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FARMER'S COMPLETE FARRIER,**

COMPRISING A

HISTORICAL DESCRIPTION OF ALL THE VARIETIES OF THAT NOBLE  
AND USEFUL ANIMAL,

**THE HORSE;**

GIVING INSTRUCTIONS IN ALL THINGS THAT RELATE TO HIM; HIS REARING,  
FEEDING, TRAINING, FATTENING AND TREATMENT; WITH A  
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**BY I. DANIEL RUPP.**

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## P R E F A C E .

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It seems necessary, on this occasion, to *detain* the reader with a word or two, by way of preface to this compilation.

When the compiler was called on to prepare a "*Horse Doctor Book*," he was taken by surprise—it was with much diffidence he consented to undertake the task. However, having had access to some of the best works extant on this subject, and possessing a considerable collection of original receipts, which were furnished him while editor of the "*PRACTICAL FARMER*," he soon resolved to comply with the wishes of the Publisher; and he produced a book, which, in the estimation of some, is considered to be a useful work.

The Authors he consulted, are the following: Farmer's and Sportsman's Vade-Mecum; Smith, on Breeding; American Farmer; Annals of the Turf; Loudon, on the Varieties of the Horse; Mason's Improved Farrier; G. S. Winter's Pferde Arzt; Genesee Farmer; J. M. Jefferey's Horse Farrier; Montague's Farrier; Pocket Farrier; Barnum's American Farrier; Diegendesh's Ross Arzt; Duvall, on Training Horses; S. W. Pomeroy, on the Mule; Farmer's Cabinet; Loudon's Treatise on Cattle; Memoire sur le Vormissement, par T. Girard; Loudon's Agricultural Encyclpæ-

dia; Dr. Vandever, on Dogs; Baltimore Farmer and Gardener; M'Kenziey's Five Thousand Receipts; Journal Pratique, Zuend's Thier Arzenei; Complete Farrier; besides many others. Of all of these, the best use has been made.

With these remarks, the book is disposed.

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# PART FIRST.

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In this part of the treatise before us, the horse, by far the most important of the brute creation as a servant to man, "Lord of fowl and brute," is historically, physically, and anatomically described. The diseases and accidents to which he is liable, noticed; the remedies, so far as known, specified; and the treatment to be pursued, to restore the diseased animal to wonted health, pointed out. The whole interspersed with plain, practical directions relative to the general treatment of the horse, that the most common reader cannot fail to derive much valuable knowledge of lasting utility in relation to this animal. We have also added *The American Annals of the Turf and Stud book*; directions on racing, &c. The whole forming a *Farmer's and Sportsman's Vade Mecum*.

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## CHAPTER I.

### HISTORY AND GENERAL DESCRIPTION OF THE HORSE.

#### *Sect. 1.*

The horse is not only justly considered as the noblest of quadrupeds, but among the great variety of animals, he stands next to man, as an illustrious instance of creating power and a display of goodness. To him, we are indebted for our main assistance to plough our fields—to haul home the fruits of our harvests into our barns and cellars. It is the horse principally that conveys all what we need, even our persons from one place to another—from the interior to the most remote parts of our country—thus administering to our necessities, our happiness, pleasure and health. Friends and relatives at a distance, he carries with speed and safety. The remotest parts acquire by his speed, a kind of proximity, in aiding to transport men and "communications" from one place to another, though ever so distant.

#### *Sect. 2.*

The horse, on account of his transcendent services to man, in every possible stage of human existence, and for his beautiful shape, his powerful muscular strength, his ambitious spirit, his great agility, his speed, "*swifter than the eagles*," (Hab. 1: 8,) his docility, generosity and bravery, has been the theme of ancient bards; of inspired wri-

ters, and of the modern pen. "The general beauty, the harmony of proportion" and his stateliness could not fail to attract the attention of a Job of ancient days, so as to constrain him interrogatively to exclaim: *Hast thou given the horse strength? Hast thou clothed his neck with thunder? Canst thou make him afraid as a grasshopper? The glory of his nostrils is terrible. He paweth in the valley, and rejoiceth in his strength: he goeth on to meet the armed men. He mocketh at fear, and is not affrighted: neither turneth he back from the sword. The quiver rattleth against him, the glittering spear and the shield. He swalloweth the ground with fierceness and rage: neither believeth he that it is the sound of the trumpet. He saith among the trumpets, Ha, ha; and he smelleth the battle afar off, the thunder of the captains and the shouting.*—Job 39: 19.

### Sect. 3.

To have tamed a horse, from his wildness, was in days of yore, reckoned a high honor—this was the boast of sceptered princes; and, indeed, among the highest eulogies that *Homer*, the rapturous Grecian bard, could possibly bestow upon *Aggamemnon*, the commander-in-chief of the Grecian armies before Troy, was, "*he was a tamer of horses.*" He passed the same encomium upon *Pelops*, a prince of high distinction.

### Sect. 4.

The *Horse's* native place cannot be determined with any certainty. We may gather from the sacred scriptures, that about 3500 years ago, or about 1660 before the birth of Christ, the horse had been domesticated by the Egyptians. For we read, when Joseph removed his father's remains from Egypt to Canaan, "there went up with him both chariots and horsemen."—Gen. 50: 9.

And about a century and a half after this period, the horse formed the principal strength of the Egyptian army. Exod. 14: 7.—We read that Pharaoh, took six hundred chosen chariots—and in verses 23, 26, *That Pharaoh's horses, his chariots, and his horsemen perished.*

The horse rapidly spread abroad. The Thessalians, the Argosites and the Athenians were colonists from Egypt, and without doubt carried the horse with them. From the sacred volume it appears the horse was greatly multiplied and rapidly spread abroad; for when the Israelites returned to Canaan, we read, the Canaanites went out to fight against Israel with chariots and *horsemen very many.*—Jos. 11: 4.

### Sect. 5.

Arabia, although now so celebrated for horses, and by whose breed of horses those of other countries have been greatly improved, is not, we believe, the native place of the horse. In support of our opinion, we would remark, that in the days of King Solomon, about 1000 years before Christ, Arabia abounded with silver, gold and spices, and

Solomon himself imported much of these from that country.—2 Chron. 9: 14. We do not read that he imported any horses thence; but, we read, 2 Chron. 1:—that he imported *all his horses* for his own cavalry and chariots from Egypt—and, indeed, some at enormous prices. In the chapter referred to, it is stated, that a horse brought from Egypt cost one hundred and fifty shekels of silver, which is but a fraction less than seventy-six dollars.

Even so late as A. D. 600, the Arabs had few horses of value. That the horses of Arabia, and of the southern parts of Europe, are derived from Egypt, is generally admitted by those who have investigated the subject; but whether Egypt is their native place, or whether they have been imported from the southwestern parts of Asia, or which is still more probable, that they were brought from the northern coasts of Africa, is still somewhat problematical, at least, it cannot be determined with certainty.

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## CHAPTER II.

### WILD HORSES.

#### *Sect. 6.*

This noble quadruped is found in a wild state in the deserts of Great Tartary, in the southern parts of Siberia, in other parts of Asia, in the interior of Africa, and in South America. It is the opinion of Zoographers that the horse is not an original of either Great Tartary or of South America; but both varieties of these countries are the descendants of the European race, and that they had escaped from the dominion of a master.

Horses were unknown in America, and in the islands of the Pacific, until they were carried there by Europeans, and those of Tartary have been satisfactorily traced to those which were turned loose at the siege of Asoph, Russia, A. D. 1657.

#### *Sect. 7.*

Wild horses are gregarious, for they have been seen numerously and in large companies by travellers who have crossed the plains between the shores of La Plata and Patagonia. "Some affirm that they have seen ten thousand in one troop. They appear to be under the command of a leader, the strongest and boldest of the company, whom they implicitly obey. A secret instinct teaches them that their safety consists in their union, and in a principle of subordination. The lion, tiger and leopard, are their principal enemies. At some signal, intelligible to them all, they either close in a dense mass, and trample the enemy to death; or placing the mares and foals in the centre, they form themselves into a circle and welcome the *enemy* with their horn-mounted heels. In the attack, their leader is the first to confront the danger, and when prudence demands a retreat, they follow his flight with the speed of the wind."

*Sect. 8.*

These animals are celebrated for limbs and gracefulness of motion, full of spirit and courage, strongly resembling the Spanish horses from which they have descended. It is said they are easily to be tamed, and that they become gentle, docile and affectionate to their masters. They are capable of enduring much fatigue. They may be ridden from sixty, seventy, and even one hundred miles, without drawing the bit, and this occasionally at twelve miles in an hour. They know of no intermediate pace between the walk and gallop.

The wild horses of South America differ from those of Tartary; these are also readily tamed, but in many respects inferior. They never equal the domestic horse in form, strength or speed.

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 CHAPTER III.

## VARIETIES OF THE HORSE AND COMPARATIVE VALUE.

*Sect. 9.*

In the close of Sect. 4, we stated that the horse was probably derived from the northern part of Africa; we shall, therefore, to follow a natural order, in giving an account of the most celebrated breeds of different countries, begin with those of Africa. The varieties of the horse are numerous. The indigenous horse of every country, operated on by climate, assumes that form best adapted to its locality. Man, however, who is prone to change, would soon be led to mix with the native, that variety which presented in its original state the finest form and most valuable qualifications, and thus produced a variety of the domestic horse.

*Sect. 10.*

**THE BARB.**—He may be justly placed at the head of the African and appropriately at the head of all other breeds. He is obtained from Morocco, Fez, and particularly Barbary, whence he takes his name, **THE BARB.** He is celebrated for his fine and graceful action. He is not as high as our common farm horse; perhaps never exceeding fourteen hands and a-half. “The shoulders are flat, the chest round, the joints inclined to be long, and the head particularly beautiful. The Barb is decidedly superior to the Arabian form, but not his spirit or speed or countenance. The Barb has contributed to the excellence of the Spanish horse as well as the English.” The much talked of Godolphin Arabian, who was the origin of some of the best racing blood in England, was a Barb.—*Am. Farmer*, vol. 9, p. 134.

*Sect. 11.*

**THE DONGOLA.**—In the kingdom of Dongola and the adjacent regions of Egypt and Abyssinia, is a horse differing from all other

eastern horses. This is the Dongola, full sixteen hands high, "but the length of the body, from the shoulders to the quarters, is considerably less: Their form, therefore, is opposite to that of the Arabian or English thorough-bred, which are longer by some inches than high. The neck is long and slender, the crest fine, and the withers sharp and high, giving a beautiful forehead; but the breast is too narrow, the quarters and flanks too flat, and the back *carped*. They constitute excellent war horses, from their speed, durability and size." Several, says Goodrich, have been lately imported into Europe, but they are little valued.—*Fam. Ency.*, p. 293.

### Sect. 12.

THE ARABIAN.—In Section 5, we stated that the Arabians so late as A. D. 600, had few horses. From their neighbors they obtained some Cappadocian and other horses, which they propagated with much care. The Arabian horse soon gained, and has for a long time retained unrivalled celebrity. Arabian horses are remarkable for the surprising swiftness with which they escape the hottest pursuit of their enemies.

Three distinct breeds or varieties of the Arabian horse are noticed by writers: The *Altechi*, or inferior breed; the *Kadischi*, or unknown race; a mixed breed; and the *Kotchlani*, the most valuable breed, whose genealogical pedigree has been carefully kept in writing for nearly five hundred years. The *Kotchlani* race is reared by the Bedouin Arabs in the remote deserts.

The female, it seems, is preferred to the males, by the Arabians, because she is more gentle, silent and able to endure fatigue, hunger, and thirst; qualities, in which, they have found from experience, the female excels the male. Hence it is truly said: "from an Arabian a stallion may be procured by paying a high price, but a mare can never be obtained except by *fraud and bribery*. In the time of Dela Roque, the Great Emir of Mount Carmel, had a mare which he valued at more than 5000 crowns. The mare which this prince rode, had carried him three days and three nights together, without eating or drinking, and by this means saved him from the pursuit of his enemies.—*Harmar's Observations*.

In Malcom's sketches of Persia, the reader will find many interesting anecdotes, showing the mutual attachment of the Arab and his horse. Space does not allow us to relate any here. Those who are curious on this subject can consult *Smith on Breeding*, p. 80, and *Malcom*, vol. 1, p. 41.

### Sect. 13.

"The Arabian horse would not be acknowledged by every judge to possess a perfect form; his head, however, is inimitable. He may however, be readily characterized by the broadness and squareness of the forehead, shortness and fineness of the muzzle, the prominence and sparkling brilliancy of the eye, the smallness of the ears, and the beautiful course of the veins in the head. It might be objected

by some that his body is too light, and his chest too narrow; but behind the arms, the barrel generally swells out, and leaves sufficient room for the play of the lungs. In the formation of the shoulder, next to that of the head, the Arab is superior to any other breed. The withers are high, and the shoulder blade inclined backward, and so nearly adjusted, that in descending a hill, the point or edge of the ham never ruffles the skin. He may not be thought sufficiently high; he is seldom more than fourteen hands and a-half. The fineness of his legs, and the oblique position of his pasterns, may be supposed to lessen his apparent strength, but the leg, although small, is flat and wiry; anatomists know that the bone has more than a common density, and the starting muscles of the forearm and the thigh, indicate that he is fully capable of accomplishing many of the feats which are recorded of him. He presents the true combination of speed and bottom—strength enough to carry more than a light weight, and courage that would cause him to die rather than to give up.

#### Sect. 14.

**THE EAST INDIAN HORSE.**—A gentleman, and judge of the horse, who was present at a sale of some, at Hissan, in Hindostan, Asia, describes this variety in a few words:—"Not less than one thousand horses were shown. They were all above fourteen hands and a-half in height, high crested, and showy looking horses. The great defect seemed a want of bone below the knee, which is indeed general to all the native horses of India; and also so great tendency to fulness in the hocks, that, in England, it would be thought half of them had blood spavins."

The East India horses, like the Arabian, (Sect. 12,) are divided by writers, into several varieties, viz: the *Toorky*, beautiful in form, graceful in action, and docile in temper; the *Iranee*, well limbed, ears large and loose, and wanting spirit; the *Covakee*, patient, docile, large head, well calculated for severe services; the *Mojinnis*, spirited, beautiful, fleet, and persevering, and the *Tazsee*, irritable in temper, hollow backed, and therefore deficient in strength; yet sought after on account of his easiness of pace.

#### Sect. 15.

**THE CHINESE HORSE.**—The horse of China, is dwarfish. He is a "degenerate" from a noble race. His very external appearance indicates that he lacks greatly what constitutes his species, the paragon of the brute animal. He is of a diminutive size—badly formed—he lacks both strength and spirit.

#### Sect. 16.

**THE PERSIAN HORSE.**—The Persian was celebrated long before the Arab existed. Persia, which was subject to Babylon, afforded horses to supply the armies of their monarch, and are alluded to by the prophet Jeremiah, 4: 13, "Behold, he shall come up as clouds,

and his chariots shall be as a whirlwind; *his horses are swifter than eagles.*" His whole frame is even more perfectly developed than that of the Arabian. The head is equally, symmetrically beautiful, the crupper superior; in fleetness he is equal, but cannot endure so much fatigue. He never exceeds fourteen hands and a-half. Those of the desert and country about Hillah, are small, but are full of bone and very fleet of pace.

#### Sect. 17.

**THE TOORKOMAN HORSE.**—In the south part of Tartary, north of the Caspian sea, is Turkistan, which has been celebrated from a remote period for a valuable breed of horses, called the *Toorkomans*, which are serviceable, very swift, and inexhaustible under fatigue.—Some of them have travelled nine hundred miles in eleven successive days. They are from fifteen to sixteen hands high. They are rather small in the barrel, and legs too long. Some are ewe-necked, and have very large heads; but their good qualities atone for all these defects. One of pure blood, is worth two or three hundred pounds, even in that country.

#### Sect. 18.

**THE TARTAR AND KALMUCK HORSE.**—This race is found in the plains of Central Asia, and in some parts of European Russia, and are only one remove above those in a wild state. They are small and badly made, but exceedingly hardy, and capable of supporting long and rapid journeys, on fare too scanty for the ass or jack.

#### Sect. 19.

**THE TURKISH HORSES.**—These are principally descended from the Arab, crossed by the Persian and other blood, and have contributed materially to the improvement of the English and American breed. The Turkish, of all others, is the most gentle and docile. Perhaps this may be owing much to the fact that they are treated with great lenity. This treatment of the horse makes him love and respect his master. They resemble the horses of Arabia, only that the body is much longer, and the crupper higher than the Arabian.

#### Sect. 20.

**THE GERMAN HORSE.**—Germany, says Loudon, is not destitute of good horses. The native breeds received their first improvement from admixture with Asiatic horses. In after times, the Germans obtained still finer breeds from the Arabs, Turks and Barbary states, which they still preserve with some care as stallions. German horses are generally large, heavy and slow, better fitted for the *manege*, than for racing or hunting. The Hungarian may be an exception, being lighter and speedier; and they are better proportioned and having considerable endurance, but are still deficient in speed.

## Sect. 21.

**THE SPANISH HORSES.**—These have been highly esteemed. The invasion of the Moors, in A. D. 710, brought a vast influx of eastern blood into Spain. The Andalusian charger and Spanish jennet, so long celebrated for elegance, sprightliness and durability, are familiar to all readers of romance. One of the Spanish breeds is celebrated for being finely carcassed, well limbed, active, ready, easy in pace, docile, full of spirit and courage, but well tempered with mildness and good nature—this was the favorite war-horse of the *Knight*; while another racer, carrying the *Esquire*, somewhat inferior in elegance, but possessed of great strength and endurance. The Spanish horse of the present day, is not much unlike the Yorkshire half-breed—perhaps with flatter legs and better feet, but far inferior figure.

## Sect. 22.

**THE PORTUGUESE HORSES.**—Portuguese horses, in many respects, like the Spanish, were famous of old, for being very fleet and long-winded; but owing to the want of attention to keep up the improvement of the breed, it is said they are very much degenerated!

## Sect. 23.

**THE FRENCH HORSE.**—France abounds in horses of all kinds, whose origin may be traced to a mixture of their native breeds with the Asiatic, introduced by the irruption of the Goths, and originally received from the Scythians, and the true eastern blood received from Spain, Barbary and Arabia. Much attention is now paid to the improvement of horses in France. They import yearly from England, particularly hunters and high-bred carriage horses. Limousin furnishes good saddle horses and hunters. Auvergne, Poitou and Burgundy, furnish good *bidets*, ponies. Lower Normandy and the district of Contentin furnish tolerable coach horses. Although the horses of France are deemed inferior to those of England "*in beauty, strength and fleetness,*" still they have a noble race of draught horses, equal to any in England, and among which the chesnut color seems to prevail. The French horses generally are apt to have their shoulders, although oblique, yet too loose and open, as those of the *Barbs*, (Sect. 10,) are usually too confined and narrow.

## Sect. 24.

**THE ICELAND HORSE.**—This horse is small, strong and swift. The island abounds in troops of horses, which live upon the mountains, where they obtain only a scanty living. A few are usually kept in the stable, but when the peasant wants more, he catches as many as he needs, and shoes them himself, and that sometimes with a sheep's horn.



*Sect. 25.*

THE SWEDISH, FINLAND AND NORWEGIAN HORSES, are small, handsome, and remarkable for speed and spirit. They seldom exceed twelve hands in height. They will trot, with ease, twelve miles in an hour. The peasants take them from the forests, when they are wanted for travellers. Although apparently wild, they are easily controlled, and made obey perfectly.

*Sect. 26.*

THE FLEMISH HORSES are large, and strongly and beautifully formed. They have usually large, heavy heads and necks; their feet, also, are immoderately large and flat, and their legs subject to watery humors and swellings.

*Sect. 27.*

THE HOLLAND AND POLISH HORSES.—Holland furnishes a race of horses, principally serviceable in light draught work. The best come from Friesland.

*The Polish* horses are hardy, strong, and useful, but they are generally of a middling size. In the marshy parts of Prussia, and towards the mouth of the Vistula, there is a breed of strong horses, resembling those of Friesland, but of inferior value.

*Sect. 28.*

THE HORSES OF RUSSIA, are but little regarded by other nations. They are small but hardy, and capable of enduring great fatigue.—Great attention is, however, paid to such as are very fast in their trot, and such a breed is much encouraged for trotting matches, on the snow and ice. Those of the Turkish breed, are handsome and finely shaped, but too slight and weak for heavy cavalry. They subsist, summer and winter, solely upon grass in the great deserts, between the rivers Don, Volga and Yaik, where they are collected in great herds, of from six hundred to a thousand. They are excellent swimmers, and pass the river Volga, where it is from one to two miles broad, with apparently great ease.

*Sect. 29.*

THE ITALIAN HORSES, although highly celebrated at one time, particularly the Neapolitans, have, through neglect and mismanagement, sadly degenerated. One circumstance has mainly contributed to this degeneracy, viz: that the breed has been kept up by occasional intermixture of European blood, instead of the eastern. A few of the Neapolitan horses, from their superior size and stateliness, are well adapted for the carriage.

## Sect. 30.

**THE ENGLISH HORSE.**—"The British variety of the saddle horse," says Loudon, "may be reduced to the *racer*, the *hunter*, the *improved hackney*, the old English *road horse*, the *galloway*, and the *poney*." Three of these we shall briefly notice, after attending to the history of the horse in England. The earliest record of the horse in Great Britain, is contained in the history given by Julius Cæsar, of his invasion of that island, before Christ, 55. By the introduction of the Roman cavalry, the English horse received its first cross. This conqueror, when on his return home, carried some of the horses of the island to Rome, and for a long time afterwards, British horses were in demand in different parts of the Roman empire.

Soon after the time of Alfred, the Great, some attention appears to have been paid to the improvement of horses, by Athelston, his son, and the second in succession to him. This was about A. D. 930. With William, the Conqueror, about A. D. 1050, the horse was in England, considerably improved; and about 1066, was used for field purposes. In the reign of Henry I., A. D. 1121, the first Arabian horse was introduced. Subsequently, in the reign of Edward II., some war and heavy cavalry horses were imported from Lombardy, Italy and Spain. Horses for agriculture were principally procured from Flanders. Until the time of Henry VIII., the English horse advanced very gradually.

The finer and better sort of modern English horses are descended from Arabians and Barbs, and frequently resemble their sires in looks and appearance, but differ from them considerably in size and mould, being better proportioned, stout and lusty. In general, they are strong, nimble, of good courage, capable of enduring much fatigue, and both in perseverance and speed surpass all horses in the world. This great improvement of the horse is owing to a judicious admixture and proportion of blood.—See *introductory remarks to the "Annals of the Turf,"* CHAP. XVI.

## Sect. 31.

We shall now give a brief view of the *racer*, *hunter*, and *improved hackney* of England. A description of these may be interesting to the reader, and many of the observations will be alike pertinent to the horse of the United States, because our stock of horses is chiefly derived from the different breeds of English horses, as will appear on inspecting the "*Annals of the Turf.*"

## Sect. 32.

**THE RACE HORSE** is descended, says Loudon, nearly in a direct line from the Arabian, the Persian, and the Barb. In an agricultural point of view, this celebrated breed might, at first sight, appear of little importance; but it is probable, that to the amusement afforded by it to the rich and powerful, we are indebted for the principal improvements in every other variety of this most valuable animal. It

is not alone owing to the foreign extraction of this horse, that he is so *perfect and unsurpassed*, but the climate of England and British skill, have made the thorough-bred horse what he is.

“The racer is generally distinguished by his beautiful Arabian head—his fine and finely set-on neck—his oblique, lengthened shoulders—well bent hinder legs, rather short from the knees downward, although not always so deep as they should be—and his long and elastic pastern.” To judge of a good racer, look well to two unerring points—“*well placed shoulders*”—“*well bent hinder legs.*”  
SEE CHAP. IV., Sect. 41, 45.

### Sect. 33.

THE HUNTER is derived from horses of entire blood, or such as are but little removed from it, uniting with mares of substance, correct form and good action. In some instances hunters are derived from large mares, of the pure breed, propagating with powerful stallions of the old English road horse. This favorite and valuable breed is a happy combination of the fleetness of the Arabian, with the durability of the native horse. More extended in form, but framed on the same principles, he is able to carry a considerable weight through heavy grounds, with a swiftness equalled only by the animal he pursues, and with a perseverance astonishing to all.—Hence, the extreme demand for this breed of horses in every European country.—*Loudon.*

### Sect. 34.

THE IMPROVED HACKNEY is derived, like the *hunter*, from a judicious mixture of blood bred with the native horse, but exhibiting a greater proportion of the latter. Hackneys are now, however, mostly bred from stallions possessing nearly the same proportion of blood with the hunter; but with a form, and qualities somewhat different. In the hackney, safety and speed should be combined: we should look particularly to the foreparts, to see that they are high and well placed; that the head is not heavy, nor the neck disproportionately long or short; that the legs stand straight; and that the elbows turn out.—*Loudon.*

### Sect. 35.

THE HACKNEY is of the greatest importance to the farmer, whether used for riding over his farm, or for the performance of journeys of business and pleasure. To select one, that is worth having, see to it that he *does not carry his legs too high*. The axiom, “*let him lift his legs well and he will never come down,*” is not literally correct; “for in proportion as a horse lifts his legs high, will be the force with which he puts them down, the jolting of the rider and the wear and tear of the feet of the animal. Too much *knee action* will impede his speed, and renders him unpleasant to the rider. It should be recollected that the safety of the horse depends much more on the man-

ner he puts his feet down, than on that in which he lifts them up:—more on the foot being placed at once flat on the ground, or perhaps the heel coming first in contact with it, than on the highest and most splendid action. If the toe first touches the ground, the horse will be apt to topple over, particularly if any unexpected obstacle presents itself. If again, the toe digs into the ground before the foot is firmly placed, a very small obstacle will cause the horse to trip and perhaps fall. You had better mount him and try, before you buy. Take up his feet and examine them. If the shoe after having been on a week or a fortnight, is not necessarily worn at the toes, you feel him put his foot flat on the ground, do not scruple to buy him, nay, esteem him a choice-gifted hackney, although he may not have the lofty action which some have erroneously thought necessary. For further directions in choosing a good horse, SEE CHAP. IV. AND V.

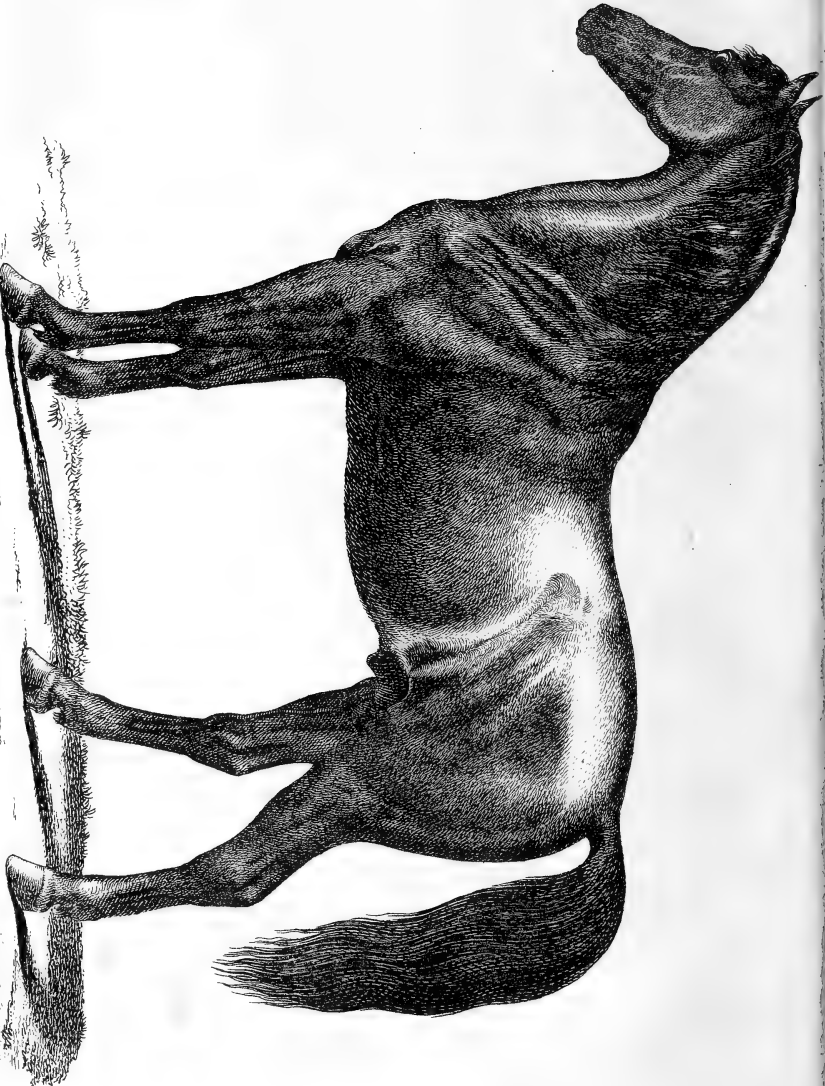
#### Sect. 36.

**THE CARRIAGE HORSE.**—In selecting a horse for the carriage, regard should be had, both to the *points* that distinguish a good one, and to the habits and dispositions of the horse. “The points of a good coach horse are, substance well placed, a deep and well proportioned body, bone under the knee, and sound, open, tough feet. They should be free from starting, stumbling, and kicking. Great attention should be paid to their dispositions. A horse, says Mason, that has once been frightened in harness, never again is safe for that employment. So retentive are their memories, that they do not forget an alarm of that kind during their whole lives. For want of experience on this subject, horses that had been affrighted in harness, have been hitched to carriages, which too often were the cause of the untimely death of many amiable females and helpless children.”

#### Sect. 37.

**THE FARMER'S HORSE** is an animal of *all work*; to be ridden occasionally to market or for pleasure, but to be principally employed for draught. He should be higher than the road horse; about fifteen hands and a-half is a good standard. A horse with a shoulder thicker, lower or less slanting than would be chosen in a hackney, will better suit the collar; and collar work will be chiefly required of him. A stout compact horse should be selected, yet not a heavy cloddy one. Some blood would be desirable, but the half bred horse will generally best suit the farmer's purposes. He should have weight enough to throw into the collar, and sufficient activity to get over the ground tolerably well. Mares are preferable to geldings both for riding and driving. They cost less originally than geldings, and will perform more work. Taking their bulk for bulk, they are stronger and more durable; and, in addition to this, the profit of breeding is also to be taken into the account.





*A. Knorr's drawing.*

**A LANCASTER COUNTY DRAFT HORSE.**

*Standard No. 13174*

## Sect. 38.

**HEAVY DRAUGHT HORSES.**—A horse of this kind should have a broad breast, and thick and upright shoulders—the more upright the collar stands on him the better—should have a low forehead, deep and round barrel, loins broad and high, ample quarters, thick fore-arms and thighs, short legs, round hoofs, broad at the heels, and soles not flat. For the shaft, particularly the *dray*, on badly paved streets, these heavy horses have a decided advantage in being able to withstand the shaking and battering unavoidable in drawing heavy loads. In England the largest of this breed are used for *dray-horses*. The next in size are sold as *wagon-horses*; and a smaller variety, and with more blood, constitute a considerable part of the *cavalry*.

For other varieties of horses under this head, such as the *Galloways*, the *Irish horse*, *Welch poney*, the *Highland*, the *Shetland*, the reader is referred to *Loudon* on the *Varieties of the Horse*.

## Sect. 39.

**THE AMERICAN HORSE.**—The limits of our chapter will not permit us to notice *at large*, the several breeds of horses found in the extensive territory and varied climate of our continent. We have already in Sect. 6 and 7, briefly noticed the wild horse of America.

The blood of the American stock of horses is principally from England, except that of the *Canadian horse*. “He is principally found in Canada and the northern states. He is, it is believed of French descent, and many of the celebrated trotters are of this breed. This species of horse is generally small, but remarkably compact, and hardy. He will keep in good condition, and even grow fat on indifferent fare.

## Sect. 40.

“**CONESTOGA HORSE.**—This horse is found in Pennsylvania and in the middle states. He is generally long in the leg, and rather light in the carcass; sometimes seventeen hands and a-half in height—he is used for the plough and carriage—he is an excellent carriage horse. Those of a middle size, when well made, are much used for the saddle, and are useful for hunting.”

For improved breeds, and the English horses in the United States, the reader is respectfully referred to CHAP. XVI., “*Annals of the Turf*,” where he will find a list of some of our most celebrated blooded horses and mares, and of those imported.

## CHAPTER IV.

## QUALITIES OF A GOOD HORSE.

*Sect. 41.*

The general rules, laws or principles of the qualities of a good horse are derived from an inspection of his outward appearance, and by trial. In this chapter we shall lay down some general criteria for inspection of his outward appearance; and in CHAP. V., submit some hints to decide the character of the horse by trial.

As it regards the *color* of the horse, long experience, says London, has shown that certain tints are usually accompanied by certain qualities of form and disposition. As a general rule, dark-colored horses are certainly the best. This, however, is not the case with those entirely black—there are comparatively few jet black that are very good horses. Light shades appear unfavorable to strength and durability; they are frequently irritable and perverse. Something like a general law in the animal economy seems to prevail, to make white a distinctive mark of weakness. It is a fact well known that the legs and feet when white are more subject to disease than those of a darker hue. The Arabs remark, that light chesnut horses have soft tender feet.

Grey horses are, however, in some degree, an exception to the rule; for there are many good greys. Bay and brown are also esteemed as indicative of a good horse.—*See Sect. 45.*

*Sect. 42.*

“The ability to form a correct opinion of the qualities of a horse, from his external appearance, although the aim of every horseman is possessed but by few persons, and by these only attained on close observation and much study.” A brief detail of those *points and marks*, may prove both interesting and advantageous to the farmer.

“The ears in blood horses are usually small and sharp, or pointed and approaching each other at the ends, while in the common or heavy horse, they are large and badly formed, frequently inclining from each other. From the ears an opinion is formed of the spirit and temper of the animal. It has been remarked, that a horse which carries one ear backward and the other forward, is generally hardy and lasting. When the horse is either playful or vicious, the ears are usually laid flat upon his neck.

“The eyes are objects of beauty, utility and expression. In the blood horse, the sockets of the eyes are “more prominent and more inclined, by which the axis of the eyes diverge more from each other, than those of the heavy breed.” This prominence gives both beauty and expression to the head. The cavities above the eyes, called eye-pits, increase in size in proportion to the age of the horse.



*Sect. 43.*

The face of the blood horse either presents a straight line, or one slightly curved inward towards the lower part: in the common breeds it is frequently curved outwards.

The lips, mouth and nostrils compose the muzzle, and the darker the color of these parts, the more highly the horse is esteemed, except in very dark brown horses, when the muzzle is ordinarily of a tan color, and this is deemed an excellence.

Thin, firm lips are good indications: those which are heavy and hanging, give evidence of sluggish or aged horses.

The mouth should be deep.

The mane being purely ornamental, is supposed to afford no index of character or quality.

The upper surface of the neck should form a "moderate but graceful curve."

The neck, on the under surface, should be nearly straight. When the crest of the neck is thick and heavy in mares and geldings, it is an evidence of a sluggish disposition. In stallions it forms a distinctive sexual mark. In a horse finely proportioned, the length of the neck, the length of the head, and of the angle uniting the two, should give the height of the withers from the ground.

The shoulders should be muscular and narrow, but not heavy.

The breast should be moderately wide and extended: when otherwise, although the horse may be fleet, he is seldom durable or strong. It should not, however, except in the heavy draught horse, hang over or project beyond the perpendicular of the fore limbs.

The back should only be moderately long. Horses with long backs move easily, but what is gained in elasticity is lost in strength. The back should be nearly straight. When the incurvation inwards is considerable, the horse is called saddle-backed, and is considered weak: in such cases, the crest is usually good: such horses commonly ride pleasantly. When the back curves upwards, it is called roach-backed, and if it be considerable, it is deemed unfavorable to liberty of action. Short backed horses seldom have much speed.

The width of the loins is of much importance to the strength of the animal.

The croup extends from the loins to the setting on of the tail.—When long and slightly rounded, it is an evidence of the blood of the animal. A long croup is in every point of view the most perfect.

An extensive flank is indicative of weakness.

In speaking of the belly, we may remark that, anteriorly, "the ribs should be wide upwards, and as much deepened below as possible, which affords what is termed great depth in the girth." "Posteriorly, the ribs should form the body as much as possible into a circular figure, that being of all others the most extended, and affording the best surface for the absorption of nutriment. Hence, barrelled horses are always much admired."

## Sect. 44.

The arm of the horse should be muscular and extensive in length and breadth, and its obliquity proportionate to that of the shoulder: from whence it follows, "that the more acute the angle between them, the greater will be the extent of the motion gained by the flexion and extension of the parts."

The fore arm is placed upright to counteract the angular position of the real arm and shoulder bones. It is always long in animals of great speed. It should be large and well marked.

The knee should be broad, that the surface of contact may be increased and stability be augmented. Horses that are stumblers, generally manifest it on the knees by scars.

The shank carries the limb down, light, straight and strong. Viewed laterally, it should be wide; in front, thin.

A short and upright pastern is elastic, and horses bearing it are unpleasant and unsafe riders. It should be free from puffs or wind-galls.

The hoof will be described in treating of the anatomy of the horse. SEE CHAP. XI.

Viewed anteriorly, "the fore legs should stand rather widest at the upper part, inclining a little inwards below; but, when viewed laterally, they should present a perpendicular from the arm downwards; and the toe should place itself directly under the point of the shoulders as it is called. If the foot should stand beyond this, which is seldom the case, the action will be confined, for the limb will have already passed over a point of its ground; such a horse, however, generally treads even, flat and safe; and, in proportion as it stands in the direct line downwards, he generally inherits these desirable qualities. When the foot stands behind the perpendicular line, the defect is considerable, by the removal of the centre of gravity too much forward, by which an increased tendency to stumble and fall is entailed."

In examining the hinder extremities, the leg, commonly called "*the thigh*," in well formed horses, is powerfully furnished with muscles, and very extended in its figure; it should also make a considerable angle with the femur or real thigh, and form a direct line under the hip or haunch; for the same reasons that make it desirable to have a long arm in the fore extremities; it is also advantageous that the leg should be so likewise, and which is the form usual among all quadrupeds of speed."

The hock is that part below the leg, or thigh, as it is commonly called, and may be considered the most complex and important part of the body. It should be broad and extended. It is subject to numerous diseases, particularly blood spavin, similar to wind-galls before spoken of. The ligaments of the hock are sometimes strained or extended: the ligaments frequently become diseased: by an attentive examination from behind, these maladies may generally be detected.

*Sect. 45.*

Buffon has divided the colors of a horse into simple, compound and extraordinary. "The simple colors are bay, chesnut, dun, sorrel, white and black; bay, is a prevailing tint among European horses, and admits of many shades, but is admired in all: there are bright bays, blood bays, dark and dappled bays; brown bay is a very esteemed color, and consists of bay and black in unequal proportions in different horses; brown horses are highly prized; the darker varieties have usually beautiful tan markings, as about the muzzle, &c.; they have commonly, also, black manes and tails, with legs and feet of the same hue; and it may be here remarked, that horses of compound colors, of whatsoever tint their mane and tail may be, will be found invariably formed of one of the compounding colors; thus, light greys, which are a compound of black and white, with a small proportion of red, have also frequently white manes and tails—chesnut, which is also a very common color, admits of almost as many shades as the bay, from the lightest tint to the deepest tone. Very light chesnuts have frequently still lighter manes and tails, with mealy legs and high feet; so marked, they are certainly not to be chosen for strength, durability, or pliancy of temper. Dark chesnuts are considered, and with justice, as fiery in their dispositions; they are also more subject to contracted feet, than horses of any other hue. Dun is a color that has several varieties; it is sometimes accompanied with a white mane and tail, at others, they are seen even darker than the rest of the hair. Dun horses do not appear to be at all influenced in their qualities by their color, or rather no criteria are offered by it, for there are good, bad and indifferent, in all the varieties of shade. The sorrel is a variety of the chesnut, but not a favorite one. White, as a native color, is not much in estimation, neither is it very common. Black is a very usual color, and in the large, heavy northern breed, it seems to be an original tint. The tempers of black horses are commonly in the extreme, either sluggish to stupidity, or fiery to excess."

"The compound colors are where the hairs are compounded, but not the colors themselves. Of this kind, the roan and grey are the principal. The darker kind of greys are generally esteemed, the lighter kind are not held in much repute. In the extraordinary colors, white is uniformly the relieving tint. Flea-bitten, is grey or white, with small bay spots. The pied or piebald, is also one of the extraordinary colors held in light repute."

## CHAPTER V.

## HOW TO CHOOSE A GOOD HORSE.

*Sect. 46.*

If you have attended to the most prominent points or marks detailed in the preceding chapter, you should, when a horse is offered for sale, never fail to ask the following questions in presence of one or more competent witnesses of him who offers the horse: "*Is the horse you offer for sale, in all respects, perfectly sound? Has he no vicious or bad habits?*"

Should a cheat be practiced on you, an action would lie against the seller, and damages could be recoverable; but be your own judge, not permitting any declaration that may be made by the seller, to alter your opinion of form, age, condition, movements, action, &c. As the eyes of a horse are the most important organ, first let him undergo a strict examination, [in open day light;] ascertain his age, examine his figure and action, guarding yourself against being too much pleased or fascinated with the appearance of a new object; view his feet and legs; large ridges on the hoofs, or very flat feet, discover a horse to be subject to founder: large gouty legs, with enlarged tendons, indicate strains and other injuries. Examine his hind legs with great attention, just below the hock, and inside the hind knee: if there is any unnatural prominence, or knot, unlike the other knee, it wears the appearance of a spavin, which renders a horse of but little value.—Splint, which appears on the inside of the fore legs, and wind-galls, upon the ancles, are unpleasant to the eye, but seldom produce serious lameness; they furnish plain proof that a horse has been serviceable, and are very seldom productive of any other injury than stiffness, as he advances in years. Ride yourself, for the purpose of trying his gaits and qualities—as a rider, accustomed to a horse by private signs, manner of riding, bearing on the bit, leaning forward or backward, holding the heels close to his sides, &c., can make a dull horse appear gay and spirited, a wild horse gentle, a stumbler clear footed; one that is blind, appear to see; and a starting horse free from that great objection, &c. Before mounting him, examine his knees, to discover if they are skinned, the hair off, or scarred; those are strong symptoms of his politeness to a fault. Ride with your bridle loose over any uneven ground: if he is in the habit of stumbling, he will very readily inform you—then approach some object offensive to the sight: if he appears much alarmed, stopping suddenly, and attempt to turn round, paying but little respect to the bearing of the bridle, you may judge he has long been in the habit of that bad practice.—Ride him in all his different gaits, to ascertain if they are smooth, easy, and agreeable; move him about a mile, out and back, in fully half speed; frequently stopping him suddenly to try his wind, also if he is spavined. If his wind has been injured, he will blow unnaturally; making a loud wheezing noise, with great difficulty of

breathing. While warm, ride him in cold water above the belly; after which let him cool fifteen or twenty minutes, and if he is spavined, and has received temporary relief by applications of any kind, the disease will make its appearance so plain, that you will discover evident marks of lameness. The spavin is often relieved for a time; and in a few instances, has been permanently cured by blistering, bathing with double distilled spirits, &c. The brisk exercise, &c., is intended to bring on a return of its effects, in case the animal should have had temporary relief from that distressing disease.

When a horse is rode by any person for you to judge of his gaits, you should have him moved towards you, from you, and finally by you; as you may have the opportunity of discovering if there is any turning in and out about his knees and ancles, before or behind, which is very objectionable. A well shaped horse will track as true, or his legs will follow each other in as direct a line as the wheels of a well constructed carriage. For him to be considered a good riding horse, he should move with ease to himself, and pass over the ground with great rapidity. Hard steps, short going, and great apparent labor, is offensive to the sight, unpleasant to the rider, and fatiguing to the horse himself.

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## CHAPTER VI.

### HOW TO KNOW A HORSE'S AGE.

#### *Sect. 47.*

The age of a horse, it is sufficiently well known, is only determinable with precision, by his teeth; and that rule fails after a certain period, and is sometimes equivocal and uncertain, even within that period. A horse has forty teeth; namely, twenty-four double teeth, or grinders, four tushes, or single teeth, and twelve front teeth, or gatherers. Mares have no tushes in general. The mark, which discovers the age, is to be found in the front teeth, next the tushes.\* In a few weeks, with some, the foal's twelve fore teeth begin to shoot; these are short, round, white, and easily distinguishable from the adult or horse's teeth, with which they come afterwards to be mixed. At some period between two and three years old, the colt changes his teeth; that is to say, he sheds the four middle fore teeth, two above and two below, which are sometime after replaced with horse's teeth. After three years old, two others are changed, one on each side the former; he has then eight colt's and four horse's teeth. After four years old, he cuts four new teeth, one on each side those last replaced, and has at that age, eight horse's and four foal's teeth. These last new teeth are slow growers, compared with the preceding; they are the corner teeth, next the tushes, are called pincers, and are those which bear the mark: this mark consists in the tooth being hollow, and in the cavity bearing a black spot, resembling the eye of

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\* See Frontispiece.

a bean. The tushes may then be felt. At four years and a-half old, these mark teeth are just visible above the gum, and the cavity is very conspicuous. At five years old, the horse has shed his remaining four colt's teeth, and his tushes appear. At six, his tushes are up, and appear white, small, and sharp, near about which is observable a small circle of young growing flesh; the horse's mouth is now complete, and the black mark has arrived at, or very near the upper extremity of the corner teeth. At seven, the two middle teeth fill up. Between the seventh and eighth year, all the teeth are filled up, the black mark hath vanished, and the horse is then said to be aged, and his mouth full.

From that time forward, the age of the horse can only be guessed at from certain indications; but these guesses are usually made with considerable accuracy by experienced people. If his teeth shut close, and meet even, are tolerably white, not over long, and his gums appear plump, you may conclude he is not nine years old. At that age, and as he advances, his teeth become yellow and foul, and appear to lengthen, from the shrinking and receding of the gums.—The tushes are blunt at nine; but at ten years old the cavity or channel on the inside in the upper tushes, until that period to be felt by the finger, are entirely filled up. At eleven, the teeth will be very long, black, and foul, but will generally meet even; at twelve, his upper-jaw teeth will overhang the nether; at thirteen and upwards, his tushes will be either worn to the stumps, or long, black, and foul, like those of an old boar. Beside those exhibited by the mouth, nature furnishes a variety of signals, denoting the approach of old age and decay, throughout the bodies of all animals. After a horse has passed his prime, a hollowness of his temples will be perceived; his muscles will be continually losing something of their plumpness; and his hair that gloss and burnish which is the characteristic of youth and prime, will look dead, faded, or entirely lose its color in various parts. In proportion to the excess of these appearances, will be the horse's age.

#### Sect. 48.

The following are among the devices practiced by a set of unfeeling rascals, who have no other rule of conduct than their supposed interest to counterfeit the marks of age in horses. At four years old, they will frequently knock out the remaining colt's teeth, in order to make the horse appear five; but you will be convinced of the fraud by the non-appearance of the tushes; and if it be a mare, by a shortness and smallness of the corner teeth, and indeed of the teeth in general. To give an old horse the mark, is termed, to bishop him; from the name of a noted operator. They burn a hole in each of the corner teeth, and make the shell fine and thin, with some iron instrument, scraping all the teeth to make them white; sometimes they even file them all down short and even. *To this, they add another operation;* they pierce the skin over the hollows of the eye, and blow it up with a quill: but such manœuvres can deceive only the inexperienced, and in case of dispute, would be detected in an instant.

## Sect. 49.

*To tell an old Horse's age by feeling.*

[From the American Farmer.]

Since the age of that noble animal, the horse, after a certain period of life, that is after the marks in his *incisors* and *cuspidati* are entirely obliterated, to be able to ascertain his age with any tolerable degree of certainty, appears to be generally of "*horse age judges*," a subject of very much uncertainty. I now take the liberty of laying before the public, through the medium of your paper, an infallible method (subject to very few exceptions) of ascertaining it in such a manner, after a horse looses his teeth marks, or after he arrives to the age of nine years or over, so that any person concerned in horses, of even common capacity, may not be imposed upon in a horse's age, from nine years of age and over, more than three years at farthest, until the animal arrives at the age of twenty years and upwards, by just feeling the *submaxillary bone*, or *the bone of the lower jaw*.

This method I discovered, by making many anatomical observations on the skulls of dead horses, and repeated dissections. In order, therefore, to elucidate the above, I must beg leave to remark: that the *submaxillary*, or *lower jaw bone* of all young horses, about four or five years old, immediately above the *bifurcation* (fork of the jaw bone) is invariably *thick* and very *round* at the bottom; the cavity of said bone being very small, contains a good deal of marrow, and generally continues in this state until the animal arrives at that period which is generally termed an "*aged horse*," or until the animal acquires his full size in height or thickness; or, according to sporting language, is *completely furnished*, with very little variation. But, after this period, the cavity, as aforesaid, becomes larger, and more marrow is contained therein. Hence the *submaxillary* bone becomes *thinner and sharper* a little *above* the bifurcation or fork.

This indelible mark may always be observed in a small degree in horses above eight years of age; but at nine years old it is still more perceptible. It continues growing a little thinner and sharper at the bottom until twelve years of age. From thence until fifteen, it is still thinner and sharper at the bottom until twelve years of age. From thence until fifteen, it is still thinner, and about as sharp as the back of a case knife near the handle. From this period until the ages of eighteen, nineteen, twenty, and upwards, it is exceedingly so; and is as sharp, in many subjects, as the dull edge of a knife.

## Sect. 50.

*Rules to determine by feeling.*

1. Put your three fingers about half an inch, or an inch immediately above the bifurcation, and grasp the *submaxillary bone*, or lower jaw bone. If it is thick at the sides, and very round indeed at the bottom, the animal is most certainly under nine years of age.

2. If the bone is not very thick, and it is perceivably not very round at the bottom, he is from nine to twelve years old, and so on. From twelve to fifteen, the bone is sharper at the bottom, and thinner at the sides, the bottom is generally as sharp as the back of a case knife; and from fifteen to eighteen, nineteen, twenty, and upwards, without many exceptions, the bone, when divested of its integuments, is as sharp as the dull edge of the instrument.

3. Allowances must always be made between heavy, large western or wagon horses, or carriage horses, and fine blood ones.

By practicing and strictly attending to the above rules, upon all description of horses, the performer in a little time will become very accurate in the accomplishment of his desires, more especially if he attentively observes the lower jaw bone of dead horses.

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## CHAPTER VII.

HOW TO GUARD AGAINST THE TRICKS AND ARTS OF HORSE JOCKEYS.

### Sect. 51.

If you purchase a horse from a "JOCKEY," always bear in mind that it is *his trade* to buy and to sell horses to the unsuspecting for large gain. To deceive, or to take an undue advantage, belongs to the *jockey's trade*. It is, says Mason, to be much lamented, that men who entertain a proper idea of honor in all common affairs of life, so soon as they become the owner of a horse, *feel at liberty* (*how does the inveterate jockey feel?*) without being sensible of doing violence to the morals, to knock off two or three years from the real age of the horse, and express themselves, with apparent delight, of services, gaits, and qualities, to which he never had any sort of claim or pretension; carefully keeping a secret every vice and defect to which he is subject. I do not say this is the case with all who *exchange* or *sell* horses; but that it has often occurred, no person will deny. If a fraud can be practiced at all, it is sufficient reason for the inexperienced and unsuspecting to be placed on their guard.

When a horse is offered for sale, never fail to follow the directions given in **CHAP. V.** Put the questions in the presence of competent witnesses, to the *jockey* or *horse dealer*: *Is the horse you offer for sale, in all respects, perfectly sound? Is he not wind-broken? Subject to staggers? &c. Has he no vicious or bad habits?* But after all, if you have not a favorable opinion of the horse and are fully satisfied he will, in all respects, answer your purpose, do not purchase from a jockey. Suffer not his declarations, his free asseverations, to alter your opinion, before you have fully examined the horse and tested him according to the directions laid down in preceding chapters. If you will carefully attend to the directions given in Sect. 46, 47, 48, 49, 50; and a *trick* noticed, in Sect. 155, which see,—we are fully persuaded, you will be led to discover the material defects in a horse offered you for sale by a *jockey*. "Were I in



pursuit," says an experienced Virginian, "of truth and honor, I never would seek them in the lower class of dealers in horses or horse jockeys. Whenever they have a horse to dispose of, they assure a purchaser he possesses every desirable quality, &c., and whenever they have effected a sale, they smile at their success, and expose every vice to which the horse was addicted, to the next person they meet."

## CHAPTER VIII.

### GENERAL MANAGEMENT AND MANNER OF TREATING HORSES.

#### Sect. 52.

The importance of this subject must strike every one. And with a view to render the hints given in this chapter, of use to the master or owner of the horse, and especially to the farmer, we will arrange the most important points of the manner of treating, and the general management of the horse under the following heads, viz: I.—*Breeding*. II.—*Rearing*. III.—*Feeding*. IV.—*Training*. V.—*Fattening Horses*. VI.—*Treatment on a journey*. VII.—*How to be treated to endure excessive fatigue without injury*. VIII.—*To prevent infectious diseases*.

#### I.—BREEDING.

##### Sect. 53.

"*That like produces like,*" is an axiom, which has been, and is still believed by nearly all. It is admitted that the progeny, or offspring, will inherit the qualities of the parent—and the mingled qualities of the parents. Even the peculiarity of form and constitution will be inherited. This is a very important consideration and should ever be borne in mind, when selecting the "*breeds*." The farmer should be scrupulously careful, that the essential points of the *sire* and *dam*, should be good; for the peculiarity of form and constitution, as remarked above, are inherited from both parents; that the excellency of the mare is a point of as much, if not more, as that of the horse.

From an imperfect mare, be the horse ever so perfect, a good foal will rarely be produced.

##### Sect. 54.

The general properties in a breeding mare, are a good shape, a gentle disposition, a large carcass proportioned to her height, and belly well let down; she must be perfectly free from all sorts of blemishes and defects. She should be as nearly perfect as possible. The size, frame, bone, strength and blood, will of course be regulated by the purpose of the breeder—he will have regard to the kind of stock to be bred. None but the very best stock should be raised.

*Sect. 55.*

Although more depends upon the mare, than on the horse to produce a good foal, yet it is very essential, to ensure a likely colt, that the horse should be equally as free from defects as the mare. It is then also important to ascertain the temper and disposition of the sire, in order to avoid the procreation of blemishes, vices and imperfections. Some deem it even necessary to descend to the minutæ of symmetry in the head, neck, shoulder, forehead, ribs, back, loins, joints, pasterns, attending even a strict uniformity in the form, make and texture of the hoof. The horse should have those qualities descriptive of the particular kind of stock wanted.

*Sect. 56.*

“A popular, but certainly a very erroneous opinion prevails, that the breed of animals is improved by the largest males. The great object of breeding, by whatever mode, is the improvement of form, and experience has proved, that crossing has only succeeded in an eminent degree, in those instances in which the females were larger, than in the usual proportions of females to males, and that it has generally failed when the males were disproportionably large.” A fated error, that is very prevalent, arises from the great neglect that is manifested in the selection of well formed and kindly tempered sires and dams, especially in the latter.

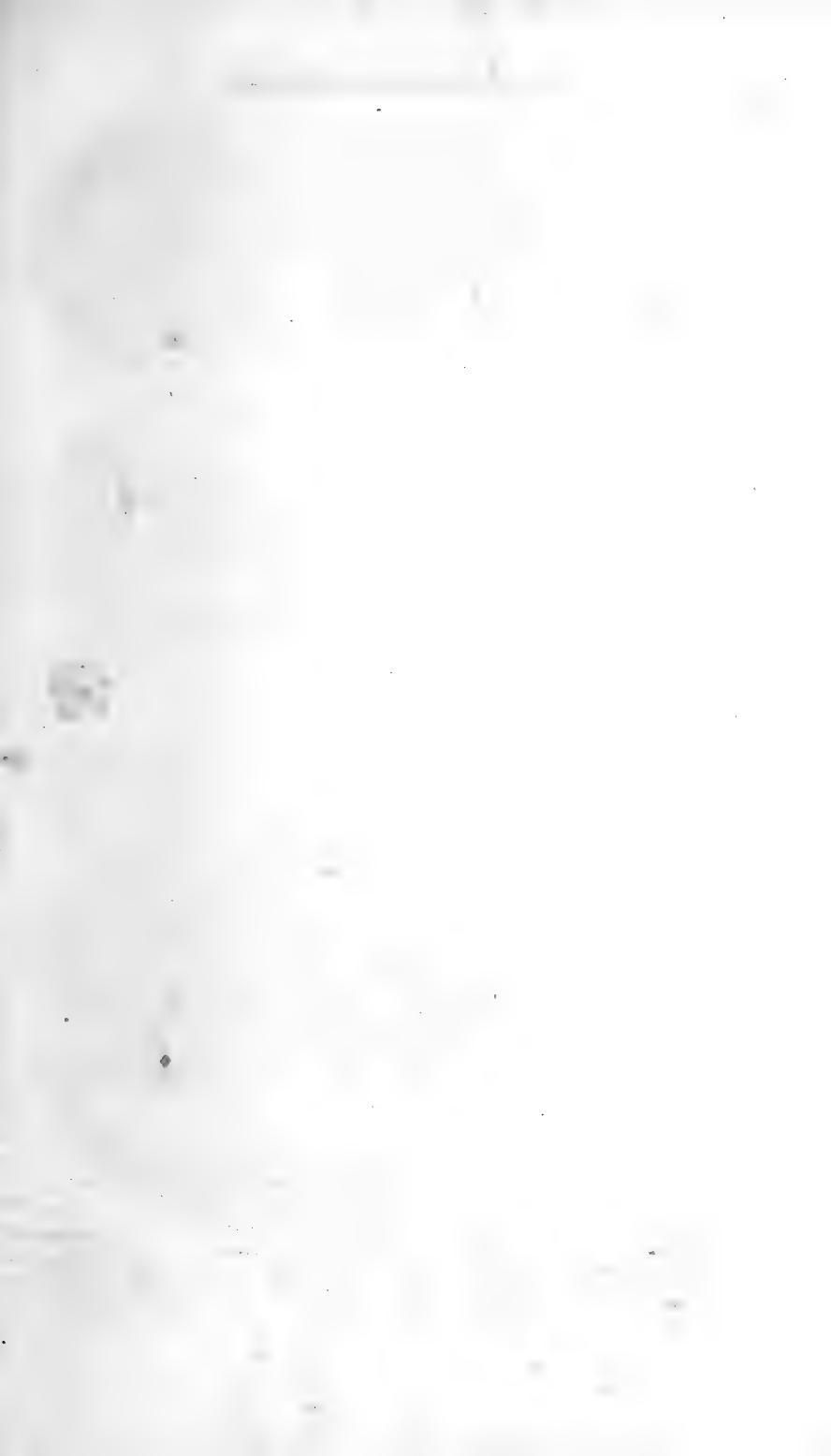
*Sect. 57.*

A mare is capable of breeding at three or four years old. But she should never be put to a horse before she is three, or before her *form* or *strength* is sufficiently developed. Early breeding will materially interfere with both *form* and *strength*. The mare comes in heat in the early part of spring. She is said to go with foal eleven months; but there is some times a strange irregularity in this. Some have been known to foal five weeks earlier, while the time of others has extended six weeks beyond the average time of *eleven months*. From the time of covering to that of foaling, the mare may be kept at moderate work—this is an advantage. The work may be continued up to the very time when she is expected to foal. She generally gives thirty or forty hours notice of it.

