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A
Sketch of the Development
of the Modern Horse

BY
F. S. COOLEY

Bickmore's Horse Book

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BICKMORE GALL CURE COMPANY
OLD TOWN, MAINE, U. S. A.

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A Sketch of the Development of the Modern Horse

Many authors have sought to enlighten the minds of people in regard to the horse, and valuable books not a few treat of his history, present status and management. By no means, however, has the subject been exhausted, and even had it been there would still exist the conditions that prompt the present effort. It is our purpose to present in a brief and concise form a reliable and accurate summary of the best information concerning the horse as he now exists and some of the stages through which he has passed in his development.

Few if any of our domestic animals present subjects of greater interest to the scientist or to the general public than horses. While they have come into man's service more recently, perhaps, than any of the animals in the group with which they are commonly associated, their story as now told extends farther back into the recesses of the past than that of the others. Their history and development has been better worked out, and abounds in facts of exceptional interest. They were among the earliest animals to receive the attention of progressive breeders. Their improvement antedates that of cattle, sheep or swine. Their pedigrees were much earlier recorded and pure breeding among them preceded that of any other class of animals. Nor do we wonder at this when we consider the intimacy of horse and rider, their constant companionship and the dependence of man upon his horse in the chase, in the pursuit of his foes, or in the escape from his enemies. Indeed, man's relative dependence upon his horse was formerly far greater than now.

Bed your horses with clean, dry straw.

To-day steam, electricity, and other sources of energy have rendered man in a degree independent of the powers of the horse, so that mechanical enthusiasts are heralding the coming centuries as the "horseless age."

Commercialism has also greatly increased the relative importance of cattle, sheep and other farm animals on account of their wealth-producing qualities. Yet never has the horse had more faithful champions, more ardent admirers or competent historians than at present, and within a decade only have we heard of a horse sold for \$191,500.00, and several have brought upwards of \$100,000.00 each. If we read the signs of the times aright, far from declining into "innocuous desuetude" the horse is still making progress towards the zenith of his prosperity.

Natural Relations

The genus EQUUS, to which the horse family belongs, comprises twelve named species and what were formerly three different genera. These are the horse, E. CABALLUS and E. PREJAVALLSKII, from which the domestic horse is thought to have descended, now represented by the Tarpan of western Asia, and Prejavallsky's Horse of Siberia; the ass, E. ASSINUS and E. ASSINUS SOMALICUS, found in Africa and in Abyssinia; the Asiatic ass, E. ONAGER, E. HEMIPPUS and E. HEMONIUS; the quagga, intermediate between the ass and the zebra, now nearly if not entirely extinct; and the zebra, E. ZEBRA, E. BURCHELLII, and E. CHAPMANII, of central and southern Africa.

In domestication the horse has so far developed in speed, beauty, and strength as to make his natural derivation somewhat doubtful.

The family Equidae, which includes the horse, ass and zebra,

"Have been in the stable business 30 years and tried every remedy for sores, but found nothing that gave the satisfactory results your Gali Cure does.

J. L. Godfrey, Virginia, Nev."

as noted, is grouped naturally with the tapir and rhinoceros families in forming the PERISSODACTYL (odd-toed) UNGULATES (hoofed animals). Away back in the Tertiary times the ancestors of these families more closely resembled each other than do the present representatives. And yet many important points of resemblance are now presented to the keen observation of the naturalist. For example, the prehensile upper lip of the horse and the extensible snout of the tapir may have been developed from the same ancestral features.

The rhinoceros family is steadily diminishing in numbers and

BURCHELL'S ZEBRA

(Courtesy Scientific American)

will one day be only a tradition of former times, while the tapir is already coming near to its extermination. The horse, however, appears to be assured of a perpetual place as one of man's most valued subjects. The greater portion of hoofed animals in domestication as well as in a wild state belong to the pair-toed branch,

Every horse needs salt. Leave a lump of rock salt in the manger.

technically called ARTIODACTYLS. The artiodactyls and perissodactyls together form, next to man, by far the most important order of the class MAMMALIA, which includes all animals which bear their young alive and nourish them after birth with milk.

Distribution and Natural Instincts

The horse family is found native at present in only a very small part of the world, the horse proper being confined to a very restricted portion of western Asia and eastern Russia, while his cousins, the ass and zebra, extend southward into Africa and spread over a large portion of that continent. No hoofed animals of any kind originated in Australia. The Western Hemisphere, while it does not present any living descendants of native horses, abounds as does no other part of the world in fossil remains of extinct ancestral species of the horse group. These fossil remains are found from Patagonia to Escholz Bay, but are most abundant in the ancient fresh-water lake region of the present states of Wyoming and Montana in the United States. Their presence there, and their undisputable relationship to the modern horse furnishes a very strong proof of land communication between America and the Asiatic continent during a former geological period.

The natural instincts of the horse are characteristic and striking. His home is the desert. He does not ordinarily frequent the fertile plains which he would necessarily share with other grazing animals in large numbers; but rather avoids the companionship of other species and seeks the solitudes of vast expanses of barren plains, where his powers of locomotion make it possible for him to thrive where few other animals can live. He travels over firm, hard surfaces with great facility, but instinctively avoids the swamp and morass. He shuns the forest and thicket and keeps to the open plain. He does not trust to escape danger in concealment,

"I have never sold anything that gave such universal satisfaction as Bickmore's Gall Cure in my 20 years as a merchant.

W. R. Kimball, Sherman, Texas."

but rather avoids his enemies by flight. His senses are very acute. Sight, hearing, smell, all highly developed, warn him of danger, as a rule, long before the hunter has learned that wild horses are near, so that the wild horse is seldom seen and less often caught. He has little curiosity, and does not attempt to observe the appearance or character of an intruder. On the contrary, when he senses danger, he seeks protection in flight, which is swift and long continued. He may travel miles and miles when started, not in a circle to return to the starting point in a short time, but straight away across the desert, to distant feeding grounds, not to return to the spot whence he fled perhaps for months. The horse does not often seek to defend himself when brought to bay. His whole instinct is to get away, keeping to the open, where his speed may be utilized to the fullest extent. He withstands great fatigue, and privations of food and water, so that running down the wild horse would be a stupendous undertaking.

The conditions that have developed the horse are hard level surfaces and scanty feeding grounds far apart. As he has scoured the plains generation after generation, century after century, age after age, his limbs have grown longer and better adapted to travel; his feet have changed to suit the surface of the ground and his speed and endurance have become wonderfully emphasized. As a result of ages of life under these peculiar conditions the horse has at length become a most marvelous example of specialized organism. No animal surpasses him in powers of locomotion over the hard level plain in the open. In speed and endurance he is the peer of them all, and it is because of this wonderful specialization that he has become so useful to man. No other animal equals the horse in locomotive power.

Pre-Existing Ancestry

Recognizing as we must the present high degree of development which the horse has reached, and knowing the conditions under

Remove the harness and rub work horses down during the noon hour.

which this specialization has come about, it will be interesting to cast a passing glance at the type of animal from which he has sprung. Away back in the remote geological ages, long before history was written, aye! even before man had made his appearance on the earth, the forms of life, both animal and plant, were quite different from those with which we are familiar. Whole families of animals have appeared, come to a high degree of development and numerical importance, declined, and disappeared in the interval.

The first ancestor of the horse, whose fossil remains have been identified as belonging to the family, lived in the early TERTIARY time, in what was called the EOCENE period, and it is in the rocks that were formed during that time these remains are now found. This was thousands, perhaps hundreds of thousands of years ago. This early ancestor of the horse from the age in which he lived was called the EOHIPPUS. He was about the size of a fox and instead of one toe on each leg he had four perfect toes and one that was rudimentary. Contemporary with the eohippus was another animal about fifteen inches in height with four toes, called HYRACOTHERIUM. These two animals were quite similar, perhaps indeed, of the same species. The OROHIP-PUS AGILIS of Prof. Marsh also belongs to the eocene time and differed from the foregoing in that three of the four toes on each foot were considerably smaller than the main central toe.

In the succeeding MIOCENE period a similar animal existed, but it had by this time increased its size to about that of a sheep and had lost one toe entirely from each foot. The MIOHIPPUS had one large functional toe on each foot and a smaller toe on either side of it, which did not always touch the ground in walking.

The last of the tertiary periods, the PLIOCENE, presents another interesting representative of the family, which is also named

"I have used this Gall Cure at the Page Bros.' stock farm on cuts, galls, old sores, and find it the best thing of its kind ever used.

H. L. Page, East Bethany, N. Y."

for the age, the PLIOHIPPIUS. The pliohippus, also called the HIPPARION, was as large as a donkey, and had one functional toe on each foot, and two smaller ones, each terminating in a tiny hoof outside the skin of the leg. These smaller toes were entirely functionless, never touching the ground when walking, evidence of relationship to ancient types with five toes, but no longer of use to the animal, and consequently of reduced size, and yet not having entirely disappeared through long generations of disuse as they have since done in the modern horse.

An examination of the leg bones of the horse will reveal upon either side of the cannon or shank below the knee and hock, long slender bones extending down the sides of the central bone for several inches and terminating in enlargements shaped like a hoof. These slender bones are called splints and in occasional monstrosities or sports they develop to such an extent as to terminate outside the skin of the fetlock joint in a tiny hoof, bearing evidence to an inherited tendency to have more than one toe.

The fifth toe, lost for untold generations, may still be traced in the callosities or chestnuts on the inside of the leg. These callosities correspond to the human thumb and great toe.

We see then that the horse has developed during thousands of years, and countless generations, from a little five-toed animal to the powerful courser of modern times. Upon the hard surface of the desert over which he has ranged, the broad five-toed foot would be of no advantage, so little by little, generation after generation, his members have become changed and modified into a single toe, terminating in a hard, tough hoof, the best possible organ for rapid running upon the desert plain.

The very remote antiquity of the horse group, as attested by the four- and five-toed ancestors that have been discovered in the oldest tertiary rocks, suggests their subsequent importance among the fauna of the earth. We are not left to mere conjecture upon this point, for discoveries indicate that long before man began to assume

Lack of axle grease increases the load and wears the wagon,

"control over the beasts of the field," animals of this family had become very numerous and existed in great variety. Not only is the chain of evolution very complete between the little five-toed eohippus and the domestic horse, but there were other forms in profusion, some of which were of great size. Fossil skulls of one-half greater size than those of our great draft horses have been found, belonging to members of the group in former times, of great strength, but probably not yet developed in powers of locomotion as their present relatives. Those best acquainted with the subject agree that this family was at one time far more numerous and varied than at present.

Classification of Improved Domestic Breeds of Horses

For convenience in study horses have been grouped by common consent into saddle, trotting, coach, draft, and pony breeds, as follows:

Saddle	{	Arabian and Barbary.
	{	English Thoroughbred.
	{	American Saddler.
Trotting	{	American Trotter.
	{	Orloff Trotter.
Coach	{	French Coach.
	{	German Coach.
	{	Cleveland Bay.
	{	Hackney.
Draft	{	Percheron and French Draft.
	{	Belgian.
	{	Clydesdale.
	{	English Shire.
	{	Suffolk Punch.
Pony	{	Shetland.
	{	Welsh.
	{	Mustang and Broncho.

The general make-up of a saddle or trotting horse is long, slen-

*"Bickmore's Gall Cure is all O. K. It cures while the horse is working.
C. H. Pearson, Los Alamos, Cal."*

der, wiry, and active. Superfluous flesh is objectionable. Weight enough to carry a rider or draw a light vehicle at speed is sufficient. From 1000 to 1200 pounds weight is adequate to the requirements for the class. The prime requisite is great speed and endurance.

In the coach class less speed and more weight are desirable. Coach horses should be active and enduring enough to draw a heavy carriage at speed, but must be larger, more compactly made and smoother in appearance than the extreme speed type. This class should show quality and finish and possess high attractive action.

Draft horses require heavy weight and compactness. They must be powerfully muscled and low built. They are useful to draw heavy loads at a walking pace, and therefore do not need speed, which is sacrificed for power.

Pony breeds are used mainly as toy horses, or children's playthings. There are few places where larger horses would not be preferable, and yet under certain conditions they have proved to be superior to the heavier and more expensive types of horses. They are often well adapted to subsist upon scanty food supplies, which have greatly reduced their size.

