers, that were such poor sailors that they became poor and thin and their lank skeletons had to be helped to walk down the gang plank at the landing. But Messenger received the invitation to land with a loud, cheerful neigh, and so leaped out that two colored grooms seized, one each side his bridle, but he carried them along, trotting down the plank and dashing up the street for some distance. Those who are familiar with the build of Rysdyk's Hambletonian will detect several points of exact resemblance to this horse, his imported ancestor, along his lineage only the third step back.

Messenger's recorded ancestry ran back through Mambrino, Engineer, Sampson, Blaze, and (Flying) Childers, to the Darley Arabian, a full Arabian horse brought to England in the reign of Queen Anne, 1702—1714. He had run in England with moderate success, and later ran a mile in three minutes in this country He lived twenty years after his importation, and died on Long Island and was honored at his burial by the firing of a volley of musketry over his grave. His

progeny were more distinguished than himself, for as trotting came on the turf, it was found that the best trotters were the descendants of Messenger. He was the grandsire of Abdallah, which was in turn the sire of Rysdyk's Hambletonian, both of these illustrious among trotters. And now at the end of a hundred years since Messenger stepped on our soil, his descendants are among the most distinguished trotters, or sires of trotters, on the earth. Prominent among hundreds of others are the names of Mambrino, Abdallah, Rysdyk's Hambletonian, Dexter, George Wilkes, Phallas, Almont, Maud S., Goldsmith Maid, Jay-Eye-See, Bell Boy, Nutwood, Electioneer, Volunteer, Stamboul, and a score besides.

It was not till ten years after Messenger received his final military honors, that there was a public trotting against time in this country, and that was in 1818, and for $1000. The occasion of this contest was that eminent horsemen declared that the horse did not live that could trot a mile in three minutes. A new horse, called Boston Blue, performed the feat and was honored much as a new horse would be in 1890 that should do the same thing in two minutes. Turfmen fix on 1830 as the time when trotting had become so popular in this country as to become an established sport.

The turf has a future in the United States that can now be but very dimly outlined. The time for trotting a mile shortens continually; the price of fast trotters goes up all the time; and the candidates for distinction in speed are greatly increasing every year. In England, while the number of tracks has fallen off

one-half in fifty years, the value of the stakes is on the increase, and no other amusement awakens half so much enthusiasm among all classes.

The cultivation of speed in trotting carries with it improvement in the qualities of endurance and docility. In Arabia, where the speed of the horse was for ages the greatest in the world, there also the horse has always been a light feeder, and he is more kindly in spirit than anywhere else. We can form some idea of the almost winged speed of a swift horse, from the fact that the flying Childers, son of Darley Arabian, was known to pass over eighty-two and a half feet in a second of time, a rapidity that surprised the world a hundred and fifty years ago, but surpassed since by Lexington, an American, and it is surpassed by many a trotter now. The photograph of a fast trotter has been taken, showing every foot off the ground at the same instant. As the definition of trotting is, that, alternately, two feet are in the air and the other two on the ground at the same instant and on opposite sides, it follows that if all the feet are off the ground at once, that the horse must be, for a part of the time, actually flying without wings.

It has come about that price and speed are going upward together with equal step. As it is well known that the best class of sires impress their own characteristics upon their offspring, it is quite possible for any well appointed stock farm to amass for its owner a fortune. Nor need he wait but a very short time till he begins to reap his golden harvest. When a breeder refuses sixteen thousand dollars for a three-year-old filly, or a suckling is sold at auction for $3,750, or

a trotting stallion brings at auction $51,000, or a three-year-old colt changes hands for $105,000, there must be long money in the business of breeding, for many years to come.

The value of a good horse can hardly be overstated. Messenger lived twenty years after coming to this country, and from him there have come many famous lines of trotters. No great trotter of the present time can be found whose pedigree will not strike one or other of the Messenger branches within four generations. It is estimated that the value of horses in this country has been increased to the amount $100,000,000 by the blood of this celebrated horse.

There are well known families of trotters other than the Messenger, or the line known later as the Hambletonian, as for example, the Morgans and Bashaws, the account of which our limits rule out. Constant accessions are being made to the trotting aristocracy.

CHAPTER XLII.

PRACTICAL TROTTER TRAINING.

Many readers of this book will be grateful for the next four chapters from the pen of Joseph C. Callahan, of Sandwich, Illinois. For fifteen years he has given careful and intelligent attention to training colts for trotting. He is also a breeder of horses, looking chiefly to speed. That he has been successful, so that he knows what he is talking about, is abundantly proved by the following lines from his record:

OWNER AND TRAINER OF	RECORD.
"Callahan's Maid,	2:25.
"Troubadour,	2:1.9½
"Nettie C,	2:23.
"Billy K,	2:35.
"Trainer of Sir Knight,	2:23¾."

With this introduction to Mr. Callahan you will read with great interest what he says on the practical subject of breeding and training trotters, in the remainder of this and in the next three chapters.

THE ART OF TRAINING TROTTERS.

Victor Hugo has the credit of saying: "If you want to reform a man you must begin with his grandmother." If you want to raise a trotter you must begin several generations back. A good trotter never becomes so by accident, but he is the result of careful breeding. He is the product of years of careful work in selecting and in reproducing the qualities that make

for speed. If you want to raise a fast trotter you cannot wait for a dozen generations of horses to develop the qualities of speed for you; you will have to build on the work done for many years before you begin, and you can select a sire and a dam, if you will, that will bring you what you want. In the first place, the mare must have intelligence; what we call good horse sense. Then she must have good limbs and feet, for poor limbs cannot stand the wear and tear of hard trotting. Indifferent limbs might stand it to trot a mile in three minutes, or possibly in 2:40, but no horse can trot heats in the twenties, or lower, unless his limbs are perfect. Thirdly, select a mare that has the right way of going—good knee action, a long stride, and one that goes wide behind. This is the best way of going, for a horse that is gaited this way goes with the least friction. But almost every horse has some peculiarity of action, and the main thing is to get there; but a horse must either be of long stride, or else be of very rapid gait to be a fast trotter. The long strider will gain in speed the fastest but he is more liable to strains of various kinds because he covers more ground at one step and therefore uses more strength.

In selecting a stallion you will look for the same qualities just mentioned as being needed in the mare. Do not be misled by pedigree. You are to take the qualities that you want to have reproduced and look for them more in the horse himself than in his ancestors. He may have failed to inherit the ancestral speed and it may never appear in his progeny. You are aiming to produce a fast trotter, then look for the exact qualities in the sire that you wish to reproduce. There

are scores of standard bred horses that cannot trot, and no skill of trainers or drivers can make them go, for it is not in them. Breeding is all right when you have a performer, but what is a pedigree without the horse? There was a full brother to Rarus that could not trot a mile in 3:00. Maud S. has brothers and sisters, but you do not hear of any 2:10 among them. In the fifteen years that I have been driving and educating trotters, I have only driven one standard bred horse, and he was the poorest of the whole lot. He had but one redeeming quality and that was pluck; in that he was a regular bull dog, but that was a poor substitute for speed in a trotter; but such horses as Troubadour, 2:19½, or Sir Knight, 2:23¾, not bred strictly to the rule, were his superiors by far. It is common now for moneyed men to pay high prices for pedigree, but in my opinion there is more real value in the horse that excels on the turf, whatever may have been the breeding.

We had good horses ten and twenty years ago, when they had longer and harder races than we have now. And now, well as our horses perform in our time and by our methods, I believe that if our horses were tried in the kind of races of twenty years ago, they would make no better records than were made then. I will give my reasons for thinking so and if I am wrong I will be glad to be set right: The way a thoroughbred is produced is by inbreeding, and the closer you inbreed the more pure the strain of blood becomes, but you diminish the animal in size and you weaken the constitution. You can produce a thoroughbred by breeding as closely as possible for four crosses,

then you have a clear strain of blood either in horses, cattle, or hogs. Some trotters are so closely inbred, and have been for years, that there is no vitality left. It often happens that to cross out and not get a standard animal has a good result. There are some rules that have no exceptions: one is, breed to trotters for trotters; and another is, that you cannot get something out of nothing.

CHAPTER XLIII.

HOW TO DEVELOP SPEED.

When you are ready to develop speed let your young trotter be somewhat matured; four years will do, but five are better. Shoe him tolerably heavy forward and as light as possible behind. Most new beginners go too low in front, and a little weight gives them more knee action, and gets them started sooner. Try and get your colt gaited right at the start; have him go square and level, every lick just alike. Let him take a jog of four or five miles on the course, or on a good road, and keep increasing the gait toward the last and finally end up the last half as fast as he can trot. Do not rush him off the square gait I have alluded to. It is better to slow him up than to have him begin to hitch or single foot; if he reaches out and shows you a nice gait do not speed him too far to make him tired or discouraged, but stop him while he is doing well; the next day you can go through the same course, and if you do not overdo him he will make improvement in something or other every time he is out. Do not lose your patience about anything. Fast trotters are not made in a week, nor in a year, and if he fails to do well to-day he will not fail some other day. A colt of good parts sometimes fails to make a trotter, for no fault of his, but of his trainer.

Feed a colt, that is in training for a trotter, enough of good food to keep him strong. The method of

drawing or starving them is a thing of the past, and trotters of to-day can have plenty of good hay, and thirty minutes at grass every day, and still trot: and we make trotters in one-half the time they used to. A colt should be empty when he is trotting, but after work nothing is too good for him. My method is to feed only oats, and not over two gallons of water, till they have been worked out and then I feed him well. Starving a horse will not promote his speed.

When a horse has been warmed by trotting he should not cool off too quickly. He should be covered well, and kept out of any draught, so he will cool off gradually. Then the muscles will not become stiff, and no bad results will follow. A horse should never stand with his breast to the wind. The opposite is far safer for any horse.

The legs of a trotter should be well taken care of; no horse will go at his best if there is any stiffness or any fever in his legs. It takes a master mechanic to keep a horse's legs all right, and be trotting him in the twenties or less. He will need bandages, arnica, Pond's extract, bay-rum and high wines, and the horse will need grooming and rubbing, and food and water, at regular times, and time for rest and sleep. The man who has the care of a fast trotter has more to do with the animal's success than the driver has. Some horses seem able to endure any kind of irregularity and never seem to mind it, never get bruised or lamed or worn out, while others need a board of health and a drug store to keep them all right. He keeps on the safe side who allows no possibility of accident as to wind or limb, food or rest, heat, cold, or exercise.

CHAPTER XLIV.

THE SCIENCE OF BREEDING TROTTERS.

Kentucky is the hot-bed of the American trotter. As the Athenians were devoted to novelties, so the Kentuckians are devoured with the desire for fast and fine horses. They are first and always to be fast, whether they are fine or not. In central and southern Kentucky the climate admits of twelve months growth for colts in every year. There is no pinching winter, nor fierce northern winds, nor sleet, to absorb the life of the colt, even if he should never see the inside of a stable. A Kentucky colt at four, is a year in advance of one farther north in maturity of both bone and fibre. Historians call Asia the cradle of the human race, but in another sense the Alexander stock farm, at Lexington, Kentucky, is the cradle of the race. There are kept to this day the sires and dams that have become famous by the exploits of their descendants. There are Harold and Miss Russell, the sire and dam of Maud S., the only one of horse kind that ever trotted in 2:08¾; also Belmont and Miss Russell similarly related to Nutwood, 2:18¾; there also is Dictator, sire of Jay-Eye-See, 2:10; and of Phallas, 2:13¾; Director, 2:17½.

In that garden of speed there has come to be an aristocracy for which a horse does not have to wait till he achieves an unprecedented speed, but which he enters by virtue of his family. In Boston, the key to

society is to answer well the question: "What does he know?" That in the equine world would be the circus horse. In New York, the society question is: "What is his style?" That is the carriage horse. In Baltimore, society asks, "What is his family?" And many a ragged bird has a high perch for his relation's sake. In Kentucky the theory of horse aristocracy is that speed is in the blood, and each family has its own peculiar blood. If great speed is developed in a member of any family then all of that family are sought for at high rates, for breeding. It does not matter whether he is orthodox in the shape of his neck, or in the style or the soundness of his limbs; if he has a cousin that has gone a mile under 2:20, the fortune of the family is made, even though many of them cannot trot a mile in five minutes to save their lives. There must come an end to this delusion. There is comparative certainty of the transmission of good qualities, but there is always a danger that any one bad quality, that is prominent, may intensify itself in the next generation.

Now, as to the outfit of qualities for a trotter, first, and foremost, he ought to have a head. It should be a good, intelligent head. If he has a fool's head he will always be a fool. The value of the brain is partly from its volume. From a broad forehead you expect courage, teachableness, good temper. The eye should be full, clear, soft; the ear is to be like flexible parchment, of medium size; the jaws far enough apart for the play of the throat and windpipe; the nostrils wide and thin so as to take in a large volume of air and to give out a great effusion of exhausted air along the

wide windpipe and expanding nostrils.

Next, the trotter should have the best of sound legs. There are hundreds of horses in training that can show fast quarters and halves, but that never make fast miles or low records. The reason is, they are poor-limbed and when you key them up for a mile the strain is too great, and they become curbed, or spavined or puffed. The horses that have records within ten 2:20, either above or below, are the select few from the multitude; their limbs are perfect; they are sound It is said that the ankle bones of an English thoroughbred have a firmness and fineness like ivory; they are bred, first, for soundness, and they have it; then next comes speed. It is only the healthy, strong legs that can stand the fitting to go a mile in the teens. I have seen a four-year old whose owner had refused $20,000 for him. His value was chiefly that he belonged to the most distinguished family of trotters in the United States. But his ancestry had been bred for speed first, not for soundness first, and as you might expect, he had already on one leg, a large, settled, disabling curb. It is evident that mistakes were in the world before he was, and that he may be ornamental, but not otherwise useful.

A third point is, that a colt should approach maturity before he tries the work of a matured horse. If he comes up like a mushroom he will, like a mushroom, go to pieces. Early maturity and lasting qualities rarely, if ever, go together. The process of teething is matured at five years old, which is a suggestion as to the time when hard work may begin. The custom of driving two-year-olds, or even younger colts, on hotly

contested races, is modern and destructive. A colt so prematurely driven will be worn out, or broken down with the cruelty before he comes to the age of his prime.

An old writer lays down the principles of horse-breeding in a few words, but in a way to cover the facts here presented:

"Acquired qualities are transmitted whether they belong to the sire or dam, and also both bodily and mental. As bad qualities are quite as easily transmitted as good ones, if not more so, it is necessary to take care that in selecting a male to improve the stock he is free from bad points, as well as furnished with good ones. It is known by experience that the good or bad points of the progenitors of the sire or dam are almost as likely to appear again in the offspring as those of the immediate parents, in which they are dormant. Hence, in breeding, the rule is that like produces like, or the likeness of some ancestor."

CHAPTER XLV.

COMPLETE THE GROWTH BEFORE THE SPEED.

It has come into vogue in recent times, that colts of two years, and even of one year, are trained and trotted under the greatest excitement. This puts the animal under the highest pressure at a time when all the bones and joints are soft; before the ligaments and tendons have any fitness for the strains and the jerks of a hotly contested race. Early training is opposed to staying qualities. Men give many reasons for this ruinous precocity, this premature fast driving for colts. One is that the colt can have an early name and record, and so he is saleable at an early age at high rates. This has been tried in England until high prices for fast colts are a thing of the past. Another is willing to ruin a few colts that he may drive one or two into fame; even if they never trot again, or even if they die in their tracks, so that their low record may establish the name of their sire for speed. When Axtell lowered the speed of three-year-olds to 2:14¾, at Minneapolis, in July, 1889, it put up the fame of his sire, William L., as a speed producer. It will probably shatter the young bones, and splint or curb the legs of a great many of Axtell's young relatives to try to produce another prodigy in the same family.

There are horses kept for breeding purposes at very high rates, that could hardly take a fifty pound sulky around the track at milk-wagon speed, whose

chief merit is that there is speed in his uncles and his cousins and his aunts. The old hunting ground of Daniel Boone and Simon Gerty is again hunted over, but this time not for grizzlies, but for colts. They must be colts, for colts are cheaper than horses; there is a chance in them for rare speed, and they may come down the home stretch at a two-minute gait, and sell for a hundred thousand dollars, or they may start a breeding farm, originate a new family of speed producers; may make their owner a millionaire and trot him into glory.

It takes a reckless man to bring out a fast colt. Any man of judgment knows that when he is trying to drive a two-year-old colt in 2:30, or a three-year-old in 2:14, that it is not in reason that the tender young body can stand it. Even though the colt may trot a few fast miles it means utter destruction before long. It is like a man running an engine, when he knows the speed is too great for the safety of the machine, and bye and bye all go into the ditch together.

It is a nice thing to have a fast colt, but how much nicer to have a horse like Rarus, or Goldsmith Maid, or Hopeful, to campaign all over the country, and then end up all right and sound. It may pay a breeder to develop colts at one, two, or three years, and make early sales, but the man that buys them will find that if the colt has a strained tendon, or a broken constitution, he has something that there is no remedy for, either in the trainer's art or in the drug store.

Lastly, but not leastly, the horse intended for fast work must have a strong heart and a good circulation. A horse may be well bred, finely gaited and well

limbed, but unless he has a free circulation and a strong heart he will be almost worthless as a runner, or as a fast trotter. The heart is the motor from which all power is derived. Every drop of blood of the human body passes through the heart in two minutes, and the stronger the heart is the harder any animal can work and the less fatigued he will be. The relative power of the animal's heart can only be determined by thorough trial. If a horse comes out of a heat limp as a rag, panting, his ears lopped, showing every sign of fatigue, his circulation is poor and sluggish. Another horse, with the same amount of work, will puff as much, but he will have a freshness in his looks, and he will not seem so utterly exhausted. He has the better constitution for a fast horse. It requires a brilliant combination of qualities to make a fine and fast horse, and only the horse of the rarest combination can get down close to two minutes.

CHAPTER XLVI.

HIGH PRICES FOR SWIFT HEELS.

The rate at which horses of great speed are commanding fabulous prices, is one of the wonders of modern times. About every tenth man, who breeds horses at all, is fired with the ambition to introduce to the world the next famous trotter. The year 1889 was unprecedented for the additions it made to the number of horses that came upon the record of 2:30 or less. It was also without rival in the frequency of sales of flying feet. Appended are the names of a few of the horses sold, and the prices:

The owner of Baron Wilkes, 2:18, by George Wilkes, in 1888 refused $46,000 for him.

Anteo, 2:16½, by Electioneer, was sold for a Kalamazoo stock farm, in 1889, for $30,000.

Anteco, 2:16¼, by Electioneer, went from California in 1889, with a record of 2:16¼ to Kentucky, where he was sold for $30,000.

Stamboul, 2:14¾, by Sultan, at the age of seven, was sold in 1889 to W. S. Hobart, San Francisco, for $51,000, and an offer of $75,000 from the east did not move him.

Bell Boy has always been held at high figures. As a yearling he sold for $5,000. At the end of his second year he trotted at 2:26 and brought $35,000, and in 1888 he changed hands for $50,000, and again in February, 1889, at the age of four, he was sold for

$51,000.