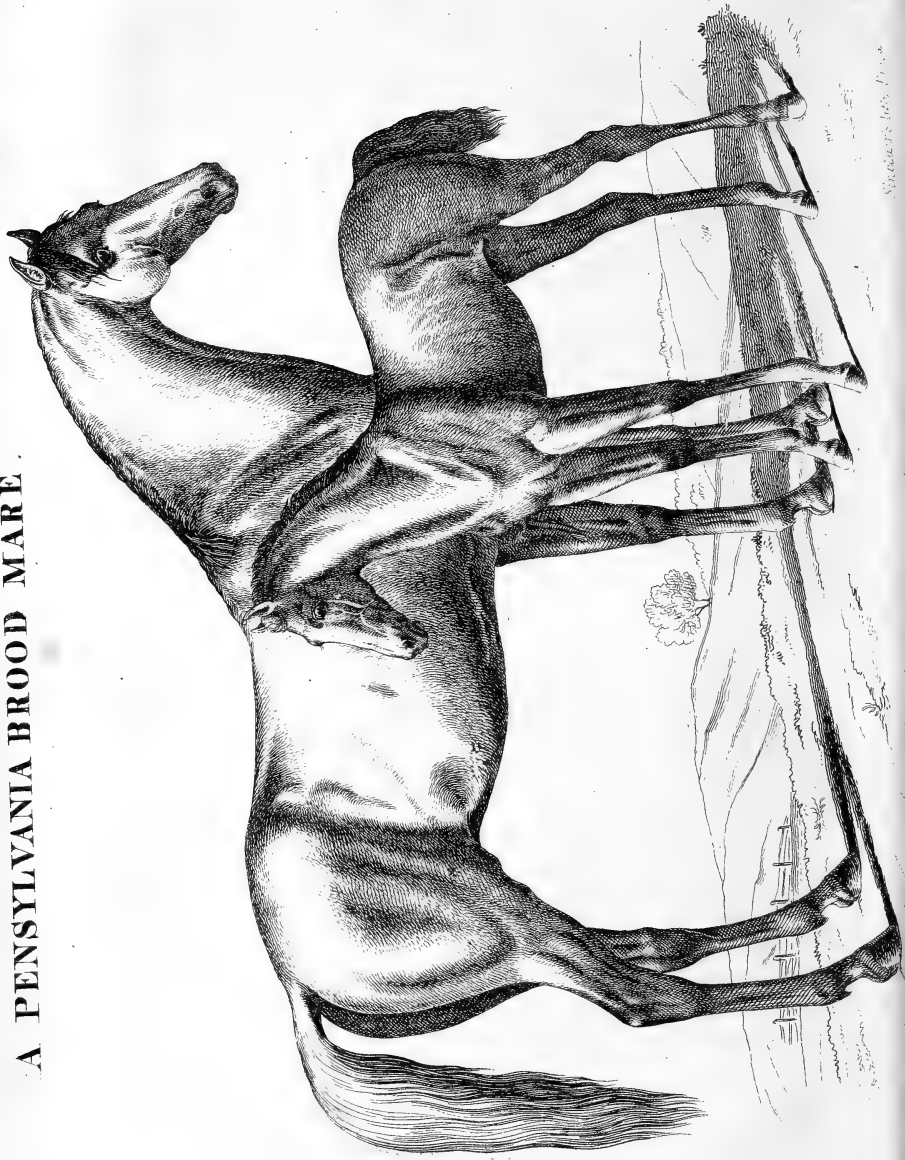
When nearly half the time of pregnancy has elapsed, the mare should have a little better food than before. She should be allowed one or two feeds of corn in the day; or oats three times. Good feeding, and gentle exercise, at this time, are necessary to prevent *slinking*, or miscarrying.

*Sect. 58.*

In passing, we would here remark, that, for two or three months previous to the period when the stallion is expected to perform his office to mares, it is expedient that he should be fed with the best of food—sound nutriment; and he should have plenty of water, and ex-



A PENNSYLVANIA BROOD MARE



ercise by walking every day. Unless strict attention be paid to these matters, the colts will be weakly and of little or no value at all. The period when mares should be covered, is varied by circumstances; but the beginning of May is the most convenient in the middle and western states. The mare would then foal in the early part of next April, when there will be sufficient green food for her and her colt, without confining them to the stable. And the temperature of the air and state of weather will be favorable to the dam and foal. The flies will not be so troublesome to the colt as they would be, if foaled much later in the summer.

#### Sect. 59.

After a mare has brought forth, it is proper that she should have several weeks rest, before she is again put to work, the foal being allowed to suck at pleasure. The mare should also be kept on nourishing fare. To stint the mare is false economy—you stint the colt by such usage. It is the most important time in the life of the horse; and if, from false economy, his growth be arrested now, his puny form and want of endurance will ever afterwards testify the error that has been committed. The corn or oats should be given on the ground, that the foal may partake of it with the mother. When the new grass is flush and plenty, the corn or oats may be gradually discontinued; or at least may be diminished in quantity.

#### Sect. 60.

The mare may be put to work again a month after foaling. If the colt is strong enough to follow the mare, it should be suffered to do so; for it will be better for the colt and mare to be together—the work, if not too severe, the mother performs, and the exercise the colt takes, will contribute to their health; besides, the foal will more frequently draw the milk, and thrive better; and will become hardy and tractable, and gradually familiarize with the objects among which it is afterwards to live. While the mother, however, is thus worked, she and the foal should be well fed.

The mare will usually, if healthy and generously treated, be found at *heat* at or before the expiration of thirty days from the time of foaling, when, if she be kept principally for breeding, she may be put again to the horse. Mares frequently produce colts at fourteen or fifteen years of age, and sometimes at twenty; but from five to twelve years of age, from experiments made, it appears to be the most valuable part of a mare's life for raising colts.

When the colt is six months old, it should be weaned. The mother should be put to harder work, and have drier food. Should her milk be troublesome, or if she should pine after her foal, a physic will be very useful.

## II.—REARING.

## Sect. 61.

As to feeding a colt, there is a diversity of opinion. Some are for *stinting*, to make the horse hardy, others for pampering, to make him large and strong. Both extremes should be avoided.

Give neither too much nor too little food—*feed liberally*, not extravagantly; much care should be taken in feeding the colt at this time. The first food which is given, should be the sweetest hay that can be procured, or good grass; bruised oats or bran, also, should form a part of daily provender. The farmer may be assured that money is well laid out, which is expended on the liberal nourishment of the growing colt: while, however, he is well fed, he should not be rendered delicate by excessive care. The practice which prevails with some in the United States, to put up the colt in a *warm and illy ventilated* stable, is a very bad one.

Weaned colts generally thrive better if kept in lots during the day, and even at night, unless it is in a rainy and wet night, when they should be put up in a dry, open, airy stable, or an open shed.

## Sect. 62.

We may safely assume it as an axiom, that there is no greater error in breeding animals, than the common one, "*of stinting them during the early period of their growth.*" It is then that animals require the greatest nourishment; and if it be withheld, they will be injured in their constitution, and consequently in their value, to a far greater extent than any saving that can be effected in their food; but to no animal does this remark apply more strongly than to the horse.

## Sect. 63.

Colts, if properly treated, will have acquired strength and hardihood before the second winter, to brave the wind, blast and snow, with their concomitant inclemencies, without any other food than good hay, or any other covering than the epidermic one, with which nature has provided them. The following summer, the colts should be allowed the range of the best pastures—*not the worst*, which is too common a practice—and in autumn, they should be taken in for the purpose of being gradually broken for labor. Even previous to this time, the colt should be occasionally handled—should be haltered or bridled, now and then, and led about—and repeatedly rubbed with a wisp of straw. It will thus become accustomed to be handled in time.

## Sect. 64.

The time for *gelding* or *castrating* is sometimes deferred until the colt is about one year old, or eighteen months. Some defer it longer, thinking that the later the operation is performed, the more strength and spirit he will have acquired; but it is attended with great

danger at that late period; and it is much to be doubted whether it may not even be prejudicial to his temper. It is, besides, to be observed, that the severity of the operation occasions a check to his growth, which is more felt and of more consequence at an advanced period, than when he is quite young. Hence, for the agricultural horse, the age of five or six months will be most advisable, or at least, before he is weaned. Very few horses are lost when *altered* at that age. The weather, however, should not be too hot, nor the flies too numerous. If castrated when five or six months old, suffer the colt to run with the mare; the exercise of following her, will promote suppuration, which will be assisted by the warmth of the milk. If the operation is performed at a more advanced age of the colt, he should be guarded from wet—all recently castrated colts should be thus guarded—and not allowed to drink cold water until the suppuration is completed. *As to the operation of castrating, SEE CHAP. XIII.—Veterinary operations, article Castration.*

### III.—FEEDING.

#### *Sect. 65.*

The feeding of horses, generally, is an important point in their management. Every country has its peculiar products; and the horse, as well as other animals, shares in his fare according to the *products and customs* of the country in which "*he labors.*" In this country, he fares upon hay, cornfodder, straw, oats, rye, corn, potatoes, beans, &c., but most generally, hay and oats constitute "*his staff of life.*" In some sterile countries, *horses are forced* to subsist on dry fish, and even vegetable mould. In Arabia, he feasts on milk, flesh-balls, eggs, broth, &c. In Persia, he is fed on barley. In some parts of India, salt, pepper, and other spices are made up into balls as big as an ordinary sized goose egg, with flour and butter, and thrust down the animal's throat. In Bengal, he feeds on vetches and tares. In the West Indies, he is fed on maize, (corn,) and sugar cane tops, and in some instances, on the sugar itself, in the form of molasses. In France, Spain and Italy, besides the grasses, the leaves of limes, vines, the tops of acacia, the seeds of the carob tree, &c., are used.

#### *Sect. 66.*

The system of manger-feeding is very common in the United States. There is great economy in this system, for there are few horses which do not habitually waste a portion of the hay, and if there is not a trough or manger, (Sect. 88,) sufficiently large to prevent the hay, when pulled from the rack, from falling down, the greater part will be pulled down and trampled under foot. The rack, however, should be in a perpendicular, instead, as is too common, in a slanting or oblique position. And hay should never be given in large quantities at a time to horses, inasmuch as they breathe upon it, and soon become disgusted with it. They will also, if it be very good, eat

too much, and distend their stomachs. It is a bad practice to keep hay in too large quantities in a stable, for it is very liable to be impregnated with the volatile alkali of the stale or urine, &c.; and is thus injured so that the horses will refuse to eat it. Barley, wheaten and oaten straw, is sometimes substituted for hay; but it is a meagre substitute—a poor treat to this deserving animal.

#### Sect. 67.

The food of horses, in this country, consists of herbage, grain, roots and mixtures. When grain is fed, especially corn or rye, it should be ground or chopped, or mixed with a portion of cut straw or clean chaff. By this means, the animal is compelled to chew his food; and while he is forced to grind that down, the oats, or Indian corn, if not finely broken, is ground by the process of mastication, with the cut straw or chaff, and it yields more nourishment; the stomach is more closely filled, and therefore acts better on its contents, and is not so likely to be overloaded; and the increased quantity of saliva thrown out in the grinding of this mixture, softens it and renders it more fit for digestion. Besides, horses are very fond of this provender—the majority of them, after having been accustomed to it, will leave the best oats given to them, for the sake of this mixture. He can also satisfy his appetite, on this kind of food, in less time, and has more time to devote to rest, and be the sooner ready for labor.

#### Sect. 68.

Among the roots that are occasionally used for the food of the horse, carrots stand at the head of the list. They are not only highly nutritious, but exert a peculiar influence on the skin and hair of animals. It is said, by those who have tried them, that they not only generate good flesh, but strengthen the wind of the horse, by exercising a favorable influence on the lungs. The parsnep, ruta baga and beet, may also be used to advantage. The use of roots, as a food, occasionally, affords a change of food, and this, as is known, to all observing horse masters, the horse delights in. Besides the influence roots exert upon the skin, in making it loose, and the hair glossy, they at the same time, if fed in proper quantities, cool the general system of the horse; often without resort to medicine, correcting the torpid condition of his bowels, and restoring his appetite.

#### Sect. 69.

“*The quantity of food* to be given to a horse, depends upon circumstances. It must be increased in proportion to the amount of exertion and labor required of him. Great care is required not to give it in too great quantities, for by so doing, the stomach becomes distended and incapable of performing its functions in a healthy manner. A horse in full work, will ordinarily eat from eight to ten pounds of hay per day. The largest portion, both of this article and his oats, should be given at night. The watering of horses is an impor-



tant matter. 'It is equally erroneous to debar them from it, as it is to allow them too much; and the former is much the commonest evil. In summer, or when, from great perspiration, the animal juices are wasted, it generates fevers and weakens the strength and spirits. All horses prefer *soft water*, and as nature is unerring, there is no doubt but it is the most wholesome. As some horses drink quicker than others, it is not a good custom to take riding horses to the pond, unless at night, when the quantity cannot harm them.' Horses should never be galloped after drinking, it being apt to produce gripes, inflammation and broken wind."

#### Sect. 70.

The common practice of giving dry grain, oats or corn, to horses, when pastured, or fed with green grass, is a bad one; for the grain, thus given, is never perfectly digested, on account of the watery juices of the grass *impeding* digestion. When oats or corn, or dry grain is fed, at the time the horse is in pasture, or is fed on grass in the stable, as much interval should be allowed between the dry and green food as circumstances will admit. Besides feeding, grooming or dressing of horses is indispensably necessary. The reader will find some general remarks on this point, in CHAP. X.—*Construction of stables and grooming of horses.*

### IV.—TRAINING.

#### Sect. 71.

*The process of training* horses is of great importance. The chief and best means are *gentleness and patience*. Much equanimity of temper is requisite. Be patient, "*suavior in modo, fortitor in re,*" is a good maxim, when you attempt to train a horse.—The horse is an animal of observation, capable of great attachment, and equally strong resentment. If treated with kindness, he becomes docile; but severity generally fails of its object, and renders him obstinately stubborn, altogether intractable. There is certainly much difference in their natural temper, some requiring much more care and time to reduce them to obedience than others; but even the most restive may be rendered manageable by mild usage.—*Fam. Ency.*

#### Sect. 72.

The foal, as soon as it is weaned, should be accustomed to the halter, and, as remarked in Sect. 63, to be wisped over, and occasionally tied up; but this should be done by the same person who feeds it, and that care should never be trusted to lads, who will, "*as we well know by experience,*" probably tease the animal and teach it tricks, or to any hasty, ill-tempered man, who would be likely to ill-treat it.

"The colt will thus early become accustomed to be handled, and will consequently occasion much less trouble, than if it had been previously neglected. After being haltered a day or two, a bridle should

be put on; but with a small bit at first, instead of the large one usually employed by horse-breakers, and which, by the horse's camping on it with impatience, sometimes occasions the mouth to become callous. He should then be led about, and accustomed to obey the rein in turning and stopping, which he will very soon learn; and, after a few days, he should be completely harnessed, and hitched beside a steady, well trained horse. Care should, however, be taken neither to whip him, nor to force him to draw, but leave him quietly to walk with other horses in the wagon, and in a very short time he will imitate them, and begin to pull. It may then be well to let some one mount him, even if he should not be intended for the saddle, as it will render him more docile; but it had better be done while hitched in the team, as the other horses will prevent him from plunging. Let no violence be used; nor let no cowardly rider back him. The horse is too noble an animal to be tampered with by a poltroon.

#### V.—FATTENING HORSES.

##### *Sect. 73.*

To fatten a horse in a short time, has generally been considered a very great art, and attended with much difficulty. Some authors are of opinion, it is necessary for a horse to swallow a certain quantity of medicine to produce the desired effect, while others rely on an uncommon or peculiar kind of food; but experience has proved that both opinions are erroneous, and that the few simples which I shall here recommend, together with good rubbing and a particular manner of feeding, will accomplish the fattening of a horse that is not a carion, or extremely poor, within three or four weeks. After your stable is prepared, provide a plenty of good sweet corn, hommony, oats, bran and fodder; also a sufficient quantity of straw to keep him with a comfortable and clean bed; then notice the condition of the animal, for the purpose of bleeding in the neck. Should he be very poor, take from him only one quart of blood; if in tolerable plight, two quarts—repeating the bleeding at the expiration of eight or ten days, until he is fat. Take of flaxseed, one pint, boil it to a strong tea of one quart: take of powdered brimstone, one table spoonful; saltpetre, one tea spoonful; of bran, one and a-half gallons: mix them all together, scalding the bran with the tea, forming a mash; which may be given every eight days: not permitting the horse to drink cold water for eight or ten hours afterwards. Take of asafetida, (which can be procured from any apothecary's shop,) half an ounce; wrap it in a clean linen rag and nail it to the bottom of the manger where the animal is fed; at first, the horse will eat unwillingly where it is placed, but in a few days he will grow remarkably fond of it.

##### *Sect. 74.*

When you commence kind treatment towards a horse that has been cruelly used, let it be with great caution, or you may produce a founder or some other injury; those serviceable animals being too often

hard used and half starved. For three or four days allowance, a horse (you contemplate fattening,) to two and a-half gallons a day, six or eight bundles of fodder, or an equal quantity of hay; after which you may keep your rack constantly full of long food, and never permit the manger to be entirely empty; taking care to change the food every day, giving the largest proportion of bran, viz: bran and hommony, bran and corn, bran alone, oats, corn, hommony, &c., &c. The food, moistened occasionally with strong sassafras tea, produces an admirable effect; it whets the appetite, enriches the blood, and opens the bowels. Whenever a horse is fed, all dust, sour food, &c. should be removed from his manger, which should be washed twice a week, with vinegar and salt; this kind of attention will aid the appetite and keep the manger sweet and clean. If the season of the year you undertake to fatten in, affords green food of any kind, a little, about twelve o'clock, would assist you much in accomplishing your object. In the bucket in which you water, throw a handful of salt, two or three times a week; it becomes very grateful to the taste, after a few days confinement, and will prevent his pawing and eating dirt. If the object is to fatten a horse as speedily as possible, giving to him unusual life and spirits, he should not be brought out of the stable, nor even led to water. But if flesh is to be placed upon a horse to render hard service, I would recommend moderate exercise once every three days, carefully avoiding fretting or alarming him; more injury may be done a horse by fretting him one day, than you can remove in a week by the kindest treatment. The hoofs should be cleaned out every morning and evening; stuffed with clay and salt, or fresh cow manure, to keep the feet cool and prevent a swelling in the legs. A plenty of good rubbing is absolutely necessary for the placing of flesh speedily on a horse; a blanket as a covering, at any time, except the summer months, will place on his coat of hair a beautiful gloss, and add much to his comfort and apparent value.—  
*Pocket Farrier.*

## VI.—TREATMENT OF A HORSE ON A JOURNEY.

### *Sect. 75.*

To perform a long journey, says Mason, with comfort and ease to a horse, and satisfaction to the rider, requires some attention to the feeding, for eight or ten days previous to setting out.

A horse uncommonly fat, running in a lot at grass, fed with unsubstantial food, such as bran, &c., or unaccustomed to exercise and fatigue, is very unfit to perform a journey on, unless prepared by being fed, for eight or ten days, such as corn, fodder, oats, or hay, and given moderate exercise.

A horse about half fat is in the best situation to bear the fatigue and labor of a journey, by following the mode of treatment I shall here recommend. If he is only a tolerably good one, by the time he reaches his journey's end, should it last four or five weeks, his condition will be much improved, if he is not entirely fat.

1st. It is necessary for you to see to it, to have your horse well shod with a very good and substantial set of shoes, taking care that they fit easy, set well, and are not placed so near the inside of the foot as to cut the ankles in travelling, which often produces stiffness, considerable swelling of the legs, and sometimes lameness. 2d. Examine your saddle, valise, portmanteau, harness, &c., as the case may be, to discover if they fit with ease and comfort to your horse, taking care to let them undergo the same examination every two or three days. For a saddle to fit properly, it must be neither wide enough in the tree to slip upon the shoulders, or so narrow as to pinch or break the skin on the withers; the bolstering or stuffing in the pannels should be adapted to the hollow spaces on each side of the back bone or spine. When thus properly fitted, a crupper will be useless. 3d. Your valise should be fastened on by passing two straps underneath two pieces confined to the valise pad, and through two loops at the back of the saddle; by which means it will be kept steadily in its proper place, and the rider will not be perplexed by its swinging first on one side, and then on the other, and the danger of the horse having a sore back from friction will be avoided. The only difference between the customary way of fastening a valise and the one I here recommend, is the passing straps through the loops to the back of the saddle.

#### *Sect. 76.*

On the night previous to your commencing your journey, after your horse is placed on a good bed of straw, and is well rubbed, feed with two gallons of oats, and one and a-half gallons of old corn and hommony, and eight or ten bundles of fodder, or a quantity of hay equal to it. In the morning, feed with half a gallon of oats, after which offer a bucket of water. It is customary for horses to be watered before being fed; but it is much better not to water them until afterwards; a large draught of water very often destroys the appetite, and makes a horse dull and sluggish for a whole day afterwards. When he is watered in this way, he seldom drinks too much, and his mouth is washed clean and is moist when he commences his journey. It also measurably destroys his inclination to drink out of every stream he may cross in the road, which is so tiresome and unpleasant to the rider.

#### *Sect. 77.*

Being now completely prepared for the contemplated journey, the following rules must be strictly observed:—1st. Never permit your horse, while travelling, to drink cold branch, well, or pond water, or more than is necessary to wet or moisten his mouth. 2d. Every time you stop to feed, (which will be morning, breakfast and dinner time,) give him a bucket of water, made a little salt, with about two handfuls of corn meal stirred in it; he will very soon grow fond of it, and indeed prefer it to any other drink; it cools the system, relieves thirst, and contains considerable nutriment. 3d. Whenever you

stop for the purpose of breakfasting, let your horse cool about ten minutes; then feed with a-half a gallon of oats or corn, and two bundles of fodder, not forgetting to offer him again the water, meal, and salt. 4th. At dinner time observe the same treatment as directed at breakfast. 5th. At night (having arrived at the place you intend stopping at) have your horse turned into a lot, for the purpose of wallowing, cooling, &c. 6th. With soap and water have all dirt removed from his legs. 7th. Have him placed on a good bed of straw, then take of spirits of any kind half a pint, of vinegar half a pint, mix them together, and let his legs be rubbed with the mixture until they are dry. 8th. Let him be well curried, brushed and rubbed with straw. 9th. Water him plentifully. 10th. Feed him with two gallons of oats, or one and a-half gallons of corn or hommony, and eight or ten bundles of fodder. 11th. Let his hoofs be nicely cleaned out and stuffed with fresh cow manure; this application keeps them tough, moist, and cool. 12th. Change your food as often as possible, carefully avoiding using any that is new, or just gathered. Observe the above rules to your journey's end, except your horse should prove a great feeder, and in that case you may indulge him a little; but the quantity I have here recommended, is enough for any common horse when travelling. It may not be amiss to remind the young traveller to inspect his horse's shoes once a day, and whatever appears amiss about them to have immediately rectified. It frequently happens that the skin of young horses, unaccustomed to travel, is chafed and scalded by the friction of the girth; the part, washed clean with a little soap and water, and then washed with a little salt and water, will immediately cure and toughen the skin.

It often happens at little baiting places or country taverns, (met with on the road by travellers,) that towards the end of harvest, servants are apt to feed with green oats or wheat, in consequence of the scarcity of fodder, unless otherwise directed; food of this kind is poison to a travelling horse, and will produce a diarrhea and extreme debility. It would be much better he should not have long food for two weeks, than to give it to him green from the field. When persons travelling are not attentive to their horses, they are frequently given mouldy oats or corn, which is productive of the worst effects; there being but few kinds of food that can be given a horse, that will terminate his existence more speedily. Many of those valuable animals have been destroyed by such means, when the owners have been frequently at a loss to know with what disease or from what cause they had died.

**VII.—HOW TO TREAT A HORSE TO ENDURE EXCESSIVE FATIGUE WITHOUT INJURY, AND SUBSEQUENT TREATMENT.***Sect. 78.*

[From Mason's Improved Farrier.]

For a horse to undergo very great fatigue without injury, requires at least one week's preparation. Previous to entering him on his journey, he should be fed plentifully on solid food, such as corn, fodder, hay or oats, and smartly exercised from five to ten miles a day. He should be well rubbed two or three times every twenty-four hours, which will very readily have the effect of making his flesh not only firm, but hard. I have no doubt, from the experiments I have made, that any tolerable good and active horse may be rode one hundred miles, in a pleasant long day, without receiving any permanent injury, by observing the treatment I shall here recommend. Experience has proved that rainy or drizzly weather is more favorable to the performance of an excessive ride, than a day that is fair or sultry, with sunshine; rain has the effect of keeping him cool, suppling his limbs, of moistening and refreshing him.

On the night previous to his engaging in this laborious undertaking, feed your horse with one and a-half gallon of oats, or one gallon of corn and six bundles of fodder; in the morning feed with one quart of oats or corn only, and offer some salt and water, of which a horse is apt to drink but little early in the morning. You then set out on your journey, in such speed as is proportioned to the distance you contemplate going in the day. A rider who is compelled to perform a long journey in haste, and with certainty, in a given time, should be extremely particular in his manner of riding. He should bear lightly and steadily on his bridle and stirrups, never jerking, checking, or stopping his horse suddenly, or change his gaits too frequently; all these things have a tendency to weaken and fatigue a horse extremely. A good rider will more resemble the light and airy movements of a feather, than the dull and leaden gravity of a bullet;—the same horse can convey a good rider twenty miles further in a day than he can one unskilled in this necessary accomplishment. After progressing about fifteen or eighteen miles, refreshment will be necessary, not only for the horse, but the rider also. You will then give him a bucket of salt and water with two handfuls of corn meal thrown therein, and one quart of oats or corn; at twelve o'clock and at dinner time, feed and water in the same manner. Great care should be taken to prevent your horse from drinking cold pond or well water, or indulge in any inviting rivulet he may meet in his road, more than to moisten his mouth. It is a practice among hostlers, when they have no particular directions, to plunge horses that are tired and heated at twelve o'clock, into cold pond water; in preference to which I would advise that their legs should be well rubbed with about half a pint of any kind of spirits.

Your last feed being at two o'clock, or dinner time, your horse will require nothing more until night. The day's ride being performed,

turn him into a lot to cool and wallow; after which let him be placed in a stall on a good bed of straw. 1st. Offer him a bucket of water. 2d. Remove all dirt and dust from his legs and ancles with soap and warm water. 3d. Bathe him from his belly to his hoofs with equal parts of vinegar and spirits, to which add a little sweet oil, fresh butter, or hog's lard, stewing them altogether, and make use of the mixture as warm as the hand can bear it. 4th. He must be well curried, brushed, and finally polished with a sheepskin or woolen cloth. 5th. His feet should be nicely cleaned out, and stuffed with clay and salt, or fresh cow manure. 6th. He should be fed with one gallon of old corn, or one and a-half gallons of oats, and six bundles of old fodder. Your horse being now in possession of every attention and comfort you could offer him, will soon be refreshed, forget his hard service, and be again prepared, by the next morning, to obey you whither you may direct his footsteps. If you have more than one day's journey to perform with great rapidity, observe the same rules of feeding, watering, and attention, as directed for the first day, except the feed at twelve o'clock, which quantity must be doubled. Many elegant and high spirited horses have been ruined and rendered useless by persons wanting experience on the above subject, who were disposed to treat those faithful animals with every kindness in their power; yet being under the necessity of performing a long journey in a limited time, and not knowing that the will of a heated and fatigued horse should be controlled, they have permitted him to eat as much as he pleased, or when heated, to drink as much cold pond or branch water as his great thirst would induce him; which have often been the means of producing cholic, founder and other diseases, that too frequently prove fatal in the hands of the common farrier, to which title every hostler, blacksmith, and every blockhead of a servant, who does not even understand the currying of a horse, have pretensions. The loss of two or three quarts of blood, to a horse that has undergone excessive fatigue, will remove the soreness and stiffness of his limbs, the natural consequence of violent exertions.

### VIII.—TO PREVENT INFECTIOUS DISEASES.

#### *Sect. 79.*

As most diseases, observes Mason, that are infectious, endanger the life of a horse, I consider it important to every owner of those useful animals, to be able to use a medicine that will act against or prevent those diseases that are contagious. I have been in the habit of owning from one to eight horses at a time, for fifteen years, and in all that time never lost a horse. I cannot help believing my success, in this respect, has been much indebted to the constant use of asafetida, which I consider one of the most valuable and innocent medicines ever used amongst horses. It not only drives off diseases of almost every kind, but it keeps up the appetite, produces a remarkable fineness in the coat of hair, and gives such life and spirits as to

induce even an old horse to attempt the attitudes and movements of the gay and mettled racer.

The value of the asafetida is at present but little known for the use of horses; but whenever it shall have been used or brought into notice, its remarkable effects, no doubt, will prove what I now say. Its virtues are acknowledged and remembered with pleasure, by all those who have used it in their stables.

The asafetida is produced from a plant called perennial, and is a native of Persia: it has, however, borne fertile seeds, in the open air, in the botanical garden of Edinburgh. The gum resin is produced from the roots of plants which are at least four years old.—When the leaves begin to decay, the stalk is twisted off and the earth removed from about their large tapering roots. The top of the root is sometime afterwards cut off transversely, and forty-eight hours afterwards the juice which has exsuded, is scraped off, and a second transverse incision is made: this operation is repeated until the root is entirely exhausted of juice: after being scraped off, the juice is exposed to the sun to harden. It is brought to us in large, irregular masses, composed of various little shining lumps or grains, which are partly of a whitish color, partly reddish, and partly of a violet hue; those masses are accounted best which are clear, or a pale reddish color, and variegated with a number of elegant white tears.—This drug has a strong fetid smell, somewhat like that of the garlic, and a bitter acid, biting taste. The smell resides entirely in the essential oil, which arises in distillation. It is the most powerful of all the fetid gums, and is a most valuable medicine. It acts as a stimulant, anti-spasmodic, expectorant, emmenagogue, and anthelmintic, and its action is quick and penetrating.

When a small piece of the asafetida has been placed in the manger of a horse in health, I have known him to stand for months in a stall next to one violently diseased, without taking the infection, or any ill consequence resulting from their contiguous situation.

*Preventive.*—Take of asafetida, one ounce, divide it and wrap each piece in a clean linen rag; nail one in the bottom of the manger the horse is fed in, the other in the bottom of the bucket in which he is watered. The above quantity will last about three months; at the expiration of which time it must be replenished.

A small piece confined to the bridle bit, will have the same effect, when a horse goes from home, or enters on a journey.

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## CHAPTER IX.

### RAISING BLOODED HORSES, AND MANAGEMENT OF RACE HORSES.

#### *Sect. 80.*

The nature of the subjects of this chapter, is such that, to do justice, so far as our limits will permit, we cannot possibly avoid repeating what has been substantially said, in some preceding sections. We



shall, however, aim at perspicuity and brevity, and in doing so, we believe that our end will be more fully accomplished by submitting some able articles that have presented themselves, already prepared, than to detain the reader with what we might compile from various authors, because we find on comparing them, that they all agree in the main points.

Sect. 81.

*Mode of raising a blooded Horse.*

[From the American Farmer.]

“In the first place, be particular in selecting a good stock to breed from. When the mare is near foaling, let her be to herself, and if early in the season, let her have a good roomy stable to foal in; and in good weather, let her and her colt be turned into a lot, (of wheat I prefer.) Wean the colt the first of October, in a stable, until it is done snickering after its dam; then turn it in a lot; if you have more than one, they will do best together.

“Stable them at night, and turn them out in the day, except in very bad weather: force them all you can the first winter. To do this, their principal food should be cut oats, moistened with a due proportion of corn meal sprinkled over and mixed with them. Most foals are apt to be too delicate; forcing them, and keeping them warm at night, will increase the size of their limbs in proportion to the weight of their bodies. After they are one year old, they should not be kept so fat, nor yet permitted to get poor. A stud colt, which is intended to be kept as such, should be separated from other horses at a year old, and stabled of nights; his rack and manger should be so high as to strain him a little to get food; the windows of the stable should also be high, as he will be looking out at them: by these means his shoulders will be thrown back, and his withers raised. If it be wished to increase his quarters, enlarge his muscles, and other material parts, keep him in the stable frequently, for several days together, which will animate him; then turn him out in a lot, and encourage him to run and exert himself all you can, as his parts will acquire size and strength in proportion to the use made of them.

“I would recommend a mare of good form and thorough blood, though she cost the most, because her colts would cost no more to raise them than those from an ordinary mare, and would probably sell for more than three or four times as much. The reason I would wean in a stable is, that in the usual way of weaning in cornfields, &c., the colts run themselves poor before they are weaned. I prefer wheat lots for mares and colts, because they like it better than any thing else, and I think it agrees better with them. I find oats made use of as above stated, not only the most healthy and best, but also the cheapest food for mares and colts. In pursuing the course which has been laid down, I obtained the following results:

“I selected a mare which I knew to be of good stock, but from improper raising was only four feet six inches high, and very deli-

cate: The first removal from her was four feet ten inches; the second removal, five feet; the third was five feet two inches; the fourth was five feet six inches."—*W. E. Broadnax, Va.*

*Sect. 82.*

*How to choose a good race Horse.*

[From the American Farmer.]

A BLOODED HORSE.—RULES.

1st. Draw a base line from the stifle joint along the bottom of the chest to the extreme point of the elbow, and to the shoulder-blade joint.

2dly. Draw a line from the curb or hock by the hip joint above the back, to an imaginary point.

3dly. Draw another line from the point of the shoulder, ranging with the shoulder, and passing above the back, until it intersects the line at the imaginary point.

4thly. Draw a line from the intersecting point of the shoulders, giving the same declension until it intersects the base line.

5thly. From the stifle to the point of the buttock thence to the hip joint, thence declining to the stifle.

6thly. Draw a line from the hip to the base line, right angular declension, then to the shoulder up to the chest.

7thly. Then draw a straight line, regardless of the curve of the back, to a straight line intersecting at the shoulder at the beginning of the crest.

8thly. Then take a line from the point of the shoulder, and angular degree, ranging with the shoulder-blade to the top of the crest.

9thly. Then, regardless of the rising of the crest, draw a straight line from the top of the shoulder-blade, to intersect with the point of the former line.

Thus the real symmetry of a grand and beautiful horse, possessed with muscular powers and strength, is formed by a right-angle triangle; and the farther from it a race horse's form is, the less pretensions that horse has to beauty, speed, bottom, or lastingness, ability to carry weight, or activity.

A thick, upright shoulder, is a very certain mark of a "stumbler," and is fit for no use whatever but the slow draft.

A low coupling in the back, is a true mark of weakness; it denotes want of strength, lastingness, ability to carry weight, or speed.

A low loin, is a certain mark of weakness, and a weakly, washy constitution.

But a rising loin, of ability to carry weight, speed, activity, and lastingness, and a good constitution, symmetry, beauty, and muscular strength.

A race horse's legs cannot be too short.

A great declivity, and thin shoulders, denotes speed.

A narrow breast weakness.

A horse's breast bone, formed like that of the rabbit, denotes also speed, and it is the best form for a race horse.

A short, broad hock, denotes strength; a broad stifle, well let down to the curb or hock, denotes bottom or lastingness, strength and activity.

There are not two race horses in five hundred, properly formed in the knees; which should be small, divested of superfluous appendages, and strong; they denote activity and strength.

A lax, bending pastern, denotes also speed; a long horse is preferable to a short one, because he can cover a great deal of ground, and can bear pressing better and longer.

The race horse upon the whole, whose form in general, is composed of the essential properties of the following animals, viz: the rabbit, grey hound, and ostrich—is the best.—*Gorwood.*

#### *Sect. 83.*

*The management of race horses, i. e., the preparation of the horse, the rider, instructions for training; the after treatment of a horse after the race; rules and regulations for racing in America and England; and things that every sportsman should know, will be presented fully in* **CHAP. XVI.**, to which the reader is respectfully referred.

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## CHAPTER X.

### CONSTRUCTION OF STABLES AND GROOMING OF HORSES.

#### *Sect. 84.*

The proper construction of stables, stabling of horses, and their attendance, or grooming, are generally, too little regarded. These things are of the utmost importance; if neglected, the consequences are fraught with incalculable disadvantages both to the owner and to the horse. Evils arising from a neglect in these things, are of far greater consequences than is generally imagined.

The horse's native element is the uncontaminated, pure air, and he naturally prefers to range unrestrained by the walls of a murky stall. To stable him, is a deviation from nature; hence the great importance in the proper construction of stables, and a judicious course of grooming, lest this *deviation from nature*, which is, even under the most judicious management, liable to produce some departure from health, does not produce diseases, and premature death in that animal, which lives for our comfort, and which demands nothing in exchange for services rendered, but "*food sufficient, shelter and kind treatment.*"

#### *Sect. 85.*

The situation of a stable should be elevated—open and airy, and as free as possible from mud and wetness. The *stable* should be large.

cool and airy. There is perhaps, in the construction of stables no circumstance more worthy of attention than that of ventilation, or of having contrivances for the free admission of fresh air, and for the escape of the impure, which has been rendered so by the breathing of confined horses. It is a common mistake to suppose that warmth is so congenial to horses, that they cannot be kept too hot. From keeping stables too close and warm, arises the long catalogue of diseases to which this injudicious *warming up* of horses, subjects this noble animal. How can a horse be healthy when he is immersed in a foul atmosphere, which is produced in a close stable? How can he, with any degree of impunity, inhale the tainted atmosphere, the unwholesome vapors from the litter? To be convinced that close and warm stables produce disease, let him that doubts enter one of these close stables in the morning, and see whether he can breathe in it, many minutes without profuse perspiration, and besides, he will experience very unpleasant, if not a painful sensation in the eyes, and so violent a cough, as will soon remove his scepticism, and afford him a convincing proof of the noxious and stimulating nature of such an atmosphere. In this atmosphere the horse stands hour upon hours, and should he not suffer?

*Sect. 86.*

The stable should be lofty, if it can be conveniently done—it should be from ten to twelve feet in the clear; the foul air, rendered such by the breathing of the horse, the unwholesome vapors from the litter, and by the steams of the perspiration of the skin, will then circulate in the higher parts, and the animal will not be constantly breathing the infectious atmosphere, which he is forced to do when the stable is not of sufficient height. Here the question presents itself, would it not be advisable, when practicable, to have openings in the ceilings, communicating with the atmosphere by square wooden tubes so as to permit the foul air to escape, without letting in rain?

The stable should by all means be so constructed as to admit pure air, and regulate the temperature, or heat of the stable, which should never exceed fifty degrees of Fahrenheit's thermometer in winter, and sixty-five in summer.

The stable should not only be lofty, airy, and the temperature well regulated, *but it should be light also*. Light is a thing of so much importance, that the windows should be so constructed as to admit light and air, without producing a current of wind on the bodies of horses. Darkened stables are hurtful to the eyes of horses. The transition from a darkened stable to the light of the sun, out doors, is too great; and it is to be perceived that when a horse is led from the murky stall, into the light, that, it at first irritates the eye and gives pain. To illustrate this, reference may be made to the unpleasant feeling and the utter impossibility of seeing distinctly, when a man suddenly emerges from a dark place into the full blaze of day.

Though a light stable is desirable, the sunshine should not be allowed to fall on the eye of a horse as he stands in his stall; nor should

that part of the stable which is before the horse's head be of too glaring a color. The constant reflection from a white wall or partition, will act as a stimulus on the eyes and renders them weak. As to the color of walls, stone or dove color is the most preferable.

*Sect. 87.*

In fitting up the interior of a stable, great attention should be paid to the size of the stalls, the floor, rack and manger, or trough. The stalls should be fifteen feet long and not less than six or seven feet wide, and the sides or partitions, eight feet high, so as to prevent any sort of contact or communication between the horses. The floor of the stalls should be made of a durable material. Some prefer planks, other hard bricks. Of whatever material you should prefer to make the floor of the stable, be careful, not to commit an error, as to the declivity or descent of the floor. The declivity we think the best, should be just sufficiently great to drain off the urine. We know this is a disputed point. When the declivity is great, the sinews of the back are too much on the stretch, and the horse becomes fatigued. When the fall is very considerable, unnecessary exertion is created in the muscles of the hind-leg, and the ligaments are constantly kept in a tense state. Some recommend a drain in the middle of the stall whereby the hind-feet and fore-feet of the horse may stand on a level.

The best mode, says an experienced writer, of carrying off the urine is by means of a small grating to each stall, communicating with a cesspool without doors, which should be closed up, that a current of air may not come through the grating. Such a contrivance will effectually carry off the water, and prevent the volatile alkali of the urine from impregnating the air.

*Sect. 88.*

The rack and manger should be attended to. The rack should be made of wood, that is perfectly free from splinters, which sometimes injure the mouth. The common sloping racks are not the best—they are the worst. They are disadvantageous in many respects; the dust and fine particles of hay fall into the horses' eyes and the manes—much of the best and nutritious part of the hay, is lost. If placed in a slanting position, they must be elevated so as to give the horse room to put his head in between the trough and rack, and by this means usually placed so high, as to put the horse's neck, when pulling hay, injuriously on the stretch. The rack should be placed perpendicularly, and on a line with the manger, so that the horse may feed as he does in a state of nature, without being put to the stretch. The manger should be wide and deep, and so contrived, as to slide like a drawer, that it may be put out of the way while the groom is wisping, brushing or currying him, so that he will have nothing to lay hold of with his mouth, by which practice horses often become crib-biters. The same remarks as to the height of the manger, that are made above of the rack, are applicable. The height should be such as to enable the horse to feed with ease.

*Sect. 89.*

The litter of horses should be kept as dry as possible, consequently, it should be removed daily. When it is suffered to remain long, under the erroneous notion of making better manure, the horse may suffer many serious inconveniences—he may be ruined. Neither is the manure, as is supposed by some, improved; for when it is removed to the dung-hill, if that is properly constructed, (it should be a dung-pit,) the close confinement in the pit, improves it more than the open exposure in a properly ventilated stable, where it parts its salts, on which its properties as a manure partly depend. Nor should a heap of fermenting dung be suffered to remain during the day in the corner or in any part of the stable.

*Sect. 90.*

The currying or rubbing of horses is generally attended to, therefore little need be said on this point. Horses that are left run out into the pasture, after the labor is done, need but little brushing.—But the horse which is confined to the stable, not much worked, and highly fed, requires considerable currying. Good rubbing with the brush or currycomb, *opens the pores of the skin*, and circulates the blood to the extremities of the body, and through the minute vessels of the skin, and produces free and healthy perspiration, and will answer the purpose of exercise. The legs, especially of horses, should be kept clean and free from dirt. Working or riding horses are soon stiffened, unless the legs are well rubbed. Dirt, suffered to form a lodgment, or wet remaining upon the legs in cold weather, will fret the skin, and cause cracked heels, grease, mallenders, &c.—such a train of stable plagues as may baffle the skill and efforts to cure, of the best farrier.

*Sect. 91.*

Stabled horses should be carefully and regularly exercised—it is essential to their health. High feeding, heated stables, and unnatural clothing with thick blankets, require the horse to be considerably exercised to prevent injurious consequences. Without regular exercise, horses become pursive, fat, heavy, and greased; for when the secretions do not find themselves natural vents by perspiration, &c., they will find themselves artificial ones. Exercise keeps down fat, and it also hardens and condenses the muscles, by drawing the fibres nearer together; it likewise enlarges the muscles. It improves the horse in every respect, in usefulness and value. The quantity of exercise necessarily must be regulated by a variety of circumstances, as age, constitution, condition, and his ordinary work. And a great deal depends upon the manner in which it is given. To preserve the temper, and to promote health, it should be moderate, *at least at the beginning and the termination.*

## CHAPTER XI.

## THE ANATOMY OR OSSEOUS STRUCTURE OF THE HORSE.

## Sect. 92.

ANATOMY explains, if taken in its widest sense, the nature, office, and structure of every part of an animal. Animal anatomy has been appropriately divided, by writers, into three grand divisions, the *osseous*, the *muscular*, and the *nervous* structure of animals. The *osseous* is that which we shall now treat of.

All *quadrupeds* are formed of an earthy *base*, called bone; and the assemblage of bony parts, is called a *skeleton*. Bones are composed of earth and lime, held together by means of *gelatin*, a kind of glue, secreted by appropriate vessels. Bones are covered by a thin skin, called the *periosteum*, which bears the same relation to the bone as the skin to the body, serving as a covering for its surface, and a sheath for the different cavities which enter it.

## Sect. 93.

*Bones* are all of them, except very flat ones, more or less hollow: within their caverns an oily fluid is secreted, called marrow or *medulla*, which serves for their support, and that of the constitution generally. Bones have nerves, blood vessels and absorbents. Bones are capable of reproduction. They are connected together by *articulation*, which, when moveable, is termed a *joint*. In some cases, as in the skull, bones *articulate* by *indentation* of the parts, this union is termed a *suture*. Bones may be classed in the following manner:

1. *Cylindrical bones*, as in the fore-arms.
2. *Flat*—as in the shoulder-blades.
3. *Irregular*—as the ribs and bones of the skull.

They are further divided into:

1. *Hollow bones*, possessing marrow.
2. *Flat*—nearly destitute of marrow, if not altogether.

A *skeleton* is an assemblage of the *osseous*, or bony part of an animal, and is usually divided, when treated of, into:

- I.—*The head.*
- II.—*The trunk.*
- III.—*The extremities.*

## Sect. 94.

FIRST DIVISION.—There are, by counting, the ten facial pairs as twenty bones, seventy-one bones entering into the composition of the head of the horse, including forty teeth, the usual number of a horse. The mare has usually four less than the horse. The tushes are wanting.

The head may be divided into two parts, the *cranium* or skull, and the face.

The bones which compose the *cranium*, and which contain and protect the brain, are nine in number. These nine bones are separate in the foal, at an early period of its existence, but soon after birth, they are united by what anatomists call *sutures*, a kind of dove-tail union, as a cabinet maker would express himself. This *suture* union becomes so firm, that a fracture will occur in any other part more readily than over a suture.

*Number and names of the bones of the cranium.*

The occipital bone, technically called—*os occipitis*.

Two frontal bones—*ossa frontis*.

Two parietal bones—*ossa parietalia*.

Two temporal bones—*ossa temporum*.

The sphenoid bone—*os sphenoides*.

The ethmoid bone—*os ethmoides*.

*Description of the bones of the cranium.*—The occipal bone is, of all the cranial bones, the largest, thickest, and most compact; and in the colt, is composed of several pieces which unite by age. It is at the upper, and back part of the head, and articulates with the first *cervical* or neck vertebra, called the *atlas*. At its posterior surface it is perforated by a large hole, which gives passage to the spinal marrow.

The *frontal bones* constitute the forehead, and behind them is lodged the anterior and inferior portion of the brain. A division of their bony surfaces forms two cavities, called the *frontal sinuses*, which are lined by the nasal membrane throughout. These bones are united by a suture called the *sagittal suture*.

The *parietalia*, or wall bones, lie on each side of the head, to which the posterior or lower jaw articulates.

The two *temporals*, divided into a squamous and petrous portion, within which is situated the internal ear.

The *sphenoid* bone, in form, writers have generally compared it with a bat—is hollow and irregular, and with the *ethmoides*, serves to intersect and attach the others; and also, to assist by their cavities in extending the *pituitary*, or smelling membrane. It is called *ethmoides*, or sieve-like, because it is perforated with many holes.—Through the numerous orifices, fine threads of nerves—the *olfactories*—pass into the nasal cavities, to constitute the sense of smell.

*Sect. 95.*

*The bones of the face*, or *facial bones*, are *ten pairs* and two single bones.

*Number and names of the bones of the face.*

Nasal pair, technically called—*ossa nasi*.

Two angulars—*ossa lachrymalia*.

Two jugal—*ossa malarum*.

Superior maxillary—*ossa maxillaria superioria*.

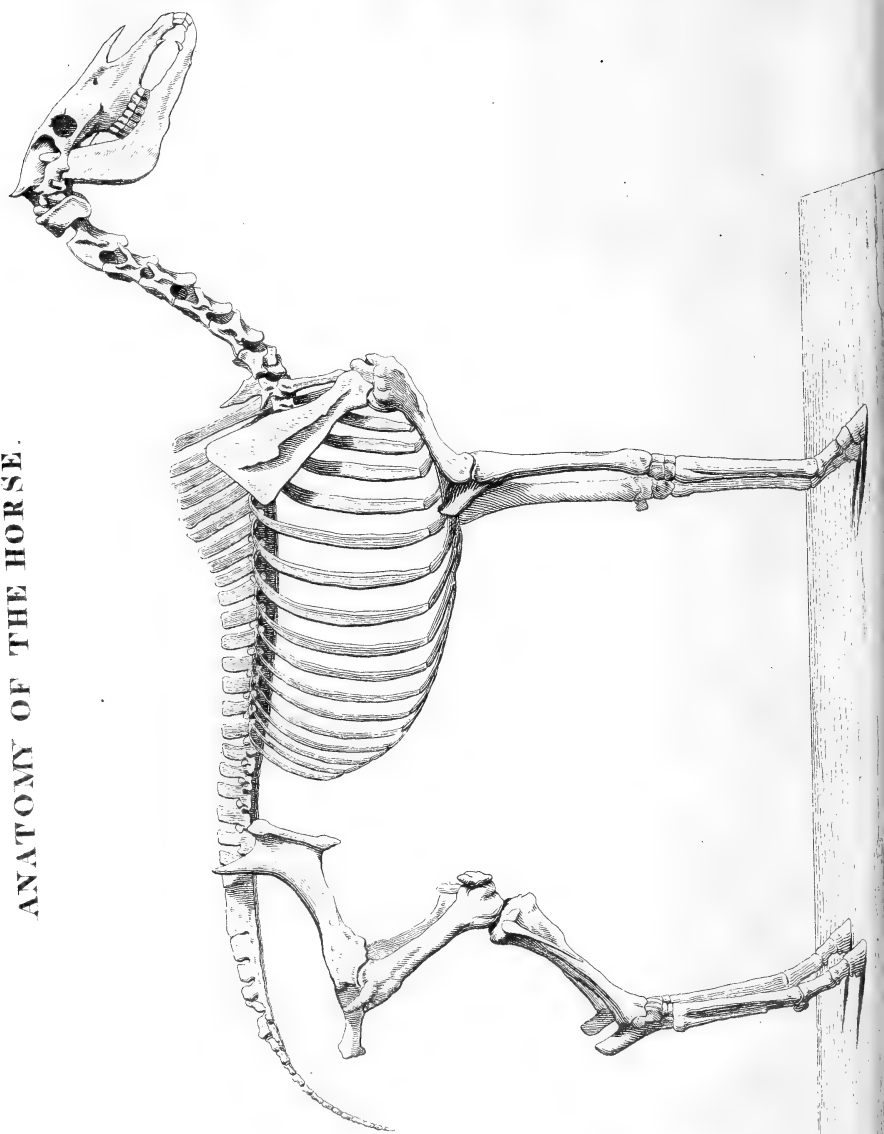
Superior palatines—*ossa palatina superioria*.

Inferior palatines—*ossa palatina inferioria*.





ANATOMY OF THE HORSE.



The pterygoides—*ossa pterygoida*.

The anterior turbinated—*ossa turbinata anterioria*.

The posterior turbinated—*ossa turbinata posterioria*.

Vomer bone—*os vomer*.

Posterior maxillary—*os maxillare inferius*.

The hyoid bone—*os hyoides*.

Intermaxillary bones—*these are wanting in man*.

*Description of the bones of the face.*—The *nasal bones* are slender pieces, meeting in the middle, which thus enables the horse to resist hard blows—within their union, they hold the *septum narium*, or cartilaginous plate—the *vomer*, which separates one nostril from another. The bones also greatly assist to extend the surface of the smelling organ. The *fossæ* or cavities within these bones, are the principal seat of glanders, one of the most formidable diseases to which the horse is subject.

The *two angular bones*, or *ossa lachrymalia*, form a considerable portion of the orbits of the eyes, and are of the size of a shilling, or rather larger, having a groove to conduct the tears into the nose.

The *two jugal*, malar or cheek bones, occupy also a portion of the orbits. The *superior maxillary*, or upper jaw bones, are the largest of the facial bones, and contain all the upper *molar* teeth, or grinders. The *inferior*, or *intermaxillary bones* are wanting in man, in whom the face is short—these bones concur with the *superior maxillary* in forming the *alveoli* or sockets, in which the teeth are deeply and firmly fixed.

The *superior palatines*, the *inferior palatines*, the *pterygoids*, the *two anterior* and the *two posterior turbinated* bones, with the *vomer*, make up the remaining facial bones, with the exception of the *posterior maxillary*, which, on its anterior edge, is pierced to lodge the teeth. At the upper part it extends itself into two angular branches, each of which ends in two processes and an intermediate groove.—This bone, throughout, shows the most admirable mechanism; the molar or grinding teeth, on which most is dependent, and whose exertions is the greatest, are placed near the centre of motion—and as the upper jaw, in most animals, is fixed, or nearly so, it was necessary that the lower should have considerable extent of motion, for the purpose of grinding; and it is accordingly so formed as to admit of motion in every direction.

The *os hyoides*—shaped much like the capital U—is a bone situated within the head, at the root of the tongue, to which it serves as a support, and for the attachment of the muscles.

#### Sect. 96.

*The teeth of the horse* are the hardest and most compact bones of the body, of all animals. There are usually forty of them in the horse, and there are thirty-six in the mare. In the latter the tushes are usually wanting.

*Division, names and number of teeth.*—They are usually divided into three classes, viz:

1. Nippers—*Incisores*, twelve of them.
2. Tushes—*Cuspidati*, four.
3. Grinders—*Molares*, twenty-four—which numbers are equally divided between the two jaws.

*Sect. 97.*

SECOND DIVISION OR BONES OF THE TRUNK.—The trunk of the skeleton consists of the *spine*, the *pelvis*, and the *chest* or *thorax*, composed of the *ribs* and *sternum*.

The bony column, called the *spine*, consists of fifty bones, including fourteen tail-bones, viz :

Seven neck, or *cervical*.

Eighteen back, or *dorsal*.

Six loin, or *lumbar*.

Five rump, or *sacral* vertebræ, with the addition of thirteen or fourteen small tail bones, called *caudal* vertebræ.

The *pelvis* or basin consists of five bones, viz :

The lower spinal bone, called *os sacrum*.

Two broad hip bones—*ossa innominata*.

The two lowest points of the spinal bone—*ossa coccygis*.

The *thorax* or chest consists of thirty-seven bones, viz :

The breast bone, called *sternum*.

Thirty-six ribs—*costæ*.

It is on this bony column, or the spine, that the horse is to carry the burden or weight placed on him, and there are two principal things to be considered; *easiness of carriage and strength*. If the spine were to be composed of unyielding materials, if it resembled a bar of wood, the jar or jolting of the animal could not possibly be endured. To avoid this, the back is so constructed as to meet the end for which the horse was made—the spine is both flexible, and the parts well united with peculiar firmness to afford strength to the animal.

*Sect. 98.*

In this Section, and in Sect. 99 to 103, as minute a description as our limits will allow, is given of the bones of the trunk.

The neck, or *cervical* vertebræ, called by farriers and butchers, the "*rack bones*," are seven in number, and differ somewhat in figure; especially do the first and second, and present some peculiarities. The first is the only one to which the great suspensory ligament of the neck does not attach itself, which would have interfered with that freedom of motion which is so graceful in this noble animal. It articulates with the second by receiving its tubercular process within it, and from which process the second of these bones has been called *dentata*, or tooth-like bones. The first bone of the neck is called the *atlas*, so named from supporting the head, as *Atlas*, the philosopher, was supposed (fabulously) to support the world. Between these two neck bones, the *atlas* and *dentata*, is situated apart, where the spinal marrow is exposed from any bony covering; at which part butchers

plunge a pointed knife into what they call the *pith of the neck*, when they want to kill an animal instantaneously, and without effusion of blood; whence it is called *pithing*. The remaining five cervical vertebræ resemble each other.

#### Sect. 99.

The *back bones*, or *dorsal vertebræ*, are nearly alike in structure, except in the length of the spinous process of the first seven or eight. It is owing to these elongated spines that we owe the height of the withers; and as the intention of these parts seems principally to serve as levers for the muscles of the back inserted into them, so we can readily understand why their increased or diminished height is favorable or unfavorable to moving. These, like the former, articulate with each other by processes, as well as by the anterior and posterior surfaces of their bodies; between each of which is an intervening substance, exceedingly elastic, semi-cartilaginous in its structure, convex on both sides, thicker in the centre than at the edges, which is analagous to a small cushion, thus permitting an easy motion of spine, from its peculiar form and compressibility.

#### Sect. 100.

The six loin or *lumbar vertebræ*, differ from the *dorsal* in being larger, and having very long transverse processes to make up for the deficiency of the ribs in the loin. These bones often unite by the pressure of heavy weights, and spontaneously by age, and thus we need not be surprised at the stiffness with which some old horses rise up. The union of the back and the loins should be carefully remarked. There is sometimes a depression between them; a kind of line is drawn across which shows imperfection in the construction of the spine, and may be regarded as a sure sign of weakness.

#### Sect. 101.

The five rump or *sacral vertebræ*, are united into one to give strength to the column, and to serve as a fixed support to the *pelvis*, or the hinder and lower part of the abdomen, in which the bladder and rectum are contained, or basin, with which it is interwedged. From this compact and firm union, it will appear how admirably this spiral column is adapted to its important functions of serving as a flexible but powerful support to the machine; and how by the formation of a large foramen or opening within the substance of each vertebræ, a bony canal is offered for the safeguard of the spinal marrow, from which, through lateral openings in the vertebræ, the spinal nerves ramify, or are given off in pairs.

The *pelvis* or basin supported by this osseous column, is composed of the os sacrum, ossa innominata and ossa coccygis. The ossa innominata in the foetal colt before birth, are each composed of the ilium, the ischium, and the pubis, all traces of which divisions are lost before birth. The ilium is the most considerable, and forms the

haunches by a large unequal protuberance which, when prominent, occasions the horse to be called ragged hipped. The next largest bone is the ischium, or hip bone, on each side. The pubis or share-bone is the least of the three: in conjunction with the ischium, forms the acetabulum, or cup-like cavity, in which the head of the thigh bone lodges. The pelvis, as above remarked, is supported by the sacral vertebræ, and attached to the sacrum, by ligaments of prodigious strength; but has no bony union, by which means, as in the fore extremities, some play is given, and the jar of pure bony connexion is avoided.

The two extreme sacral vertebræ are termed ossa coccygis. The elongation of the spine, or caudal vertebræ, are generally about fifteen. These are sometimes called twirl bones, from the convoluntary motion afforded the animal in switching flies and other insects.

#### Sect. 102.

The *thorax* or chest, which contains the heart and lungs, comprises the sternum or breast bone. The sternum of the horse is inclined, like the keel of a ship, to which the ribs are attached by strong ties. The costæ or ribs are usually eighteen, in a few instances nineteen or twenty, to each side: eight articulate with the sternum, and are called true ribs, while the remaining ten, uniting together by intervening cartilages, are called false ribs. The centrals are the longest, those anterior and posterior are shortest. The first is placed perpendicularly, the second less so; and their obliquity, as well as dimensions, increase as they advance, so as to enlarge the chest to an almost circular form, which is the most desirable; but when they are less arched, the belly partakes of the defect, and a flat sided one is commonly a bad carcassed horse.

#### Sect. 103.

THE THIRD DIVISION, or *bones of the extremities*.—In the bones of the extremities there is such a peculiar adaptedness, displaying a mechanism as ought to excite admiration. Of a truth, we are led to exclaim, this animal is “wonderfully made.”

##### *Names of the bones of the anterior extremities.*

The two shoulder-blades—*ossa scapulæ*.

Two arm-bones—*ossa radii* and *ossa ulnæ*, forming the humerus.

Two wrists—*ossa carpi*.

Two canons, or shanks—*ossa metacarpi*.

Four splint bones—*ossa additamentæ*.

Pasterns—*ossa tali*.

Four Sesamoids—*ossa sesamoides*.

Lesser pasterns—*ossa coronis*.

Coffin-bones—*ossa tragii*, or *astraguli*.

Shuttle-bones—*ossa naviculare*.

*Names of the bones of the posterior extremities.*

The upper thigh bones—called ossa femoris.

Stifle bones—ossa patellæ.

Lower thigh bones—ossa tibiæ.

Outside bones of the leg—ossa fibulæ.

Hock bones—ossa tarsi, formed by six bones.

*Sect. 104.*

*Anterior extremities.*—The *scapula* or shoulder-blade, situated forward on the side of the chest, is a broad, flat, and somewhat triangular shaped bone. It does not much resemble the human *scapula*. Its superior surface is furnished with a considerable cartilage, by means of which its surface is greatly enlarged, without increasing much in weight. The posterior surface ends in a superficial cavity, called *glenoid* or shallow cavity, which receives the head of the *humurus* or the arm bone. It is divided in its upper surface by its spine. The shoulder-blade has neither bony nor ligamentous union, but is held in its situation by very powerful muscles. Its usual situation is to a plane perpendicular to the horizon, at an angle of thirty degrees; and it has a motion in its greatest extent of twenty degrees; hence as it does not pass beyond the perpendicular backwards, so the more oblique its natural situation is, the more extensive are its motion.

*Sect. 105.*

The *humurus* or arm bone is so concealed by muscles as to be overlooked by a cursory observer, and hence the *radius* or next bone below, is usually called the *arm*. It extends from what is called the point of the shoulder, but which, in fact, is a protuberance of its own elbow, forming an angle with the *scapula*, and extending obliquely backwards as that does forwards. Near its upper extremity it sends off a very powerful head to articulate with the shoulder-blade. The motions of the *humurus* are necessarily confined to a removal from its inclined point backward to the perpendicular line of the body.

*Sect. 106.*

The *radius and ulna* or *fore-arm*.—The fore-arm is strictly speaking, composed of the *radius* and an appendage, the *ulna* united to it. The *ulna* in man is a distinct bone, but as the leg of the horse requires a rotary motion, it was unnecessary to be a distinct bone in him. We here, however, remark, that in the colt, the *ulna* is really distinct; and in the adult horse unites with the *radius*, and serves as an attachment to muscles. On the slightest inspection of the skeleton, it will appear how much the motions of the fore-leg must depend on the length and obliquity of this part of the bone or process, which acting on the principle of a lever in the extension of the arm, must necessarily, as it is either long or short, make all the difference between a long and a short purchase in its mechanical power. The

breadth of the arm, as it is called, at this part, will, from this reasoning, be seen to be very important. A full and swelling fore-arm, all agree, is the characteristic of every thorough-bred horse, and for speed and continuance is unequalled.