Bickmore's Gall Cure

Bickmore's Gall Cure is an ointment for the cure of minor wounds and sores upon animals. While we call it a Gall Cure, its use is not confined to harness chafes and collar galls, as it is a healing salve of great merit for any of the many hurts and sores that all animal flesh falls heir to. Wire cuts are too frequent on both horses and cows; for them Bickmore's Gall Cure starts the healing process promptly and quickly perfects a cure. Rope burns are bad things to neglect and should be at once treated with Bickmore's Gall Cure. A cure is guaranteed or the purchase price will be refunded by the dealer. Sometimes a horse in a narrow stall when getting up suddenly will hit his hip bone against the wall,

Never whip a horse when he is trying to start a heavy load. Whipping makes him nervous and discourages him.

making a bad bruise. For this, too, Bickmore's Gall Cure should be used. Indifferent handling causes trouble. Frequently horses after being driven over muddy roads are put into the stall without washing the mud away carefully, as should be done. Scratches result which may be easily cured by using our remedy. In cold weather some cows are troubled with cracked teats. Milking causes pain and sometimes bleeding. For this trouble also Bickmore's Gall Cure should be used. While the average man's first thought is to heal the sore as an act of kindness to his faithful friend, the stockman who conducts his business on strictly business lines should also take prompt steps to put his animals in perfect condition. A neglected collar gall may lay up his best horse when he needs him most. It is surely poor business to let a horse lie idle or a valuable dairy cow suffer when the small price of a box of Bickmore's Gall Cure will cure the sore, and the hair will grow again of the original color. Neglected harness galls frequently cause spots of white hair that depreciate the value of the horse. For bruises where the skin is knocked off, for minor wounds, for open sores upon any kind of an animal, use Bickmore's Gall Cure. We promise you that it will make a cure or you may have your money back.

Arabian and Barbary Horses

The desert countries of northern Africa and southwestern Asia are the home of some of the best horses in the world. Perhaps this was formerly truer than it is at the present time. In these countries the horse and his rider become more intimate and inseparable than in America or Europe, as travel on horseback is there the rule. Railroads are rare and even good highways and wheeled vehicles are not in general use. It must at once be evident that the breeding, development and training of his horse are to the Arabian or Berber matters of deepest concern. While we are

"Your Gall Cure has given perfect satisfaction to men on farms and grading on railroads. They say it is the best.

W. A. Langley, Franksville, Wis."

wont to speak of Arabian horses as one breed, in their native country many breeds or families are known, but as the general and almost exclusive use of all these is the same, namely, for the saddle, it follows that there is essential similarity between them all, and there is wanting that variety of type characteristic of the horses of western Europe and Great Britain.

The origin of these horses is lost in the blank of fathomless antiquity. They form a starting point in many instances for the history of other breeds, but their own origin will probably never be known. In a letter to the French general, E. Daumas, who for many years held important posts in Algeria and the Barbary states, and who has written an excellent account of desert manners and horses,* the illustrious Mossulman, Emir Abd-el-Kader, writes in these terms concerning the origin of their horses: "Know then that among us it is admitted that Allah created the horse out of the wind, as he created Adam out of mud. . . . When Allah willed to create the horse, he said to the south wind, 'I will that a creature should proceed from thee; condense thyself!' and the wind condensed itself. . . . Allah created the horse before man, and the proof is that man being a superior creature, Allah would give unto him all that he would require before creating himself."

Certain it is that the history of Egypt and the countries to the east mention the horse as a subject of man, under the saddle and before the chariot at least eighteen centuries before our era, and it seems probable that for forty centuries the ancestry of the modern Arabian and Barbary horses have ministered to man's needs in northern Africa and western Asia. It is not unlikely that the chariot horses of the Pharaohs and the riding animals of the contemporary desert chiefs were similar to those now found in the same region. The famous and well-known picture of Pharaoh's horses is a good representation of the Barbary breeds.

Much care is bestowed upon the breeding, rearing and training

* "Horses of the Sahara."

A horse naturally feeds from the ground — put the hay on the floor.

of desert horses. Their pedigree traces through the mare rather than the sire, as with us, and in many instances these horse genealogies have been preserved for centuries. The foals are members of the family from birth and their training very carefully attended to. Their education begins when they are two years old and is not considered finished until they are thoroughly manageable, not only under ordinary conditions, but respond readily to bit and spur in difficult and dangerous country under fire. Their training also involves a thorough seasoning and conditioning until they can safely take journeys of thirty to fifty leagues in a day. Almost incredible distances are said to be traversed by these horses under extraordinary circumstances, illustrative of which the following is recited: A man of the tribe of Arbaa was the owner of a beautiful mare, "gray stone of the river," known throughout the Sahara, named Mordjana. In a quarrel with the Turks at Berouaguia, twenty-seven leagues south of Algiers, it became his lot to sacrifice his treasured steed for the peace of his tribe. To save his valued mare he called his son aside and charged him at night-fall to steal her away and ride to the southward through the desert to a place of safety. Having fed the mare the lad at earliest night-fall saddled and rode away with his arms, at a pace making pursuit futile, until, the night two-thirds gone, he laid down to sleep under a dwarf palm. After an hour's sleep he awoke, his steed having eaten the leaves from the shrub, and continued the flight. At dawn he reached Souagui, thirty-one leagues from the starting point. Urging on the mare, he watered at Sid Bouzid, twenty-five leagues further, and offered up the evening prayer at Leghouat, twenty-four leagues beyond, having ridden eighty leagues (240 miles) in the twenty-four hours. Numerous similar accounts of the wonderful endurance of these horses are related, which time forbids us to recount.

These oriental horses are not large, standing about fourteen or

"Have used your Gall Cure for years and find it the best.

M. Hughes, Salinas, Cal.,"

fifteen hands high as a rule, and seldom weighing more than one thousand pounds. In color they are dark bay or chestnut, and often white or gray, the grays having been rather prominent among those brought to western Europe to improve the Percheron and other breeds. They are of slender build, free from superfluous flesh and fat, and yet well turned, with good width of leg and depth of chest. They are noted for swiftness, endurance, intelligence, ability

ARABIAN STALLION, SHAHWAN

to stand privation of food, water or rest. Few if any European or English horses could compete, even for a short time, with these Arabs or Barbs in forced marches, carrying their food or subsisting on the country.

Their value has been inestimable as a factor in improving the

"No hoof, no horse," is a true saying.

English thoroughbred, the Percheron, the German coacher, the Orloff, and the American trotter. And yet they are hardly adapted directly to the work of the horses of the Occident. In their own sphere of action they stand unrivaled. They have contributed much to the excellence of our modern breeds; but the day has long passed since Arabian or Barbary crosses promised any advantage to horses of the western world. In America they have degenerated by neglect into the mustang of the plains. The mustang, as we shall see hereafter, traces his lineage to Moorish horses through those brought to Spain by the Saracen conquerors, and possesses unmistakable relationship to his more highly bred ancestors.

Bickmore's Gall Cure — How Put Up

Bickmore's Gall Cure is put up in tin boxes. For the average buyer we recommend our two-ounce box, selling at dealer's at 25 cents each. For a man having more use for a healing ointment, our six-ounce box, retailing at 50 cents each, is cheaper to buy, while for the large consumer we have a one-pound box which sells for one dollar each. There are thousands upon thousands of retail dealers selling Bickmore's Gall Cure in all parts of this country, but it sometimes happens that a stockman can not easily procure our remedy, and to such we will supply it at our regular retail prices, delivered by mail. In dozen lots we will deliver the two-ounce size for \$2.25 per dozen, the six-ounce size for \$4.50 per dozen and the sixteen-ounce size for \$9 per dozen, cash with order.

Large consumers should buy in dozen lots, either of dealers or of us, and save this liberal discount we make for large orders.

English Thoroughbred

As its name indicates this breed is of English derivation, and the word thoroughbred, originally used as an adjective, has long since become a part of the name of these horses. From the fact that

"Have used your Gall Cure for some time in our outfit and find it away ahead of all others we have used.

McDonald, McMillan Co., Camp No. 3, Edrans, Man., Can."

these were the first English animals to be bred pure the word has been virtually preempted to this use, to the exclusion of other kinds of live stock. And it is not now considered in good form to use the word thoroughbred with any class of animals except this breed of horses.

This is a very old English breed and dates from before the time of William the Conqueror, who became king of England in 1066. It was the outgrowth of the sport of hunting and running horses under the saddle. Saddle racing, while quite different from the lance combats of mounted knights in armor and requiring a different type of mount, was little if any later, and perhaps even earlier, in point of time. At all events, as early as the eleventh century horse racing was a common pastime among the gentry. That this sport enhances the value of swift runners admits of no question. The fleetest horses wherever found were in demand. Mares of the running type in England and France were the foundation upon which the modern breed has been reared.

The great improving factor in this breed was Arabian or Barbary crosses. It is likely that the crusades were the cause of the Arabian horses first coming to western Europe, and though the exact time is uncertain, it was probably near the beginning of the twelfth century when the first disastrous crusade, led by Peter the Hermit, took place. Many returning crusaders in later years must have left their chargers' bones on the battle field or the line of march, and returned with steeds from the lands through which they passed. At all events the value of the Arabian cross became apparent at a very early date.

Even before the crusades a Moslem army from Spain under Abderame III was defeated in southern France by Charles Martel in 732, and again in 743. The defeated Saracen armies numbered over three hundred thousand men and a large force of Arab cavalry. Many of the horses of the defeated Moslems fell into the hands of the French and have had an important influence upon the

When training a colt, drive him with a fast walker.

subsequent French breeds of horses. It is probable that William I, in introducing French manners and customs, and even the French language, into the English court, did not neglect the descendants of these Arabian horses, which had become so valuable in France.

Before the time of Oliver Cromwell, who was born in 1599, the word thoroughbred was commonly used to designate these highly-bred running horses. A famous sire in Cromwell's time,

GODOLPHIN, THOROUGHbred

imported by Mr. Place, the lord protector's stud groom, was known as Place's White Turk. After the restoration Charles II continued the executive interest and imported four royal mares from Barbary. Perhaps the most famous of the Oriental sires were the Byerly Turk, Captain Byerly's charger, 1689, famous for his fleetness; Darley Arabian, brought from the desert of Palmyra in 1700, and Godolphin Barb, which was brought from the coast of Africa about 1728.

"Farmers here think Bickmore's Gall Cure is one of the necessities, as this country is hard on horses. D. M. Ure, Morris, Man., Canada."

Godolphin was taken from a water cart in Paris and used as a teaser in one of the prominent breeding establishments in England, where he might have died unknown had he not been allowed to cover a mare which the leading stud sire had refused. The progeny of this mating was such a noted winner that his sire was thenceforth generously patronized and has become one of the most famous progenitors of them all.

Among the most noted racers of the eighteenth century were Flying Childers, which in 1721 ran the Beacon Course, 4 miles, 1 furlong and 138 yards, in seven minutes and thirty seconds, carrying nine stone and two pounds, equivalent to an even four miles in four minutes and eight seconds, or one minute and forty-seven seconds to the mile for the entire distance. Flying Childers was esteemed the fastest runner of his day and inasmuch as the record for modern runners, held by Ten Broeck, and made in 1886 in seven minutes and fifteen and three-fourth seconds,—eight seconds slower than the foregoing,—it appears that running speed has not increased in one hundred and eighty-five years, and that the speed limit of that gait was therefore reached almost two centuries ago.

Matchem, a descendant of Godolphin, ran the Beacon Course in seven minutes and twenty seconds,—ten seconds faster than Flying Childers, carrying nine pounds less weight, which would make the two records of about equal value, and the modern champion still more at a disadvantage by comparison. Matchem was also the sire of 354 winners, whose earnings amounted to over £150,000. He himself earned £17,000 in the stud.

Eclipse, foaled during the eclipse in 1764, of the Darley Arabian family, was noted as the unbeaten racer of his day. So invincible was he esteemed that he ended a racing career of seventeen months, during which time he won £25,000, by walking over the Newmarket course without a competitor. Retired to the stud, Eclipse begot 334 winners of £16,000. King Herod,

Dusty hay should be sprinkled with water when it is fed to the horse.

descended from Byerly Turk and Darley Arabian, was another noted racer and sire. His progeny numbered 497 winners of £201,505. Sampson, a descendant of Darley Arabian through Flying Childers, was a Thoroughbred with trotting instead of running propensities. Sampson was the grandsire of imported Mambrino, whose son, imported Messenger, was the great progenitor of the American trotting horses.