Axtell, by William L., foaled in 1886, made the lowest record for a three-year-old, ever known, and lower than any other living stallion, viz: 2:12. The next day after he had lowered his record to 2:14¾, his owner could have taken for him $80,000. When he ran again and cut off the fraction, the applause was immense, and when at the next trial he made the famous figure of 2:12, his owner was induced to part with him for $105,000.

Electioneer, by Rysdyk's Hambletonian, died in 1888, at the age of thirty-four. The extraordinary speed of his descendants in California, where many of his later years were spent, has attracted to that state a procession of capitalists to gather up his swift-running blood and to carry it east. In 1887 it was announced that no yearling colt by Electioneer would be offered at less than $2,500. Since that time a yearling colt by Electioneer has been sold for $12,500.

Dexter, by Rysdyk's Hambletonian, the banner horse of Bonner, died in 1888, a little over thirty years of age. More than twenty years before he took the record of 2:17¼, which was at that period the fastest time ever made by a trotter. Mr. Bonner then paid $35,000 for him, the highest price for a horse in modern times, up to that date. It is said that Mr. Bonner refused to consider $100,000 for him afterwards. A challenge offer of $100,000 for a horse that would do what Dexter did, was never claimed. Mr. Bonner made this offer for any horse, whether he be young or old, sound or unsound, lame or free from lameness, whether he have one spavin or two, three ring bones

or four, be blind of one eye or both, broken winded or foundered—so long as he performs the feat. The feat, which, if successful, would have stripped Dexter of his laurels, was not undertaken.

There is not space here to note a tithe of the sales at high figures of horses of fine blood, and of high speed. A writer has lately made the statement that "a horse whose record is 2 : 30 will command $10,000, and each second below that figure adds another thousand." Exceptions, both above and below this rate, are numerous, but the rule is definite enough to fill the country with tracks, and to fill the track with youthful Dexters and would-be Axtells.

CHAPTER XLVII.

STANDARD RULES.

The American trotter has the best record in the world. The breeding of trotters is now brought to great perfection. There has grown up a trotter aristocracy among horsemen which is growing so rigid in its rules, and speed is increasing so rapidly, that the time is probably near when a mile will be made in 2:00.

The rules governing admission of horses to standard rank were somewhat amended in the year 1888, so that at present writing, 1889, they stand as follows:

1. Any stallion that has himself a record of 2:30 or better, provided any o his get has a record of 2:35 or better, or provided his sire or dam is already a standard animal.

2. Any mare or gelding that has a record of 2:30 or better.

3. Any horse that is the sire of two animals with a record of 2:30 or better.

4. Any horse that is the sire of one animal with a record of 2:30 or better, provided that he has either of the following qualifications: (a) a record himself of 2:30 or better; (b) is the sire of two other animals with a record of 2:30 or better; (c) has a sire or dam that is already a standard animal.

5. Any mare that has produced an animal with a record of 2:30 or better.

6. A progeny of a standard horse when out of a

standard mare.

7. The female progeny of a standard horse when out of a mare by a standard horse.

8. The female progeny of a standard horse when out of a mare whose dam is a standard mare.

9. Any mare that has a record of 2:35 or better and whose sire or dam is a standard animal.

AVERAGE OF SPEED.

The average of extreme speed of trotters in this country, gains with every decade. Here is a statement of it made up by taking the average of the five fastest performers for each decade since 1820, It is from the pen of Leslie E. Macleod, the highest authority:

1820 to 1830	2:42
1830 to 1840	2:35¼
1840 to 1850	2:28½
1850 to 1860	2:25
1860 to 1870	2:18¾
1870 to 1880	2:14
1880 to 1887	2:11½

CHAPTER XLVIII.

HOW TO LAY OUT A TRACK.

Dunton's *Spirit of the Turf* gives the following method of laying out a track:

FOR A MILE TRACK.

A field of forty-two acres will do. Draw a line through the oblong center, 440 yards in length, setting a stake at each end. Then draw a line on either side of the first line, exactly parallel with and 140 yards from it, setting stakes at either end of them. You will then have an oblong square 440 yards long and 280 yards wide. At each end of these three lines you will now set stakes. Now then, fasten a cord or wire 140 yards long to the center stake of your parallelogram, and then describe a half circle, driving stakes as often as you wish to set a fence post. This half circle, commencing at one side and extending to the other, will measure 440 yards. When the circle is made at both ends of your parallelogram, you will have two straight sides that measure 440 yards each, and two circles of exactly the same length, which, measured three feet from the line, will be exactly a mile. The turns should be thrown up an inch to the foot.

HALF-MILE TRACK.

Draw two parallel lines 600 feet long and 452 feet five inches apart. Half way between the extreme ends of the two parallel lines drive a stake; then loop a wire around the stake, long enough to reach to either side.

Then make a true curve with the wire, putting down a stake as often as a fence post is needed. When this operation is finished at both ends of the 600 foot parallel lines, the track is laid out. The inside fence will rest exactly on the line drawn, but the track must measure a half mile three feet from the fence. The turns should be thrown up an inch to the foot. The stretches may be anywhere from 45 to 60 feet wide.

CHAPTER XLIX.

MORALS OF THE TRACK.

It has come to be a saying that wealth, learning and horses never go hand in hand. Yet there are some notable contradictions of this, among whom Mr. Bonner and W. H. H. Murray have a national fame, and the pencil of Rosa Bonheur was happier among horses than anywhere else. There is no reason in the world that horsemen should be slangy, vulgar or profane. There is nothing in the business to degrade men, more than there is in the trade in cattle or in grain. No one can admire horses and bring them to their highest perfection by study and work, without being at least sober and regular in his habits, and humane. Many fast horses are so valuable that they cannot be owned except by men of great wealth, and it is a rare thing that the owners of fine stock are anything else than refined and honorable men; as much so as well to do farmers and merchants.

It is for horsemen themselves to make their profession as reputable as any other. Tricks and dishonesty, and gambling and drinking, should be run off the track. The superiority of speed should be as honestly ascertained as the excellence of cabbages, or of oil paintings. Even the stable, where good blood is kept, should not only be tidy, but should also be morally clean. The American turf will reach its highest respectability and also its best returns of money, when

our horsemen require that every trainer and groom and rider shall have the character and habits of a gentleman, or lose his place.

Nothing attracts the masses in this country more than the trials of speed between famous, or fine horses. The owners of running or trotting stock should control the places of meeting so far as to insist that nothing derogatory to public morals shall be allowed at trotting tracks. It is in their power to do this. It ought to be done. The management should not abate their expenses by giving license to men to set up their gins to fleece their spectators. It is a misrepresentation of the whole enterprise to have the ground studded over with petty gamblers with rings, and balls, wooden babies and lotteries and with saloons. It is not for owners of horses nor their trainers or riders that such miserables gather at the track; it is to deceive or rob the visitors. It is hoped by many that the managers of trotting tracks shall clean out their grounds from all such nuisances, and if they do not, that owners of fine stock will refuse to bring them out at such places.

In fact when tests of speed of the horse cannot be made fairly and honestly it will be time to quit the business. One of the most famous promoters of speed in this country was Mr. Bonner, of New York. He was a fond lover of a fine horse; and yet he took the utmost pains to prevent betting on his horses. They trotted against time, and alone. There were no stakes with him, no gate money, no more incentive to gambling than there is in the arrival of a trans-Atlantic steamer. And there need not be any time. A horse can trot for a prize, and a Sunday school boy can run for one at a

picnic.

There is no place so given to putting up money on a favorite as the race track, except at a presidential election. Even then the candidates are said to be "on the track," "in the race," and to be "running." One of them is sure to "win the race," though the "winner "may be "handicapped." The most stringent laws fail to keep gamblers from thus thronging the presidential race course. The men who bet on the election of a favorite are among the most eminent and respectable. With such high examples, and with the strong tendency to back one's hopes with his money, it is not strange that there is a great similiarity in the two race courses. If we can banish gambling from the "running" for president, there will be a fairer prospect of banishing it from the turf.

PART FIFTH.

THE FOOT OF THE HORSE.

CHAPTER L.

THE STRUCTURE OF THE HOOF.

The hoof of the horse is more exposed to wear and tear than any other portion of his body. To supply this loss there is in him a manufactory of horny matter, exactly adapted to his ordinary life. The hoofs are in their nature of the substance of the nails or claws of other creatures, and like these, they grow from the base. The outside is of hard, dense, compact, insensible horn, and it is of fine, thin laminæ or layers. These laminæ are of the nature of membranes, and in the inner part are supplied with many blood vessels and nerves, indicating great sensitivity. If a wrongly directed nail in shoeing, or a nail splintered in driving because made of poor iron, should penetrate this sensitive part of a horse's foot, it would cause intolerable pain, resulting in inflammation and possibly lock-jaw, or even in death. It occurs some times from general ill health, or from local causes, that the hoof is not well enough fed. If the secretion of horn is interrupted, or if from local fever the hoof dries up or becomes brittle, it indicates that the gelatine is dried out and that the hoof wants food. Local applications, rightly chosen, will

give nutriment and new vigor to the hoof until the system comes into the hoof-nourishing conditions. The dews are cooling and softening and carry healing to the hoof, while bathing in hard water makes it more brittle.

A gentleman in Wisconsin, well known to the writer, owned a fine saddle horse, nearly or quite thirty years old, that lost the horny part of one hind foot by pulling out of a corduroy bridge. The horse was too much of a pet in the family to be killed, and for humanity's sake he was turned out in a damp meadow. This was in the spring, and before the frost came the hoof was reproduced, leaving no lameness and a very little disfigurement.

The Philadelphia *Record* of August, 1888, relates a fact showing the capability of the hoofs to take on new life. "The trotting stallion, Domestic, seven years old, with a record of 2: 20½, is owned by Mr. John H. Goldsmith, of Washingtonville, N. Y. In August, 1887, in a stubbornly contested seven heat race, he contracted a severe cold, which ended in laminitis, or acute inflammation of the laminæ of the forward feet. Suppuration afterwards set in, and the veterinary surgeon decided to resort to the novel and delicate surgical operation of removing the hoofs with the knife. Usually, in cases of this kind, the old hoof is permitted to slough off, or to be pushed off by the new growth of horn, but this treatment involves danger of deformity, or permanent lameness, or both. The operation was performed, and by January 1888, new and thin, but shapely hoofs had grown over the exposed laminæ, and the horse was able to get on his feet again. His

feet were serviceable enough for ordinary locomotion, but they were always after too tender for the track.

The horse's foot is made up of hidden springs, unseen levers, self-acting pulleys, and cushions ever soft and easy, making up the mysterious mechanism of the feet and legs. Many a man who undertakes to care for this delicate part of the bone, is about as well qualified for it as he is for watch-repairing. It is an exception to find a horse as old as eight years with a healthy set of hoofs. They are brittle, shelly, ridged or dished, or the frogs are cut away, or the heels are high and inelastic. The farmer's horse, whose feet are seldom off the soft and healing soil, will long escape the effect of bad shoeing. But unskillful work upon feet, either at the stable, or at the shop, or at both, shortens the effective life of a horse by about one-half.

In a book intended for a widely different purpose, it would be impossible to define minutely the kind of shoe, the exact form of nail, or the mode of shaping or fixing the shoe except in the most general terms. Our object is accomplished when we secure the attention of the horse owner to the feet of his horse. If he will only study the nature of the hoof, the uses of a shoe, and the mode of making it useful, he may learn to direct the shoeing of his own horse.

Nature provides that the hoof of the horse shall often be wet with dews and rains, and the best pastures lure him in a dry time to the moist lands, so that the hoof shall not become dry and brittle. Many horse owners do not favor nature in this farther than to let it rain sometimes. Standing on the dry floor, traveling on hard dry roads, washing the horse's feet in hard water,

are all destructive to the hoof. Instead of drying up the hoof, better frequently fill the hollow of the foot or the cavity of the shoe with one part tar oil and two parts whale oil. This will feed the hoof and prevent drying.

The treatment of the horse in the stable often causes great injury to the feet. Unless the owner takes care of his horse's feet he must not complain of the smith. The feet must not stand all the year round on a dry hard floor or in the manure, nor be washed in hard water, nor be driven barefooted on graveled road. The considerate owner will not let his horse's feet become brittle and feverish from over feeding without exercise, nor from excessive use of corn. It may be the owner and not the smith that does the damage by his carelessness. There are two men who should make a study of the foot of the horse; they are the smith and the owner.

CHAPTER LI.

TO SHOE, OR NOT TO SHOE.

The belief that every horse that travels, or that works on a farm, must have pieces of iron nailed to his feet, puts the horse and his owner at the mercy of the shoe-smith. This man is not often a student of horse anatomy. There is no class of workmen so fond of being thought original as the horseshoer. His theory of shoeing is generally his own. He does not verify it by actual dissections, nor does he study carefully the nature of the hoof before he adopts his methods. The many serious mistakes made in shoeing horses naturally awakens the inquiry as to the actual value of the horseshoer. The use of the horseshoe is modern. Bucephalus, the charger of Alexander the Great, never was shod. The later Greeks never used upon their horses any kind of shoes. Great generals, like Alexander, Hannibal and others, often had great armies delayed, and sometimes defeated, by the wearing out of the cavalry in hilly and rocky countries. For a short campaign, or for short journeys, shoes are not important. The farm horse rarely fails in his feet for want of shoes. The horses of our North American Indians are never shod, and their feet never fail them in escaping from our well shod cavalry. Dr. Rees's Encyclopedia states that the Romans, much as the people of Japan do now, sometimes placed on the feet of their horses what we would call boots, made of

sedges twisted together, or leather strengthened with plates of iron, but without any nails being driven into the feet. Nero used these in georgeous style, bespangling the horse's boots with silver and gold. The first horseshoe now known to have been used was worn by the horse of Childeric I., (481,) which shoe is yet in existence, and much resembles that of modern make. It is not a hundred years since draft horses wore shoes weighing five pounds each. "The coming man" will stand between the man who never shoes, and the man whose horse's feet are injured by shoeing. He will not shoe all his horses, but only those that need it, and them only while they need it. In any event he will have the sole, bars, frogs and heels as untrimmed as he does his own thumbs and heels.

An interview with Hon. Lewis Steward, of Plano, Illinois, during the preparation of these pages, is too important to remain unnoticed here. Mr. Steward said that some years ago his attention had been called to the injurious effect of the shoeing of horses, and he had long since ceased to have his horses shod. He remembered that, fifty years ago, one John Evans lived near the present site of Plano, and was the owner of a little sorrel mare that probably never was touched by a shoe in her life. Evans would leap on the back of this unshod mare and, across acres of ice and crusted snow, would run down and capture prairie wolves in a fair race for speed. Mr. Steward had, a few years ago, a fine horse whose feet became diseased, and the paring and shoeing, and changing of smiths, only made them worse. Suppuration set in and he resolved to take off the shoes and to pave the horse's stall with

cobble stones. This was done and the feet were soon well and have been sound and unshod ever since. Another of his stallions, twenty-four years old in 1889, had been happy in his bare feet on the cobble stones for several years. The use of the cobble stones was to give exercise to every part of the hoof so that a healthy circulation could be kept up in the elastic part of the foot.

On driving along the streets after his two galloping ponies, that never in their lives wore blinds or check reins or shoes, Mr. Steward drew up before a two horse team with a load of wood, weighing, probably four thousand pounds, drawn by two heavy, broad, strong mares. This was one of his teams. Their feet were round, regular and unbroken, and had not worn shoes for years. They were headed for a steep hill which he said they could go down without locking the wheels, or up without difficulty, and without shoes, taking a load of more than three tons at any season, except about once a year for two or three days at a time. None of his one hundred and fifty or more of horses were ever kept in the stable, in the winter, for want of shoes, and none stopped from going up hill or down for want of being shod, except as above for two or three days, or ever became lame from worn or injured feet.

On being asked if he would never shoe a horse, he said he would shoe only for an emergency; if he had to drive over fields of ice he would have his horses shod, but as soon as the ice was gone he would have the shoes taken off.

It is evident from Mr. Steward's views and habits

that thoughtful men begin to doubt the wisdom of keeping horses shod all the time, or even shoeing horses at all, for ordinary work. It is seriously doubted by many whether the shoeing process preserves in soundness as many feet as it ruins. William of Normandy allowed a native British lord to retain his estate unconfiscated for the service of shoeing his horses, but the bold and wiley Norman made a condition that when a palfrey was injured by the shoeing, a sound one should be furnished instead. That would be a wise and wholesome arrangement to make in these days. This agreement would break up many an otherwise honest man.

CHAPTER LII.

SHOEING THE HORSE.

Nature provides for the continual growth of the hoof of the horse and also, by a natural sloughing off, for the progressive removal of the part made useless by growth. The natural process leaves very little to be removed by the blacksmith, certainly nothing but the natural growth under the shoe. When he does cut he should leave the foot in its natural shape and pare away only enough to fit the shoe evenly on the hard and horny wall of the hoof. Never cut the foot to fit the shoe. For a man this would be barbarous; it is about the same for a horse. Make the shoe so as to fit the foot.

The portion of the hoof between the bar and the quarter is the breeding ground of corns. On that part no pressure should ever come. The hardened, horny substance, around the outside of the hoof, which is about half an inch thick, should rest evenly on the shoe, and that part only. Inside of that there is a softer, cushion-like substance, never to be cut nor even touched, except to be washed. If let alone it will sufficiently shed its superabundant growth. The frog cuts like cheese and it is so easy and nice to cut at it, that the man with a sharp knife cuts away, knowing that he will never wear the shoe himself nor drive the horse.

A knife should never touch the inside of the foot of

the horse, that is, inside of the outer horny rim. Leave the sole and the frog as nature made them. If they grow more than nature pleases you, let them do as the feet of the wild horses do. Insist upon it with your smith that the frog of the foot shall be allowed to come to the ground, if it will. Stand over it and do not allow him to touch it. Its use is to pound upon the ground, and it is this pounding that is the life of the foot. It is the hard and sudden pressure upon the frog that promotes the circulation of the blood in the hoof, and also keeps in activity the nourishing and the absorbing vessels that make up the strong healthy hoof. The horseshoers who do not know these things ought to quit the business. Most of the foot diseases of the horse come from the cuttings down at the smithshop.

The horse cannot travel safely without the use of the frog. It is the natural rest of the foot and the point of contact between the bony structure and the ground. Its elasticity and its rebound at every step causes the circulation of the blood to the extremity of the hoof. It is also the organ of touch. The horse decides by the sensation in the frog as to his safety. It is the only part of the hoof that connects with the brain through the nervous system, and so it is the horse's only means of knowing when his foothold is safe. If the frog is cut away, or if the shoe is made so thick that it cannot reach the ground, the horse is deprived of the power of feeling the ground. He also loses the power of adhesion to the ground, except from his own weight.

CHAPTER LIII.

THE HORSE'S AGE BY HIS TEETH.

The following rules for telling the age of a horse by his teeth are generally reliable, though not infallible, as exceptions will sometimes occur with every rule. Up to eight years the age is determined from the teeth of the lower jaw.

Eight to fourteen days after birth, the first middle nippers of the set of milk teeth are cut; four to six weeks afterwards the next pair to them; after six or eight months the next pair, or cutters.