#### Sect. 107.

The *carpus* or *wrist*, called the knee, is composed of seven bones, whose principal uses appear to be to extend the surface of attachment of ligaments and tendons, and by their interruptions to lessen the shocks of moving or of progression. The carpal or wrist bones articulate with each other, and have one investing capsular, or chest-like ligament, by which means the smallest wound of the knee which penetrates this ligament, has the effect of opening the whole joint; hence the quantity of *synovia* or joint oil, which escapes in these cases, and, hence also the dangerous consequences which ensue.

#### Sect. 108.

The *metacarpus*, shank or canon, is formed of one large metacarpal bone and two small ones called *splint bones*, which are united with it by strong ligamentary attachments, converted by age into a bony one. The inner splint bone is placed nearer the centre of the weight of the body than the other, and from the nature of its connection with the bones of the knee, actually receives more of the weight than does the outer bone, and therefore is more liable to injury and inflammation, and the consequent displacing the bone. The inner bone receives the whole of the weight transmitted to one of the small bones of the knee. It is the only support of that bone. A portion only of one of the bones rests on the outer splint bone, and the weight is shared between it and the shank.

#### Sect. 109.

The pasterns or *ossa tali*, between the *metacarpus* and the hoof, constitute the extremity below the common shank, and consists of one phalange only, comprising all the mechanism and a double portion of complexity of all the phalanges in the digitated or fingered tribes. Four bones enter into its composition with two small bones, resembling an Indian bean, called *sesamoides*, to each fetlock; placed there, not only to act as a spring and prevent concussion, but to throw the tendon of the foot which runs over them farther from the centre of motion. The pastern bone, or *ostalis*, is situated obliquely forward, and on this obliquity depends the ease and elasticity of the motion of the animal: nevertheless, when it is too long, it requires great efforts in the tendons and ligaments to preserve it in its situation; and thus long-jointed horses must be more subject to fatigue and to strains than others.

#### Sect. 110.

The *lesser pastern* or coronary bone receives the greater, and below expands into a considerable surface articulating with the coffin



and navicular bones. The *coffin bone* forms the third phalange, and corresponds in shape with the hoof. It is very porous, and laterally receives two prominent cartilages. It is around the outer surface of this bone that the sensible laminae are attached; and the inferior surface receives the flex or tendon. The *navicular nut* or shuttle bone, is situated at the posterior part of the coffin, and unites with that and the preceding bone.

The importance of a more minute description of the foot of the horse, is acknowledged; because of all the diseases to which the horse is liable, none are so difficult to cure as those that attack the foot; but the limits in this chapter, and the plan of the work will not allow us to enlarge here; however, when we shall speak of the diseases of the extremities, in CHAP. XII., we will treat more at large of both the anatomy and physiology of the foot.

### Sect. 111.

*Posterior extremities.*—The posterior differ much from the anterior, not only in their superior strength, and in their different lengths and directions of the parts, but also in some degree in their uses.

In our description of the hinder extremities, we will begin with the haunch bone, which is composed of three bones, the *ilium*, *ischium*, and *pubis*. The first is principally concerned in the formation of the haunch. Its extended branches behind the flanks are prominent in every horse, and when they are more than usually wide, the animal is said to be *ragged-hipped*. A branch runs up to the spine at the commencement of the sacral vertebrae, and here the haunch-bones are firmly united with the bone of the spine. The *ischius* or hip-bone, is behind and below the *ilium*. The *pubis* unites with the two former below and behind.

### Sect. 112

The *femur* or thigh bone is the largest of the body, its vast indentations and risings, almost peculiar to itself, show the great strength of the muscles inserted in it. It articulates with the *acetabulum*, the socket for the head of the thigh bone, or hip joint, by a strong head called a *whirl bone*. In this situation it is held not only by a powerful capsular ligament, and still more powerful muscles, but by an admirable contrivance resulting from a ligamentary rope, which springs immediately in the middle of its head, and is firmly fixed within the socket joint. In its natural situation it is not perpendicular as in the human femur, but inclines to an angle of about forty-five degrees. The femur presents large protuberances for the attachment of very powerful muscles called *trochanters*, from the Greek, *trochao*, to revolve. Throughout it exhibits a mechanism uniting combined qualities of speed and strength unknown to other animals. The lower end of this bone is received by its *condyles*, (knots of joints), to the deep depressions of the *tibia*, while the *patella* or knee slides over the anterior portions of both bones.

## Sect. 113.

The patella, answering to the knee-pan in the human subject, and which is called in common language, the *stifle*, is nearly angular, and serves for the insertion of some of the strongest muscles of the thigh, which are then continued down the leg. It thus appears to act as a pulley.

The *tibia*, or leg bone, is usually in horsemen's language, called the thigh. It is a bone formed of a large *epiphysis*, (a process attached to a bone, and not a part of the same,) with a small attached part called the *fibula*, a long body, and an irregular lower end, adapted to the peculiarities in shape of the principal bones of the back, with which it articulates. The obliquity in the situation of this bone corresponds with that of the femur, being as oblique backwards as the former is forwards. The length of the *tibia* is a prominent character in all animals of speed; in this respect it corresponds with the forearm, and the remarks made on that apply, with even more force, to this—that length is advantageous to speed, but less to ease of motion.

## Sect. 114.

The *fibula* forms a prominent instance, in common with splint bones, of what we remarked above, in our detail of the extremities—that many parts, whose uses did not strike the unobservant, would be found to be organs of harmony, placed in the body to prevent interruption to completing the general plan of animal organization. In this way the fibula appears but a process springing from the posterior part of the tibia, forming but the rudiments of the human bone of that name.

## Sect. 115.

The *tarsus*, or the hock of the horse, is a striking instance of the perfect mechanism displayed in the bony structure of this admired animal. It is formed by an assembly of six bones, and sometimes of seven. As the human anatomy is generally received as the standard of comparison, we must, in order to a proper consideration of the hock, consider it as the instep and heel; and all the parts beyond it as the foot. The human tarsus, makes a right angle with the tibia in standing or walking; but, in the horse, the hock makes one open angle with the tibia, and is far removed from the ground. In him, and the greater part of the upright drupeds, all the bones from the hock downwards are much elongated, and form a part of the upright pillar of the limb. In the horse, therefore, the point of the hock is the true point of the heel, and, in the human figure, the great twisted tendons of the gastrocnemius muscle are inserted into it: but the application of *tendo Achilles* would be rather forced here. A broad hock, already observed in the exterior conformation, may be now still more plainly seen to be very important to strength and speed; for the longer the heel bone of the hock, the longer must be the *calcaneum*—the longer the mus-

cles of the thigh act by; and a very slight increase or diminution in its length must make a very great difference in the power of the joint. It is by this tendon acting on this mechanism, that, when the animal has inclined the angle between the canon and the tibia, or, in other words, when the extremities are bent under him in the gallop or trot, he is enabled to open it again.

The bones of the hock, like those of the knee, are united together by strong ligamentous fibres; and it is an inflammation of those uniting the *calcaneum* and *cuboid* bones, that the disease called a *curb*, is to be attributed; and to a similar inflammatory affection of the ligaments in the front hocks, that *spavins* of the first stage are owing: in the latter stages the *peritoneum* and bones themselves become affected. The remainder of the bones below do not differ so essentially from the corresponding bones in the fore-legs as to need a separate description.

### Sect. 116.

We shall here close our remarks on the bony base of the horse, and add a few brief extracts on the appendages of the bones, and define the names of the *muscular* and *nervous* structure of animals. The limits of the work do not allow us to enter systematically into a detail of those parts. But when we treat of diseases, we shall, as the nature and case may demand, describe more fully the *muscular* and *nervous* structure with their constituents.

The appendages to the bones are cartilage and gristle, the periosteum, the marrow, the ligaments, and the synovia or joint oil.

The ligaments are compact, fibrous substances, which serve as a connecting medium between the bones. They possess great strength, and are common to every part of the body.

The synovia or joint oil is secreted from the living membrane of the joints, and affords a slippery medium that enables the bones to glide readily over each other.

Muscle is that part of the body of the horse termed flesh, to distinguish it from the skin, gristle, bone, ligament, &c. The muscles are composed of reddish fibres. All the motions of the animal are performed by means of the muscles.

Tendons are inelastic, tough, fibrous substances, of a whitish color.

The arteries are long membranous canals. They gradually decrease in their diameter, as they proceed from the heart. They terminate in veins and in exhalent openings, by means of which sweat is produced. The use of the arteries is to convey blood from the heart to different parts of the body.

The veins are vessels which return the blood of the body which has been distributed to it. They are less solid, and more numerous than the arteries.

The absorbent system of the horse is composed of the lymphatics and lacteals, which are thin and transparent, having great strength and power of contractibility. Where they become very minute, they are termed capillaries.

The nervous system of the horse is composed of white medullary cords springing from the brain and spinal marrow. Their internal structure is fibrous, and they spread themselves over every part of the body. The brain is considered the seat of sensation and volition, and the nerves are deemed the messengers to convey it throughout the system.

The glands are a numerous set of secretory bodies, composed of all the different vessels, enclosed in the membrane.

#### *Sect. 117.*

Hair is the clothing of brutes. It is a production of the skin. It varies in color, and is designed both for ornament and use.

The cuticle is placed immediately under the hair, and is a hard insensible covering.

The cutis, or true skin, is situated immediately under the hair and cuticle. It is the general investiture of the body, possesses exquisite sensibility, and constitutes the true organ of touch. It is gelatinous, and is used in the manufacture of glue.

The cellular membrane and fat constitute considerable portions of most animals. The adipose membrane is cellular, and extends over most parts of the body. The cells communicate with each other. The fat is the unctuous juice secreted in these cells.

The brain is situated in the hollow of the skull, surrounded by two coverings, between which lies a third membrane. The brain has four ventricles or cavities, together with many prominences. The analogy between the human brain and that of the horse is very strong.

The ear of the horse, in its internal condition, differs but little from the same organ in man.

#### *Sect. 118.*

The eyes of the horse are not, like those in man, placed directly in front, but inclining laterally. The eyelids are an upper and an under, moved by muscles, and forming an admirable curtain to protect the eye from extraneous matter. The globe of the eye is composed of coats, chambers and humors. The cornea, which is transparent, is formed of thin concentric plates of different degrees of convexity in different animals. The cornea is full of vessels, and in an inflamed state admits the red blood, as may be seen by the universal redness over the whole.

The pupil of the eye is the perforation which is seen, annular in human, oblong in the horse, ox and sheep, and perpendicular in the cat. It is an aperture in the membrane, termed the iris, on which the color of the eye depends. In the horse it is usually brown, occasionally white, when the animal is said to be wall-eyed.

The humors of the eye are, the vitreous, the chrysaline, and the aqueous. The vitreous humor is of a jelly-like consistence, and occupies all the globe, except those parts taken up by the other humors. The chrysaline humor forms a lenticular body of mode-

rate consistence, and is properly termed a lens. It is doubly convex. It is a diseased opacity of this body that forms a cataract. The aqueous humor is a limpid fluid that fills up the spaces not occupied by those already described.

The motions of the eye-ball are made by means of seven muscles.

“The criteria of soundness in the eyes are gained by a careful examination of them, and which experience has shown to be best made by placing the horse within a stable, with his head nearly approaching the stable door, which should be fully open. Small eyes are found more prone to inflammation than large, and large goggling eyes are liable to accompany a starting horse more than lesser ones; and when the convexity is extreme, not only is the starting in proportion, but such eyes are more liable than others to become affected with the disease popularly termed glass-eyes, but correctly gutta serena. It is not, however, to be understood that all starters have defective eyes; many are so from natural timidity, and still more from hard usage and bad management in breaking and handling. The eyes should be examined together, not only to observe whether each presents an equal degree of clearness in the transparent part and within the pupil, but also that an equal degree of contraction exists between each of the pupils. This is of much consequence: if an inequality in size and form be observable between the pupils, the least of them has been in some way affected, and will probably become so again. It is even more suspicious when a turbid milkiness appears on any part of the transparent portion; and equally so, when the inferior part looks other than clear; or in a very strong light, with a lively blueish tinge. When it is all turbid, viewed under various aspects, regard it attentively, and there may probably be found an inward speck of perfect white, which is the nucleus or central point of an incipient cataract.” A glassy greenish cast in the eye should always excite suspicion. Such eyes are not unfrequently totally blind.

#### *Sect. 119.*

The nose or organ of smell, in most quadrupeds, is next in importance to that of the eye. Its sensibility is derived from the olfactory nerves, spread over its surface. It is this membrane which is the seat of the glanders. The horse breathes in all ordinary cases through the nostrils.

The external parts of the mouth are the lips, cheeks and beard. The lips are fleshy masses, covered with skin, and forming the organ of touch. The cheeks are muscular and moveable, and furnished with hair.

The internal parts of the mouth are the teeth, the gums, the alveolar edges, the palate, the tongue, and the parts of the great posterior cavity. The gums are a spongy substance, which hold fast the teeth. The palate forms a bony arch, covered by membraneous folds, which are apt, when the stomach is affected, to become swollen, and this is called the lampers.

The tongue is a long fleshy mass, adapting itself below, to the form of the channel, and above, to the arch of the palate. It is a principal organ in mastication.

The pharynx is formed by the termination of the mouth and nose.

The larynx is placed at the posterior part of the former cavity, and forms a kind of cartilaginous box, or entrance to the wind pipe, furnished with a moveable door, which fills up the cavity formed by the arch of the palate curtain, thereby closing the cavity of the mouth and forcing the animal to breathe through his nose.

#### Sect. 120.

The parotid glands, or in the language of farriers, the *vives*, are two pretty large bodies on each side of the head, extending from the base of the ear around the angle of the jaw. Each parotid gland has little ducts, uniting into one and entering the mouth about the second molar tooth. These glands furnish saliva for the use of the mouth, and it is a gathering in them that constitutes the strangles in young horses. The external parts of the neck are the common coverings, the cervical ligament, the muscles, and the jugular or neck veins.

The internal parts of the neck are the vertebræ, which pass the spinal marrow; the carotid arteries, which pass up under the jugular veins; the trachea or wind-pipe, for the transmission of air; and the œsophagus, a continuation of the funnel-like cavity of the pharynx.

When the chest of the horse is opened, a smooth polished membrane is seen, covering its contents, which is called the pleura.

The diaphragm or midriff, divides the chest from the belly by its disk, and is a very important part of the body of the horse.

The heart is the great agent of circulation, and is composed of membranous and muscular fibres, having four principal cavities and several openings.

The lungs are spongy masses, divided into right and left, with lesser divisions termed lobes. Their color, in a colt, is a light lively pink; in a full grown horse, they approach to a gray tint. These parts are extremely liable to inflammation.

#### Sect. 121.

The viscera of the abdomen include the stomach, the lobes of the liver; the omentum or cawl to the whole inferior curvature of the stomach; the spleen, the kidneys; the rectum; the ovaria; the uterus; the bladder; the diaphragm; the gullet; the trachea, &c.

The abdomen, or cavity of the belly, forms an oval vault, and is the largest cavity of the body. It is elastic and strong.

The horse has but one stomach, and that is a small one. It is peculiarly constructed. It is immediately contiguous to the diaphragm, or great breathing muscle. This accounts for the difficulty of respiration after a full meal.

The intestines are not merely secreting organs, but possess a digestive character; and may be considered as continuations of the stomachic viscera. This is more particularly the case with the small intestines.

The spleen or milt, is a very spongy body situated at the greater extremity of the stomach.

The kidneys are two excremental glands, placed in the lumbar region, the right more anterior than the left. From the cavities of the kidneys, the duct termed the ureter passes out, and carries off the urine secreted within them. These ureters convey the urine to the bladder.

The bladder of the horse is a membranous sack for the reception of the urine, resting on the pubis, immediately under the rectum.—To the bladder is attached a membranous pipe called the urethra, which passes through the penis, and by that means ejects the urine.

*Sect. 122.*

The male organs of generation in the horse, are the testicles, which are two in number.

The penis or yard, is a long body, in one part nearly prismatic, and in another cylindrical. It is composed of two flattened portions closely connected, a spongy canal, which is the urethra above mentioned, and the glands or head.

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## CHAPTER XII.

### DISEASES AND ACCIDENTS TO WHICH THE HORSE IS LIABLE, AND MEDICAL TREATMENT WHEN IN A DISEASED CONDITION.

*Sect. 123.*

No animal in a state of nature is freer from disease than the horse ; but no sooner is he made to yield to the dominion of the lord of the brute creation, and treated according to the laws or customs deviating from nature, than he is liable to have his health impaired—his diseases begin and increase till they are as numerous and complicated, as is his harmonious, yet complex structure.

Man, who in his desire to subdue all to his dominion, is the author of nearly all the sufferings of this noble animal, the horse ; but man too is bound from a principle of gratitude, aside from considerations of gain, to study the nature and cause of the diseases of the horse, and all domesticated animals ; and also to attend to both the prevention and cure of diseases. From a principle of gratitude we owe it to the horse to attend to his health. He lives exclusively for our benefit. He lives not to hoard up dollars and cents, and add lots to fields and farms, for his offspring to enjoy. He labors faithfully, if kindly treated, and for all his important services his demands are reasonable—he asks neither wages nor clothing ; but reasonably, I had almost said, he religiously demands, besides food and shelter, kind and skilful treatment when sick. And should not all who have a horse be ready and willing to discharge this debt they owe ? To study his diseases, the nature of efficient remedies, and come to his relief, is man's duty.

To aid those who feel disposed to discharge this duty, we here place, so far as the limits before us permit, within their reach, the means of informing themselves on this important subject.

*Sect. 124.*

When studying the nature of the diseases of horses, never lose sight of this important fact, that a knowledge of the diseases of animals in general, cannot be inferred with any degree of certainty from a knowledge of the diseases of any one particular species of animals. This may be owing in a great degree to the anatomy and physiology of the animals, and their manner of living, and the food they subsist upon. A man may be well acquainted with the diseases of a horse, and he would not from this circumstance be fully prepared to prescribe correctly for the diseases of quadrupeds generally. There are many things to be taken into consideration—the differences are great. For example, the dog, as is well known, has no sensible perspiration.

Again, the mouth of the horse performs but one office, that of conveying food to the stomach. It conveys nothing to the lungs, or from them. It has nothing to do with the modulation of the voice, as in most quadrupeds, and especially as in man. The passage to the lungs and the stomach in the horse are distinct.

The horse, unlike most other quadrupeds, has no gall-bladder, notwithstanding the prevailing notions of some, and the assertion of those who have used the skin of the gall-bladder of a horse to cure cancers, to the contrary.\*

*Sect. 125.*

We stated above, that the diseases of animals differ as much as their anatomy and physiology, &c. Medicine, as to its specific action, also affects animals differently. Glauber salts, in doses of one pound, operate on the ox as a cathartic, but on the horse they operate as a diuretic. Opium does not produce its specific effect upon the horse. In man it has an anodyne effect. In the horse it operates merely as an astringent. It will not mitigate pain.

Barks produce no sensible effect upon the horse. There are no medicines that operate on the horse as ipecacuanha and tartar emetic do upon man. Tartar emetic, in doses of four ounces, will sometimes occasion a little nausea and purging; but in smaller doses it has no sensible effect. No preparation of mercury will produce salivation or *ptyalism* in the horse. His gums may be made sore by mercury, but *ptyalism* cannot be produced.

Sugar of lead, which is poisonous to man, the horse can take with impunity. Tobacco has no deleterious effect upon the horse. Spirit of turpentine, which a child may handle without injury, operates as a caustic when applied to the skin of a horse, although it may be applied to sores of horses and fungous flesh on him without producing

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\* We neither allude to D. B. of *pou-ow-ing* memory, nor to Doctor *Talpin*, perhaps a relation of B., and author of a *Farriery*, in which he gives long accounts of the *gall and gall-bladder*, and *gall-diseases*.



pain. These hints on this subject may suffice to direct the enquiring reader, to investigate more fully, what has been said in reference to diseases and medicines.

### Sect. 126.

To compress as much matter of lasting utility as we possibly can, within the limits prescribed us, and to render the work a practical one, we shall arrange the remarks submitted on the diseases, cures and treatment of horses, under the following general heads:

- A.—*The diseases of the head.*
- B.—*The diseases of the neck.*
- C.—*The diseases of the chest.*
- D.—*The diseases of the stomach.*
- E.—*Diseases of the extremities or legs.*
- F.—*Diseases of the foot.*
- G.—*Diseases of the skin.*
- H.—*Miscellaneous:*

and conclude this chapter with a few general remarks on the soundness of the horse. This arrangement, with a very slight variation, is the one adopted by H. L. Barnum, who has written the most systematic Farrier that we have seen, and to whom we are greatly indebted for much useful matter.

In our remarks on diseases and their general treatment, we have followed the celebrated G. S. Winters, one of the best practical writers on Farriery in the German language, from whose invaluable work we have selected and translated much that is useful.

### Sect. 127.

#### A.—THE DISEASES OF THE HEAD.

##### a.—*Big head.*

This is a disease of very frequent occurrence in the western States, especially in Kentucky. We submit the following, on this disease, from the *American Farmer*:—I have noticed, says the writer of the extract, several valuable essays in your valuable paper, the *American Farmer*, on the subject of *big head* in horses, and as I have never seen any description of this disease, or any cure recommended, I will endeavor to communicate what my limited experience on that subject has taught me.

About twelve years ago, the disease made its appearance in this neighborhood, and before a remedy was found out, many losses were sustained, by the death of horses which were diseased. One of my neighbors lost horses to the value of six or seven thousand dollars, among them, some of the best blooded mares and colts. I lost one only, and the first and only one, a brood mare, which had it about that time. Various applications were made to cure it, such as driving in spirits of turpentine, by rubbing the parts affected, and holding a red hot iron near the place; burning, bruising, and cutting, were also

resorted to, but in every case that I saw or heard of, the disease terminated in the death of the animal. At length, white arsenic was recommended, but by whom it was first discovered, I am ignorant.—I had occasion, about four years ago, to try it on a fine Archy mare, then in foal by Archy; she was affected on both sides of the face, and I succeeded in curing her: she produced a horse colt, whilst she was under the operation of the arsenic. At about two years old the colt was affected on one side of the face. I had recourse to the arsenic, and completely eradicated the disorder, leaving only a slight scar, though the mucus membrane of the nostril was so much injured as to cause a difficulty of breathing through it. The mare was still more affected, as both nostrils were nearly closed, and her head continued to be much larger than before she was taken with the disease, though generally in good order, and occasionally worked. She has, however, produced three fine colts since, none of which has as yet, been affected with the big head. I designed to have trained her first colt, but in consequence of the affection of his nostril, I declined the idea. He is now four years old, enjoying fine health, and possessing great vigor as a stallion. I am thus particular in detailing the character of the animals who have been cured, that it may be seen how little horses are affected by the disease after it has been cured. I have known the arsenic exhibited in at least twenty cases, in all of which it effected a cure, and I think I can say, that it is an infallible remedy. I will now endeavor to describe the disease, and the recipe.

*Symptoms.*—Loss of appetite, a drooping of the head, and a disinclination to move about—a slight weeping from the eye on the side affected—in a short time a local swelling appears on the side of the face in a direct line between the eye and nostril, which, on being pressed hard with the finger, causes the animal to wince, and by rubbing it gently with the hand, appears to give ease to him—an enlargement of the jaw-bone, and a considerable decline in flesh. I have not discovered that the disease is attended with fever; if it is suffered to run long, it causes an affection of the joints—they become puffed, as if inflated with wind, and in a short time those swellings become filled with pus, and ultimately break, and a discharge of purulent matter issues from the joints, and the animal falls, to rise no more without help. It is supposed to be infectious only in this last state of the disease.

*Cure.*—As soon as the swelling on the side of the face appears, take a piece of white arsenic about the size of a common field pea, (or about six or eight grains pulverized and wrapped in fine paper, of a size only sufficient to contain it,) make an incision in the skin, immediately over the hard tumor, insert the arsenic, (or the paper containing it,) and with a needle and thread make one suture or stitch, tie the ends of the thread in a hard knot, bleed the horse, and turn him out alone in a good pasture, or if it is cold weather, put him in a stable, removed from other horses, and feed him on light food—in a few days the effects of the arsenic will be discoverable by a considerable swelling of the head, nose, and face, which will increase until the power of the arsenic is exhausted—if both sides of the face

are operated on at the same time, the head will swell to an enormous size—in about a month, or six weeks, the arsenic will have developed its efficacy, by the appearance of a circular piece of skin, and the porous bone of the face which extends as far as the seat of the disease, or the influence of the arsenic on the affected part; this circular development extends as far as the affected part only, and is quite callous and nearly detached from the sound skin, leaving the wholesome flesh in its natural state. In a month or six weeks longer, this circular part becomes entirely detached on its periphery from the sound skin, and adheres to the side of the face by a few slight integuments about its centre, which soon decays, (or it may be cut off,) and the diseased parts drop out in a mass, leaving a hideous wound; then may be seen the porous bone of the face, resembling honeycomb, which soon becomes covered with sound flesh and skin: the wound may be soon healed by using common applications, though I have made use of what we farmers in the country call pot liquor, as a wash, and anointing the place with an ointment made by bruising the leaves of the common poke-weed, (*phytolacca decandra*,) and extracting the juice by pressure, and stewing it in hog's lard, or of the Jamestown weed, or thorn apple, (*datura stramonium*,) prepared in the same way. These applications may be made use of with advantage as soon as it is discovered that the parts begin to separate. If the weather be warm, it may be necessary to anoint the parts with a mixture of common tar and hog's lard, or the juice of elder stewed in hog's lard, in order to keep away the blow fly, which will be attracted to the parts by the offensiveness of the scent emitted. It cannot be expected that a horse which has thus been operated upon, will regain the beauty of his head, particularly if he be an old horse, or has been affected on both sides of the face, or the disease has been suffered to run too long before applying the remedy: this is evidenced by the appearance of my mare. I suffered the disease to run too long, because I was fearful that the arsenic might injure the foal, but was induced to risk it rather than lose the mare: the stallion, on the contrary, exhibits the effects of it in but a slight degree. It may be proper to remark, that a less quantity of arsenic will answer for a colt than for an old horse; and that it ought to be inserted as high up on the face as the seat of the disease will admit of; perhaps on the upper edge of the swelled part will answer the same end.

Another remedy has been communicated to me, which is much more simple; and if it be a remedy, certainly possesses great advantages over the one on which I have been treating. I have never known it tried, but I am induced to believe that it is a remedy, both from its analogy to the arsenic, and from the authority from which I derived my information. It is this: Instead of the arsenic, take half a pint of strong ashes, (hickory, I suppose,) put them into a tin cup, (of about a pint measure,) smaller at the mouth than at the bottom. say about one and a-half inches at the mouth in diameter; fill the cup or pot with water, and let it boil for half an hour, or until the water has been evaporated, or absorbed by the ashes, cord the horse's nose in the usual way, or otherwise confine him, in order that he may be

still, and apply the mouth of the cup to the part affected, with the ashes quite hot and nearly dry, having previously covered it with a thin cloth, to prevent the ashes from coming in contact with the skin of the horse, and hold it in that position until the heat has subsided, when it may be removed: in a day or two the parts will exhibit a gluey exudation, which will disappear in the course of a week, leaving an inconsiderable sore, like a burn, which may be cured by treating it as such. It may be necessary, in some cases, to make a second application. The horse may be used as usual at the time, and when the wound heals up, scarcely any scar will remain.

Or take blood from the neck vein and bathe the swelled parts with spirits of turpentine once or twice a week, rubbing it with a hard brush until you discover the swelling is stopped: the lumps remain, but as they cease to grow, the horse gets better.

Or give *stramonium*, (Jamestown or Jimson weed,) in doses of one drachm, mixed with his feed for several days, then turning him out for two or three months.

We add the following from R. B. Harrison, of Dallas county, Alabama, April 18, 1836.

Take one quart of hog's lard, one quart of tar, and one pound of sulphur of brimstone; put all together in a pot over a slow fire, and boil it till the brimstone disappears; then make a mop on a strong stick, and rub the horse's head from the eyes to the nostrils, once a day until the mixture is all gone, and it will make a cure. I have tried it.

#### Sect. 128.

##### b.—*Hemicrania*—*Halbseitiges Kopfweh*.—Ger.

*Hemicrania*.—A species of headache; a pain generally affecting one side of the head, towards the eye or temple, either on the right or left side of the head.

*Causes*.—This disease may be caused by too violent exercise in a hot day, and the horse being fat and full of blood, more than a usual quantity of blood will be sent to the brain. It may also arise from the collar being too small, or the curb-rein too tight, which prevent the blood returning from the head; and thus the larger vessels of the brain will be too long and injuriously distended, and produce hemicrania, and if the affection is violent, it produces megrim or vertigo.

*Symptoms*.—In simple hemicrania, the horse will occasionally stop and shake his head, staggering some; in a few minutes he will pass on, but he will droop the ears, and the eyes are considerably inflamed. But if the attack is more violent, the horse will fall without the slightest warning, or suddenly run round once or twice and then fall. He will either lie in a state of complete insensibility, or struggle with the utmost violence. He will sometimes recover in from five to fifteen minutes, and rise and proceed on his journey.

This is, however, often a fatal disease—the horse will occasionally die on the spot.

*Treatment*.—At the moment of the attack, the horse should be

bled at the neck; three or four quarts of blood should be taken. Or he should be bled profusely in the mouth by cutting the bars of the palate.\* And as soon as possible he should be physicked, his food should be moist and cooling and he will soon recover; if it be in the winter, he should be kept warm.

No. 1.—*Physic or purgative.*†

Take of the best Barbadoes aloes, five drams; prepared natron, two drams; aromatic powder, one dram; oil of caraways, ten drops; syrup enough to form a ball for one dose.

*Another.*

Take Barbadoes aloes, one ounce; prepared natron, two drams; aromatic powder, one dram; oil of aniseed, ten drops; syrup enough to form a ball for one dose.

No. 2.—*Another, a liquid purge.*

Take agaric and aloes of each, one-half ounce; extract of acacia bark and gentian, one ounce; oil of turpentine, one dram; honey, one pound; elecampane and bittersweet, each, one dram: two quarts of water, the whole mixed and given at once.

No 3.—*Another liquid purge.*

Take epsom salts, dissolved, eight ounces; castor oil, or linseed, four ounces; watery tincture of aloes, eight ounces; mix the whole.

The watery tincture of aloes is made by beating powdered aloes with the yolk of an egg, adding water by degrees; by these means half an ounce of aloes may be suspended in eight ounces of water, and such a purge is useful when a ball cannot be got down, as in partial locked jaw.

No. 4.—*Another—A very good common physic.*

A strong decoction of the herb, called the mother-wort, which is very common: let the decoction be mixed with Indian or corn meal, or given through a bottle if the horse refuse the meal when mixed with the decoction.

Any of the above physics or purges may be given in this disease.

Sect. 129.

c.—*Apoplexy—Schlagfluss.*—Ger.

Apoplexy is a sudden deprivation of all sense and voluntary motion, the subject lying in a dormant state; when the attack is even severe, the action of the heart, as well as respiration, still go on.

G. S. *Winters*, divides this disease into two different kinds, viz:

\* Directions for bleeding will be given in CHAP. XIII., under the head of *Veterinary operations*, which see.

† Directions for physicing or purging, SEE CHAP. XIII.

The milder form, and the more violent, called peracutus, but says very little of its symptoms or of the remedies. He considers it a fatal disease. The violent form generally proves fatal.

*Cause.*—Severe colds, over exertion, when there is general plethora, contribute to this disease.

*Symptoms.*—In the violent form the horse usually falls at once, though he may sometimes be attacked by this form and manifest the following symptoms. He will hold his head low—lean against the manger or some object. If moved, he appears as if he would fall. Both his sight and hearing are affected. He sometimes continues for hours in this state. He then falls—grinds his teeth—his eyes are open, protruded, and fixed—the pupil is dilated—there are twitchings about the frame—the muzzle is cold—the vein of the neck is evidently swelled—he is unable to swallow—strong convulsions follow, and death closes the scene.

*Treatment.*—If there be time to do any thing at all—bleed copiously—take from eight to ten quarts of blood from the jugular vein. Next, back-rake, or remove the dung from the lower intestines with the hand, and give a strong dose of physic, but the case is usually hopeless.

#### Sect. 130.

#### d.—Staggers—Schwindel.—Ger.

*Staggers* is a disease of both horses and cattle, attended with giddiness, reeling to and fro, thrusting the head against the wall, and refusing to eat.

There are several varieties of staggers—the sleepy or stomach-staggers,\* and the madstaggers. They are mainly, only two different stages of the same disease, or varying in the causes that produce them.

*Causes.*—These are various. The immediate causes are either an original accumulation of blood within the brain, or the translation of the inflammation of some organ to the brain. The remote causes are sometimes full or over-feeding, without sufficient exercise. Sudden cold, violence, &c., may bring it on.

*Symptoms.*—If the horse is turned towards the sun he cannot well face the sun; begins to stagger, look around vacantly. Walks to one side of the road, and moves totteringly till he falls, and sometimes drops down dead: or the sleepiness passes off, and delirium comes on again, falls, rises, drops, beats himself about, and dies in convulsions.

*Treatment.*—Blood should be let in large quantities, by opening the jugulars, and letting the horse bleed from ten to twelve quarts; with one or more repeatings till the delirium abates or ceases. Administer a strong physic. But before you give a physic, back-rake or remove the dung from the intestine, and administer a laxative clyster.

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\*This disease, we believe, arises from a paralytic affection of the stomach.—*Com.*

No. 5.—*Clyster*.

Take thin gruel or broth, five quarts; epsom or common salt, six ounces; and inject without delay. Keep the horse from all food. The general treatment should be the same as in febrile infections.

The following has been repeatedly tried, and proved effectual:

Take of the expressed juice of garlic, six spoonfuls, which pour down the horse's throat by means of a horn, or give it to him in a drench. If the first dose should not relieve him, or he should appear to be maze-headed, (confused,) repeat it after an intermedium of two or three hours. The juice of the leek or onion, given in rather larger quantities, produce nearly the same effect.

Mr. White recommends the following:

No. 6.—*Clyster*.

Take hot water, one gallon; common salt, one-half pound; olive oil, four ounces.

As a purgative he recommends:

No. 7.—*Physic*.

Take Barbadoes aloes, powdered, one ounce; calomel, one-half ounce; cascarilla, finely powdered, three drams; syrup enough to form a ball.

## Sect. 131.

e.—*Madstagers or phrenitis—Hirn-Wuth.*—Ger.

Madstagers are not at first easily distinguished from the stomach or sleepy-stagers. But by observing the symptoms of each closely, this disease may be distinguished from the former.

*Cause.*—Over exertion, when the horse is full of blood, or especially during hot weather, is a frequent cause of inflammation of the brain; but whatever will produce general fever, may be the cause of madstagers.

*Symptoms.*—The horse suddenly starts, and begins to heave at the flanks—his nostrils expand—his eyes unclose—he has a wild, horrid, vacant stare, and delirium comes on much more rapidly than in the sleepy-stagers. He dashes himself furiously about—he becomes frantic. He will rave till it is succeeded by stupor, or till he has exhausted himself by struggles.

*Treatment.*—He should be bled till he faints, at both of the neck veins. An active physic should be administered. The Croton nut pulverized, and given in drink, in the dose of a half dram, has been highly recommended. A dose of ten grains should be repeated till the bowels are moved; at the same time injections of warm water and soap, until the bowels are well opened.

“If Croton is not at hand, aloes may be given, but dissolved in hot water—an ounce of aloes at the first dose, afterwards a quarter of an ounce every four hours, until purging is produced. This being

effected, those medicines should be given which have a strong tendency to lessen the force of circulation, and consequently, the determination of blood to the head.

"The most powerful of these are foxglove and tartar emetic, in doses of a dram each, three or four times in the day." Blistering of the head should also be attended to.

G. S. Winters recommends the use of the following physic after the horse has been profusely bled:

No. 8.—*Physic.*

Take twenty pepper grains; two eggs; honey, one ounce; decoction of elder blossoms, one quart; mix it well, and give it at once.

A very common and efficient physic.—Take human excrements, and one pint of wine or vinegar, well shaken, and administered as a drench, has proved beneficial.

Sect. 132.

f.—*Tetanus, or Locked-jaw—Maulsperre—Starrkrampf.*—Ger.

*Tetanus.*—There are several varieties of tetanus. But the variety under consideration is *Trismus*, or the locked-jaw; it is so called because the muscles of the jaw are first and most powerfully affected. Tetanus is a constant spasm of all the voluntary muscles, and particularly of the neck, the spine, and the head. It is very slow and treacherous in its attack.

*Causes.*—Locked-jaw generally arises from a wound, and oftenest a wound of a tendonous or legamentous part; but not depending on the extent of the wound, or the degree of inflammation. The time of attack is uncertain. It will sometimes not appear or affect the subject until the wound is nearly, or quite healed. It sometimes arises from excessive fatigue; from worms; pricks in shoeing, nicking, docking, cropping, and from severe and long exposure to cold; water dropping upon the back through openings in the roof of a shed or stable.

It is slow sometimes in its attack. The horse seems to complain for a day or two; he does not feed as usual; partly chews his food, and drops it; and gulps his water; the jaws become gradually stiff; and some saliva is drizzling from his mouth. These are all premonitory signs.

*Symptoms.*—The jaws are usually fixed, and the neck is very stiff; a difficulty in bringing the head round; and all the muscles resist to yield, being very prominent and hard; the muscles become very cramped, or may be considered as in a high state of action, giving the horse a peculiar look of energy, as though immediately stopped from full speed, with his nostrils extended, his head raised, and his nose carried forward; his legs straddle wide, and his tail cocked and quivers, as after violent exercise. The jaws will be found, if not closed, yet nearly so, when he is called *jaw-set*.

*Treatment.*—This is not often successful, but it succeeds in some cases: hence, deserves some considerable attention. The treatment



and remedies are various—some of them diametrically opposite. The rational method would seem to be, first, to remove the local cause; but this will seldom avail much. The irritation has become general; and the spasmodic action constitutional. It is well, however, to ascertain the local cause, and remove that if possible.

Blaine says copious bleedings have succeeded. In this disease it is well enough; nay, it is necessary to tranquilize the system by bleeding, which is generally the most powerful agent. There is no more powerful means of allaying general irritation. Temporary relaxation of the spasm will at least follow, and that will give an opportunity to move, or open the bowels. The speediest and most active, and that which can be reduced to the smallest compass, is the Croton.

The first dose should be a-half dram, and the medicine repeated every six hours, in doses of ten grains, until it operates. The operation of physic should be aided by repeated injections, each containing a dram of aloes dissolved in warm water. The following clyster has been found very useful in this disease:

#### No. 9.—*Clyster.*

Take fresh, warm milk, one quart; yolk of eight eggs; spirits of ammonia, one ounce; common salt, one ounce; spirits of turpentine, two ounces; linseed oil, one ounce; mixed, warmed, and injected.

“Then, as it is a disease of the nerves, proceeding from the spinal marrow, the whole of the spine should be blistered, three or four inches wide. As a general blister, and a good one in this disease, the following has been used with good effect:

#### No. 10.—*Blister.*

Take Spanish flies, powdered, two ounces; Venice turpentine, two ounces; resin, two ounces; palm oil or lard, two pounds; melt the three latter articles together, and when not too hot, stir in the cantharides or Spanish flies.

The horse should be placed in a warm stable, yet with pure air, and should be clothed with three or four thick blankets or rugs to keep up a temperature of blood heat, if possible.

Having bled largely, and physicked and blistered, seek for other means to lull the irritation, and we have none at hand, small in bulk, potent in energy, that excels opium. Give at once a quarter of an ounce, reduced to powder, and made into a drink with gruel, or in a small ball, (in its crude state it would be too long in dissolving in the stomach,) and give an additional dram every six hours. If the jaw should be quite fixed, administer it in injections. The bowels must be attended to during the exhibition of the opium, and aloes given in small doses, to keep them in a lax state. Camphor and asafetida may be given by those who please; we are not aware that they will do injury, but opium is the sheet anchor of the veterinary practitioner.

Great caution and patience are requisite in administering the drinks, for the elevating of the head seems to be extremely painful to the horse. A ball may be divided into small pieces, and with a piece of

cane or whalebone conveyed to the back part of the mouth, where it will be dissolved and must be swallowed.

As soon as possible, the strength should be supported by nutritive food. The appetite seldom fails in this disease; and it is painful to see the repeated eager efforts of the poor animal to allay his hunger. When his jaws are most firmly fixed, he will sometimes be able to suck in the liquid from a moist mash—if he has the slightest command over them, he will contrive to swallow the greater part of the mash; and should there be room to introduce the mouth of a small horn, he will thankfully take as much gruel as his attendant will give him. Until the jaws are firmly locked, he may be suffered to have hay, although he should only chew it and drop it from the mouth; for this action of the muscles of the jaws may delay or prevent their total closure. Little medicine will be wanted as he gets better; nourishing food, not too liberally administered, will constitute the best tonic; and should the weather be sufficiently warm, few things will do him more good than to turn him out for two or three hours in the middle of the day. It will extend the muscles of his neck, and bring him to the use of his limbs.

Against one mode of treatment we enter our protest, from its cruelty and its inutility—the application of cold. Some turn the animal out uncovered in a frosty night. We have no faith in the practice of this; but placing the poor horse under a pump, and letting the water flow upon his spasmed limbs for hours together, or dashing it violently upon him, while he crouches and groans all the while, is both cruel and useless.”

### Sect. 133.

#### *g.—Epilepsy or fits—Hinfallende Sucht.—Ger.*

Epilepsy is so called because it seizes upon the subject with suddenness; and from him falling suddenly it is called falling sickness. Fortunately the horse is not often afflicted by this disease.

*Cause.*—This disease, like its kindred one, the staggers, is generally the consequence of too full a habit; or by worms and bots in the stomach.—SEE SUBDIVISION D.—a.

*Symptoms.*—The horse stops—trembles—looks vacantly around—falls, and then contorts and constricts his body most violently.—Especially the head and fore part of the horse are greatly effected—gnashes his teeth—breathes heavily, and as soon as the convulsions cease, he gets up, looks around stupidly; shakes his ears, urinates—soon begins to eat as before.

*Treatment.*—If the attack continues ten or twelve minutes, the gums should be cut, and be bled under the tongue, allowing the blood to run down the throat; and as soon as possible administer a physic, No. 2 or 3, Sect. 128, may be given; or the following:

#### No. 11.—*Physic.*

Take aloes, eight drams; scammony, two drams; cremor tartar, one ounce; anise and fennel, of each, two drams; put these ingredients into one quart of warm water, and administer the whole at once.

Barnum says the only hope of cure consists in discovering the cause of the fits, and an experienced practitioner must be consulted, if the animal be valuable—generally speaking, however, the cause is so difficult to discover, and the habit of fits is so soon formed, and they will so frequently return, even at a great distance of time, that he who values his own safety, or the lives of his family, will cease to use an epileptic horse.

#### Sect. 134.

#### h.—*Palsy—Gliederlähmung, Schlag.*—Ger.

Palsy is a disease in which the power of voluntary motion is greatly impaired, if not wholly lost, effecting certain parts of the body, often accompanied with drowsy dullness; in some cases the disease is confined to a particular part, but it usually happens that one entire side of the body is affected. The power of the muscles is unimpaired, but the nervous energy is deficient. In the horse it is usually confined to the hinder limbs.

*Cause.*—When purging has been suddenly stopped, he becomes palsied. It is sometimes the consequence of violent inflammation of the bowels. It is produced by falls, blows on the loins, injury in casting, and turning in a narrow stall. In these latter cases the spine has evidently been injured.

*Treatment.*—Bleeding, physicing, antimonial medicines, and stimulating embrocations are the most likely means of a cure.

The following, as an external application, has proved beneficial :

#### No. 12.—*Poultice.*

Take St. John's wort, celandine, speedwell, winter-green, thyme, camomile, of each, a handful; decoct the whole in salt water, and apply it as a poultice on the part affected. This should be repeated three times a day. Apply it as warm as the horse will bear it.

The following treatment and application have been highly recommended. First physic the animal well; then scarify with a fleam or strong cupping instrument, the croup or crupper, the parts about the hips and rump, which is usually the seat of disease, and apply the composition recommended below, as warm as the horse will suffer it.

#### No. 13.—*Plaster.*

Take deer or sheep tallow, mastic, frankincense, of each one pound, and one ounce of myrrh; mix and heat it over a slow fire, or live coals.

The following embrocation has been of service, by moistening and rubbing the diseased part with cloth, or a sponge dipped into it:

#### No. 14.—*Embrocation.*

Take bay salt, bruised, one-half pound; crude sal ammoniac, two ounces; sugar of lead, a quarter of an ounce; vinegar, one pint and a half; water, one pint; mixed.

SEE APPENDIX—*Article, Embrocations.*

## Sect. 135.

i.—*Diseases of the ear.—Ohrenkrankheiten.—Ger.*

The horse, as well as man, is subject to the disease of the ear, such as excruciating pain in the internal ear, partial deafness from cold, and symptomatic pains arising from ulcers or imposthumes, &c.

In treating of this subject, we shall first speak of deafness; then of the pains of the ear, caused by imposthumes.

*Cause.*—Partial or entire deafness arises from violent colds, and slight inflammation of the eustachian tube, an opening at the upper and anterior edge of the hollow of the tympanum, forming a duct which is in part bony, and in part cartilaginous, extending from the tympanum to a large peculiar cavity at the posterior part of the nasal fossa. When this tube is inflamed, the vibratory functions are impaired. Sometimes, though the ear is well guarded, foreign substances get or fall into it, and create pain or disease.

*Symptoms.*—The horse, when a noise is made near him, will hold his head to one side, prick up his ears, start and take fright very easily, if he has been ever so tame or docile before.

*Treatment.*—A horse thus afflicted should be put into a well ventilated stable; kept free from stale dung, &c.; should be fed on manger meat and bran mashes for several days before you begin the cure, then give him the following potion as a drench:

No. 15.—*Drench.*

Take hiera picra,\* one-half ounce; agaric, one ounce; bitter apple, one-half ounce; lard, one pound; olive oil, two pounds; mixed, and warmed over live coals, or a slow fire.

Afterwards drop a small portion, from six to ten drops, of the following into the ear:

No. 16.—*Ear anodyne.*

Take eel oil, one-half ounce; laurel oil, spike oil, of each, two ounces; and castoreum, one ounce; mixed. This should be repeated two or three times every twenty-four hours.

No. 17.—*Another ear anodyne.*

Take wormwood oil, spike oil, oil of camomile, castoreum, ox-gall, of each, one dram, and one-half ounce of tallow, well mixed; administered as above.

## Sect. 136.

k.—*Pains of the ear arising from imposthumes—Geschwueren—Ger.*

The pains arising from imposthumes, &c., are equally as excruciating as those from cold, &c.

*Cause.*—The causes are internal and external. The former, such

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\* *Hiera picra* is prepared by mixing socotorine aloes, one pound, with three ounces of white canella.—*Hooper.*

as febrile vicidity of the brain, internal posthumes; the latter, such as blows and contusions upon the head, pricking about the ear, which cause external and internal posthumes.

*Symptoms.*—If the disease arises from internal cause, the horse will hang his head down, dropping the pained ear, or bending it backwards, according to the seat of the pain in the ear; makes repeated attempts to scratch or rub it with the feet, if he cannot rub it against something. The ears are sometimes swollen, and feel feverish; discharging viscid pus, which is quite offensive to the smell.

*Treatment.*—Bleeding at the head; injections given; then well physicked.

#### No. 18.—*Physic.*

Take hiera picra, bennet, (benedictus,) agaric, of each, one-half ounce; turbinth and scammony, of each, one-fourth ounce; gum gamboge, one dram; mix the whole in one quart of warm water, infused with the bark of the elder tree, and give it at one draught.

The following clyster should then be injected as warm as the animal can bear it:

#### No. 19.—*Clyster.*

Take the extract of acacia bark, one ounce; hiera picra, one-half ounce; the yolk of two eggs; olive oil, four ounces; common salt, one-half ounce.

If the ear is considerably swelled, or there should be a posthume internally or externally, the following cataplasm should be applied to the swelling or posthume:

Take bran, bruised flax-seed, of each three ounces, and of the seeds of goats' thorn, two ounces, to be triturated, well ground, and mixed with lard, and applied; it will act as a discutient, and disperse the tumor. But should suppuration take place, the ear must be kept as free as possible from pus.

Of the following composition, from ten to twelve drops may be poured or squirted into the ear with a syringe:

Juice of rue, one ounce; juice of olive leaves, one-half ounce; of the rind of pomegranate, two drams, and two ounces of vinegar; mixed, and squirted into the ear.

It sometimes happens that a certain fly will deposite nits, and the purulent matter, as a congenial *nidus*, soon generates hundreds of worms in the sore of the ear. In such a case, fill the ear with centaury, well bruised, suffer it to remain for one day, then squirt the following into the ear, wound, or tumor. This will kill the worms, which must then be removed with a hooked instrument.

The juice of bitter apple, or wild cucumber, and juice of peach leaves, of each, one ounce, and one-half ounce of olive oil; mixed.

## Sect. 137.

## 1.—The eye.

The eye is one of the nicest pieces of mechanism that the human understanding can contemplate. It is one of those organs upon whose sound condition much of the value of the horse depends. We regret it, that both the limits of the book, and the want of time, preclude us to devote either space or time to present the reader a full description of the anatomy and physiology of the eye.

We present below an extract from Mason's Farrier, as prefatory to the description of the various diseases of this important organ.

The eye is the organ of sight, whereby the ideas of all outward objects are represented to the common sensory; its form is a convex globular, covered by its proper lids, and enclosed within an orbit or socket: the eyelids preserve the eye from dust or external injury, and an expansion of the muscles and skin, the inner membrane being of an exquisite texture, that it may in no manner hurt or impair the surface of the eye: their edges have a cartilaginous or gristly rim, by which they are so fitted as to meet close together at pressure: the orbit or cavity in which the eye is situated, is lined with a very pliable, loose fat, which is not only easy to the eye in its various motions, but serves to keep it sufficiently moist, as the *lachrymal* glands, seated in the outer corner of the eye, serve to moisten its surface, or wash off any dust or dirt that may happen to get into it: at the inner corner of the eye, next the nose, is a carbuncle, which, some are of opinion, is placed to keep that corner of the eye from being entirely closed, that any tears or gummy matter may be discharged even in time of sleep, or into the *punctua lachrymala*, which are little holes for the purpose of carrying off any superfluous moisture or tears into the nose: the eye has four coats or membranes, and three humors; the first membrane is called *tunica adnata*, and covers all that part of the eye that in a man appears white, but in a horse is variegated with streaks and spots of brown, and being reflected back, lines the inside of the eyelids, and by that inversion becomes the means to prevent motes, dust, small flies, or any extraneous matter getting behind the eye-ball into the orbit, which would be extremely dangerous: this coat is full of blood vessels, which appear in little red streaks on the human eye when inflamed; and when there is but little white in the eyes of horses, they appear fiery, and the eyelids, when open and turned back, look red: the second coat has its forepart very strong and transparent, like horn, and is therefore called the *cornea*; and the other part, which is opaque and dark, is called the *schlerotis*; under the *cornea* lies the *iris*, which in a horse inclines to cinnamon color: the middle of this membrane, or coat, is perforated for the admission of the rays of light, and is called the pupil: under the *iris* lies the *processes ciliares*, which go off in little rays, and in a sound eye are plainly to be seen. As often as these *processes* contract, they dilate the pupil, which may always be observed in places where the light is small; but in a strong light, the circular fibres of the *iris* act as a sphincter muscle,

and lessen the size of the pupil; and therefore a dilated and wide pupil, in a strong light, is generally an evidence of a bad eye. Under the *schlerotis* lies the *choroides*, which is the third coat of the eye: in men, it is of a dusky brown, but in horses, the greater part of this coat is white, which enables them to see bodies of all colors better than men in the night, as white reflects all colors.

But horses and other animals that feed on grass, have some parts of this membrane of a light green, which enables them to see with little light, and makes grass an object that they can discern with greatest strength, and therefore it is sometimes called *tunica uvea*, from its resembling a grape. The innermost or fourth coat is called the *membrana retina*, which is only an expansion of the optic nerve upon the *choroides*, and encompasseth the glossy humor like a net. By the continuation of the rays of light upon the fine filaments of this membrane, all the external images are conveyed by the optic nerves to the brain. Within the coats of the eye are seated the three humors that chiefly compose the eyeball; the first is the aqueous or watery humor, which lies foremost and seems chiefly as a proper medium to preserve the crystalline humors from injuries in case of wounds, bruises, or any other external cause. Behind the aqueous humour lies the crystalline lens, in a very firm membrane called *arena*, being like a spider's web—its use is to refract the rays of light that pass through it, so that all the rays proceeding from the same point of any object, being first refracted on the cornea, may be united on the retina—the vitreous humor lies behind the crystalline, being concave on its foreside to make a convenient lodgement for the crystalline, and its hinder part convex agreeable to the globular form of the eye, upon which the *tunica retina* and *choroides* are spread; this humor possesses a space larger than the other two, and being of a hue like a light colored green glass, is a proper medium, not only to keep the crystalline humor and the retina at a proper distance from each other, but by its color, to prevent the rays of light falling too forcibly upon the latter, which might weaken or impair the sight.—SEE APPENDIX—*Article, Eye.*

### Sect. 138.

#### m.—*Diseases of the eye—Augenmængal.—Ger.*

The diseases of the eye are not numerous, but frequent in their appearance, sadly obstinate; baffling all skill, and often very destructive. The eye of the horse is more disposed to disease than that of any other domesticated animal. The varieties of treatment are very numerous; and many, we believe, are undoubtedly at variance with common sense—they certainly are opposed to each other! We shall not attempt to reconcile these differences in the treatment of diseased eyes.

On this topic, we shall submit an extract of J. C. Loudon's *FARRIER*; then add some selections from several popular German authors, leaving the reader to judge, choose and decide for himself.

The principal diseases of the eye are *ophthalmia* and *gutta serena*—*Mondaugen* and *Staar*—*Ger.*

*The ophthalmia, lunatic, or moon-blindness*, is a very peculiar disease among horses, affecting their eyes generally about their full growth, but sometimes later, and sometimes earlier. It is but little known among mules and asses, and unknown in oxen and sheep. It does not, however, appear to be a disease natural to the horse, as wild, or even horses subjected to artificial restraints are not observed subject to it. But among others, it is become so common as to have the tendency handed down in the breed; the progeny of some stallions being more prone to it than others. It is often very sudden in its attack, the eyelids being found swelled and almost closed to avoid the light; they are also very red within, and the haw is half drawn over the surface; the tears flow down the face perpetually, and the whole head is hot; now and then these appearances come on gradually. The suddenness of the attack makes the complaint to be attributed to accident, as blows, hay seeds within the eye, &c., and it is frequently difficult to get the owner of such a horse to believe that a constitutional attack, as it usually is, can come on so suddenly. Sometimes as it comes on, so it goes off quickly, the eye from being opaque and milky, in twenty-four hours becoming clear and almost well. When such an attack has taken place, even if nothing be done, the horse sooner or later amends, and the eye or eyes, for it is sometimes one and sometimes both that are so attacked, become again clear and well, and remain so an indefinite period, from five or six weeks to as many months. Another attack, however, sooner or later follows, to which others succeed, each leaving increased milkiness on the outer coats, and some dimness within the pupil, either speck-like or diffused; and finally the horse becomes blind from cataract. When one eye goes blind totally before the other, it is often a means of preventing the future attack on the remaining one; which has given rise to a custom of putting out one eye to serve the other, and which has succeeded. As this is a constitutional disease, brought on by artificial habits, as over action, close unhealthy confinement, and heating food; it is clear the abstraction of all these are necessary to remove the complaint, and to prevent a recurrence; but particularly the close, dark, and unventilated state of the stable should be attended to, as well as the removal of the litter, which retains the volatile alkali of the urine, and irritates the eyes most injuriously. The food should be mild and cooling, and the exercise moderate but long continued. Under the height of the attack, however, rest is advisable, with moderate light, which may be still further moderated by keeping over the eye or eyes a thick cloth, wet with Goulard water.

The Goulard water is a very useful embrocation in inflammations, and is made of the following ingredients, viz :

No. 20.—*Embrocations.*

Goulard's\* extract, half an ounce; spirit of wine or brandy, one ounce; soft water, one quart—or mindererus spirit,† four ounces; water, twelve ounces.

\* Goulard's extract is a saturated solution of the acetate of lead.

† A solution of the acetate of ammonia; formerly called *Aqua amonix acetatz.*



Sometimes one quart of vinegar to three quarts of water has been found a useful application, and which ever is used, the eyes and eye-brows should be kept continually wet with it, which by exciting evaporation will keep the part cool. A seton may be introduced under the eye or jaw. In some cases, blistering the forehead or cheek is found useful; but in every instance bleeding is proper, which should be repeated until the disease lessens. When the horse is very full and gross, physic and alteratives assist the cure. When blistering is used in any part of the eye, the greatest care is requisite to prevent the blistering matter from being rubbed into it.

#### Sect. 139.

*Gutta serena* or *glass eyes*, so called from the peculiar glassy appearance of the eye, arises from a paralysis of the optic nerve. As the eye is not materially altered in appearance, a horse often becomes blind without its being noticed, until his cautious stepping, quick motion of his ears, &c., give notice of the case. On examination it will be found that the pupil remains dilated, however great the light, and the eye is irrecoverably lost. In the very early stages, blisters to the forehead and stimulants to the eyes, (as white vitriol, a dram; water, four ounces,) may be tried, but with faint hopes of success.

#### Sect. 140.

Extract from George Simon Winters' *Wohlerfahrner Pferde-Arzt*.—CAP. 18.—*Von den Augen*.

Winters says, the causes of diseased eyes, are internal and external; the internal are rheumy and humid complexions, (*Complexionen*;) plethora, bilious acridness of the blood.

The external causes may be smoke, dust, air, intense or great heat, strong penetrating wind, cold, and giving powerful stimuli.

If the seat of pain is in one eye, the other will soon suffer with the other. The frequent return of pains, will cause specks or spots; and often blindness.

There are three kinds of cataracts of the eye, viz: the white, the grey, and the black; the last is incurable.

If the cataract is only slightly opaque and not altogether of a milk color, or white, it may be cured by paying strict attention to the treatment and remedies prescribed below.

*Treatment*.—The first thing to be attended to, is to clyster the animal.

#### No. 21.—*The Clyster*.

Take linseed oil, one-half pound; honey, two ounces; bitter apple and agaric, of each, one-half ounce; aleppo scammony, one dram; extract of acacia bark, two ounces; common salt, a handful; and as much water as is necessary—decoct it well—then take the filtered liquor, two quarts, and inject it warm.

Feed the horse for ten days upon wheat bran, mixed with seeds of goat's thorn, agaric and honey; or, you may administer, for several days in succession, the following drench:

No. 22.—*A drench.*

Spicewood, gentian, birthwort, agaric and elecampane, of each, one-half ounce: mixed, triturated—and add thereto two ounces infusion of violets; and betony, one quart; and give it at once. Or give the following:

No. 23.—*Another drench.*

Jalap, one-half ounce; scammony, four drams; gum gamboge, fennel and anise, of each, one dram; and one quart of wine warmed; mixed and administered at once.

After the horse is clystered and physicked, make boluses of the size of a hen's egg, and give the horse two of them every other day; three hours after administering them, lead or ride him about.

No. 24.—*Boluses.*

Turpentine and honey, of each, two ounces; infusion of fennel, four ounces; and one pound of barley meal; mixed and formed into boluses.

Before you administer the boluses, put asafetida and tar in a small bag, and fasten it upon the bit of the bridle, so that the horse may champ on it while taking exercise.

No. 25.—*Eye salve.*

Pellitory, celandine, red poppy, of each, four drams; and two ounces of honey.

The following ointment or salve, should be applied to the diseased eyes: Take honey, olive oil, fennel juice, of each, one-half ounce—simmer it over a slow fire until it is reduced or diminished one-third, then apply it.

The following powder may be substituted:

No. 26.—*Powder for sore eyes.*

Calcined oyster shells, one ounce; white vitriol, two drams; and one dram of ginger, well triturated; blow daily a small portion into the affected eye. Mix burdock root with his feed.

*Nachrichter* recommends the following as a celebrated eye water:

No. 27.—*Eye water.*

Infusion of celandine, fennel, eyebright, of each, one ounce; pulverized ginger, one-half dram; vitriol, sal ammoniac, of each, one-half dram; and camphor, one scruple—well mixed in a vial, and apply it to the eye two or three times a day.

No. 28.—*Eye water.*

[From the Genesee Farmer.]

Take one ounce of sulphate of iron, or copperas; one-half ounce sulphate of zinc, or white vitriol; one pint of soft water.

Care should be taken to obtain the ingredients pure, and to filter the solution through filtering paper, or several thicknesses of cloth,

in order to purify and free it from the feruginous coloring matter of the copperas.

The following lotion from White's Farrier, may be applied when the eye is highly inflamed:

No. 29.—*Eye water.*

Take tincture of opium, two drams; water of acetated litharge, one dram; pure water, eight ounces; mixed. Or the following:

No. 30.—*Eye water.*

Take extract of hyosciamus or henbane, one dram; pure water, eight ounces; rub them together in a mortar, pouring on the water gradually; and, when perfectly mixed, add, of the water of acetated litharge, one dram. The following, from Loudon, is said to be good:

No. 31.—*Eye water.*

Take brandy, one ounce; infusion of green tea, four ounces; tincture of opium, two drams; infusion of red roses, four ounces.