While the English Thoroughbred may not have increased in speed since the days of the great Flying Childers in 1720, he certainly has not suffered in popular estimation, or in the value in which he is held. In support of this assertion attention is called to the sale of the stud of the late Duke of Westminster in 1903, when Mons. E. Blanc paid in English guineas the equivalent of \$191,500 for Flying Fox. Good judges have pronounced this horse the best that ever wore plates.

The Duke of Westminster also originally owned another horse, ORMOND, which carried his colors to triple honors in the Derby, the Two Thousand Guinea and the St. Ledger, in 1896, which was sold to W. O'B. Macdonough for \$150,000, the next highest price ever paid for a horse.

The running records for various distances are given as follows:

½ mile	Geraldine	(4)	0 m. 46 s.	1889
1 mile	Salvator	(4)	1 m. 35½ s.	1890
2 mile	Ten Broeck	(5)	3 m. 27½ s.	1887
3 mile	Drake Carter	(4)	5 m. 24 s.	1884
4 mile	Ten Broeck	(4)	7 m. 15¾ s.	1886

Description and Characteristics

The English Thoroughbred is of various colors, generally dark and prevaillingly bay, frequently with white marks on face and legs. He is tall and slender, standing about 16 hands at an average, and weighing from 1000 to 1200 pounds.

His head is fine and lean, with an expression of extreme mettle
"Am a farmer. Raise some horses. Have used your Gall Cure and find it all and more than it is recommended.

Jacob Bettinger, Chittenango, N. Y."

and fire. His neck is long and slender, fine at the throttle, and not high-crested. His shoulders are long and oblique; chest deep but not wide, and loins powerfully muscled. His croup is somewhat level above long, muscular quarters. His legs are fine and muscular above, and fine and clean below the knee and hock. His characteristics are:

1. Supreme speed at a running gait.
2. Great bottom and endurance for long races and journeys under the saddle.
3. Tremendous fire and mettle which he imparts to all breeds upon which he is crossed.
4. A nervous temperament and an intelligent disposition.

The English Thoroughbred is known in America to a less extent than in England, but he has been a prominent factor in the formation and improvement of all our trotting and saddle breeds of horses. The French coach breed partakes largely of his blood. The Hackney was improved by Thoroughbred crosses. Our best saddle breeds own the Thoroughbred as an important element in their origin.

The best hunters and cavalry horses carry a good percentage of Thoroughbred blood. As an improving factor on all speed horses his influence is incalculable. As a saddle racer he is supreme.

The American Saddler

The gaited saddle horse of America has been produced because of a revival of saddle riding among people of wealth and social prominence, and a certain originality of thought which has found a greater elegance and attractiveness in riding at other gaits than the walk, trot, canter horses can show. Just as the Narragansett pacer was produced in the colonial days of saddle and pillion, to meet the then existing conditions of travel, when roads were mere bridle

paths through the forest and wheeled vehicles were rare; just as the Cleveland Bay, developed as a public post-horse in coaching days before railroads were built, was nearly lost when his place was taken by the steam locomotive, but has lately been revived for the growing needs of express delivery; so the American Saddler is becoming an established breed to meet conditions demanding riding animals of the qualities he possesses.

GORGEOUS GIPSY QUEEN, AMERICAN SADDLER

His history as a breed is short, being practically measured by a quarter of a century of time, for the American Saddle Horse Breeders' Association was not organized until 1891. The Ameri-

"I don't hesitate to recommend your Gall Cure. I have used it on saddle horses on large ranches in the West and know its merits.

Fred P. Jones, Bradley, Ind. Ter."

can seat, as represented by the cowboy of the western plains with long stirrup straps, and no daylight between the horse and his rider, differs essentially from that affected by the English rider, with his short stirrups and constant up-and-down motion. That the American seat is easier to both horse and rider and more elegant hardly needs assertion. The trot has been found unsuited to the saddle by comparison with other gaits, such as the pace and canter, and most emphatically as compared to the single-foot or running walk.

The main elements of blood in the American saddler are the Thoroughbred, especially that of the stallion Denmark by imported Hedgeford; and American trotting mares, particularly those of pacing families like the Tom Hals. To this blood has also been added that of some of the best saddle horses of the western plains and Kentucky. Among the mustangs there has been found occasionally a beautifully gaited single-footer, whose character has aided in transmitting the gait to the new breed. It will be seen that the saddler is strictly a warm-blooded horse, somewhat of the Thoroughbred type, but rather more compactly made and lofty in carriage and action. Elegance of manners and style of action are esteemed of greater value than finish and smoothness of conformation; and yet in these last particulars he is more uniformly excellent than the Thoroughbred or the American trotter.

It is mainly the ability to go the regulation five gaits that determines the eligibility of a saddler to registration in the stud book of the breed. Concerning gaits, we are familiar with the walk and canter, and the trot, which is sometimes called the diagonal gait because the legs on opposite corners move in unison, i. e., the left fore leg with the right hind leg, and the right fore leg with the left hind leg. In the pace both right legs move in unison and both left the same, which has given rise to the term "lateral gaited," or "side-wheelers."

The pride of all the gaits is the single-foot, most elegant and essential to standing in the breed. In this gait there is the same

Ventilation is very important; keep the air in the stable pure.

interval between each of the footfalls. In the fox trot the fore foot touches the ground slightly in advance of its opposite hind foot; and it is, like the fast walk or slow pace, an all-day gait of six or seven miles an hour.

In the running walk the hind foot strikes the ground slightly quicker than its opposite fore foot. In it the head is carried higher and the rein tighter than in the fox trot or rack. The single-foot and running walk are fast elegant gaits and capable of ten miles an hour up to a mile in three minutes.

In the rack or slow pace the hind foot strikes the ground an instant before the fore foot. Here then is an assortment of eight gaits, five of which, including the pace and single-foot, are required for admission to the breed.

Of the conformation of these horses little more need be said. They are in a sense between the Thoroughbred and the trotter. They ought to be of $15\frac{1}{2}$ to $16\frac{1}{2}$ hands in height and of a desirable color, and up to weight for carrying a two-hundred pound man, but gaits and manners are the prime essentials of the breed.

An Apt Trade Mark

To select a trade mark for our new possession, "Bickmore's Gall Cure," was a puzzling task for us in 1892, when we commenced business. The ointment had shown itself to be good and we were anxious the packages should have some distinguishing feature that would enable them to be recognized at sight by any and every one, whether ignorant or informed. A happy thought came to us: Use Doctor's picture and have it taken when he was in action drawing a load. How simple, yet how plainly it would illustrate the then unheard-of fact that a gall could be cured by using our salve while the horse was worked. This we did and our old

"Bickmore's Gall Cure is a very excellent article for wounds or sores on animals. Have found it a very good salve for wounds on humans.

Martin Esser, Poseyville, Ind."

friend's picture proved to be one of the happiest hits for a trade mark ever recorded.

THE OLD GRAY HORSE AT WORK

Doctor

Doctor came to us from the West, a barefoot youngster, fresh from the farm. He was a dapple gray, of good height, with a deep chest, powerful legs and broad back, one of that type of heavy draught horses developed by Western breeders. He was tractable, good natured and willing. Strength he had in abundance, coupled with the good horse sense to use it to advantage.

The numerous requirements of a large manufacturing business and training in good hands speedily brought out his many good qualities, so that when any special hard task was to be accomplished no other horse but Doctor would answer. One of his tasks was to draw coal from the pit up into the boiler room. Small dump cars were used, running over a narrow guage track that ended directly

See that the collar fits your horse's shoulders properly or you will have to buy a box of Bickmore's Gall Cure.

in front of the boiler doors. On the inside of the track, some five feet above the coal heap, was a plank just wide enough for a horse to stand upon while the cars were run by him and dumped before the further boiler. To see him drag in the heavy load and, without word from the driver, step aside upon the narrow bridge out of the way of the cars was enough to cause one to form a higher opinion of man's most faithful servant. On cold, stormy days in winter his warm perch on the plank was so much more to his liking than the outside air that in the lulls of the work it was customary to allow him to stay inside. The glare from the open furnace doors so near, the roar of the escaping steam when the boilers blew off were not enough to disturb his period of rest. It was interesting to see him handle a loaded freight car. The magnificent exhibition of strength to start the ponderous load along the rails, and the nicely applied and steady pull to barely keep the car in motion afterwards was but another evidence of his unusual intelligence. In common with some of the other horses, Doctor soon learned the meaning of the noon whistle, and the hungriest man in the crew was not more averse to working over time than was he.

Doctor has passed to his well-earned rest. A busy life he had, crowded with hard tasks well performed. He was worthy of the honor we bestowed upon him. His picture has interested many a horse owner in Bickmore's Gall Cure; has been seen and recognized by thousands in other lands who can not read these words, but who can and do remember "The Old Gray Horse at Work."

We revere Doctor's memory.

The American Trotter

The standard trotting horse of America is essentially the product of American notions and of conditions developed by American

"One of my customers has just cured his horse of a stick fast. After using other cures I induced him to try Bickmore's. Inside of ten days the horse was well; worked him continually.

E. D. Baum, 326 Flushing Ave., Brooklyn, N. Y."

institutions. Harness racing is more than anything else responsible for the present characters of the trotter, just as saddle racing in England gave his qualities to the Thoroughbred. There are certain institutions that are peculiarly American. The great national sport of baseball is a notable example, and it differs essentially from the games of ball played in other countries. Harness racing, mile heats, best three in five by classes, is another great national sport. To play this game, speed at the trot (or pace) is the prime requisite. The bike-sulky, appliances of harness and boots, parlor tracks, a perfect system of training and conditioning, skilful driving, all important factors in winning the game, become impotent without the inherent ability of the horse to trot fast. Every effort on the part of those engaged in the trotting game has been bent toward producing a horse that can trot a race of mile heats faster than his competitors. Hundreds of local and state associations hold race meetings, at which liberal purses tempt the efforts of trotting-horse men to win, and even racing circuits of national character engage the interest of horsemen week by week for a season of several months each year. It has therefore become the regular business of a prominent class of men to develop and race the best of our trotting horses, and it has become the business of a still greater class to breed and rear horses of the type that wins races and which command long prices as a racing prospect.

It is not alone the race tracks that make a demand for trotting horses. Many men of wealth enjoy light buggy driving behind a good stepper, and a "brush down the road" with a rival. In America racing horses in harness is a mania, and thousands of young horsemen take delight in "giving their dust" to others whom they come across upon the road. Many of these live upon farms with more or less favorable opportunities for breeding their own horses, which are embraced with alacrity. There is always the added reason, or excuse, that the successful venture will bring a good price when sold. The American Trotter is more than any-

Variety in feed is most agreeable and in every way best for the horse.

thing else the legitimate product of these conditions.

The blood elements in his formation are also of great interest to the student. It is mainly to the Thoroughbred influence that the speed of the trotter is due. We have already seen that the Thoroughbred has been bred and developed for centuries for his supreme speed at the running gait. From him the American Trotter gets speed. By careful training and selection the gait has been changed to the trot, which is more suitable to harness uses.

MESSENGER, TROTTER

Of the noted individuals that have contributed to the blood of the trotter, imported MESSENGER, stands first and foremost. Perhaps it would not be inaccurate to assert that the influence of Mes-

"Have been selling your Gall Cure for eleven years and have never yet found a case it did not help.

W. W. Stevens & Co., Danbury, Conn."

senger surpasses that of all other horses in producing trotting superiority. Messenger was foaled in 1780 and imported to America in 1788. He was a Thoroughbred by Mambrino, by Engineer, by Sampson, by Blaze (?), by Flying Childers, by Darley Arabian. Messenger's dam was by Turf, by Matchem, by Cade, out of dam by Regulus, both by Godolphin Barb. Perhaps the trotting propensities of the Messenger family come through Sampson, who is described as a horse of unusual size and power, with a marked preference for the trotting gait. So strongly was this trotting tendency displayed that when considered with his size and conformation, it has caused some horsemen to question his breeding, suggesting that he may have been got by a coach horse instead of a Thoroughbred. BELLFOUNDER was another trotting Thoroughbred, foaled in 1815, imported in 1822, got by Bellfounder out of Velocity by Sir Peter, out of Miss Hervey by Eclipse. The great HAMBLETONIAN family of trotters was founded by Rysdeck's Hambletonian out of Bellfounder mare by a grandson of Messenger.

MAMBRINO, a son of Messenger, was the founder of the Mambrino family.