All these milk teeth have on their front surface grooves or furrows, which disappear from the middle nippers at the end of one year; from the next pair in two years, and from the incisors in three years.

At the age of two years the middle nippers are shed, and in their places appear two permanent teeth with deep black cavities, and full, sharp edges. At the age of three, the next pair are exchanged for new ones; at four years the incisors fall out, and are replaced by new ones. At five years old the horse has his permanent set of teeth.

As the horse increases in age the teeth grow longer, but at the same time are worn away by use about one-twelfth of an inch each year, so that the black cavities in the middle nippers disappear in the sixth year; those of the next pair in the seventh year; and those of the incisors in the eighth year. The outer

corner teeth of the upper and lower jaw just meet at the age of eight years.

At nine years old the cups disappear from the two middle nippers above, and each of the two upper corner teeth has a little sharp protrusion at the outer corners.

At ten the cups disappear from the next two upper teeth.

At eleven the cups disappear from the upper corner teeth, and are only indicated by little brown spots.

From the twelfth to the sixteenth year the oval form becomes broader, and grows more and more triangular, and with the twentieth year the teeth lose all regularity. After this age there is nothing in the teeth that will indicate the age of the horse, or justify the most experienced examiner in giving an opinion.

The tusks are cut between the third and fourth year; their points become more and more rounded until the ninth year, when they lose all regularity of shape. Mares frequently have no tusks.

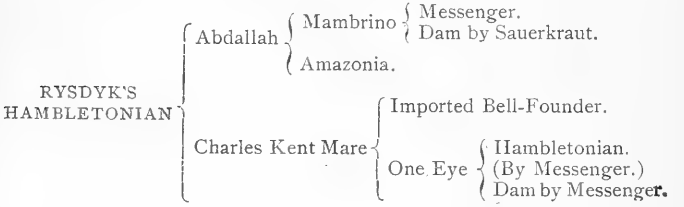
PART SIXTH.

FAMOUS HORSES.

CHAPTER LIV.

RYSDYK'S HAMBLETONIAN.

The celebrated Messenger has had fitting mention in Chapter XLI. Rysdyk's Hambletonian carries the palm as Messenger's most illustrious descendant. A strong effusion of Messenger blood, from the lines of



both sire and dam, centered in him. He was foaled May 5, 1849, the property of Jonas Seeley, Jr., in Orange County, N. Y. Mr. William Rysdyk, a neighbor, bought both dam and colt, when the foal was five weeks old, for $125. Mr. Rysdyk was then a poor man, and there was nothing in the colt to predict the coming fortune. When the colt was well broken to harness, the boys took him to the log-rolling bees, where, attached to a log-chain, he performed the ignoble work of rolling up the great logs. After the

No. 13.—Rrsdyk's Hambletonian and his Owner, William Rydyk.

work was done, and the boys rode their untrained nags in scrub races, it was noticed that Rysdyk's young horse would always come out ahead. Fame came to both colt and owner by the slow process of growth. For years before the death of Hambletonian in 1876, at the age of twenty-seven, he brought the same owner from $20,000 to $30,000 a year. It was to him like finding a gold mine in one of his own hills. As his wealth grew he bought the next adjoining farm. At one time, before he knew his own resources, he resolved to sell out farm and stock, and go west. But only a few neighbors attended the auction, and no one offered a bid for Hambletonian. Finally the owner died first, and left no tender bequest to the horse that made him rich. The farms were divided up among the heirs, and now nearly all these lands have passed out of the hands of the family. The famous horse went down to his long rest crowned with rare honors. He was buried on the old farm, on a hill summit, near Chester, N. Y., near the roadside. The grave is enclosed in a neat fence and over it is a marble slab with this inscription:

"Rysdyk's Hambletonian. Foaled May 5, 1849. Died March 27, 1876."

Upon the mound a young elm is growing. The generosity of strangers built his tomb. His resting place is less than three hundeed feet from the stable he occupied for a quarter of a century, and where fame met and crowned him.

Leslie E. Macleod, who needs no introduction to men who know something of the literature of the turf, says in the Patent Office Report for 1887:

"Rysdyk's Hambletonian was far and away the greatest of all trotting progenitors. He founded a trotting family with which none can compare, and to which none can approach, and his blood, it is said, 'raised the trotting horse of America, to the highest point of excellence.'" Among the progeny of this fine horse, Dexter was the paragon of trotters.

When it is said that "the introduction of Messenger enhanced the value of American horses to the amount of $100,000,000," it is distinctly understood that no descendant of Messenger contributed so much to this increase of value of the American horse as did Rysdyk's Hambletonian. His blood runs along every trotting track in all the land. So did he impress himself upon his progeny that thousands of horses bear some resemblance to him that are only distantly related. For a horse to stand in the line of descent from him, other things being favorable, is itself a certificate of speed.

CHAPTER LV.

NUTWOOD. (600) 2:18¾.

On the adjoining page will be found a good likeness of the celebrated horse, Nutwood, of a still rising fame. The gentlemanly owners are Messers. H. L. and F. D. Stout, of the Highland Stock Farm, Dubuque, Iowa. Nutwood is of a chestnut color, 15. 3 hands high; weighs 1,160 lbs., foaled May 1, 1870.

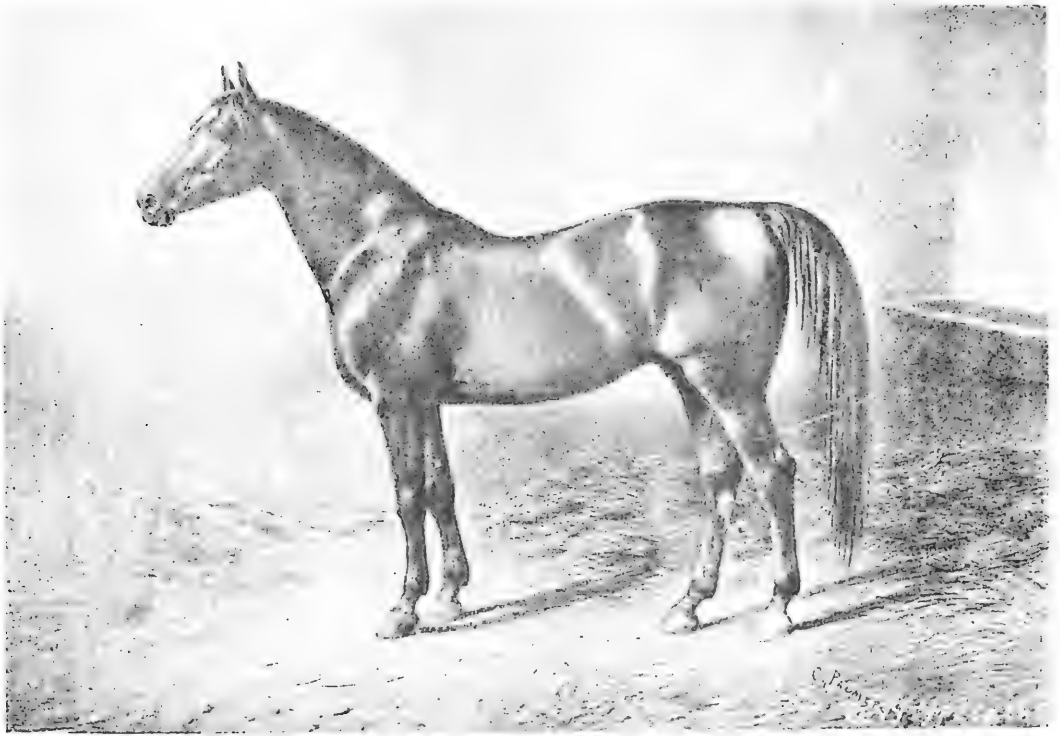
As a sketch of this fine horse would certainly be interesting to horsemen everywhere, a few points of his character are given here by permission of his owners. Mr. J. H. Wallace, who is the highest authority in this country, says in *Wallace's Monthly*: "Nutwood when compared with others, point by point, is certainly the equal, if not the superior, of any trotting sire in the world."

The *Kentucky Stockfarm* says: "In conformation and disposition Nutwood is simply perfection." As there are many things in this horse that are unsurpassed, it is a matter of public interest to give some of his characteristics. In October, 1889, he had an aggregate of thirty-one in the list of 2:30 or better, and seven of his colts trot in 2:20 or less. Two of his sons have sired four in the 2:30 list. One has a record of 2:16½ and a grand-daughter of his has a record of 2:19½. His dam, Miss Russell, dam of Maud S. 2:08¾, ranks all the great brood mares as a producer of extreme speed. It is believed that no sire has sur-

passed him, if any ever equaled him, in respect to the impressiveness with which he stamps upon his progeny his own characteristics which also strongly mark his family.

Except to state bare recorded facts of what Nutwood is, little need be said. Individually he is excellent, of superior conformation, of good size, with remarkable substance combined with finish and quality. He has the best of legs, sound and clean, and good feet. He has an even, gentle temper, and is kind and intelligent in disposition. That he produces these characteristics, as well as great natural speed, in his offspring, is best known to those most closely acquainted with him and them. The lines that all intelligent breeders recognize as the best from Rysdyk's Hambletonian, the greatest progenitor, are those through George Wilkes and Alexander's Abdallah. They are the lines that produce greatness not only in one generation, but through successive generations, and stand above all others. Nutwood is, by the records, the best living representative of the Alexander's Abdallah line.

A good test of the value of blood is the price it brings. Before the dispersal sale at Glenview, fifty-one colts and fillies by Nutwood, two years old and under, were sold by private sale, and by auction, at an average of $1,307.50, and those sold for twelve months previous to that sale averaged $1,728.26 each in cash. At the great sale itself, sixty-eight head of



No. 14.—Nutwood, (600), 2: 18¾.

Nutwood's produce, sold under the hammer for an average of $1,570. Twenty-seven of these were weanlings and averaged $1,350 each, and the yearlings averaged $2,281. The highest to that time paid for a weanling was the $4,000 paid for the daughter of Nutwood and Mattie Graham. At Glenview, at the auction, Cherrywood, weanling, by Nutwood, sold for $3,025, and at auction, another weanling, Delphos, by Nutwood, was sold for $3,750, and another was sold at private sale for $4,000, which up to that date was the highest price ever paid for a weanling.

These figures need no comment.

CHAPTER LVI.

THE WORLD'S MOST FAMOUS MARE.

M. Buffon wrote a century ago that the horse possesses, along with grandeur of stature, the greatest elegance and proportion of parts, compared with animals immediately above or below him. The head of the lion is too large, the limbs of the ox are too slender and too short, the camel is deformed. He has not the air of imbecility as the ass, nor that of stupidity as the ox; and the grosser animals, as the elephant and rhinoceros, may be considered as rude and shapeless masses.

An older, and more quaint writer, gathers for the horse the excellencies of every graceful and handsome creature, and of each, three qualities: Three of the lion, viz., countenance, intrepidity and fire; three of a bullock, viz., eye, nostril and joint; three of a sheep, viz., the nose, gentleness and patience; three of a mule, viz., foot, constancy and strength; three of a deer, viz., head, leg and swiftness; three of a wolf, viz., throat, neck and hearing; three of a fox, ear, tail and trot; three of a serpent, memory, sight and turning; three of a hare or cat, running, walking and suppleness.

We risk little or nothing in saying that Miss Russel, by Pilot Junior, of Woodburn Farm, Spring Station, Ky., embodies more of this catalogue of qualities, with the power to reproduce them, than any other living mare. She is a grey, foaled 1865, and at three

years old trotted in 2:44. She was taken from the track to the breeding farm, and in 1870 her first colt was Nutwood, 2:18¾, described in preceding chapter. Cora Belmont, her second, has a record of 2:24½. Her third, Maud S., 2:08¾, has the fastest record ever made. Nutbourne, 2:26½, is owned by Robert Bonner. Most of her family of colts are untrained on the track, but they are no less valuable as producers of speed. Among them is Lord Russell, full brother to Maud S. The only son of Lord Russel now in Illinois or in the west, so far as we know, is Sandwich, the property of H. C. Graves & Sons, of Sandwich, Ill. Sandwich is son of Lord Russell, who is full brother of Maud S., both having for sire Harold, and both having for dam, Miss Russell.

In the summer of 1889 when Miss Russell was twenty-four years old, her seventeenth colt was following her in the Woodburn pastures, and a footing up of the values of her large and popular family, showed at that time an aggregate current value of $300,000. It is not likely that for character and for market value, any one mare's colts have ever equaled those of Miss Russell.

CHAPTER LVII.

A HORSE ABSOLUTELY PERFECT.

Was there ever a perfect horse? There was a perfect man once whose name was Job. There was one animal of the horse kind, absolutely perfect in mind, and body, and in movement; at least so a graphic writer makes it in the *Atlantic Monthly*, for April, 1869. It is from the facile pen of W. H. H. Murray—Adirondack Murray. It gives the experience of an officer of our army, in the battle of Malvern Hill, who lay in a clump of trees, wounded, during most of the havoc of that bloody day. The wounded officer tells the story:

"I saw, from where I lay, a riderless horse break out of the confused and flying mass, and, with mane and tail erect and spreading nostril, come dashing obliquely down the slope. Over fallen steeds and heaps of the dead she leaped with a motion as airy as that of the flying fox, when, fresh and unjaded, he leads away from the hounds. So this riderless mare came vaulting along, with action so free and motion so graceful, amid that storm of bullets, that whirlwind of fire and lead. So she came careering toward me as only a riderless horse might come. Her head flung widely from side to side, her nostrils widely spread, her flank and shoulders flecked with foam, her eye dilating. I forgot my wound and the wild roar of battle, and lifting myself to a sitting posture, I gave her a ringing

cheer."

"No sooner had my voice sounded than she flung her head with a proud upward movement into the air, swerved sharply to the left, neighed as she might to her master from her stall, and came trotting directly up to where I lay, and pausing, looked down upon me as if in compassion. I spoke again and held out my hand caressingly. She pricked her ears, took a step forward and lowered her nose until it came in contact with my palm, as if to court and to appreciate human tenderness."

"In weight she might have turned, when well conditioned, nine hundred and fifty pounds. In color she was a dark chestnut, with a velvety depth and soft look about the hair indescribably rich and elegant. Many a time have I heard ladies dispute the shade and the hue of her plush-like coat as they ran their white, jeweled fingers through her silken hair. Her body was round in the barrel, and perfectly symmetrical. She was wide in the haunches; without projection of the hip-bones, upon which the shorter ribs seemed to lap. High in the withers as she was, the line of her back and neck perfectly curved, while her deep, oblique shoulders and long thick forearm, ridgy with swelling sinews, suggested the perfection of stride and power. Her knees across the pan were wide, the cannon-bone below them short and thin; the pastern long and sloping; her hoofs round, dark, shiny and well set on. Her mane was a shade darker than her coat, fine and thin; her ears sharply pointed, delicately curved, nearly black around the borders, and as tremulous as the leaves of an aspen. Her neck

rose from the withers to the head in perfect curvature, hard, devoid of fat, and well cut under the chops. Her nostrils were full, very full, and thin almost as parchment. The eyes from which tears might fall, or fire flash, were well brought out, soft as a gazelle's, almost human in intelligence, while over the small bony head, over neck and shoulders, yea, over the whole body and clean down to the hoofs, the veins stood out as if the skin were but tissue paper, against which the warm blood pressed, and which it might at any moment burst asunder. 'A perfect animal,' I said to myself, as I lay looking over her,—'an animal which might have been born from the wind and the sunshine, so swift and so cheerful she seemed—an animal which a man would present as his choicest gift to the woman he loved, and yet one which that woman, wife, or lady-love, would give him to ride when honor and life depended on bottom and speed.'"

CHAPTER LVIII.

THE COMING HORSE.

A brilliant writer in the *Horseman*, who hides his personalty behind the initials L. D. H., gave in 1889, the following racy sketch of "the coming horse." It is full of suggestions as to the horse to raise and the horse to buy.

"'A horse! a horse! my kingdom for a horse.' The world has ever been quick to recognize the 'man on horseback,' and the possessor of a horse has always been considered a fortunate individual. No other agency has cut so important a figure in the conquest of the world. The estimation in which the horse has been held has marked the degree of the intelligence and civilization of the owner. As the world advances in progress, so his value and appreciation moves up in the scale of the animal kingdom."

"From being a prime article of necessity, he has advanced to the proud position of elegance, luxury, taste and power."

"He has caused streets to be paved, drives to be laid out, tracks to be improved, costly palaces to be built, the wilderness transformed into fields of green and gold, and nature to take a new dress. Amphitheaters have been constructed, art and science, skill and nerve have vied with each other in developing form, beauty, endurance and speed."

"Steam and electricity have relieved him of many

of his former burdens, inventive genius has elevated his being, civilization has ennobled him. His companions of the past have been the stable-boy and groom; the future brings to his quarters the best culture of the world. The latest invention, the last improvement, the best treatment when well, the most intelligent care when sick."

"Not only his appearance, but his comfort and well-being are now being considered; his teeth, his eyes and feet are all receiving the utmost attention."

"'The tamer,' 'the breaker,' the brute and the quack are all things of the past. The educator, the expert driver, the veterinary surgeon are come. Brutality and force are dead; love and tenderness are alive. Superstition and ignorance valued animals for what they were supposed to be worth; culture and intelligence appreciate them for what they are."

"Cruelty and bad treatment are punished by law. He who dares to abuse this noble fellow shall be treated as a criminal and punished as he deserves to be. Not only are his past services being better appreciated, but his old age is being respected and cared for."

"He has been frightened by the noise of the steam whistle and the brass band; in the future he will pay no attention to this turmoil and noise. He will know that man is his friend, and means nothing but good to him."

"Think of the well defined classes of horses for the future,—the farm, the road, the draft, the coach, the gentleman, the family, and not the least if the last, the race and the trot."

"The coming horse will be the 'special purpose;'

the general purpose horse has had his day."

"The farmer has no use for the mountains of flesh and muscle that could move logs and stones of great weight, that could drag steam engines and threshing machines through mud and over bad roads, that could draw reapers and mowers that mired in the fields by reason of their great weight and immense draft. His demands are for horses of lighter weight, that can respond to the quick clatter and movement of better and easier running machinery, light but easy running plows and other farming tools; horses that are not easily frightened, that can be controlled by the word instead of the lines while the driver's attention is directed to his machine. Intelligent men demand intelligent beasts, and they will have them. Horses that can be educated to get the best results out of the machines and at the same time have the qualities of speed that make them desirable for road purposes, if the opportunity come to change them from the farm to the road. The horse bred for the especial purpose of doing light work can pull a top buggy as well as a sulky plow, can be driven to church and the picnic, can be stylish and have speed enough to make him the pride of the family, that will make the boys and the girls delight to have their city cousins come and take an airing in the country, and cause them to want to get home from school and the dirt and dust of the city to enjoy the drive down by the old familiar places of their childhood. The coming horse for the farm is a special purpose horse of good size with plenty of form and finish."

"There is the coming horse for the business man

who must attend to his business and depend upon his wife taking the children out in the country for an airing; a horse that is not frightened at anything, that will stand anywhere, that cares not a straw for moving trains, flying newspapers, road engines, and all the other things that frighten the family horse, and in nine cases out of ten make him of very little account in the absence of the head of the family. Then the delivery horse, that stands any place without hitching, and knows just what to do in any case if other horses lose their heads and run away; that sees no processions, takes no account of brass bands, elevated roads, and the turmoil of large cities."