*Sect. 141.*

We shall close this subject by an extract from Mason, on what is appropriately called "*hooks!*" hooks or haws.

The hooks or haws in a horse, is the growing of a horny substance upon the inner edge of the washer or caruncle of the eye, which may be found in the inner corner, next to the nose. When this disease makes its appearance, the washer or caruncle is enlarged with great rapidity, and the ligament that runs along the edge of its membrane, becomes extremely hard, or like a cartilage; and whenever it arises to this state, it draws, compresses, and causes great pain to the eyes, produces a tightness of the skin, a stiffness of the hind-legs, and finally a general spasmodic affection throughout the whole system.

As the eyes of a horse are often inflamed, and sometimes diseased, without their having the hooks, for the purpose of ascertaining the fact, take hold of the bridle, and raise the horse's head as high as you can with convenience reach: if he is diseased with the hooks, the washer or caruncle of the eye, while his head is raised up, will cover at least one-half the surface of the eye ball. When this is the case, take a common sized needle with a strong thread, place on the horse's nose a twitch, to prevent his moving; then take in your thumb and finger the washer or caruncle of the eye, and pass the needle through it about a quarter of an inch from the outer edge, and inside the horny substance: draw it gently with the needle and thread, until you have a fair chance of performing the operation; then with a sharp knife cut the piece out, taken up with the needle, which must not be larger than one-fourth the size of a fourpence half-penny; wash the eyes for two or three mornings with salt and water, bathe his legs up to his belly in equal parts of warm vinegar, spirit and oil, or fresh butter, and give a mash of one and a-half gallons of bran or oats, one table spoonful flour of sulphur, one tea spoonful saltpetre,

and the cure will be performed in all probability in four or five days. Great care should be taken not to cut too large a piece from the caruncle, as it disfigures the eyes, and sometimes produces blindness.

*On cutting out Hooks or Haws.*

[From the American Farmer.]

“ Before I was acquainted with this subject, two years ago, I had two fine young horses sacrificed to this mistaken and ruinous operation. Ignorant quacks do not know that the horse has a membrane\* peculiar to the animal, which is at pleasure drawn over the eye. The enlargement of this, by a fever, produces the appearance, which, in jockey slang, is called the hooks. Reduce the fever by depletion, such as bleeding plentifully, purging, &c., and have the horse well rubbed, and the hooks will disappear; that is, the membrane is restored to its natural size and office, which is to clear the eye from dust, &c., accidentally entering it. I need not mention the cutting out of this useful membrane unnecessary, as I have proved the uselessness of this operation, by restoring a horse without it a few days ago.

W. V. MURRAY.

*Sect. 142.*

*n.—Diseases of the nose and mouth.*

The horse, as we remarked some pages back, is subject to many complicated diseases, in a domesticated state; nearly every part of minutest anatomical description, appears to be the seat of some, and of several nearly allied diseases.

Before we proceed to speak of the diseases of the nose, we shall add a remark of some importance.

The horse can breathe only through the nose; all the air which goes and returns from the lungs must pass through the nostril: hence, as is well known to intelligent persons, that the nose, and its membranes, presenting an extensive surface, are excellent criteria, when sufficient attention is paid thereto, to judge of the character and degree of many diseases. The sympathy of this organ is greater than almost of any other; and the changes produced by disease are more striking and more conclusive, than those of the eyelids, by

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\* This membrane is commonly called the *haw*. The *membrana nictitans* is one of the most striking pieces of mechanism in existence; it is a *third* eyelid given to those animals that have no hands, or have not the power of reaching their eyes with their limbs, to remove dirt or small particles from their eyes. Men and monkeys, who are furnished with hands, are denied the *nictating membrane*; the horse and most other quadrupeds are furnished with this *eye-wiper*. It is an indispensable and important membrane; it can be distinctly seen when the eye is drawn inwards, but it is at all other times hidden within the fatty matter surrounding the globe of the eye. Whenever the eye becomes, from some internal or external cause, inflamed, this cartilaginous membrane shows itself, and is then frequently cut off, by quacks, under a suspicion that it is the cause of the disease of the eye!! The horse then usually goes blind afterwards.—*Compiler*.

which many judge. In the healthy state of the horse, the membrane of the nose is uniform pale pink. When the system is somewhat excited, then the color is of an increased blush of red. The blush becomes streaked red when inflammation begins and threatens to increase. In acute inflammation, the membrane is of an intense florid red. When it presents a pale ground, with patches of vivid red, it shows that the fever is half subdued, but still some existing fever. "The uniform color, although somewhat redder than natural, predicting a return to a healthy circulation; the paleness approaching the white, marking the stage of debility, and sometimes intermingled with radiations of crimson, inducing the suspicion of lurking mischief; and the dark livid color, of approaching stagnation of the vital current:—These, with all their shades of difference, will be guides to his opinion and treatment, which every one, who has studied them, will highly appreciate."

Sect. 143.

*Nasal-gleet—Nas-Eiter.—Ger.*

The gleet is a diseased state of the nasal cavity, discharging a slimy mucus or viscid fluid. This may be properly called nasal gleet; we would choose to call it "the incipient stage of glanders;" for, if not controlled in this stage, it will terminate in glanders. There is a constant secretion of fluid to lubricate and moisten the membrane which lines the cavity of the nose, which, under catarrh or cold, is increased in quantity, and altered in appearance and consistence. This will properly belong to catarrh or cold. But the gleet is a continued, and oftentimes profuse discharge, when every symptom of catarrh and fever has passed away; an almost incredible quantity of thickened mucus, of different colors, is discharged, much resembling the color of the food he eats. If he feeds on grass, the color is green; if he is stabled, it will be white, straw colored, brown, or even bloody, and sometimes mingled with pus; and either constantly running, or snorting out in masses many times in the day; teasing the horse; and a perfect nuisance in the stable and the rider. It continues for months sometimes, and eventually destroys the horse.

*Cause.*—Winters ascribes this, and kindred diseases, to a viciation of the sanguineous, lymphatic and excrementitious fluids, which may be corrupted by too violent exercise of the animal, overfeeding, &c. The books we have consulted, say very little about the causes of this disease.

*Symptoms.*—These we have already given in the attempt to define the disease. To distinguish the gleet from catarrh, pay attention to the discharge; if it is a "thickened mucus of different colors, and the discharge continues," it is gleet.

*Treatment and cure.*—Bleed, and give physic No. 3 or 4, Sect. 128. Then give him one dram, once a day, of the following tonic preparation:

No. 32.—*Tonic alterative.*

Take gentian, aloes, ginger, blue vitriol, of each, two drams; oak or dogwood bark, powdered, one ounce; mix, and give it in a mash.

Prepare the following lotion or wash, squirt it into the nostrils, and wash them well:

Take vinegar or wine, one quart; salt and alum, of each, one ounce. After using the wash for several days, prepare the following ointment; use as directed below:

No. 33.—*Ointment.*

Take unslaked lime, four ounces; ashes and honey, of each, two ounces; vinegar and wine, of each, as much as is necessary; mix it, make a liquid ointment, and with a sponge on the end of a stick, anoint the parts affected.

No. 34.—*Another ointment—to be used as No. 33.*

Take alum and salt, of each, one ounce; calcined lead, one and a-half ounces; sal ammonia, one-half ounce; ceruse, two ounces; mix it with as much vinegar and honey as to make a soft ointment. A few hours after the application of these ointments, the nostrils should be carefully washed with warm milk, fresh from the cow, by means of a syringe.

We have been assured by an experienced Farrier, that the above has been tried and attended with success, when all other cures had failed.

## Sect. 144.

*Glanders—Rotz or Schnuder.—Ger.*

This monstrous disease has been called by various names; by way of distinction, it is styled "*the opprobrium medicorum*," by writers on the diseases of horses. Loudon says that all attempts hitherto, have failed to cure the glanders. If this is true, it may properly be considered the most formidable disease to which the noblest of quadrupeds is liable.

After examining from six to ten different authors, with a view to select something to the point, we have concluded to insert an article from the Library of Useful Knowledge, modified by Mr. Barnum, editor of the Farmer's Reporter—and we shall add something from various English and German books; then conclude with an extract from our German author, Dr. Winters, believing that the reader will be instructed in much that is worth knowing in reference to this disease. *Barnum's* article we shall insert, as it stands, without changing it to conform to our general order, as to *disease, cause, symptom, &c.*

## Sect. 145.

*Glanders.*—It was described by writers fifteen hundred years ago, and it was then, and is now, not only a loathsome, but an incurable

disease; we shall therefore principally confine ourselves to the consideration of its symptoms, nature, and causes, and prevention, and degree of contagion, and these will afford much matter of interest to the farmer.

*Symptoms.*—If we could obtain an authentic history of the glandered horse, we should find that, in the majority of instances, if the disease were bred in him, he had been dull, off his feed, losing flesh, and his coat staring; and that these appearances had for several weeks preceded the characteristic symptoms of glanders. These symptoms, however, may lead to, or be the causes of other diseases, or they may pass away, and the horse may return to perfect health. That which would be considered as the earliest, and an unquestionable symptom of glanders, would be an increased discharge from one or both nostrils; different from the discharge of catarrh, because it is usually lighter and clearer in its color, and more glutinous or sticky. When rubbed between the fingers it has, even in an early stage, a peculiar, clammy, bird-limy feel. It is not discharged occasionally, and in large quantities, like the mucus of catarrh, but it is constantly running from the nostril.

It is a singular circumstance, for which no satisfactory account has yet been given, that when one nostril alone is attacked, it is, in a great majority of cases, the near or left. M. Dupuy, the Director of the Veterinary School at Toulouse, gives a most singular account of this. He says that out of eight hundred cases of glanders that came under his notice, only one was affected in the right nostril.

This discharge, in cases of infection, may continue, and in so slight a degree, as to be scarcely perceptible for many weeks or months, before the health and capabilities of the horse seem to be injured. It will remain for a long time almost transparent, yet gluey; and then it will begin to be mingled with pus; retaining, however, its sticky character, and being rarely offensive in the early stages. The constant flow of this secretion, and its stickiness, with the absence of cough either before or during the discharge, will be the only symptoms. In process of time, however, pus mingles with the discharge, and then another and a characteristic symptom appears. Some of this is absorbed, and the neighboring glands become affected; and, if there be discharge from both nostrils, the glands within the under jaw will be on both sides enlarged. If the discharge be from one nostril only, the swelled gland will be found on that side alone. Glanders, however, will frequently exist at an early stage without these swelled glands, and some other diseases, as catarrh, will produce them. Then we must look out for some peculiarity about these glands, and we shall readily find it. The swelling may be at first somewhat large and diffused, but the surrounding enlargement soon goes off, and one or two small distinct glands remain; and they are not in the centre of the channel, but adhere closely to the jaw on the affected side.

*Sect. 146.**To judge from the nasal membrane.*

The membrane of the nose may now be examined, and will materially guide our opinion. It will either be of a dark purplish hue, or almost of a leaden color, or of any shade between the two; or, if there be some of the redness of inflammation, it will have a purple tinge; but there will never be the faint pink blush of health, or the intense and vivid red of usual inflammation. Spots of ulceration will probably appear on the membrane covering the cartilage of the nose; not simple sore places, or streaks of abrasion, and quite superficial, but small ulcers usually approaching to a circular form, deep, with the edges abrupt and prominent. When these appearances are observed, there can be no doubt about the matter. Care should be taken, however, to ascertain that these ulcers do actually exist, for spots of mucus adhering to the membrane have been more than once taken for them. The finger should, if possible, be passed over the supposed ulcer, to determine whether it can be wiped away; and it should be recollected, as we have already hinted when describing the duct that conveys the tears to the nose, that the orifice of that duct, just within the nostril, and on the inner side of it, has been mistaken for a cancerous ulcer. This orifice is on the continuation of the common skin of the muzzle which runs a little way up the nostril, while the ulcer of glanders is on the proper membrane of the nose above; and the line of separation between the two is evident on the slightest inspection.

It is proper to state that this discharge has continued unattended by any other disease, or even by ulceration of the nostril for two or three years, and yet the horse was decidedly glandered from the beginning, and capable of propagating the malady.

When ulcers on the membrane of the nose have appeared, the constitution will be evidently affected. The horse will lose flesh; his belly will be tucked up; his coat will be unthrifty, and readily come off; cough will be heard; the appetite will be impaired; the strength will fail; the discharge from the nose will grow more purulent, discolored, bloody, stinking; the ulcers in the nose will be larger and more numerous; and the air-passages being obstructed, a grating, choking noise will be heard at every act of breathing. The lungs are now diseased; they are filled with tubercles or ulcerations; and the horse at length dies, an emaciated and loathsome object.

*Sect. 147.**Variation of symptoms.*

The symptoms frequently vary, and to a most puzzling degree. The discharge will be so slight as scarcely to be perceived, and known only by its stickiness; and the glands will not be in the least degree enlarged. At other times a very small enlarged gland may be found, adhering to the jaw, and may be stationary month after month, and



the surgeon may be told that there has never been discharge from the nose. He will, however, be wrongly informed here; it has most assuredly existed, although perhaps to no great degree, at some former period, and he will generally, without much difficulty discover it then, although perhaps in so small a quantity that the groom or carter will deny its existence; and he will principally satisfy himself with respect to it, by its gluey feeling.

Sect. 148.

*How distinguished from strangles.*

*Glanders* have often been confounded with *strangles*, and by those who ought to have known better. *Strangles* are peculiar to young horses. The early stage resembles common cold, with some degree of fever and sore throat; generally with distressing cough, or at least frequent wheezing; and when the enlargement appears beneath the jaw, it is not a single small gland, but a swelling of the whole of the substance between the jaws; growing harder towards the middle; and after a while appearing to contain a fluid, and breaking. In *strangles*, the membrane of the nose will be intensely red, and the discharge from the nose profuse, and purulent, or mixed with matter almost from the first; and when the tumor has burst, the fever will abate, and the horse will speedily get well.

Should the discharge from the nose continue for a considerable time after the horse has recovered from *strangles*, as it sometimes does, there is no cause for fear. Simple *strangles* need never degenerate into *glanders*. Good keep, and small doses of the blue vitriol given internally, will gradually make all right.

*Glanders* have been confounded with catarrh or cold, but the distinction between them is plain enough. Fever accompanies cold, and loss of appetite, and sore throat; the quidding of the food, and gulping of the water are sufficient indications of the latter of these; the discharge from the nose is profuse, and perhaps purulent; and the glands under the jaw, if swelled, are moveable, and there is a thickening around them, and they are tender and hot. With proper treatment the fever abates; the cough disappears; the swellings under the throat subside, and the discharge from the nose gradually ceases; or, if it remain, it is usually very different from that which characterizes *glanders*. (In *glanders*, there is seldom cough of any consequence, and, generally, no cough at all.

A running from the nose, small in quantity, and from the smallness of its quantity drying about the edges of the nostril, and so presenting some appearance of stickiness, will, in a few cases, remain after severe catarrh, and especially after the influenza of spring; and these have gradually assumed the character of *glanders*, and more particularly, when they have been accompanied by enlarged glands and ulceration in the nose. Here the aid of a judicious veterinary surgeon is indispensable; and he perhaps will experience considerable difficulty in deciding the case. One circumstance will principally guide him. No disease will run on to *glanders* which has not, to a

considerable and palpable degree, impaired and broken down the constitution; and every disease that does this will run on to glanders. He will look then to the general state and condition of the horse, as well as to the situation of the glands, the nature of the discharge and character of the ulceration.

If, after all, he is in doubt, an experiment may be resorted to, which wears indeed the appearance of cruelty, and which only the safety of a valuable animal, or of a whole team, can justify; he will inoculate an ass or a horse already condemned to the hounds with the matter discharged from the nose. If the horse be glandered, the symptoms of glanders or farcy will appear in the inoculated animal in the course of a few days.

*Sect. 149.*

*Tubercles.*

The history we have given of the symptoms of glanders will pretty clearly point out its nature. It is an affection of the membrane of the nose. Some say that it is the production of tubercles, or minute tumors in the upper cells of the nose, which may long exist undetected, and hard to be detected except by a scarcely perceptible running from the nostril, caused by the slight irritation which they occasion. These tubercles gradually become more numerous; they cluster together, suppurate, and break; and small ulcerations are formed. The ulcers discharge a poisonous matter, which is absorbed and taken up by the neighboring glands, and which, with greater or less rapidity, vitiates the constitution of the animal, and is capable of communicating the disease to others. Other surgeons content themselves with saying that it is an inflammation of the membrane of the nose, which may assume an acute or chronic form, or in a very short time, or exceeding slowly, run on to ulceration.

The malady proceeds as we have already described it, but, before its termination, becomes connected with farcy. Few horses die of glanders without exhibiting some appearance of farcy; and farcy in its latter stages, is almost invariably accompanied by glanders:—they are different forms or stages of the same disease.

There can be no doubt that the membrane of the nose is the original seat of glanders; that the disease is for a time purely local; that the inflammation of the tubercles must proceed to suppuration before that matter is formed on which the poisoning of the constitution depends; that the whole circulation does at length become empoisoned; and that the horse is destroyed by the general irritation and disease produced.

Glanders may be either bred in the horse, or communicated by contagion. What we have further to remark on this malady will be arranged under these two heads:

*Sect. 150.**Contracting the disease.*

Improper stable management we believe to be a far more frequent cause of glanders than contagion. The air which is necessary to respiration is changed and poisoned in its passage through the lungs, and a fresh supply is necessary for the support of life. That supply may be sufficient, barely to support life, but not to prevent the vitiated air from again and again passing to the lungs, and producing irritation and disease. The membrane of the nose, possessed of extreme sensibility for the purposes of smell, is easily irritated by this poison, and close and ill-ventilated stables oftenest witness the ravages of glanders. Professor Coleman relates a case which proves to demonstration the rapid and fatal agency of this cause. "In the expedition to Quiberon, the horses had not been long on board the transports, before it became necessary to shut down the hatchways (we believe for a few hours only;) the consequence of this was, that some of them were suffocated, and that all the rest were disembarked either glandered or farcied."—*Percival*.

In a close stable, the air is not only poisoned by being repeatedly breathed, but there are other and more powerful sources of mischief. The dung and the urine are suffered to remain fermenting, and giving out injurious gases. In many dark and ill-managed stables a portion of the dung may be swept away, but the urine lies for days at the bottom of the bed, the disgusting and putrefying nature of which is ill concealed by a little fresh straw which the lazy horsekeeper scatters over the top.

*Sect. 151.**Importance of keeping stables clean.*

The stables of the gentleman are generally kept hot enough, and far too hot, although, in many of them, a more rational mode of treatment is beginning to be adopted; but they are lofty and roomy, and the horses are not too much crowded together, and a most scrupulous regard is paid to cleanliness. Glanders seldom prevail there. The stables of the farmer are ill-managed and filthy enough, and the ordure and urine sometimes remain from week to week, until the horse lies on a perfect dunghill, while there is no declivity to drain away the moisture, nor any regular pavement to prevent it from soaking into the earth, nor any water to clean even the surface, but the only instrument of purification is an old stumped broom. Glanders seldom prevail there; for the same carelessness which permits the filth to accumulate leaves many a cranny for the wind to enter, and sweep away the deleterious fumes from this badly roofed and unceiled place.

The stables of the horse-dealer are hot enough; but a principle of strict cleanliness is enforced, for there must be nothing to offend the eye or the nose of the customer; and there glanders are seldom

found. But if the stables of many of our post-horses, and of those employed on our canals, be examined, almost too low for a tall horse to stand upright; too dark for the accumulation of filth to be perceived; too far from the eye of the master; ill-drained, and ill-paved; and governed by a false principle of economy, which begrudges the labor of the man, and the cleanliness and comfort of the animal; these will be the very hot-beds of the disease, and in many of these establishments it is an almost constant resident.

When speaking of inflammation of the eye, and the effect of ill-ventilated stables in producing it, we remarked that the urine of the horse contained an unusually large quantity of hartshorn; and the litter wetted by it was disposed most rapidly to ferment, and that the gases extricated must be extremely prejudicial to so delicate an organ. It may, then, be easily imagined that the constant presence of those pungent fumes, and the irritation which they would cause on that membrane which is the very seat of smell, must predispose for, and often generate a disease which is primarily an affection of this membrane.

Glanders may be produced by any thing that injures, or for a length of time acts upon, and weakens the vital energy of this membrane. They have been known to follow a fracture of the bones of the nose. They have been the consequence of violent catarrh, and particularly the long continued discharge from the nostrils, of which we have spoken. They have been produced by the injection of stimulating and acrid substances up the nostril; and every thing that weakens the constitution generally, will lead to glanders. It is not only from bad stable management, but from the hardships which they endure, and the exhausted state of their constitution, that post and machine horses are so subject to glanders; and there is scarcely any inflammatory disease to which the horse is subject, that is not occasionally wound up and terminated by the appearance of glanders.

#### Sect. 152.

*Glanders, however, are highly contagious.* The farmer cannot be too well aware of this; and, considering the degree to which they often prevail, the legislature would be justified in interfering by some severe enactments, as they have done in the case of the small pox in the human subject. The early and marked symptom of glanders is a discharge from the nostrils of a peculiar character; and if that, even before it becomes purulent, be rubbed on a wound, or on a mucous surface, as the nostrils, it will produce a similar disease.—Glanders are not communicated by the air or breath. If the division between two horses were sufficiently high to prevent all smelling and snorting at each other, and contact of every kind, and they drunk not out of the same pail, a sound horse might live for years, uninfected, by the side of a glandered one. The matter of glanders has been mixed up into a ball, and given to a healthy horse, without effect; yet in another experiment of the same kind, the poor animal died.—The mouth or gullet had probably some small wounds or ulcers in it.

Some horses have eaten the hay left by those that were glandered, and no bad consequence has followed; but others have been speedily infected. The glanderous matter must come in contact with a wound, or fall on some membrane, thin and delicate like that of the nose, and through which it may be absorbed. It is easy, then, accustomed as horses are to smell each other, and to recognize each other by the smell; eating out of the same manger, and drinking from the same pail, to imagine that the disease may be very readily communicated. One horse has passed another when he was in the act of snorting, and has become glandered. Some fillies have received the infection, from the matter blown by the wind across a lane, when a glandered horse, in the opposite field, has claimed acquaintance by neighing or snorting. It is almost impossible for an infected horse to remain long in a stable with others, without irreparable mischief.

If some persons underrate the danger, it is because the disease may remain unrecognized in the infected horse for some months, or even years; and therefore when it appears, it is attributed to other causes, or to after inoculation. We would deeply impress it on the mind of the farmer, that no glandered horse should be employed on his farm, in any kind of work, or permitted to remain for a day on his premises: nor should a glandered horse be permitted to work on any road, or even to pasture on any field. He may be capable of work for years after the disease has become undoubted, but mischief may so easily and extensively be effected, that the public interest demands that every infected animal should be summarily destroyed, or given over for experiment to a veterinary surgeon, or recognized veterinary establishment.

#### Sect. 153.

*Remedy.*—Our opinion of the treatment of glanders is implied in what we have just stated. There are a few instances of the spontaneous cure of chronic glanders, or glanders long established and slow in their progress. The discharge has existed for a considerable time; at length it has gradually diminished, and has ceased without medical treatment; but in the majority of these supposed cases, the matter was only pent up for a while, and then, bursting from its confinement, flowed again in double quantity: or if glanders have not re-appeared, the horse, in eighteen or twenty-four months, has become farcied, or consumptive, and died. We view these cures with much suspicion: but even allowing that some have occurred, they are so few and far between, that our expressed opinion of the incurable nature of the disease, in the present state of veterinary knowledge, is scarcely affected. *As for medicine*, there is scarcely a drug to which a fair trial has not been given, and many of them have had a temporary reputation; but they have passed away, one after the other, and are no longer used. *The blue vitriol and the Spanish-fly* have held out longest, and in a few cases, either nature, or these medicines, have done wonders; but, in the majority of instances, they have palpably failed. Where the life of a valuable animal is at stake, and the owner takes every precaution to prevent infection, he may subject the horse to medical treatment; but we indignantly object to the slitting of the

nostril, and scraping of the cartilage, and searing of the gland, and firing of the frontal and nasal bones, and to those injections of pepper and mustard, corrosive sublimate and vitriol, by which the horse has been tortured, and the practitioner disgraced. At the veterinary school, and by veterinary surgeons, it will be most desirable that every experiment should be tried to discover a remedy for this pest; but, in ordinary instances, he is not faithful to his own interest or that of his neighbors, who does not remove the possibility of danger in the most summary way.

*Sect. 154.*

*Infection left in the stable.*

Supposing that glanders have made their appearance in the stables of a farmer, is there any danger after he has removed or destroyed the infected horse? Certainly there is, but not to the extent that is commonly supposed. There is no necessity for pulling down the racks and mangers, or even the stable itself, as some have done. The poison resides not in the breath of the animal, but in the nasal discharge, and that can only reach certain parts of the stable; and if the mangers, and racks, and bales, and partitions, are first well scraped, and next scoured with soap and water, and then thoroughly washed with a solution of the chloride of lime, (one pint of the chloride to a pailful of water,) and the walls are lime-washed, and the head-gear burned, and the clothing baked and washed, and the pails new painted, and the iron-work exposed to a red heat, all danger will cease.

*Sect. 155.*

*Jockey's tricks.*

The tricks which some dealers resort to at fairs and markets, in order to conceal the existence of glanders, are most infamous, and should be visited with the severest penalty of the law. Having given the horse a brushing gallop, that he may thoroughly clear the nose, some of them blow powdered alum up the nostrils a little while before he is shown; others use white vitriol; and although the horse may be sadly tortured, about which they care nothing, the discharge is for some hours stayed. Others roll up a pledget of tow, and introduce it into the nostril, sufficiently high to escape common observation. Both these tricks may be discovered by the uneasiness of the animal, and his repeated efforts to sneeze, as well as by his general appearance, and if the disease be far advanced, most assuredly by the red or raw appearance of the nose, and by the stinking breath.

*Sect. 156.*

*Prevention of glanders.*

Happy should we be, if we could say anything satisfactory of the *prevention* of glanders. The danger from exposure to infection can scarcely be avoided by those who travel much, and whose horses

must stand in stables, the inmates of which are so promiscuous, and so frequently changed. Although we cannot prevent contagion, we have more power in preventing the disease from occurring without contagion, and that is a point of importance, at least if the opinion of Professor Coleman be correct, that not one horse in a thousand receives the disease from contagion. To this, however, we cannot subscribe, for not only the history of cavalry regiments, but the experience of every breeder and proprietor of horses will prove the infectious nature of the complaint.

No fact is more certain, than that he who will keep a glandered horse in his stable, or work him in his team, will sooner or later lose the greater part of his stud. However, the generation of the disease may certainly be much prevented, and the first and most effectual mode of prevention will be to keep the stables cool and well ventilated, for the hot and poisoned air of low and confined stables is one of the most prevalent causes of glanders.

Next to ventilation stands cleanliness; for the foul air from the fermenting litter, and urine and dung, must not only be highly injurious to health generally, but irritate and predispose to inflammation that delicate membrane, which is the primary seat of the disease. If to this be added regular exercise, and occasional green meat during the summer, and carrots in the winter, we shall have stated all that can be done in the way of prevention. The farmer's horse, in his cool or cold stable, and during the greater part of the year running loose when not at work, would be exempt from glanders, if, at the market and the fair, he were not so much exposed to contagion. In truth, glanders may be considered as the consequence of the stabling of the horse. In South America and in Arabia, they are unknown; but wherever the European plan of stabling has been introduced, glanders have followed in its train: and therefore if any means are resorted to for the cure of glanders, the first, and perhaps the only effectual one would be to remove every exciting cause of the disease; to restore the horse almost to a state of nature; to turn him out for a long time, or at least to throw open his stable as much as the season and the weather will permit. Experience, however, tells us, that although the symptoms have disappeared when the exciting causes of disease have been removed, and the horse has returned to his stable after a twelve month's run, apparently sound, every symptom has gradually shown itself again, when these causes have been once more called into action.

#### Sect. 157.

From a careful examination of English and German authors on this subject, we are strongly inclined to think that the glanders are not wholly incurable. We find a few well attested cases; these should therefore encourage the owner of a horse, if he is a valuable one, to make an attempt to save the animal. This attempt should be made in the earliest stage of the disease; if it becomes chronic, there is no remedy—various are recommended. White recommends the mildest preparations of mercury, as *æthiops mineral*; under the conviction

that the more acrid preparations disturb the powers of the constitution so much, as to destroy it as effectually as the disease.

Clark recommends the daily administration of a drink or ball, composed of the following ingredients:

No. 35.—*Glander ball or drink.*

Take sulphate of zinc, fifteen grains; cantharides, powdered, seven grains; allspice, powdered, fifteen grains; of which he gives one or two extraordinary proofs of utility.

*Sect. 158.*

The following is from J. M. G. Jefferies' book, Chambersburg edition, page 306:

*For the glanders.*

“*The remedy.*—Take goose grease, any quantity you like, and rub it on the poll and nape of the neck as occasion requires; I have in a great degree experienced its efficacy in some sort in this disorder, yet not in a case of desperacy, with success. I am quite of opinion, provided the spine is not too far ulcerated, that this remedy, and fuming at the nostrils with asafetida and castor, and two or three drinks of the decoction of sassafras root, a quarter of an ounce of gum guaiacum dissolved in it, given lukewarm, will perfect a speedy cure. This remedy seems to be nearly calculated for the disorder in desperate cases; the goose grease thus used, will cause any common running at the nostrils speedily to evacuate, disperse and dry up, which I proved.”—*Proved.*

*Sect. 159.*

*Dr. Nachrichten* is of opinion that the cause of glanders in the horse, is in its general character, not unlike the venereal poison in the human subject; that it is a disease which disorders the whole body most violently; that it spreads and diffuses itself by a kind of fermentation and assimilation of matter; and that the nose is the place of discharge. His course of treatment is to purify the blood and correct the lymphatic system.

No. 36.—*Physic.*

Take burdock root, two handfuls; guaiacum wood and sassafras root, of each, one-half pound; rhubarb, four ounces; senna leaves, one ounce; sedlizer salt or epsom salts, one and a-half ounce; jalap, pulverized, one and a-half ounce; fennel, one-half ounce.

The burdock, guaiacum and sassafras, put into a crock with three quarts of water, and boil it slowly for one hour; then put in the other ingredients, and add four ounces of honey; let it stand ten hours; then filtrate, and drench the horse on an empty stomach. Every third day, repeat this drink, and instead of feeding the horse oats, give him bran mixed with hot water; ride the horse one hour every day.

Further, make an astringent wash of the following ingredients:



No. 37.—*Astringent wash.*

Take alum and white vitriol, of each, four ounces; calcine them; put the compound into a vessel; add three pints of rose water; then dissolve one ounce and a-half of camphor in rye whiskey, till it is saturated; pour this solution into the other vessel. Take of this mixture and squirt a portion of it three times a day into the horse's nose; this will increase the flow of matter, till it is wholly evacuated, and will effect a cure in many instances. But if the glands about the jaw-bone are swollen, or can be felt, the horse is not cured; the dregs of this disease are still there. Hence, it is necessary to cause the swollen parts to suppurate, and thus remove the virus. Make the following plaster, and apply it externally over the swollen glands:

No. 38.—*Plaster for swollen glands.*

Take flaxseed, one-half pound; and the seed of goats' thorn, four ounces; pulverize it; put it into a crock containing three pints; place it over a slow fire till the contents are reduced to a pulp; add to the pulp a-half pound of salve of marshmallows; make a poultice, and apply it. This will cause it either to suppurate, or it will act as a discutient. If it has not this effect, the glands must be cut out. The wound is to be treated as directed in **CHAP. XIII.—Article, Treatment of wounds.**—SEE ALSO APPENDIX.—*Article, Glanders.*

*Sect. 160.*

Another extract from the same author, headed "*Die beste und sicherste methode:*" "The best and safest method."

1. Bleed the diseased horse freely; early the first day; open both the bronchial and jugular veins.

2. The second and third day, give him a purifying powder in his feed, or as a drink. Do not suffer him to eat or drink afterwards for several hours. From one to two ounces of the following powder should be given at one time:

No. 39.—*Cleansing powder.*

Take hazelwort, carline thistle, white gentian root, fenugreek, of each, four ounces; anise, bay berries, black hellebore, of each, one-half ounce; juniper berries, half a handful; flaxseed, four ounces; reduce the whole to a powder, and feed from one to two ounces at a time.

3. The third day, if the powder has operated, it may be omitted being given.

4. The fourth day, the following mercurial preparation is used or adhibited:

No. 40.—*Mercurial preparation.*

Take mercur. viv., one ounce; laurel oil, three ounces; fat of a dog, three ounces; olive oil, eight ounces.

The mercury must be rubbed in a mortar with spirits of turpentine till it is completely dissolved; then mix with it the dog's fat and olive oil, and give it to the horse early next morning, and ride or lead him about till he becomes warm. He should have nothing to eat in the forenoon. He should be well covered with blankets, and kept warm.

N. B.—In relation to the dose, the age and strength of the horse must be consulted.

5. No medicine is to be administered the fifth, sixth, and, according to circumstances, the seventh day.

6. The seventh and eighth day the horse is to be bled as before, but on the other side of the neck; upon which, give the following powder with his first feed in the morning—dose, from one to two ounces :

#### No. 41.—*Cleansing powder.*

Take brimstone, four ounces; asafetida, one and a-half ounce; Barbadoes aloes, one ounce; cremor tartar, one ounce; ground ivy, a handful; savine, four ounces; bay berries, four ounces; lungwort, two handfuls; centaury, two handfuls; hazelwort and black hellebore, two ounces; woundwort, betony, fennel, hyssop, of each, one ounce; crude antimony, eight ounces; pulverized, and mixed.

7. This powder is to be given for ten or twelve days. The horse is to be bled again in the same veins where the cure was commenced. At the expiration of ten days, give the powder every second or third day, till the horse is cured.

#### *Remarks.*

1. The herbs and roots must be of the best that can be procured, and be well pulverized.

2. If the disease is deeply rooted, continue longer with the cleansing powders.

3. The throat, jaws, and affected parts, to be daily anointed or greased with laurel oil, or a warm poultice to be applied, made of *scorophularia*, or some other emollient poultice.

4. The horse should not be suffered to drink cold water. Should be fed on moist food, manger meat, or green food.

5. While the mercurial preparation is given, the horse must not be exposed to wet or cold; but be kept in a warm stable, and be moved about in the stable, or a covered shed, to afford him exercise.

6. Should the diseased animal be a mare with foal, divide the doses.

7. The stable must be kept perfectly clean; well ventilated.

#### *Sect. 161.*

Dr. Winters says there are two varieties of glanders. The one is incurable; the other curable if not too long neglected. The cause of this disease is a great irregularity of the sensorial functions.

The symptoms of both varieties are nearly alike. He enumerates the following:

1. If the horse has been ridden till warm, and if you compress the windpipe, he seems to suffocate.
2. The pus, or matter, dropping from the nose into the water, sinks to the bottom.
3. The flow of matter is unceasing.
4. If the matter is white, and not offensive to the smell, the disease is curable.
5. If the pus is yellow, or reddish, or tinged with blood, it is incurable.
6. Horses affected with glanders will eructate occasionally a foul humidness.
7. He will let much of the water pass from the mouth as he is drinking, mingled with pus.
8. Hang the head low, and droop the ears.
9. Breathe with difficulty, or heavily.
10. Refuse occasionally to drink or eat.
11. Affected with cough; drawing in the flanks very much.
12. The nostrils feel cold.
13. Become lean and lazy.
14. The mane is easily pulled, or sheds spontaneously.
15. An offensive smell passes from the mouth and nose.

*Treatment.*—Bleed at the neck; not too largely. The next day give the following potion:

No. 42.—*Drench.*

Take fennel, one ounce; licorice wood, two ounces; colt's foot, three handfuls; honey, six ounces; wine or water, three quarts—mixed; simmered over a slow fire; filtrated, and administer it warm in two doses.

Then give physic No. 17, Sect. 136. After which, give the horse of the following preparation:

No. 43.—*Tonic physic.*

Take myrrh, four drams; birthwort and gentian, of each, eight drams; laurel and sarsaparilla, of each, two ounces; jalap and soldanel, of each, one ounce; agaric, two ounces; honey, twelve ounces; wine, two quarts—mix; divide it into four portions; give a dose each day, for four days.

Stable attendance should be the best. The horse should be ridden, or moved about, daily. The food should be moistened oats or bran. His daily drink should be as given below.

No. 44.—*Glanders-drink.*

Take centaury, three handfuls; garlic and ginger, of each, three ounces; garden cress seed, two ounces; calamus, four ounces; licorice root, one pound; agaric, two ounces; turbith, one ounce; elder root, two ounces; honey, two quarts. Add to these sixteen gallons of water, and put it into a kettle, slowly simmered. Of this decoction, mix the horses drink daily. His drink should not be cold.

N. B.—A friend has just handed us a “leaf” from a little work by P. Montague, Gent., printed Dublin, Ireland, 1763, which we here subjoin. The “leaf” is part of a dialogue between the doctor and the groom.

*Groom.*—What method do you pursue to cure this distressing disease, the glanders?

*Dr. P. Montague.*—The method of cure I shall lay down has lately cured upwards of fifty horses, out of three-score; and provided my directions are carefully observed, I very much question if one in a hundred would miss of a cure. You are first to procure a close warm stable; keep the horse a day or two with small quantities of choice hay, and scalded bran; then, over night blow up his nostrils as much asarabacca, in fine powder, as will lie on a six-pence, and repeat it again in the morning; his drink to be a weak lime-water; and this you may follow four or five days: then take two ounces of elecampane roots; boil them in a quart of milk till they are soft enough to mingle with it, which you are to give to the horse while it is warm; continue these three or four days; and afterwards give Markham's moss-water, which is thus prepared: Take two handfuls of white moss, which grows on old oaken pales, and boil it in two quarts of milk till near one quart be wasted; then strain it, squeeze the moss well, and give it the horse milk warm: this you may continue four or five days; and about an hour after you have given the drink each day, proceed as follows: Take the quantity of a pullet's egg of good sweet butter, and about half an ounce of brimstone, well powdered, and work these very well together into a salve; then take two clean goose feathers, the longest you can procure, and make a hole in each, at the quill-ends, and fasten two long threads thereto; having done thus, anoint the feathers with your salve till they are well soaked therewith; and after this, roll them in dry powder of brimstone. You are now to open the horse's nostrils, and thrust up the feather ends into his head; and the threads which are at the quill-ends you are to fasten on the top of the horse's head, which keeps the feathers from dropping out. It is requisite, if the weather be mild, to ride your horse for an hour or two, morning and evening; and when you bring him to his stable, let him stand about half an hour before you take out the feathers; then give him a little hay, sprinkled with urine; and after that, a little scalded bran. During this operation, it would forward the cure if you bathe his head with spirits of wine, camphorated; and afterwards confine his head over a tub of hot grains, in such a manner, as he may have the benefit of the steam arising from them. Proceed in this manner for eight or nine days, and you need not doubt of a complete cure. But to prevent a relapse, and to decoy the humors from their own channel, I advise a rowel; after which, give one of the following alterative balls every other day, for a week:

No. 45.—*Alterative ball.*

Turbith mineral, one dram; diapente, one ounce; make into a ball with honey.

You may then let your horse rest four or five days, and after, give him about two ounces of nitre a day, either in his corn, water, or a ball, as you like best; but, however given, it must be finely powdered. If made into a ball, it is to be done with honey, and thus you have a sure cure, at a trifling expense, and very little trouble.

## Sect. 162.

m.—*Farcy—Racude.*—Ger.

Farcy is a disease closely allied with the glanders. Mr. White has shown satisfactorily, that farcy and glanders will mutually produce each other. The farcy, however, is a disease more easily cured than the glanders, of which daily experience delivers convincing proofs. Mr. Mills calls this disease a cording of the veins, and the appearance of small tumors in several parts of the body.

The farcy is a contagious disease among horses, and is more to be dreaded than any other malady to which they are subject.

*Symptoms.*—It sometimes makes its appearance on a particular part, while at other times it spreads its horrid ravages through the whole system. It may be found in the neighborhood of each blood vessel, following the track of the veins, and when inveterate, appears to thicken their coats and integuments. Its characteristics are a fulness and hardness of the veins, a number of small lumps or buds on the limbs or lower parts of the body, which at first appearance are hard, but soon turn into soft blisters, and which (when broken) discharge an oily or bloody ichor, and turn into foul, spreading ulcers. In some horses it appears in the head only, in others near the external jugular or plate veins, inside the fore-arms, on the hind parts, near the large veins inside the thighs, about the pasterns, and particularly about the knees of the horse, which are frequently swelled until they appear deformed.

The poison of the farcy appears to be slow in its operation, as a horse will frequently linger and dwindle away for six or nine months, and the ulcers increase in number and size, until the flesh appears almost disposed to fall from the bones, before life is destroyed. The appetite of a horse thus diseased is generally good to the last, but his hair looks dead, and his eyes sad and desponding.

The farcy, in its first stage, readily admits of a cure: but after running on a horse for a length of time, and the absorbents or lymphatics about the ulcers become inflamed from an absorption of poisonous matter, the cure is rendered extremely difficult.

Whenever the farcy rises on the spine, it shows great malignancy, and is considered dangerous, particularly to horses that are fat, and full of blood. When it is general in the system, as is sometimes the case, it rises on several parts of the body at once, *forming many large and foul ulcers, causing a profuse running of greenish cor-*

*rupted matter from both nostrils*, and soon terminates the existence of the animal by general mortification.

In the lower limbs the farcy sometimes remains concealed for a great length of time, and makes so slow a progress that it is often mistaken for a wound, or some other disease. A single bud will sometimes appear opposite the pastern joint, and run upwards in an uneven and knotty form; and unless some steps are taken to check its progress, it will slowly steal upon the animal until it becomes general in the system, and finally centres in the lungs; shortly after which a gangrene ensues, and the horse is unburdened of a life that is not only painful to himself, but to all that behold him.

*Treatment.*—To effect a cure in this distressing disease, in its first stage, bleed three times the first week, taking half a gallon of blood at each bleeding, feed principally on bran, oats, or any food easily digested, and the long food green, (if to be had;) remove all filth from or about the stable, taking care to keep it neat and clean afterwards; give three mashes a week, of bran, scalded with sassafras tea, one table spoonful of powdered brimstone, and one tea spoonful of saltpetre, (not permitting the horse to drink for six hours afterwards,) take half an ounce of asafetida, which can be procured in any apothecary's shop; wrap it in a clean linen rag, and nail it in the bottom of the manger in which he is fed; all his drink must be equal quantities of sassafras boiled in water to a strong decoction, and half an ounce of asafetida should be placed in his watering bucket, in the same manner as directed for the manger; the buds or ulcers should be washed once a day with blue stone or copperas water, and if the knees or ancles are swelled, spread on a piece of buckskin mercurial ointment, and bind them up as tight as possible without giving pain.

The second week bleed twice, taking half a gallon of blood each bleeding, if the horse is in tolerable order; or if poor, only half the quantity; give the same number of mashes as directed for the first week, also the same drink, taking care to renew the asafetida in the manger and bucket, should it be sufficiently exhausted to require it.

The third week bleed but once, taking one quart of blood: in other respects observe the same treatment as directed for the first and second weeks. The horse should be moderately exercised about a mile, twice a day, and occasionally should be offered a little hommony, as a change of food, to keep up his appetite.

By the time your attentions for the third week expire, if the disease is only local, it will not only be removed, but the plight of the horse will be much improved.

When the farcy makes its appearance epidemically, the cure is rendered difficult, and will require the aid of more active medicine. Prepare and give to a horse thus diseased, a ball, every night for a week, composed of twenty-five grains of calomel, a quarter of an ounce of powdered fennel seed, a small quantity of syrup of any kind, and as much crumb of loaf bread as will make a ball about the size of an English walnut; all buds or ulcers should be washed clean in blue-stone water, after which they should be well rubbed around with mercurial ointment once a day; a narrow pitch plaster

should be laid on at the joining of the head and neck, in the direction of the throat latch, for the purpose of taking off the hair, which will happen in two or three days; after which, a lump of mercurial ointment, about the size of a hickory nut, must be rubbed on the naked part, amongst the large glands of the throat, until it is entirely absorbed, every night and morning, until the expiration of the week; added to which, the treatment generally may be the same as before recommended in the more simple stage of the farcy, with these exceptions; the drink should never be cold, but the air taken off, or milk warm; the mashes without sulphur, during the week the balls are given, as the sulphur counteracts the effects of the calomel and ointment; he should not be bled, and great care should be used to prevent his getting wet, and catching cold in any way while under the course of physic.

At the expiration of the first week, stop with the balls and ointment for a week, adding sulphur to the mashes, as directed in the first stage of farcy. At the expiration of the second week, stop with the sulphur, and again commence with the balls and ointment. Go on in this manner, continuing to change the medicine each week until the cure is performed.

It may sometimes happen that a horse's mouth will be sore before the expiration of a week, when taking the balls and using the ointment. Whenever this is discovered, stop with the balls, and add sulphur to the mashes, which will readily remove the soreness about the mouth.—*Mason*.

The disease is contagious, and those who have more than one horse, to them it is recommended, to use asafetida in the manger, watering bucket, and to the bridle bit, to prevent its contagious effect. *Mason* says he made a fair experiment of the asafetida as a preventive, by placing a horse violently affected with farcy, and which fell a victim to it, in the same stable with one in health, without any ill consequences resulting from their contiguous situation.

#### *Sect. 163.*

George Jefferies, of Chester county, Pa. recommends the following:

#### *For a farcy.*

First bleed in those veins that most feed the farcy; then give him this drink:

#### No. 46.—*Physic.*

Take aloes, one ounce; boil it in three quarts of water until reduced to a quart; add to it one gill of molasses, as much of soft soap, and half as much yeast, and give it to the horse lukewarm.

Ride him a mile before and after it, and keep him warm for two or three days until the physic has done working.

#### *Sect. 164.*

Blaine professes to have received great benefit from the use of the following course of treatment, after depletion:

No. 47.—*Farcy ball.*

Take oxmuriate of quicksilver, eight grains; oxide of arsenic, eight grains; subacetate of copper, eight grains; sublimate of copper, one scruple; made into a ball and given every morning, carefully watching the effects; and if it be found to occasion distress, divide and give half, night and morning.

After the ball is given, administer the following:

No. 48.—*Farcy draught.*

Take the expressed juice of clevers, or goose grass, six ounces; a strong decoction of hemp seed and sassafras, six ounces.

He adds: "whatever treatment is pursued, it will be rendered doubly efficacious if green meat (food, such as grass, &c.,) be procured, and the horse be fed wholly on it; provided the bowels will bear such food; but if the medicines gripe, by being joined with green food, add to the diet bean meal." Bran or oat meal will answer.

Writers on diseases and their treatment, seem to be infected with a kind of *cacoethas crescendi morborum*, hence many have called a certain dropsical affection of the skin or chest, the *watery farcy*. We shall dismiss the watery farcy, and direct the readers attention to something more tangible—not so evanescent.

## Sect. 165.

n.—*Polypus—Zasergewächs.*—Ger.

Of the polypus, which occupies the horse's nose, and sometimes increases to an enormous size, obstructing the breathing and sadly annoying the horse, nothing is said by any of the English authors on farriery, that we have examined.

In Winters' *Wohlerfahrner Pferde-Arzt*, Lebanon edition, p. 176, we find a chapter from which we shall present an extract in an English dress, after submitting a few words of our own.

We shall not detain the reader by a description of the different kinds of polypi, nor inquire into the different causes that produce them. The polypus under consideration is that which has its seat in the nose, whether arising from a swelling of the pituitary membrane, or from an ulcer produced by a caries of some of the nasal bones. Polypi are of different texture and constitution; some are soft, easily lacerated and bleed on the least touch; others are firm or compact, while some are of a scirrhous nature. It is not their nature, but their size that intercepts the passage of the air through the nostrils, and when large, often force the *septum narium* into the opposite nostril, so that the afflicted horse cannot breathe, and death is the consequence, for the nostrils in this animal are the only apertures to admit air into the lungs; hence the importance of a remedy or cure.



## Sect. 166.

The polypus distresses the horse which is afflicted with it, and, as a consequence, greatly emaciates him. It cannot be mistaken by its symptoms. It can be seen and felt. It often enlarges so much that it will protrude from the nostrils. To cure or remove it, as preparatory, feed the horse agaric, mixed with his feed, for eight days; then administer the following purgative:

No. 49.—*Purgative.*

Take agaric and jalap, of each, one-half ounce; hiera picra and gum gamboge, of each, one ounce; scammony, one dram; turbinth, one-half dram—mixed; put into two quarts of honey water, and given in one draught.

This purgative must be given every fourth day, till a cure is effected; and an injection—once a week. As soon as the first physic has operated, cauterize the polypus with a hot iron, or apply escharotics, as the following:

No. 50.—*Escharotic.*

Take the juice of marjoram, carduus-benedictus, of each, one ounce; calamus, pulverized, red coriander, pulverized, of each, one dram—mixed; squirted into the nose. Another:

No. 51.—*Escharotic.*

Take the juice of snake root, two ounces; the seeds of dragon-wort, pulverized, four drams—mixed; applied with a sponge. Another:

No. 52.—*Escharotic.*

Take sandarac, pulverized, one ounce; seeds of snake root, pulverized, one-half ounce—mixed; put on wool, and applied. Another:

No. 53.—*Escharotic wash.*

Take unslaked lime, eight ounces; sulphate of copper, sal ammonia, of each, one ounce—mixed; add fresh water sufficient; then filtrate, and apply it with a syringe.

If the escharotics are not first applied, before the polypus is removed by an operation, they should be applied to the seat of the polypus, after the operation, which will effectually remove the remains; or the following may be used:

No. 54.—*Escharotic.*

Take the juice of the herb wound-wort, (laserpitium,) mix it with honey, and apply it; or apply vitriol. Another:

No. 55.—*Escharotic.*

Take unslaked lime, mixed with vinegar, or vitriol, or pulverized snake root, or the salve of vitriol and honey, mixed, and apply.

But the most effectual escharotic is the juice of marjoram.

NOTE.—We think common caustic—*potassa fusa*--is a more powerful escharotic. It dissolves readily, both in water and alcohol, and might, perhaps, be used with advantage. The following is London's formula of fungus wash; but he recommends *lunar caustic*:

No. 56.—*Fungus wash.*

Take lunar caustic, one dram; water, two ounces, mixed.—*Compiler.*

*Touching treatment.*

1. The stable should be tolerably warm, perfectly dry, and not exposed to wind.
2. The feed should be free from dust, and mixed with some betony or bole armeniac.
3. The drink, lukewarm, infused with goats' thorn seed, betony and wound-wort, or saracene comfrey.

Sect. 167.

o.—*Diseases of the mouth—Lampas, canker, sore tongue.—Lampas—Frosch, or Maulgeschwulst.—Ger.*

Lampas is an excrescence in the roof of the mouth which hinders a horse from feeding, and to which all horses, but particularly very young ones, are liable. The late Judge Peters is of opinion that lampas is caused by fever in the horse; that the swelling should be allayed by reducing the fever; that we should never suffer a horse to be burned in the mouth.

This disease is, in some instances, not only confined to the ridges, or rugæ of the palate, but occasionally affects the whole passage of the mouth, throat and stomach, which suffer by sympathy. The barbarous practice of burning should yield to the more mild and efficient cure of *physic*, No. 3, Sect. 128, or gentle *alteratives*, No. 1, Sect. 128; to which may be added rubbing the part with salt and vinegar.

To relieve the inflammation, and cause the swelling to subside, an experienced farrier has recommended, that besides physicing, a few slight incisions across the bars with a lancet or knife, should be made. This will certainly do no harm. But the operator should be careful not to cut the principal artery and vein of the palate.

A certain French writer recommends a transverse cutting of the gums; and to apply pulverized verdigris, salt and soot, every six hours.

Nachrichter says, after cutting or scarification of the rugæ, rub the place well with salt; afterwards wash with the following lotion:

No. 57.—*Wash for lampas.*

Take savin, two ounces; myrrh, two ounces; one pint of vinegar, mixed; boiled—and then wash.

*Sect. 168.**Canker and wounds in the mouth.*

The mouth is injured much oftener than the careless owner suspects, by the pressure of a sharp bit. Not only are the bars wounded and deeply ulcerated, but the lower jaw, between the tush and the grinders, is sometimes torn even to the bone, and the bone itself affected; and portions of it come away. It may be necessary to have a sharp bit for the headstrong and obstinate beast; yet if that be severely and unjustifiably called into exercise, the animal may rear, and endanger himself and rider. But there can be no occasion for a thousandth part of the torment which the trappings of the mouth inflict on a willing and docile servant, and which either render the mouth hard, and destroy the pleasure of riding, or cause the horse to become fretful or vicious. If the mouth becomes sore from the bridle, touch daily with ægyptiacum, and cover the bit with leather, unless total rest can be allowed.

*Mixture for canker in the mouth.*

Take of wine vinegar, one-half pint; burnt alum and common salt, of each, one ounce; bole armeniac, one-half ounce—mix; and shake them together in a bottle, for use.

It will be proper to dress the horse's mouth with this mixture every morning and evening, in the following manner: Take a small cane, or a piece of whale-bone, half a yard long, and tie a linen rag, or a little tow, round one end; then dip it into the mixture, and pass it up his mouth, and gently remove it to all the affected parts: let him champ it well about in his mouth: after which, let him fast an hour; then give food as usual.

*Sect. 169.**Cure for sore tongues.*

By making use of a little tar, once a day, rubbed on the tongue of the sound horses with a mop, is an effectual preventive; for the diseased horse, take a common table spoonful of spirits of turpentine, and pour it on the tongue, as far down as practicable; then with a mop well saturated with the spirits of turpentine, mop every part of the tongue; after this, make use of the tar as in the way above mentioned, as a preventive: this done once or twice a day, for two or three days, has never failed making a cure.

*Sect. 170.**p.—Strangles—Drusen.—Ger.*

This disease generally attacks young horses between the third and fifth years of their age, and consists in an inflammation of the membrane of the throat and nose, and swelling of the glands under the throat, accompanied with cough, and a discharge of white, thick matter from the nostrils; sometimes there are likewise a soreness of the

throat, and difficulty in swallowing. The inflamed glands commonly suppurate in a short time, and burst, discharging a large quantity of matter. When this has taken place, the cough and other symptoms generally go off, the sore gradually heals, and the horse speedily recovers. In some cases the strangles assume a more formidable appearance, are attended with a considerable degree of fever, and the throat is sometimes so much inflamed, that the horse is incapable of swallowing either food or water; but however violent the attack may be, I have always found that, by adopting a proper mode of treatment, every unpleasant symptom may be easily removed, and a speedy recovery effected. It is not a very uncommon circumstance for the strangles to attack young horses while at grass; and then they are frequently not perceived until nature has nearly effected a cure.

The approach of strangles may be known by a dullness of countenance, watery eyes, cough, and a slight degree of swelling in the glands under the jaw. As soon as discovered, let the hair be carefully clipped off from the inflamed glands and contiguous parts of the throat; let a large poultice be then applied to the throat, in doing which it is necessary to take care that it is so secured as to be constantly in contact with the throat; for unless this is attended to, the poultice will be but of little service. I have generally found, that by rubbing a small quantity of some stimulating ointment on the inflamed glands, previous to the application of each poultice, suppuration has been considerably promoted; for this purpose the following formula will be found useful:

Camphor, two drams; oil of origanum, one dram; spermaceti ointment, two ounces; mixed.

When matter is completely formed in the glands, which may be known by the tumor becoming larger, and by the skin feeling tense and somewhat elastic, an opening should be made with a lancet, and its contents evacuated; this plan is certainly preferable to that of waiting until it bursts spontaneously, as the animal is instantly relieved by it, and the cure more speedily effected. To evacuate the matter perfectly, it is necessary to use moderate pressure with the fingers; and when this has been done, let a piece of lint, dipped in digestive liniment, be inserted for the purpose of keeping the lips of the wound open, and allowing the matter to escape freely; the poultice is to be continued until the swelling is perfectly reduced. When strangles attack the internal parts of the throat, so as to render the horse incapable of swallowing, and particularly if the external swelling be not considerable, it will be advisable to apply a blister and keep the bowels open with clysters. It is very necessary, in every case of strangles, to steam the head well; that is to put hot bran mashes into the manger frequently, so that the horse may inhale its vapors.

It is of consequence to distinguish cases of incipient strangles from common colds. In the latter, bleeding is a useful remedy; but in the former I believe it does much harm, by interrupting a process of nature. I cannot, by any argument, show why bleeding should be improper in the strangles; indeed, if our practice were guided by theory only, we should be led to consider it as a case of common

inflammation, and consequently adopt that mode of treatment which would tend to remove it most expeditiously, and prevent suppuration; and with this view, we should have recourse to bleeding and purgatives: experience, however, certainly sanctions a different treatment, and has, I think, fully proved the propriety of using every means for encouraging suppuration. I have seen several hundred cases in which this plan has been pursued, and not one of them terminated unfavorably. Should the inflammation, however, spread to the lungs, occasioning great difficulty in breathing and fever, and particularly if the horse be past the age of five, bleeding must not be omitted; and if a laxative drink can be given, it will be found of great service. A rowel in the chest will also do good.

Should a cough or any unpleasant symptom remain after the strangles are healed, let the following alternative ball be given every morning, until moderate purging is produced; and if it be found necessary, let it be repeated after an interval of four or five days. It is almost superfluous to add, that great attention must be paid by the groom; the head, neck and chest, as well as the body, should be clothed; warm water should be given frequently in small quantities; a large quantity of litter should be allowed; and hand-rubbing to the legs should never be omitted.

*Alternative ball.*

Barbadoes-aloes, one and a-half dram; emetic tartar and castile soap, of each, two drams; to be made into a ball for one dose.

*Sect. 171.*

Bærtgis says, physic the horse, and feed him for one or two days on bran mashes; give him warm drink, and administer the following as directed below:

No. 58.—*Cure for strangles—a drink.*

Take juniper berries, pulverized, one-half ounce; cinnamon, two drams; cloves, Spanish pepper, of each, one dram; laurel berries, one-half ounce; brandy or whisky, half a pint; mix—divide it into two portions; give a portion each day, followed by one gill of sweet or olive oil; bleed freely the third day.

Jefferies says, for the strangles, bleed under the tongue, and fume with the decoction of camomile; poultice with bran, vinegar, salt, and hog's lard, and it will soon cure.—*Proved.*

*Sect. 172.*

q.—*Vives—Feifel.—Ger.*

The vives is a disease in horses, which is much akin with the strangles, differing only in this, that the swellings of the kernels under the ears of the horse, (the parts at first chiefly affected,) seldom gather or come to matter, but by degrees perspire off and disperse, by warm clothing, anointing with the marshmallow ointment, and a moderate bleeding or two. But should the inflammation continue, notwithstanding these means, a suppuration must be promoted.

When these swellings appear in an old or full aged horse, they are signs of great malignity, and often of an inward decay, as well as forerunners of the glanders.

The following cure has been recommended as effectual:

No. 59.—*Vive ointment.*

Take crude mercury or quicksilver, one ounce; Venice turpentine, one-half ounce; rub together in a mortar till the globules of the mercury are no longer visible; then add two ounces of hog's lard.

Some authors recommend this ointment to be used at first, in order to disperse the swellings, and prevent their coming to matter; bleeding and purging at the same time for that purpose; but as in young horses they seem to be critical, the practice by suppuration is certainly more eligible and safe: for want of properly affecting which, the humors frequently settle, or are translated to the lungs, and other bowels, or falling on the fleshy part of the hind quarters, form deep imposthumes between the muscles, which discharge such large quantities of matter as sometimes kill the horse, and very often endanger his life.

Sect. 173.

*Jefferies' cure for the vives.*

Take a little pepper; a spoonful of swine's grease; the juice of a handful of rue; two spoonfuls of vinegar; mix them together, and put them equally into the horse's ear, and tie them up with two flat laces; shut the ears that the medicine may go down; then let the horse bleed in the neck and temple veins.

Another from the same author:

Shave off the hair, then take shoemakers' wax and spread it on a piece of alumed leather, and put it on the sore: do not remove it until it break it; renew it, and it will both heal and dry it.

Sect. 174.

B.—DISEASES OF THE NECK.

The neck of the horse is liable to several diseases which proceed from some external cause, such as blows and bruises—the principal ones are *fistula* and *poll-evil*.

a.—*Fistula*—*Rœhrgeschwuer* or *fistel*.—Ger.

The fistula is a deep narrow ulcer, generally arising from abscesses. This disease is so called from its similarity to a pipe or reed.

The fistula in the withers, generally proceeds from some blow or bruise, and is the most disagreeable disease to which a horse is subject. I would recommend it to every person, whose situation will admit of the sacrifice, to dispose of a horse thus unfortunately affected, for whatever sum he would bring, or even give him away, sooner than be at the expense and trouble, and run the risk of performing a cure which, if completed, would be tedious, and the horse be much

lessened in value in consequence of being disfigured by the scar which unavoidably will be left. The remedy here recommended is severe, but it will have the desired effect more speedily than any other.