Space forbids us to dwell at length upon DUROC, son of Diomed, a Derby winner, and Pilot, a French Canadian pacer, foaled in 1826, and Grand Bashaw, a Barb brought from Tripoli in 1820; but we must pause to make mention a little more fully of JUSTIN MORGAN, the progenitor of the Morgan line.

JUSTIN MORGAN was foaled in 1793 near Springfield, Mass. He was probably by a Thoroughbred horse (True Briton or Beautiful Bay) and out of a mare said to carry the blood of Lindsey Arabian in her veins. Justin Morgan was owned for many years in Middlebury, Vt., where he was employed about a saw mill, in addition to other duties. He must have been a marvel of versatility, for he is said to have been able to outwork, outtrot, outrun, and outpull any horse in the region. Though he weighed

Drainage is important — give the stall flooring a slight incline.

but 950 pounds he performed, in addition to his stud duties, regular work at the mill, was a favorite buggy horse, was used in running races by the boys, and at militia muster was in demand as an officer's mount, and considered the handsomest, proudest charger in the troop. Through his three sons, Sherman, Bulrush and

RYSDECK'S HAMBLETONIAN, TROTTER

Woodbury, he left a highly-prized family. The Sherman branch was represented by Black Hawk, Ethan Allen and Daniel Lambert. The Morgan family, although not so extremely fast for a single mile as the Hambletonians, are generally of better conformation for service, have a high degree of mettle, and remarkable bottom for long drives or years of use. I have among my notes the tale

"I have been selling Bickmore's Gall Cure for ten years. The ranchers here won't buy anything else. John Madison, Saticoy, Cal."

of Old Billy,— as furnished by the West End Street Railway Co. of Boston — whose skeleton is now in the Boston Natural History Rooms. Old Billy was a gray horse bred in Vermont, of Morgan stock, and weighed 1025 pounds. He ran on a stage until nine years old and then passed into the railroad company's hands, where he ran between Boston and Brookline for 25 years. He

DANIEL LAMBERT, MORGAN

never lost a trip through sickness or disability, and is computed to have traveled over 125,000 miles ahead of the company's cars. At 34 years old he passed into the hands of the American Express Co. and did duty on a feed truck in their stables until he died eight years later in his forty-second year, Christmas, 1890.

A horse stall should be nine feet long and five feet wide.

The Hambletonian family, already alluded to as founded by Rysdeck's Hambletonian, is the most important family of trotters. Indeed, practically all American trotters now carry a considerable portion of this blood. The leading sons of Hambletonian were, George Wilkes, Electioneer, Alexander's Abdallah, Dictator and Happy Medium.

Among the greatest breeders of trotting horses the late Hon Leland Stanford of Palo Alto, Cal., and Cicero J. Hamlin of Buffalo, N. Y., were conspicuous.

Trotting speed has developed within a century in a marked degree, as shown by the following records for one mile. Although many trotting horses in America and Europe had shown ability to trot races of four to twenty miles at good speed in the eighteenth century, and perhaps earlier, no record of a mile trotted faster than three minutes was made before 1806. That year Yankee trotted a mile over the Harlem, N. Y., half-mile track in 2.59. This record was gradually lowered till in 1845 Lady Suffolk trotted a race mile at Hoboken, N. J., in 2.29 $\frac{1}{2}$. Flora Temple was the first horse to beat 2.20, which she did in 1859 at Kalamazoo, Mich., trotting in 2.19 $\frac{1}{4}$.

In 1867, Dexter trotted a mile in	2.17 $\frac{1}{4}$
In 1874, Goldsmith Maid trotted a mile in	2.14
In 1878, Rarus trotted a mile in	2.13 $\frac{1}{4}$
In 1879, St. Julien trotted a mile in	2.12 $\frac{1}{4}$
In 1884, Jay Eye See trotted a mile in	2.10
In 1885, Maud S. trotted a mile in	2.08 $\frac{3}{4}$
In 1889, Sunol (3) trotted a mile in	2.10 $\frac{1}{2}$
In 1892, Nancy Hanks trotted a mile in	2.04
In 1894, Alix trotted a mile in	2.03 $\frac{3}{4}$
In 1900, The Abbott trotted a mile in	2.03 $\frac{1}{4}$
In 1902, Cresceus trotted a mile in	2.02 $\frac{1}{4}$
In 1903, Major Delmar trotted a mile in	1.59 $\frac{3}{4}$
In 1903, Lou Dillon trotted a mile in	1.58 $\frac{1}{2}$

"Your Bickmore's Gall Cure is the only Gall Cure I ever used that would cure up collar galls while I continued to work the horse.

R. E. Barrett, Dry Creek, W. Va."

It follows, when the rules of the National Trotting Horse Register admits animals entirely upon a speed basis without regard to conformation or soundness, great variety of type must exist in the trotting breed. We find for a fact trotting horses ranging in weight from seven hundred pounds to nearly a ton, and in height from

LOU DILLON, CHAMPION TROTTER

thirteen to eighteen hands. Great variations in general conformation are also noticeable. It is much to be commended that some of our best breeders, C. J. Hamlin, J. Malcomb Forbes and Thomas W. Lawson, have put size, conformation and finish before speed in selecting their breeding animals. It is worthy of remark that our national government is undertaking the development of an American coach breed at Fort Collins, Colorado, from trotting-bred

Look well to the feet. Keep them clean.

horses of good size of the Morgan type, combining speed and general excellence for carriage purposes.

BINGEN, FORBES TROTTER

While we criticize the policy of admitting to register many weedy animals because of this ability to trot miles in 2.30, there is an ideal type that is in demand, and is being bred in increasing numbers. This type differs in certain particulars from the Thoroughbred, which it much resembles in the main. It is somewhat lower and shorter in leg as a rule and slightly more compact in body. In gait the trotter should possess great reach, with smoothness and regularity of action, low and frictionless rather than high and showy.

The speed limit at the trot is not yet reached. It will probably

"Am never without Bickmore's Gall Cure in my barn. It will cure if you only put it on. It is the thing for the cotton farmer.

R. E. North, Clifford, Ark."

be slower than the running limit, which has not been materially reduced for 180 years, but it will be reduced very slowly from now on. Whether it will ultimately be 1.50 or less is problematical.

Pacing Horses

The pacing gait, where both right and both left feet strike the ground in unison, has been recognized for centuries, and in older times pacing horses were esteemed for the saddle, as attested by this passage: "Upon an amblere esely sche sat." (Chaucer, 1340-1400.) The pure pace was then varied with the rack and the amble, or broken gaits, in which the fore and hind feet do not strike the ground exactly in unison, but either the hind foot or the fore foot strikes the ground an instant before its fellow. The old Narragansett pacer was a notable example of a family of horses of that gait, having becoming very popular for saddle purposes and afterwards lost through disuse under changed conditions.

The pacer as found in America is closely related to the trotter and in breeding follows similar lines. It is true that certain families, such as the Hals and Blue Bulls, are more inclined to the pace by inheritance than horses bred in trotting lines, and that some trotting sires are more prepotent in transmitting pure trotting action than others; but nearly all trotting sires beget a prominent percentage of foals that pace. Not only does the same blood produce both trotters and pacers, but both gaits are not infrequently met in the same individual. There are notable examples of fast racers having changed from one gait to the other. Heir-at-law was successfully campaigned at the trot and afterwards at the pace. Jay-Eye-See, once a trotting champion with a record of 2.10, afterwards obtained a record of 2.06 $\frac{1}{4}$ as a pacer. I have observed that racers often go slowly at the opposite gait from the one they use when extended. On the Charter Oak track in Hartford I noticed the celebrated trotting stallion, Walnut Hall, pace up the stretch before

In feeding whole corn give it on the cob.

scoring down at a trot ; while the pacing champion, Dan Patch, jogged back at the trotting gait.

While the two gaits often result from the same breeding, they have not the same general utility. A pair of pacing coaches would look ridiculous. Pacers are not as desirable roadsters. Their conformation is not so pleasing, their carriage is lower, their

DAN PATCH, CHAMPION PACER

quarters generally less well turned. For the saddle the true pace is not so easy or elegant as the amble or the rack.

It is chiefly as racers that pacing horses are in demand. The pacing gait is from two to four seconds faster than the trot. Trainers of pacing horses have very commonly put hobbles upon their

*" Our stable boss informs us that the Gall Cure is giving good satisfaction.
Caledonian Coal Co., Gallup, N. M. "*

horses to prevent mixing ; but their use has not always prevented "mix ups," when a hopped pacer gets tangled and goes down. An effort to bar hopped horses from races has not appeared to be successful, because the supply of both hopped and free pacers of racing abilities does not yet fill the demand.

Some of the records of the best pacing horses are as follows :

Dan Patch	1.55 $\frac{1}{4}$	Joe Patchen	2.01 $\frac{1}{2}$
Dan Patch, without pace maker in front	1.58	Robert J.	2.01 $\frac{1}{2}$
Prince Alert	1.57	Little Boy	2.01 $\frac{1}{2}$
Star Pointer	1.59 $\frac{1}{4}$	Anaconda	2.01 $\frac{3}{4}$
John R. Gentry	2.00 $\frac{1}{2}$	Coney	2.02

Orloff Trotter

A Russian breed, founded by Count Alexis Orloff Tschismensky, state minister to Catherine II, who had extensive lands in the province of Orel, one of Russia's most powerful and productive states. In 1775 Count Orloff imported the gray Arabian stallion, Smetanxa, a horse of great speed, power and size. Bred to a Danish mare, he produced Polkan I, which in turn produced Bars I from a Dutch mare. English, Danish and Dutch mares have all been freely used, but the sires generally taken from foundation stock. Bars I was of the type Orloff aimed to secure, and by his prepotency, supplemented by rigid selection, a class of horses sprung up, fostered by the powerful family of Orloff and other Russian nobles.

A few Orloff horses were shown in America at the Bay State fair in 1884, and more in Chicago in 1893, but they are not numerous here as yet.

They are much inferior to American trotters in speed, but are strong, vigorous horses, and should prove useful for carriage work. They are generally black or gray in color, upstanding, strongly

When a horse is overheated or tired, allow but a few swallows of water. At least an hour later give him his fill.

made horses, about sixteen hands high and weighing 1100 pounds, approaching the right conformation for a coach horse.

ORLOFF TROTTER, OURIADNIK

Further Uses for Bickmore's Gall Cure

Our friends who have largely contributed to our success by generous purchases of Bickmore's Gall Cure, and who are responsible for our increasing sales, frequently write us of cures of troubles for which we have not recommended it. One man in Australia cured mange in his dog. A dealer in Pennsylvania wrote us of a prize "rooster" that was badly bitten and whose comb nearly

"Way up in the Adirondack Mountains, the past summer, I saw some of your Gall Cure and witnessed its usefulness.

Isaac M. Daggett, 1296 Madison Ave., New York, N. Y."

rotted off, saying that Bickmore's Gall Cure perfected a cure. Another dealer told of a bad case of eczema in the hands, afflicting a friend, which was cured by the use of Bickmore's Gall Cure. It has even been adopted by nurses in hospitals for curing bed sores. Another reports its successful use for curing chafes on babies. A bad fever sore was borne by a resident of this city for years, which he was unable to heal or to get help for. At his own desire we supplied him Bickmore's Gall Cure, with which he cured the open sore which was as large as a silver dollar. Afterward going to Virginia, this same man induced a woman friend to try the Gall Cure for a bad case of milk leg, and the same satisfactory result was obtained as in his case. One of the largest manufacturers in this section was in his younger days a filer in a saw mill. The steady use of a large flat file caused a bad sore in the palm of his right hand and numerous cracks on the fingers of both hands. His daily labor made the continuous friction necessary, and as a result salt rheum, or a kindred skin trouble, resulted, which made a small, obstinate sore that physicians were unable to heal. In speaking of his experience recently this man said that Bickmore's Gall Cure did better work for him than anything he could find, and now, after using it, all that shows for his trouble of years' standing is a calloused place in the palm of his hand.

French Coach Breed

On account of the difficulty of procuring suitable horses for military purposes the French government took steps during the eighteenth century to increase the production of horses of the desired type by the following means: First, the establishment of a school of horse, where the correct type of horses and the principles of breeding and management were taught, and uniformity of ideas of government officials promoted; second, importation of Thoroughbred stallions for use at a nominal fee by French horse breed-

Handle the young colts gently; give them confidence in you. They will be much easier trained.

ers; third, subsidy of best Thoroughbred and Demisang stallions owned by private parties in amounts between seventy-five and five hundred dollars annually according to breeding and quality; fourth, licensing desirable stallions not in the subsidy class to stand for public service; fifth, castration of all stallions not approved by the government officials; sixth, purchase of all young, desirable horses produced by users of approved stallions at remunerative prices.