"It would take too long to name all of the good qualities of the special purpose horse of all classes; suffice it to say, that if the far-seeing man will take these conditions into consideration and breed for special purposes, he will not only be happier, but put money in his purse."

"There are thousands of dollars spent annually for the pleasure of seeing a horse-race, but there are millions that would be paid for horses if the especial horse could be purchased."

CHAPTER LIX.

BEST TROTTING RECORDS.

This record is made up to October 15, 1889, and it must be held liable to correction any day. Owners of this book who desire this chapter to be a true record for coming time must correct names and dates when any faster horses develop speed. It is confidently predicted that a mile will be trotted in 2:00 before 1900.

One mile—Maud S., Cleveland, Ohio, July 30, 1885, 2:08¾.

Two miles—Fanny Witherspoon, Chicago, Ill., September 25, 1885, 4:43.

Three miles—Huntress, Prospect Park, Long Island, June 23, 1872, 7:21¼.

Four miles—Trustee, Union Course, Long Island, June 13, 1849, 11:06.

Five miles—Lady Mack, San Francisco, California, April 2, 1874, 13:00.

Ten miles—Controller, San Francisco, California, November 23, 1878, 27:23¼.

Twelve miles—Topgallant, Philadelphia, Pennsylvania, 1830, 38:00.

Fifteen miles—Girder, San Francisco, California, August 6, 1874, 47:20.

Twenty miles—Captain McGowan, Boston, Massachusetts, October 31, 1865, 58:25.

Fifty miles—Ariel, Albany, New York, 1846, 3:55:40½.

Hundred miles—Conqueror, Long Island, November 12, 1853, 8:55:53.

Fastest of stallion—Axtell, Indianapolis, Indiana, October 9, 1889, 2:12.

Fastest of mare—Maud S., Cleveland, Ohio, July 30, 1885, 2:08¾.

Fastest of Gelding—Jay-Eye-See, Philadelphia, August 15, 1884, 2:10.

Fastest of two-year-old—Sunol, filly, San Francisco, October, 1888, 2:18.

Fastest of three-year-old—Axtell, Indianapolis, October 9, 1889, 2:12.

Fastest four-year-old—Manzanita, filly, Palo Alto farm, California, 1889, 2:16.

CHAPTER LX.

THE MULE.

The best mules are produced from the male of the ass kind and the female of the horse kind, taking from the former a general resemblance in form and patience and surefootedness; and from the latter, vigor, strength and courage. He is more easily kept than a horse; perhaps, because one line of his ancestry has for ages browsed on sterile mountains or searched over sandy deserts for his scanty food. We also attribute his sureness of foot and his facility in climbing or descending mountains to the character of the ancestral ass that climbs over precipices, as surefooted as the mountain goat, and that picks his meager food from the most frightful declivities.

The mule is of little use till he is four years old; his usefulness begins later than that of the horse, but it lasts longer, as he will endure, if treated reasonably well, twenty, thirty or even forty years. His size varies in different countries. In regions where both his ancestors are small in stature he is often no larger than a Newfoundland dog; but where the conditions of best size are met, he reaches fifteen or sixteen hands in height, or even more.

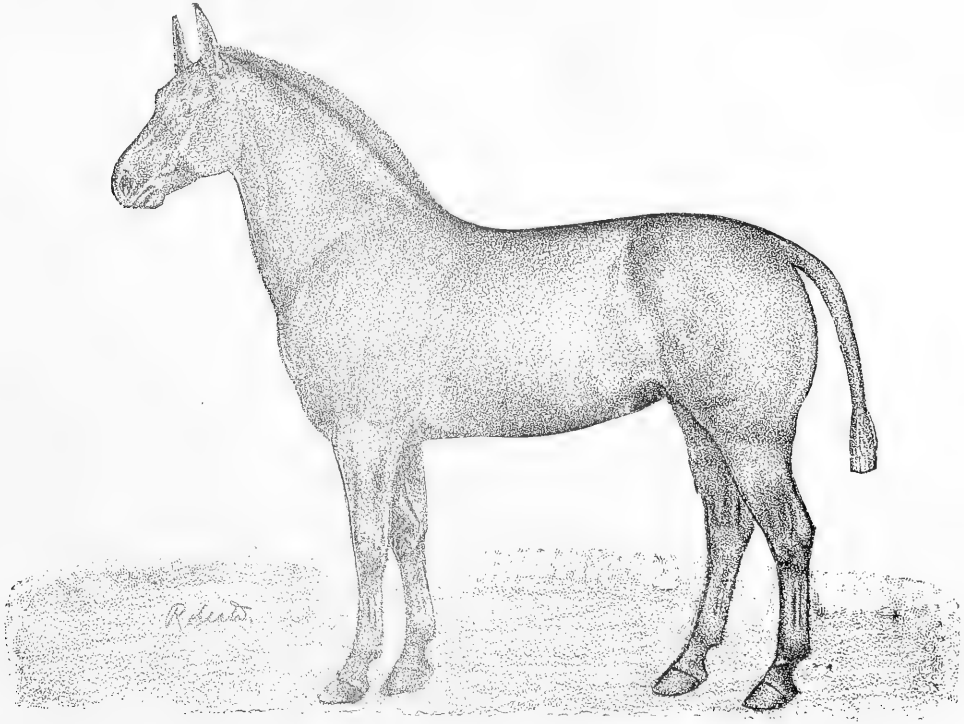
The first jacks for breeding purposes were introduced into the United States by George Washington, on his farm, in the fine climate of Virginia; the very large animals presented him by some of the monarchs

of Europe, produced very large and strong mules of which the general was very proud.

The mule has not always been excluded from honorable place. Anciently kings and princes rode upon mules, and to this day in Spain mules draw the royal carriage, and a fine mule costs there more than a fine horse. The best mules in Europe are found in Spain, Italy and Malta. In America the best are produced in Kentucky and Missouri, where the mule-producing farms find profit in employing mares that are good, both in blood and for size, in producing mules.

In this country the indications are that the use of the mule will become more common, and that as his price advances the profit in his rearing will increase. The expense of raising mules is far less than that of raising colts. The skin is harder than that of the horse, and hence he will better resist the effects of sun, or rain, or cold. He is easily fed; he can carry or draw, can climb or descend mountains safely; he is free from the common equine diseases. He is especially valuable for military use, being preferred for all the uses of the army except for the cavalry. In our war in the south the horses gradually left the transportation service, the ambulances and the hospital trains, and were replaced by mules. In the war in Abyssinia the English found a fatal malaria that cut down their horses by the thousands, but which did not harm their mules.

The carrying power of the mule exceeds that of the horse. The estimate of his burden for a day's journey is 30 per cent of his own weight, but in the copper mines of the Andes he has oftener to carry 40



No. 15.—The Mt. Vernon Mule.

per cent of his weight, climbing around precipices within a foot's distance from the death line.

For breeding purposes the dam should be selected with the greatest care. She should have small head, round body, short back, wide chest, large thighs and arms, long neck, wide and round hoofs and should be at least fourteen, or better fifteen hands or more. The mule inherits shape and peculiarities of sire and size from the mare, but very rarely her bad shape or unsoundness. Mares that are unsound, or defective in shape so as to be unfit for horse breeding, may produce good mules.

In general the methods by which a horse is controlled and trained apply equally to his half brother, the mule.

Are the best shaped mules raised in Missouri or Kentucky? To this question The *American Agriculturist* replies: "Undoubtedly Kentucky carries off the palm in this respect, as the breeding of mules has been long conducted there. There are many intelligent mule breeders in Missouri, but the Kentucky stock has the general preference. Kentucky mules upon an average, are worth $10 per head more than the Missouri mules, from the fact that they are better bred. There is more thoroughbred blood diffused among the horse stock generally of Kentucky and Tennessee than in any other states in the Union, thus giving a better class of mares to breed from than can be found outside of these two states. On the other hand the blood of the Clyde and Percheron mixed with the coarse Canadian is the foundation of a large number of the brood mares in the northwest. They produce large, coarse, sluggish

mules, not to be compared to the somewhat smaller, but clean-limbed, active, high-spirited mules out of well-bred Kentucky mares. No animal shows the effects of good breeding more readily or to greater advantage than a mule."

From the United State census of 1880 we have some indication of the value of mules produced in this country, and the proportions, as between the mule-producing states:

Kansas, $5,816,067; Arkansas, $6,527,584; South Carolina, $6,599,767; Texas, $7,527,765; North Carolina, $7,541,876; Kentucky, 8,611,656; Alabama, $10,109,630; Illinois, $10,187,852: Mississippi, $10,915,397; Georgia, $12,947,842; Missouri, $13,254,356; Tennessee, $13,410,216. This gives an aggregate of value of mules, at taxation rates of estimate, of $113,440,008, in 1880. The actual, saleable value would probably double these figures, and the almost ten years elapsed since 1880 would very largely increase it.

Horses are not produced in the same proportions as mules. Here are the numbers of horses as reported in 1880 in six states: Pennsylvania, 533, 587; Missouri, 667, 776; Ohio, 736, 478; Iowa, 792, 322; Texas, 805, 606; Illinois, 1,023,082. Total number of mules in United States in 1880, 18,12,081. Total of horses, 10,357,488.

CHAPTER LXI.

THE SHETLAND PONY.

The beautiful little horse that takes its name from one of the islands west of Scotland, is very serviceable on its native hills, but it is in other countries a mere plaything. They sprang from the Norway horse. They never go under a roof summer or winter, and they eat only the scanty herbage picked up from the wild soil. They are seldom over thirty-six to forty inches in height, but are full of spirit and can endure fatigue well. Large numbers of ponies are exported, so that they are worth now fifty to sixty dollars each. The smaller ones if well proportioned, bring the best prices.

The Aberdeen *Free Press* says that the prevailing color of the true Shetland ponies is brown, and there are also a number of black ponies among them. Compared with the native ponies from Iceland and North Faroe, which are sometimes offered as real Shetlanders, they are much finer in the head, which is small and handsome. They are capable of great endurance, especially in their native country, and in the days when the stallions were more largely used in the mines than they are now, some of them have been known to live for twenty years below ground. Shetland ponies have become very popular in America, and are being bred on the ranches. It is doubtful if, when removed from their native soil, these hardy little animals will maintain the ancient characteristics of the breed.

The Shetlander ought to be popular as taking the place of goats for the little carriages of boys, and they do serviceable work in small wagons and carriages; they are such dolls, and so gentle and spirited that they make a beautiful team. Of late there is a good deal of attention given to tracing the pedigree of the pony directly back to Shetland. Hon. Lewis Steward, of Plano, Ill., drives a pair of these animals that are never check-reined or shod, are never sick, never wear blinders, and the moment they enter the road they spring into a fast run which never intermits till their short journey is done. The same pair has worked in that way for ten or twelve years. They are uncommonly hardy. A judicious mixture of pony blood makes a very hardy and gentle little horse.

Bell's *Messenger* says: "The need there is for preserving the purity and characteristics of the breed is being more generally recognized, and the action which is being taken with this object in view has probably been quickened by the popularity which Shetland ponies have gained in America. Strangers to the breed are said to have been largely imposed upon by dealers, who, as already stated, palm off Icelanders and North Faroe islanders for the real Shetland ponies. The average height of the ponies from North Faroe island is about forty-eight inches, and that of the Iceland ponies about fifty inches—a fact which in itself should help buyers to distinguish between the different breeds; and besides it should not be forgotten that the Shetland ponies carry by far the prettiest heads."

The little Shetland horse is evidently traceable, as we have said, to the Norway horse. The effect of

hard climate and scanty food records itself in the diminutive stature and the hardiness of what is now the native pony of Shetland.

There is a similar change that has come upon the horse kind in our own country. On the north-east coast of Virginia, five miles from the mainland, there is an island of perhaps five or six townships in extent, called Chincoteague. It is the only place in the United States where an entirely untamed herd of native ponies can be found, wild as mustangs. As to how they came there, tradition has almost forgotten. The Indians used to tell that a ship loaded with horses, on the way to the Elizabethan settlements of Virginia, over two hundred and fifty years ago, was wrecked on that island, and the horses escaped to the island, and the crew to the mainland. Left to themselves, they have degenerated into the small, but not ill-formed ponies, that have never yét surrendered to either saddle or harness.

The American pony hive of Chincoteague awaits the exploration of some pony-trainer, who can furnish us with an American edition of a toy horse that is beautiful, strong and hardy.

PART SEVENTH.

DISEASES OF THE HORSE AND REMEDIES.

CHAPTER LXII.

THE HEALTH OF THE HORSE.

Buffon, the naturalist, writing a little over a hundred years ago, laments that no educated man takes care of the health of horses. Better times for horse flesh are upon us when we have schools and hospitals for instruction as to equine diseases. Scores of newspapers contain a column, weekly, on the care and cure of horses. The result is already that the life and usefulness of the horse are much prolonged. The horse's natural age is about thirty years and he ought to be in his prime from ten to twenty.

Good food and shelter come first as the means of preventing disease. The unsheltered and half-fed horses of Iceland and Northern Russia are always under size. It was the great strength of the well-fed Norman horses against the ponies of the Britains that decided the battle of Hastings in 1066, and let in the Normans. The colt that is under-fed and half-starved for his first three years is never half a horse afterwards. If a horse is given free range he will select only healthful food, and he will sagaciously select remedies for his disorders, if the cure is within his

reach. On the contrary an ass will eat everything, so that there has grown up a saying, "The best physician is a horse and the best apothecarian an ass." If you will put rock salt and a rock of chalk in his manger, he will relish his food every day with salt as you do yourself, and he will take of the chalk when he has a sour stomach. What would your boarder think of you if you were to give him salt and pepper and sugar only on Sunday mornings, and then mix up in his pancakes enough to last him a week as you do for your horse? Infrequent and irregular feed and water will make him gluttonous. The camel, that travels for days without water, drinks a barrelful when he gets it.

The stable should be airy, with windows not always open nor always shut, nor should the cold wind blow on his face or breast. He should not be kept in twilight, on a filthy floor, in a damp den, for sixteen hours in twenty-four, where foul air invades the lungs, and the odor of ammonia inflames the eyes. The air should be dry and sweet and his bed clean. The floor ought to be level, with perfect draining. The stall should be of the box pattern and not a narrow dungeon. Each horse should have a manger concealed from the eyes and the teeth of the next neighbor so that he can eat without haste or annoyance. A horse that is much out doors is always in motion and the elasticity of the sole and frog will keep the foot healthy. The horse tied in the stall where he can hardly move his feet will soon have them hard, inflamed and brittle, his legs will be benumbed and stiff, and he will probably be treated for rheumatism or spring halt, and die

of old age at eleven. If he had a box stall in a lighted, clean, ventilated stable with regular food, his years of labor would have been double. All animals that occupy a bedroom ought to have one large enough to lie down in, and that is particularly true of the horse.

Prevention is better than cure. But accidents will happen. Changes of food and water, over-exertion and exposure of a creature that has no voice to complain, will often make a sound horse sick.

Most of the diseases that afflict horse flesh are directly traceable to the carelessness or the ignorance of his owner. The foolishly over-estimated horse is over-fed, or he is given improper food, or good food at irregular or improper times. The driver, ignorant of his strength, puts on him excessive labor, or the horse is over loaded or over driven, and the owner meets with loss of service and then with loss of property. Every horse in a veterinary hospital, and thousands more, can certify to the carelessness or stupidity of drivers. The certificate is written on hides, nerves, muscles and bones. All the common diseases are traceable to carelessness, ignorance or cruelty, such as colic, corns, curbs, farcy, heaves, poll-evil, quarter-crack, ringbone, scratches, splint, spavin, string-halt, sweeny, and fifty more. The greatest puzzle of the horse doctor is how best to rescue the dumb beast from his oppressor. If your horse is young and healthy now it will be a sin and a shame to you if he shall ever need a doctor, until he lies down to his last and welcome sleep.

CHAPTER LXIII.

REMEDIES FOR DISEASES OF THE HORSE.

There are two classes of complaints among horses, viz: the obvious and the concealed. We shall treat of them in this order, considering first the complaints which appeal to the eye of the spectator, amply and at once defining themselves, at first sight. When the horse suffers from such maladies the spectator can understand the trouble and in the moment define it accurately. When a man buys a horse or trades for one, blind or lame, or curbed, or that has ringbone, poll-evil, or wind galls, the courts have held that he has no redress. He must use his eyes or bear his own loss. One who discerns the simpler and evident ailments of his horses, and applies the best remedies will often save the use of a horse, or perhaps his life. Such a man will soon acquire a small drugstore of remedies. The following pages are intended for his guide. He should obtain a good sized bottle to hold his medicine, paste on it the name of the malady to be remedied, and the name and quantity of each ingredient, and the dose. When the necessity shall have passed, put away the medicine so carefully prepared, what is left of it, and it is ready at a moment's notice. Of course this only applies to such remedies as do not become injured with standing. No one must suppose that this book will make every man a horse-doctor, but these hints may save the life of many a fine horse.

REMEDIES OF OBVIOUS APPLICATION.

1. Brittle and Contracted Hoofs.

One part tar oil and two parts whale oil. Mix. Apply to whole sole of the foot, and all over the foot up to the hair.

2. Healing Mixture.

These preparations are especially for indolent sores. Apply twice daily.

One fourth ounce carbolic acid, four ounces tincture of arnica, two ounces glycerine. Mix.

3. For Proud Flesh.

In case there is proud flesh use this: Pulverized camphor one dram, prepared chalk six drams, burnt alum four drams. Mix. Sprinkle over the sore.

4. Galls from Saddle or Harness, or Bruises.

Tincture opium five ounces, tannin two drams, glycerine one ounce. Apply twice a day.

5. Liniments.

This is for use upon any swollen part of a horse, for sprains or bruises, but not where the skin is broken. These liniments should be preceded and followed with much rubbing by the hand.

Equal parts of alcohol, chloroform, aqua ammonia, Jamaica rum and water. Mix, apply.

6. For Soreness in Muscles and Cords.

Hydrate of chloral and tincture camphor, of each half ounce, oil cedar and oil hemlock of each two ounces, spirits nitre four ounces, alcohol eight ounces. Apply, with rubbing twice daily.

7. A Liniment Good for all Sprains.

Half pint linseed oil, half pint turpentine, four ounces oil origanum. Shake well and it is ready for use.

8. Bruises or Cuts on Horse or Man.

Tincture of arnica one ounce, sassafras oil one half ounce, laudanum one ounce. Mix. Shake well, bandage lightly, keep wet with the mixture.

9. Sore Mouth and Lips.

Borax one ounce, tannin one-fourth ounce, glycerine eight ounces. Mix and apply two or three times a day with a swab.

10. To Stop Bleeding.

If you can get hold of the artery or vein, tie it up. If not, take 10 grains nitrate of silver and 4 ounces of water. Apply to the wound and it will stop bleeding.

11. String Halt.

There is no malady of the horse more obvious than this defect in the muscles of the thigh. The horse does not seem to suffer pain, and he is able to do almost any kind of work. There is no remedy so far as is known.