So soon as the fistula assumes a formidable appearance, fomentations of bitter herbs should be employed, such as wormwood, camomile, bay leaves, mullen, life-everlasting, &c. boiled in water to a strong decoction, and after being strained, should be applied hot as the horse can bear it without giving pain, by means of large woolen cloths. This application promotes suppuration, and when matter is formed, let the tumor be opened, so that its contents may be completely evacuated; after which, let the sore be nicely washed with strong soap-suds, and apply the following ointment once a day: Take of verdigris, half an ounce; copperas, half an ounce; oil turpentine, one ounce; ointment of yellow rosin, four ounces; to be well mixed together. As soon as healthy matter is discharged from the fistula, the ointment may be discontinued, and nothing more will be necessary, except keeping it perfectly clean with strong soap-suds.—*Mason*.

Arsenic is almost a certain cure; take as much as will lie on the point of a penknife and apply it to the opened wound. Repeat every third day for nine days.

I took, says a writer in the *Genesee Farmer*, a small piece of cloth, wet it, and rolled it over and over in dry arsenic, and in the shape of a small roll, thrust it to the bottom of the tube and secured it there about ten hours. At the end of the time, finding the tube detached from the animal, except a little at the bottom, I then separated it from the horse with a sharp penknife. It readily healed. I have, he adds, much faith in the use of arsenic.—SEE APPENDIX—*Article, Fistula*.

When the fistula first makes its appearance, it may be removed or prevented by placing a rowel or seton in each shoulder, just below the swelled or inflamed part which should be kept running two or three weeks.

#### *Sect. 175.*

##### *b.—Poll-evil.—Nacken—Geschwulst.—Ger.*

The poll-evil, like the fistula, proceeds from some blow, bruise, or external injury, and its consequences are much to be dreaded. A horse thus diseased would be well sold almost at any price, though the cure is tolerably certain, yet extremely slow. The poll-evil is an abscess or swelling found in the sinews, between the noll bone and the uppermost vertebræ of the neck, immediately on the poll or nape of the neck. When this swelling first makes its appearance, bathe it frequently with hot vinegar; and if the hair be fretted off with an oozing through the skin, make use of equal parts of vinegar and spirits of wine; but if there be an itching, with heat and inflammation, the safest way will be to bleed plentifully, and apply a red oak poultice, which will sometimes disperse the swelling and put an end to the disease. But whenever the tumor is critical, having all the signs of matter, and appears not benefited by the applications already

recommended, it will be advisable to bring it to a head as speedily as possible, with the following poultice: corn meal, marshmallows, oil turpentine, and hog's lard. When the tumor becomes ripe or full of matter, it may be either opened or permitted to break of itself; if opened with a knife, great care should be used to prevent wounding the tendinous ligament that runs along the neck under the mane.

When the matter appears to be on both sides, the tumors must be opened on both sides, and the ligament between remain undivided; if the matter flows in great quantities, resembling melted glue, and is of an oily consistence, it will require a second incision, especially if any cavities are discovered by the fingers or probe; these should be opened by the knife, and the wound should be dressed with spirits of turpentine, honey, and tincture of myrrh, until light and thick colored matter is found. Cleanse the sore well with strong soap-suds and a sponge; then take of verdigris, half an ounce; oil of turpentine, four ounces; of blue stone, two ounces; of green copperas, half an ounce; mix them well together, and hold them over a fire until they are as hot as the horse can bear them; then pour them into the abscess, and close the lips by several stitches. This is to remain for several days without any other dressing, except bathing with spirits of wine. Should matter flow in great abundance, and of thin consistency, the above application must again be repeated until the matter decreases in quantity, and becomes of a whitish color and healthy appearance.—*Mason.*

*Sect. 176.*

The following is said to be a never-failing cure of this disease:

When it is broken open, take oil of St. John's wort, pour it into the open abscess; continue until the ulcer is beginning to heal; then omit the use of the oil, and wash the wound with the following embrocation:

*No. 60.—Embrocation for poll-evil.*

Take blue vitriol, virdigris, alum, copperas, gall-nuts, of each, one ounce; strong vinegar, two quarts; put all these ingredients into an earthen crock, place it over a slow fire, until it is reduced one-third; when sufficiently boiled and cool, bottle it—then apply it.—*SEE APPENDIX—Article, Poll-evil.*

*Sect. 177.*

*c.—Anticor—Geschwulst der Brust.—Ger.*

Those who have suffered by, or understand the nature and character of *cynanche tonsillaris*—inflammatory quincey, may form a pretty correct idea of the *anticor*, a swelling of the horse's throat and gullet. This disease is noticed by Mr. Gibson, who says the cure must be begun by bleeding, and need not be very sparing, for this disease seldom happens to horses that are poor and low. And here we also approve of sticking one or other of the veins in the hind parts, to make revulsion. After bleeding, take two handfuls of barley; two



ounces of sal polychrest, reduced to fine powder; boil them in two quarts of water, for a quarter of an hour; add to the decoction a pint of wine, four ounces of fresh butter, and two ounces of oil of rue. Let this be given bloodwarm, and repeated twice a day, or oftener. If he takes to food, nothing must be given him but moistened hay, and scalded bran; or whatever else, must be chiefly such things as are proper to keep down the heat and inflammation, and abate the feverish symptoms; for which purpose we recommend, after bleeding, those things that are proper to promote sweat. Therefore, let the following drench be prepared for him:

Take treacle water and carduus water, of each, one pint; dissolve in these, two ounces of Venice treacle: and after this has been given, clothe him well, and give him a little warm water to drink. Instead of the treacle and carduus water, a pint of stale beer, mixed with small beer, may be used. Nothing is so effectual to remove inflammation, especially after bleeding, as sweating: therefore, if you find it difficult to promote sweat, you may give the following ball:

Take old Venice treacle, two ounces; volatile salt of hartshorn, fifteen grains; Matthews' pill, one dram; camphor, in powder, six grains; powder of licorice, or sassafras in powder, as much as is sufficient to make it into a paste. Let this be given after the operation of the clyster is over.

If the symptoms begin to abate, you may venture to give your horse a gentle purge.

If the swelling appears outwards, and if the other symptoms abate, you may leave off purging: for what is intended by that evacuation, is chiefly to disperse the inward disorder. Next, you are only to apply ripening cataplasms, allowing him sal prunellæ, nitre, or the sal polychrestum, dissolved in his drink.

Cow's dung alone, applied warm to the part, with lard or ointment of marshmallows, may be sufficient to bring the swelling to maturity.

When the matter seems ready for a discharge, it may be opened in the dependent lowermost part, by the application of a hot iron; afterwards keeping a dossel in the mouth of the wound till the running abates; and applying compresses and convenient bandage to keep the elevated skin close to the flesh, that it may be the sooner united. But if the cavity of the imposthumation be large, it will not be amiss to lay it open an inch or more.

The cure may be finished with applying only the unguentum basilicum; or a digestive made with turpentine, the yolks of eggs, or honey, with a moderate mixture of brandy, or spirits of wine. And if any foulness appears, or if it heal too fast, or if spongy soft flesh arise, pledgets dipped in copperas water, or a solution of blue vitriol, may be applied, which will keep it smooth and even.

But if the swelling increase fast, with no tendency to digestion, and if it rise up towards the neck, affecting all the muscles of the part, the horse will be in danger of suffocation, unless a course different from the former be taken.

Besides repeated bleeding, if he is not too much worn out, take a hot searing iron, and apply it to five or six places on the lower part

of the swelling, cauterizing those parts, that they may be speedily brought to matter, which may be dressed with flax dipped in tar and turpentine, mixed before the fire and applied warm. For, by giving pain in those dependant and inferior parts, you cause the humors to flow downwards from the swelling; and by making vents you prevent excessive violence of pain. Nor need you be afraid of the swelling that may happen in the fore-legs, &c., by cauterizing; for that cannot be of so ill consequence as when it is upon the neck and throat; nor will it be of any consequence, if care be taken of the vents.

Solleysell recommends the making of small incisions with a fleam or lancet, in eight or ten places, on the swelling; and to thrust into the holes, between the skin and the flesh, pieces of the root of black hellebore: and if the tumor be very large, he recommends the use of white hellebore; at the same time chaffing the part with the ointments of agrippa and marshmallows. The roots, by their hot quality, draw down and increase the swelling; and the ointments are to ripen the inclosed matter, and fit it for a discharge.

The same author also recommends the use of ruptories, for drawing an immediate flux of moisture from the diseased part. These are ointments of the same nature as those made to draw blisters on the human body, and composed of the same materials. The way to apply them is, to spread them by little at a time on the part affected, holding a bar of hot iron to make them sink in.

*Sect. 178.*

*d.—Roaring—Keichen.—Ger.*

This disease, which has its seat in the larynx, the upper part of the wind pipe, is so called from a peculiar sound uttered by the horse, when briskly trotted or galloped, particularly uphill. In moderate exercise it is scarcely or not at all perceived, but when the animal is in brisk exercise it may be heard at the distance of several yards. It may be easily detected by striking the horse suddenly, or even threatening him with a stick, when he will utter a singular grunt or groan.

It usually is explained as the consequence of inflammation of the part. A fluid, rapidly changing into a tough viscid substance, is thrown out, and adheres to the sides of the larynx and upper part of the wind-pipe, materially obstructing the passage, and sometimes running across it in bands. When the horse is blown, or his breathing much hurried, the air whistles through these obstructions. We believe this to be the most general cause of the disease, and a roarer is evidently unsound, for he is incapable of the exertion which may not only be occasionally, but ordinarily required of him.

*Cause.*—Much light, however, has lately been thrown on other causes of this complaint. Many roarers have been examined after death, and no vestige of these bands has been found; but some have had the shape of the larynx and upper part of the windpipe materially deformed, crooked, and compressed; and others have presented no appearance of disease. Then we have been compelled to look

out for other causes of roaring, and some very probable ones have been readily found. The parts may have been subject to inflammation, and some parts of the air-tube may have become thickened and inelastic. In this way the inflammation of strangles may have been communicated to the larynx or windpipe, followed by some alteration of structure. Roaring is no unusual consequence of strangles.

A more frequent cause, and previously unsuspected, is tight reining. There can be no doubt that many more carriage horses become roarers, than those that are used for the saddle alone; and the explanation of this at once presents itself in the continued and painful pressure on these parts, caused by reining in the carriage horse, and teaching him to bear himself well. We have seen the larynx, and that portion of the windpipe immediately beneath it, flattened and bent, and twisted in the strangest way, which could not have been produced by disease, but by mechanical injury alone. The mischief is usually done with young horses. The arched neck and elevated head of the carriage horse is an unnatural position, from which the animal most habituated to it, is eager to be relieved. *Horse-breakers, and coachmen and carters*, should be made to understand, that when the horse's head is first confined by the bearing rein, great gentleness, and care, and caution, are necessary. Injury must be done if the throat be violently pressed upon, and especially when it is exposed to additional danger, from the impatience of the animal, unused to control, and suffering pain. The head of the riding horse is gradually brought to its proper place by the hands of the teacher, who skilfully increases or relaxes the pressure, and humors and plays with the mouth; but the poor carriage horse is confined by a rein that never slackens, and his nose is bent in at the expense of the larynx and windpipe, and the injury is materially increased, if the head be not naturally well set on, or if the neck be thick, or the jaws narrow.

The shape of the larynx and windpipe will occasionally be altered if they be thus squeezed between the jaws, and the bones of the neck, or the muscles which expand the opening into the windpipe for the purpose of natural breathing, and especially of quick and hurried breathing, will be so compressed, that they will be incapable of full action, and by degrees will lose the power of action, even when not pressed upon, and, in fact, become palsied; and therefore, the opening not being sufficiently enlarged during the rapid breathing of the animal, moving with speed, the air will rush violently through the diminished aperture, and the sound termed *roaring* will be produced.

It is a common opinion that crib-biting frequently terminates in roaring. There is nothing in crib-biting that can possibly lead to roaring; but there is a method adopted to cure crib-biting, than which nothing can be more likely to produce it: we mean the straps which are so tightly buckled round the upper part of the neck, and which most compress, and sometimes distort or paralyze the larynx.

The habit of *coughing* a horse, to ascertain the state of his wind, is an occasional cause of roaring. The larynx or trachea is violently and painfully squeezed in this operation; and the violence being often repeated, inflammation and injury may ensue.

The treatment of roaring is very unsatisfactory. If we have been correct in our account of the nature and cause of the disease, a cure seems to be perfectly out of the question. If it arise from a distorted larynx, there is no mechanical contrivance that can restore the natural and perfect structure; if from a band or ring of lymph diminishing the size of the passage, we know not by what means that can be removed; or if the muscles of the larynx be palsied, we know not the stimulus that can rouse them again to action, or the manner in which that stimulus is to be applied.

*Treatment.*—In the early stage of the disease, whether it proceed from violent pressure on the part by improper curbing, or be connected with, or consequent on catarrh or strangles, or the enlargement of some neighboring part, inflammation will be present, and we shall be justified in having recourse to those measures which will abate inflammation. Bleeding will not be improper, if roaring is the consequence of previous disease; it will be indispensable, if it be connected with present disease of the chest. The degree to which the bleeding should be carried, will depend on the degree of general or local inflammation. To bleeding should succeed purging, and to this, medicines that will lessen the force of the circulation—as nitre, emetic tartar, and digitalis. These should be followed by blisters, to remove the inflammation, if possible, from an internal and important part to the skin. The blisters may at first be confined to the upper part of the throat, but, if unsuccessful there, they should extend over the whole length of the windpipe. In extreme cases, and where the obstruction seems to threaten suffocation, we may be justified in cutting into the windpipe, and either introducing a tube into the opening, or cutting out a portion of one of the rings. This operation, however, should be performed by one who understands his business. It is called *bronchotomy*. By means of it, the animal will be enabled to breathe through an aperture below the seat of inflammation, or the distorted or obstructed part, and time will be given for the adoption of other modes of relief or cure.

*Sect. 179.*

*e.—Stricture of the gullet—Zusammenziehung des Schlund.—Ger.*

The gullet or esophagus, as is well known, extends from the back part of the stomach, and conveys the masticated food from one to the other. This has, in a few instances, been strictured by some spasmodic or morbid contraction, so that the food could only be swallowed in small quantities, and with much difficulty. If the stricture is not too far from the entrance above, relief may in many instances be afforded, but should the stricture be near the cardiac orifice, or at the entrance of the stomach, there is no remedy; the efforts of the most skilful veterinary surgeon must fail.

Substances have sometimes stuck in the gullet. Bran and chaff swallowed greedily, or too large or hard a ball, have remained in some part of the gullet, and caused very alarming symptoms. The tube used for the hove in cattle, will sometimes dislodge this substance;

but should this be impracticable, the gullet must be opened by a skilful and scientific practitioner—quacks, hands off!

*Sect. 180.*

Mr. Deigendesch, in his *Ross Arzneibuch*, p. 87, on the subject of *smaller* things being in the gullet, and producing swelling or tumefaction, says: "If there be presumption, or if there is a certainty, when the neck is swollen, that there is something (*etwass*) in the gullet, apply the following externally: dog's fat, three ounces; and ceruse, one ounce; mix it well and make a salve, and grease the horse's neck four times a day. Having prepared the following: honey, vinegar, of each, one gill; one ounce of salt; mix—then cast or throw the horse—having a mop ready made of some soft substance, dip it into the solution, and use it as you do the tube for hove in cattle, which will readily remove the obstruction; this done, drench the horse with the liquid left.

*Sect. 181.*

C.—DISEASES OF THE CHEST.

The chest, which contains the heart and lungs, the one employed in circulating the blood, and the other in restoring to it the power of supporting life, is liable to many complex diseases. These should be well understood, and the remedies to remove them, because the value of the horse depends principally on the soundness of the organs in the chest and the appendages belonging to it. The diseases are external and internal; we include accidents, to which the horse is liable.

a.—*Warbles and sitfasts*—*Hartnæckige sattel druecke*.—Ger.

We remarked, when speaking of the fistula and of poll-evil, that they proceed from blows or bruises; the warbles, sitfasts and saddle galls, proceed also from bruises or irregular and violent pressure, and unless attended to in time, may become very troublesome tumors and ulcers.

The little tumors resulting from the pressure of the saddle, are called *warbles*, and when they ulcerate, they frequently become *sitfasts*.

The *sitfast*, if it remains for some length of time, acquires a portion of callous skin in the centre, resembling leather in appearance, and so closely adhering, as not to be separated without great force or absolute dissection, if a permanent cure is to be made. If a sitfast has become obstinately seated, apply the knife. Never fear a fresh wound; this may be healed with the greatest ease, in a very short time, by using either of the following mixtures:

No. 61.—*Ointment to cure wounds.*

Take one pint of sour vinegar, and put into it one-quarter of a pound of litharge; simmer it gently for several hours, stirring it

occasionally ; put it into an earthen crock, and add one pound and a-half of lard ; mix the whole completely ; stir it until it becomes a consistent salve ; then apply it warm to the wound, with a soft brush or sponge.

No. 62.—*Wash for sores.*

Take of brandy, half a pint ; honey, half a pint ; alum, two ounces ; and apply.

No. 63.—*Another wound wash.*

Take of blue stone, a quarter of an ounce ; spirits of turpentine, two table spoonfuls ; spring water, one pint—apply.

No. 64.—*Another wash for fresh sores.*

Take sugar of lead, half an ounce ; alum, one ounce ; copperas, half an ounce ; let them be well mixed, and the seat of sitfasts washed twice a day, after the wound is washed clean with soap and water.

Saddle galls are generally occasioned by the unequal pressure of a hard saddle. As soon as the inflamed tumors are discovered, if applied profusely, cold water will frequently disperse and drive them away. Should the tumors not be discovered soon, the mixtures below, if applied two or three times a day, will perform a cure :

Take sharp vinegar, one gill ; spirits of any kind, one gill ; sweet oil or fresh butter, one table spoonful ; to be well mixed before used ; or use No. 59.

No. 65.—*Embrocation.*

Take muriate of ammonia, one-half ounce ; muriatic acid, two drams ; water, one ounce—mix ; wash with a sponge.

No. 66.—*Astringent wash.*

Take a handful of the inner bark of white oak, and some comfrey root ; decoct or boil in three quarts of lye, till it is reduced one-third ; then take it from the fire ; filtrate it into a clean earthen crock ; add four ounces of alum ; let it stand till lukewarm before you apply it ; wash the sore three times a day ; after washing the saddle gall, apply a mixture of like quantities of spike and stone oil.

One of the best applications that we know for saddle galls, is strong salt and water, mixed with a fourth part of tincture of myrrh.

Sect. 182.

b.—*Chest founder—Brust-Rehe.*—Ger.

This disease is sometimes confounded with *anticor*, (Sect. 177.) The true anticor and breast founder differ in some material points—though as to the causes, they may proceed mainly from the same ; but as to the seat of the disease, anticor is confined rather more towards the neck, and the other toward the chest, whence its name. Mason thinks the seat of this disease is in the lungs.

The muscles in the chest are accompanied with a great deal of tenderness, which gives facility to contracting this singular and somewhat mysterious disease. The muscles occasionally swell, the horse feels stiff, which is by some considered the result of hoof founder; but if the disease is not removed, breast founder will show itself by the sensible diminution or waste of the muscles about this part of the body.

*Cause* of this disease, it is believed by eminent farriers, to be produced by suffering the horse to remain too long tied up, and exposed to the cold, or riding him against a very bleak wind. We think it is more apt to be produced by giving him cold water to drink when he is hot; full feeding, thus causing a stagnation of blood, and constituting a severe rheumatism.

This disease is in some cases accompanied by fever; if it is violent, physic; give No. 11, Sect. 133; or No. 4, Sect. 128; and bleed; apply warm embrocations over the parts affected; if very obstinate a rowel in the chest; warm stabling and warm clothing; give a few doses of a dram or two of antimonial powder; it will soon remove the complaint.

#### No. 67.—*Warm embrocation.*

Take nightshade, mugwort, camomile, celandine, of each, two handfuls; cut it and make a very strong decoction; bathe the parts affected.

After washing the parts, annoint with the following ointment, which will lend great assistance to remove all swelling and allay pain or stiffness.

#### No. 68.—*Swelling salve.*

Take oil of white lillies, two ounces; ceruse or white lead, one ounce; rose water, or tincture of roses, one ounce; common powder, one-half ounce; saffron, one dram; rub the ceruse and powder in a mortar, mix it with the other ingredients, and apply it as soon as the embrocation is dried. It will be advisable to repeat the warm wash soon after the salve has been applied—should be repeated twice a day.

#### Sect. 183.

The following has proved itself an excellent remedy in chest founder, especially when rheumatism has been severe. After the horse has been physicked, give him one pint of the following mixture every other day—bled once or twice for one week.

#### No. 69.—*Cure for chest rheumatism.*

Take gum guaiacum, one-half ounce; fennel seed, one ounce; senna, four ounces; rhubarb, pulverized, four ounces; gamboge, one-half ounce; put these ingredients into two quarts of rye whiskey or brandy, and let it stand two days in the sun or on a warm stove, when it will be fit for use—give one pint at once.

On the day when the above drink is not given, the following should be given. Give the foundered horse a drink made of one quart of strong sassafras tea, in which one-half ounce of saltpetre, and two drams of asafetida have been dissolved, but do not suffer him to drink anything for five or six hours afterwards. Feed him on green food or bran mashes.

Some writers consider chest founder to be incurable. Mason says "it is beyond a possibility of doubt that the chest founder is one of those dreadful diseases to which the horse is subject, that admits of no cure."

#### Sect. 184.

#### c.—Dropsy of skin of the chest—*Wassersucht*.—Ger.

Dropsical swellings often appear between the fore-legs, and on the chest. They are effusions of fluid underneath the skin. They accompany various diseases, particularly when the animal is weakened by them, and sometimes appear when there is no other disease than the debility, which in the spring and fall of the year, accompanies the changing coat.

The treatment is as various as the causes of the affections or the accompanying disease. Small punctures with the lancet will seldom do harm—friction of the part, if it can be borne, is very serviceable; strong lotions of Cayenne pepper have been used with good effect; mild exercise should be used; diuretics given, mixed with some cordial, with liberal food, as carrots, bran mashes, bruised oats, and occasionally a very mild dose of physic: No. 4, Sect. 128; and that followed by tonics and cordials, with diuretics. The best vegetable tonics are gentian and colombo with ginger: No. 32, Sect. 143.

#### No. 70.—*Diuretic powders*.

Take yellow resin, powdered, four ounces; nitre, eight ounces; emor tartar, four ounces; dose, six, eight, or ten drams nightly, which some horses will readily eat.

#### No. 71.—*Diuretic balls*.

Take yellow resin, one pound; nitre, one-half pound; horse turpentine, one-half pound; yellow soap, one-quarter of a pound; melt the resin, soap, and turpentine over a slow fire; when cooling, add the nitre. For a strong dose, an ounce and a-half; for a mild one, an ounce. It should be kept in mind, that mild diuretics are always equal to what is required; and strong ones are generally hurtful.

Fomentations in connection with the above treatment, have been found very beneficial. These are made of various herbs, such as rue, camomile, St. John's wort, wormwood, bay leaves, &c., but the principal virtue of fomentations is to be found in warmth and moisture, which unload the vessels.

The method of applying fomentations is conveniently done by means of two large woollen cloths wrung out of the heated liquors; as one is cooling the other should be ready to be applied.



## Sect. 185.

d.—Diseases of the heart—*Herz-krankheiten*.—Ger.

The heart is placed between a doubling of the pleura, and is likewise surrounded by a membrane or bag of its own, called the pericardium about the heart. When the pericardium or the heart itself becomes inflamed, its secretions are much increased; and so much fluid accumulates as to obstruct the beating of the heart. This disease is called dropsy of the heart. It is not easily distinguished from inflammation of the lungs; but this is a matter of little consequence, for the treatment would be nearly the same in both.

The heart is the engine by which the blood is circulated through the frame. It is composed of four cavities, two above called auricles, from their supposed resemblance to a dog's ear, and two ventricles or little bellies, occupying the substance of the heart. The blood which has circulated through the frame, and nourished it, returns to the heart through the veins. It enters the auricle on the right side, where it accumulates as in a reservoir, until there is enough to fill the ventricle below. The auricle then contracts, and throws the blood into the ventricle. That contracts in its turn, and drives the blood, not back again into the auricle, for there is as complete a valve as that in the sucker of a pump to prevent this, but through an aperture that leads to the lungs. The blood traverses, as we shall presently see, all the little vessels and cells of the lungs, and undergoes an important change there, and is carried to the left auricle; thence it descends to the left ventricle, and by the powerful closing of the ventricle, is propelled into the arteries. The first artery, the aorta, rises from the left ventricle, and the blood, by the force communicated to it, by the sudden contraction of the ventricle and assisted by the elastic power of the arteries which keeps them open and free from obstruction, and also by the pressure of the muscular and elastic coats, endeavoring to return to their former dimensions, pursues its course through every part of the frame.

The heart is subject to disease. It powerfully sympathizes with the maladies of every part. An injury of the foot will speedily double the quickness of the beating of the pulsations of the heart. It sometimes is inflamed, without previous affection of any other part. This is not a frequent, but a most dangerous disease, and is characterized by a pulse quick and strong, and a bounding action of the heart that may occasionally be seen at the side, and even heard at the distance of several yards. There is also a peculiar alertness and quickness in every motion of the animal; and an energy of expression in the countenance exceedingly remarkable. Speedy and copious blood-letting will alone avail to save the horse; for the heart, over excited and called on to perform this double work, must soon be exhausted.

Cardialgy, *Herzgesperr* of our German authors, is not strictly a disease of the heart. It arises in most instances from the worms or bots gnawing and vellicating the coats of the stomach. When the horse is affected with this disease, if it may be called such, heaves

greatly, and sweats profusely. Dr. Winters recommends purgatives, as No. 4, Sect. 128, or the following: asafetida, one-half ounce; salt-petre, one ounce; honey, two ounces; wine and vinegar, of each, one pint; mixed—drench the horse; give all at one time.

Or give the following: mustard, asafetida, of each, one dram; honey, four ounces; water and vinegar, of each, one pint; mixed—drenched.

### Sect. 186.

#### e.—Inflammation—Entzündung.—Ger.

Local inflammation is characterized by redness, swelling, heat, and pain. The redness proceeds from the increased quantity of blood flowing through the part, occasioned by the increased action of the vessels. The swelling arises from the same cause, and from the deposit of the fluid in the neighboring substance. The natural heat of the body is produced by the gradual change which takes place in the blood, in passing from an arterial to a venous state. If more blood be driven through the capillaries of an inflamed part, and in which this change is effected, more heat will necessarily be produced there; and the pain is easily accounted for, by the distension and pressure which must be produced, and the participation of the nerves in the disturbance of the surrounding parts.

*Treatment.*—If inflammation consist of increased flow of blood to and through the part, the ready way to abate the inflammation is to lessen the quantity of blood. If we take away the fuel, the fire will go out. All other means are comparatively unimportant, compared with bleeding. Blood may be taken from the jugular, and so the general quantity may be lessened; but if it can be taken from the neighborhood of the part, it will be productive of tenfold benefit.—One quart of blood taken from the foot in acute founder, by unloading the vessels of the inflamed part, and enabling them to contract, and, in that contraction, to acquire tone and power to resist future distension, will do more good than five quarts taken from the general circulation. An ounce of blood obtained by scarifying the swelled vessels of the inflamed eye, will give as much relief as a copious bleeding from the jugular. It is a principle in the animal frame which should never be lost sight of by the veterinary surgeon, or the horseman, that if by bleeding, the process of inflammation can once be checked—if it can be suspended but for a little while—although it may return, it never returns with the same degree of violence, and in many cases it is got rid of at once. Hence the necessity of bleeding early, and bleeding largely, in inflammation of the lungs, or of the bowels, or of the brain, or of any important organ. Many horses are lost for want of bleeding, or from insufficient bleeding, but we never knew one materially injured by the most copious abstraction of blood in the early stage of acute inflammation. The horse will bear, and with advantage, the loss of an almost incredible quantity of blood. Four quarts taken from him, will be comparatively little more than one pound taken from the human being. We can scarcely con-

ceive a considerable inflammation of any part of the horse, either proceeding from sprains, contusions, or any other cause, in which bleeding, local (if possible) or general, or both, will not be of essential service.

Next in importance to bleeding is purging. Something may be removed from the bowels, the retention of which would increase the general irritation and fever—the blood will be materially lessened, for the quantity of serous or watery fluid which is separated from it by a brisk purge, the action of which in the horse continues probably for more than twenty-four hours, is enormous, and while the blood is thus determined to the bowels, less even of that which remains will flow through the inflamed part. When the circulation is directed to one set of vessels, it is proportionably diminished in other parts. It was first directed to the inflamed parts, and they were overloaded and injured; it is now directed to the bowels, and the inflamed parts are relieved. While the purging continues, there is also some degree of languor and sickness felt, and the force of the circulation is thereby diminished, and the general excitement lessened. The farmer will, therefore, see the importance of physic in every case of considerable external inflammation. If the horse is laid by for a few days from injury of the foot, or sprain, or poll-evil, or wound, or almost any cause of inflammation, a physic ball should be given.

In cases of internal inflammation, much judgment is required to determine when a purgative may be beneficial or injurious. In inflammation of the lungs or bowels it should never be given. There is so strong a sympathy between the various contents of the cavity of the chest, that no one of them can be inflamed to any great extent, without all the others being disposed to become inflamed; and, therefore, a dose of physic in inflamed lungs would be frequently as fatal as a dose of poison. The excitement produced on the bowels by the purgative will soon run on to inflammation, which no medical skill can stop.

The means of abating external inflammation are various and seemingly contradictory. The heat of the part very naturally and properly led to the application of cold embrocations and lotions. Heat has a strong tendency to equalize itself, or to leave that substance which has a too great quantity of it, or little capacity to retain it, for another which has less of it, or more capacity to retain it. Hence the advantage of cold applications, by which a great deal of unnatural heat is speedily taken away from the inflamed part. The foot laboring under inflammation is put into cold water; or the horse is made to stand in water or wet clay, and various cold applications are used to sprains. The part is wetted with diluted vinegar or goulard, or salt and water. We believe that when benefit is derived from these applications, it is to be attributed to their coldness alone, and that water, and when especially cooled below the natural temperature, is quite as good as any thing else. An ounce of nitre, dissolved in a pint of water, will lower the temperature of the fluid many degrees; but the lotion must be applied immediately after the salt has been dissolved, and it should be applied in such a way that the inflamed part

may be fully exposed to the process of evaporation. While the fluid is converted into vapor, by the heat of the skin, a considerable degree of cold is produced. Let the limb or the part have the full benefit of this, by being uncovered. A bandage may be afterwards applied to strengthen the limb, but during the continuance of active inflammation it will only confine the heat of the part, or prevent the part from benefiting by the salutary influence of the cold produced by the evaporation of the water.

Sometimes, however, we resort to warm fomentations, and if benefit be derived from their use, it is to be traced to the warmth of the fluid, and not to any medical property in it; and warm water will do as much good to the horse who has so thick a skin, as a decoction of camomile, or marshmallow, or even of poppy heads, or any nostrum that the farrier may recommend. Fomentations increase the warmth of the skin, and open the pores of it, and promote perspiration, and so lessen the tension and swelling of the part, assuage pain, and relieve inflammation. Fomentations, to be useful, should be long and frequently employed, and at as great a degree of heat as can be used without giving the animal pain. Poultices are nothing but more permanent, or longer continued fomentations. The part is exposed to the influence of warmth and moisture for many hours or days without intermission, and perspiration being so long kept up, the distended vessels will be very materially relieved. The advantage derived from a poultice is attributed to the heat and moisture, which, by means of it, can be long applied to the skin, and it should be composed of materials which will best afford this heat and moisture. The bran poultice of the farrier will therefore be objectionable. It is never perfectly in contact with the surface of the skin, and it becomes nearly dry in a few hours, and then is injurious. Linseed meal is a much better material for a poultice; it will remain moist for twenty-four hours. The poultice is easily made by pouring hot water on the meal, a little at a time, and moulding it well with the hand until the cataplasm attains its proper consistence.

It is often very difficult to decide when a cold or hot application is to be used, and no general rule can be laid down, except that in cases of superficial inflammation, and in the early stage, cold lotions will be preferable; but when the inflammation is deeper seated, or fully established, warm fomentations may be most serviceable.

Stimulating applications are frequently used in local inflammation. When the inflammation is deeply seated, a stimulating application to the skin will cause some irritation and inflammation there, and lessen or sometimes remove the original one, hence the use of rowels and blisters in inflammation of the chest. Inflammation to a high degree cannot exist in parts so near to each other. If we excite it in one, we shall abate it in the other, and also by the discharge which we establish from the one, we shall lessen the determination of blood to the other.

With one caution, we will dismiss this part of our subject; stimulating and blistering applications should never be applied to a part already inflamed. We shall not put out a fire by heaping more fuel

upon it. Hence the mischief which the farrier often does by rubbing his abominable oils on a recent sprain, hot and tender. Many a horse has been ruined by this absurd treatment. When the heat and tenderness have disappeared by the use of cold lotions or fomentations, and the leg or sprained part remains enlarged, or even bony matter threatens to be deposited, we may be justified in exciting inflammation of the skin by a blister, in order to rouse the deeper seated absorbents to action, and enable them to take up this deposit; but we would again state it as a principle that, except to hasten the natural process and effects of inflammation, a blister, or stimulating application, should, in the treatment of the horse, never be applied to a part already inflamed.

*Sect. 187.*

e.—*Fever—Fieber.*—Ger.

Fever is general increased arterial action, either without any local affection, or in consequence of the sympathy of the system with inflammation in some particular part.

*Idiopathic, or pure fever.*—Some have denied that it exists in the horse, but they must have been strangely careless observers of the diseases of that animal.\* The truth of the matter is, that the usual stable management and general treatment of the horse are so absurd, that various parts of him are rendered so liable to take on inflammation, that pure fever will exist but a very little time without degenerating into inflammation of these parts. The lungs are so weakened by the heated and foul air of the ill-ventilated stable, and by sudden changes from almost insufferable heat to intense cold; and the feet are so injured by hard usage and injudicious shoeing, that, sharing from the beginning in the general vascular excitement which characterizes fever, they soon become excited far beyond other portions of the frame; and that which commenced as fever becomes inflammation of the lungs or feet. Pure fever, however, is sometimes seen, and runs its course as fever.

*Symptoms.*—It begins frequently with a cold, shivering fit, although this is not essential to fever. The horse is dull, unwilling to move, with a staring coat, and cold legs and feet. This is succeeded by warmth of the body; unequal distribution of warmth to the legs; one hot, and the other three cold, or some unnaturally warm, and others unusually cold, although not the deathly coldness of inflammation of the lungs; the pulse quick, soft, and often indistinct; breathing somewhat laborious; but no cough, or pawing, or looking at the flanks.—

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\*The author of the *Farmer's Receipt Book*, by Fisk & Chase of Boston, says: "the horse is not subject to fever, i. e. he has no simple, idiopathic fever, no cold, hot and sweating stage, as man has. The feverish action, which the heart and arteries of the horse sometimes assume is *sympathetic*. (symptomatic,) and is always preceded by local affection. It is a disease of irritation." White contends for idiopathic fever.—*White's Farrier*, page 19-21.

"When doctors disagree,  
Then compilers are free."—*Comp.*

The animal will scarcely eat, and is very costive. While the state of pure fever lasts, the shivering fit returns at nearly the same hour every day, and is succeeded by the warm one, and that often by a very slight sweating one; and this goes on for several days until local inflammation appears, or the fever gradually subsides. No horse ever died of pure fever; if he is not destroyed by inflammation of the lungs, or feet, or bowels, succeeding to the fever, he gradually recovers.

What we have said of the treatment of inflammation will sufficiently indicate that which we should recommend in fever. Fever is generally increased action of the heart and arteries, and therefore evidently appears the necessity for bleeding, regulating the quantity of blood taken by the degree of fever, and usually continuing to take it (the finger being kept on the artery) until some impression is made upon the system. The bowels should be gently opened, but the danger of inflammation of the lungs, and the uniformly injurious consequence of purgation in that disease, will prevent the administration of an active purgative. One dram and a-half of aloes may be given morning and night with the proper fever medicine, until the bowels are slightly relaxed, after which nothing more of an aperient quality should be administered. Digitalis, emetic tartar, and nitre, should be given morning and night, in proportions regulated by the circumstances of the case, and these should give way to white hellebore in doses of half a dram twice in the day, if symptoms of inflammation of the lungs should appear. The horse should be warmly clothed, but be placed in a cool and well ventilated stable.

Symptomatic fever is generally increased arterial action, proceeding from some local cause. No organ of consequence can be long disordered or inflamed without the neighboring parts being disturbed, and the whole system gradually participating in the disturbance. Inflammation of the feet or of the lungs never existed long as to any material extent, without being accompanied by some degree of fever.

*Treatment.*—The treatment of symptomatic fever should resemble that of simple fever, except that particular attention should be paid to the state of the part originally diseased. If the inflammation which existed there can be subdued, the general disturbance will usually cease.

Depletion should be first attended to, and if the horse be costive, give a pint of olive or castor oil, and let a clyster of warm water gruel be injected.

The following laxative drink has been found very useful in febrile diseases:

*No. 72.—Laxative drink.*

Take Barbadoes aloes, powdered, three drams; prepared kali, one and a quarter dram; castor oil, five ounces; simple mint water and pure water, of each, four ounces; mix for one dose.

After the operation of the laxative, the fever powder is to be given once in twelve hours.

No. 73.—*Fever powders.*

Take tartar emetic, two drams ; nitre, five drams.

## No. 74.

Take antimonial powder, two drams ; cremor tartar, and nitre, of each, four drams.

## No. 75.

Take antimonial powder, three drams ; camphor, one dram. The following fever drink should be given once every other day :

No. 76.—*Fever drink.*

Take sweet spirits of nitre, one ounce ; minderuses spirit, six ounces ; water, four ounces. In epidemic fever give :

No. 77.—*Epidemic fever drink.*

Take sweet spirits of nitre, one ounce ; simple oxymel, six ounces ; tartar emetic, three drams. Or give :

No. 78.—*Malignant epidemic fever drink.*

Take simple oxymel, minderuses spirit, yeast, of each, four ounces ; sweet spirit of nitre, one ounce.

## Sect. 188.

f.—*Bog and blood-spavin—Sumpfund Blutspath.*—Ger.

The veins of the horse, although their coats are thin compared with those of the arteries, are not subject to the enlargements (varicose veins) which are so frequent, and often so painful, in the legs of the human being. The legs of the horse may exhibit many of the injurious consequences of hard work, but the veins will, with one exception, be unaltered in structure. Attached to the extremities of most of the tendons, and between the tendons and other parts, are little bags containing a mucous substance to enable the tendons to slide over each other without friction, and to move easily on the neighboring parts. From violent exercise these little bags are liable to enlarge. Windgalls and thoroughpins are instances of this. There is one of them on the inside of the hock at its bending: this sometimes becomes considerably increased in size, and the enlargement is called a bog-spavin. A vein passes over this bag, which is pressed between the enlargement and the skin, and the passage of the blood through it is impeded; the vein is consequently distended by the accumulated blood, and the distension reaches from this bag as low down as the next valve. This is called a blood-spavin. Blood-spavin then is the consequence of bog-spavin. It very rarely occurs, and is, in the majority of instances, confounded with bog-spavin.

Blood-spavin does not always cause lameness, except the horse is very hard worked, and then it is doubtful whether the lameness should not be attributed to the enlarged mucous bag rather than to the distend-

ed vein. Both of these diseases, however, render a horse unsound, and materially lessen his value.

Old farriers used to tie the vein, and so cut off altogether the flow of the blood. Some of them, a little more rational, used to dissect out the bag which caused the distension of the vein: but the modern and more prudent way is to endeavor to promote the absorption of the contents of the bag. This may be attempted by pressure long applied. A bandage may be contrived to take in the whole of the hock except its point; and a compress made of folded linen being placed on the bog-spavin, may confine the principal pressure to that part. It is, however, very difficult to adapt a bandage to a joint which admits of such extensive motion; therefore most practitioners apply two or three successive blisters over the enlargement, when it usually disappears; but unfortunately it returns again if any extraordinary exertion is required from the horse.

We shall add an extract from a communication, or article written by Dr. Bracken.

The doctor says a bog-spavin is an incysted tumor on the inside of the hough; a collection of brownish gelatinous matter, contained in a bag or cyst, which he thinks to be lubricating matter of the joint altered, the common membrane that encloses it, forming the cyst. This case he has taken great pains to illustrate in a young colt of his own, where, he says, when the spavin was pressed hard on the inside of the hough, there was a small tumor on the outside, which convinced him the fluid was within side of the joint. He says, that he cut into it, discharged a large quantity of gelatinous matter; he dressed the sore with dossils dipped in oil of turpentine, putting into it, once in three or four days, a powder made of calcined vitriol, alun, and bole. By this method of dressing, the bog sloughed off, and came away, and the cure was successfully completed without any visible scar.

*Dr. Winters*, among many other cures, recommends the following: Cauterize with a heated iron, afterwards apply the following composition:

No. 79.—*To cure spavin.*

Take honey, one-half a pound; vitriol, one and a-half ounces; alum, verdigris, of each, one and a-half ounce; vinegar, of the best, one pint—mixed, and applied.

*Sect. 189.*

*g.—Diseases of the lungs—Lungen-Beschwerde.—Ger.*

The lungs, on account of the office which they discharge, are very important; and perhaps there is no organ of importance in the horse that is more liable of being disordered than the lungs. We shall here present the reader a well written article from the pen of Mr. Barzom, on the disorders of the lungs: add a few remarks of our own, and conclude with an extract or two from *Winters*.



*Inflammation of the lungs—Lungen-Entzündung.—Ger.*

There is no animal among all those subdued that previous to his breaking in, is so free from disease as the horse; there is no animal which, after he has been enlisted in our service, is so liable to disease, and especially at the lungs. How do we account for this? Few things can be more injurious to the delicate membrane that lines the cells of the lungs, than the sudden change from heat to cold to which, under the usual stable management, the horse is subject. In the spring and autumn, the temperature or heat of most stables is several degrees higher than that of the open air; in winter it is frequently more than thirty degrees. The necessary effect of this must be to weaken and exhaust the energies of the parts most exposed to the influence of these changes, and they are the lungs. It is, however, not only heated but empoisoned air that the horse respire; composed of his own contaminated breath, and of vapours from his dung, and particularly from his urine, strongly impregnated with hartshorn, painful to the eyes and irritating to the chest.—SEE CHAP. X.

There is likewise an intimate connexion between the lungs and the functions of the skin. When the insensible perspiration is suddenly stopped, cold and cough are the first consequences. What must inevitably happen to the horse that stands, twenty hours out of the four and twenty, in a heated atmosphere, and stands there warmly clothed, and every pore of his skin opened, and the insensible perspiration, and the sensible too, profusely pouring out, and then, with his coat stripped from his back, is turned shivering into a nipping winter's air? The discharge from the skin is at once arrested, and the revulsion, or pernicious effect of the sudden stoppage of a natural evacuation, falls on the lungs, too much weakened, and disposed to inflammation by heated air and poisonous fumes.

These simple observations are pregnant with interest and instruction to all connected with horses. He who would have his stud free from disease, and especially disease of the lungs, must pursue two objects, coolness and cleanliness. In the gentleman's stable, the first of these is studiously avoided, from the prejudice or the idleness of the groom, and from these stables proceed most of the cases of inflamed lungs; especially when this heat is combined with that temporary but mischievous nuisance, the repeated breathing of the same air during the night, and that air more vitiated by the fumes of the dung and urine. In the stables of the post-rider, where not only closeness and heat, but the filth that would not be endured in a gentleman's establishment, are found, both inflammation of the lungs and glanders prevail; and in the stables of many agriculturists, cool enough from the poverty or the carelessness of the owner, but choked with filth, inflammation of the lungs is seldom seen, but mange, glanders, and farcy abound.

*Symptoms.*—Inflammation of the substance of the lungs is sometimes sudden in its attack, but generally preceded by symptoms of fever. The pulse is occasionally not much increased in frequency, but oppressed and indistinct; the artery is plainly to be felt under

the finger, and of its usual size, but the pulse no longer indicates the expansion of the vessel, as it yields to the gush of blood, and its contraction when the blood has passed; it is rather a vibration or thrill, communicated to a fluid already over-distending the artery; in a few cases, even this almost eludes the most delicate touch, and scarcely any pulsation is to be detected. The extremities are cold; the nostril is expanded; the head thrust out, and the flanks begin to heave. There is a peculiarity in the working of the flank. It is not the deep laborious breathing of fever, nor the irregular beating of the broken wind, in which the air appears to be drawn in by one effort, while two seem to be necessary to expel it; but it is a quick hurried motion, evidently expressive of pain, and of inability to complete the action, on account of the pain, or of some mechanical obstruction. The membrane of the nose is of an intensely florid red—more vivid in the inside corners of the nostrils, and remaining concentrated there, if at times it should seem to fade away higher up. The countenance is singularly anxious, and indicative of suffering, and many a mournful look is directed at the flanks. The horse stands in a singular manner, stiff, with his fore-legs abroad, that the chest may be expanded as much as possible, and he is unwilling to move, lest for a moment he should lose the assistance of the muscles of the arms and shoulders, in producing that expansion; and, for the same reason, he obstinately stands up day after day, and night after night; or if he lies down from absolute fatigue, it is but for a moment.

In many instances, however, the approach of the disease is very treacherous, and the most careful practitioner may be deceived. The groom may perceive that the horse is somewhat off his feed, and dull, but he pays little attention to it; or if it arrests his notice, he only finds that the coat stares a little, that the legs are colder than usual, and the breathing in a slight degree quickened and shortened. In other cases, the symptoms are those of common fever, catarrh, or distemper; and the characteristics of true inflammation of the lungs appear late and unexpectedly. The cold leg and ear, the quickened, not deepened inspiration, the disinclination to lie down, and the anxious countenance, will always alarm the experienced observer.

Whatever may be the state of the pulse at first, it soon becomes oppressed, irregular, indistinct, and at length almost imperceptible. The heart is laboring in vain to push on the column of blood with which the vessels are distended, and the flow of which is obstructed by the clogged-up passages of the lungs. The legs and ears, which were cold before, become more intensely so—it is a clayey, deathly coldness. The mouth soon participates in it, and the breath too.—The bright red of the nostril fades away, or darkens to a livid purple. The animal grinds his teeth. He still persists in standing, although he often staggers and almost falls; at length he drops, and after a few struggles dies.

#### *Sect. 190.*

*The duration of the disease is singularly uncertain. It will occasionally destroy in less than twenty-four hours, and then the*

lungs present one confused and disorganized mass of blackness, and would lead the inexperienced person to imagine that long inflammation had gradually so completely broken down the substance of the lungs. Such a horse is said to die rotten, and many attempts have been made to prove that he must have been unsound for a great while, and probably before he came into his last owner's possession, and some expensive law suits have been instituted on this ground. Let our readers, however, be assured, that this black, decomposed appearance of the lungs proves no disease of long standing, but inflammation intense in its nature, and that has very speedily run its course. The horse has died from suffocation, every portion of the lungs being choked up with this black blood, which has even broken into and filled all the air-cells by means of which it should have been purified.

More frequently the disease lasts a little longer. The lungs are sufficiently pervious for some blood to be transmitted; but the inflammation is too great to be subdued, or proper means have not been taken to subdue it; and it runs its usual course, and proceeds to actual mortification, and the lungs are found not only black, but putrid.— This, too, would prove recent and violent inflammation, and not any old and unsuspected disease. This termination would be indicated, a day or two before the death of the animal, by the stinking breath, and the offensive discharge from the nose.

A frequent, and to the practitioner and the owner, a most annoying termination of inflammation of the lungs, is dropsy in the chest.— The disease seems to be subdued; the horse is more lively; his appetite returns; his legs and ears become warm; and those about him are deceived into the belief that he is doing well: nay, the most skilful surgeon is sometimes deceived. The anxiety to save his patient makes him hope the best, although the coat continues unhealthy, there is a yellow discharge from the nostrils, the pulse irregular, and the horse is frightened if suddenly moved, and especially if his head be considerably raised in the act of drenching, and he rarely or never lies down. Many days or some weeks will pass on, with these contradictory and unsatisfactory appearances; and a judgment of the result can only be formed by balancing them against each other. At length the patient shivers, the old symptoms return, and he very soon dies. On opening him, both sides of the chest are found nearly filled with fluid, impeding the pulsation of the heart, and the expansion of the lungs, and destroying the horse by suffocation.

Although the life of the horse may be saved, the consequences of inflammation of the lungs may often materially lessen, or even destroy the usefulness of the animal. As in many external inflammations considerable thickening of the part long remains, so a deposite of the coagulable portion of the blood may be left in the substance of the lungs, occupying the place of many of the air-cells, and preventing the contraction and closing of others. This produces the peculiarity of breathing, almost incompatible with speed or continuance, called *thick wind*; and frequently precedes *broken wind*, when, from the violent action of the lungs, and that action thus impeded by the obstruction we have described, some of the air-cells become ruptured.

Too frequently, considerable irritability remains in the membrane lining the air-cells, and in other portions of the air-passages, and a cough is established, which, from its continuance, and the difficulty of its removal, is called *chronic cough*. We have already considered inflammation of the lungs, as one of the causes of *roaring*.—See Sect. 178.

### Sect. 191.

*Treatment*.—The treatment of inflammation of the lungs must evidently be of the most decisive kind. We have to struggle with a disease intense in its character, and we must attempt radically to cure, and not merely to palliate it. We must look to the future usefulness of the horse, and not to the possibility of his being enabled to drag on an existence almost uncomfortable to himself. Supposing the attack to have just commenced, *the horse should be bled, not only until the pulse begins to rise, but until it afterwards begins to flutter or to stop, or the animal is evidently faint*. The effect of the bleeding, and not the quantity of the blood taken, should be regarded; for the inflammation being subdued, the lost blood will soon be supplied again. This is one of the cases in which it is absolutely necessary that the surgeon, or the owner, should stand by with his finger on the pulse, and mark the effect that is produced. If, six hours afterwards, the horse continues to stand stiff, and heaves as quickly and as laboriously as before, and the legs are as intensely cold, and the membrane of the nose as red, the bleeding should be repeated, until the same effect again follows. In the majority of cases the inflammation will be now subdued. A third bleeding may, however, sometimes be necessary, but must not be carried to the same extent, for it is possible, by too great evacuation of blood, to subdue not merely the disease, but the powers of nature. If, after this, the legs become cold, and the heaving returns, and the membrane of the nose reddens, and the horse persists in standing, bleedings to the extent of two or three quarts will be advisable, to prevent the re-establishment of the disease. In all these bleedings, let not the necessity of a broad shouldered fleam or lancet, and a full stream of blood be forgotten. These are circumstances of far more importance than is generally imagined. The appearance of the blood will be some guide in our treatment of the case. The thickness of the adhesive buffy, yellow colored coat, which in a few hours will appear on it, will mark with some degree of accuracy, the extent of the inflammation. Not regardless of the appearance of the blood, but not putting too much faith in it, we must look to the horse to determine how far that inflammation may have been diminished, or a repetition of the bleeding be necessary.

When the bleeding has evidently taken effect, we must consider by what means we may further abate, or prevent the return of the inflammation. We should blister the whole of the brisket, and the sides, as high up as the elbows. *Blisters* are far preferable to *rowels*. They act on a more extensive surface; they produce a great deal more inflammation; and they are speedier in their action.

To ensure the full operation of the blister, the hair must be closely shaved, and an ointment composed of one part of powdered Spanish flies, and four of lard and one of resin, well rubbed in. The lard and the resin should be melted together, and the powdered flies afterwards added.

#### Sect. 192.

*To form a rowel*, the skin is raised between the finger and thumb, and, with a lancet, or with scissors contrived for the purpose, a slit is cut an inch in length. Into this a piece of tow is inserted, sufficient to fill it, and previously smeared with blister ointment. This causes considerable inflammation and discharge. If a little of the tow be left sticking out of the incision, the discharge will conveniently dribble down it. The tow should be changed every day, with or without the ointment, according to the action of the rowel, or the urgency of the case. The large piece of stiff leather, with a hole in its centre, used by the farrier, is objectionable, as not being easily changed, and frequently, in the extraction of it, tearing the skin so as to cause a lasting blemish.

The blister sometimes will not rise. It will not when the inflammation of the chest is at its greatest intensity; too much action is going on there, for any to be excited elsewhere. The blister occasionally will not act in the later stages of the disease, because the powers of nature are exhausted. It is always a most unfavorable symptom when the blisters or the rowels do not take effect. The best time for the application of the blister, is when the inflammation is somewhat subdued by the bleeding; and then by the irritation which it excites, and in a part so near the original seat of disease, the inflammation of the chest is either abated or transferred to the skin; for, it is an important law of nature, that no two violent actions of different kinds can take place in the frame at the same time.

#### Sect. 193.

*Next comes the aid of medicine.* If the patient was a human being, the surgeon would immediately purge him. We must not do this; for from sympathy between the bowels and the lungs in the horse, we should either produce a fatal extension of inflammation, or a transferring of it in a more violent form, and the horse would assuredly die. We must back-rake, administer clysters, or perhaps give eight ounces of epsom salts, dissolved in warm gruel. No castor oil must be given. It may be a mild and safe aperient for the human being: it is a very dangerous one for the horse.

Having a little relaxed the bowels, we eagerly turn to cooling or sedative medicines. The farrier gives his cordial to support the animal, and prevent rottenness. He adds fuel to the fire, and no wonder that the edifice is frequently destroyed. Nitre, digitalis, and emetic tartar, should be given in the doses already recommended, and persisted in until an intermittent state of the pulse is produced. Many practitioners give hellebore in doses of half a dram, or two scruples,

every six or eight hours, and they say with considerable advantage. It is continued until the horse hangs his head, and saliva drivels from his mouth, and he becomes half stupid, and half delirious. These symptoms pass over in a few hours, and the inflammation of the chest is found to be abated. If it be so, it is on the principle of the blister: the determination of blood to the head, and the temporary excitement of the brain or its membranes, divert the inflammation or a portion of it, from its original seat, and give time for the parts somewhat to recover their tone. We confess that we prefer the digitalis, emetic tartar, and nitre: they considerably lower the pulse, and are safe.

It is of importance that we determine the blood, or a portion of it, from the inflamed and over-distended part to some other region. On this principle we warmly clothe the horse laboring under this disease, that we may cause the blood to circulate freely through the vessels of the skin, and that we may keep up the insensible perspiration, and perhaps produce some sweating. But do we put the horse in a warm place? No; for then we should bring the heated and poisoned air in contact with the inflamed lungs, and increase the excitement, already too great. It is an absurd practice to shut up every door and window, and exclude, if possible, every breath of air; rather let every door and window be thrown open, and let pure and cold air find access to these heated parts. It is interesting to see how eagerly the horse avails himself of the relief which this affords him. If no direct draft blows upon him, he can scarcely be placed in too cool a stall or stable.

Now and then the whole skin of the horse may be rubbed with the brush, if it does not tease and worry him; but it is indispensable that the legs should be frequently and well hand-rubbed to restore the circulation in them, and they should be covered with thick flannel bandages. As to food, we do not want him to take any at first, and most certainly the horse should not be coaxed to eat. A very small quantity of hay may be given to amuse him, or a cold mash, or green meat, (food,) but not a particle of corn.

In eight-and-forty hours the fate of the patient will generally be decided. If there be no remission of symptoms, the inflammation will run on to congestion of the lungs, and consequent suffocation, or to gangrene. We must, in this case, give the medicines more frequently; repeat the blister; bleed if the state of the animal will bear it; and rub the legs or even scald them. If the strength now rapidly declines, the horse may be drenched with gruel, and tonic medicine may be tried, as camomile at first, and, this not recalling or increasing the fever, a little ginger and gentian may be added.

Should the heaving gradually subside, and the legs get warm, and the horse lie down, and the inflammation be apparently subsiding, let not the owner or the practitioner be in too great haste to get the animal well. Nature will slowly, but surely and safely, restore the appetite and strength; and it is very easy to bring back the malady in all its violence by attempting to hurry her. The food should be the same, cold mashes, green meat, or a little hay, if green meat cannot be procured, and thin gruel drunk from the pail—not given as a drench. Should the horse be very weak, or scarcely eat, tonics may

be tried. The way should be felt very cautiously with the camomile, and the sedative medicine again be immediately resorted to if there be the slightest return of fever. To the camomile, the gentian and ginger may be gradually added, but no mineral tonic. After a while, hay may be offered, and a little corn, and the horse be suffered very gradually to return to his former habits.

#### Sect. 194.

*The causes of inflammation* of the lungs are changes from cold to heat, or heat to cold; exposure to cold while the horse is hot; washing with cold water immediately after exercise; sudden exposure to cold, after coming from a very hot stable; travelling in the face of a cold wind; the transference of general fever to the lungs previously disposed to inflammation from the usual stable management; and neglected catarrh, or catarrh treated with stimulants instead of cooling medicines. Any change from heat to cold, or from cold to heat, will produce it with almost equal certainty; the removal from a warm stable to a cold one, or from a cold one to a warmer: from grass to the stable, and from the stable to grass will equally give rise to disease of the lungs. It is generally the effect of our erroneous system of management.

We shall presently state the symptoms by which inflammation of the lungs may be distinguished from catarrhal fever. It may be distinguished from inflammation of the bowels by the pulse, which, in the latter disease, is small and wiry; by the membrane of the nose, which is not then so much reddened; by the indications of pain, as kicking at the belly, stamping, and rolling; by his eager scraping of the litter, and by the belly being painful to the touch, and also hot, when the bowels are inflamed.

#### Sect. 195.

We are, from our limited knowledge of physiology, aware that there is a great sympathy between the *bowels and lungs* in the horse, and believe that the practice of violent purging would prove fatal in most cases of pneumonia, or inflammation of the lungs in the horse, yet we believe that the great *via* or opening, should be unobstructed when the subject labors under this disease. Drastic purgatives are at all times more injurious than beneficial.

The treatment of this disease varies in many particulars, but the general one is, depletion; free blood letting, and emollient laxatives. If this course is pursued in the first stage of the disease, the animal may recover; but if let run on a short time, the horse must die.

Dr. Winters recommends copious bleeding, then follow it by a mild purgative.

#### No. 80.—*Laxative.*

Take liquid bacon, (lard,) one-quarter of a pound; olive oil, one-half pound; extract of acacia bark, four ounces; wine, one pint; drench the horse. If this does not operate by night, inject the follow-

ing clyster, and repeat the laxative immediately afterwards.—No. 6, Sect. 130.—*A clyster.*

The next day after the physic has operated, administer the following drink :

No. 81.—*Drink for heaving of lungs.*

Take hysop, dill, of each two handfuls ; fleur-de-lis, (flag-flower,) one ounce ; horehound, organ, of each, one-half ounce ; licorice root, two ounces ; butter, one-quarter of a pound, and one quart of honey water ; mix—decoct, and administer one-half of it at once.

The breast of the horse should be daily greased with the following ointment :

Duck oil, one ounce ; butter, one-quarter of a pound ; oil of rue, and flag-flowers, of each, four drams ; mix—anoint. This should be succeeded by giving the following drink every other day : The yolk of ten eggs, and one quart of mutton broth ; mixed—given lukewarm.

Sect. 196.

*Pleurisy—Seitenentzündung.*—Ger.

Hitherto we have spoken of inflammation of the substance of the lungs ; but inflammation may attack the membrane covering them and lining the side of the chest, (the pleura,) and be principally or entirely confined to that membrane. This is termed pleurisy. The causes are the same as in inflammation of the substance of the lungs, and the symptoms are not very dissimilar. The guiding distinction will be the pulse. As the blood in this disease still traverses the lungs without obstruction, we have not the oppressed pulse, but rather the hard, full pulse, characteristic of inflammation ; the extremities are cold, but not much so ; the membrane of the nose intensely red in the former disease, because it is a continuation of the inflamed lining of the air cells of the lungs, is here but little reddened, because there is no connection between them ; if the sides are pressed upon in pleurisy, pain will be felt, which the horse will express by a kind of grunt, and which is easily explained by the pressure being applied so close to the seat of disease. The manner of standing, however, will remain the same, and the obstinacy of standing the same, and the extension of the neck, and the protrusion of the nostril. After death, the pleura of the ribs and the lungs will exhibit stripes or patches of inflammation, and the chest will be generally filled with serous fluid.

Copious bleeding is indicated here, as in inflammation of the substance of the lungs. Blisters and sedative medicines must likewise be resorted to. The fever powders, No. 73-74, and fever drinks, No. 75, Section 188, are highly recommended in pleurisy as sedatives, by adding a small quantity of hyosciamus, one dram to each formula ; they form an efficient sedative. The only important difference is, that aperients may be administered with more safety than in the former disease. Puncturing of the chest to give escape to the fluid that is thrown out in it may be attempted. It cannot do harm, but it has very seldom saved or much prolonged the life of the animal. If



the operation be attempted, it should be as soon as the presence of the fluid is suspected, and the means by which this may be ascertained we have already described. The opening should be effected with the common trocar used for tapping in dropsy in the human being, and should be made between the eighth and ninth ribs, and close to the cartilages. Diuretic medicines, combined with tonics, should be administered.