FRENCH COACHER, PALADIN

The French Coach breed is the result of a cross of the Thoroughbred upon the riding, military and general purpose mares of France. Their breeding began during the last quarter of the

“Your Gall Cure is the best article I have used to put into the hands of men who will not take precautions to prevent their team from galling.

Dr. Wm. H. DeCourcy, Carmichael, Md.”

eighteenth century, and the Thoroughbred blood now predominates over that of native stock. They are not, however, devoid of variation of type, nor do many of them appear particularly prepotent in transmitting the breed characters and conformation. A few large studs are kept in America, among which are those of Dunham, Fleether & Coleman of Wayne, Ill., and the late J. W. Sanborn of Lewiston, Maine.

They are of good size, weighing from 1050 to 1300 pounds and standing $15\frac{1}{2}$ to $16\frac{1}{2}$ hands. They are of topky, blood-like appearance, of good conformation and substance, and high attractive action. The head is fine and lean, the neck long, arched and lofty, the shoulders long and oblique, the body deep and close-ribbed, the back strong and short, the croup level and strong in the coupling, the quarters well muscled and deep, the legs straight, with large, well-knit joints and wide cannons and shanks, pastern long and slanting, feet tough and well made. The French coacher is characterized by a smooth, well-turned conformation, a strong, attractive action, endurance for long drives at good speed, good manners and intelligence, and adaptability for coach or heavy harness work. He is probably not as impressive and prepotent in transmitting his characters as some of the purer breeds of more fixed qualities.

German Coach Horses

For three or four centuries the German government has been improving its horses in a systematic way to secure a large, strong, active type for military uses. The foundation stock was taken from mares of the agricultural, military and riding classes, and improvement mainly secured through Oriental crosses. From these sources, and by means of careful selection of breeding animals, a useful military, riding and coach class has been evolved. They were first brought to America in 1885 by Oltmans Bros. of Wat-

Carrots make a good addition to a horse's feed, but should always be chopped, not whole.

seka, Ill., who are still engaged in importing and breeding German coach horses. The breed is not numerous nor wide spread in the United States, but is growing in favor.

GERMAN COACHER, GAUDIAN

They are nicely-turned horses, of large size, much substance and showy appearance. Some critics charge a lack of springiness, that goes with the type of carriage horses most prized in America ; but these smooth, substantial German Coachers should prove successful sires of carriage horses when crossed with American trotting mares of high life and action.

" One of my team horses had a sore neck for two years. He is cured from one box of your Gall Cure. J. S. Spikings, Irving Park, Ill. "

THE OLDENBERG COACHER is in a sense a local variety of the German, much as the Morgan is of the American trotter, but its breeders and importers are inclined to keep it distinct from the general breed and press their claims to its popularity because of greater uniformity of type, purer blood and a stronger prepotency in transmitting the inherited character.

The origin of the Oldenberg is like the German in native mares crossed with fine stallions from Arabia, Barbary and Spain. During the sixteenth century steps were taken to improve the local breed. Count Johann XVI, 1552-1557, was especially active in procuring horses from Turkey, Italy and Spain. During the following centuries selection of typical breeding horses has been observed and fixity of type and purity of blood inculcated. A few of these horses were brought to America during the last two decades of the nineteenth century, where they gained a good reputation by winning honors over all coach breeds at the Columbian Exposition in 1893. They are described as bay or brown in color with dapples, and commonly a white star on the forehead and a white hind ankle. A characteristic marking is a lighter shade around the nose, popularly styled "mealy nose." In size they are uniformly large, 16 hands high and weighing about 1200 pounds. In form they are symmetrical, well-muscled, stylish and strongly made. The head is elegant, fine and carried high, the neck strong and well arched, the shoulders long and oblique, back short and strong, body round and close-ribbed, coupling smooth and powerful, croup high, quarters full and long, legs strongly made and of good width. They are characterized by high, attractive and powerful action, good tempers, sagacious and intelligent. They are bold, fearless movers with a load at speed.

Cleveland Bay

The name is taken from the old town of Cleveland in Yorkshire, England, and the uniform bay color of the breed. They originated

"After trial of your Gall Cure we find it gives excellent satisfaction.

Brushy Mountain Coal Co., Petros, Tenn."

in coaching times and were especially prized for use in fours and sixes on the public coach. They were contemporary with the Hackney and appear to have sprung from the same ancestry, but became of a somewhat different type on account of a different use. While the Hackney was the private gentleman's horse of all work, the Cleveland was the public horse, largely used for post work. In

CLEVELAND BAY

breeding there is evidence that a Scandinavian cross was early used upon the agricultural horses of England, and that the resultant old "Chapman" horse of Yorkshire was well known two or three centuries ago. Thoroughbred crosses were also used to some extent, increasing the speed and road capacity of the breed. The product of these crosses was an exceedingly popular and useful class of horses, which were well known and in general use in coaching times. With the advent of railroads the use of these horses was gradually taken away until the breed was thought to be lost. Of late a determined effort to resuscitate the Cleveland Bay has borne fruit and its improvement has been well received.

When a horse is frightened do not add to his fright by using the whip.

A few breeders are producing them in America, although they are not very generally known, and a record association has been formed with R. P. Steriker, Janesville, Wis., secretary. The Cleveland Bay is in color pure bay with black points. He stands about 16 hands and weighs from 1100 to 1400 pounds. In form he is between the Thoroughbred and the farm chunk, and makes what might properly be called the "express type," varying towards the carriage horse. He combines substance with mettle, is a free mover with a load, and very docile and intelligent. Uniformity of color and conformation makes matched pairs easy to produce. While they are valuable as coach horses and expressers, their powers may be turned to all kinds of farm work. In a plowing contest upon sod land for six consecutive days, a picked team of Clevelands had a picked team of Clydesdales beaten so badly at the end of the fourth day that the latter withdrew and paid the wager.

The Hackney

In breeding the Hackney is similar to the Cleveland Bay. The farmer's horse of a few centuries ago, carrying some Norwegian blood, had been selected into a type known as the Norfolk Trotter. Subsequent Thoroughbred crosses of the Hunter type increased the snap and activity. Until recently the Hackney has been a type or class rather than a pure breed. He has developed by selection, for horse users have found that compactly made, full muscled, upstanding, substantial animals, with lots of ginger and action were about perfection for family use. The breed has grown out of rigid selection of this type, and later the action has been much emphasized.

During the last quarter of the nineteenth century many Hackneys were imported to the United States, where they have become widely distributed. Among the best studs in America may be

"We had occasion to use Bickmore's Gall Cure. To our surprise the horse worked and got well. Judson L. Davis, Abington, Ill."

mentioned the Plymouth stud of Eben D. Jordan of Boston, and that of Frederick C. Stevens of Attica, N. Y. The Hackney is the horse PAR EXCELLENCE for heavy leather and the tan

HACKNEY STALLION, FANDANGO

bark ring, and he is no less popular for horsing private carriages of wealthy people for park work, shopping, or social calls. As carriages have grown in elegance and beauty, they have increased in weight, with springs and padding for comfort, and it requires a horse of some substance to harmonize with the outfit. City and park reg-

The brood mare should have plenty of exercise.

ulations preclude fast driving, so that horses that can show well and step high, without going too fast, are in demand. It is to meet

ERELONG, AMERICAN COACH

these requirements that the Hackney is being bred and selected.

He is described as of a bay, chestnut or brown color, often with white markings, from 15 to 16 hands high, weighing 1050 to

"Am using your Gall Cure for sore backs on cow ponies and find it the best thing I ever tried.

A. A. Spaugh, Canville, Wyo."

1200 pounds. In form he is blocky, round, and compactly made, with plenty of muscle and substance. He fills the eye as an object of beauty from whatever point we view him. His head is fine, clean and intelligent, ears small and attractive, neck muscular but not too short, well set on, shoulders smooth and oblique, back short, smooth and muscular, quarters long and powerful, legs strong and well made, a little larger than in the speed types; the feet are also of good size.

The crowning attribute of the Hackney is his high, stylish action, which, added to perfect manners and beautiful conformation, makes him a great favorite, commanding a good price.

Bickmore's in the Boer War

At the commencement of the Boer War in South Africa we were desirous of having Bickmore's Gall Cure used by the British troops. We felt sure that, under very hard conditions existing in that country, horses would see very rough usage, and would need a healing ointment of merit. We realized that such a highly developed organization as the British War Office would have a corps of highly-trained veterinary surgeons, who would be called upon to recommend methods of treatment for sore horses, that they might be kept in the best possible condition. So our first effort was to induce the War Office to test Bickmore's Gall Cure, feeling, as we did, that it would do better work in rough service than any of the standard preparations known to the profession. A letter was addressed to the British War Office, asking that a test be made of our remedy and offering to supply a quantity of Bickmore's Gall Cure for trial free of charge and delivered. As we rather expected, we received a very formal letter, stating that such a test could not be made. A second letter from us brought forth another courteous but firm refusal. We did not give up, but then set about getting a trial made by the troopers themselves, the men who had to ride or

Old horses, or those having poor teeth, should be fed ground grain. It is more easily digested.

drive the horses and who would appreciate such an article for its worth, regardless of whether it was the product of an officer of the army or a manufacturer in business. We wrote to our London office that when mounted troops were again dispatched to South Africa a clerk be sent to the dock, who should give out free sample boxes of Bickmore's Gall Cure to the men themselves before they sailed. This was done and nothing further was heard for a long time, when one day we received notice that an order for a considerable quantity of Bickmore's Gall Cure for the use of the troops in South Africa had been filled. And thus the remedy used by thousands of American and Canadian farmers in the peaceful pursuits of their daily lives, overcame by its merits alone the objections of the conservative army bureau and won its own way, proving its great virtue in the face of official indifference.

The Percheron

The name is taken from the department of Perche in central France, including three political divisions, Montagne, Nogent-le-Rotrou, and Vendome, and occupying a territory about twenty-five leagues long by twenty wide. The Percheron should not be confused with the Norman, which comes from a heavier and slower type in the region to the northward. The horses of Perche were bred from native stock, represented by the old BLACK HORSE of western Europe and Britain, with Arabian crosses.

The old Black Horse was the product of feudal customs and the abundant nutritious feed of the lowlands. Although of general use for the pack saddle and agricultural work, the best specimens were prized by the knights who fought in armor. The weight of rider, armor, and accouterments was about four hundred pounds, and required a substantial horse to carry it. In withstanding the shock of the charge or in charging, weight was a

"Have used your salve for some time and must say it is superior to anything I have used on our stock.

Ft. Yates, Winona & Bismarck Stage Line, Bismarck, N. D."

distinct advantage, for the lighter mount was the more easily turned from his course, to the discomfort of his rider. Weight and activity under the saddle were important attributes of this old Black Horse, and conditions were suitable to their development in a large degree. We mention the fact particularly because these big horses were the foundation stock for all our modern draft breeds.

The Oriental influence goes back to the time of the defeat of the armies of the Saracen, Abderame, in the eighth century, when a large body of Arabian horses fell into the hands of the French. During the crusades other eastern horses were brought into France, and later special importations were made, those of the gray stallion, Gallipoli, and Godolphin being best known. Spanish and English blood were also used; but the two great factors were the Black Horse and the Arabian.

Of equal importance with the breeding, is the system and development of the Percheron, which is as follows:

1. All mares in the breeding district are expected to produce a foal each year, in default of which they are sold. They perform the work of the farms while in foal, fully paying their keep, and the foal forms a substantial income.

2. At five or six months old the foals are weaned and sold for \$100 to \$125, to be kept for a season on the pastures of Pin, Mauves, Longny, Corbon, etc. They make rapid growth, but do no work, and pay out in advanced values.

3. At one and a half years old they are broken in and put to light work in teams of four. They are liberally fed, kept growing and their labor about pays their keep.

4. At three years old they are again sold to the Beance farmers and for the next two years they pay well for their feed by the rapid draft work performed. Speed and activity are emphasized here, rather than heavy loads. It is a sort of sifting process in

Some authorities say that all grain feed should be ground, if whole grain is not fully digested when expelled.

which the weaker specimens break down, while the stout, rugged colts become seasoned for the strenuous work ahead of them.

5. At five years the omnibus and truck companies buy them for their final field of usefulness, seasoned and fit for any exertion.