12. To Promote Growth of Hair.

Rub the denuded part daily with an ointment of carbolic acid one ounce, lard eight ounces.

13. The Famous Black Liniment.

To cure stiff joints, sore shoulders, contracted cords, galls, cuts, bruises, sprains, burns, chapped hands, salt rheum:

Spirits of turpentine one-half pint, raw linseed oil one pint, oil of vitriol and oil of wormwood of each one-half ounce, tincture of hartshorn one ounce. Mix all together well except the vitriol, then add the vitriol, which will make it warm, and stir with a pine stick till cool. Prepare it in a stone crock, never in tin. Never give it inwardly. Some call this the best liniment in the world.

14. Cooling Lotion for External Inflammation.

Muriate of ammonia six ounces, acetate of lead two ounces, acetic acid four ounces, tincture of arnica eight ounces. Bathe part affected thoroughly.

N. B.—It will be observed in these suggestions of treatment for the ailments of horses, that bleeding is not once recommended. This method of cure is almost entirely discarded among both physicians and veterinarians. To send an unskilled operator with a sharp lance, after an unresisting creature, is a very dangerous thing.

CHAPTER LXIV.

DISEASES, SYMPTOMS, REMEDIES.

Many diseases have remote or concealed causes. The nature of the malady, and of course the remedy, must be studied out by carefully investigating the symptoms. It has only too often occurred that a human patient has been treated for some disease with which he had never been touched. When we treat a dumb beast, that cannot with speech aid us in our inquiries, we have only so much the more need of caution in finding out what is the trouble before we give any medicine. In a book like this the medical department must be very brief. It can only suggest a few hints as to treatment. In any serious attack, a larger work should be consulted, or the aid of a veterinarian should be invoked without delay.

No. 15. Ringbone.

This is bonym atter thrown out from the crown bone of the foot. If once begun the tendency is to continue to grow. If the growth of bone is examined after the death of the horse the new deposit will resemble honey comb. The best success of treatment is to stop the growth and to cure the lameness.

No. 16. Spavin.

The spavin resembles the ringbone in its nature, and is a hard substance which comes out on the inside of the hind leg, connected very closely with the lower

part of the hock joint. The object of treatment is to relieve the severe pain, abating the inflammation, and to arrest the growth. It is necessary for the horse to rest during treatment. These two diseases, similar in nature, require the same treatment.

In all cases the first method of cure named is the one to which I would first resort. If there is another given it is one so well recommended that I believe it to be worthy of confidence.

No. 17. For Ringbone and Spavin.

Aqua Ammonia	½	Ounce
Oil Origanum	"	"
Red Precipitate	"	"
Euphorbium	"	"
Spanish Flies	1	"
Tinct. Iodine	2	drams
Lard	½	pound

Melt all together and stir till cold. Clip the hair off and apply the blister. Grease after two days. You can blister three times, one week apart. This is a sure cure.

No. 18. Ringbone and Spavin.

F. F. F. Ammonia, Spts. Terebinth, Soft Soap, equal parts.

Apply twice per day, for three days, then once per day for six days, then stop until scab is shed and if not well, repeat.

No. 19. Curb.

The curb is thrown out back and below the hock joint, seven or eight inches below the joint of the hock. It is soft and elastic and comes from a strain. There

is inflammation with the swelling, and this must be reduced before any effort is made to remove the curb. It may be reduced by bathing with cold water or with some cooling liniment or lotion. After the inflammation has been reduced the swelling will abate under a mild blister.

20. For Cure of Curb.

Biniodide Mercury - -	1 Dram
Lard - - - -	1 Ounce

Apply once a day for three days, then rest three days and repeat. Good for splints, curbs or callouses.

After a blister is started do not inflame it with another blister on top of it, or you will have trouble.

21. Splint.

This is a bony accretion on the inside of the front leg on the cannon bones, and the best prescription for it is the last given above. Splints generally go off of themselves unless connected with the knee joint.

22. Sweeney.

This is a sinking away of the muscles of the shoulder caused by a slip or a strain or by too large a collar. The flesh seems to fall in and the powerless muscles cannot swing the foot. To cure.

Alcohol - - - -	4 Ounces
Spirits Turpentine - -	4 "
Tincture Camphor - - -	½ "
" Cantharides - - -	½ "
" Capsicum - - -	½ "
Oil of spike - - - -	3 "

Bathe this liniment in with a hot iron.

23. Distemper.

This is a severe influenza, likely to prevail in the spring or in a wet autumn, and generally as an epidemic. There is with it extreme debility, the pulse is weak and a little rapid, mouth hot, eyes and nostrils red, belly much contracted, no appetite, some cough, the glands of the neck swell. If there is doubt whether it is a cold or a distemper, it is better anyhow to give the horse rest. Keep him warm and out of drafts. Mix bran with very weak lye; if the lye is not too strong he will eat readily, and if he has distemper he will have a free discharge through the nostrils, and health will follow. Give him no water for a few days, only a thin gruel. As soon as appetite returns give him twice a day a dram of copperas,—sulphate of iron —in fine powder. If after taking the bran as directed there is no discharge, it is all right, he has only a cold.

Another method: Use one table-spoonful of oil of hemlock—pull out the tongue and put it on the root—it saves a drench. Then rub on the glands close up to the jaws, a liniment made of cedar oil two ounces, amber oil, hemlock oil and gum camphor, of each one ounce, salt peter a half ounce, alcohol one pint.

24. Founder.

This chiefly affects the feet, and hence is called Laminitis. Causes: Eating or drinking when hot, or if warm, standing unprotected, in cold draught. Give the horse a soft bed of straw or saw-dust. Stand his forward feet for four or five hours a day in a tub of cold water, or better, stand him for similar time in running water till relieved. Give dose of 15 to 20

drops aconite root, four hours apart, till better. Give him rest. Feed grass or wet bran for a few days. If the feet become brittle, see remedy on page 180.

25. The Mange.

This is nothing but the scab or itch on cattle, dogs and horses. It is caused by an insect, a species of acarus, that burrows in or upon the skin. It comes from contact, though a poor half starved creature often sets up a mange farm of his own. The cause generally is being out hungry in wet weather, over-driving with poor cleaning and poor feeding. The disease betrays itself by itching of the skin, falling of the hair, little red pimples and scabs spread over the skin. The animal becomes feverish, loses flesh, and if uncared for will die.

First clean the stall and stable thoroughly. Sprinkle everything in reach with carbolic acid, one ounce in one gallon of water. Wash and scrape the harness, and rub it with washing soda and water, followed with oil and sulphur, one ounce to a pint of oil. Heat the curry comb and burn the brush and wiping cloth, and whitewash the stall. Give the horse a pint of raw linseed oil and repeat in three days. Oil all parts of the animal with kerosene and leave it on for twelve hours and then wash off with much soap and warm water. Apply this:

Iodine,	½ Ounce.
Iodine of Potash,	½ "
Tar,	1 "
Lard,	8 "

Mix. Melt. Apply. Repeat the whole application in one week.

26. Collar Galls.

These are caused by ill-fitting collars. Any part of a badly-adjusted harness will cruelly pain and mark up a horse. Adjust the harness well. Apply alcohol with all the saltpeter it will dissolve, when the collar is put on, or taken off.

27. Sunstroke.

The cause of this is excessive exhaustion under great heat of the atmosphere. The horse is stupid, or he falls unable to rise. To prevent, use a sunshade over the forehead under the bridle, or a wet sponge. Cold water, or better, a bag of ice laid on the top of his head will give relief. Bleeding in the mouth will relieve the brain.

28. Worms.

Worms are indicated by a craving for food, emaciation; mucus comes with the evacuations. Take equal quantities of pulverized ginger and copperas, and give a tablespoonful twice a day.

29. Stoppage of Water.

The horse gives signs of pain, lies down, groans, on rising throws his head towards the seat of the pain, frequent and fruitless efforts to stale.

Give one ounce sweet spirits of nitre, repeat in half an hour if not better, or give five drops tincture of cantharides in a little water every half hour. If neither of these is on hand give one tablespoonful of saltpeter in half a pint of water.

30. Appetite Diseased.

The cause of a morbid appetite is supposed to be a

want of some important element in the food, or it may be a diseased condition of the digestive organs. It is very rare, if ever, that a healthy horse shows a longing for a kind of food that would injure him.

The symptoms of morbid appetite are that the horse chews old bones, or eats clay, or gnaws the boards of the stall or the manger.

For remedy give him free range occasionally, or take gypsum—common land plaster—four parts, clean salt two parts, flour of sulphur one part; mix, and keep in a trough or somewhere within reach of the animal, for a few days at a time. He will have no need for this remedy all the time.

31. Bots.

The stomach bot originates in the egg of the bot fly, which with a stinging sensation is fastened on the horse's fore legs in the pasture or at work, in summer time. The horse, unintentionally, snatches these and swallows them, and they are hatched into bots in the stomach. If the horse is healthy and eats his food three times a day, the bots will never injure him. The house in which the bots live is agreeable to them and it has plenty of food, so that its inhabitants do not eat up the horse. But if the horse is half starved, or if he is sick and cannot eat, the bots fasten on the inner coats of the stomach and sometimes eat clear through. The acids and poisons that will kill the bots will kill the horse first.

The presence of bots is indicated by the horse occasionally nipping at his own sides, and also by red pimples on the inner surface of the upper lip, easily seen by turning up the lip.

Take new milk 1 quart, molasses 1 quart, and give the whole amount as soon as the disease is certainly known. In 15 minutes after give of warm sage tea 2 quarts. In 30 minutes after the tea, give 2 to 3 pints of currier's oil, (according to size of horse;) if the oil cannot be had use melted lard, with 3 or 4 ounces of salt; if the lard cannot be had, dissolve a double handful of salt in 3 pints of warm water and give it all.

32. For The Eye, To Remove Scum.

Calomel, - - - -	3 Scruples.
Olive Oil, - - - - -	1 ounce.
Belladonna - - - -	3 Scruples.

Apply with a feather twice a day.

33. Lock-Jaw.

Apply chloroform to the nose until the jaws fly open. Put a gag in the mouth and give two ounces tincture of assafetida every six hours, and a dose of physic. If not too late this will cure.

34. To Make Ointment Like Sloan's.

Take mutton tallow four pounds, beeswax half a pound, turpentine three ounces. Melt over a slow fire, and when nearly cold add the turpentine and you will have the ointment that is sold for everything.

35. To Make A White Star.

Take a knife and shave the hair off. Put oil of vitriol on the spot that is intended to be white, with a feather.

36. Lampers.

Bleed or scarify the gums, never burn. It only

makes matters worse. Give a bran mash, and rub the gums with salt.

37.—Flatulent or Wind Colic.

This disease is sudden in its attacks, very common, and sometimes fatal. The celebrated horse, Messenger, died of it in 1828, and so has many a fine horse since. It must be carefully distinguished from inflammation of the bowels. It has many causes, as drinking cold water while in a heated condition, a change of feed from dry to green or the reverse, being washed with cold water while hot, unwholesome food or too much acid in the stomach.

Horses fed on corn are most liable to this windy colic, also those fed on green food, both of which substances ferment readily in the stomach. The distention is so rapid that sometimes death occurs in half an hour.

The symptoms are, the attack is sudden, pain is evidently great, there are intervals of rest, motion gives relief, he paws violently and shifts his position constantly. The pulse is normal, extremities are of natural temperature, he throws himself with great force, ineffectual efforts to stale, he snaps at his sides with his teeth, a cold sweat comes out on him, with unusual distention of the abdomen. Remedy:

Fluid Extract	Aconite	1 Ounce
"	Belladonna	1 "
"	Colocynth	1 "

Mix. Dose: One teaspoonful in two ounces of water Repeat the dose in one hour, if not better. If you have to give a third dose, wait this time for two hours.

The use of large quantities of hot water injections will often bring away volumes of wind, giving relief and facilitating a cure. The horse is liable to injury by lying down or rolling. Do not expose him to the causes of colic for some time after recovery.

If colic is preceded by constipation of the bowels, do not give these remedies till after injecting gallons of warm water, or a gallon of gruel containing a quart of castor oil. Until the bowels are opened relief cannot arrest the spasms of the muscular coat of the intestines.

38. Heaves.

Heaves is a common name for any difficulty of breathing in a horse, and it is often caused by a rupture or enlargement of the cells of the lungs. A cure is generally believed to be impossible, and yet sometimes the horse recovers and the disease can be so controlled that the horse can do good farm service for years. If given all the dry food he will take and then all the cold water he wants he is useless. As this disease is never found in racing stables, the inference is that it results from vicious feeding, or in some want of care. Feed no musty or dirty hay, very little hay of any kind. Horses have been reported cured on four pounds of timothy hay, and three quarts of feed of equal quantites of oats, corn and wheat bran, with a little salt. Put in the feed, once a week a dram of sulphate of iron and half an ounce of ground gentian root.

A very successful horseman declares this to be a sure cure for heaves: Give daily twelve drops of oil of tar in the oats or mash and one teaspoonful of pulverized rosin in his feed at the same time. Also give twelve

drops of sulphuric acid in half a bucket of water daily and let him drink it. In sixty days the horse will be well. Wet his hay or straw.

39. Corns.

Corns appear only in the angle of the sole near where the crust and the bar meet. The cause is improper shoeing, or wearing the shoe too long. The horse extends the pained foot resting on the toe and gives other signs of pain. On cutting the corn there will appear a spot, or if the corn is bad it will be a dark purple. Apply remedies for softening the hoof, see preceding chapter, cut out the corn so as to remove all pressure, rest the horse, take off his shoes. Apply daily a lotion of chloride of zinc one dram, glycerine two ounces, water six ounces.

40. Grease Heels.

This disease so much resembles the scratches that one may be mistaken for the other. In this there is a white, disagreeable, greasy-like discharge from the heels, and the skin is hot, sore and swollen. It is common to horses that are over-fed, or that want exercise, or that stand, or that work, in the wet.

Treatment: Keep the legs and feet dry, and also clean with castile soap and soft warm water, dry afterwards.

Give condition powders, which see, and in the early stage cure with glycerine four ounces, carbolic acid one dram, mixed and applied twice daily, after careful washing.

If the remedies for chapped heels, which see, do not cure, cut off the hair about the heels as short as possi-

ble. Cleanse with soap and soft water and then cleanse from soap. Dry the parts well. Put thirty grains of chloride of zinc in one pint of water and do not wash but only dampen the part with it. In fifteen minutes apply glycerine. Keep the heels moist with this. Repeat this daily till better.

41. Scratches.

This is so like what is known in England as grease heel, that the remedies may be interchanged. It affects the same part. The causes are the same, the symptoms are much alike, and the remedies for one are used for the other. It is usually confined to the hind feet. It often occurs that this disease will yield readily to one remedy in one horse, but not in another.

Remedy:

One pint cider vinegar, adding four tablespoonfuls sulphur. After making the ankles clean with castile soap and warm water, wash with this preparation. Three or four applications will cure an ordinary case.

For Scratches—Another.

What will cure one horse of scratches may not cure another, so here are other remedies: Wash clean with castile soap and warm water. One ounce sugar of lead, one ounce burnt alum, half an ounce sulphate of zinc, one quart of rain water. Apply when the ankles are dry. In three or four days a cure is quite certain.

For Scratches—Another.

First keep clean. In mild cases apply linseed oil. If severe, take of copperas ¼ lb., castile soap ¼ lb., and the whites of four eggs. Melt all together and bind on every night for three nights.

FOR SCRATCHES.—ANOTHER.

Goulard's Extract,	2 Ounces
Sweet Oil,	2 "
Collodion,	½ "

42. A GOO REMEDY.

This is excellent for curing rheumatism or backache for man, and soreness or swelling of horse's legs. It will blister if confined under a bandage. Rub well the part affected and apply with a rag:

Alcohol,	1 quart
Salammoniac,	2 oz.
Gum Camphor,	2 oz.
Oil Hemlock,	2 oz.
Oil Vitriol,	2 oz.
Oil Cedar,	2 oz.
Spirits of Turpentine,	2 oz.
Beef Gall,	½ pint

43. INFLAMMATION OF THE BOWELS.

This disease is often confounded with colic. If it is treated the same as for colic it will pretty surely be fatal. The pain in colic is not constant, in this disease there is no let up to the pain. Otherwise the symptoms are very much alike.

To relieve the pain give two teaspoonfulls of laudanum in a little hot water every hour or two till the pain ceases. Saturate a blanket with hot water, and fold it inside a rubber sheet held in its place by the ends being brought up to the side and fastened over the back. If food is given let it be boiled. Do not move the bowels for two or three days by cathartics, but at the end of that time inject hot water sufficiently

to move them. If the pain continues give 5 grains of nitrate of silver and half a dram of opium in a half pint of water, with the chill taken off.

44. Bandages.

Bandages are applied to the legs of the horse for three different purposes, viz: to give support to the blood-vessels and synovial capsules, also as a vehicle for cold or hot lotions, and thirdly for drying or warming or cooling them.

45. For a Hide-Bound Horse.

Nitrate of Potash,	4 oz.
Crude Antimony,	1 oz.
Sulphur,	3 oz.

Pulverize the nitrate and the antimony, then add the sulphur, and mix well together. Dose: a tablespoonful in a bran mash daily.

46. Swelled Legs.

Sometimes the swelling of the legs is of an inflammatory nature and it is then to be treated like any other such complaint. It generally appears first on the inside of the hind leg which becomes hot and sensitive. If it does not yield readily to soothing liniments, give a physic, and if it continues, give a tablespoonful of saltpeter in a bran mash, at night for three days. It is good also to bathe frequently in cold water with a sponge.

47. Legs Swelled with Seurm.

If there is no fever it is likely to be a deposit of serum, the watery part of the blood. It is apt to occur most when the horse first comes in from grass or stands too much in the stable. In either case moderate

exercise, with some warning liniment, is good. If he is weak give him a dram of sulphate of iron daily with his feed. If there are signs of any derangement of the kidneys as the cause, give half an ounce of pulverized saltpeter with his feed for a few days.

48. Chapped Heels.

If the legs swell a disease in the heels often follows. A watery substance exudes which burns and blisters the skin, which cracks, becomes inflamed and very painful. If serious give a tonic or alterative medicine. At night wash with water a little warm and apply cerate of acetate of lead. Next morning apply glycerine, and again before taking him out to work.

49. Liniment for Soreness in Muscles and Cords.

Hydrate of Chloral,	½ ounce
Tinct. Camphor,	½ "
Oil Cedar,	2 "
Oil Hemlock,	2 "
Spts. Nitre,	4 "
Alcohol,	8 "

Apply by rubbing well twice a day.

50. Harness and Saddle Galls.

Tinct. Camphor,	3 Ounces
Hamamelis,	4 "
Tannic Acid,	½ "

Apply three times a day.

51. Alterative and Tonic.

Fluid Extract Taraxacum,	2 ounces
" " Sanguinaria,	2 "
" " Hydrastis,	2 "

Fluid Extract Uva Ursi,	4	Ounces
" " Nux Vomica,	1	"
Tinct. Ferri,	3	"
Alcohol,	4	"
Aqua,	4	"

Dose, 1½ ounces 3 times a day.