*Sect. 197.*

*Catarrh, or common cold—Kataarrh Verkältung.—Ger.*

This is a complaint of frequent occurrence, generally subdued without much difficulty, but often becoming of serious consequence, if neglected. It is accompanied by a little increase of pulse; a slight discharge from the nose and eyes; a coat somewhat roughened; a diminution of appetite, and cough sometimes painful and frequent.—A little warmth, a few mashes, and some doses of the medicine recommended under inflammation of the lungs, will speedily effect a cure. Should the cough be very painful and obstinate, it may be necessary to bleed; but then the disease is degenerating into bronchitis or catarrhal fever.

The divisions of the windpipe just before it enters the lungs, and the numerous vessels into which it immediately afterwards branches out, are called the bronchial tubes, and inflammation of the membrane that lines them is termed:

*Sect. 198.*

*Bronchitis—Luftröhr-Beschwerde.—Ger.*

It is catarrh extending to the entrance of the lungs. It is characterized by quicker and harder breathing than catarrh usually presents, and by a peculiar wheezing, which is relieved by the coughing up of mucous.

It is to be treated by bleeding, far less copious than in inflammation of the lungs, or even in catarrh. The horse will bear to lose only a very small quantity of blood when laboring under inflammation of the bronchial passages. The chest should be blistered, and digitalis given, and the other treatment similar to that for inflamed lungs, with the exception of the bleeding. Thick-wind is a frequent consequence of neglected bronchitis.

*Sect. 199.*

*Catarrhal fever—Katarrhal-fieber.—Ger.*

This malady has various names among horsemen, as epidemic catarrh, influenza, distemper. By the latter name it is generally distinguished in racing stables.

*Symptoms.*—It usually commences, like inflammation of the lungs and fever, with a shivering fit; to which rapidly succeed a hot mouth,

greater heat of the skin than is natural, heaving of the flanks, and cough. The eyes are red and heavy, and the membrane of the nose red, but considerably paler than that of inflammation of the lungs, and even occasionally bordering on a livid hue. From the very commencement of the disease there is some discharge from the nose; at first, of a mere watery nature, but soon thickening, and containing flakes, some of which stick to the membrane of the nose, and have been mistaken for ulcers. This discharge, at no great distance of time, becomes mattery and offensive. The glands likewise of the throat and under-jaw become enlarged, and the membranes of the nostril and the throat are inflamed and tender, and therefore the food is "quidded," and there is difficulty even in swallowing water, particularly if it be cold. The horse sips and slavers in the pail, and repeatedly coughs as he drinks. The cough is sometimes frequent and painful; so much so, that the horse repeatedly stamps with his feet, and shows signs of impatience and suffering in the act of coughing. To these symptoms rapidly succeeds very great weakness. The horse staggers, and sometimes almost falls as he moves about his box; or he supports himself by leaning his sides or his quarters against the stall. To the inexperienced observer, this early and excessive weakness will be very alarming, and he will give up the horse as lost. The legs generally swell, and enlargements appear on the chest and belly. These, however, generally are favorable. The pulse is quickened. It rises to sixty or seventy, but the number of its beatings, and the character of the pulse, which is seldom very hard, depend much on the degree of fever which accompanies the disease.

After a few days the cough becomes less frequent and painful; the glands of the throat diminished; the horse begins to eat a little green meat, and is more cheerful. In some cases, however, the membrane of the nose reddens, or streaks of red run through the lividness; and the legs become cold, and the countenance haggard, and inflammation of the lungs is at hand. At other times the breath is offensive; the discharge from the nose bloody; the evacuations loose, and slimy, and bloody; and the animal is speedily destroyed. The cause of this disease is obscure. It may be the consequence of common cold; or it will more frequently depend on some unexplained influence of the atmosphere. About the middle of spring and the commencement of autumn it is most frequent. Many horses in the same district, or in almost every part of the country, will be attacked by it. If the spring or autumn be wet and variable, almost every cold will degenerate into it; and there are too many circumstances which lead us to conclude that it is infectious. A lot of horses was bought at one of the fairs. They were all but one sent immediately to the residence of the purchaser at a considerable distance. The remaining one was employed for some purpose, and afterwards sent on a journey. He was seized with distemper, and on recovering sufficiently to travel, he was taken home. Three months had now elapsed since the purchase, and the other horses had been perfectly healthy; but in less than a fortnight after this horse arrived, they all sickened with distemper.

*The treatment of catarrhal fever* requires much judgment. It is clearly febrile in its commencement; but it speedily assumes the character of weakness. We will suppose that the disease is discovered at its very commencement. Bleeding will then be indispensable, regulated in quantity by the degree of fever; rarely exceeding four quarts, never intentionally pursued until the animal is faint, and immediately stopped when there is the slightest appearance of faintness. The bleeding should be repeated if the pulse is frequent and strong; or if the membrane of the nose is getting red, and the legs cold, and even although weakness should be rapidly coming on; but it should be in small quantity, and the effect of it carefully watched.

If the disease has been suffered to run on for two or three days, and the horse begins to stagger, the practitioner or the owner will consider all the symptoms well before he ventures to bleed. Redness of the nostril, heat of the mouth, quickness and force of pulse, heaving of the flanks, or coldness of the legs, will require the loss of blood, notwithstanding considerable weakness; but if the animal is quite off his feed, and the inside of the nose is livid, and he is fast losing condition as well as strength, bleeding will be better avoided.

It is of importance that the bowels should be evacuated; and there is not so much danger in the use of a little purgative medicine as in inflammation of the lungs. Two drams of Barbadoes aloes may be given in the form of a ball, or in solution; and in twelve hours another dram may be given, and even a third dose twelve hours after that, if the fæces have not been loosened; taking care to back-rake the animal, and to administer injections of thin gruel.

The sedative medicines at first exhibited should be the same as in inflammation of the lungs, and in the same quantity; but as soon as the fever begins to remit, two drams of the spirit of nitrous ether should be added to each dose; and, the weakness increasing, and the fever still more subsiding, the camomile may be ventured on, but with caution. Warm clothing is necessary, and particularly about the head; and although the box should still be airy, it should not be so cool as in inflammation of the lungs. If the throat be so sore that the animal will not eat, either the parotid or the submaxillary glands, or both, should be blistered. It will be far better to blister them at once, than to lose time by the use of weaker and ineffective applications. The discharge from the nose should be promoted, and the natural progress of the inflammation of the membrane of the nose and throat hastened by hot mashes being frequently put in the manger, or, if the horse is not too much distressed by it, hung under his nostrils in a common nose-bag. When this is resorted to, a hood about the head will be particularly necessary.

A great deal of weakness soon follows an attack of catarrhal fever, and it will then be necessary, even while we are subduing the fever, to support the strength of the animal. He should be offered bran-mashes, malt-mashes, damped hay, green meat, or carrots. If he refuses to take them, they should be insinuated between his grinders, when, being compelled to bruise them a little in endeavoring to get rid of them, and thus experiencing their taste, he will often be induced

to eat several little portions. If he obstinately refuses to feed, he must be drenched with thick gruel; but this will seldom be necessary if all water be refused him from the earliest period of the disease, and a pail with thinner gruel be suspended in some part of his stall.— When he finds that he can get nothing else, he will drink sufficient of this to afford him all the nutriment we require. The preservation of due warmth in the extremities is as necessary here as in inflammation of the lungs, and should be attempted by warm bandages, and frequent hand-rubbing.

The terminations of this disease most to be dreaded are inflammation of the lungs, and putrid fever. We know how to guard against the former, and we shall presently speak of the latter. When, however, the disease hangs long upon the horse, there is usually much mischief done in the chest, although the animal may recover. Thick-wind, broken-wind, and chronic cough are its occasional consequences; and likewise, as the disease has affected so great a portion of the air-passages, a peculiar liability to cold and cough, and, not unfrequently, an unpleasant and troublesome discharge from the nose will remain. Of the latter we have spoken under the title of nasal gleet; the others will presently come under consideration. The farmer will not forget the infectious nature of this disease, and will immediately separate the sick animal from his companions.

The disease with which catarrhal fever is most likely to be confounded is inflammation of the lungs; and as the treatment of the two is in some particulars so different, the farmer should be enabled readily to distinguish between them. If a little care be used this will not be difficult. The febrile character of the pulse; the early discharge from the nose; the want of intense redness in the lining of the nose; the frequent and painful cough; the enlargement of the glands, and soreness of the throat; the rapid loss of strength, the sometimes constant, and at other times variable warmth of the legs; the fidgettiness and pawing, will sufficiently distinguish catarrhal fever from the oppressed pulse, red nostril, heaving flank, little cough, fixedness of limbs, and coldness of the extremities which accompany and characterize inflammation of the lungs.

#### Sect. 200.

#### *The malignant epidemic—Bœsartiges Flussfieber.—Ger.*

This commences with nearly the same symptoms as catarrhal fever: it probably at the beginning is catarrhal fever, but more than usually violent, and sooner exhausting the powers of the frame.

Its symptoms are rapid loss of strength, stinking breath, fœtid discharge from the nostrils, all the evacuations becoming highly offensive, the pulse rapid, small and weak, and the animal obstinately refusing to eat. It soon runs its course. Gangrene soon succeeds to inflammation, and rapidly spreads from the part first inflamed through the whole of the cellular substance, and over every portion of the frame. When veterinary science was in its infancy, this pest used periodically

to appear, and carry off hundreds of horses; and that breeder is fortunate, who does not now sometimes suffer from its ravages. The treatment of it is very unsatisfactory. The prevention may be a little more in our power, by endeavoring to get rid of the previous disease by one bleeding, when, in some seasons, catarrhal fever appears under a form more than usually violent; and by bleeding with extreme caution, or not bleeding at all, when debility begins to appear. A mild purgative may be first administered to carry off a portion of the offensive matter contained in the bowels; after which, chalk, and ginger, and opium, and gentian, and colombo, with port-wine, may be plentifully given, with green meat, or thick gruel; but except the horse be valuable, the chance of saving him is so slight, and probably the danger of spreading the pest so great, that prudence will prompt his destruction.

Most frequent in occurrence among the consequences of catarrhal fever, and inflammation of the lungs, is chronic cough.

*Sect. 201.*

*Chronic cough—Chronischer Husten.—Gér.*

It would occupy more space than we can devote to this part of our subject, to speak of all the causes of obstinate cough. The irritability of so great a portion of the air-passages, occasioned by previous and violent inflammation of them, is the most frequent. It is sometimes connected with worms. There is much sympathy between the lungs and the intestines, and the one very readily participates in the irritation produced in the other. That it is caused by glanders, can be easily imagined, because that disease is, in its early stage, seated in or near the principal air-passages, and little time passes before the lungs become affected. It is the necessary attendant of thick-wind and broken-wind, for these proceed from alterations of the structure of the lungs.

*Remedy.*—Notwithstanding the clearness of the cause, the cure is not so evident. If a harsh, hollow cough be accompanied by a staring coat, and the appearance of worms; a few worm-balls may expel these parasites, and remove the irritation of the intestinal canal. If it proceed from irritability of the air-passages, which will be discovered by the horse coughing after drinking, or when he first goes out of the stable in the morning, or by his occasional throwing out thick mucous from the nose, medicines may be given, and sometimes with advantage, to diminish irritation generally. Half-doses of the digitalis, emetic tartar, and nitre, given every night, have had a very beneficial effect, especially when made up with tar, which seems to have a powerful influence in allaying these irritations. These balls should be regularly given for a considerable time.

The following for chronic cough, have been found beneficial:

*No. 82.—Chronic cough balls.*

Take one scruple of calomel; gum ammoniacum, horse radish, each, two drams; balsam of Tolu, squills, each, one dram; beat all

together, and make into a ball with honey, and give every morning, fasting.

No. 83.—*Chronic cough drink.*

Take tar water, lime water, of each, half a pint; tincture of squills, half an ounce.

No. 84.—*Powder for chronic cough.*

Take tartar emetic, two drams; powdered fox-glove, one-half dram; powdered squills, one-half dram; calomel, one scruple; nitre, three drams; give every night in a malt-mash.

A blister, extending from the root of one ear to that of the other, taking in the whole of the channel, and reaching six or eight inches down the windpipe, has been tried, and not without good effect, on the supposition that the irritation may exist in the fauces or the larynx; and the blister has sometimes been extended through the whole course of the windpipe, until it enters the chest.

Feeding has much influence on this complaint. Too much dry meat, and especially chaff, increases it. It is aggravated when the horse is suffered to eat his litter. Carrots afford decided relief.

The seat of the disease, however, is so uncertain, and all our means and applications so inefficacious, and the cough itself so little interfering, and sometimes interfering not at all with the health of the animal, that it is scarcely worth while to persevere in any mode of treatment that is not evidently attended with speedy benefit. The principal consideration to induce us to meddle at all with chronic cough is the knowledge that horses afflicted with it are more liable than others to be affected by changes of temperature, and that inflammation of the lungs, or of the respiratory passages, often assumes in them a very alarming character; to which, perhaps, we may add, that a horse with chronic cough cannot legally or properly be warranted sound.

When chronic cough chiefly occurs after eating, the seat of the disease is evidently in the substance of the lungs. The stomach distended with food presses upon the diaphragm, the diaphragm upon the lungs; and the lungs, already laboring under some congestion, are less capable of transmitting the air. In the violent effort to discharge their function, irritation is produced; and the act of coughing is the consequence of that irritation. This is allied with, or soon runs into thick-wind.

*Sect. 202.*

Thick-wind consists in short, frequent, and laborious breathings, and especially when the animal is in exercise; the inspirations and expirations often succeeding each other so rapidly as evidently to express distress, and occasionally almost to threaten suffocation. Some degree of it frequently exists in round-chested and fat horses, that have little or no breeding. The reason of this is sufficiently plain. The circular chest affords sufficient room for the expansion of the lungs when the animal is at rest, and sufficient room for the ac-

cumulation of a great deal of fat and flesh; but when the horse is strongly exercised, the circulation of the blood is hurried, and its change from arterial to venous, or from vital to empoisoned blood, is more rapid. The circular chest cannot then enlarge to any great degree: yet the blood must be purified in greater quantity, and therefore what cannot be done by increase of surface, must be accomplished by frequency of action. Heavy draught horses are invariably thick-winded, and so are almost all horses violently exercised on a full stomach.

A horse laboring under any inflammatory affection of the lungs is thick-winded, because the pain which he feels in the act of breathing will not permit him to respire deeply, and therefore, he must breathe quickly. A horse unused to exercise is thick-winded, because the lungs will not soon accommodate themselves to a new and laborious action.

The principal cause, however, of thick-wind is previous inflammation, and particularly inflammation of the bronchial passages.—The throwing out of some fluid, which is capable of coagulation, is the result, or the natural termination of inflammation. This deposit in the substance of the lungs, or in the bronchial tubes, from inflammation of these organs, must close many of the air-cells, and lessen the dimensions of others. Then if the cells, fewer in number and contracted in size, be left for the purposes of breathing, the rapid and laborious action of the lungs must supply the deficiency, and especially when the animal is put in that state in which he requires a rapid change of blood.

The examination of thick-winded horses has thrown considerable light on the nature of the disease. In the majority of instances some of the small air-cells have been found filled up with a dense substance of a blue or darker color. In others, the minute passages leading to the cells have been diminished, and almost obliterated, the linings of these passages being unnaturally thickened, or covered with hardened mucous; and where neither of these appearances could be observed, the lining of the cells has exhibited evident marks of inflammation, so that absolute pain prevented the full expansion or contraction of the lungs.

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

Of the treatment of thick-wind we have little to say. Attention to diet, and the prevention of the overloading of the stomach, and the avoidance of exercise soon after a meal, may in some degree palliate the disease, and so may constant exercise, carried to the extent of the horse's power, without too much distressing him. The capability of exertion will thus daily improve, and the breathing of the horse will become freer and deeper. This is the process of training a horse for the course: and this constitutes all the difference between a horse that has been well and one that has been badly trained.

## Sect. 203.

*Broken-wind—Windbruch.—Ger.*

This is easily distinguished from thick-wind. In thick-wind the breathing is rapid and laborious, but the inspiration and expiration are equally so, and occupy precisely the same time. In broken-wind the inspiration is performed by one effort; the expiration by two, which is plainly to be distinguished by observing the flanks, and which occupies double the time. The reason of this may easily be stated. Broken-wind is the rupture or running together of some of the air-cells. When the lungs are expanded, the air will rush in easily enough, and one effort of the muscles of respiration is sufficient for the purpose; but when these cells have run into each other, the cavity is so irregular, and contains so many corners and blind pouches, that it is exceedingly difficult to force it out again, and two efforts are scarcely competent fully to effect it.

This disease is also accompanied by a dry and husky cough of a peculiar sound, which cannot easily be described, but is recognized by every one accustomed to horses. It is the consequence of thick-wind, and of those alterations of structure consequent on inflammation. If a portion of the lung be lost to the animal, and the same quantity of pure blood must be supplied, while there is not the same surface to supply it, it is easy to suppose that, in the violent efforts which such a horse is compelled to make, some of the cells may be broken.

Broken-wind may, however, occur without much previous disease. Suppose a horse to be a gross feeder, and to have filled his stomach with straw and hay, and provender, that occupies a great bulk, and contains little nourishment, the lungs are squeezed into a less than the natural compass. Let the horse be now suddenly and smartly exercised; more blood must be purified, and in the violent effort to accomplish this, some of the cells give way. Therefore we do not find broken-winded horses on the race-course, for although every exertion of speed is required from them, their food lies in small compass, and the stomach is not distended, and the lungs have room to play, and care is taken that their exertion shall be required when the stomach is nearly empty. Carriage and coach horses are seldom broken-winded, unless they bring the disease to their work, for they too live principally on corn, and their work is regular, and care is taken that they shall not be fed immediately before their work. The majority of horses thus affected, come from the stables of those for whose use these pages are principally designed. The farmer's horse is the broken-winded horse, because that on which he is fed is bulky, and too often selected on account of its cheapness; because there is little regularity in the management of most of the farmer's stables, or the work of his teams; and because after many an hour's fasting the horses are often suffered to gorge themselves with this bulky food; and then, the stomach pressing upon the lungs, and almost impeding ordinary respiration, they are put again to work, and sometimes to that which requires considerable exertion.



A profitable lesson may be learnt from this statement. The farmer perhaps may contrive to give his horses a little more corn, and a little less hay, and straw, and chaff, without much additional expense; he may contrive, too, to shorten the period of fasting, and therefore prevent the ravenous manner in which agricultural horses often feed; and more regularity may take place between the periods of feeding and of work. We have recommended the nose-bag, as a preventive of stomach-staggers; we can as earnestly recommend it as a preventive of broken-wind.

*Cause.*—This disease depends as much upon the cramped state of the lungs, from the pressure of an over-gorged stomach in the ordinary state of the animal, as on the effects of over-exertion. The agriculturist knows that many a horse becomes broken-winded in the straw yard. There is little nutriment in the provender which he there finds, and to obtain enough for the support of life, he is compelled to keep the stomach constantly full, and pressing upon the lungs. Some have come up from grass broken-winded, that went out perfectly sound. The explanation of this case is the same. The stomach was habitually gorged with coarse and innutritive herbage, and its pressure on the lungs cramped and confined their action, and produced those violent efforts which burst some of the air-cells, and especially when in their gambols in the straw-yard or in the field, or sometimes being wantonly driven about, the lungs were suddenly called upon to perform extraordinary work. There are difficulties attending this explanation of the disease, but it cannot be denied that the dissection of horses which had broken-wind has almost invariably presented these enlarged air-cells, one of which occupy the space of a great many of their natural dimensions.

*The cure of a broken-winded horse no one ever witnessed;* yet much may be done in the way of palliation.\* The food of the animal should consist of much nutriment condensed into a small compass; the quantity of oats should be increased, and that of hay proportionably diminished; the bowels should be gently relaxed by the frequent use of mashes; the water should be given sparingly through the day, although at night the thirst of the animal should be fully satisfied; and exercise should never be taken when the stomach is full. It will scarcely be believed how much relief these simple measures will afford to the broken-winded horse, and of how much exertion he may be gradually rendered capable. Some treated on this plan have even been hunted, and have acquitted themselves well in the field. Carrots are very useful to the broken-winded horse, not only as containing much nutriment and considerable moisture, so that less water may be required, but from some property which they possess, rendering them beneficial in every chest affection. A broken-winded horse turned out to grass will never improve, on account of the almost constant

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\* We know an instance where a wind-broken horse had been kept in a field where there was not any water, except in the bottom of a lime-kiln, and recovered his wind. The horse got no other water to drink for five or six weeks, and he perfectly recovered wind, and continues free from cough.—*Practical Farmer.*

distension of the stomach; but he may be fed on more succulent substances, as turneps and mangel-wurzel, with evident advantage. They are easy of digestion, and soon pass out of the stomach.

Medical treatment is of little avail, except that organs so violently excited as the lungs of broken-winded horses frequently are, must be subject to inflammation, and the difficulty of breathing in these horses is sometimes sadly increased. A little blood may then be subtracted, and other means taken which have been recommended for inflammatory affections of the chest. In case of frequent or periodical returns of difficulty of breathing, to which these horses are very subject, a course of mild aperients, united with mercury, have been given with decided advantage. Two drams of aloes, and one of calomel, may be given twice in the week. The barbarous practice of some farriers of making holes near the anus, and sometimes in other parts, to let out the broken-wind, cannot be too strongly reprobated.

We here insert an article from our *Irish book*, by Montague. It is given without comment.

Ball for broken-winded horses, that has made a perfect cure of upwards of seven hundred, in less than nine months: Myrrh, elecampane, and licorice root, in fine powder, three ounces each; saffron, three drams; asafetida, one ounce; sulphur, squills, and cinnabar of antimony, of each, two ounces; aurum mosaicum, one and a-half ounce; oil of aniseed, eighty drops; make it into a paste, with either treacle or honey, and give the horse the quantity of a hen's egg, every morning for a week, and afterwards, every other morning, until the disorder is removed.

Thick-wind and broken-wind exist in various degrees, and many shades of difference. Dealers and horsemen generally have characterized them by names that can boast no elegance, but are considerably expressive of the state of the animal. Our readers should not be ignorant of them. Some horses make a shrill noise when in quick action—they are said to be PIPERS. This is a species of *roaring*. There is usually a ring of coagulated matter round the inside of the windpipe, by which the cavity is materially diminished, and the sound produced in quick breathing must evidently be shriller. Sometimes the piping is produced by a contraction of the small passages of the lungs.

#### Sect. 204.

The WHEEZER utters a sound not unlike that of an asthmatic person when a little hurried. This is a kind of thick-wind, and is caused by the lodgment of some mucous fluid in the small passages of the lungs. It frequently accompanies *bronchitis*. Wheezing can be heard at all times, even when the horse is at rest in the stable; roaring is confined to the increased breathing of considerable exertion.

The WHISTLER utters a shriller sound than the wheezer, but only when in exercise, and that of some continuance. A sudden motion will not always produce it. It seems to be referable to some contraction in the windpipe or the larynx. The sound is a great nuisance

to the rider, and the whistler very speedily becomes distressed. A sharp gallop up hill will speedily detect the whistler.

When the obstruction seems to be principally in the nose, the horse loudly puffs and blows, and the nostrils are dilated to the utmost, while the flanks are comparatively quiet. This animal is said to be a *high-blower*. With all his apparent distress, he often possesses great speed and endurance. The sound is unpleasant, but the lungs may be perfectly sound.

Every horse violently exercised on a full stomach, or when overloaded with fat, will grunt very much like a hog. The pressure of the stomach on the lungs, or that of the fat accumulated about the heart, will so much impede the breathing, that the act of forcible expiration will be accompanied by this kind of sound, if suddenly touched with the spur or whip. They are called grunTERS, and should be avoided. There is some altered structure of the lungs, which prevents them from suddenly accommodating themselves to an unexpected demand for exertion. It is the consequence of a previous disease, and is frequently followed by thick or broken-wind.

#### Sect. 205.

Before we proceed to speak of the diseases of the stomach, we shall select and translate a few remedies or cures for *cough, cold, &c.*

Mr. White recommends in catarrh or cold, bleeding and laxatives. The following, he says, will be found a very useful remedy, and may be repeated at an interval of a few days, should it appear necessary. It will generally prevent those obstinate and even incurable coughs which so often remain after a cold, and which not unfrequently terminate in broken-wind.

#### No. 85.—*Laxative ball.*

Take Barbadoes aloes, three drams to one-half ounce; emetic tartar, one and a-half dram; castile-soap, two drams; syrup enough to form a ball for one dose.

White recommends the following as an expectorant ball:

#### No. 86.—*Expectorant ball.*

Take gum ammoniacum, from three to five drams; powdered squills, one dram; opium, one-half dram; powdered ginger, one dram; syrup enough for a ball for one dose.

#### *Cure for cough in horses.*

[From the Pocket Farrier.]

One-half pound of nitre, one-quarter pound of crocus metallorum, i. e. black regulus of antimony; two ounces of antimony; mix well in a mortar, and make it up into doses of one ounce, each. Give the horse one dose in a cold mash, mixed, every night in mild weather, for three nights; then omit it for a week. If he does not get better of his cough, repeat it. Care is necessary that the horse should not

be exposed while warm, to stand in a cold wind: otherwise exercise him gently, and heat him as usual.

Dr. Deigendesch recommends the following cough powder:

No. 87.—*Cough powder.*

Take lungwort, tansy, fenugreek, of each, one ounce; laurel berries, bole armeniac, and sulphur, of each, one-half ounce; mix; give the horse a spoonful every morning and evening, in his feed.

If the cough is caused from feeding musty feed, or by drinking stagnant water, give the following:

No. 88.—*Cough powder.*

Take septfoil, or tormentil, elecampane, white jalap, of each, two ounces; marshmallows, licorice root, noble liverwort, each, one ounce; mullen, horehound, of each, one-half ounce; laurel berries, fennelseed, aniseed, sulphur, one-half ounce; mix; pulverize; give the horse twice a day, each time a spoonful, with his feed.

John Schneyder recommends the following cough mixture:

No. 89.—*Liquid cough mixture.*

Take lungwort, a handful; wild spikenard, two ounces; barley and flaxseed, of each, one quart; water, three gallons; boil the whole until it is reduced one-third, and give the horse daily some of it with his feed.

Dr. Winters recommends, after bleeding, physicing and clystering, the following cough powder:

No. 90.—*Cough powder.*

Take elecampane, one and a-half ounce; gentian, three ounces; bitter cucumber root, one and a-half ounce; agaric, three ounces; birthwort, three ounces; jalap, one and a-half ounce; scammony, one ounce.

Pulverize, and feed the horse daily one-half ounce of the mixture; or take one-half ounce of it with a pint of wine, and give it to the horse at one draught.

Nachrichter recommends for a wind-broken horse, besides purgatives and bleeding, the following as an excellent powder:

No. 91.—*Powder for wind-broken horse.*

Take elecampane, masterwort, of each, one ounce; sage, lungwort, speedwell, fenugreek, zedoary, and sulphur, of each, one ounce.

Mixed, pulverized; give the horse in the morning and evening a spoonful with his feed.

*Heaves.*—This disease in horses is characterized by difficult and laborious respiration or breathing. It is a very afflicting disease.—The following remedy for this disease has never failed. The receipt for the cure has been selling at five dollars to the eastward, where the efficacy of the medicine recommended, has been proved in the cure of a number of cases of the most obstinate heaves.

No. 92.—*Remedy for heaves.*

Take one pound and a-half of good ginger, for a horse. Give two table spoonfuls a day—one in the morning and the other in the evening, mixed with wheat bran.

## Sect. 206.

## D.—DISEASES OF THE STOMACH AND INTESTINES.

*The stomach—Der Magen.—Ger.*

The stomach is found on the left side of the belly, lying upon the large intestines; its fore-part close to the liver; and its left side in contact with the diaphragm.\* This situation of the stomach will at once explain the reason why a horse is so much distressed, and sometimes irreparably injured if worked hard immediately after a full meal. The stomach must be displaced and driven back in the belly by every contraction of the diaphragm or act of inspiration; then in proportion to the fulness of the stomach will be the weight to be overcome, and the labour of the diaphragm, and the exhaustion of the animal. If the stomach be much distended, it may be too weighty to be forced sufficiently far back to make room for the quantity of air which the animal, in a state of exertion, requires. Hence the frequency and labor of the breath, and the quickness with which such a horse is blown, or, possibly, destroyed. Hence the folly of giving too full a meal, or too much water before the horse starts on a journey; and hence, likewise, the absurdity and danger of that unpardonable custom of some grooms to gallop the horse after his drink, in order to warm it in his belly, and prevent gripes.

The horse was destined to be the servant of man, and to serve him at all hours, and whether fasting or full; it would seem, therefore, that to lessen the inconvenience or danger of the pressure of the stomach on the diaphragm, a smaller stomach, in proportion to his size, is given to the horse than to almost any other animal. The bulk of the horse, and the services required of him, demand much nutriment; and his nutriment is of such a nature that it must occupy a very considerable space, yet his stomach, compared with his bulk, is not half so large as that of the human being; and therefore, although he, like every other animal, feels inconvenience from great exertion immediately after a full meal, he feels not so much as other animals, for his stomach is small, and a great proportion of what he eats rapidly passes through it, and descends to a part of the intestines distant from the diaphragm, and where the existence and pressure of the food cannot cause him any annoyance.

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\* The diaphragm or midriff separates the chest from the abdomen or belly, extending obliquely from the loins to the breast bone. The great artery which conveys the blood from the heart to the hinder part of the frame, the great vein which carries the blood from the hinder parts and the liver to the heart, and the gullet, all pass through the diaphragm. It is one of the most important muscles of the horse.

The stomach of the horse being small, the wonderful change which is effected in the food, and the nature of which has never been thoroughly understood, proceeds very rapidly. The horse, in some instances, will eat a great deal more than the stomach will hold, and room can only be made for the reception of the fresh food by that which had been previously received being discharged through the pyloric orifice.

Of one disease of the stomach, arising from over distention, stomach-staggers, we have already spoken.—SEE SUBDIVISION A. In a few instances the stomach has been known to be distended with air, but there are no characteristic symptoms by which this may be distinguished from distension by food, and the treatment would be the same.

Of inflammation of the stomach in the horse, except from poisonous herbs or drugs, we know but little. It very rarely occurs, and then can with difficulty be distinguished from inflammation of the bowels.

Few horses are destroyed by poisonous plants.\* Natural instinct teaches them to avoid those which would be injurious.

Of the mineral poisons we will mention only two. Arsenic was formerly celebrated as a tonic and a destroyer of worms in the horse; and doses sufficient to kill three or four men used to be daily administered, and generally with impunity; the dose has, however, in some cases been too strong, and the animal has died. There are better tonics and vermifuges, and the drug will probably soon be discarded from veterinary practice. Corrosive sublimate is given internally, and often with advantage in farcy. It is used externally to destroy vermin, to cure mange, and to dispose deep and fistulous ulcers to heal. The symptoms of an over-dose of either are loss of appetite, discharge of saliva from the mouth, pawing, looking eagerly at the flanks, rolling, profuse perspiration, thready pulse, rapid weakness, violent purging and straining, convulsions, and death.

The stomach will be found intensely inflamed, with patches of yet greater inflammation. The whole course of the intestine will be inflamed, with particular parts black and gangrenous.

The antidote, if it be not too late to administer it, would be, for arsenic, lime water, or chalk and water, or soap and water, or pearl ashes, given in great quantities with the stomach-pump; and for corrosive sublimate, the white of eggs mixed with water, or thick starch, arrow-root or linseed tea. If the poisoning be malicious, arsenic may be most readily detected by mixing a little of the fluid taken from the intestines with a weak solution of blue vitriol, to which a little hartshorn has been added—the mixture will gradually become green; or, if a little of the more solid contents of the stomach or small intestines be thrown on a red hot iron, a smell of garlic will be perceived.

For corrosive sublimate there is a simpler test. Place a drop of the suspected fluid on a piece of gold, let the stem of a small key

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\* A gentleman of Chester county, Pa., informed us, in 1834, that he lost several horses which had eaten *cicuta maculata*.

touch the gold while the handle is brought into contact with the drop, and the gold will immediately be stained; or mix a little of the suspected fluid with lime water, and the corrosive sublimate, if there be any, will be thrown to the bottom, of an orange color; or if hartshorn be used, the precipitate will be white.

*Sect. 207.*

a.—*Grubs or bots—Engerlinge.*—Ger.

In the spring and early part of the summer, horses are much troubled by a grub or caterpillar, which crawls out of the anus, fastens itself under the tail, and seems to cause a great deal of itching or uneasiness. Grooms are sometimes alarmed at the appearance of these insects. Their history is curious, and will dispel every fear with regard to them.

A species of gad-fly, is in the latter part of summer exceedingly busy about the horse. They are observed to be darting with great rapidity towards the knees and sides of the animal. The females are depositing their eggs on the hair, and which adhere to it by means of a glutinous fluid with which they are surrounded. In a few days the eggs are ready to be hatched, and the slightest application of warmth and moisture will liberate the little animals which they contain. The horse in licking himself touches the egg, it bursts, and a small worm escapes, which adheres to the tongue, and is conveyed with the food into the stomach,\* there it clings, by means of a hook on either side of its mouth, to the cuticular portion of the stomach, and its hold is so firm and so obstinate, that it will be broken before it will be detached. It remains feeding there on the mucous of the stomach during the whole of the winter, and to the end of the ensuing spring; when, having attained a considerable size, and being destined to undergo a certain transformation, it disengages itself from the cuticular coat, is carried into the villous portion of the stomach with the food, passes out of it with the chyme, and is at length evacuated with the dung.

The larva or maggot being thus thrown out, seeks shelter in the ground, contracts in size, and becomes a chrysalis or grub; in which state it lies inactive for a few weeks, and then, bursting from its confinement, assumes the form of a fly. The female, becoming impregnated, quickly deposits her eggs on those parts of the horse which he is most likely to lick, and so the species is perpetuated.

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\* Mason says, the horse swallows the eggs, which by heat of the stomach are brought into life, and are sometimes so numerous as to eat their way entirely through the stomach and destroy the animal.—*Compiler.*

The *Oestrus equi* deposits its eggs on the hair of the horse in such a situation that in licking himself, more or less of them will come in contact with the tongue, the warmth and moisture instantly hatch them, they remain attached to the surface of the tongue until they are swallowed with the saliva and food into the stomach; here they pass the larva and chrysalis state, and when voided by the animal, are soon ready for the final transformation to the perfect insect, the *Oestrus equi*.

*Eaton.*

There are several plain *conclusions* from this history.

1. *The bots* cannot, while they inhabit the stomach of the horse, give the animal any pain, for they are fastened on the cuticular and insensible coat.

2. They cannot stimulate the stomach and increase its digestive power, for they are not on the digestive portion of the stomach.

3. They cannot, by their roughness, assist the trituration or rubbing down of the food, for no such office is performed in that part of the stomach—the food is softened, not rubbed down.

4. They cannot be injurious to the horse, for he enjoys the most perfect health when the cuticular part of his stomach is filled with them, and their presence is not even suspected until they appear at the anus.

5. They cannot be removed by medicine, because they are not in that part of the stomach to which medicine is usually conveyed; and if they were, their mouths are too deeply buried in the mucous for any medicine, that can safely be administered, to affect them.

6. And, last of all, in due course of time they detach themselves, and come away. Therefore, the wise man will leave them to themselves, or content himself with picking them off when they collect under the tail and annoy the animal.

*Remarks.*—Above we have the *conclusions* of an association of one hundred and fifty eminent agriculturists of Europe. We will add a remark or two on the *conclusions*, to show a diversity of opinion on *bots* or *grubs*, and how far the gentlemen above agree with others.

1. Sometimes the *bots* attach themselves to the sensible part of the stomach and do great injury to that important organ, producing irritation, emaciation, &c.—*Mason*.

4. I have met with several instances of their destroying the horse, by ulcerating the stomach in a considerable degree; and cases are recorded where they have penetrated quite through the stomach.—*White*.

Indeed they seldom fail to attack a horse with great violence, whenever his stomach is empty, and endangers his life.—*Mason*.

5. It appears that they will live in any medicine that can be given to a horse, nearly as long as they can without eating.—*Mason*.

Since there appears to be no *specific remedy* against the bots, only so far as to expel those mischievously employed in gnawing and tormenting the horse's stomach, we shall describe the symptoms attending the grubs, then offer some remedies to save the horse's life when this *internal army* is planning and working the destruction of this noble animal.

*Symptoms.*—When the grubs are at their destructive work, the horse frequently lies down and looks round to his shoulders, groans, whisks his tail between his hind-legs, frequently turns up his upper lip, and has a very hot fever, which may be discovered by the ear.



No. 93.—*Remedies for bots.*

a.—Take copperas, two table spoonfuls; water, milk-warm, one pint; dissolve the copperas, and give it as a drench. If the horse is not relieved in fifteen minutes, repeat the dose.

b.—Take of linseed or sturgeon's oil, one pint, and give it as a drench. If the horse is not relieved in fifteen minutes, repeat the dose.

c.—Take of molasses, one pint; milk, one pint; give it as a drench, and repeat the dose.

d.—Take of fresh meat, of any kind, (raw,) half a pound, cut it into four or five pieces, and force it down the horse's throat; it will immediately induce the grubs to break their hold.

e.—Take two ounces of Æthiop's mineral, and give it to your horse in his feed, and in a day or two afterwards give him a purge; then you may give him a decoction of bitter herbs, to prevent their return.

f.—Give your horse (after taking molasses and milk) a quart or two of fish or beef brine, as a drench. From recent experiments, salt appears to have the property of killing worms: these insects placed in a solution of this substance die immediately.

g.—Drench the horse with half an ounce of saltpetre dissolved in common water, and in about fifteen minutes drench with half an ounce of alum dissolved in like manner. Let the horse have no water for twenty-four hours after.

An active purge will be absolutely necessary, immediately after the use of either of the above remedies. One pint of soft soap, added to a pint of molasses, with a handful of salt, will answer very well. Repeat the dose, should it not operate in four or five hours.

No. 94.—*Remedies for bots.*

Dr. Loomis, of North Carolina, recommends, to make a drench, composed of half a pint of new milk; a gill of molasses; an ounce of copperas; two spoonfuls of common salt; and a half pint of warm water. Give this to the horse once or twice a day, for a few days, and it will completely expel the bots.

No. 95.—*Another.*

In the morning, upon an empty stomach—let two pints of molasses be dissolved in three pints of new milk, and given; prevent the horse from taking any food for nearly two hours; then add an ounce and a-half of laudanum, to about three pints of warm water; after it is given, let him be walked about for nearly an hour and a-half, then let a dose of strong physic be given, and worked off in the usual way.

No. 96.—*Another.*

Dr. Morgan, of New Jersey, says: Take a table spoonful of unslaked lime, and let it be given with the feed of the horse, at night and morning, regularly, for three, four, or five days, and it will completely expel the bots.

No. 97.—*Another.*

Mr. Houser, an experienced farmer, says: Take a handful of alum, dissolved in one quart of water, and drench the horse.—*Proved.*

No. 98.—*Another.*

When a horse has bots, it may often be known by his biting his sides: when he has many they often throw him into great pain, and he lays down, rolls, and if not cured soon, dies. When it is believed that a horse has the bots, by the above symptoms, give a pint of sweetened milk, which the bots are fond of, and they will let go their hold on the horse, and feast on the milk. Immediately give the horse a small quantity of oats and other provender, in which put two-thirds of a common fig of tobacco pulverized. If he refuses the provender thus mixed, steep the same quantity of tobacco in a pint of boiling or warm water, until the strength is out as we say, then put in enough cold water, so that the whole will fill a common junk bottle, and turn it into the horse. When it reaches the bots it kills them, as all will believe, who have ever spit tobacco juice on a worm or other similar insect. The horse, in less than twenty hours, will void all his bots; there is no mistake in this, though no patent has been obtained. The writer would not have it tried on an old poor horse in the fall or first of winter, for he would certainly recover to the damage of his owner. If one worth curing is affected with bots, and the symptoms are severe, never stop for the milk, but in with the tobacco—this is the *kill-all*.—*Maine Farmer.*

No. 99.—*To prevent bots.*

Mix a little wood ashes with the drink or feed of the horse; this will prevent the bots, if it is given three times a week.

No. 100.—*Another.*

Willich's Encyclopedia says: Bots may be cured by giving the horse a spoonful of savin, cut small, once or twice a day, in oats or bran, moistened; to which may be added five or six cloves of garlic. Purges of aloes and jalap, likewise to be given at intervals.

Diegenesch recommends the following:

No. 101.—*Another.*

Take unslaked lime, slake it with strong vinegar; take one-half pint, add the shells of ten or twelve hen's eggs, pulverized; and drench the horse.

No. 102.—*Another.*

Nachrichter says: Take pulverized savin, and tansy, of each, two drams; and one dram of asafetida; to be well mixed, and given in a-half pint of vinegar; and a-half pint of olive or sweet oil to follow immediately. This is a never failing cure.

As a means of guarding against bots, something may be accomplished by both destroying the parent insect, while buzzing about the

horse, or by destroying the eggs when deposited. The latter may be done by scraping them off occasionally, from those places most liable to be bit or licked by the animal, or by washing the legs at times, with such substances as will destroy the nits, without injuring the horse. This a decoction of tobacco will do, as will the smoothing down the hair with a rag moistened with spirits of turpentine.

*Sect. 208.*

*Intestines—Eingeweide-Dærme.—Ger.*

The food having been partially digested in the stomach, and converted into chyme, passes through the pyloric orifice, into the intestines.

The intestines of a full grown horse are not less than ninety feet in length. The length of the intestines in different animals depends on the nature of the food. The nutritive matter is with much more difficulty extracted from vegetable than animal substances, therefore the alimentary canal is large, long, and complicated, in those which, like the horse, are fed on herbs alone. They are divided into the small and large intestines; the former of which occupy about sixty-six feet, and the latter twenty-four. The intestines like the stomach, are composed of three coats. The outer coat consists of the peritoneum, covering the contents of the belly. By means of this coat the bowels are confined in their proper situations; and, this membrane being smooth and moist, all friction and concussion are avoided. Did the bowels float loosely in the belly they would be subject to constant entanglement and injury amid the rapid and violent motions of the horse.

The middle coat, like that of the stomach, is muscular, and composed of two layers of fibres, one running longitudinally, and the other circularly; and by means of these muscles, which are continually contracting and relaxing from the upper part downward, the food is forced along the bowels. The inner coat is the mucous or villous; mucous, because it abounds with small glands which pour out a mucous fluid to lubricate the passage and defend it from irritating or acrimonious substances; and villous from its soft velvet feel. This coat is crowded with innumerable little mouths, which are the commencement of minute vessels, by which the nutritive part of the food is taken up; and these vessels, uniting and passing over the mesentery, carry this nutritive matter to a receptacle for it, whence it is conveyed into the circulation and distributed to every part.

The intestines are more particularly retained in their places by the mesentery, (middle of the intestines,) which is a doubling of the peritoneum, including the intestine in its bottom, and likewise inclosing between its folds the arteries and veins, and nerves, and the vessels which convey the nutriment from the intestines to the circulation.

## Sect. 209.

## DISEASES OF THE INTESTINES.

b.—*Spasmodic colic*—*Kræmpige-Kolik*.—Ger.

We have said, that the passage of the food through the intestinal canal is effected by the alternate contraction and relaxation of the muscular coat of the intestines. When that action is simply increased through the whole of the canal, the food passes more rapidly, and purging is produced; but the muscles of every part of the frame are liable to irregular and spasmodic action, and the muscular coat of some portion of the intestines may be thus affected. A species of cramp may attack a portion of the intestines. The spasm may be confined to a small part of the canal. The gut has been found, after death, strangely contracted in various places, contraction not extending above five or six inches in any of them. In the horse, the ileum, last portion of the small intestines, is the usual seat of this disease. It is of much importance to distinguish between spasmodic colic and inflammation of the bowels, for the symptoms have considerable resemblance, although the mode of treatment should be very different.

*Symptoms.*—The attack of colic is usually very sudden. There is often not the slightest warning. The horse begins to shift his posture, look round at his flanks, paw violently, strike his belly with his feet, lie down, roll, and that frequently on his back. In a few minutes the pain seems to cease, the horse shakes himself, and begins to feed; but, on a sudden, the spasm returns more violently, every indication of pain is increased, he heaves at the flanks, breaks out into a profuse perspiration, and throws himself more violently about. In the space of an hour or two, either the spasms begin to relax, and the remissions are of longer duration, or the torture is augmented at every paroxysm, the intervals of ease are fewer and less marked, and inflammation and death supervene.

Of the symptoms by which it may best be distinguished from inflammation of the bowels, see note below.\*

*Cause.*—Among the causes of colic are, the drinking of cold water when the horse is heated. There is not a surer cause of violent

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\* A TABLE for distinguishing between the COLIC or GRIPES, and inflammation of the bowels of horses, by the symptoms that mark the character of each.

<i>Spasmodic or flatulent colic.</i>	<i>Inflammation of the bowels.</i>
1. Pulse natural, though sometimes a little lower.	1. Pulse very quick and small.
2. The horse lies down and rolls upon his back.	2. He lies down and suddenly rises up again, seldom rolling upon his back.
3. The legs and ears are generally warm.	3. Legs and ears generally cold.
4. Attacks suddenly, is never preceded, and seldom accompanied by any symptoms of fever.	4. In general, attacks gradually, is commonly preceded, and always accompanied by symptoms of fever.
5. There are frequently short intermissions.	5. No intermissions can be observed.

spasm than this. Colic will sometimes follow the exposure of a horse to the cold air, or a cold wind after violent exercise. Green food, although, generally speaking, most beneficial to the horse, yet given in too large a quantity, or when the horse is hot, will frequently produce gripes. In some horses there seems to be a constitutional predisposition to colic. They cannot be hardly worked, or exposed to unusual cold, without a fit of it. In many cases, when these horses have died, stones have been found in some part of the alimentary canal.

*Cure.*—Fortunately, we are acquainted with several medicines that allay these spasms; and the disease often ceases almost as suddenly as it appeared. Turpentine is one of the most powerful remedies, especially if given in union with opium. Three ounces of spirit or oil of turpentine, with an ounce of laudanum, given in a pint of warm ale, will frequently have an almost instantaneous effect. If relief be not obtained in half an hour, it will be prudent to bleed, because the continuance of violent spasm will produce inflammation. Some practitioners bleed at first, and it is far from bad practice; for although the majority of cases will yield to turpentine, opium, and aloes, an early bleeding may occasionally prevent the recurrence of inflammation, or at least mitigate it. If it be clearly a case of colic, half of the first dose may be repeated, with a full ounce of Barbadoes aloes dissolved in warm water. The stimulus produced on the inner surface of the bowels by the purgative may counteract the irritation which caused the spasm. The belly should be well rubbed with a brush or warmed cloth. The horse should be walked about or trotted moderately. The motion thus produced in the bowels, and the friction of one intestine over the other, may relax the spasm, but the hasty gallop may speedily cause inflammation to succeed to colic. Clysters of warm water, or containing a solution of aloes, will be injected—and the horse kept in a warm stall, and have bran mashes for the next two or three days, and drink only lukewarm water.

#### Sect. 210.

Remedies for spasmodic colic, from the American Turf Register and Stud Magazine:

#### No. 103.—*Remedies for colic.*

a.—Take from the neck vein, half a gallon of blood; take of laudanum, one ounce, or mint tea, one quart, milk warm; mix them well in a bottle, and give the contents as a drench: let the horse be well rubbed under the belly, and prepare and give an injection of meal, water, molasses, salt, and hog's lard, milk warm.

b.—Take of mint tea, one and a-half pint; gin, or any spirituous liquor; one-half pint; mix them well in a bottle, and give them as a drench, taking care to rub him well. Should it not have the desired effect in fifteen minutes, repeat the dose.

c.—Take of camphor, a quarter of an ounce; oil of turpentine, one-half ounce; mint tea, one pint; mix them in a bottle, and give

them as a drench. Confine the horse in a close stable, cover him with three or four blankets, and under his belly place a tub of boiling water, which will readily throw him into a profuse sweat, and relieve him from pain.

d.—In addition to the above, clysters ought to be administered, by injecting the following ingredients, viz: water, one-half gallon; salt, one handful; oil of any kind, one pint; molasses, one pint; mix the whole, and inject it; and repeat it every half hour, until the bowels are well opened.

### Sect. 211.

We shall add the following clipt from the Practical Farmer:

#### No. 104.—*Remedies for the colic.*

##### a.—*Drench.*

Take anise, fennel, cumin, and wormwood seed, one-half ounce, of each, and decoct it in wine, and give the horse one quart of the mixture at one drenching.

##### b.—*Another drench.*

Take alcohol, rectified spirits of nitre, one ounce of each, and put them into a quart of warm water; drench the horse with it; ride him then until he sweats freely, and rub him off carefully; and apply to his abdomen, bags with the following ingredients in them, well warmed: Eight handfuls of bran; rue, cumin and aniseed, of each, one ounce; calamint, three handfuls; and the whole well mixed and warmed, and applied immediately.

##### c.—*Another.*

Take of Venice turpentine, one ounce; beat it up with the yolk of an egg, and then add of peppermint water or even of cinnamon water, if the other is not at hand, one pint and a-half, and two ounces of whisky or gin, and give it to the horse.

##### *Or:*

Take of table beer, a little warmed, one and a-half pint; common pepper or powdered ginger, one tea spoonful; gin, whisky, or rum, from two to four ounces, or from one to two glasses full; these mixed together for one dose.

##### d.—*Another.*

Take oil of turpentine, one ounce; and water gruel, one and a-half pint, mixed for a dose.

The editor of the Southern Agriculturist says, the following dose has been administered, when the horse was perfectly cold and stiff, and it restored him:

e.—Take of laudanum, six or seven table spoonfuls; of mustard the larger portion of a bottle; mix these in a pint of whisky, or water,

and give the mixture in a horn or bottle to the horse. When the severe pain has been alleviated, a dose of oil should be given. One pint will answer a dose.

The following, called White's ball for gripes, is highly recommended. The ball is composed of the following ingredients:

f.—Castile soap, three drams; camphor, two drams; ginger, one and a-half dram; and Venice turpentine, six drams; to be made into a ball for one dose.

This ball may be preserved for a long time, if carefully wrapped up in a piece of bladder.

The following has proved itself a good remedy in the colic, as a drench:

g.—Take balsam copaiva, one ounce; oil of juniper, one dram; spirit of nitrous ether, one-half ounce; mint water, one pint; mix for one dose.

We shall conclude this article by adding, that Clark, who has expressly written on colic or gripes, extols the virtues of the following mixture so highly, that no agriculturist, coach master or owner of a horse should be without it:

h.—Take half a pound of ground allspice; of spirits of wine, and of water, each, a pint and a-half; infuse these together, and keep it for use. Give a quarter of a pint every hour until relief is obtained; hand-rubbing, wisping, or fomenting the bowels with hot water at the same time.

#### Sect. 212.

##### No. 105.—*For colic.*

Take tincture of colt's foot, six ounces; treacle, or theriac, one-half ounce; anise and fennel oil, of each, twenty-five drops; give it at one time as a drench.

##### No. 106.—*Another.*

Schneyder says: Take a large table spoonful of turnep or mustard seed, bruised, and put into one gill of rum or spirits; mixed with a strong decoction of sassafras root, one pint, and give at once—it will afford instant relief.

#### Sect. 213.

##### c.—*Inflammation of bowels—Entzündung der Eingeweide.—Ger.*

There are two varieties of this malady. The first is inflammation of the external coats of the intestines, accompanied by considerable fever and costiveness. The second is that of the internal or mucous coat, usually the consequence of an over-dose of physic, accompanied by violent purging. We will here speak of the first of these affections. It has been divided into inflammation of the peritoneal coat, and that of the muscular: but the causes, symptoms, and treatment of both are so much alike, that it would be raising unnecessary difficulties to endeavor to distinguish between them. Inflammation

tion of the external coats of the stomach, whether the peritoneal or muscular, or both, is a very frequent and fatal disease. It speedily runs its course, and it is of great consequence that its early symptoms should be known. If the horse has been carefully observed, restlessness and fever will have been seen to precede the attack; in many cases a direct shivering fit will be observed: the mouth will be hot, and the nose red. The horse will soon express the most dreadful pain by pawing, striking at his belly, looking wildly at his flanks, groaning and rolling. The pulse will be quickened and small; the ears and legs cold; the belly tender and sometimes hot; the breathing quickened; the bowels costive; and the horse becoming rapidly and fearfully weak.

It may be useful to give a short table of the distinguishing symptoms of colic and inflammation of the bowels, because the treatment recommended for the former would often be fatal to the latter.

*Colic.* . . . . . *Inflammation of the bowels.*

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|--|---|
| <p>1. Sudden in its attack.</p> <p>2. Pulse rarely much quickened in the early period of the disease, and during the intervals of disease: but evidently fuller.</p> <p>3. Legs and ears of the natural temperature.</p> <p>4. Relief obtained from rubbing the belly.</p> <p>5. Relief obtained from motion.</p> <p>6. Intervals of rest.</p> <p>7. Strength scarcely affected.</p> | <p>1. Gradual in its approach, with previous indications of fever.</p> <p>2. Pulse very much quickened, but small, and often scarcely to be felt.</p> <p>3. Legs and ears cold.</p> <p>4. Belly exceedingly tender and painful to the touch.</p> <p>5. Motion evidently increasing the pain.</p> <p>6. Constant pain.</p> <p>7. Rapid and great weakness.</p> |
|--|---|

*Causes.*—The causes of this disease are, first of all, and most frequently, sudden exposure to cold. If a horse that has been highly fed, carefully groomed, and kept in a warm stable, be heated with exercise, and have been for some hours without food; and in this state of exhaustion be suffered to drink freely of cold water, or be drenched with rain, or have his legs and belly washed with cold water, an attack of inflammation of the bowels will often follow. An over-fed horse subjected to severe and long-continued exertion, if his lungs were previously weak, will probably be attacked by inflammation of them; but if the lungs were sound, the bowels will on the following day be the seat of disease. Stones in the intestines are an occasional cause of inflammation, and colic neglected, or wrongly treated, will terminate it.

The treatment of inflammation of the bowels, like that of the lungs, should be prompt and energetic. The first and most powerful means of cure will be bleeding. From six to eight or ten quarts of blood should be taken as soon as possible, and the bleeding repeated to the extent of four or five quarts more if the pain be not relieved, and the pulse have not become rounder and fuller. The speedy weakness that accompanies this disease should not deter from bleeding largely. It is the weakness that is the consequence of violent inflammation of these parts, and if that inflammation be subdued by the loss of blood,



the weakness will disappear. The bleeding should be effected on the first appearance of the disease, for there is no malady that so quickly runs its course.

Next to bleeding will follow clysters. Although the bowels are usually confined, we cannot administer a strong purgative; the intestines are already in far too irritable a state. The clyster may consist of warm water, or very thin gruel, in which half a pound of epsom salts, or half an ounce of aloes has been dissolved, and too much fluid can scarcely be thrown up. If the common ox-bladder and pipe be used, it should be frequently replenished. The horse may likewise be encouraged to drink plentifully of warm water or thin gruel; and draughts, each containing a couple of drams of dissolved aloes, may be given every six hours, until the bowels are freely opened.

Next, it will be prudent to endeavor to excite considerable external inflammation, as near as possible to the seat of internal disease, and therefore the whole of the belly should be blistered. In a well-marked case of this inflammation, no time should be lost in applying fomentations, but the blister should be at once resorted to. The tincture of Spanish flies, whether made of spirit of wine or turpentine, should be rubbed well in. The legs should be well bandaged, to restore the circulation to them, and thus lessen the flow of blood to the inflamed part, and for the same reason the horse should be warmly clothed, but the air of the stable should be cool.

No corn or hay should be given during the disease, but bran mashes, and green food if it can be procured. The latter will be the best of all food, and may be given without the slightest apprehension of danger. When the horse begins to recover, he may get a handful of corn two or three times in the day, and, if the weather be warm, may be turned into a small enclosure for a few hours, in the middle of the day. Clysters of gruel should be continued for three or four days after the inflammation is beginning to subside, and good hand-rubbing applied to the legs.

The second variety of inflammation of the bowels affects the internal or mucous coat, and is generally the consequence of physic given in too great quantity, or of an improper kind. The purging is more violent, and continues longer than was intended; the animal shows that he is suffering great pain; he frequently looks around at his flanks; his breathing is laborious, and the pulse is quick and small; not so small, however, as in inflammation of the peritoneal coat, and, contrary to some of the most frequent and characteristic symptoms of that disease, the mouth is hot, and the legs and ears are warm. Unless the purging is excessive, and the pain and distress great, we should hesitate at administering any astringent medicine at first. We should plentifully administer gruel, or thin starch, or arrow-root, by the mouth and by clyster, removing all hay and corn, and particularly green food. We should endeavor thus to sheath the irritated surface of the bowels, while we permit any remains of the medicine to be carried off. If, however, twelve hours should pass, and the purging and the pain remain undiminished, we should continue the gruel, but add to it chalk, catechu, and opium, in doses of an ounce of the first, a quarter

of an ounce of the second, and two scruples of the last, repeated every six hours. As soon as the purging begins to subside, the astringent medicine should be lessened in quantity, and gradually discontinued. Bleeding will rarely be necessary unless the inflammation be very great, and attended by symptoms of general fever. The horse should be warmly clothed, and be placed in a warm stable, and his legs should be hand-rubbed and bandaged.

Violent purging, and attended with much inflammation and fever, will sometimes occur from other causes. Green food will sometimes purge. A horse worked hard upon green food will scour. The remedy is change of diet, or less labor. Young horses will scour, and sometimes without any apparent cause. Astringents should be used with much caution here. It is probably an effort of nature to get rid of something that offends. A few doses of gruel will assist in effecting this purpose, and the purging will cease without the use of astringent medicine.

As this disease has lately prevailed, in some parts of the United States, we will add a section on scouring.

#### Sect. 214.

#### d.—*Scours or scowers—Durchlauff.*—Ger.

This disease has heretofore been more prevalent among cows and oxen than among horses; some four or five years, it prevailed to an alarming extent in Cayuga, Onondaga, and other counties in New York, and proved very destructive. The editor of the Genesee Farmer says, the *scours* resembles in its attack the cholera or dysentery of the human race; it reduces the flesh rapidly, prostrates all strength at once, and unless checked soon, is speedily fatal. Some few may live, or may be relieved from the ravages of this fatal disease, if the remedial treatment is commenced in season; though more die than recover, of the whole number attacked by the diseases. No remedy that can be termed a specific has as yet been discovered; and in severe cases, large doses of opium administered in substance, have proved most successful in checking the disease, and giving nature time to rally. No certain cause of the disease can be assigned; but it is generally supposed to be in some way produced by the effect of the season on vegetation, as those kept in stables and fed on hay or grain, are rarely ever attacked. May not the same atmospheric changes that so derange the nutritive functions in wheat as to produce rust, operate so extensively on the grasses, as to injure them as food and render them liable to occasion disease and death in the animal?

S. Porter Rhoades recommends the following:

#### No. 108.—*Scours in horses.*

If the horse is in a good condition, take two or three quarts of blood, and then take one ounce of each, anise seed, caraway seed, and grains of paradise in powder; and half an ounce aromatic confection, and two ounces balsam of sulphur; beat the balsam of sulphur up with the yolk of an egg, then mix the powders, and give the

whole in a pint of gruel, with a wine glass of brandy, and two table spoonfuls of sugar, and give the above mixture once a day for three days in succession.

From whatever cause the scours may proceed—in its successful treatment, warm clothing on the horse is particularly required in this complaint, and exercise should not be neglected.

No. 109.—*Scouring or diarrhea.*

[Genesee Farmer, Vol. II., p. 149.]

I lately had the care of a horse that was very ill with diarrhea or scouring; and as the disease proved obstinate, it may be useful to others to know how we eventually succeeded. He had been sick for ten or twelve days. His ears, nose, legs, became cold; and his owner expected him to die.

Castor oil, opium, brandy, and alkaline medicine were all exhibited by drenching, and some others by injection; but the disease continued, attended with great thirst. Water was not allowed except when medicated: had it been, I think he must soon have died, for the symptoms were aggravated whenever he was indulged; but within a day or two after the following plan was strictly adhered to, he grew better. He was confined to the stable, covered with a blanket, and allowed nothing but hay, oats, and slippery elm drink.

At first he had but very little appetite, and no relish for such drink; but when green food and cold water were withheld, the occasional cause of the disease was removed; and with his appetite, the natural heat returned.

In procuring elm bark, the dry rough part should be removed, as it renders the drink more unpalatable. A hatful is enough at one time. Put it into a pail, and pour on scalding water; stir it to diffuse the mucilage; and when cool enough, it may be set before the horse; but he will be in no hurry to drink it. The same bark will do for several times. This method is better than to make five pailfuls at once in an iron kettle, as it would soon ferment in hot weather, and the metal impart a disagreeable taste.