CASTELAR, PERCHERON STALLION

The French government regulates the horse breeding in Perche by destroying all inferior stallions, licensing the good ones and subsidizing the best to the amount of \$50 to \$150 annually.

Percheron horses were early brought to America; the horse Norman having been imported in 1816, Old Louis Napoleon, a famous stallion, in 1851. The Massachusetts Society for Promot-

"Have had excellent results from use of this cure; feel we should not be without it.
Standard Oil Co. of N. Y., Brooklyn."

ing Agriculture made several importations. Canadian horses carry much of this blood, but have reduced in size in the new country.

No draft breed is so widely and generally distributed throughout America. Percheron grade draft horses in cities, on farms and in horse markets largely outnumber all other breeds combined. They have achieved their premier position by priority in the field and by intrinsic value. Not only weight but active habits commend them to users and their clean legs are generally preferred to the profuse feather on the legs of some British breeds, particularly for farm work.

Description

Size: large, 15 to 17 hands, 1300 to 2000 pounds weight. There has been a great demand for heavy horses in America during the last two or three decades, and the Percheron horse has in consequence been selected more for size, whereas formerly activity was more insisted upon. As a result the breed is much heavier and less active than formerly. Color: dappled gray, turning to white with advancing age, was formerly a characteristic color. On this account the Percheron lost somewhat as compared with the bay of the Clydesdale and darker colors of other breeds. Consequently black has become the prevailing color of late. It may be said that with the great demand for blacks, anything and everything in the line of black stallions of heavy weight has been accepted, while only the very best of the grays found favor. Very naturally the superior quality of many of these grays is causing a decided reaction in favor of the color, on the principle that a good horse is never of a bad color.

General form: broad, low, blocky, massive, and symmetrical. The head is medium large, showing some Arabian lines; the neck is massive and short with high crest; the shoulders wide, oblique, and smooth; body deep, round, and short; loins strongly muscled; croup rather sloping; quarters big and powerful; legs short, wide

Careless feeding and watering ruins many a valuable horse.

apart, strongly made and free from feather ; pasterns supple but strong, feet good.

The characteristics of the Percheron are, massive strength and muscular power in the collar, great endurance and staying qualities, superior activity for horses of their weight, easy keeping and intelligence. A little book on the Percheron horse by Du Hays, translated by Weld, gives a very good account of the subject.

French Draft

FRENCH DRAFT STALLION

The French Draft has much in common with the Percheron and is especially related to the modern Percheron as found in America. He differs in being heavier and more sluggish, for want of the Arabian influence, so strong in the best Percheron of a half century ago. The French Draft is more like the Flanders and Belgian breeds.

"I use your Gall Cure on cows' teats with success.

J. M. Vance, San Antonio, Texas."

Belgian.

Belgium and Holland and Flanders have some good breeds of draft horses intimately related to the other breeds of Europe, that are very much prized at home. These all have had more or less influence upon the draft horses of America, but about the only one

BELGIAN STALLION, REVE D'OR

that has been imported here is the breed known at home as Boulonais. A few of these came to Illinois as early as the late sixties and early seventies, and quite recently they have been imported in larger numbers. A magnificent display of the breed was made at the Louisiana Purchase Exposition in 1904, where they made a sensation.

Give the horse his heaviest feed at night when he can rest and digest it properly.

Their origin is the old Black Horse of the lowlands, the same as in all the other heavy breeds, and their improvement has been mainly through selection.

They are an extremely massive type, very wide, very low and very heavy. In weight for height they probably exceed all breeds. Like most of the continental breeds, their legs are not feathered. They are horses of tremendous power, but not excessive action.

Clydesdale

This Scotch breed takes its name from the river Clyde which runs through its breeding grounds. The region where these horses flourish includes the historic countries of Lanark and Sterling in southern Scotland.

In blood we find the foundation in the old black war horse of the lowlands, fortified by frequent Flemish crosses, and probably a more recent Cleveland Bay cross, which has given increased activity and the prevailing bay color.

In very early times a breed of heavy horses was well known in the region, and extensive trade carried on with breeders on the continent, and the Flemish influence was quite prominent. The Douglas family was largely interested in the breed, and in 1352 a safe conduct was granted to William, Earl of Douglas, for ten grooms and ten large horses to Teviotdale in the king's domain. In 1715-20 John Patterson brought a Flemish stallion to Lochyock which became famous for his progeny. During this period the Clydesdale and English Shire horses mingled blood very freely. A century ago the Clyde was heavy, sluggish and black; but a half century later he became generally bay in color and lighter and quicker in movements, circumstances pointing strongly to a Cleveland cross.

"Have handled your Gall Cure for eight years and find it the best medicine on earth for sores of any nature on animals.

McKinney & Hills, McKinney, Texas."

The Clydesdale was early brought to America, but mainly to Canada, until about 1860.

CLYDESDALE STALLION, PRINCE WILLIAM, JR.

The Clyde may be described as a drafter of an upstanding, resolute, slashing-gaited type, somewhat more rangy than the Percheron; longer in the head, neck, body, and leg; not quite so massive in build; straighter in his top line, especially more level on the rump. His legs appear larger because of the feather they carry. He has a bold, prompt, resolute step that gets him over the ground rapidly, and is very tractable and good mannered. Probably the Clydesdale type is not equal to the Percheron in wearing qualities or economy of keep.

The colt will train easier at six months than when a year old.

English Shire

Another big draft breed, perhaps the biggest of them all from the black war horse of the middle ages, has until recently been known as the English Cart Horse. He was quite fully described by Low three quarters of a century ago. The blood of his native

SHIRE STALLION, BURY VICTOR CHIEF

ancestry was liberally supplemented by that of Flanders and breeds of the adjacent mainland. There is evidence that the Romans prior to A. D. 400 prized a heavy breed of British horses. King John, 1299-1316, imported one hundred Flanders stallions. Edward II was a patron and improver of the breed. Henry VIII

"Farmers claim your Gall Cure will cure any case of galled skin or shoulder without stopping the animal from work."

B. W. Hays, Gordonville, Mo."

compared his bride, Anne of Cleves, to "a great Flanders mare." Robert Bakewell was a prominent improver of these horses and imported Flemish stallions. Dodman, the horse of hair, was a noted sire about 1790, and was distinguished by mustaches and long hair under the knees, characters he freely transmitted.

The Shire is not numerous in America, having been late in making his appearance, and somewhat unpopular for his hairy legs and sluggish movements. Of late he has rapidly gained ground because of improved action, and the great demand and high prices for big horses. When it comes to size the Shire is it.

The Shire is described as very large in size, weighing from 1600 to 2400 pounds. In color bay prevails, but blacks, roans, chestnuts, and sorrels are found. In form he is massive, long, broad and low. He is large in head, heavy in neck, wide in back and loin, moderately level in rump, long in under line, legs big, wide apart and well covered with feather below the knees. His joints and feet are big. He makes an impressive appearance harnessed to a dray, and exhibits great power in the collar. He has a fair walk, but is too heavy to trot much, and is quiet and pleasant tempered. He is a heavy feeder and is most in demand on city drays, where weight is of more importance than activity.

Suffolk Punch

An old English breed popular to the vicinity of Suffolk county. Its origin is obscure, though there have been from time immemorial horses of this character in southern England. The conditions seem to have developed that out of whatever material came in. There are indications of a Norman or Percheron cross prior to the eighteenth century. The Suffolk stud book contains records of various crosses since 1725, some of which were warm blooded in character. For more than two centuries Suffolks have been locally

An overheated horse should be thoroughly rubbed, walked around in the open air, and then covered with a woolen blanket.

referred to as the "Old Breed." Newspaper accounts of draft trials are still extant bearing dates of the early part of the eighteenth century. It appears that the old Suffolks possessed indomitable pluck and courage to pull. They would draw until they came down to their knees. This grit in the collar has given them an enviable reputation as drafters. About 1770 a Yorkshire trotting horse, known as Blake's Farmer, a short-legged chestnut stallion, was extensively used as a sire in Suffolk. Perhaps the majority of Suffolks trace to him, many of them through young Briton, his most noted great-grandson, foaled in 1796. The prepotency of the old breed was very great, and its characters have become very firmly implanted on whatever stock has been brought into close relations with it.

SUFFOLK MARE NECTAR AND FOAL

Very few Suffolks are found in America; but they possess very useful attributes. They are described as middle-sized horses, weighing 1300 to 1800 pounds, are always sorrel or chestnut in

"Have been selling your Gall Cure to Potomac Coal Co. for two years. They recommend it highly for horses with sore shoulders.

P. H. Gallagher, Barton, Md."

color, are very close built and compact, with short, clean legs, free from feather. They are well adapted to farm work, having requisite weight, a good walk, a fair trot, great power and bottom for continued exertion, and are easy keepers. At the same time a team of four or six of these sorrel chunks would do things with a big dray, or brewers' truck, that would make the "good big ones" hustle to beat, and they wouldn't look badly hitched that way either.

The Mustang

The horses of the southwestern plains of the United States are descendants of Spanish importations. The first importation, made by Columbus in 1493, perished; but subsequent importations by Columbus in 1527, and particularly by DeSoto in 1540, have left progeny which has multiplied into large bands of animals of small value. As the Spanish horses from which the Mustang has sprung have come from Oriental stock through the Moors, who brought them to Spain, we have proof of a very direct inheritance of Arabian and Barbary qualities by these Mustangs. They have lost much of their finish and symmetry of form during centuries of natural selection without the direction of man, and have probably reverted towards the ancestral type, but they are possessed of the warm blood, the wonderful locomotive powers of their ancestry, and where they have lost in attractiveness they have gained in independence of artificial care and feed.

They are of small size, 700 to 900 pounds weight, about 14 hands high and very slender in form. Their necks are long and straight, set on low, their shoulders narrow, sides flat, rumps steep, quarters lean and thin, legs straight and tough.

They are found in all colors, but the paler ones are rather characteristic, duns, yellows and calicos. They are exceedingly tough and hardy, and have great endurance for long journeys. Their

Keep your work horses warm in winter. It is cheaper to keep up the animal heat with clapboards and blankets than with feed.

capacity to carry weight is out of all proportion to size, and they make excellent cow ponies, and many are high-class polo ponies.

Their reputation for meanness is doubtless mainly due to their nervous tempers and the system of breaking (without real domestication) in vogue.

BRONCHO

INDIAN PONIES, or BRONCHOS, belong to a region farther north than the Mustang, and carry the blood of French stock brought from Canada separately, or in conjunction with Span-

"I would rather have one box of Bickmore's Gall Cure than ten of any other kind for my own use.
Will C. Nord, Louisville, Ky."

ish blood. They are, as might be expected, of easier tempers, more compact build, and generally darker colors than the Mustang.

Shetland Ponies

Originated on islands north of Great Britain and are a very old breed. Their characters are probably due to centuries of gradual

SHETLAND AND CLYDESDALE

variation to meet the conditions of an island habitat, a bleak cold climate and a sparse supply of food. They are of diminutive size. Their feet are very tough, seldom needing shoes. They have very thick, long coats of hair to protect them during those northern winters, and generally have very bushy manes and tails.

When turning out horses to pasture in summer, two feeds of grain each day should be given.

They have quiet tempers and good intelligence and make toy horses for children, of unsurpassed excellence. In color they present almost everything that goes, black, white, bay, chestnut, dun and piebald all being common.

Welsh and Exmoor

WELSH PONY, TALLY HO

Characteristic of the poor, bleak highlands of Wales, they are of small size, weighing 400 to 800 pounds, standing 10 to 13 hands, are more slender in build than the Shetlands, rather taller, and run more to the dark colors.

"Have just tried Bickmore's Gall Cure on a horse, having the scratches, that could hardly walk. Used one box on him and cured him perfectly.

Isaac Zuercher, Pandora, Ohio."

The 101 Ranch — A Testimonial

The 101 Ranch, located in Oklahoma, is one of the best-known in the United States. It contains 87,000 acres, enclosed by 150 miles of wire fencing. There are three towns within its borders, Bliss, Red Rock and White Eagle. It contains thousands upon thousands of acres of corn, wheat, alfalfa, oats, melons, fruit trees and small fruits, besides thousands of acres of range, over which graze cattle, horses, mules, hogs and buffalo. It has a telephone system, with thirty-five miles of private wire. Five hundred hands are employed during the busy season. Fifty "cow punchers" attend to fifteen thousand cattle and five hundred mules. There are three hundred work horses and a herd of thirty-five buffalo, preserved as curiosities.