52. Pneumonia.

This is the same as lung fever, or inflammation of the lungs. The horse first has a chill, then a cold clammy sweat, distressed and rapid breathing, rapid pulse, holds down his head, feet wide apart, groans when made to move, legs and ears deadly cold.

Give Viratrum Viridi, 20 drops. In ½ hour give 15 drops. Then once in three hours until symptoms are better. Then give of the medicine less in quantity and less frequently. Rub the patient's legs with a whisk of straw, then bandage. Do not give any feed for some time after the horse appears better, except scalded bran made thin with water. Protect the horse with a good blanket, and keep him quiet. A little mustard wet with water and rubbed into the hair just back of the shoulder will act as a counter irritant, and may be of benefit in severe cases. Avoid anything that would cause a relapse, such as over-feeding, or moving the patient too soon.

53. Condition Powders.

Pulv. Root Gentian,	2½	Ounces
" Elecampane,	2	"
" Sassafras Root,	5	"
" Skunk Cabbage,	1	"
" Cream Tartar,	1	"

Pulv. Saltpeter,	2	Ounces
" Sulphur,	6	"
" Fox glove,	1	"
" Bloodroot,	1	Dram
" Ginger,	3	Ounces

Mix and grind well together.

Dose: Give one tablespoonful twice a day.

54. THE OIL OF GLADNESS.

IN THESE PROPORTIONS.

Alcohol,	½	Pint
Spirits Nitre,	1	Ounce
Aqua Ammonia,	1	"
Oil Sassafras,	½	"
Origanum,	1½	Drams
Oil Anise,	½	"
Chloroform,	½	Ounce

This remedy should always be kept tightly corked. It is widely used both internally and externally. Many families keep it constantly and give it in small doses for any ordinary disease. For headache, neuralgia, rheumatism, sore throat or inflammation of kidneys, bathe with this remedy and take one fourth of a teaspoonful in a little water. For diseases of the stomach or bowels take internally only, twice a day.

This remedy has been found admirable for horses for almost all complaints. For sweeney, sprains, bruises, or swellings or any malady where the skin is unbroken apply as a liniment. For internal ailments, as colic, disease of the kidneys, etc., a dose for a horse is one ounce in half a pint of water, twice a day.

55. TO LEAD THE HORSE FROM A BURNING BARN.

Generally when the barn burns the horses are lost.

It is because the eyes are dazzled by the blaze, and they can see nothing else. No persuasion or force can break the attraction. There will be no trouble if you will draw a bag over the head, or throw your overcoat over the eyes, or even a pocket handkerchief. If the horse loses his life, it is generally because the owner loses his head.

56. To Cure Warts on a Horse.

A writer in an English agricultural paper says: "Anoint the wart three times with clean fresh hog's lard, about two days between times. You will never have need to make the third application." Nobody will try this because it is so cheap and so easy.

To Protect the Horse from Flies and all Insects.

Walnut leaves, 4 ozs.; lobelia leaves, 4 ozs.; boiling water, 1 gallon. Let the mixture stand till cool, then express the liquid through cotton cloth, and add 4 ozs. of tinct. of cloves. Apply a small quantity all over the body with a sponge.

57. A Wash.

For wounds from barbed wire, inflamed face, fresh cuts or any inflammation of the skin: One tablespoonful of saleratus in one quart of buttermilk.

This remedy looks too simple to be of any value, but nothing is cheaper or more convenient. Try it.

58. Diarrhea in Young Colts.

This malady comes of acidity of the stomach and bowels. Give a tablespoonful of lime water, a tablespoonful of paregoric and a teaspoonful of fluid extract

of ginger in a teacupful of milk in a bottle two or three times a day; oftener if a bad case. If persistent, substitute laudanum for the paregoric, and give brandy in tablespoonful doses in sweetened water several times a day.

59. For Thrush in the Feet.

Clean the foot thoroughly, then apply a strong solution of blue vitriol. Or, sprinkle on the sole a quantity of dry calomel.

60. A Universal Ointment.

Rosin, 4 ozs.; beeswax, 4 ozs.; lard, 8 ozs.; honey, 2 ozs. Melt slowly, bringing it gently to a boil. At boiling heat take it from the fire and slowly add less than a pint of spirits of turpentine, stirring all the time and stir till cool.

This ointment is an extraordinary remedy for bruises in flesh of animals, as injured hoofs, galled backs, broken knees, cracked heels, or any kind of wounds. It is also good to take fire out of burns, or scalds, and to cure chilblains.

No. 61.—For Wind Galls and Soft Lumps.

Oil Origanum,	4	Ounces
" Hemlock,	1	"
" Lavender,	1	"
" Wormwood,	2	"
" Spike,	1	"
Sweet Oil,	8	"

Apply morning and evening. Rub well.

62. Bog Spavin.

This disease is located in front of the hock joint and

it is a firm but soft swelling. It seldom makes the horse lame.

Thorough-pin is a form of bog spavin and is a similar affection of the hock joint. It appears on the front and on the outside of the hock.

Blood spavin is also another form of bog spavin, but it differs in this that it involves the front, the inside and the outside of the joint. The swelling is soft in all these.

For cure for these affections of the hock joint use the same remedy as for ringbone and spavin, given in recipe No. 17.

63. To Steam a Horse.

When a horse has distemper, or is clogged up in the head, and it is desirable to make him discharge at the nose.

Take two quarts cider vinegar in a pail and heat a brick red hot, and put it in the pail, and set the pail under his head, not too close at first, but gradually coming nearer. Put a blanket over his head and give him a thorough steaming.

64. To Take the Pulse of a Horse.

In horses the pulse, in rest and in health, beats forty times a minute. It may be felt wherever a large artery crosses a bone. It is generally examined in the horse on the cord which crosses over the bone of the lower jaw in front of its curved position, or in the bony ridge above the eye. Any material change from forty indicates disease. If rapid, hard and full it is an indication of high fever or inflammation; if rapid, small and weak, low fever or weakness. If slow, it

points to brain disease; if irregular, to heart trouble. The pulse is as sure an indicator in a horse as in a man.

65. A Good Disinfectant.

Dissolve half a dram of nitrate of lead in a pint of boiling water, then dissolve two drams of common salt in eight or ten quarts of water; when both are thoroughly dissolved, pour the two mixtures together, and when the sediment has settled, you have a pail of clear fluid, which is the saturated solution of the chloride of lead. A cloth saturated with the liquid and hung up in a room will at once sweeten a fetid atmosphere. Poured down a sink, water-closet or drain, or on any decaying or offensive object, it will produce the same result.

No. 66.—Hoof Ointment.

Take ½ lb. lard and 4 ounces rosin, heat them over a slow fire until melted, take the pot off the fire, add one ounce pulverized verdigris. Stir well to prevent running over. When partly cool add 2 ounces turpentine. Apply twice per week.

67. Balling with Snow.

To prevent the feet of horses from balling with snow, let the frog of the hoof and also the fetlock be cleaned, and well rubbed with soft soap previous to going out in snowy weather. It will prevent what is termed balling. It may prevent accidents as well as sprains and falls.

68. To Corn Beef.

This receipt is from a practical butcher, widely

known for the excellence of his corned beef:

Salt,	7 lbs.
Sugar,	3 "
Saltpeter,	2 oz.
Black Pepper,	2 "
Saleratus,	2 "

For every one hundred pounds weight of beef.

69. Laundry Soap.

There is often inquiry made for a recipe for making a good quality of soap for domestic use. Here is one that has been widely used and which has met with great favor.

Take 7½ lbs. sal. soda, 2 oz. borax, 1 oz. sulphate of soda, and 8½ lbs. good yellow bar soap. Dissolve the sal. soda, borax and sulphate of soda in 4¾ gallons soft water, till not a lump remains. Melt in the above solution the bar soap; cut the soap in very thin slices that it may dissolve quicker. While dissolving keep stirring so as to mix them well. When the soap is melted it is then done. Remove from the fire and let stand an hour, then pour into pails or lard firkins. A common tin vessel will do to make the soap in. If it is inclined to boil over, a little cold water thrown in will settle it. For perfumes, if desired, add 1 oz. of sassafras, just before it is cool.

70. Condition Powder for Hogs.

There will be readers of this book who would like to know of a safe and effectual condition powder for hogs. Here is one that has been well tried and that has succeeded. It is palatable to swine, and they will eat it readily. Let them have all they will take of it

in a trough given them for the purpose and no epidemic will disturb them.

Copperas,	1 lb.
Sulphur,	1 lb.
Black Antimony,	1 lb.
Saltpeter,	¼ lb.
Common Salt,	4 lb.
Wood Ashes,	1 Peck

Grind fine, mix and place in their trough.

CHAPTER LXV.

THE QUESTION DRAWER.

So many questions have come in on various subjects, and so many of them are of general interest, that some of them are grouped here and brief answers given:

1. THE BEST HALTER.

Which is the best kind of halter for general use ?

ANSWER:—The halter known as the five-ring halter is the best.

2. THE FASTEST TIME ON RECORD.

What is the fastest time made by American trotters?

ANSWER:—Johnston, pacer, 2:06¼; Maud S., trotter, 2:08¾; Jay-Eye-See, trotter, 2:10.

3. THE HIGHEST PRICE FOR A HORSE.

What is the highest price paid for a trotter in America ?

ANSWER:—Axtell, 2:12, a trotting stallion, brought in October, 1889, $105,000.

4. TO PREVENT CROWDING IN THE STALL.

How will you prevent a colt from crowding against you in a stall ?

ANSWER:—Take a plank about 12 feet long, 12 inches wide and 2 inches thick, and place one end on the manger and the other on the floor beside the colt.

As you enter the stall push it over gradually toward him, and go in, having the plank between you and him. You will keep him in close quarters in this way, and he will soon forget his trick of crowding.

5. BEST FOOD FOR HORSES.

What is the best grain to give to a fine horse?

ANSWER:—No kind of grain surpasses the oat. There are objections to all other grains, as a steady diet. The oat recuperates exhausted muscles. It is easily digested, nutritious, and it makes blood and bone. It is not heating, does not excite sweating. If horses have dyspepsia they must be dieted. An occasional variety of feed is good. Grass, corn, cut feed, are all good in their place as promoters of appetite by affording variety, but the grain that is full of nourishment and not too rich, that feeds the blood without taxing the muscles, that fills his frame with life without making him nervous, is good, sound, heavy oats.

6. HAS BROUGHT IN THE MOST MONEY.

What horse has gained for his owner the most money on the course?

ANSWER:—Donavan, a three-year-old English horse, has won more money than any other horse now alive. Up to August, 1889, he had won $197,778.45. Of eighteen starts he won fifteen.

7. THE RIGHT WAY OF THE TRACK.

Should the horse in practicing be driven the direction in which he is to trot, or the opposite?

ANSWER:—The trotter should always be trained

going in the direction in which he is to make the full trial of his speed. If this is not done he is not sure to do his best in the race. It has happened that the fastest horse in the lot has failed to win because he was trotted in the opposite direction from that in which he was trained. Somehow the horse becomes confused, or he forms a habit of going to the right or to the left and the reverse is awkward to him, much as it is to a man as to whether he uses his right or left hand in handling an axe or a hoe. Whichever a man or horse gets used to he cannot reverse it and immediately do his best. The trainer will find this out sometime and will profit by it.

8. MESSENGER BLOOD.

Have we now living any horses that are sons of Imported Messenger, as an owner of a fine horse that I know of, says his is? Another has a colt that he says is from a Messenger mare. Can that be so?

ANSWER:—Imported Messenger died in 1808, so that his youngest son would now be about eighty years old. A mare descended in a recorded line from the same tree would be very respectable but would probably not be over one ten-thousandth part of original Messenger blood. It sounds well where there is no one to set it right, to say, "This horse is a Messenger." The claim is very thin and will not answer instead of form or speed.

9. THE BEST BIT TO USE.

What kind of a bit do you use?

ANSWER:—I use different kinds of bits for different

purposes, and for different horses. One must first learn the nature of the horse. For a fretful horse a bar bit is best. For general purposes I use a jointed bit. A curb bit is only fit to use on a horse under the saddle. If a horse is inclined to run away use a Rockwell bit. The mouth is the tenderest part of the horse on which force can be expended for controlling him. Harshness in the use of the bit is likely to produce what it is designed to remedy, and make a horse do, for pain and rage, the more wrong. Jerking at the tender mouth of a horse is a great cruelty.

10. CLIPPING HORSES.

Would you advise clipping horses?

ANSWER:—No, never. It is far from ornamental to the horse—it cannot be other than detrimental to health. It is possible, with great care as to clothing and unchanging warmth of stable, that the fatal effects of clipping may be postponed, but they are sure to come. Even the clipping of the heels and legs of horses is a frequent cause of disease. To take off all his coat adds nothing to the comfort of the horse nor as most people believe, to his good looks, and certainly it contributes nothing to his health or strength. It interrupts the healthy action of the skin, and it is almost certain to leave disease, if not in the skin, then in some other over-burdened organs of the animal.

11. THE OPEN BRIDLE.

Would you drive with an open bridle from the beginning, or would you adopt it after the colt is trained?

ANSWER:—No, I would not use an open bridle at

any time. I prefer an easy fitting, blind bridle of soft leather, not too short in the head stall. Your horse has no business with any part of the world except what is straight before him. Take off the blinders and then if you touch the whip he will see the motion and he will start much worse than from a stroke of it. Then he will soon slacken his gait, become slattern and irregular in his motion, and start again in sudden surprise when the whip is touched. If you want a steady-going, spirited driver, safe from starts and frights of every kind, you will discard the open bridle from the first.

12. THE BLOOD OF THE WILD HORSE.

If there are herds of wild horses never yet domesticated, would it not infuse new and better blood into our present stock to breed with them ?

ANSWER:—There is good reason to believe that all the horses now running wild are fugitives from the service of man, and their ancestors once belonged to private owners. The animals that serve man, as the horse, dog, sheep and others, do not improve so rapidly in the wild state as in the domesticated. What should we gain by breeding with a mustang, or the ewe-necked weakling of the pampas, or the unshapely wild horse of southern Russia? To breed from these would turn the horse-clock back more than a hundred years. Speed and strength do not degenerate with domestication; on the contrary, they increase, for the tame horse can carry a man and overtake a wild one.

13. THE USE OF THE WHIP.

Would you use the whip freely in breaking or driving?

ANSWER:—The whip is useful in training horses just as sawdust is useful in feeding cattle—the less sawdust the better. So the less whip the better. The whip breeds stubbornness and balkiness. It is often the cause of heaviness and awkwardness of gait. There is no animal that so readily gives his confidence and affection to his owner as does a horse. Most horses can be made gentle by kindness. It is at any rate the best way to use the whip just as little as possible. If the horse becomes used to obey the voice he will be quieted at once when otherwise he would be frightened, and he will struggle on under a load that the whip would make him utterly refuse to carry. The less of the whip, the more of the horse. Cruel welts are no sign of horsemanship, but prove the want of it.

14. HOW TO DRIVE A HORSE UP TO THE CARS.

How can you make a horse, old or young, go quietly up to the cars?

ANSWER:—A horse that is afraid of the train should be driven where he can see it. This should be done often, each time going a little nearer. The reason he is afraid is that he does not understand what it is. By a gradual approach he will come to regard it as a passing wagon. Let him go towards it slowly, and to see it well. Use the same rule as to fright about anything else. After a while you can take him quite up to the train. To get him accustomed to the whistle of the locomotive is a different thing and will take quite as long to free him from fear of it as from the fear of anything else, perhaps longer, for he cannot

see or smell an alarming sound. The secret of it is to get him accustomed to it gradually. All this can be done as a part of the training of a colt as well as not. It adds to the value of a horse to have him not afraid of the train, from ten dollars to fifty according to the work for which he is desired.

15. REPRODUCTION OF QUALITIES.

Can we with certainty reproduce the qualities of the stallion?

ANSWER:—Not always; there are too many factors here to make the result certain. It sometimes seems that ten different colts, of the same sire and mare, will be as unlike, mentally and physically, as any ten boys who are full brothers. There are pre-natal causes that affect an animal's size, color or shape. But there is in this respect a great difference in sires. There are some that impress their likeness very lightly on their progeny, others again very powerfully. The same is true of mares. One who breeds for rare qualities of speed or form should select only from the breeding stock that has demonstrated its power to reproduce its characteristics in the offspring. Nutwood, a horse of which a short sketch is given in chapter LV, is a good representative of the class whose progeny are generally true to the ancestral stock in color, size, form and speed. In this quality there are great differences among good strains and good horses. The careful breeder must gather facts for himself on this point.

16. SALT FOR THE HORSE.

Why should the horse have salt?

ANSWER:—When vegetable substances are kept warm and moist, there is a natural tendency to fermentation. When this occurs there is an unhealthy sourness of the stomach, the food does not digest and local fever follows. Salt tones up the stomach so that the digestive process is begun at once. Salt also directly prevents decay of the food. If fermentation is allowed to occur worms are apt to infest the intestinal canal. It is well to keep salt at hand and to give it frequently. I would not keep rock salt in the manger all the time. When the horse is in pasture he needs salt frequently, as well as when feeding on new grain.

16. SUNSTRUCK HORSES.

Are horses sunstruck the same as men?

ANSWER:—Yes, the sun has the same effect upon horses as upon men. The *Rural World* relates that a fine horse worth $2,000, was hitched in front of a stall at the St. Louis fair, in 1889, when the temperature in the shade was 86. The direct rays of the sun and the radiated heat from the buildings were too much for him. He staggered, fell and died. See reference to sunstroke in medical department.

THE INCREASING SPEED OF TROTTERS.

17. How can we account for the rapidly increasing speed of trotters?

ANSWER:—1. The tracks are improved. They are better planned, better made, and are kept in better condition. 2. Shoeing is done now to favor, not to retard the trotter. The improved shape and the adjusted weight of the shoe are factors of speed. 3.

The training is improved. Training to develop speed has become a profession and commands better salaries than do college professors. The trainer now has intelligence, patience, skill. 4. The commingling of blood so as to produce speed is under strict and scientific rules. Poor strains are voted out. The combinations that produce speed have come to be better understood. 5. Success has set competition on fire. The speed of the trotter has come down from 3:00 to 2:08¾ in about seventy years. The gate is open for the trotter in 2:00. He is practicing for it on a thousand tracks.

18. PRICES OF FAST TROTTERS.

What are the highest prices that fast trotters have brought?

ANSWER:—The following is a partial list of trotting horses that have sold for $20,000 and over. Many of them are not now living, and others of those still living could not be bought now for $100,000.