On inquiry, I find that horses are not unfrequently lost in this disease; and a sense of duty has overcome my reluctance to hold the pen. Oxen are also occasionally seized with the same complaint. My next neighbor effected a cure the other day, by putting dry flour in a bag and boiling it thoroughly. When cold it was pulverized and a quart given for a dose. The ox is generally willing to take it, and one dose has proved sufficient.—A FARMER.

The cure above recommended was subsequently tried, and proved effectual.—See Gen. Farmer, Vol. II., p. 179, for the year 1837-38.

Diegendesch recommends the following:

No. 110.—*To cure scouring in horses.*

Take burnt or calcined bones of a horse, six ounces; root of tormentil or septfoil, powdered, three ounces; give the horse three spoonfuls in his feed daily.

The following is strongly recommended for the lax or scouring in horses :

No. 111.—*Lax or scouring.*

Take glauber salts, two ounces ; epsom salts, one ounce ; green vitriol, four grains ; gruel, one-half pint.

When the lax approaches to dysentery or molten grease, the following drink should be first given :

No. 112.—*Astringent drink.*

Take castor oil, four ounces ; glauber salts, dissolved, two ounces ; powdered rhubarb, half a dram ; powdered opium ; gruel, one pint ; mixed.

Sect. 215.

e.—*Worms—Wuermer.*—Ger.

Worms of different kinds inhabit the intestines ; but except when they exist in very great numbers, they are not so hurtful as is generally supposed, although the groom may trace to them hidebound, and cough, and loss of appetite, and gripes, and megrims, and a variety of other ailments. Of the origin or mode of propagation of these parasitical animals we will say nothing ; neither writers on medicine, nor even on natural history, have given us any satisfactory account of the matter.

The long white worm (*lumbricus teres*) much resembling the common earth worm, and, being from six to ten inches long, inhabits the small intestines. It is a formidable looking animal, and if there are many of them they may consume more than can be spared of the nutritive part of the food or the mucous of the bowels ; and we think that we have seen a tight skin, and rough coat, and tucked up belly, connected with their presence. They have then, however, been voided in large quantities, and when they are not thus voided we should be disposed to trace these appearances to other causes. A dose of physic will sometimes bring away almost incredible quantities of them. Calomel is frequently given as a vermifuge. The less frequently this drug is administered to the horse the better. It is the principal ingredient in some quack medicines for the expulsion of worms in the human subject, and thence, perhaps, it came to be used for the horse, but in him we believe it to be inert as a vermifuge, or only useful as quickening the operation of the aloes. When the horse can be spared, a strong dose of physic is an excellent vermifuge, so far as the long round worm is concerned ; but perhaps a better medicine, and not interfering with either the feeding or work of the horse, is two drams of emetic tartar, with a scruple of ginger, made into a ball, with linseed meal and molasses, and given every morning half an hour before the horse is fed.

A smaller, darker colored worm, called the needle worm, or *ascaris*, inhabits the large intestines. Hundreds of them sometimes descend into the rectum, and immense quantities have been found in

the cœcum. These are a more serious nuisance than the former, for they cause a very troublesome irritation about the fundament, which sometimes sadly annoys the horse. Their existence can generally be discovered, by a small portion of mucous, which hardening, is converted into a powder, and is found about the anus. Physic will sometimes bring away great numbers of these worms, but when there is much irritation about the tail, and much of this mucous indicating that they have descended into the rectum, an injection of a quart of linseed oil, or of an ounce of aloes dissolved in warm water, will be a more effectual remedy.

The tœnia or the tape worm, is seldom found in the horse.

*Remedies.*—The best remedy is the spigelia Marylandica or Carolina pink, in daily doses of half an ounce, to draw off or expel the teres. Every part of the spigelia Marylandica is possessed of anthelmintic properties, though the root is most active.

The ascaris or thread worms, are best removed by mercurial purgatives. Blaine recommends the following vermifuge:

#### No. 113.—*Vermifuge.*

Take powdered arsenic, eight grains; tin finely scraped, one-half ounce; made into a ball, and given every morning.

In Dr. Bartlet's Farriery, we find the following recommended to free the animal from worms:

#### No. 114.—*Cure for bots and worms.*

Take quicksilver, two drams; Venice turpentine, one-half ounce: rub the quicksilver till no glistening appears; then take an ounce of aloes, a dram of grated ginger, thirty drops of oil of savin, and syrup of buckthorn enough to make the whole into a ball; one of these balls may be given every six days, with the usual precautions with regard to mercurial physic; and the following powders intermediately:

Take powdered tin and Æthiop's mineral, of each, an ounce, and give it every night in a mash, or in corn. These remedies should be continued several weeks.

To expel the tœnia or tape worm, if any now and then exist, give weekly doses of the oil of turpentine, three ounces at a time, mixed by means of the yolk of an egg, with a-half pint of ale.

The following is from a "Dutch book," by Von Froostein, page 943:

#### No. 115.—*Remedy to expel worms.*

Take savin, tansy, agaric or boletus, of each, one-half ounce; chalk, asafetida, of each, one-half ounce; calcined or burnt deer's horn, three ounces; Cyanne pepper, one-half ounce; spigelia Marylandica, pulverized, two ounces, mixed; put into two quarts of wine, simmered over a slow fire till it is boiled down to three pints, whereof give the horse one pint every other morning before the horse has

eaten any thing. Cure never failed, if continued for several weeks. SEE APPENDIX—*Article, Worms or bots.*

*Sect. 216.*

*The liver.*

Between the stomach and the diaphragm, its right lobe or division in contact with the diaphragm, the duodenum and the right kidney and the middle and left divisions with the stomach, is the liver. It is an irregular shaped, reddish-brown substance of considerable bulk, and performs a very singular and important office.

The blood, which has been conveyed to the different parts of the body by the arteries, is carried back to the heart by the veins; but that which is returned from the stomach and intestines, and spleen, and pancreas, and mesentery, instead of flowing directly to the heart, passes first through the liver. It enters by two large vessels which spread by means of innumerable minute branches through every part of the liver. As the blood traverses this organ, a fluid is separated from it, called the bile. This is probably a kind of excrement, the continuance of which in the blood would be injurious; but while this is thrown off, another important purpose is answered; the process of digestion is promoted, and particularly by the bile changing the nutritive part of the food from chyme into chyle, and separating it from that which, containing little or no nutriment, is voided as excrement.

The bile, thus formed, is in most animals received into a reservoir, the gall-bladder, whence it is conveyed into the duodenum at the times, and in the quantities, which the purposes of digestion require; but the horse has no gall-bladder, and, consequently, the bile flows into the intestine as fast as it is separated from the blood. The reason of this is plain; a small stomach was given to the horse, that the food might quickly pass out of it, and the diaphragm and the lungs might not be injuriously pressed upon, when we require his utmost speed; and that we might use him with little danger compared with that which would attach to other animals, even when his stomach is distended with food. Then the stomach, so small, and so speedily emptied, must be oftener replenished; the horse must be oftener eating, and food must be oftener passing out of his stomach; and, consequently, there is no necessity for this reservoir. The ox occupies a long time in filling his paunch, and it is only during rumination that the food passes into the true stomach to be digested. The meal of the dog is speedily swallowed. They need a gall-bladder to contain the bile which continues to be secreted when it cannot be used; but to the horse, so frequently eating, it would be useless:

*Sect. 217.*

*f.—Inflammation of the liver—Leber Entzündung.—Ger.*

Is a disease of rare occurrence in the horse. He is not exposed to the causes which produce that complaint in other animals. Al-

though his food is sometimes highly nutritive, the work which is exacted from him prevents it from unduly stimulating this important organ; and when inflammation of the liver does occur, it is with so much difficulty distinguished from that of the bowels, that if the yellowness of the eyes and skin are not present, even the professional man is liable to be deceived.

Bleeding from, or rupture of the liver, is another disease of old horses, and especially of those that have been highly fed. It is generally fatal, but of unfrequent occurrence; it is recognized by the frequent and feeble pulse, the pawing and sighing of the animal, the coldness of the extremities, whiteness of the eye and mouth, fulness of the belly, and speedy debility.

*Sect. 218.*

*g.—Jaundice—Gelbsucht.—Ger.*

Commonly called the yellows, is a more tractable disease, and a little more frequent. It is the introduction of bile into the general circulation, and which is usually caused by some obstruction in the ducts or tubes which convey the bile from the liver to the intestines. The horse, however, has but one duct, through which the bile usually flows as quickly as it is formed, and there is no gall-bladder in which it can become thickened, and even hardened into masses so hard as to be very appropriately called gall-stones. Jaundice does, however, occasionally appear either from an increased flow or altered quality of the bile, or obstruction even in this simple tube. The yellowness of the eyes and mouth, and of the skin where it is not covered with hair, mark it sufficiently plainly. The dung is small and hard; the urine high colored; the horse languid, and the appetite impaired.

It is first necessary to inquire whether this affection of the liver be not the consequence of the sympathy of this organ with some other part; for, to a very considerable degree, it frequently accompanies inflammation of the bowels and the lungs. These diseases being subdued, jaundice will disappear. If there be no other disease to any great extent, we must endeavor to restore the natural passage of the bile by purgatives, not consisting of large doses, lest there should be some undetected inflammation of the lungs or bowels, in either of which a strong purgative would be dangerous; but given in small quantities, repeated at short intervals, and until the bowels are freely opened. Two drams of aloes, and one of calomel, given twice every day, will be as much as can at all times be administered with safety. Bleeding should always be resorted to, regulated according to the apparent degree of inflammation, and the occasional stupor of the animal. Plenty of water slightly warmed, or thin gruel, should be given; the horse should be warmly clothed, and the stable well ventilated, but not cold. Carrots or green food will be very beneficial. Should the purging, when once excited, prove violent, we should be in no haste to stop it, unless inflammation is beginning to be connected with it, or the horse is very weak. The medicine recommended under scouring may then be given. A few slight tonics should be

given when the horse is recovering from an attack of strangles. Two drams each of gentian and camomile, with one of ginger, will form a useful ball.

Besides the remedies already recommended, the following will prove beneficial :

If costiveness, which is a general attendant upon this disease, give No. 116, every morning, until moderate purging is produced ; but if the bowels are already open, or in a stage of purging, give No. 117, every morning. The horse's strength should be supported by a water gruel of malt or Indian corn.

No. 116.—*Jaundice ball.*

Take calomel, one-half dram ; Barbadoes aloes, one and a-half dram ; Castile soap and rhubarb, of each, three drams ; to be made into a ball with syrup, for one dose.

No. 117.—*Another.*

Take calomel and opium, of each, one dram ; Colombo root, powdered, three drams ; powdered ginger, one-half dram ; to be made into a ball with syrup for one dose.

No. 118.—*Another.*

Take one-quarter ounce gamboge ; one-half ounce saltpetre ; one ounce alum ; one ounce copperas. Pulverize all these ingredients, and put the whole into a bottle with four gills of cold water ; stop it tight, shake it well, and let it stand one night ; it is then fit for use.

Give one table spoonful of the mixture three mornings running, then omitting three mornings, repeat the dose as before, and so on until the horse has taken nine doses. A rowel is to be made in the breast as soon as the use of the medicine commences, turning it once a day.

Working the horse or bleeding him within three months is forbidden.

No. 119.—*Another.*

Take of walnut tree bark, red oak bark, sassafras roots, spicewood twigs, young pine tops, the running black briar roots, of each, as much as can be grasped in both hands ; boil in four gallons of water to two ; then add half a pint of soft soap ; dose a quart of this decoction morning and evening, adding to each dose a tea spoonful of copperas. The horse should be stabled at night. This receipt is communicated by one of the principal planters of Wake, who assures us that he has repeatedly witnessed its efficacy.

No. 120.—*To cure the yellow water.*

Take one quart of wine or sour cider ; one bottle of mustard seed ; mix it together, and give it to the horse in two doses, one in the morning, the other in the evening ; as soon as the dose is administered move him till he gets warm.



Schneyder recommends the following as an infallible cure :

No. 121.—*Cure for yellows.*

Take Venice soap, juniper oil, saltpetre, nitrate of potassa, sweet spirits of nitre, of each, one ounce; take powdered licorice root, and make the mixture into balls of two ounces weight each, and give one ball at a time, and repeat at pleasure till a cure is effected. If fever or heat accompany, bleed gently; keep the horse in a cool stable, and feed him manger meat, or bran and oats mashes.—*Proved.*

No. 122.—*Jaundice drink.*

Bartlet says: Take madder root and turmeric, of each, four ounces; burdock root sliced, half a pound; Monk's rhubarb, four ounces; licorice sliced, two ounces. Boil in a gallon of rain or river water to three quarts; strain off and sweeten with honey; give a pint of the decoction daily on a gentle physic.—SEE APPENDIX—*Article, Yellow water.*

Sect. 219.

*The kidneys.*

The kidneys are two large glandular bodies whose office it is to secrete the urine, the right one is most forward, lying under the liver, the left one, is pushed more backward by the stomach and spleen.

The fluid separated by the kidneys varies materially both in quantity and composition, even during health. There is no animal in which it varies so much as in the horse. There is no organ in that animal so much under our command as the kidney, and no medicines are so useful, or may be so injurious, as diuretics. In speaking of fever and inflammation of the lungs, and indeed inflammation generally, we have recommended the use of nitre and digitalis, not only on account of their febrifuge or sedative effects, but because they act as diuretics. They stimulate the kidneys to separate more aqueous fluid than they otherwise would do, and thus lessen the quantity of blood; the quantity which the heart is laboring to circulate through the frame, and the quantity which is determined or driven to a part already overloaded. The main objects we have to accomplish in these diseases is to reduce the force of the circulation, and to calm the violence of excitement, and diuretics, by lessening the quantity of blood, are useful assistants in accomplishing these purposes. It is, however, in the varieties of dropsy that their benefit is most evident. The horse is more subject to effusions of fluid in particular parts than any other domestic animal. Swelled legs is a disease peculiar to him. The ox, the sheep, the dog, the ass, and even the mule, have it very seldom; and for the removal of this deposit of fluid in the cellular substance of the legs we have recourse to diuretics. The kidneys are stimulated to separate more than the usual quantity of water from the blood. In order to make up this deficiency in quantity, the absorbents set to work, and they take up and pour into the circulation the fluid which had been effused in the legs. The legs

of many horses cannot be rendered fine, or kept so, without the use of diuretics; nor can grease, often connected with these swellings, producing them or caused by them, be otherwise subdued. We therefore rank diuretics among the most useful of the veterinary medicines.

In injudicious hands, however, these medicines are sadly abused. Among the absurdities of stable management there is nothing so injurious as the frequent use of diuretics. Not only are the kidneys so often over-excited, weakened, disposed to disease, but the whole frame becomes debilitated, for the absorbents have carried away a great part of that which was necessary to the health and condition of the horse, in order to supply the deficiency of blood occasioned by the inordinate discharge of urine. There is likewise one important fact of which the groom or the horseman seldom thinks; that when he is removing these humors by the imprudent use of diuretics, he is only attacking a symptom or consequence of disease, and not the disease itself. The legs will fill again, and the grease will return. While the cause remains, the effect will be produced. We shall say more of this when we treat particularly of these diseases of the extremities.

In the administration of diuretics there are two things to be chiefly attended to. The first is that which seems to be contradictory, but the good effect of which the testimony of every intelligent man will confirm; *let the horse have plenty to drink*. Not only will inflammation be prevented, but the operation of the medicine will be much promoted. If more water than usual be drunk, a great deal more will be evacuated. The next caution is, that during the administration of a diuretic, neither the clothing nor the stable should be too warm, otherwise that which was intended to stimulate the kidney will pass off by perspiration; for it seems to be a law of the frame, that what increases the discharge from the skin proportionably lessens the action of the kidneys.

The best diuretic, and which given simply to promote an increased secretion from the kidneys, supersedes every other, is turpentine; either the common liquid turpentine in doses of half an ounce, and made into a ball with linseed meal, and half a dram of ginger; or, what is better, the same quantity of powdered rosin, with two drams of linseed meal, and half a dram of ginger, formed into a mass with palm oil. In cases of inflammation or fever, nitre or digitalis should be used. The spirit of nitrous ether, cremor tartar, and balsam of copaiva, have some diuretic effect.

#### Sect. 220.

##### h.—*Inflammation of the kidney—Nieren-Entzündung.*—Ger.

*Symptoms.*—The early symptoms are those of fever generally, but the seat of the disease soon becomes evident. The horse looks anxiously round at his flanks; stands with his hinder-legs wide apart; straddles as he walks; expresses pain in turning; shrinks when the

loins are pressed, and some degree of heat is felt there. The urine is voided in small quantities, and frequently it is high colored, and sometimes bloody. The attempt to urinate becomes more frequent, and the quantity voided smaller; until the animal strains painfully and violently, but the discharge is nearly, or quite suppressed.\* The pulse is quick and hard; full in the early stage of the disease, but rapidly becoming small, yet not losing its character of hardness.— These symptoms clearly indicate an affection of the urinary organs; but they do not distinguish inflammation of the kidney from that of the bladder. The hand must be introduced into the rectum. If the bladder be felt full and hard under the rectum, there is inflammation of the neck of the bladder: if the bladder be empty, yet on the portion of the intestines immediately over it there is more than natural heat and tenderness, there is inflammation of the body of the bladder; but if the bladder be empty, and there is no increased heat or tenderness, there is inflammation of the kidney.

*Causes.*—Among the causes are improper food. There is no more frequent cause than hay that has been mow-burnt, or oats that are musty. The farmer should look well to this. Oats that have been dried on the kiln acquire a diuretic property, and if horses are long fed on them, the continual excitement of this organ which they produce will degenerate into inflammation. Too powerful, or too often repeated diuretics produce inflammation of the kidney; or a degree of irritation and weakness of that organ, that disposes to inflammation from causes that would otherwise have no injurious effect. If a horse is strained in the loins, by being urged on, far or fast, by a heavy rider, or by being suddenly pulled up on his haunches, the inflammation of the muscles of the loins is often speedily transferred to the kidneys, with which they lie in contact. Exposure to cold is another frequent origin of this malady, especially if the horse be drenched with rain, or the wet drips upon his loins; and more particularly, if he were previously disposed to inflammation, or these organs had been previously weakened. For this reason hackney-coach horses and others, exposed to the vicissitudes of the weather, and often fed on unwholesome provender, have, or should have, their loins protected by a leather or a cloth.

The treatment will only vary from that of inflammation of other parts, by the consideration of the peculiarity of the organ affected. Bleeding must be promptly resorted to, and carried to its full extent. An active purge should next be administered; and a counter-inflammation excited as near as possible to the seat of the disease. For this purpose, the loins should be fomented with hot water, or covered with a mustard poultice; but no cantharides or turpentine must be used, and, most of all, must no diuretic be given internally. When the groom finds this difficulty or suppression of staling, he immedi-

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\* This disease is called *strangury* or *ischuria*; *harnstrenge*, in German. Writers on disease, say there are four species of *ischuria*, or suppression of urine. We have not space in a *note* to describe them. When the urine is nearly suppressed, the disease is called *dysuria*; there are five species of this.

ately has recourse to a diuretic ball, to force on the urine; and by thus farther irritating a part already too much excited, he adds fuel to fire, and frequently destroys the horse. When the action of the purgative begins a little to cease, white hellebore may be administered, in doses of a scruple three times a day, with or without emetic tartar. The horse should be warmly clothed; his legs well bandaged, and plenty of water offered to him. The food should be carefully examined, and any thing that could have excited, or that may prolong the irritation, carefully removed.

We are aware that internal diuretics, do generally more hurt than good. We can, however, safely recommend the following, which has been used frequently with advantage:

No. 123.—*Cure for strangury.*

Take dulcamara or bitter-sweet, make a strong infusion, one quart; a strong infusion of flaxseed, one pint; an infusion of pumpkin seed, one pint; mixed; give the horse the whole at one dose; repeat a similar dose every twelve hours, for four days—bleeding the horse every morning; take from three to five pints of blood.—*Proved.*

*Sect. 221.*

i.—*Diabetes, or profuse staling—Harnfluss.—Ger.*

This is comparatively a rare disease. It is the consequence, generally, of undue irritation of the kidney, by bad food or strong diuretics; and sometimes follows inflammation of the kidney. It can seldom be traced in the horse to any disease of the digestive organs. The treatment is obscure, and the result often uncertain. It is evidently increased action of the kidney, and therefore the most rational plan of treatment is to endeavor to abate that action; and nearly the same course should be pursued in the early stage of diabetes, as in actual inflammation; but the lowering system should not be carried to so great an extent. To bleeding, purging, and counter-irritation, medicines of an astringent quality should succeed, as catechu, the powdered leaf of the whortle-berry, and opium, in doses of two drams each of the two first, and half a dram of the last. Very careful attention should be paid to the food. The hay and oats should be of the best quality; and green food, especially carrots, will be very serviceable.

No. 124.—*Cure for diabetes.*

Blaine recommends: Liver of sulphur, two drams; uva ursi, four drams; oak bark, one ounce; catechu, one and a-half ounce; alum, one-half dram; given as a daily drink in a pint of water.

Dr. Winters recommends the following:

No. 125.—*Cure for diabetes.*

Take juniper berries, one gill; burdock root, three ounces; marsh-mallows, one handful; garlic, two ounces; three pints of vinegar; mix—filtrate; given as a drench.

Mr. White recommends the following:

No. 126.—*Balls for diabetes.*

a.—Take emetic tartar, two drams; opium, one dram; to be made into a ball for one dose.

b.—Salt of hartshorn, two drams; opium, half a dram; powdered ginger, one dram; licorice root, powdered, three drams; to be made into a ball for one dose.

c.—Powdered Colombo root, three drams; cascarilla, two drams; salt of steel, two and a-half drams; prepared kali, one and a-half dram; tincture of opium, one-half ounce; to be mixed with strong beer, and given as a drink at once.

Sect. 222.

j.—*Inflammation of the bladder—Entzündung der Blase.—Ger.*

There are two varieties of this disease, inflammation of the body of the bladder, and of its neck. The symptoms are nearly the same with those of inflammation of the kidney, except that there is rarely a total suppression of urine, and there is heat felt in the rectum over the situation of the bladder. The causes are the presence of some acrid or irritant matter in the urine, or of calculus or stone in the bladder. The treatment will be the same as in inflammation of the kidney, except that it is of more consequence that the horse should drink freely of water or thin gruel.

In inflammation of the neck of the bladder, there is the same frequent voiding of urine in small quantities, generally appearing in an advanced stage of the disease, and often ending in almost total suppression.

It is spasm of the part, closing the neck of the bladder so powerfully, that the contraction of the bladder, and the pressure of the muscles, are unable to force out the urine.

Here the object to be attempted is sufficiently plain. This spasm must be relaxed. The most likely means to effect a cure is copious bleeding and physic.

Should not this speedily have effect, another mode of abating spasm must be tried. A dram of the powdered opium, made into a ball or drink, may be given every two or three hours; while an active blister is applied externally.

Sect. 223.

k.—*Stone in the bladder—Blasenstein.—Ger.*

Calculous concretions are not uncommon in man, but are seldom formed in the bladder of the horse, and there is some reason to believe that though gravel is a common term in the farrier's list, that it occurs to do much injury. The injuries to which the kidneys are liable, are usually mistaken for stone in the bladder. Horses generally void the gravel, if any exists, before it has formed into concretions sufficiently

large to do injury. Should it be perceived that a horse voids occasionally some gravel, the following may be administered with advantage, as it will increase the flow of urine, and possibly pass the small particles so as to prevent concretions :

No. 126.—*Urine drink.*

Take glauber salts, three ounces ; nitre, eight drams ; dissolve in a quart of warm water.

*Sect. 224.*

1.—*Swelled sheath—Schlauchgeschwulst.—Ger.*

The sheath of the penis is sometimes considerably enlarged.—When at the close of acute diseases, there are swellings and effusions of fluid, under the chest and belly, this part seldom escapes. Diuretics, mixed with a small portion of cordial medicine, will be beneficial, although in some extreme cases slight scarifications may be necessary. The inside of the sheath is often the seat of disease ; the mucous matter naturally secreted there to defend the part from the acrimony of the urine, accumulates and becomes exceedingly offensive, and produces swelling, tenderness, and even excoriation, and sometimes considerable discharge. A little fomentation with warm water, and the cleansing of the part with soap and water, aided perhaps by a diuretic ball, will speedily remove every inconvenience. Carters are much too apt to neglect cleanliness in this respect.

Diegenesch recommends the following treatment :

If the sheath is swollen, heat a brick and place it hot upon a cold brick, a wooden or other convenient vessel ; take garlic, cut fine, put into a pint of sweet milk, and pour the contents on the hot brick, having previously thrown a large rug or blanket over the horse, and placed the vessel under him, so as to fumigate the part affected ; afterwards apply the following ointment :

No. 127.—*Ointment for swelling.*

Take oil of white lillies, two ounces ; white lead and tincture of roses, of each, one ounce ; common powder, one-half ounce ; saffron ; one dram ; triturate or rub the whole in a mortar, and grease the sheath well. Afterwards apply the following fomentation :

No. 128.—*Fomentation for swelling.*

Take nightshade, mugwort, camomile and celandine, of each, two handfuls ; cut fine, bruised, and as much warm water as to make a strong decoction, and foment.—SEE APPENDIX.—*Article, Swellings.*

## Sect. 225.

## E.—DISEASES OF EXTREMITIES; OF THE FORE AND HINDER-LEGS.

a.—*Sprain of the shoulders—Verrenkungen der Schultern.—Ger.*

Sprains or strains of shoulder are not half as frequent as is usually supposed; most of the lameness attributed to the shoulder, has its seat elsewhere; other parts are affected; particularly the feet. Out of one hundred and twenty cases of lameness before, Blaine found that three only arose from ligamentary or muscular extension of the shoulder, or rather of the abductor and sustaining muscles; when shoulder strain does happen, it is commonly the consequence of some slip, by which the arm is forced violently forwards. It is less to be wondered at than at first seems probable, that farriers mistake foot lameness for shoulder strains, when we reflect that a contracted foot occasions inaction, and favoring of the limb; which thus wastes the muscles of the shoulder. Seeing that one shoulder is smaller than the other, the evil is attributed to that, and it is pegged, blistered, swam, and fired, to the torture of the animal and the increase of the foot's contraction by the confinement. In real shoulder strains, the toe is dragged along the ground while in motion; at rest it is planted forward, but resting on the point of the toe. When the lameness is in the foot, the horse points his foot forward also, but he does so with the whole limb unbent, and the foot flat. These differences are highly necessary to be attended to, as well as the peculiar difficulty there is in moving down hill, which he does with reluctance, and by swinging his leg round to avoid flexing it. This lameness may be further brought to the test by lifting up the fore-leg considerably, which, if the evil be in the shoulder, will give evident pain. The muscles between the fore-legs are likewise tumefied and tender in these cases.

*Treatment.*—In sprain of the internal muscles of the shoulder, few local measures can be adopted. The horse should be bled from the vein on the inside of the arm, because the blood is then abstracted more immediately from the inflamed part. A dose of physic should be given, and fomentations applied, and principally on the inside of the arm, close to the chest; while the horse is kept as quiet as possible. The injury is too deeply seated for external stimulants to have very great effect, yet a blister will very properly be resorted to, if the lameness is not speedily removed. The swimming of the horse is an inhuman practice; it tortures the animal, and increases the inflammation. The pegging of the shoulder (puncturing the skin, and blowing into the cellular structure beneath, until it is considerably puffed up) is another relic of ignorance and barbarity.

Loudon's treatment, in the main, agrees with the above. The treatment, he says, consists, when the sprain is recent, in bleeding in the plate vein, rowelling in the chest, and fomenting with hot water two or three times a day. When the heat and tenderness have subsided, first bathe daily with the astringent wash, No. 129, for a week;

and afterwards, if necessary, proceed to blister with No. 130, in the usual manner.

No. 129.—*Astringent wash.*

Take sugar of lead, two drams; white vitriol, one dram; strong infusion of oak, or elm bark, one pint; mix, apply.

No. 130.—*Sprain blister.*

Take euphorbium, powdered, one ounce; oil of vitriol, two scruples; Spanish flies, six ounces; palm oil or lard, resin, of each, one pound; oil of turpentine, three ounces. Melt the resin with lard or palm oil. Having previously mixed the oil of vitriol with an ounce of water, gradually add this mixture to the melted mass; which again set on a very slow fire for ten minutes more; afterwards remove the whole, and when beginning to cool, add the powders previously mixed together.

Nachrichter recommends the following plaster for shoulder sprains. Before applying the plaster, shave the hair clean from the seat of pain:

No. 131.—*Sprain plaster.*

Take one-half pound of resin; turpentine, four ounces; damwort, or wallwort, powdered, three ounces; goat's beard root, two ounces; and bole pulverized, three ounces; aloes, one-half ounce; mastic, one ounce. Melt the resin and turpentine; let it cool some, then add the other ingredients to the melted mass; set it over a slow fire for a few minutes; take it off and stir, till it is formed into a consistent plaster, which spread on a piece of leather, or strong linen cloth, and apply it to the shaven part.

*Sect. 226.*

b.—*Broken knees—Kniebruch.—Ger.*

Broken knees occur frequently, and their proper treatment is a subject of no small importance; for many horses are rendered useless, and others are sadly blemished by wounds in the knee joint. The horse when falling, naturally throws his knees forward; being placed in this position, they receive the whole weight and impetus of the horse, and are sometimes extensively lacerated or greatly bruised and wounded. If this is the case, the first thing to be attended to, is carefully to wash the injured parts with warm water, to cleanse the wound from all gravel and dirt. It should then be ascertained whether the joint is penetrated; or if it be at all deep or extensive, or much bruised, a poultice of linseed meal, should be applied, by means of the leg of a woolen or worsted stocking, taking care to renew it twice a day, that it may be constantly soft and moist. This in two or three days, will give the wound a healing appearance, and cause a white healthy matter to flow; it then may be discontinued, and the digestive ointment applied. Should the matter assume a bad appearance, losing its white color, becoming thin, and smelling rather offensively, something stronger will be requisite, such as the detergent lotion



made hot; and if, after this, the new flesh grow too luxuriant, rising above the skin, apply the caustic powder, and a considerable degree of pressure, by means of a linen roller or bandage, and a bolster of lint. By this treatment the wound will soon heal. But we must not stop here; for unless the swelling is completely removed, and the hair regenerated of its original color and smoothness, the horse would be considered of very little value. As soon, therefore, as the wound is completely healed, if any swelling be discernible, apply the following linament, so as to excite a moderate degree of vesication, or blistering, and repeat it after this effect has perfectly subsided.

No. 132.—*Linament for bruises.*

Take powdered cantharides, two drams; camphor, one-half ounce; spirits of wine, four ounces. Mix them in a bottle, and let it stand in a warm place, or place it on a warm stove for five or six days, shaking the bottle frequently; then filtrate, and it is fit for use.

Should the swelling, however, feel hard and callous, and be of considerable size, apply blister No. 133 or 134.

No. 133.—*Blistering ointment.*

Take Spanish flies, powdered, one-half ounce; oil of turpentine, one ounce; ointment of wax or hog's lard, four ounces; mix.

No. 134.—*Another.*

Take oil of turpentine, one ounce; to which add gradually, vitriolic acid, two drams; hog's lard, four ounces; Spanish flies, powdered, one ounce; mix.

It often happens, after the wound is perfectly healed, that a scar or mark will be observable; and though the part may be free from any hardness or swelling, the value of the horse will be greatly lessened by his appearance. A variety of ointments have been recommended for promoting growth of hair on the part, and thereby removing the blemish; the following has been found very effectual:

No. 135.—*Ointment for broken knees.*

Take ointment of wax, two ounces; camphor, two drams; oil of rosemary; mix.

The color of this ointment should be suited to that of the contiguous hair, which will so conceal the blemish, that it will not be observed, unless the part is strictly examined; and at the same time the ointment will cause the hair to grow up gradually, until the mark is completely removed. If the horse be of a bay color, the legs and knees are generally blackish, in this case mix a little ivory black with the ointment; if a chesnut color, armenia bole may be mixed with it.

*Sect. 227.**c.—Splent—Ueberbeinam Schenkel.—Ger.*

Splents are bony excrescences about the shank bone, i. e. between the fetlock joint and the knee. When the splent is forming, the horse is frequently lame; especially when situated so near the knee or back sinews as to interfere with their motion. White says, he met with several cases of lameness, that were attributed to splents, when the cause evidently existed in the foot.

The treatment of splents, if it be worth while to meddle with them, is exceedingly simple. The hair should be closely shaved off round the tumor; a little strong mercurial ointment rubbed in for two days; and this should be followed by an active blister. If the splent be of recent formation, it will usually yield to this, or to a second blister. Should it resist these applications, it can rarely be advisable to cauterize the part, unless the tumor interferes materially with the action of the suspensory ligament; for it not unfrequently happens, that, although the splent may have apparently resisted this treatment, it will afterwards, and at no great distance of time, begin rapidly to lessen, and quite disappear. There is also a natural process by which the greater part of splents disappear when the horse gets old.

As for the old remedies, many of them brutal enough—bruising the splent with a hammer, boring it with a gimlet, chipping it off with a mallet, sawing it off, slitting down the skin and periosteum over it, sweating it down with hot oils, and passing setons over it—the voice of humanity, and the progress of science, will consign them to speedy oblivion.

*Sect. 228.*

The inside of the leg, immediately under the knee, and extending to the head of the inner splint-bone, is subject to injury from what is termed the speedy cut. A horse with high action, and in the fast trot, violently strikes this part either with his hoof or the edge of the shoe. Sometimes bony enlargement is the result, at others great heat and tenderness; and the pain from the blow seems occasionally to be so great that the horse drops as if he were shot. The only remedy is to take care that no part of the shoe projects beyond the foot; and to let the inner side of the shoe, have but one nail, and that near the toe. This part of the hoof being unfettered with nails, will expand as it comes in contact with the ground, and contract when in air and relieved from the pressure of the weight of the body; and although this contraction is to no great extent, it will be sufficient to carry the foot harmlessly by the leg. Care should likewise be taken that the shoe be of equal thickness at the heel and the toe, and that the bearing be equal on both sides.

## Sect. 229.

d.—*Sprains of the back sinews—Verrenkungen der Ruecken Sehnen.—Ger.*

Sprains of the back sinews are generally injuries done to the sheaths of the tendons, or of the ligaments which bind them down. In very aggravated cases, it sometimes occurs that even the tendons themselves are extended beyond their capacity. The heat, swelling, and tenderness, are first to be combatted by fomentations, and if this be extreme, bleed also, and give a dose of physic. Next proceed to poultice with saturnine applications, until the heat and swelling are reduced; then use tonics, astringent wash No. 129; or take No. 136; bandage and exercise very carefully. If the swelling remain after heat, pain, and lameness are past; or when lameness only remains, after all heat is gone, proceed to blister mildly twice. In all cases of ligamentary extension when the heat has subsided, the part may be considered as in a state of atony; and bandages judiciously applied are then proper, particularly during the day.

No. 136.—*Astringent wash.*

Take green vitriol, one dram; infusion of galls, half a pint; mix and wash the parts three times a day.

No. 137.—*Saturnine lotion.*

Take acetate of lead, four ounces; vinegar and water, each, one pint.

No. 138.—*Saturnine poultice.*

Fine bran, one-quarter of a peck; to be made into a thin paste, with hot saturnine lotion; to this add as much linseed meal as will give it a proper consistence.

We shall here add several embrocations for sprains that may be used in all sprains, with advantage.

No. 139.—*Embrocations for sprains.*

a.—Take oil of rosemary, and camphor, of each, two drams; soft soap, one ounce; spirit of wine, two ounces; mix.

*Another.*

b.—Take soft soap, spirit of wine, oil of turpentine, and ointment of elder, of each, four ounces; mix.

No. 140.—*Infallible lotion for sprains.*

Take of spirit of wine, eight ounces; dissolve one ounce of camphor first, in the spirit of wine; then add one ounce of oil of turpentine; one ounce of spirit of sal ammoniac; oil of organum, half an ounce; and a large table spoonful of liquid laudanum. It must be well rubbed in with the hand, for full a quarter of an hour, every time it is

used; which must be four times each day. You will be astonished at its efficacy.

*Sect. 230.*

*e.—Windgalls—Windgalle.—Ger.*

Windgalls are spongy and flatulent humors, that make their appearance on both sides of the legs, just above the pastern joint or fetlock. It is seldom that a horse is found entirely clear of them, particularly about the hind-legs, if he be much used.

They are produced by hard usage, strains, bruises, of the back sinews or the sheath that covers them, which by being over-stretched, have some of their fibres ruptured; whence probably may ooze out the fluid which is commonly found with the included air.

*Cure.*—When windgalls make their first appearance, they are easily cured by a bath and bandage. Boil red oak bark to a strong decoction, add some sharp vinegar and a little alum, let the parts be fomented twice a day, warm as the hand can be held in it; then take a woollen cloth, dip it in the bath, and bind the ankle up, tight as possible, without giving pain to the horse.

Should this method not succeed, after a thorough trial, the swelled or puffed parts may be opened with a sharp knife; but blistering with flies is less dangerous, and generally attended with equal success.

Windgalls give to a horse a gouty and clumsy appearance; but I have never known lameness produced by them, or any other injury, except that of stiffening his legs as he advances in years. They furnish strong proof that the animal has rendered much service.

Mr. White says: I have sometimes applied rollers or bandages to the legs with good effect, keeping them constantly moist with the following embrocation:

*No. 141.—Embrocation for windgalls.*

Take muriate of ammonia, one ounce; muriatic acid, one-half ounce; water, one quart; mix.

*Sect. 231.*

*f.—Rupture of the tendons and ligaments of the leg—Bruch der Bein-Sehnen und Flechsen.—Ger.*

It is very seldom that the tendons themselves are ruptured, but the suspensory ligaments are more often so, and the evil is called breaking down. It is usually very sudden, and the fetlock is brought almost to the ground. A perfect cure is seldom obtained; but the inflammation should be moderated by the means already described, and the heels should be raised. A laced stocking or firm bandage, when the inflammation has subsided, is necessary; and firing is often prudent as a permanent bandage.

## Sect. 232.

g.—*Strains of the ligaments of the fetlock and coffin joints—Verrenkungen der Flechsen der obern und untern Fussgelenke.—Ger.*

These sprains occur, and may always be distinguished by the heat, tenderness, and swelling. Treat as already described. In all strains of the leg, attended with inflammation, a goulard poultice is a convenient and useful application. The goulard water should be mixed with bran, and a worsted stocking being drawn over the foot, and up the leg, it is first tied around the foot; the poultice is then put in, and the stocking fastened around the leg above the injury.—*See Sect. 226.*

## Sect. 233.

h.—*Ringbone—Ueberbein.—Ger.*

The ring-bone partakes of the nature of the spavin, and frequently proceeds from the same cause. It makes its appearance on the lower part of the pastern, and sometimes immediately opposite the coffin joint. It is a hard and bony substance, and generally reaches half way round the ancle, which gives to the ancle an unnatural appearance, and causes the horse to go stiff and lame. Its name has proceeded from its resemblance to a ring. It seldom admits of a cure, consequently a horse diseased with it is worth but little.

When the ringbone first makes its appearance, blisters of flies have sometimes been employed with success. But after growing to full size, and remaining some length of time, to offer a remedy would be deceitful and presumptuous.

*Remedy.*—A strong preparation of corrosive sublimate added to Spanish flies and Venice turpentine, and mixed with hog's lard, will often dissolve a ringbone, &c.

A writer in the Farmer's Cabinet says: The remedies which have proved most successful in the cure of ringbone are such as produce severe irritation on, and copious discharges from the surface of the tumor. Among these are powerful stimulants, as turpentine, oil of organum, oil of spike, all the blistering and caustic applications; and even the red hot iron.

## Sect. 234.

i.—*Strain of the whirl bone—Verrenkung der Kniescheibe.—Ger.*

The joint of the upper bone of the thigh with the haunch, is commonly called the whirl or round bone. It has been stated, that it has, in some rare instances, been dislocated and fractured; it is, however, much oftener sprained, but not so often as the groom or farrier imagines. There is nothing peculiar in the lameness to detect injury of this part, except that frequently the horse will drag his leg after him on the toe. Injury of the round bone, or hip joint, will be principally discovered by heat and tenderness in the situation of the joint.

A part so deeply seated is treated with difficulty. Fomentations should first be used to abate the inflammation, and after that an active blister should be applied. Strains of this joint are not always immediately relieved, and the muscles of the limb considerably waste; and therefore it may be necessary to repeat the blister, while absolute rest should accompany every stage of the treatment. It may even be requisite to fire the part, or, as a last resort, a *charge* may be put over the joint, and the horse turned out for two or three months.

*Of the stifle.*—The stifle joint is not so liable to be sprained as is generally supposed; if strained, the accompanying symptoms will guide to the seat of injury.

In this case the stifle joint will be found unusually hot, tender, and sometimes swollen. The remedies are fomentations, a rowel in the thigh, and a dose of physic. When by these means the inflammation of the joint has abated considerably, and at the same time the swelling and lameness continue, the embrocation for strains, or a blister, should be applied.

The muscles of the inside thigh, generally, have sometimes been sprained; this may be detected by diffused heat, or heat on the inside of the thigh above the stifle. The proper means of cure will be rest, fomentations, bleeding and physic.

#### Sect. 235.

#### k.—*Thorough-pin—Kapsel-Erweiterung.*—Ger.

The reader will bear in mind that there is placed about the joints, certain bags, called bursæ mucosæ, containing a mucous fluid for the purpose of lubricating the parts. These bags, from their peculiar structure, being composed of membranes, and many exhaling arteries of the internal coat, do become inflamed sometimes, and are considerably enlarged; this enlargement is called *Windgall*—Section 230. But the point to which the reader's attention is directed, we will now describe. A similar enlargement is found above the hock, between the tendons of the flexor of the foot, and the extensor of the hock. As from its situation it must necessarily project on both sides of the hock, in the form of a round swelling, it is called a thorough-pin. It is an indication of considerable work, but except it be of very great size, it is rarely attended by lameness. The mode of treatment must resemble that recommended for windgalls. Although thorough-pin cannot be pronounced to be unsoundness, yet it behooves the buyer to examine well a horse with thorough-pin, and to ascertain whether undue work may not have injured him in other respects.

*Of the capulet.*—A small bursal enlargement is sometimes found at the very point of the hock, which enlargement is called capulet. Treatment same as of windgalls.

## Sect. 236.

1.—*Curb*—*Entzueudung des hintern Kniegelenks*.—Ger.

Particular parts of the hock are liable to injuries; from sudden and over-exertion, inflammation, swelling and lameness ensue. An affection of this kind is called the curb. This affection is generally accompanied by lameness.

*Cure*.—The first pre-requisite to effect a cure is absolute rest; then abate the inflammation, which is most readily accomplished by cold, evaporating lotions, frequently applied to the part. Equal portions of spirits of wine, water and vinegar, will afford an excellent application. It will be almost impossible to keep a bandage on. If the heat and lameness are considerable, it will be prudent to physic the horse, and to bleed from the subcutaneous vein. Whether the injury be of the annular ligament, or the sheath of the tendon, more active means will be necessary to perfect the cure. Either a liquid blister should be rubbed on the part, consisting of a vinous or turpentine tincture of cantharides, and this daily applied until some considerable swelling takes place, which should be allowed to subside, and then the liniment again resorted to; or, what is the preferable plan, the hair should be cut off, and the part blistered as soon as the heat has been subdued. The blister should be repeated until the horse goes sound, and the swelling has disappeared.

There are few complaints in which absolute and long continued rest is more requisite than in curb. An injury so serious leaves the parts very materially weakened, and, if the horse be soon put to work again, the lameness will frequently return. No horse that has had curbs should be put even to ordinary work, in less than a month after the apparent cure, and even then he should very gradually resume his former habits.

## Sect. 237.

m.—*Bog spavin*—*Sumpfspath*.—Ger.

The hock is plentifully furnished with mucous bags, to lubricate the different portions of this complicated joint. Some of these are found on the inside of the joint. From over-exertion of the joint they become inflamed, and considerably enlarged. They are wind-galls of the hock. The subcutaneous vein passes over the inside of the hock, and over some of these enlarged bags, and is compressed between the skin and the enlarged bag; and, consequently the passage of the blood through it is partially stopped. The blood, however, continues to be returned from the leg and foot, and being thus arrested in its course, a portion of the vein below the impediment and between it and the next valve, is distended, and causes the soft tumor on the inside of the hock, called the bog or blood spavin. This is a very serious disease, attended with no great, but often permanent lameness, and is a disease too apt to return, when the enlargement has subsided under medical treatment. It must be considered as decided

unsoundness. In a horse for slow draught, it is scarcely worth while even to attack it. In a horse destined to more rapid action, the probability of a relapse should not be forgotten, when the chances of success, and the expense of treatment are calculated.

*Treatment.*—The disease (the enlarged mucous capsule) lies deep, and is with difficulty operated upon. Uniform pressure will sometimes cause the absorption of the fluid contained in cysts or bags like these, but in a joint of such extensive motion as the hock, it is difficult, or almost impossible, to confine the pressure on the precise spot where it is required; and could it be made to bear on the enlarged bag, it would likewise press on the vein, and to a greater degree hinder the passage of the blood, and increase the dilation below the obstruction. The old and absurd method of passing a ligature above and below the enlarged portion of the vein, and then dissecting out the tumor, is not, in the advanced stage of veterinary science, practiced by any surgeon who has a regard to his reputation. The only method of relief which holds out any promise even of temporary success, is by exciting a great deal of inflammation on the skin, and thus rousing the deeper seated absorbents to carry away the fluid effused in the enlarged bag. Repeated blisters then will afford the fairest prospect of removing the tumor, or firing may be tried; but in the majority of cases, the disease will bid defiance to all our means, or will return, and baffle our hopes when we had seemed to have been accomplishing our object. A horse with bog spavin will do very well for ordinary work. He may draw in a cart, or trot fairly in a lighter carriage, with little detriment to his utility, but he never will do for rapid or hard work, and it is in vain to attempt to make him.

#### Sect. 238.

##### n.—*Bone spavin*—*Knochenspath*.—Ger.

A still more formidable disease ranks under the name of spavin, and is an affection of the bone of the hock-joint.

It is not unusual to see whole teams of horses, and that all the year round, with the outer heel of the hind-foot considerably raised above the other. This unequal bearing, or distribution of the weight, cannot fail of being injurious; it will place an unequal strain on the ligaments of the joints, and particularly of the hock-joint, and increase the tendency to spavin.

The weight and concussion which are thus thrown on the inner splint-bone produce, in the first place, inflammation of the cartilaginous substance which unites it to the shank bone. The consequence of this is, that the cartilage is absorbed, and bone deposited; the union between the splint-bone and the shank becomes bony instead of cartilaginous; the degree of elastic action between them is destroyed, and there is formed a splint of the hind-leg. This is uniformly on the inside of the hind-leg, because the greater weight and concussion are thrown on the inner splint-bones. As in the fore-leg, the disposition to form bony matter having commenced and the cause which produced it continuing to act, bone continues to be deposited,



and it appears generally in the form of a tumor, where the head of the splint-bone is united with the shank, and in front of that union. This is called bone spavin. Inflammation of the ligaments of any of the small bones of the hock, proceeding to bony tumor, would equally class under the name of spavin, but, with very few exceptions, the disease commences on the precise spot we have described.

When spavin is forming there is always lameness, and that frequently to a very great degree; but when the membrane of the bone has accommodated itself to the tumor that extended it, the lameness subsides, or disappears, or depends upon the degree in which the bony deposit interferes with the motion of the joint.

There is always this peculiarity in the lameness of spavin, that it abates, and sometimes disappears, on exercise; and therefore, a horse, with regard to which there is any suspicion of spavin, should be examined, when he is first taken from the stable.

Spavined horses are generally capable of slow work. They are equal to the greater part of the work of the farm, and therefore they will not be always rejected by the small farmer, and may generally be procured at little price. These horses are not only capable of agricultural work, but they generally improve under it; they become less lame, and even the bony tumor to a certain degree diminishes. There is sufficient moderate motion and friction of the limb to rouse the absorbents to action, and cause them to take up a portion of the bony matter thrown out, but not enough to renew or prolong inflammation. We cannot say that the plough affords a cure for spavin, but we have seen many instances in which the spavined horse has very materially improved at it.

The treatment of spavin is simple enough, but not always effectual. The owner of the horse will neither consult his own interest, nor the dictates of humanity, if he suffers the chisel and mallet, or the gimlet, or the pointed iron, or arsenic to be used; yet measures of considerable severity must be resorted to. Repeated blisters will usually cause either the absorption of the bony deposit, or the abatement or removal of the inflammation of the ligaments. As a last resort, however, the hot iron may be applied.

#### Sect. 239.

##### o.—*Malanders and Salanders*--*Mauken und Ræude*.—Ger.

Malanders and salanders are scurfy, scabby eruptions, affecting the back of the knee, and ply to the hock; common only in coarse, low bred, and in cart horses. Wash with soft soap every day, after which anoint with an unguent formed of equal parts of mercurial ointment, tar, and Turner's cerate.

This cerate is formed according to this formula :

##### No. 142.—*Turner's cerate*.

Take oil of olive, two and a-half ounces; white wax, one and a-half ounce; spermaceti, one ounce; prepared impure carbonate of

zinc, one ounce. Or, take olive oil, two pounds; yellow wax, and prepared impure carbonate of zinc, of each, one pound.

To cure this disease, says the author of the *Pocket Farrier*, wash the cracks with warm soap-suds or old urine; then rub them twice a day with an ointment of hog's lard mixed with two drams of sublimate of mercury. Or apply a poultice of roots of marshmallows and flaxseed, softened with linseed oil, tying it on with a roller. Continue till the seeds fall off and the sores be clean. Afterwards a mixture of turpentine and quicksilver will be a proper application.

*Rat-tails.*—On the back part of the leg are sometimes excrescences, called by farriers, rat-tails, from the appearance they give the hair. They will generally yield to the mild mercurial ointment, but in very obstinate cases, apply the knife. The following ointment is good:

No. 143.—*Healing ointment.*

Take Turner's cerate, two ounces; white vitriol, powdered, half a dram; lard, four ounces; mix, and dress with every morning and evening.

Sect. 240.

p.—*Springhalt or Stringhalt—Hahnentritt.*—Ger.

This is a disease peculiar to the posterior quarters of the horse; it is an involuntary twitching of the hind-leg, or a convulsive action of the muscles by which it is bent. When it seizes the outside muscles, the horse straddles and throws his legs outward. But when the inward muscles are affected, his legs are twitched up to his belly. Sometimes it is only in one leg, sometimes in both. It is principally observed when the horse first comes from the stable, and gradually ceases, in some instances, after he has been exercised a while. It is unpleasant to the rider, but it cannot be denominated unsoundness; on the contrary, common opinion has given to the horse with stringhalt a more than usual share of strength and endurance; and if it be an excess of nervous energy, although irregularly exerted, we shall find no difficulty in associating it with general powerful muscular action. However this may be, the precise nature of the defect has never been determined, nor has ever any permanent cure been discovered. All that we know, or have seen recommended, is rubbing and fomentations, with daily moderate exercise: by which the blood and spirits may be equally distributed into the disordered muscle and its corresponding one.—*See Gibson and Clark.*

Sect. 241.

Before we close our remarks on the diseases of the legs, we shall submit an extract from *Barnum's book* on two very troublesome diseases. The one, generating the other, and both, we are strongly inclined to believe, the children or offspring of neglect and mismanagement. We hope that the importance of the subject will be a satisfactory apology, for presenting so much on swelled legs, and their degenerate kindred, grease.

## Sect. 242.

q.—*Swelled legs—Geschwollne-Beine.*—Ger.

The fore-legs are sometimes subject to considerable enlargement, but much oftener the hind ones. Occasionally when the horse does not seem to labor under any other disease, and sometimes from an apparent shifting of inflammation from other parts, (inflammation of the lungs or the eye not unfrequently thus changes its seat,) the hind-legs suddenly swell to an enormous degree from the hock, and almost from the stifle to the fetlock, attended by heat, and extreme tenderness of the skin, and excessive and very peculiar lameness. The pulse likewise becomes quick and hard, and the horse evidently labors under considerable fever. It is acute inflammation of the cellular substance of the legs, and that most sudden in its attack, most violent in its degree, and therefore attended by the pouring out of a great deal of fluid, in this cellular substance. It occurs in young horses, and in those which are over-fed and little exercised, without previous inflammation in any other part. Fomentation, diuretics, or physic, or, if there be much fever, a moderate bleeding, will often relieve the distension almost as suddenly as it appeared.

Horses taken from grass and brought into close stables very speedily have swelled legs, because the difference of food, and increase of nutriment, rapidly increase the quantity of the circulating fluid; while the want of exercise takes away the means by which it might be got rid of. The remedy here needs not to be stated. Swelled legs, however, may proceed from general debility; they may be the consequence of starvation, or disease that has considerably weakened the animal; and these parts being farthest from the centre of circulation, are the first to show the loss of power by the accumulation of fluid in them. Here the means of cure would be to increase the general strength, with which the extremities would sympathise, and mild diuretics and tonics are evidently indicated.

Horses in the spring and fall are subject to swelled legs. The powers of the constitution are principally employed in providing a new coat for the animal, and the extremities have not their share of vital influence. Mingled cordials and diuretics are indicated here—the diuretic to lessen the quantity of the circulating fluid,—the cordial to invigorate the frame.

Swelled legs are most teasing in horses that are in tolerable or good health, but whose work is somewhat irregular. The cure is to give more equable exercise; to walk the horse out daily when the usual work is not required, and by some mechanical means to supply to the extremities the want of the motion of the parts, and the consequent urging on of the return of the fluid. Friction by hand-rubbing is an excellent means of fining the legs, at least for a time. Bandages have a greater and more durable effect, for nothing tends more to support the capillary veins, and rouse the action of the absorbents, than moderate pressure. Hay bands will form a very good bandage for the agricultural horse, and their effect will probably be increased by

previously dipping them in water. As to medicines, we have little to say: the fewer of them that are given in these cases the better.

*Sect. 243.*

*r.—Grease—Fussræude.—Ger.*

It is an inflammation of the skin of the heel, sometimes of the fore, but oftener of the hind-foot. It is not a contagious disease, although when it once appears in a stable it frequently goes through it, for it is usually to be traced to bad stable management. The skin of the heel of the horse somewhat differs from that of any other part. There is a great deal of motion in the fetlock, and to prevent the skin from excoriation or chapping, it is necessary that it should be kept soft and pliable; therefore, in the healthy state of the part, the skin of the heel has a peculiar greasy feel. Under inflammation, the secretion of this greasy matter is stopped—the heels become red, dry, and scurfy; and being almost constantly in motion, cracks soon succeed: these sometimes extend, and the whole surface of the heel becomes a mass of soreness, ulceration and fungus.

The heel is subject to this virulent inflammation, on account of its situation, far removed from the centre of the circulation. It is likewise exposed to more variations of temperature than any other part of the frame. As the horse stands in the closed stable, the heat of the part is increased by being deeply imbedded in straw. When the stable door is open, the heels are nearest to the door, and most powerfully receive the current of cold air; and when the horse is taken from the stable to his work, the heels are covered with mire and wet, and chilled by the slow and long process of evaporation, which is taking place from them. We cannot wonder then at the frequency with which the heels are attacked with inflammation, nor the difficulty there is in subduing that inflammation. In the winter season, chaps and cracks will occasionally appear in the best conducted stables; but where the comfort of the animal is neglected, and every kind of filth is suffered to accumulate, the disease will be more frequent and more virulent.

A great deal of error has prevailed, and it has led to much bad practice, in connecting grease with the notion of humors flying about the horse, which must have vent somewhere, and which attack the heels as the weaker parts of the frame. Thence arise the physicings, and the long course of diuretics, which truly weaken the animal, and often do irreparable mischief. Grease is a local complaint; it is produced principally by causes which act locally; and it is most successfully treated by local applications. Physic and diuretics may be useful in abating inflammation; but the grand object is to abate the inflammatory action which exists in the skin of the heel, and to heal the wounds, and remedy the mischief which it has occasioned.

The first appearance of grease is usually a dry and scurfy state of the skin of the heel, with redness, heat, and itchiness. The heel should be well washed with soap and water; as much of the scurf should be detached as is easily removable; white ointment composed

of one dram of sugar of lead, rubbed down with an ounce of lard will usually supple and cool, and heal the part.

When cracks appear, the mode of treatment will depend on their extent and depth. If they are but slight, a lotion, composed of a solution of two drams of blue vitriol, or four of alum, in a pint of water, will often speedily dry them up and close them.\* But if the cracks are deep, with an ichorous discharge, and the lameness considerable, it will be necessary to poultice the heel. A poultice of linseed meal will be the most effectual, unless the discharge is thin and offensive, when an ounce of finely powdered charcoal should be mixed with the linseed meal, or a poultice may be made of carrots boiled soft, and mashed. The efficacy of a carrot poultice is seldom sufficiently appreciated in cases like these.

As soon as the inflammation of the parts is subdued, apply the following astringent paste:

No. 144.—*Astringent paste.*

Take prepared calamine, tutty, powdered, charcoal, powdered, of each, two ounces; alum and verdigris, of each, one dram; yeast enough to make a paste. Or use astringent washes No. 129, Sect. 225; or No. 136, Sect. 229.

When the inflammation and pain have evidently subsided, and the cracks discharge good matter, they may be dressed with an ointment composed of one part of resin, and three of lard melted together, and one part of calamine powder added, when these begin to get cool. The healing will be quickened if the cracks are occasionally washed with either the vitriol or alum solution. A mild diuretic may here be given every third day, but a mild dose of physic will form the best medicine that can be administered.

After the chaps or cracks have healed, the legs will sometimes continue gorged and swelled.† A flannel bandage evenly applied over the whole of the swelled part will be very serviceable; or should the season admit of it, a run at grass, particularly spring grass, should be allowed. A blister is inadmissible, from the danger of bringing back the inflammation of the skin, and discharge from it; but the

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\* Diegenesch recommends the following ointment: Take one pound of hog's lard; common powder, quicksilver, of each, two ounces; brimstone, one ounce; laurel oil, one-half ounce; first rub the quicksilver well in the laurel oil, mix the whole, then let it stand for five days; then it will be fit for use. Apply it, and in ten hours wash the parts affected with strong lye—repeat the ointment and washing till a cure is effected.—*Proved.*

† For this purpose the following is recommended: Take wormwood, eight handfuls; John's wort, centaury, camomile, of each, four handfuls; elder flowers, two handfuls; bayberries, half a pound. Boil them in two gallons of water till one-third is consumed, and make a fomentation.

The horses legs are to be bathed three or four times a day, with woolen cloths, wrung out of the liquor, and applied as hot as he can bear them, adding a little spirit of wine or brandy. And if they are much inflamed, as happens when the sinews are affected, a good quantity of the ashes of the green twigs of vines, walnut or oak, may be boiled in the decoction, adding more water, when the other ingredients are easily to be had.—*Complete Farmer.*

actual cautery, taking especial care not to penetrate the skin, must occasionally be resorted to.

In some cases the cracks are not confined to the centre of the heels, but spread over them, and extend on the fetlock, and even up the leg, while the legs are exceedingly swelled, and there is a watery discharge from the cracks, and apparently oozing through the skin at other places. The parts are exceedingly tender, and sometimes hot, and there is an appearance which the farrier thinks very decisive as to the state of the disease, and which the better informed man should not overlook; the heels smoke; the skin is so hot, that the watery fluid partly evaporates as it runs from the cracks, or oozes through the skin.

There will be great danger in suddenly stopping this discharge.—Inflammation of a more important part has rapidly succeeded to the injudicious attempt. The local application should be directed to the abatement of the inflammation. The poultices just referred to should be diligently used night and day, and especially the carrot poultice; and, when the heat and tenderness and stiffness of motion have diminished, astringent lotions may be applied; either the alum lotion, or a strong decoction of oak bark, changed, or used alternately, but not mixed. The cracks should likewise be dressed with the ointment above mentioned; and the moment the horse can bear it, a flannel bandage should be put on, reaching from the coronet, to three or four inches above the swelling.

The medicine should be confined to mild diuretics, mixed with one-third part of cordial mass, or, if the horse be gross, and the inflammation run high, a dose of physic may be given. From the account we have given, it will easily be distinguished in what cases physic is indicated, and in what states of the constitution or disease we may be content with diuretics. If the horse be strong, and full of flesh and fat, physic should always precede, and sometimes supersede the diuretics; in cases of much debility, diuretics with aromatics or tonics will be preferable.

The feeding will likewise vary with the case, but with these rules which admit of no exception, that green meat should be given, and more especially carrots, when they are not too expensive, and mashes, if the horse will eat them, and never the full allowance of corn.

Walking exercise should be resorted to as soon as the horse is able to bear it, and this by degrees may be increased to a gentle trot.

From bad stable management at first, and neglect during the disease, a worse kind of grease is occasionally found. The ulceration extends over the skin of the heel and the fetlock, and a fungus springs from the surface of both, highly sensible, bleeding at the slightest touch, and interspersed with scabs. By degrees, portions of the fungus begin to be covered with a horny substance, protruding in the form of knobs, and collected together in bunches. These are known by the name of grapes. A stinking and very peculiar discharge proceeds from nearly the whole of the unnatural substance. The horse evidently suffers much and is gradually worn down by the disease.