This well-known ranch is used for agricultural pursuits and as an immense stock-breeding farm, raising everything from buffalo down to chickens. Its work is conducted upon strictly business lines; its purchases are of articles known to be good. A letter giving the experience of the proprietors of this immense ranch with Bickmore's Gall Cure should be read with interest by every stockman, and we take pleasure in printing it here :

"White Eagle, Okla., July 14, 1898.

"Dear Sirs : Please find enclosed \$5.00, for which send us that amount of your Gall Cure. Would just as soon have it in bulk, as it is for our own use. We work over one hundred head of horses, and it takes quite a lot to go around. Have used it, and like it splendid.

"We buy all our supplies at wholesale, so will expect dealers' prices. Please send by Wells, Fargo & Co. Express.

Yours truly,

THE 101 LIVE STOCK CO."

Market Classes

Horses present greater difficulties in grading for the market than almost any other product. In modern markets the grains are graded so accurately that any given class is as standard as govern-

A neglected gall or cut will lead to trouble later.

ment bonds, and is traded in many times between producer and consumer, without ever being seen by most of its buyers and sellers. Beef cattle obey the same law, and when one properly understands the method of classification he can tell very accurately what the price of any given lot will be by reading the market quotations. It will be found that there is just about fifty cents per hundred weight difference in price between extra choice and choice, choice and good, good and medium, medium and fair, and fair and common steers.

Market horses obey the same law, but as intimated they are harder to grade because their qualities vary more widely and their adaptability to any purpose is far less uniform, and consequently the prices obtained present greater contrasts than do other market products in general.

The greatest horse markets are New York, Philadelphia and Chicago. St. Louis also handles a great many horses, and perhaps more mules than any other trade center. Chicago is typical as a well-systematized market, especially of the heavier grades of horses, although New York and Philadelphia perhaps excel in classes of quality and action. A characteristic Chicago market quotation is as follows :

	Poor to Fair.	Good to Choice.
Drafters	\$110 to \$160	\$165 to \$240
Loggers and feeders . .	75 to 145	150 to 190
Chunks	75 to 100	110 to 145
Expressers	110 to 150	150 to 170
Farm mares and chunks .	60 to 90	90 to 125
Light drivers	65 to 130	150 to 400
Actors and coachers . .	100 to 175	200 to 450

To discuss these several classes under their respective heads, we shall learn as follows :

"Bickmore's Gall Cure has become a necessity with our farmers.

W. S. Worthington, Neshaminy, Pa."

DRAFTERS are horses of size, finish and condition, and of the muscular, weight-pulling type. They must not weigh less than 1600 pounds in good condition. They must be smooth, compact, symmetrical and well-turned, and must be well covered with flesh, often to a point of over-fatness. With condition and quality, the greater the weight the higher the price. Good drafters weighing a ton will often bring \$400 to \$500 and are eagerly sought after.

SIX-HORSE TEAM OF CLYDESDALES

The competition among buyers for the "good big ones" is very sharp and prices realized very remunerative, while anything falling below 1600 pounds must go into another class.

LOGGERS and **FEEDERS** are horses of large size, but lacking in quality or condition. For the lumber camps big horses, even if rather coarse, are just as useful, and the investment is less. The risk of loss or injury and small advantage of fine appearance generally decide the lumbermen in favor of the coarser grades of large horses. At the same time many big horses come into the market

Molasses, from one to three pints twice each day, mixed with grain, is an economical food.

having plenty of quality but poor condition. Now fat is requisite to top prices in the horse market, so that many farmers make it a business to buy horses in thin flesh and feed them for a few months, and then return them to be sold, when fat, for a good advance in price. The FEEDERS of good quality when fattened become DRAFTERS in the market.

CHUNKS are horses of the draft type, but under weight. They are compact, well-made horses, in good condition and weighing from 1300 to 1550 pounds.

EXPRESSERS are of about the same weight as chunks, or possibly rather less in most cases, a little more upstanding and rangy in build, with quality, finish and considerable action. The expresser, in his best estate as to quality, mettle, size and finish, becomes the best type of fire horse, while the slightest and smallest of the class find use for the general delivery work on grocery teams, &c.

FARM MARES and CHUNKS are a still smaller type of animals useful chiefly for farm work, weighing from 1100 to 1300 pounds; they are equal to any kind of work. They are of the compact draft type, and therefore economical, easy keepers, quiet in temper, and strong for their size. It is from this class of mares that many drafters are bred by the use of big stallions of a ton weight.

LIGHT DRIVERS are an entirely different class of horses, of slender build and nervous temperament. It will be seen that their prices vary widely according to quality and speed. A light, slender horse, without quality and speed, is a cheap horse indeed; but with a high degree of finish and quality, and the speed that the best ones possess, they cease to be a market factor and are sold at private treaty for prices up in the four figures, occasionally in the five figures, and one or two stallions of this

"We have used your Gall Cure for the past three years and find it the best cure for old sores we can get.

American Lead & Baryta Co., Old Mines, Mo."

type even for six figures, e. g., Axtell \$105,000 and Arion \$125,000.

ACTORS and COACHERS comprise a class with more substance and weight than light drivers, rounder in form, more bone and bigger muscles, with the same quality and finish, and high, trappy action instead of extreme speed. This class varies less than the preceding, for it requires a good horse to make the class. On the other hand they do not command such remarkably high prices as speed horses of the highest quality. PLUGS are commonly found in markets and comprize second-hand horses, generally old, or unsound, or otherwise inferior, and command very low prices.

Saddle Horses

Besides the foregoing Chicago market classes, saddle horses are found in numbers to supply the large demand in many places. The two types of saddle horses are "WALK TROT CANTER" and the GAITED saddler. The former is similar in type and price to either the light driver or the actor and coacher, and his usefulness for saddle purposes detracts nothing from his carriage qualities, but may add slightly to his value. The gaited saddler, already described as a breed, has a high value because of his special qualities, the limited numbers in the market and the ability of people who want these qualities to pay well for them.

A COMBINATION horse is one that is adapted to both saddle and carriage uses.

To bring the highest prices in the market certain requisites pertaining to age, soundness, training and condition are observed. Unsound horses are not wanted, and it will not pay to market them. Horses with spavins or curbs, or ring bones, or any unsoundness of legs which may produce lameness, command very low prices. The same may be said of defects in the wind, which incapacitate animals for the best service.

The stall window should be so placed that the light will not shine directly into the horse's eyes.

The best market age is five to eight years, after seasoning and development is complete, and before the best useful period of life is very far advanced.

Unbroken horses are not very salable, and it will not pay to market them until they have been well broken, thoroughly accustomed to use, and even seasoned to work.

Finally, however useless fat may be as to its intrinsic value, fat horses sell better than poor ones, and it will pay well to have horses fat before attempts are made to sell them on the general market.

Horse Sales

The great horse sales are very interesting in many ways, chiefly on account of the rapidity and volume of business. None but experts can follow them, and yet in spite of the rapidity and seeming recklessness of these sales, every obligation is strictly carried out and the buyer has a certain time in which to prove his purchase and return it for a refund of the price if it does not prove as represented.

A common method of description is to hang out a placard with one or another of the following legends:

"At the halter," "Worker only," "Wind and work," "Serviceably sound," "Sound."

The sign "at the halter" guarantees absolutely nothing. The buyer takes his horse as he finds him and runs his own risk. His purchase may be blind, lame, fitty or wind broken, and he may balk, kick or run away. The bill of sale does not recommend him as having a single useful quality, and there would be in this case no "come back."

If "worker only" is the tale, the horse may be blind, lame or wind broken, but will work as well as he is able and does not ordinarily balk. It is the least that can be given by way of guarantee.

"We are using Bickmore's Gall Cure on our own teams. It is far superior to any remedy we have ever tried for sore shoulders on horses.

Reimer Bros., Winnipeg, Man., Canada."

"Wind and work" guarantees the animal to be sound in wind and a willing worker, but may have unsoundness in his legs or be blind or blemished.

"Serviceably sound" means having no defect that lessens his capacity for work. The horse may have soft puffs on the joints, or wire cuts or blemishes that only injure his appearance; he may even be a little thick in wind, if not wind broken, but can do as much work as though he were perfectly sound.

"Sound" is the highest possible guarantee. It is equivalent to a statement that the subject has no defect in wind or limb, is well broken, kind and free from vices, and if not so found within time allotted for trying him out, he may be returned for a refund of the purchase price. Very commonly horses so purchased can be returned within twenty-four hours and money received on mere statement that the buyer does not like the horse.

Warning

Influenced by the large sale which Bickmore's Gall Cure has, there are now on the market many new makes of Gall Cure, the makers of which claim them to be "just as good as Bickmore's." The thinking man will realize that when a manufacturer or a dealer makes this statement he acknowledges that Bickmore's Gall Cure is the standard. Some dealers will offer a box containing more salve. Quantity does not count; it is the quality, the healing properties of a salve that make its value to the stockman. Use but a little Bickmore's Gall Cure, follow our simple directions and it will give you satisfaction. We ask our customers to always insist upon having Bickmore's Gall Cure; to always look for our trade-mark, the old gray horse at work, which is on every box and all of our advertising matter.

Bickmore's Gall Cure, wherever bought, is warranted satisfactory or money refunded. Avoid substitutes, which are seldom satisfactory. Send your orders direct to the factory if your dealer is

The disposition of a horse is moulded by that of the driver.

trying to push the sale of a new Gall Cure upon which he probably makes a larger profit.

United States Department of Agriculture, Office of Experiment Stations.

Porto Rico Agricultural Experiment Station,

Office of Special Agent in Charge,

Mayaguez, Porto Rico, March 25, 1905.

Bickmore Gall Cure Co., Old Town, Maine.

Dear Sirs : I enclose voucher for your signature covering purchase of March 16. In the hot climate of the tropics we have more or less trouble from galled shoulders. We keep a supply of your cure on hand, having been familiar with its use in the states, and get admirable results from its use.

Very truly yours,

D. W. MAY,

Special Agent in Charge of Porto Rico Experiment Station.

Points of a Good Horse

The selection of a horse is an undertaking for which the average person has little confidence, and such would doubtless do well to employ a competent horse judge of known integrity. While horse traders have not a very enviable reputation, most of the large and well-known dealers are honest, not only as a matter of principle, but because it is a good business policy. The horse dealer, doing a large and increasing business for a series of years, finds the confidence and satisfaction of his customers among the most important of the factors contributing to his success. Many a wealthy person would do far better to entrust his purchase to a reputable dealer than to his coachman or groom, for the latter would be apt to supplement the first method by a liberal "rake off" for his personal share of the deal.

If the selection of a horse or a carriage pair is beyond the powers of the average person, much more is the judging of relative merits and characters of an entire group. Horse judging is indeed expert work, requiring very special training and powers of discernment and its treatment in a sketch of this kind would be presumptuous.

"Can recommend your Gall Cure. It is as good for man as for beast.

G. D. Butler & Son, Yreka, Cal."

There are, however, certain points in a horse that any one can consider, and in their application learn much of the horse's value.

The head is a valuable index to equine nature and quality, and tells more than anything else of the character of the possessor.

A big, coarse head generally goes with a sluggish temper, while an over-fine head may belong to a very nervous and unsafe animal. A rather medium size goes with the best temper, and if more refined it will indicate good life. Lips rather firm indicate strength and determination.

The eye is a wonderful indicator of temperament, e. g., a dull eye expresses want of action and life ; a mild eye, easy temper and good feeding quality ; a very prominent eye indicates nerve force, and if its expression is wild and restless, its possessor is apt to be unsteady and perhaps unsafe. An eye showing much white commonly belongs to a horse of pronounced temper and great courage. Such a horse, ill treated, might become balky or vicious.

The ears, if small and wide apart, indicate fine quality and high mettle ; if too large they show a dull, sluggish character. When pointed forward they indicate a pleasanter disposition than when laid back upon the neck.

A forehead wide between the eyes betokens intelligence, while if it is narrow, a sullen, dull character is indicated. Prominent but fine under jaws indicate power and energy, and a wide intermaxillary space, good wind. The angle of the head with the neck indicates breeding and quality, and should be rather wide to recommend it.

While the mental traits of a horse are of great importance his body mechanism is equally so. A strong horse would not be very useful if he was too sullen to work or too excitable to be safe, neither would a courageous, good-tempered horse be worth much without good legs and a strong body.