Acolyte	$ 40,000	Lady Maude, 2:18¼	20,000
Anteo, 2:16¼	30,000	Mascott, a 2-year-old	26,000
Antebelo	26,000	Maud S., 2:08¾, in 1884	40,000
Axtell	105,000	Nutwood, 2:18¾	22,000
Bell Boy	51,000	Pancoast, 2:21¾	28,000
Blackwood	30,000	Patron, 2:14¼	27,000
Dexter, 2:17¼ in 1867	35,000	Pocahontas, 2:18, in 1864	35,000
Doncaster, English Thoroughbred	70,000	Rarus, 2:13¼, in 1879	36,000
Edward Everett	20,000		
Fearnaught, 2:23¼	40,000		

Geo. M. Patchen, 2 : 23¼	$25,000	Rosalind, 2 : 21¾,..	$20,000
Gov. Sprague, 2 : 20½	27,000	Sam Purdy, 2 : 20¼	22,000
Happy Medium....	22,500	Socrates, 2 : 23¼ ...	20,000
Jay Gould, 2 : 20½ .	30,000	Stamboul, 2 : 14¾ ..	50,000
Jerome Eddy, 2:16½	25,000	Startle, 2 : 19, in 1870	20,000
Lady Thorne, 2:18¼	30,000	St. Julien.....	20,000
		Wedgewood, 2 : 19..	25,000

19. HE PULLS OFF HIS BLANKET.

How can I prevent a horse from biting and tearing off his blanket.

ANSWER:—Sprinkle pulverized cayenne pepper all over the parts that he can reach, for half a week, or longer if he has a poor memory.

CHAPTER LXVI.

A MODEL HORSEMAN..

Mr. Robert Bonner, of New York, is the only man in the United States who has a stable full of celebrated horses, that are not kept for the track. His fancy for fine horses—to be the owner of the finest—has led him to expend $500,000 in their purchase. Ill-health led him to purchase a fast driver, in 1856, for $375, that was equal to a mile in three minutes. At several times he has bought the fastest on the turf at the time, such as Dexter, Rarus, Maud S. and Sunol.

Since 1860, Mr. Bonner has bought as follows: 1860, Lady Palmer, for $5,000; 1861, Flatbush Maid, $6,500; 1864, Pocahontas, $40,000; 1865, Auburn, $13,000; 1867, Dexter, $35,000. Afterwards Mr. Bonner added to his rare collection, Bruno, $15,000; Joe Elliott, $10,000; Startle, $20,000; Mambrino Bertie, $10,000; Lady Stout, $15,000; Grafton, $15,000; Wellesly Boy, $12,000; Maud Macey, $10,000; Edwin Forrest, $16,000; Rarus, $36,000; Maud S., $40,000; and Sunol, finally, for a price "exceeding any sum ever paid for a horse in the United States."

His farm near Tarrytown, N. Y., is a paradise of horses, whose blood shall quicken speed around the earth. It is the ambition of every owner of flying feet in the United States to be the owner of the first horse that comes down the home stretch and finishes his mile in 2:00.

PART EIGHTH.

THE DOG.

CHAPTER LXVII.

THE TEACHABLENESS OF DOGS.

The dog can be trained to do anything that an animal without hands or voice can do. He was the first creature that deserted his natural confederates and allied himself to man. His surrender was complete. He left his forest home, his independent search for food, made the abode of man his preference; contentedly he accepted any food given him, and devoted himself to the capture of his unsurrendered fellow creatures for the use of his master. Of all the animals that have at any time submitted themselves to man there are none that take on so readily as the dog the tempers and passions of man, as anger, jealousy, envy, love, hope, hatred and grief. He shows also generosity, gratitude, pride and fear. Baron Cuvier calls the dog, "The completest, the most singular, and the most useful conquest ever made by man."

In the dog, as in man, we prize the highest inherited qualities. In both if we desire a good performer in any art, we select him early from a family that excels, and then give him the finest education in the desired studies. Generations of education and of good habits

give alike to man and dog a tendency to learn, and a facility of comprehension, so that the dog trainer has many more chances of success, and so has the dog, if both be from an educated ancestry. It is possible to bring in a densely ignorant dog and admit him to the aristocracy of intelligence, but one rarely has the time and patience for the slow process. We want the puppy of clean limb, of fine hair, of good eye, of bright intellect, and of good family.

If you would train your own dog you must go at your work as you would to train your own boy. Begin early. Pre-empt his mind with thoughts and ambitions that you intend shall rule him while he lives. Do not hope to teach him everything in a week or two. You will save time by getting his confidence first. Make him believe that you are his best friend. Let food follow obedience till he believes they are cause and effect. His mistakes must not be treated as willful crimes. Until you get into sympathy with him, and until he shows his love for you, your progress will be very slow. The art of winning a dog's gratitude and love need not be given in books. If you cannot invent its methods you have no gift for teaching dogs.

CHAPTER LXVIII.

THE DOG'S PRIMARY EDUCATION.

Your pup should early learn the use of the collar. He need not wear it all the time, but it should be on him a part of every day, and always when he is taking his first lessons. He should also wear a rope or chain until he is well used to it and knows well the difference between being tied and being at liberty. He must learn, by being tied up in a comfortable place, to be quite contented with the chain. If a young dog is tied with a rope he will soon learn to gnaw it off, and run away, and it will be some time before he forgets that he outwitted you.

Feed him yourself. Do not allow any one else to carry him his food. When he is so accustomed to all these steps that he is no longer restive, you can go on with his lessons. Now take his breakfast to him on a plate, and put the plate just out of his reach, so he cannot touch it. Bring him out now the length of his chain and let him taste his breakfast, pull back the plate and say "To-ho," the word having the accent and the falling inflection on the second syllable. Keep it away from him until he becomes quiet, say for a second or so. Then suddenly pushing the plate towards him, say "On," repeating the lesson till he will stop eating at the word To-ho. He is to be patted or petted whenever he shows any signs of having comprehended the orders. When you have him where he will stop eating

at the word, put a long rope on his collar and go with him to walk. As he trots along and the rope drags after him, suddenly step on it near to him and say "To-ho." When he stops as he must, do not keep him standing, but step off the rope and say "On." Keep working at this lesson till he will stop without your touching the rope, without any rope at all. He is then ready to learn to charge.

TO CHARGE.

Take him into the barn on the floor, where there is nothing to attract his attention. Then with a short rope on his collar, place your hand on his back, just behind his shoulders. Press him down to the floor and say "Charge." Now begins your work. He will probably roll up on his side, or jump up and struggle to get away. Do not say a word. Place his forward paws before him, and his hind paws under him, and his tail extended out behind on the floor. Don't stop till he is willing to remain in this position. These lessons must be thoroughly taught, one at a time. He will come after a while to assume this posture at the word, charge.

While you are teaching him to charge, take him out occasionally and give him rehearsals of what he has already learned. He has now learned To-ho, and to charge. Now he can learn to come to us when we want him.

TO COME WHEN HE IS CALLED.

Now the cord or rope comes in again. Let him go with us for exercise, and let him run and drag the rope after him whenever he likes. Blow on your

whistle and jerk on the rope to get him to look at you or to notice where you are. When he looks around, swing your arm in front of you and say, "Come in." When you give the word be sure you are in position to take hold of the rope and fetch him to you. This is to be continued till he will come without any rope. He must often practice what he has learned, but great care must be taken not to confuse him by mixing up his lessons, of which he now has three.

TO QUARTER HIS GROUND.

Take him out into an open lot or field and let him run till he gets the play out of him and becomes quiet. Then call him with a whistle or a word. He will soon know his owner's whistle from any other. Pat him, cluck to him and tell him to go on. Then throw something, when he looks, to the left, something good to eat, and let him go and get it. Then attract his attention and throw something to the right. By these motions and by his finding his toothsome reward, he will become accustomed by practice to follow them. You will sometimes have trouble in teaching this lesson to a dog, and again it will be comparatively easy. It will be very likely to require a great deal of time and it will need a great many repetitions. He will after a while take in the object, which is to scour his field well and find any game that may be lurking in the grass. In any of these lessons the dog must understand that all this is business and after it he may play if he wants to.

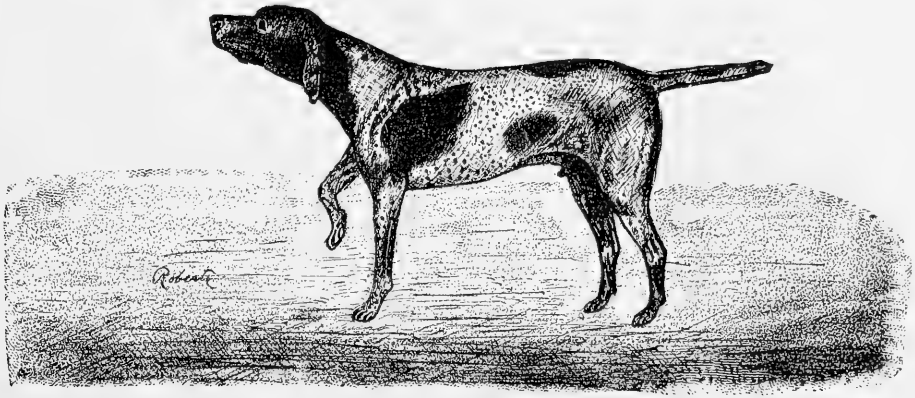
TO RETRIEVE.

It is not best to teach a dog to look for, and bring in the killed or wounded game, until he has all the

preceding lessons well learned. He will probably be a year old when he learns to retrieve, and before he undertakes this lesson he should have acquired a readiness and facility in learning, and a habit of prompt obedience. Most dogs of good hunting stock will take to retrieving naturally, especially if allowed to hunt with a well instructed dog.

Before he is taught anything about retrieving, proper, the trainer will do well to take the young dog out for his exercise often, and occasionally take him to the water in company with another dog who knows his business. The master should have on hunter's boots, and should wade around in the water calling in the old dog and inducing the young dog to go in also, so that he will not be afraid of the water. When he comes to where he will take the water readily and will follow the old dog when he is sent anywhere, then you have him far enough in this till he is ready to break in the field. This can be done much more easily by having a well trained dog to take the lead in the lessons in retrieving.

But if you cannot have the use of a well trained dog give the pup his first lessons on the barn floor, where he cannot get away. Throw a ball or something, and tell him to fetch it. Then if he pays no attention, or if he does not go, go to him, open his mouth, place the article in it, hold his mouth shut with one hand, and lead him back, without hurting him. Work gently and preseveringly till he will go after the piece and fetch. If the dog has developed any aptness at all to learn, this lesson can be better given in the field than in any other way.



No. 16.—The Pointer.

TO POINT.

The outline of methods here given is ample for one who desires to train his dog for his own use. But if the animal is wanted for a fine field performer it would be better to procure at once a professional trainer. Having taught him these lessons thoroughly, take him to the field and try him. When he strikes game and begins to come down, keep cool yourself. Walk up to him if he stops; if he does not stop, speak to him, saying, "Toho," then if he stops, walk up to him and pat him. It would be well to have another person along and let him walk in front and get the birds to rise, and be sure and get one if possible. All this time you are paying attention to your dog, holding him in position, giving him to understand that his duty is to find and point the birds. A very few lessons of this kind will make him staunch on point.

The dog must not be allowed to range too far from his master. Keep him within hearing so you can guide him with your voice, otherwise you may lose control of him. If he gets away and runs at his will he will make himself troublesome. If he is well taught in the yard to obey he will generally be obedient in the field. But if he should run wild in the field do not allow yourself to get excited over it. Keep cool and do not speak louder than just enough to make him hear. When you can get hold of him make him do whatever you had ordered him to do. Do not leave the spot till he perfectly obeys, if you have to stay a week.

It is always to be kept in mind that in all contests between a trainer and his dog, the trainer must come

out ahead. Let the dog outwit you once, or disobey, and it may be troublesome to regain your authority over him. You must come out ahead every time.

The books that tell of dog training are very explicit and give details of management at every juncture. But you must get the general idea in your mind and use your judgment. You will be the only one who knows the situation. You will also study the character of the dog, as the timid and the headstrong must each one be handled in a way to impress him, and to subject his will to yours. It may be necessary, before you finish his education, to carry a whip to the field and to use it with discretion. But no dog should be punished until he can understand well what it is for. Then put him through the lesson again and again till you secure perfect obedience.

A young dog often gives trouble to a hunter by pointing on rabbits, cats or hens. This is easily broken up by penning him up where he cannot reach these creatures and let him point them for a week at a time if he wants to. He will soon learn that they are not to be noticed. This will be a much better way to teach him than it would be to punish him for it.

CHAPTER LXIX.

THE SHEPHERD DOG.

It is nonsense to try to make a shepherd dog of a terrier, or of a hound. In some way, who can tell how? the things that a dog can learn best depend on what family of dog he belongs to. If you want an educated shepherd dog, look for a pup of that kind. The less he has been taught for the first half year the better. He can easily learn, with the aid of a cord, that he cannot get away from you; lesson No. 1. Then with a strap and the word "Here," he can learn that he is to come when told; No. 2. Be sure to give one lesson a day for about an hour, and to have one thing at a time to be learned, and but one word for each order to be given. When he comes up to you he is to be told, "Do," and petted, and with that word he will learn he is released from duty; No. 3. Then he is to be taught "Go," by pointing and pushing and coaxing until he begins to "Go;" No. 4. As he starts he can begin to learn the word "Halt," by the effect of the rope and the word; No. 5. And if these lessons are well learned, in a month you can pat the head of both pupil and teacher. To make him bark when you like, you will take him when hungry and say, "Speak," and offer him a dainty bit. This will soon be learned. You can at any time teach him to go out by pointing to the door and saying, "Out." Each special thing well taught to him will be a help for him

to learn the next. With a rope's end he can be taught to take hold at the word "Up," as he will afterwards take a cow's tail, and with the word "Do," he will learn to let go. With this start you can add words as you like, for example, you can say, "Go, right," and with a motion, send him to the right, or to the left, teaching but one thing at a time, always. The word "Fetch" can always be kept for the sheep, "Get," for the cattle and "Bring," for the horses. You can, as soon as one lesson is well learned, put a few other words to the one-worded orders as, "Come here," "That will do," "Go out," "Speak to them," "Wake them up," "Fetch the sheep," "Get the cattle," "Bring the horses," etc. The practical lessons can easily be given with or without a trained dog.

THE WATCH DOG.

To train a watch dog obtain a young dog of a good strain for the purpose, and do all the training by the same hand. Follow the suggestions given above. Give daily, practical lessons. Give him something and tell him to watch it, and practice him with some stranger essaying to take it from him. At first make his lessons short and always let him begin hungry and feed him as soon as he is done. He very soon learns his duty.

CHAPTER LXX.

THE TRICK DOG.

It is very easy to teach a mongrel cur almost any amusing little trick. The well descended, carefully bred dog will only learn the tricks of his own trade. The first thing to teach any dog is to come to you. This is easily done with a cord, suiting the action to the word.

TO SIT DOWN.

A few times setting him down, giving at the same time the word "Sit down," chucking him under the chin to keep his head up, will give him the idea. Pat him and reward him, and give him frequent practice and it is done.

TO MAKE A BOW.

As soon as he has learned to sit down, use the word "Make a bow," putting him through the motions with your hands often enough, and in a few days he will have it.

TO SIT UP.

Try him first in the corner, putting him in the position and telling him to sit up, and as soon as he does it for half a minute caress him and reward him, and let him end it when you tell him, "That will do." You have only to repeat it often enough and try him against the wall, and then set him out on the floor. All that this will need is patience for complete success.

TO STAND UP.

A hungry dog will do anything for food. To make him stand up, offer it to him, holding it well up and keep it up long enough, saying to him, "Stand up." Keep doing this, giving him a lift now and then with your other hand, repeating the word as often as he tries it, and saying "That will do," when he must go down. He must often rehearse all he has learned but the lessons should not be mixed, but let him have a rest between them.

TO GET INTO A CHAIR.

This is also easily taught. You can in many ways coax him into a chair, always using the word "Chair" whenever you call him to it. After having him used to jumping into the chair at the word, and always rewarding him with caresses and whatever he likes best to eat, you can extend the trick by saying "Up" and putting his feet up on the back of the chair. This done, by many times trying, he will put his head down on his paws with the aid of your hand and the sound of the word "Down," each time rewarding him. From this there is one step more; it is to jump over the chair, which you can soon persuade him to do.

TO JUMP THROUGH A HOOP.

The methods will suggest themselves by which the dog can be made to jump through your arms, your hands being held together. Then if he is hungry he will jump through a hoop at the tap of the stick, for a bit of meat, then successfully through several hoops and boxes.

TO GO TO THE POST OFFICE.

Your dog can carry your mail to the post-office and bring your mail to you as many times a day as you choose to send him. You can easily teach him to carry a stick in his mouth until you tell him to give it up. Reward with a good bit of food and caress him. Then teach him to carry a basket. He can then begin to go with you to the post-office where an inmate of it must help you by caressing him and giving him a little choice food, taking the basket and changing the mail and putting the handle of the basket in his mouth and saying, "Home." You are to say "Post-office" to him every time you take him or send him. He will soon be able to go himself, wait at the door to be welcomed and then set out for home. Instead of the post-office, he will do the same for the grocery.

He will need definite practice on each one of these, not mixing them up, but taking one trick at a time, and dismissing each one as soon as it is done, by saying, "That will do," and giving him his reward.

These hints will enable the beginner to make a prodigy of his dog in a few weeks. Other things may be added for all things are not equally easy to every dog. The greatest value in the dog will be, not in these unmeaning things, but in doing such useful things as will save human labor, or tend to the security of property or life.

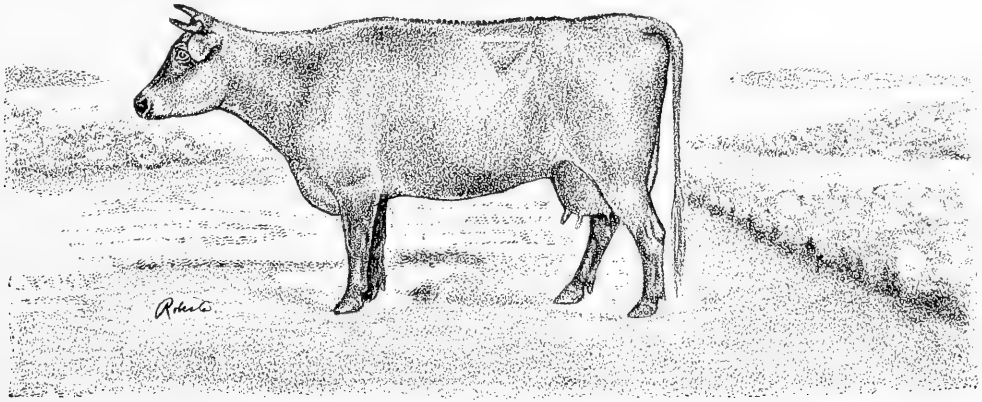
PART NINTH.

IMPROVE YOUR CATTLE.

CHAPTER LXXI.

THE DAIRY COW.

Generally, where a horse is kept, there is both room and necessity for a cow; and sometimes where there is room for but one, the cow is selected. The health and comfort of a family are greatly promoted by abundance of fresh milk without either chalk or water. It is important to every one to learn the signs by which nature certifies to a cow's good character. They are unmistakable. A model, useful, dairy cow may be known at a glance by an expert. She has a fine, long head, broad between the eyes, and a thin wide muzzle; the eyes are large and of a mild expression; the neck is thin and long; the ears are thin and covered within with a deep yellow skin; the forequarters are light and thin, and the whole body has much the shape of a wedge, increasing in size to the rear; the legs are thin, with fine bone; the belly is large and deep, with great capacity for food; the back is broad and straight, and the ribs are well rounded towards the rear; the bones of the rump are wide apart; the tail is long and thin; the thighs are thin and set widely apart; the udder is large and full, especially behind; the teats are



No. 17.—The Dairy Cow.

of good size, and set far apart upon a broad, level udder, and the milk vein, so called, which is the large vein leading from the udder and passing into the abdomen, and which is an indication of the amount of blood circulating through the milk glands, and contributing to the milk secretion, should be full and tortuous in its short course. A fine horn, a deep yellow skin, and a general elegance of form, without any heaviness or beefiness in any part, are also important indications of good quality in a cow for the dairy.