The neck should be strong, set on rather high and well back and carried high. The shoulders should be long and oblique, ex-

The mangers should be regularly cleaned out and kept clean and sweet,

tending well into the back to give activity and reach. The back should be short and well-muscled. The hips smooth and not too prominent. The quarters should be long and muscular. The tail should be set on high and carried well up. The set and carriage of the tail indicate in a noticeable degree the manners and style of the horse. The legs should be set straight, well-muscled above the knees and hocks, and wide and lean below. The pasterns should be strong and supple and set at the same angle as the shoulders and thighs. The feet are of great consequence, and should be of medium size, well formed and dense as to horn, elastic as to frog, concave as to sole, and full and strong as to the bars of the heel.

The body should be deep in the chest, and in width according to breed, to give room for breathing and the vital organs. A close-ribbed body is a strong body, and a body that is low in the flank indicates great bottom and endurance. The legs should be well under the body, particularly the fore legs, which indicate stiffness or unsoundness if projecting ahead of a vertical line from the elbow.

It goes without saying that the legs should be smooth and free from blemishes, and wind should be good; but an extended discussion of these points would be out of place in this paper.

Nov. 28, 1905.

The Bickmore Gall Cure Co., Old Town, Me.

Gentlemen: On Sept. 24 I received from you half dozen boxes of your Gall Cure with instructions, which I followed out, using one box on a mare that had made the trip to the Uinta Reservation and back, 500 miles, and had eight bad saddle and collar galls. They were completely healed in ten days under daily use. I then used it on an old saddle gall which an attack of distemper had caused to break out, forming a spot the size of a hen's egg. This entirely disappeared and the horse is sound.

Your cure is all that you claim for it and more. Many thanks for your courtesy. I find that Parson's Drug Store, Durango, Colo., handles it.

Very truly,

ROBERT SWARTWOUT,

Hermosa, Colorado.

Horse Breeding

Without going into the principles of animal breeding as a science, we will consider horse breeding as practiced and practicable, alluding to some of the well-known laws and rules as they suggest themselves, when having a bearing upon the particular problems under consideration. Probably the first question that concerns the horse breeder is the kind of mares to breed from, and it indeed merits much more careful thought than it frequently receives.

The fundamental principle of breeding, "like begets like," applies to the brood mare with the same force that obtains with other animals, and if it is true, as it undoubtedly is, that it does not pay to produce inferior horses, then it obviously does not pay to breed poor mares, with the certainty that their inferiority will be reproduced.

The mare must be a good animal of her kind. She must be free from defects of size and conformation that may be transmitted to her progeny. She must not have unsoundnesses of a hereditary nature. Her temperament and intelligence are also as subject to the laws of heredity as any other qualities. Broken down and unsound mares are not desirable breeding propositions. Age is no bar to the desirability of a brood mare; in fact, an old mare, if sound and of the right type, presents distinct advantages by way of guarantee of stamina and longevity, and freedom from predisposition to unsoundness. There are, however, certain difficulties and even added risks in breeding old mares. Their fecundity is lessened and difficulties of parturition are somewhat increased by old age.

So long as breeders generally must select from among animals considerably short of perfection, and we advise discrimination against the defects mentioned, it may well be asked "what mares then can we breed?" Probably the defects of lack of refinement, a rather open conformation bordering on coarseness, and other characters

Exercise your horses before putting them into the hard spring work.

peculiar to the female sex are the least objectionable and most easily counteracted by care in the selection of the sire.

If the mare has strength, good constitutional vigor, is of good size, and free from constitutional defects or unsoundness, she will do to breed.

THE SELECTION of the SIRE is of much consequence and is frequently too little considered. It is chiefly through the sire that improvement in our domestic animals is secured. We should at the outset select a stallion that is better than the mares bred to him. He should be in the first place of the breed best suited to the conditions of the breeder's business and market, and of a breed and type that will cross well with the mares chosen. He should not be of an entirely different class from his mares, or uncertainty and much variety of progeny will result. In size he should generally be larger than the mare, for improvement in size is by no means the least object in breeding. A good big horse is better than a good little horse. The draft sire should weigh a ton, the coach sire 1300 to 1500 pounds, and the speed sire about 1200, so that he may add something to the size of his colts, as well as to their other points of excellence.

The stallion should be more compactly and strongly made than the mare, not only as a sex characteristic, but that he may beget rugged, strong foals. He should be finely finished, upstanding, stylish, and superior in action, for all these characters are valuable and need to be improved in breeding. His temper, courage and intelligence are also important, and particularly his prepotency.

Prepotency is an individual characteristic that can only be determined by test; but the sire that has the prepotency to stamp his virtues uniformly upon his progeny is an animal of rare value. Pedigree is valuable chiefly as an indicator of prepotency, for the pure-bred sire is usually more prepotent because of his lineage. The kind of a pedigree that is most certain to produce prepotent

"I have used the Bickmore Gall Cure ever since it came out, and it is good.

R. R. Reynolds, Perry, Ill."

animals is the one that is most uniform, not only in the kind of characters of the animals included, but in their degree as well.

The horse breeder, to be successful, should select a sire better than his mares, of larger size, compacter build, finer finish, superior action, and as prepotent as possible.

In regard to the season of the year, spring is the natural breeding season, and the natural instincts of the mares to breed in spring and summer are very firmly fixed. It often happens that the mare can be spared from work at other times more easily, and when this is the case the greater advantages will warrant an effort in that direction. Mares may be successfully bred to foal in late summer or early fall, or in late winter or very early spring, so that their use on farms for spring and summer work is not seriously interfered with.

The Brood Mare Needs Exercise and Liberal Feeding

The exercise should be in kind adapted to her capacity; draft work for draft mares, carriage work for lighter mares; and farm work can be found suitable to almost any kind of a brood mare. The amount of work a pregnant mare can safely perform is the same during the first six or seven months of pregnancy as with a mare not with foal. As the time for parturition approaches and she grows heavier, the pace will be gradually slackened and the working hours shortened. She may perform work at a moderate pace up to two or three days before foaling without prejudice to the foal or herself. Indeed, she will be stronger and parturition easier because of the regular work performed. Very fast or heavy work, heating unduly, heavy backing, sharp turning, &c., are to be avoided by mares near to parturition, after the seventh or eighth month. FOR PARTURITION a loose box or paddock should be provided and the mare left to herself for the most part, the groom merely informing himself whether she is doing well or otherwise, and giving assistance only when needed, which is very rare.

If you want strong, healthy colts, use strong, healthy horses for breeding.

A cooling, laxative ration before foaling is of much value. Pasture grass or carrots, bran mashes, or dry bran, and oil meal being among the best laxative fodders.

AFTER FOALING the mare should have a vacation, preferably in pasture; but she must be liberally fed to secure the most rapid growth of the foal. Growth counts, and at no period can it be more certainly or cheaply secured than during the first months of life.

WEANING takes places at five or six months, or much earlier if the mare's work is needed. It is better for the working mare to be relieved of the drain of milk secretion and better for the foal. Very good results may be obtained by weaning the youngsters at two months. Weaning should be sharp and decisive and not protracted, to give the least set back. After weaning the colt's feed should be ample and varied. Plenty of grass or good hay, crushed oats, bran, and sweet skimmed milk are all good feeds and may be suited to the appetite of the youngster. The main point is to keep the foal growing rapidly and make him as large as possible. He will be more useful and bring more money if of large size than if stunted and small.

TRAINING or BREAKING to the halter begins soon after foaling; harness lessons at about two years old. In training colts, the teacher must at all times command their confidence. Teach one thing at a time. Always use the same word or signal for the same movement. Drill each action until promptly and cleanly executed. Avoid confusing the colt with too many things at once. A few lessons well taught are better than many half taught. Do not make the first lessons too long. Colts learn faster when fresh than when tired. Tiring out a colt to make him manageable is a poor method. It is apt to spoil the temper and make him balky or sullen. Colts recuperate rapidly and may take two or three

"We are located on the Gulf Cattle Range. The cow men all want Bickmore's Gall Cure for saddle galls.

F. M. Duke, Alvin, Texas."

short lessons daily, but half an hour is generally long enough at first. Avoid physical contests. The strength of the trainer is less than that of the colt, and once the latter learns the fact, he has learned a thing dangerous to all who handle him. It makes little difference whether harness training is given singly or with another horse at first. It should be both ways before it is finished. The horse selected as mate for the youngster should not be a dead-head, but as well suited in gait and temperament to the pupil as may be.

DEVELOPMENT is consistent with profitable use, and the colt may be made to pay his way with work performed after he is two years old, provided he is well-grown and proper judgment is used in regulating the work to his capacity. Long hours, hard drives or heavy draft are not suited to the youngster. They tend to stunt his growth and break his spirit, both fatal to the best final product. On the other hand, short daily drives or light farm work, generally increasing as the youngster's muscles and appetite for work increase, not only do no harm but stimulate the appetite and promote the growth, so that in the end you have a well-grown, well-trained, seasoned horse, instead of a soft, flabby, green colt, which can only be made fit for hard use by months of careful handling and conditioning.

Many horses are not unlike colts in respect to their powers of endurance. There is a vast difference between the horse in daily use, with muscles hardened and turned for heavy draft or hard drives, and the one that has stood in the stable on full feed in idleness. In the spring farm horses commonly are short of work and need to be gradually seasoned with easier tasks before the hard daily labors of tillage begin.

Carriage horses that are little used are not fit for long, hard drives. A fat horse and one in hard flesh are very different animals. It is comparatively easy to fat up a horse inured to hard

Condition powders are unnecessary if your horses are fed right and properly exercised.

work; but it is a slow, tedious process to replace soft fat with well-seasoned muscle.

In **CONDITIONING and TRAINING RACE HORSES** it is the artist who brings his charges to the post fit to go the race of their life. Many fall by the way and break down under the strain of training. Many horses are called "quitters" because their tired muscles refuse to act towards the end of a bruising race, and they allow competitors to pass them and win. The Arab horseman knows the value of a horse thoroughly toughened and ready to take his rider a hundred miles in ten hours. The truckman knows the advantage of having his team ready to go in the collar safely for every ounce there is in them when called on.

The race-horse trainer knows that many a race is lost or won on the condition of the horse and its ability to carry the pace to the finish.

Use does not hurt seasoned horses. Feed and use are both dangerous to horses in idleness.

*"Your Gall Cure has given the best of satisfaction among farmers and horsemen.
N. H. Aamoth, Faith, Minn."*

The Bickmore Gall Cure Company

OLD TOWN, MAINE, U. S. A.

Sole Makers of Bickmore's Gall Cure

BRANCH OFFICES AND AGENCIES

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<i>Canada</i>	Wingate Chemical Co., 545 Notre Dame St. W., Montreal.
<i>Great Britain</i>	American Agencies, Ltd., 38 Shoe Lane, London, E. C., England.
<i>Germany and Middle Europe</i>	Bickmore Gall Cure Co., J. A. Gray, Agent, Rittr. Strasse 42-43, Berlin, S. W. 68.
<i>France</i>	Agency now being arranged.
<i>Australia</i>	Bickmore Gall Cure Co., Abbott Richardson, Agent, 489 Flinders Lane, Melbourne.
<i>New Zealand</i>	Brodrick & Kinvig, Wellington.
<i>South Africa</i>	Lennon Limited, Cape Town and Branches.
<i>India</i>	Howe & Trunkett, Calcutta.
<i>Argentine Republic</i>	Miller & Cia., Rivadavia, No. 567, Buenos Ayres.

A BUSINESS PROPOSITION. Buy a box of Bickmore's Gall Cure, use it according to directions, and if you are not perfectly satisfied that it is just as represented the dealer will pay you back your money. You run no risk, as we authorize the dealer to do this. Do not let a horse lie idle that you need in your business when the cost of a single day's feed expended in a box of Bickmore's Gall Cure will cure the sore, and from a constant bill of expense will turn your horse into a money earner once more.

TRIAL OFFER

If any reader of this book, who owns stock and has never used Bickmore's Gall Cure, would like to try it, we will mail a sample box free of charge upon request. The coupon below should be filled out, indicating how much stock is owned, and mailed to us :

Name _____

P. O. Address _____

R. F. D. route if any _____ State _____

I own _____ horses, _____ cattle, _____ mules, and if your sample works satisfactorily I will remember your trade-mark and ask for **BICKMORE'S** Gall Cure when I call for it at my dealer's place of business.

Signed : _____

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