BREEDING DAIRY COWS.

"Like begets like," therefore, in breeding cattle for the dairy, select the very best milkers and breed them to bulls known to come from a family with good milk record. In purchasing a bull, it pays better to give a good price for a good animal, than a small price for a poor one. Breeding will not count for much without good feeding and good care. Don't make the mistake of supposing that a good bull is going to double or treble the value of a common herd unless the cattle all have the best of care. Breed is largely dependent upon feed and training, and if good feed and training has given value to a herd, a lack of it will soon cause the breed to deteriorate.

TO TELL THE AGES OF CATTLE.

The *Live-Stock Record* gives a new and evidently a well-thought-out rule for telling accurately the ages of cattle, which is here appended:

"A heifer has no rings on her horns until she is two years of age, and one is added each year thereafter.

You can, therefore, tell the age of a cow with tolerable accuracy by counting the rings on her horns and adding two to the number. The bull has no rings, as a rule, until he is five years old, so to tell his age after that period, add five to the number of rings. The better way to tell the age is by the teeth, which is, of course, the only way with polled cattle. What are called the milk teeth gradually disappear in front. At the end of three years, the second pair of permanent teeth are well grown, at four years the third pair and at five the fourth and last pair have appeared, and at this time the central pair are of full size. At seven years a dark line caused by the wearing of the teeth appears on all of them, and on the central pair a circular mark. At eight years this circular mark appears on all of them, and at nine years the central pair begins to shrink, and the third at eleven. After this period the age can only be determined by the degree of shrinking generally. At fifteen the teeth are nearly all gone."

The Size of the Cow.

There are several sizes of cow, none of which is agreed upon as being the best. The Jersey is the smallest, then we have the Ayrshire, the Holstein and the Durham. The largest breed will require more food to keep beef ready for market than does the smaller. When the butcher comes to buy a cow he will give more money for the Durham than for the little Jersey, but then, is it economy to keep up all the furnaces and the food for making beef many years before it is to be sold? The *American Dairyman* says: "It is useless to talk about carrying large cows, with

a view to making beef of them, when no longer useful in the dairy. This is sheer nonsense, though every other dairyman has a sneaking faith in the idea. No man should be so foolish as to carry several hundred pounds of blood and bone eight or ten years to make second-hand beef of it in the end."

It is reasonable to believe that a medium sized cow, say of the larger breeds 800 to 1000 lbs weight, would be an economical feeder, could be rushed for milk if need be, would require not over much room in the stables, would likely produce good calves, and would likely be of a sound constitution. With a cow of such size you will not have to feed the furnace for beef-making and keep it up for ten years before you want to sell the beef. Two medium cows will give you more than double that of an over-grown one, in milk and beef, and will give you twice as many calves; and the two cows will sell more readily than one very large one.

Cake In Cow's Bag.

This is one of the most common complaints in the cow-yard. There is no need to have it trouble the cow for as much as a day. Take two parts kerosene and one part lard. Warm, mix, apply. It is a sovereign remedy.

Obstructed Teat in Cow.

Obstructions in the teat are no uncommon thing. Small tumors form in the milk ducts. These usually point and break, but sometimes the enlargement is permanent. It may be removed by a blunt end steel probe, having triangular sharp edges projecting about

an inch below the end. This cuts the tumor and opens the passage. While healing, a well oiled quill may be inserted with a circular leather collar, which may be kept in place by a piece of sticking plaster and removed while milking, or a wooden peg may be used with a head on it. A milking tube should be used while milking. Be careful not to make it so long as to touch the udder.

A Cow's Demands.

A cow of mine has well-settled convictions respecting rights of animals. She firmly believes that she is as much entitled to meal as I am to milk. She has converted me to her opinion, or rather, forced me to acquiesce, writes H. T. Brooks, in New York *Tribune*. In the spring after she calved, I gave her night and morning, at milking times, a feed of bran and meal. When the grass improved I omitted the bran and meal, but proposed to milk her all the same. She objected to this arrangement, kicked, and walked spitefully away. My man and I got her in close quarters, held her fast, determined to have milk at our own terms, but Crumpt Horns was just as determined that we should'nt have it. We soon found that the cow controlled the supplies; she determined not to "give down" her milk. We took to coaxing and patting her, persistently, but gently, squeezed her teats; it availed little; we retired, worsted, thinking we would get a double portion in the morning; but in the morning she gave us little more than half her usual quantity, and so on for a week. I saw that without meal she would diminish her milk and soon dry up. I said

to my hired man, "Bad luck to the fellow that quarrels with his cow; we should remember that in all milking arrangements the cow is one party concerned, in fact, the party of the first part. Unless we can be on good terms with our cow we would better not have one. Thinking it all over, I believe the cow is in the right. She gave us a good mess of milk for a moderate feed of meal, and we have no right to ask her to do better than that; we will give meal night and morning as long as we milk her." This we did, and she nearly came back to her former quantity; a cow allowed to fall away doesn't entirely recover. I record the particulars of this controversy with my cow because it forcibly suggests several important considerations:

1. A cow has almost unlimited control over her milk; she bestows or withholds it at pleasure. It is therefore essential that the cow have no cause for complaint; she should sustain amicable relations with her milker: anything offensive in his deportment, an angry word, rough, uncourteous manners, sharp finger nails; any annoyance whatever, such as a sore teat, troublesome flies, everything that is disagreeable, in a greater or less degree lessens the flow of milk, and prematurely dries up the cow. A cow taken to a new place shrinks in her milk, and seldom recovers for a whole year. A cow should be milked by the same person.

2. The great liking cows have for bran and meal shows they are adapted to the animal's necessities. While no single food is better than grass, fed alone it does not give the best quality of milk or the greatest quantity. A little meal may be profitably fed, even

when grass is abundant and in its best condition—my cow demanded it, and she was right. As the grass grows less in quantity and poorer, I increase the meal and put it on green corn-stalks cut fine. Some persons object to feeding cows at milking-time because they are uneasy and troublesome if the customary allowance is withheld. Then don't withhold it. It pays to feed meal to cows giving milk, and if a cow insists on having it every time, as mine does, she does a good turn by forcing us to be regular. Of all losses incurred by American farmers, scarcely anyone is greater than that which comes from allowing cows to fail in their milk for want of enough food of a kind that answers their needs.

CHAPTER LXXII.

VALUABLE INFORMATION.

MEASURE AND WEIGHT OF MEDICINES.

One teaspoonful makes - - 1 dram.
Three " " 1 tablespoonful or ½ ounce.
One tablespoonful (large) - - ½ "
Four " " - - ½ gill.
Sixty drops 1 teaspoonful or - - 1 dram.
One breakfast teacup - - 1 gill.

MANY USEFUL FACTS.

A barrel contains - 10,752 cubic inches.
A bushel " - - 2,150 2-5 " "
A standard gallon (liquid) contains 231 " "
A gallon (dry measure) " 268 4-5 " "
A gallon of pure water weighs - 8,339 lbs.
Loaf sugar, broken, 1 qt. is - - 1 lb.
White " powdered, 1 qt. is - - 1 lb., 7 oz.
Ten eggs are - - - - 1 lb.
A common tumbler holds - - ½ pint.
A quart of wheat flour weighs - - 1 lb.
A " " corn meal " - - 1 lb. 2 oz.
A pint of soft butter " - - - 1 lb.
A " " sugar " - - 1 "
A ton of soft coal requires 50 cubic feet of space.
A " " hard " " 46 " " " "
A " " coke " " 70 " " " "
A " " charcoal " 104 " " " "

A million dollars in gold coins weigh 1⅔ tons.
A " " " silver " " 26¾ "
A million dollars in small silver coins weigh 25 "
A " " " 5-cent nickles 100 "
A ton of pure gold is worth - $602,798.21
A " " " silver is " - - 37,704.84
A bushel of corn will make 10½ lbs. of pork.

TABLES OF WEIGHTS AND MEASURES.

CLOTH MEASURE.

2¼ inches 1 nail, 4 nails 1 quarter, 4 quarters 1 yard.

DRY MEASURE.

2 pints make 1 quart, 8 quarts 1 peck, 4 pecks 1 bushel, 36 bushels 1 caldron.

APOTHECARIES' WEIGHT.

20 grains make 1 scruple, 3 scruples 1 dram, 8 drams 1 ounce, 12 ounces 1 pound.

AVOIRDUPOIS WEIGHT.

16 drams make 1 ounce, 16 ounces 1 lb., 25 lbs. 1 quarter, 4 quarters 100 weight, 2000 lbs. 1 ton.

LIQUID OR WINE MEASURE.

4 gills make 1 pint, 2 pints 1 quart, 4 quarts 1 gallon, 31½ gallons 1 barrel, 2 barrels 1 hogshead.

LONG MEASURE.—DISTANCE.

3 barleycorns makes 1 inch, 12 inches 1 foot, 3 feet 1 yard, 5½ yards 1 rod, 40 rods 1 furlong, 8 furlongs 1 mile.

TROY WEIGHT.

24 grains make 1 pennyweight, 20 pennyweights 1

ounce, 12 ounces 1 pound. This is for gold, silver and jewels.

ALL KINDS OF MEASURES—DISTANCE.

3 inches make one palm, 4 inches 1 hand, 6 inches 1 span, 18 inches 1 cubit, 21.8 inches 1 bible cubit, 2½ feet 1 military pace.

SQUARE MEASURE.

144 square inches make 1 square foot, 9 square feet 1 square yard, 30¼ square yards 1 square rod, 40 square rods 1 rood, 4 roods 1 acre, or 160 square rods 1 acre.

CUBIC MEASURE.

1,728 cubic inches make 1 cubic foot, 27 cubic feet 1 cubic yard, 128 cubic feet 1 cord (wood), 40 cubic feet 1 ton (shipping), 2,150.42 cubic inches 1 standard bushel, 231 cubic inches 1 standard gallon. 1 cubic foot is four-fifths of a bushel.

ALL KINDS OF MEASURES—QUANTITY.

12 things make 1 dozen, 12 dozen 1 gross, 12 gross 1 great gross, 20 things 1 score, 196 lbs. flour 1 barrel, 200 lbs. beef or pork 1 barrel, 135 lbs. potatoes or apples 1 barrel, 280 lbs. salt 1 barrel, 200 lbs. sugar 1 barrel, 240 lbs. lime 1 barrel, 200 lbs. fish 1 quintal, 100 lbs. nails 1 keg. To make one box requires 50 lbs. soap, 20 lbs. raisins, 2 lbs. cigars, 20 lbs. soda, 40 lbs. cheese, 25 lbs. tobacco, 62 lbs. tea, 60 lbs. saleratus, 25 lbs. chocolate, 56 lbs. butter 1 firkin, 5 lbs. spices 1 can, 1,100 lbs. rice 1 tierce, 2,150.42 cubic inches 1 bushel, 231 cubic inches 1 bushel, 14 lbs. 1 stone, 43,560 feet 1 acre, 100 square feet 1 square, 5,280 feet 1 mile, 24¾ cubic feet 1 perch of stone, 128 cubic feet 1 cord.

LEGAL WEIGHT OF A BUSHEL IN DIFFERENT STATES.

	Wheat.	Rye.	Oats.	Barley.	Buckwheat.	Shelled Corn.	Corn on Cob.	Corn Meal.	Potatoes.	Sweet Potatoes.	Onions.	Turnips.	Beans.	Peas.	Dried Apples.	Dried Peaches.	Flax Seed.	Timothy Seed.	Blue Grass Seed.	Clover Seed.
Arkansas	60	56	32	48	52		70	50	60	50	57		60	46	24	33	65	45	14	60
Arizona	60	56	32	45		54							60							
California	60	54	32	50	40	52														
Colorado	60	56	32	48	52	56	70	50	60		57		60					45	14	60
Connecticut	60	56	32	48	48	56		50	60		50	50	60	60						
Dakota	60	56	32		42	56	70		60	46	52	60	60	60			56	42		60
Delaware	60					56		48												
District of Columbia	60	56	32	47		56		48	60											
Georgia	60	56	32	48	52	56	70	48	60	55	57	55	60	60	24	33	56	45	14	60
Illinois	60	56	32	48	52	56	70	48	60	55	57	55	60		24	33	56	45	14	60
Indiana	60	56		48	50	56	68	50	60		48		60		25	33		45	14	60
Iowa	60	56	32	48	52	56	70		60	46	57		60		24	33	56	45	14	60
Kansas	60	56	32	48	50	56	70	50	60	50	55	55	60		24	33	54	45	14	60
Kentucky	60	56	32	47	55	55	70	50	60	55	57	60	60	60	24	39	56	45	14	60
Louisiana	60		32	32		50														
Maine	60		30	48	48	56		50	60		52	50	64	60						
Maryland	60		32	47	48	56	70	48		56	56		60					45	14	64
Massachusetts	60	56	32	48	48	56		50	60	56	52									
Michigan	60	56	32	48	48	56	70	50	60	56	54	58	60	60	22	28	56	45	14	60
Minnesota	60	56	32	48	42	56			60						28	28				60
Missouri	60	56	32	48	52	56			60		57		60		24	33	56	45		60
Montana	60	55	35	48	52	56		50	60		57	50	60					45	14	60
Nebraska	60	56	34	48	52	56	70	50	60	50	57	55	60	60	24	33	56	45	14	60
Nevada	60	56	32	50	40	52	70		60				60	60					14	
New Hampshire	60	56	32			56		50	60				60	60						
New Jersey	60	56	30	48	50	56			60	54	57		60	60	25	33	55			64
New York	60	56	32	48	48	56			60				62	60			55	44		60
North Carolina	60	56	30	48	50	54		46						50						64
Ohio	60	56	32	48	50	56	70		60	50	50		60	60	22	33	56	45		60
Oregon	60	56	36	46	46	42	56		60						28	28				60
Pennsylvania	60	56	32	47	48	56			56											62
Rhode Island		56	32	48		56		50	60		50									
South Carolina	60	56	33	48	56	56	70	50	60	50	57		60	60	26	33	44			60
Tennessee		56	32	48	50	56	72	50	60	50	56		60	60	26		56	45	14	
Vermont	60	56	32	48	46	56			60		52	60	60	60				45	14	60
Virginia	60	56	32	48	52	56	70	50	60	50	57	55	60	60	28	32	56	45		60
Washington	60	56	36	45	42	56			50		50	50	60	60	28	28		40	14	60
West Virginia	60	56	32	48	52	56			60				60		33	33	56	45		60
Wisconsin	60	56	32	48	50	56	70		60		50	42	60		28	28	56	45		60

COST OF SMALL QUANTITIES OF HAY.

Price per Ton.	25 lbs. worth.	40 lbs. worth.	100 lbs. worth.	200 lbs. worth.	300 lbs. worth.
$ 4 00	5 cts.	10 cts.	20 cts.	$ 40	$ 60
5 00	6 "	12 "	25 "	50	75
6 00	7½ "	15 "	30 "	60	90
7 00	8½ "	17 "	35 "	70	1 05
8 00	10 "	20 "	40 "	80	1 20
9 00	11 "	22 "	45 "	90	1 35
10 00	12½ "	25 "	50 "	1 00	1 50
11 00	13½ "	27 "	55 "	1 10	1 65
12 00	15 "	30 "	60 "	1 20	1 80
13 00	16 "	32 "	65 "	1 30	1 95
14 00	17½ "	35 "	70 "	1 40	2 10
15 00	18½ "	37 "	75 "	1 50	2 25

AMOUNT OF OIL IN SEEDS.

Kind of Seed.	Per cent. Oil.	Kind of Seed.	Per cent. Oil.
Bitter Almond	55	Oats	6½
Barley	2½	Rapeseed	55
Clover hay	5	Sweet Almond	47
Hemp seed	19	Turnip seed	45
Indian corn	7	White mustard	37
Linseed	17	Wheat bran	4
Meadow hay	3½	Wheat-straw	3
Oat-straw	4	Wheat flour	3

RELATIVE VALUE OF DIFFERENT FOODS FOR STOCK.

One hundred pounds of good hay for stock are equal to:

Articles.	Pounds.	Articles.	Pounds.
Beans	28	Oats	59
Beets	669	Oil cake, linseed	43
Clover, red, green	373	Peas, dry	37½
Carrots	378	Potatoes	350
Corn	62	Rye straw	429
Clover, red, dry	88	Rye	53½
Lucerne	19	Turnips	469
Mangolds	368½	Wheat	44½
Oat-straw	317		

COMPARATIVE AGES IN YEARS, OF QUADRUPEDS, BIRDS, AND FISHES.

	YRS.		YRS.		YRS.
Ass	30	Sheep	10	Pelican	50
Baboon	30	Squirrel	7	Pheasant	15
Bear	20	Stag	50	Pigeon	16
Beaver	50	Swine	15	Raven	100
Camel	100	Tiger	21	Redbreast	10
Cat	15	Wolf	20	Skylark	10
Cow	20	Blackcap	15	Swan	100
Deer	20	Blackbird	10	Thrush	8
Dog	14	Crane	24	Wren	2
Elephant	400	Eagle	100	Carp	200
Fox	25	Goose	80	Codfish	15
Horse	30	Goldfinch	20	Crocodile	100
Hyena	25	Hawk	40	Eel	10
Jaguar	25	Hen	15	Pike	100
Leopard	25	Linnet	10	Porpoise	30
Lion	70	Nightingale	15	River Trout	50
Monkey	30	Parrot	100	Salmon	10
Rabbit	8	Peacock	20	Whale	400
Rhinoceros	20				

PERIODS OF GESTATION IN ANIMALS.

With domestic animals there are unaccountable variations, which, in the horse-kind, sometimes amount to a whole month of excess. The following should be calculated upon as correct:

Elephant	2 Years	Wolf	90 Days
Ass-kind	11 Months	Goose (sits)	30 "
Horse-kind	11 "	Swan	42 "
Buffalo	12 "	Peafowl	28 "
Camel	12 "	Pigeon	14 "
Cow	9 "	Parrot	40 "
Lion	5 "	Duck	30 "
Sheep	4 "	Turkey	28 "
Swine	16 Weeks	Hen	21 "
Dog	9 "	Canary	14 "
Cat	8 "		

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and Wounds and Sores of every nature. Counteracts Blood-poisoning if applied before suppuration; keeps the feet in good condition; healing, soothing, cleansing; giving satisfactory results; made from the best materials and put up in generous quantity; horses can be worked and healed while working; healing accomplished in a few days which otherwise would take as many weeks.

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Dr. S. B. Collins, La Porte, Ind., says that he used it for Dry Hoofs, Scalled neck and for boils on back and shoulders, with perfect satisfaction in all cases, after having tried other remedies without success.

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