*Cause.*—Some horses are more subject to grease than others, particularly draught horses, both heavy and light, but particularly the

former, and if they have no degree of blood in them. It was the experience of this which partly contributed to the gradual change of coach and other draught horses to those of a lighter breed. It may, however, be affirmed, without danger of error, that in the great majority of cases, grease arises from mismanagement and neglect.

Every thing that has a tendency to excite inflammation in the skin of the heel is a cause of grease. The want of exercise, high feeding, added to irregular or deficient exercise, will produce this disease. Want of cleanliness in a stable is a fruitful source of this complaint. When the heels are embedded in filth they are weakened by the constant moisture surrounding them, and irritated by the acrimony of the dung and the urine, and little prepared to endure the evaporation and cold to which they are exposed when the horse is taken out of the stable. We believe, however, that the absurd practice of washing the feet and legs of horses when they come from their work, and either carelessly spunging them down afterwards, or leaving them to dry as they may, is by far the most common origin of grease.

When the horse is warmed by his work, and the heels share in the warmth, the momentary cold of washing may not be injurious if the animal be immediately rubbed dry; yet even this would be better avoided; but to wash out the heels, and then leave them partially dry, or perfectly wet, and suffering from the extreme cold which is produced by evaporation from a wetted surface, is the most absurd, dangerous, and injurious practice that can be imagined. It is worse when the stage horse or the plough horse is plunged up to his belly in the river or pond, immediately after his work. The owner is little aware how many cases of inflammation of the lungs, and bowels, and feet, and heels, follow. It would, therefore, be an excellent rule never to wash the heels of these horses, when the least warm.

#### Sect. 243.

#### F.—DISEASES OF THE FOOT.

The foot is composed of the horny box which covers the extremities of the horse, and the contents of that box, although well secured, is exceedingly liable to accidents and diseases.

On the diseases of feet we shall present the reader with an extract from Loudon's book, London edition, 1839, p. 987, sub-section 9, and consecutive sections 6517 to 6529, with remarks and observations from several English and German authors.

#### a.—*Founder—Steifheit.*—Ger.

Founder of the feet is of two kinds, an acute and a chronic. Acute founder is a disease that, until lately, was less understood than almost any other. After a very severe day's work, or when very much heated, if a horse get a sudden chill by standing in snow or cold water, it is not uncommon for him to be seized with universal stiffness, and every symptom of great fever. Such a horse is said to be body foundered. By degrees, however, it is observed that the

animal has an extreme disinclination to remain on his feet; from whence it will appear that the whole of them are affected, when the horse draws his hind-feet under him, his fore only are affected, and when he draws his fore-feet under him, his hinder feet are the seat of the complaint; but which is seldom the case. On feeling the feet they will be found intensely hot, and the pastern arteries beat with great violence. After a few days, unless the disease abate, a separation of the hoofs from the coronet takes place, and at last they fall entirely off.

*Remedy.*—So soon as you are convinced that your horse is foundered, take from his neck vein at least a gallon of blood; give a drench of one quart strong sassafras tea, one table spoonful of saltpetre, and a quarter of an ounce of asafetida, and do not permit him to drink for five or six hours; at the expiration of which time, should he not be evidently better, repeat the bleeding, taking half a gallon of blood, and give another drench: at night offer him some bran or oats, scalded with sassafras tea, and if it can be procured, let him have green food, fresh from the field, for it has the happy effect of opening the bowels, and cooling the system: his feet should be nicely cleaned out, and stuffed with fresh cow manure: his drink should be at least one-half sassafras tea, with a small handful of salt thrown therein.

By the morning, should the horse be better, nothing further is necessary, only being careful not to over feed him. But should there be no change for the better, tie a small cord just above his knees, and with a lancet or fleam bleed in a vein that runs around the coronet, just above the hoof; take from each leg a pint of blood: give a pound of salts dissolved in three half pints of water, in form of a drench; keep his feet stuffed with fresh cow manure, and bathe his legs with equal parts of sharp vinegar, spirits and sweet oil or lard. By attention to these directions, in two or three days the horse will again be fit for service.

#### Sect. 244.

*Chronic founder, contraction or fever in the feet.*—The artificial life that horses lead, subjects them to many diseases; one of the principal of which is that of contracted feet. Blaine considers a neglect of sufficient paring of the hoof, the application of artificial heat from hot stables, and hot litter, the deprivation of natural moisture, constitutional liability, and the existence of thrushes, as among the principal causes of this evil. It is more common among blood horses, than to others, and he observes, that dark chesnuts are of all others most prone to it.

#### Sect. 245.

*The treatment of contraction in the feet.*—It is better to prevent than to be under the necessity of attempting to cure this great evil. Prevention may be practiced by avoiding the acting causes. As soon as at all suspected to be likely to occur; keep the hoofs pared low; never suffer the horse to stand on litter, nor allow the stable to



be too hot; feed moderately, and never allow the horse to go without daily exercise; whatever increases the general fulness of habit flies to the feet. Above all, keep the feet moist by means of wet cloths tied closely round the coronet, falling over the whole hoof, but not extending beyond the edge. Then moisten repeatedly, and stop the feet every night.

Apply the following composition :

No. 145.—*Foot stoppings.*

Take horse and cow dung, each, about two pounds; tar, half a pound.

When contraction has already taken place, many plans have been recommended; as jointed shoes, by Coleman, Clark, and others, but it is not found that mechanical expansion in this way produces permanent benefit. The most effectual mode is to obviate all previous causes of contraction; and then to thin the hoofs around the heels from each quarter so thin as to be able to produce an impression by means of the thumb; in fact, to remove so much of the horn as is consistent with safety, from the coronet downwards. It is also prudent to put in a score or two from above downwards, drawn a quarter of an inch deep on each side towards the front of the hoof; but whether this be done or not, the front of the hoof should be rasped thin about an inch in width; by which means a hinge is formed which operates most advantageously in opening the heels. After this is done, tips should be put on, and the horse should be turned out to grass, where he should remain three months, by which time the new formed heels will have reached the ground, and will bear a shoe.

Sect. 246.

b.—*Pumiced foot—der ausgeglätete Fuss.*—Ger.

This is a very common consequence of acute founder, in which the elasticity of the lamina becoming destroyed the support of the coffin bone is removed, and it rests wholly on the sole, which it gradually sinks from a concave to a convex surface, drawing with it the front of the hoof inwards. In weak, broad heavy feet, this evil comes on sometimes without founder; the treatment can only be palliative; a wide webbed shoe exactly fitted to the foot, without at all pressing on it, prevents the lameness consequent to the disease; a shoe exactly the contrary to this has been tried in some cases with benefit, the form of which has been one with a web so narrow as only to cover the crust, but so thick as to remove the feet from accidental pressure. In other cases, no shoe answers so well as a strong bar shoe.

Sect. 247.

c.—*Corns—Huehneraugen, Leichdornen.*—Ger.

These are troublesome ailments, to which horses are very liable, and which injure and ruin thousands; they are wholly accidental; no horse having any peculiar tendency to them, but being always brought

on them by some improper pressure, usually of the shoe, or from something getting between the shoe and the horny heel. A shoe too long worn is a very common cause, and a still more frequent one is the clubbing of the heels of the shoe; neither is it necessary to the production of corns that the shoe itself should press on the sole; but they are equally produced when the outer horn of the heels or of the bars, is the immediate offending part, rendered so by too luxuriant growth, by unequal wear, or by secondary pressure from the shoe, or by gravel working in. It is the fleshy sole itself that is bruised, from which a speck of extravasated blood follows, and if not immediately relieved, it gathers, or the part becomes habitually defective, and instead of forming healthy horn, it always afterwards forms a spongy substance of extreme sensibility, and thus always is liable to produce pain and lameness when exposed to pressure.

The treatment of corns is seldom difficult; or unsuccessful at their first appearance, but afterwards it can be only palliative. Blaine directs that by means of a fine drawing knife every portion of diseased horn should be pared away, and the extravasation underneath likewise. Having done this, he advises to introduce some butter of antimony into the opening, to place over this some tow, which should be kept in its place by means of a splint. If any contraction of the heels be present, it will materially assist the cure to lower them, and to thin the hoof a little around the quarters, and afterwards to put on a shoe without heels opposed to the corn, or a shoe chambered opposite the weak part: or a bar shoe may be applied so framed as completely to leave the heel untouched. Introduce the butter of antimony once or twice more, with the interval of two days between, and then turn the horse out to grass; in about six weeks time the foot will be sound. The treatment of corns, when of long standing, does not materially differ: for although they are never wholly eradicated, they may be rendered but little troublesome. The diseased part must be carefully pared out at each shoeing, and such a shoe put on as will completely free the heel from pressure.

#### Sect. 248.

#### d.—*Thrush—Mundfæule.*—Ger.

Running thrush is always a dangerous disease, and few errors in horse management are more glaring than the common one of supposing they are necessary to carry off humors. If less food, more exercise, cool stables, and dry standings, were substituted to correct the fullness, instead of thrushes, which invariably contract the feet whenever they continue any length of time, it would save many valuable horses. To the cure, begin by cleaning out all the fissures of the frog from loose ragged horn, and then introduce to the bottom of the sinuses, by means of a thin piece of wood, some of the thrush paste smeared on tow, which will enable it to be held within the cleft, especially if it be guarded by splints of wood passed under the shoe; renew the dressing daily; turning out to grass may be practiced to great advantage for thrushes by this mode of dressing.

No. 146.—*Thrush paste.*

Take prepared calamine, verdigris, of each, one-half ounce; white vitriol, alum, of each, one-half dram; tar, three ounces; mix—apply as directed.

We here add a cure from Gibson:

*To cure the thrush in horse's feet.*

Simmer over the fire, till it turns brown, equal parts of honey, vinegar, and verdigris, and apply it with a feather or brush occasionally to the feet. The horse at the same time should stand hard, and all soft dung and straw be removed.—*Gibson.*

## Sect. 249.

e.—*Sand cracks—Sandritsen.—Ger.*

Sand cracks are fissures in the hoofs, commonly of those before, and usually towards the inner, but now and then towards the outer quarter also, from above downwards: from the crack, a little oozing of blood or moisture is seen; and the sensible parts underneath getting between the edges of horn, being pressed on, lame the horse. White recommends to fire the fissure crossways, so as to destroy the connection between the divided and undivided parts of the hoof.

The following for sand cracks has been frequently used with success:

No. 147.—*Powder for cracks.*

Take prepared calamine, one ounce; fuller's earth, powdered, pipe clay, powdered, of each, two ounces; mix, and put within gauze, and daub the moist surfaces of the sores frequently.

## Sect. 250.

f.—*Pricks—Vernagelungen.—Ger.*

Pricks or punctures of the feet are often very serious evils, either when received by nails in shoeing, or by one picked up in the road, &c. The danger arises from inflammation, which is always great from any injury done to the sensible and viscular parts within the foot. This inflammation quickly proceeds to suppuration; and the matter is apt to make its way upwards, unless it find a ready vent below. When it does not break out at the coronet, it will often penetrate under the sole, and finally disease the bones, ligaments, or cartilages, and produce quittor.

It is very seldom that a horse is pricked in shoeing, but that the smith is aware of it by the peculiarity of the feel on the hammer, and by the flinching of the animal. At such times were he to immediately draw the nail a little, enlarge the opening, and introduce some spirit within the puncture, nothing would occur; but on the contrary, he sends the horse home to avoid trouble, who, the next, or following day, is found lame, with his foot hot: if the nail be not driven too near the sensible lamina, it will only require to be removed to free

the horse from his evil; but if it have been driven through, and have wounded them, then suppuration ensues, and on examining the foot by the pincers when the shoe is removed, he will flinch at the pressure on the diseased part.

It is probable, on the removal of the shoe that matter will at once flow out at the immediate nail hole, if not, the drawing knife will soon detect the injury. If the heat be great, and instead of matter, bloody dark ichor flows out, wrap the foot up in a poultice; but if healthy matter flows out this will not be necessary; sometimes it is requisite to detach all the horn that is underrun by the matter. But when the injury has not proceeded to this extent, apply over the part a pledget of tow steeped in friar's balsam; tack on the shoe lightly, and retain the dressing by means of splints, which are thin pieces of wood passed under the shoe: repeat the dressing daily, and avoid moisture, which would encourage quittor.

A nail picked up on the road, and which passes through the sole below or through the frog, is to be treated in the same manner, and also when the matter breaks out at the coronet; but when a nail is picked up and penetrates the coffin joint, which is known by the synovia or joint oil appearing, such opening should be immediately stopped by paring towards the wounded joint, and then applying a heated budding-iron, not to the capsular ligament itself, but to the skin immediately near it; if this be inconvenient, put a pledget dipped in a little butter of antimony, just within the opening, but do not press it into the cavity of the joint: if this be insufficient to stop the flow, but more particularly if the original wound be penetrated to the bone, it is probable that the bone itself will become in some measure diseased, which is known by the rough grating felt at the point of the probe when passed. In this case, enlarge the opening so as to be able to scrape the diseased bone away. Bruises of the sole, from whatever cause, will all fall under some of these points of view, according as the case may be.

#### Sect. 251.

g.—*Quittor and canker—Kronengeschwulst und Kanker.*—Ger.

Quittor and canker are the consequences of these injuries, when neglected, or originally extensive. In these cases either the bones, ligaments or cartilages, or all, become diseased; and a cure can only be obtained by removing the diseased parts by the knife or by caustic.

*Treads, over-reach, &c.*—A wound on the coronet is not uncommon from one foot being placed on the other; or the hinder foot may strike it, &c. First wipe away the dirt, and remove any loose edges that cannot unite; avoid washing, unless stones and dirt are suspected to be within, and bind up, having first placed over the wound a pledget of lint or tow moistened with balsamic tincture, or tincture of myrrh, or of aloes, &c. Over-reaching or over-stepping, is often an injury done to the fetlock joint before, by the hinder foot, or to the back sinew higher up. Sometimes it is simply a violent bruise, at

others the laceration is extensive, in which case treat as a tread; and when no laceration has taken place, treat as a bruise or strain.

If lacerated, apply some of the *horse ointment*. It is an extraordinary ointment for wounds or bruises; scalds, or burns of every description, are soon healed by applying this ointment. No family should be without it.

#### No. 148.—*Horse ointment.*

Into a clean pipkin, that holds about a quart, put the bigness of a pullet's egg, of yellow rosin; when it is melted over a middling fire, add the same quantity of bees wax; when that is melted, put in half a pound of hog's lard; when it is dissolved, put in two ounces of honey; when that is dissolved, put in half a pound of common turpentine—keep it gently boiling, and stirring with a stick all the time; when the turpentine is dissolved, put in two ounces of verdigris, finely powdered, but before you put in the verdigris, you must take off the pipkin, (else it will rise into the fire in a moment,) set it on again, and give it two or three stirrings, then strain it through a coarse sieve into a clean vessel for use; throw away the dregs.

#### Sect. 252.

##### h.—*Narrow heels,*

Is a disease that often produces lameness without the master of the horse knowing from what cause it proceeds; often examining his legs, cleaning his hoofs, paring the frogs of his feet, &c. &c. without paying any respect to the shape of the horse's heels, which are always close together and unnaturally shaped.

A horse with narrow heels is unfit to travel, as he is tender footed, and goes cramped, short, and is always subject to lameness, more or less.

Narrow heels is the effect of shoes being permitted to remain on a horse that is not used, for three or four months, which cause the heels to grow together, pinching and confining the coronet.

The cure is simple, though tedious. Have his shoes taken off and his feet cut down as small as possible, without injuring the quick; then turn him out upon a marsh or low ground, where his hoofs may be constantly moist for three or four months, and his heels will expand, his hoofs again assume their natural shape, and the horse will be fit for any kind of service.

#### Sect. 253.

##### G.—DISEASES OF THE SKIN.

The skin, though apparently a simple membrane, is in reality laminated, consisting of several subdivisions, namely: of three layers or parts. The outer or external lamina is the *cuticle* or scarf-skin. This part is thin, as is proved by the action of a blister when the cuticle is raised from the true skin beneath, in the form of almost pellucid bladders.

The second lamina, immediately beneath the cuticle, is a thin, soft substance, on which the color of a horse depends, called *rete mucosum*, from its web-like structure, and its soft mucous consistence.—Next to this, is the true skin, very different in different breeds; thin and highly sensible in the blood horse; thick, and fortunately for the animal, endowed with far less sensibility, in the common cart horse.

The skin, the ornamental pelisse of the horse, serves besides beauty, a double purpose of *protection and strength*. Where it is necessary that the parts should be firmly bound and knit together, it adheres so tightly that we can scarcely raise it. Of its strength we have abundant proof, in both the living and dead animal. Its fibres are so complicated and interlaced, that it requires great violence to lacerate it. To the knife itself, it offers considerable resistance; and so well known is its tenacity, that the dead horse is stripped, and his tri-laminated coat converted by astringents and oleants, into leather.

The skin itself, is also liable to disease. For no sooner is the general system deranged, and especially the digestive system, and the vessels concerned in the proper nourishment of the animal, the *skin* sympathizes, and feels the effects of derangement, and is diseased. These diseases have various names, such as *mange, hidebound, &c.*

#### Sect. 254.

##### a.—Mange—Ræude.—Ger.

The mange in horses, is a disease of the skin, which is generally rough, thick, and full of wrinkles, especially about the mane, tail, and thighs, and the little hair that remains on these parts stands up very much like bristles.

The ears and eye-brows are sometimes attacked, and in a short time are left quite naked. The mange is an infectious disease—indeed so much so, that if a horse is carried into a stable where one that is mangy has been in the habit of standing, he will be almost certain to take the infection, unless the litter has been removed, and the stable properly cleansed and aired. Proper attention will make the cure easy.

*Remedy.*—Take of powdered brimstone and hog's lard, an equal quantity; mix them well together and anoint the part affected twice a day; bleed plentifully, and give two or three mashes, (composed of bran, sulphur, saltpetre, and sassafras,) within a week, by which time a cure will be performed.

A clean stable and nice bed of straw will aid much in accomplishing the object in view.

We add the following from the Farmer's Receipt Book:

Take of white precipitate, two ounces; strong mercurial ointment, two ounces; sulphur of vivum, one pound; flour of sulphur, half a pound; rape oil, two quarts; first grind the white precipitate in a little oil; afterwards add the remainder, taking care that they are well mixed.

This liniment must be well rubbed in, with a hard brush, in the open air, provided the day be fine, and the weather warm. If the

horse draw in a team, the inside of the collar must be washed, or the inside of the saddle, if a saddle horse, for the disease is highly contagious.

*Sect. 255.*

b.—*Hidebound—Rehe.—Ger.*

A horse is said to be hidebound when his skin will not slip under the pressure of the hand, but sticks as fast to the ribs as if it was glued.

Horses are sometimes hidebound in consequence of feeling the effects of some violent disease, and it is often a bad symptom; but generally, this tightness of the skin proceeds from poverty, cruel usage, and sometimes from worms.

The first thing necessary for performing a cure is, to offer better treatment to the animal, giving him plenty of light food, such as bran, oats, &c. and a clean stable, with fresh litter. Then take from the neck vein half a gallon of blood; at night give a mash composed of one gallon of bran, scalded with sassafras tea; one table spoonful flour of sulphur or powdered brimstone, and one tea spoonful of salt-petre; not permitting him to drink for six hours afterwards.

On the second day, at twelve o'clock, take of copperas, two table spoonfuls; of warm sassafras tea, one quart; saltpetre, one tea spoonful; mix and give them as a drench. Have the horse well rubbed, and in a few days he will be entirely relieved.

We here add an extract from a work, entitled *Maison Rustique*:

The author advises that the next day after bleeding the horse, a fomentation be made of emollient and aromatic strengthening plants, boiled in lees of wine, or beer, and that the whole body of the horse be rubbed with these plants, whilst they are warm, till it is thoroughly wet; and that the loins, belly, and neck, as well as the rest of the body, be anointed with a mixture of one part honey, and three parts of ointment of elder, rubbing it strongly in with the hand, that it may penetrate the skin. This done, the horse should be covered with a cloth dipped in the warm fomentation, and doubled, and another covering should be put over this, tying it on with one or two surcingle. The horse should remain in this condition twenty-four hours, and then be fomented, rubbed, &c., twice as before. These fomentations being finished, a warm covering must be continued, lest the horse catch cold; and he should then have an opening clyster, and the next morning a purging medicine; continuing to wash his head and neck, and also to rinse his mouth with the decoction.

For food, put into a pail or two of water, about half a bushel of barley meal carefully ground; stir it well about, and let it settle.—When the heaviest parts have subsided, pour the thin part off for the horse to drink, and give him what remained at the bottom, at three different times in the day, mixing with it a due quantity of crude antimony. The horse must have rest for some time, and be fed with the best hay or grass, according to the season of the year. In spring,

there is nothing better than new grass. In about three weeks, he will begin to mend remarkably.

*Sect. 256.*

*c.—Surfeit—Ueberfuetterung.—Ger.*

The surfeit is a common disease among horses that have been cruelly or injudiciously treated. Sudden changes from heat to cold, plunging deep into cold water and drinking plentifully after being excessively hard rode, unsound food, being turned from a warm and comfortable stable out into the cold air, night dews, &c. &c. often produce surfeit.

*Symptoms.*—The surfeit first makes its appearance with many fine and small lumps under the skin, a partial falling off of the hair, and a constant itching: at length a great number of scabs are formed, and some small ulcers, and unless some remedy is employed, the whole coat of hair falls off and the horse becomes covered with scabs: the hair in the mane and tail will be nearly rubbed off, and the little remaining will stand erect.

*Remedy.*—Take from the neck vein on the first and fourth days of the week, half a gallon of blood; give a mash of one gallon of bran, one table spoonful of sulphur, one tea spoonful of saltpetre, and a quart of hot sassafras tea, well mixed together, three times within a week, not permitting him to drink for six hours whenever a mash is taken.

Give three drenches within the week, composed of one quart of sassafras tea, and one tea spoonful of saltpetre, each. Change the horse's litter frequently; keep his stable clean, and do not permit him to get wet.

Take of hog's lard and sulphur, equal parts, mix them and anoint the horse where the surfeit appears worse, once a day; and by the expiration of a week, if the horse is not entirely well, he will be much benefitted, and nothing more will be necessary, except giving him food that is light and easily digested, and observe towards him kind treatment.

*Sect. 257.*

*d.—Warts—Wartzen.—Ger.*

These are tumors of variable size, arising first from the cuticle, and afterwards connected with the true skin, by means of the vessels which supply the growth of the tumors. They are found sometimes on the eyelids, on various parts of the skin, and on the prepuce.—They must be removed by an operation. If the root be very small, it may be snipped asunder with a pair of scissors, close to the skin, and the root touched with the lunar caustic. If the pedicle or stem be somewhat larger, a ligature of waxed silk may be passed firmly round it, and tightened every day. The source of nutriment being thus cut off, the tumor will, in a few days, die and drop off. If they are large, or in considerable clusters, it will be necessary to cast the



horse, to cut them off close to the skin, and sear the root with a red-hot iron. Unless these precautions are used, the warts will speedily sprout again.

One of our German authors recommends to cut off the warts, and apply arsenic; afterwards the following composition:

Take honey, two spoonfuls; olive oil, three ounces; verdigris, and common gunpowder, two ounces of each; and triturate the whole until it forms a consistent ointment; apply; repeat till healed.—SEE APPENDIX—*Article, Warts.*

*Sect. 258.*

e.—*Moulting, shedding of hair—Abwerfung des Haars.—Ger.*

Twice in the year the hair of the body of the horse is changed. That of the mane and tail remains. The bulbous root of the hair does not die, but the pulpy matter seems to be removed from it, which, thus deprived of its nourishment, perishes and drops off, and a new hair springs at its side from the same bulb. As this is a process extending over the whole of the skin, and requiring a very considerable expenditure of vital power, the health of the animal is generally affected at these times. That energy and vital influence, which should support the whole of the frame, is to a great degree determined to the skin, and the animal is languid, and unequal to much hard work. He perspires greatly with the least unusual exertion, and if he is pressed beyond his strength becomes seriously ill.

The treatment which the groom in this case adopts is most absurd and dangerous. The horse from the deranged distribution of vital power, is disposed to fever, or he labors under a slight degree of fever, sufficiently indicated by the increased quickness of pulse, redness of nose, and heat of mouth. The lassitude and want of appetite which are the accompaniments of this febrile state, are mistaken for debility; and cordials of various kinds, some of them exceedingly stimulating, are unsparingly administered. Common sense would require, that in this deranged distribution of power, excitants should be scrupulously avoided; not only no cordials should be given, but the usual quantity of food should be diminished—bran mashes should be given—a little fever or alterative medicine should be administered, such as that which we have just described, and the horse should be a little more warmly clothed, and sudden or too great exposure to cold should be guarded against. There is no doubt that spices hasten the process of moulting. The old hair is evidently more speedily thrown off, and the new produced, but this at the expense of greater derangement of the constitution—greater fever—and no little danger, if, during this process of moulting, and while nature is thus unnaturally forced on, disease of a febrile character should attack the animal.—Friction may be allowed, to assist the falling off of the old hair, and to loosen the cuticle for the appearance of the new hair, but it should be gentle. The currycomb should by no means be used—even the brush should not be applied too hard or too long. The old hair must not be forced off before the young hair is ready to take its place.—

The exercise should be moderate—the clothing rather warmer than usual, and the water chilled. Nature adapts the coat to the climate and to the season. The Sheltie has one as long and as thick as that of a bear; and as the summer is short and cold too in those northern islands, the coat is rough and shaggy during the whole of the year. In the deserts of Arabia, where the winter is rarely cold, the coat remains short and glossy throughout the year. In our climate, the short covering of summer is succeeded in autumn by one of considerably greater length and thickness; and that in its turn, yields in the spring to the lighter clothing which summer requires. As a thin and glossy coat adds to the beauty of the horse, and is identified, to a great degree improperly, with his condition, an artificial system has been adopted, by which the coat shall remain of nearly the same length, and that a short one, during the year. Nature changes it with the change of season; man prevents a change of season in the stable. It is always summer there—always sufficiently hot to make a long coat useless, and therefore nature, who accommodates herself to circumstances, does not give it. The exposure to cold during the few hours of exercise may roughen the coat for a little while, but the hot clothing and the hot air of more than twenty hours out of the twenty-four, give the character to the covering which nature bestows on such an animal. This system is not now carried to the injurious extent that it used to be, but it yet partakes too much of absurdity and danger. The inflammatory complaints to which these hot-house animals are subject, and the average shortness of their lives, are sufficient proofs of the error of the practice.

The farmer has, or should have, little to do with this artificial management of the coat, and he may be assured that his hackney will, with his winter hair upon him, be to all intents and purposes in as full condition, and as strong and as stout, as the glossiest coated horse, if he has been sufficiently and properly fed.

### *Sect. 259.*

## H.—MISCELLANEOUS.

### a.—*Crib biting.*

Crib biting is one amongst the number of bad habits to which some horses are addicted. It consists in his catching hold of the manger, grunting and sucking in wind, until he is almost ready to burst. To discover this vice, it is only necessary to have a horse fed; whenever they eat, at least one-half of his victuals is wasted, by their catching hold of the manger, grunting, straining, and swallowing large quantities of wind every two or three mouthfuls, which produces the colic and other distressing diseases.

Whenever this very bad habit is acquired, it is practiced as long as the animal lives. Many experiments and fruitless attempts have been made to remedy it, but without success. An elegant horse, when once he becomes a crib biter, is reduced in value to little or

nothing. He always looks hollow, jaded, and delicate, and is incapable of rendering service in any situation.

Dr. White recommends to cure crib biting, to take a leathern strap, buckle it tight round the neck, immediately beneath the jaw. This, he adds, is however, seldom effectual. A better method is to cover the edge of the manger, and every other part he can lay hold of, with sheep skins, the wool side out, until the habit is destroyed.

#### b.—*Loss of appetite.*

Horses lose their appetites from various causes, viz :—Excessive fatigue, want of a change in food, dirty fodder, mouldy corn, or a dirty manger, &c. &c., but most frequently by the approach of some disease. So soon as you discover a horse has lost his appetite, observe the following treatment, viz :

Take from the neck vein half a gallon of blood ; take of asafetida, a quarter of an ounce ; salt, one table spoonful ; sassafras tea, one quart ; mix and give them as a drench.

On the second day, take of glauber salts, one pound ; warm water, one quart ; after dissolving the salts, give it as a drench, and in two or three days, the appetite will be restored, unless the animal is laboring under some disease, which may be ascertained by the symptoms.

#### c.—*Colds.*

Nothing is more common than colds among horses, of all ages.—They are frequently produced by a want of good rubbing after violent exercise, which strikes a chilliness and dampness over the whole body ; being changed from a warm and comfortable stable to one cold and open ; standing out late in dew at night, plunging deep in cold water while heated in a profuse perspiration ; all of which have a tendency to check the perspirable matter and contract the pores of the skin.

Colds sometimes produce a slight running at the nose ; the remedy is simple and almost certain—bleed plentifully.

#### d.—*Shoeing horses in winter.*

In Canada, where the winter is never of a less duration than five months, they shoe their horses in the following manner, which serves for the whole winter :—The smith fixes a small piece of steel on the forepart of each shoe, not tempered too hard, which turns up about a quarter of an inch, in the shape of a horse's lancet ; the same to the hinder part of the shoe, turned up a little higher than the forepart, tempered in the same manner. In going up a hill, the forepart gives a purchase that assists the horse, and in going down prevents him sliding forward.

e.—*To prevent the feet of horses from balling with snow.*

If the frog in the hoof of horses and the fetlock be cleaned, and well rubbed with soft soap, previously to their going out in snowy weather, it will effectually prevent their falling, from what is termed balling the snow. A number of accidents might be prevented by this simple precaution.

f.—*Blaze or star.*

When we have a pair of horses that match well in every respect, except that one has a blaze or star in the face, it becomes very interesting and important to know how to make their faces match, and to give them blazes or stars precisely alike. This may be done in the following manner:

1. Take a razor and shave off the hair the form and size you wish the blaze or star to be made: then take a small quantity of oil of vitriol, and with a feather anoint the part once, which will be quite sufficient. After the application of the vitriol, the part will become a little sore and inflamed; which may be readily removed and healed up, by washing the sore with copperas water. Great care should be used to prevent the vitriol from getting on clothes, as it will entirely destroy them.

2. Take a piece of oznaburgs the size you want the blaze or star: spread it with warm pitch and apply it to the horse's face: let it remain two or three days, by which time it will bring off the hair clean, and make the part a little tender; then take of elixir vitriol a small quantity; then anoint the part two or three times; or, of a very common weed called *asmart*, a small handful; bruise it and add to it about a gill of water; use it as a wash until the face gets well, when the hair will grow out entirely white.

g.—*Salivation in horses.*

It is said that if parsley seeds are sown with clover seeds, the hay or grass produced by the mixture will cure slavers or salivation in horses, a troublesome complaint in which water runs profusely from the mouths of the animals.

h.—*Astringent embrocation for strains in different parts.*

Take of camphor, two drams, dissolved in half an ounce of strong rectified spirit of wine; nitre, one ounce, dissolved in half a pint of wine vinegar; spirits of turpentine, four ounces; white lead, or bole armeniac, in powder, half an ounce; aqua fortis, one ounce; mix, and shake them all together in a bottle for use.

i.—*To spot a white horse with black spots.*

Take litharage, three ounces; quick lime, six ounces; beat it fine and mix it together; put it into a pan and pour a sharp lye over it; then boil it, and you will have a fat substance swim on top, with which

anoint the horse in such places as you design to have black, and it will turn to the color immediately.

It has the same effect in changing hair that is red into a black color, with only this difference, viz:—Take an equal quantity of lime and litharage, and instead of boiling it with lye, boil it only with fresh water; what swims at top, is fit for use and will answer your expectation: what hairs you anoint with it in the evening, will be black the next morning.

#### k.—*Driving horses.*

It may be generally remarked, that men who drive fast have swift horses; not that they drive fast because they have swift horses, but because fast driving makes horses swift. A horse may commonly be trained to a dull and heavy, or to an airy and fleet gait. Nature unquestionably does much; but education does far more towards producing the great difference in the speed of horses, than most men are willing to allow. Horses are more frequently injured by driving them beyond their habitual pace, than beyond their native power. The best direction for the education of horses is, “drive fast and stop often.”

#### l.—*To make the much celebrated Strasburgian horse powder.*

Take the root of goat's beard, masterwort, of each, three ounces; gentian, adder's wort, carline-thistle, danewort, hazelwort, savin, laurel berries, of each, two ounces; sulphur of brimstone, six ounces; finely pulverized and mixed. Give the horse, once or twice a week, a spoonful. It is a general prevention of all infectious diseases, creates and preserves appetite, and will contribute much to keep a horse in good condition. This receipt has been sold for five dollars in some parts of the United States.

#### m.—*Paste to stop bleeding.*

Take of fresh nettles, one handful, bruise them in a mortar; add blue vitriol, in powder, four ounces; wheaten flour, two ounces; wine vinegar, one-half ounce; oil of vitriol, one-half ounce. Beat them all together into a paste.

Let the wound be filled up with paste, and a proper pledget of tow laid over the mouth, in order to prevent it from falling out, and then bandage it on with a strong roller. This dressing must remain in the wound ten or twelve hours.

#### Sect. 260.

#### *On the healthy and diseased state or condition of the horse.*

[From Loudon's Agricultural Encyclopedia.]

*Condition of horses.*—Being in condition, in stable language, signifies not only perfect health internally, but such an appearance externally, as the philosopher would call unnatural, or at least artificial;

while the amateur considers it as an essential requisite to the other qualities of the horse. This external condition is denoted by a sleek, short, shining coat, with a degree of flesh neither bordering on fatness nor emaciation. Even in this sense of the term, condition must be varied according to the uses of the animal. In the cart horse, provided there be a sleekness of coat, looseness of hide, sound wind, freedom from grease or swelled legs, with good digestion; a fulness and rotundity of bulk, instead of detracting from his beauty or impeding his exertions, will add to the one and assist the other. In the coach horse, the hackney, the hunter, and the racer, a different condition is expected, varying in different degrees from that of the cart horse. In both cart horse and racer, it is equally necessary that the various internal organs should be in a state to act uninterruptedly for the benefit of the whole; but in addition to this, it is necessary to the racer, that the greatest possible quantity of animal fibres should be condensed into the smallest possible bulk, and that the absorption of all useless fat and other interstitial matter should be promoted by every possible means, as essentially necessary to unite lightness of body with full strength and elasticity. It is in the attempts to produce such a state in its full perfection, that all the secrets of training consists: but whether a total departure from natural rules, by unnatural heat, deprivation of light, stimulating food, restraint from water, and excessive clothing, are best calculated to promote it, admits of much doubt; and it is to be observed that the dawn of reason and science appears to be shining through the crevices of these darkened casements; for even at Newmarket, the system has lately much relaxed from its artificial rigor.

*Sect. 261.*

*To bring a horse into condition,* not only should the purposes he is intended for be taken into account, but also his previous state. If he be taken up from grass with much flesh on him, it is evident that what is required is to remove the soft interstitial matter it may be supposed he has gained by green food, and to replace it by hard flesh; and also to produce a sleekness of coat and beauty of appearance. To accomplish these ends, the horse should be accustomed to clothing, and the full heat of the stable, by degrees only; and also by degrees only to the meditated change of food; which is best done by mashes. In two or three days a mild dose of physic may be given, during all which moderate exercise only should be allowed, as walking, but which may be continued two hours at a time. After the physic has set, begin to dress his coat, increase his exercise and his food, and accustom him to an increase of warmth. In four or five days time, again mash him for two days, and give him a second dose of physic, a little stronger than the first. After this still further increase his warmth, his exercise, and his food, by which his belly will be taken up, his flesh will harden and his coat begin to fall. A third dose of physic or urine balls, &c., are only necessary in the training of hunters, &c., and even in these, a gradual increase of exercise, rather

long continued than violent, with proper food, will effect the end, if not so quickly, more beneficially to the animal.

To bring a lean horse into condition, a somewhat different plan should be pursued. If from grass, still mash him for a day or two, by no means stint him in his water, and with his mash let oats be also soaked. If oats be speared or malted, it will produce flesh sooner. But even here, give the horse moderate walking exercise, and if he be not too much reduced, add a mild dose of physic to prevent his heels flying, or his getting hidebound by the increased food; but if great emaciation forbid the physic, give him nightly an alterative:

Take antimony, two drams; cremor tartar, flour of sulphur, each, one-half ounce; mix.

As his appearance improves, gradually harden his food and increase his exercise.—See p. 38, 39.

### Sect. 262.

*Diseased condition of horses.*—What has been already said relates to that alteration from one state to another, neither being an unhealthy one, which custom has rendered necessary: thus a man in training for running or fighting, and a man out of training, are both considered equally healthy. But there are circumstances that produce a morbid state of condition different from all these. It is common to hear persons say “my horse is sadly out of condition, and I cannot tell either what is the matter with him, or how to get him into better case.” Various are the causes that may produce this: a sudden alteration of the food, or temperature, or of habits altogether, may become a cause. Removing a horse from grass to a heated stable, full feeding, and hard exercise, will often do it: therefore these changes should always be gradual. Bad food, as mow-burnt hay, musty oats, beans, &c., likewise mineral waters, foul air, &c., are frequent causes. Diabetes, or profuse staling, is often brought on by these means, and the condition of the horse becomes greatly reduced. It is requisite, therefore, to enquire whether any of these errors are in existence, and to immediately remove them; but it often happens that the stomach has become relaxed and the hide become bound; neither of which readily remove, even though the original evil may be amended. When the relaxed stomach has produced lampas,\* but the stomach itself must be principally attended to. First mash and give a dose of physic; after it has set, commence the treatment, if the horse be of a full habit, by moderate bleeding and a nightly alterative.—See formula, Sect. 261. But if he be not in full, but in low flesh, commence by a daily tonic: Take Winter's bark, in powder, three drams; green vitriol, powdered, one and a-half drams; gentian, powdered, three drams; make into a ball of honey, and give every morning; which will gradually remove the swelling within the mouth, and loosen the hide.

A sudden cold applied to the skin often brings on a want of con-

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\* See Index—*Lampas*.

dition with surfeit. In which case, bleeding, with nightly alterative, Sect. 261, with or without an assistant dose of physic, as the habits of the horse may require, constitute the proper treatment. Worms form another cause of morbid condition which are to be removed as described under the head of *Worms*—See Index.

*Excessive fatigue* is also productive of a bad state of condition, which often proves very obstinate. Turning out to very good grass is the quickest cure, and when that is impracticable, soiling in the stable, or feeding with carrots, parsneps, beet root, &c., will be food restoratives; as medicines give tonics daily.

It will be only necessary to add, that in considering the state of a horse's condition, the effect is apt to be mistaken for the cause, and the symptoms for the disease. Hidebound and lampas are not in themselves any thing more than effects, or symptoms; the former being commonly, and the latter always, dependent on a deranged state of the stomach; both are therefore to be treated accordingly.—*Loudon*.

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## CHAPTER XIII.

### VETERINARY OPERATIONS.

#### *Sect. 262.*

This chapter we have copied from Loudon's Agricultural Encyclopedia, Book VII., Sect. VI., p. 989—consecutive sections, 6530 to 6547—and we also incorporated an extract from Mason, on *Nicking*.

The general practices to be here enumerated are chiefly the treatment of wounds, the application of fomentations, setons, blisters, clysters, and physicing, and the operation of castrating, nicking, bleeding, &c.

#### *Sect. 263.*

#### *Treatment of wounds.*

A wound must be treated in some measure according to the part of the horse's body in which it happens: but there are some principles to be observed alike in all horse surgery. There are likewise a few, which, as they differ from the principles of human surgery, should be first noticed, and which should guide the practice of those who might be misled by analogy. The wounds of horses, however carefully brought together and confined in their situation, as well as shut out from the stimulus of the external air, are seldom disposed to unite at once, or as it is called in surgical language, by the first intention. It is always, therefore, necessary to expect the suppurative process; but as the adhesive inflammation does now and then occur, we should never wash with water or other liquids a mere laceration, if no foreign matter, as dirt, &c., be suspected to be lodged within it, still less should we stuff it with candle or tents of any kind. On the



contrary, it should be carefully and smoothly brought together, and simply bound up in its own blood; and if it do not wholly unite at once, and by the first intention, perhaps some portion of it may; and at all events, its future progress will be more natural, and the disfiguration less than when stuffed with tents, tow, &c., or irritated with heating oils or spirits. When an extensively lacerated wound takes place, it is common, and it is often necessary to insert sutures, or stitches, into the lips of the wound: and here we have to notice another considerable variation from the principles of human inflammation, which is, that these stitches in the horse, ox, and dog, soon ulcerate out, seldom remaining longer than the third or fourth day at farthest. It therefore is the more necessary to be careful, that by perfect rest, and the appropriation of good bandages, we secure the wound from distortion. In this we may be assisted by strips of sticking plaster, made with diachylon and pitch; but these strips should be guarded from touching the wound itself by means of lint or tow first put over it. When in addition to laceration in a wound, there is a destruction of substance, then the caution of washing will not apply, as it will be necessary to bathe with some warming spirit, as, tincture of myrrh, tincture of aloes, or friar's balsam, to assist in restoring the life of the part, and in preventing mortification.

Bleeding must be stopped by pressure and astringents, as powdered alum; when it is very considerable the vessel from whence the blood comes must be taken up. When great inflammation follows wounds or bruises, counteract it by bleeding, a cooling temperature, opening medicines, and continual fomentations to the part itself.

#### *Cure for wounds—King of Oils.*

This invaluable remedy for wounds in cattle or horses, particularly the latter, has lately been brought before the public by Silas Gaylord, of Skeneateles, and we have known some very surprising cures performed by it, in the case of severe wounds in horses.

The following are the directions given for preparing the medicine:

Take one ounce of green copperas; two ounces of white vitriol; two ounces of common salt; two ounces of linseed oil; eight ounces of West India molasses; boil over a slow fire fifteen minutes, in a pint of urine; when almost cold, add one ounce of oil of vitriol and four ounces of spirits of turpentine. Apply it to the wound with a quill or feather, and the cure will be speedily effected.—*Albany Cultivator*.—SEE APPENDIX—*Article, Wounds*.

#### *Sect. 264.*

##### *Balls and drinks.*

*Mode of giving a ball.*—Back the horse in his stall, and being elevated on a stool, (not a bucket turned upside down,) gently draw the tongue out of the mouth, so as to prevent its rising to resist the passage of the hand: the tongue should however, not be laid hold of alone, but it should be held firmly by the fingers of the left hand

against the jaw. The ball previously oiled should be taken into the right hand, which should be squeezed into as narrow a shape as possible, must be passed up close to the roof of the mouth, and the ball placed on the root of the tongue, when both hands being withdrawn, it will readily pass down. This mode is much preferable, when a person is at all handy, to using a balling iron.

*Mode of giving a drink.*—Exactly the same process is pursued, except that a horn holding the liquid matter is forced up the mouth; the passage being raised beyond the level line, the liquid is poured out from the larger end of the horn, and when the tongue is loosened, it is swallowed. Clark, however, ingeniously proposes to substitute the smaller end of the horn, the larger being closed, by which, he says the horn can be forced up the mouth between the teeth, and poured farther back, so as to ensure its not returning.

### Sect. 265.

#### *Fomentations and poultices.*

Fomentations are very commonly recommended of various herbs, as rue, camomile, St. John's wort, wormwood, bay leaves, &c., but the principal virtue is to be found in warmth and moisture, which unload the vessels; but this warmth ought not to be too considerable, except when the inflammation is within, as in inflamed bowels. Here we foment to stimulate the skin, and cannot foment too hot; but when we do it at once to an inflamed part, it ought not to be more than of blood heat; and it should be continued long, and when removed, the part should be dried or covered, or cold may be taken, and the inflammation increased instead of diminished. Anodyne fomentations are made of poppy heads and of tobacco, and are frequently of great use.

The method of applying fomentations is conveniently done by means of two large woollen cloths wrung out of the heated liquors; as one is cooling the other should be ready to be applied.

Poultices act in the same way as fomentations, in allaying irritation and inflammation; but are in other respects more convenient, because they act continually. It is an error to suppose that poultices, to be beneficial, should be very hot; however hot they may be applied, they soon become of the temperature of the surrounding parts.—When poultices are applied to the extremities, a stocking, as has been before stated, is a convenient method of application. When it is drawn over the leg and bound around the lower part of the hoof, or of the pastern, or otherwise, the matter of the poultice may be put within, and it may then be kept in its situation, if high up on the extremity, by means of tape fastened to one part of it, and passed over the withers, or back to the other side, and again fastened to the stocking. In this way, also, loose bandages may be retained from slipping. Cold poultices are often useful in the inflammations arising from strains, &c. In these cases, bran and goulard water form a convenient medium; but when the poultice is necessarily hot, a little linseed meal added to the bran, will render it adhesive, and give it consistence.

It is a very necessary caution in this, as in every instance where bandages are wanted around the extremities, to have them broad, and only so tight as to secure the matters contained, as in a poultice, or as in common bandaging. It is often supposed that as "strong as a horse," denotes that nothing can be too strong for him, nor any means too violent to hurt him. The horse, on the contrary, is one of the most tender animals alive: and a string tied very tight round the leg would occasion first, a falling off of the hoof; next, a mortification of the rest of the limb, and lastly, the death of the animal; and all this, as certainly as though he were shot with a bullet through the head.

*Sect. 266.*

*Setons and rowels.*

Setons are often useful in keeping up a drain to draw what are termed humors from parts; or by their irritations on one part, they lessen the inflammation in another part not very remote, as when applied to the cheek for ophthalmia or inflamed eyes. They also, in the same way, lessen old swellings by exciting absorption. Another useful action they have, is to make a dependent or convenient orifice for the escape of lodged matter: thus a seton passed from the upper part of the opening of poll-evil, through the upper part of the integuments of the neck, as low as the sinuses run, will often effect a cure without further application. The same, with fistulous withers, which sometimes run under the shoulder blade, and appear at the arm point; in which case a blunt seton needle, of sufficient length to be passed down to that point, and to be then cut down upon, will form the only efficient mode of treatment. Setons may be passed in domestic farriery, with a common packing needle and a skein of thread, or piece of tape: but in professional farriery, they are made by a proper needle armed with tape or lamp cotton, or skeins of thread or silk, smeared over with digestive ointment. When the seton needle is removed, the ends of the tape should be joined together, or otherwise knotted, to prevent them from coming out.

Rowels, in their intention, act as setons, and as irritating a larger surface, so when a general drain is required they act better; as in case of grease, &c., but when their action is confined to a part only, setons are more convenient. Any person may apply a rowel by making an incision in the loose skin about an inch separating with the finger its adherence around, and then inserting in the opening, a piece of round leather, with a hole in the middle, smeared with a blistering ointment. Then plug the opening with tow, and in three days, when the suppuration has begun, remove it. The rowel leather is afterwards to be daily removed and cleaned.

## Sect. 267.

*Blistering and firing.*

Blistering answers the same purposes as setons, and is practiced by first cutting or shaving the hair from the part, when the blistering ointment, (See Index, *Blistering*;) should be well rubbed in for ten minutes, or a quarter of an hour. Some of the ointment, after the rubbing, may be smeared over the part. The head of the horse should now be tied up, to prevent his gnawing or licking. If a neck cradle be at hand, it may also for safety be put on; in which the head may be let down the third day.

A neck cradle for blistered horses is very convenient for other occasions also, when the mouth is to be kept from licking or biting other parts; or to keep other parts from being rubbed against the head. It is of very simple construction, and may be made by a dozen pieces of wood of about an inch and a-half in diameter, as old broom handles, &c. These, bored at each end, admit a rope to pass through; and as each is passed on, a knot may be tied to the upper part of the pieces of the cradle, two inches apart; and those which form the lower part, four inches; by which means the neck will be fitted by the cradle when it is put on; and the horse will be prevented from bending his head to lick or gnaw parts to be protected. When the lower parts of the legs, particularly the hinder, require blistering, it is necessary to bear in mind that in gross full horses, particularly in autumn, grease is very apt to follow blistering; and almost certainly if the back of the heels below the fetlock be blistered. First, therefore, smear this part over with lard or suet, and afterwards avoid touching it with the ointment. After blistering in summer, the horse is often turned out before the blistered parts are quite sound; in this case, guard them from flies by some kind of covering, or they may become fly-blown: and likewise on the fourth or fifth day rub into the blistered part, some oil or lard, to prevent the skin from cracking.

Sweating or liquid blisters,\* are only more gentle stimulants, which are daily applied to produce the same effects on a diseased part without removing the hair. Of course, less activity is expected; yet as the action is repeated, they are often more beneficial even than blistering itself; as in old strains and stiffnesses.

Firing, as requiring the assistance of an experienced practitioner, we shall not describe; it will be prudent only to point out that it is a more active mode of blistering; and that it acts very powerfully as a stimulant, not only while its effects last as blisters do, but also after its escharotic effect is over, by its pressure; and in this way it is that it operates so favorably in bony exostosis, as splints and spavins;

\* *Mild liquid or sweating blister.*

Take an ounce of the following composition, viz: Spanish flies, powdered, one and a-half dram; oil of origanum, one and a-half dram; oil of turpentine, four drams; olive oil, two drams; add thereto, one ounce and a-half of goose grease. To prepare a good blister, the Spanish flies should be steeped three weeks in the turpentine, and strained off; then mixed.

and in this way it is so useful in old ligamentary weaknesses; because by lessening the dilatibility of the skin, it becomes a continual bandage to the part.

*Sect. 268.*

*Clystering and Physicing.*

Clystering should always be preceded by back-raking, which consists in oiling one hand and arm, and passing them up the fundament, and by that means to remove all the dung balls that can be reached. The large pewter syringe for clystering, is neither a useful or safe machine. A much better consists in a turned box pipe, to which may be attached a large pig or ox bladder, by which four or five quarts of liquid can be administered at one time.\* The pipe should be previously oiled, by which means it passes more easily: the liquor should then be steadily pressed up; and when the pipe is removed, the tail should be held down over the fundament a little to prevent the return of the clyster. In some cases of a spasmodic nature, as gripes and locked jaw, great force is made by the bowels to return the clyster, and nothing but continued pressure over the fundament can enable it to be retained. Clysters not only act in relaxing the bowels, but they may be used as means of nutriment when it cannot be taken by the mouth; as in locked jaw, wounds of the mouth, throat, &c. &c. In locked jaw, it was observed by Gibson, that he kept a horse alive many days by clysters alone; and by clysters also, many medicines may be given more conveniently than by the mouth.

*Physicing of horses.*—It is equally an error to refrain altogether from giving horses physic, as it is to give it on every occasion, as some do. Neither is it necessary for horses to be bled and physicked every spring and autumn, if they be in perfect health, and the less so, as at this time they are generally weak and faint from the change going on in their coats—nor is it always necessary to give to horses physic when they come from grass or a straw yard; provided the change from the one state to the other, be very moderately brought about. But on such a removal, it certainly expedites all the phenomena of condition, (2.) and such horses are less likely to fall to pieces, as it is termed afterwards. (3.) In various morbid states, physic is particularly useful, as in worms, hidebound, from too full a habit, &c. &c. It is not advisable to physic horses in either very cold or very warm weather. Strong physic is always hurtful; all that physic can do is as well operated by a mild as by a strong dose, with infinitely less hazard. No horse should be physicked whose bowels have not been previously prepared by mashing for two days at least before.—By these means the physic will work kindly, and a moderate quantity

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*\*Astringent Clysters.*

Tripe liquor or suet boiled in three pints of milk; thereto add thick starch, two pints; laudanum, half an ounce;

*Or:*

Alum whey, one quart; boiled starch, two quarts.

only is requisite. Most of the articles put into the purging balls for horses, to assist the aloes, are useless. Jalap will not purge a horse, nor rhubarb either. Aloes are the only proper drug to be depended on for this purpose, and of all the varieties of aloes the socotorine and Cape are the best. Barbadoes aloes are also not improper, but are thought more rough than the socotorine. For formula of purging balls, see below.\* Blaine gives the following as the process:

*Physicing process.*—The horse having fasted an hour or two in the morning from food, but having had his water as usual, give him his purge, and two hours after offer him a little chilled, but not warm water, as is often done, by which horses are disgusted from taking any; it may be here remarked that in this particular much error is frequently committed. Many horses will drink water with the chill taken off, provided it be perfectly clean, and do not smell of smoke from the fire, kettle or sauce-pan; but few, very few, will drink warm or hot water; and still fewer, if it be in the least degree greasy or smoky.

After the ball has been given two hours, a warm bran mash may be offered, and a very little hay. He should have walking exercise as usual, moderately clothed; and altogether he should be kept rather warmer than usual. At noon mash again, and give a little hay, which should be repeated at night, giving him at intervals chilled water. On the following morning the physic may be expected to work; which if it do briskly, keep the horse quiet; but should it not move his bowels, or only relax them, walk him quietly half an hour, which will probably have the desired effect. Continue to give mashes and warm water, repeating them every two or three hours to support him. When physic gripes a horse, give a clyster of warm water, and hand-rub the belly, as well as walk him out. If the griping prove severe, give him four ounces of gin in half a pint of strong ale, which will soon relieve him. On the next day the physic will probably set, but should it continue to work him severely, pour down some boiled starch; and if this fail, turn to the directions under diarrhea. The horse should return to his usual habits of feeding and full exercise by degrees; and if more than one dose is to be given, a week should intervene.

It is often requisite to make the second and third doses rather stronger than the first. A very mild dose of physic is likewise often given to horses while at grass in very warm weather, and without any injury. When worms or skin foulness are present, and mercurial physic is deemed necessary, it is better to give two drams of calomel in a mash the previous night, than to put it into the purging ball.

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\* *Purging medicines—Balls—very mild.*

Take aloes, powdered, six drams; oil of turpentine, one dram. Or, take aloes, powdered, eight drams; oil of turpentine, one dram.

*For strong balls.*

Take aloes, powdered, ten drams; oil of turpentine, one dram. The aloes may be beaten with treacle, to a mass, adding, during the beating, the oil of turpentine. Nothing else to be added—all spices are useless.

## Sect. 269.

*Bleeding.*

Bleeding is a very common, and to the horse a very important operation, because his inflammatory diseases, on account of the great strength of his arterial system, run to a fatal termination very soon, and can be only checked in the rapidity of their progress by abstracting blood, which diminishes the momentum of circulation.

Bleeding is more particularly important in the inflammatory diseases of the horse; because we cannot, as in the human, lower the circulation by readily nauseating the stomach. Bleeding also lessens irritation, particularly in the young and plethoric, or those of full habit; hence we bleed in spasms of the bowels, in locked jaw, &c., with good effect. Bleeding is general or topical. General as from the neck, when we mean to lessen the general momentum. Topical when we bleed from a particular part, as the eye, the plate vein, the toe, &c. Most expert practitioners use a large lancet to bleed with; and when the habit of using it is acquired, it is by far the best instrument, particularly for superficial veins where a blow might carry the fleam through the vessel. In common hands, the fleam as the more general instrument, is best adapted to the usual cases requiring the agriculturists notice. Care should, however, be taken not to strike it with vehemence, and the hair being first wetted and smoothed down, it should be pressed close between the hairs, so that its progress may not be impeded by them.

A ligature should be first passed round the neck, and a hand held over the eye, unless the operator be very expert, when the use of the fingers will dispense with the ligature. The quantity of blood taken is usually too small. In inflammatory diseases, a large horse, particularly in the early stage of a complaint, will bear to lose eight or ten quarts: and half the quantity may be taken away two or three times afterwards, if the violence of the symptoms seem to require it; and the blood should be drawn in a large stream to do all the good it is capable of. After the bleeding is finished introduce a sharp pin, and avoid drawing the skin away from the vein while pinning, which lets the blood escape between the vein and skin; wrap round a piece of tow or hemp, and next day remove the pin, which might otherwise inflame the neck. In drawing blood let it always be measured; letting it fall on the ground prevents the ascertaining the quantity; it also prevents any observation on the state of the blood; which if it form itself into a cup-like cavity on its surface, and exhibit a tough yellow crust over this cavity it betokens an inflammatory state of blood that will require further bleedings, unless the weakness forbid. After the bleeding, it now and then happens from rusty lancets, too violent a stroke with the blood stick, or from drawing away the skin too much while pinning up, that the orifice inflames and hardens, and ichor is seen to ooze out between its edges. Immediately after this is discovered, recourse must be had to an able veterinary surgeon, or the horse will loose the vein, and perhaps his life.

## Sect. 269.

*Nicking and pulling a horse.*

[SEE PLATE.]

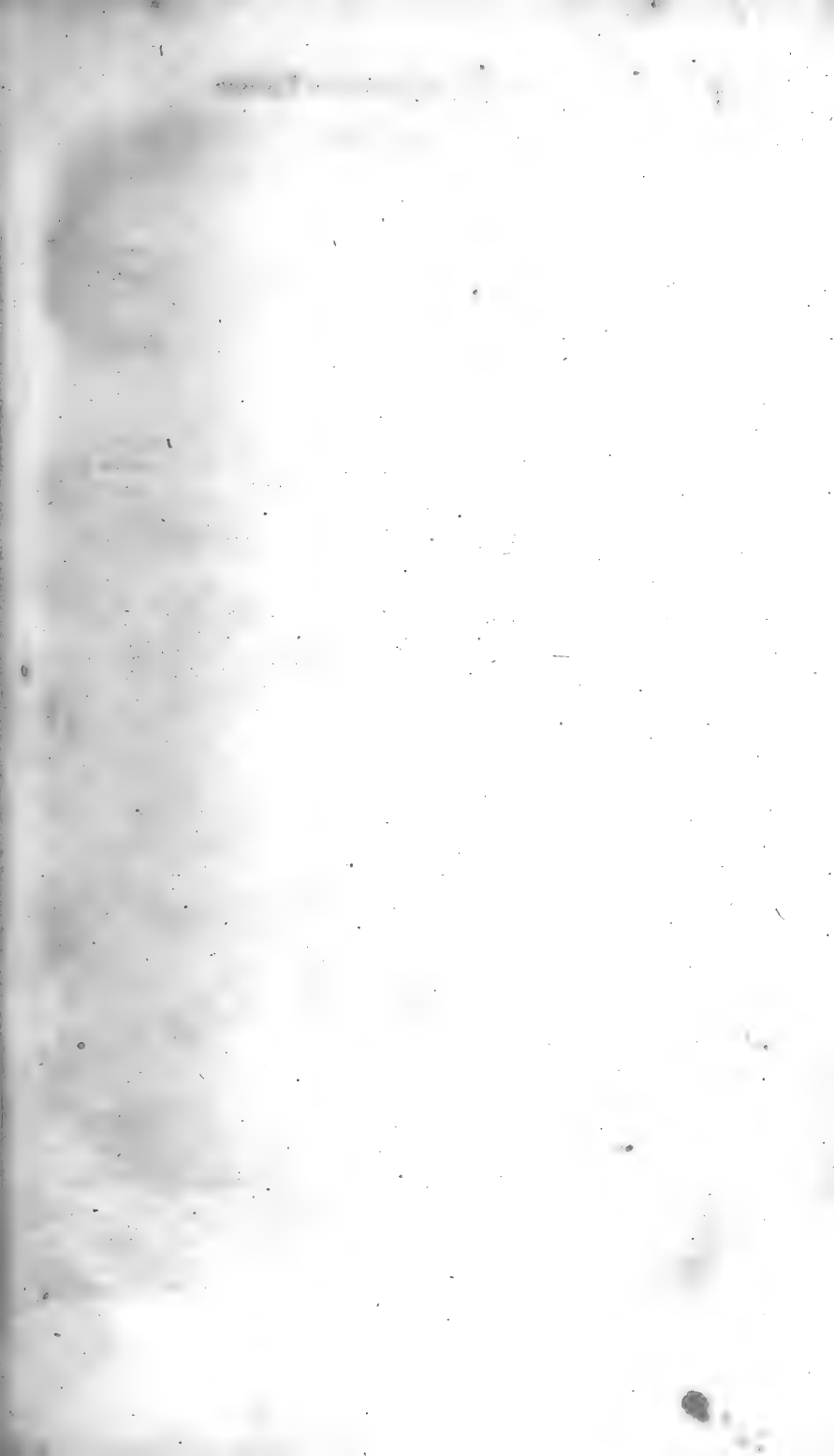
Nicking a horse has been generally believed to be attended with much difficulty, and to require great ingenuity and art to perform the operation. The nicking alone, is by far the easiest part, as the curing and pulling requires considerable attention and trouble. Nicking is an operation performed for the purpose of making a horse carry an elegant artificial tail, which adds much to his beauty and value. A horse may be finely shaped, even without fault, except carrying a bad tail, and he will not command a larger sum than one of very loose and ordinary shape elegantly nicked. One thus operated on, will have an appearance of gaiety, sprightliness, and life, which cannot be given by art in any other way; indeed, it frequently happens the tail sells for one-fourth the value of the horse, which argues strongly in favor of the operation being performed on every tolerable likely horse, that is naturally deficient in that respect.

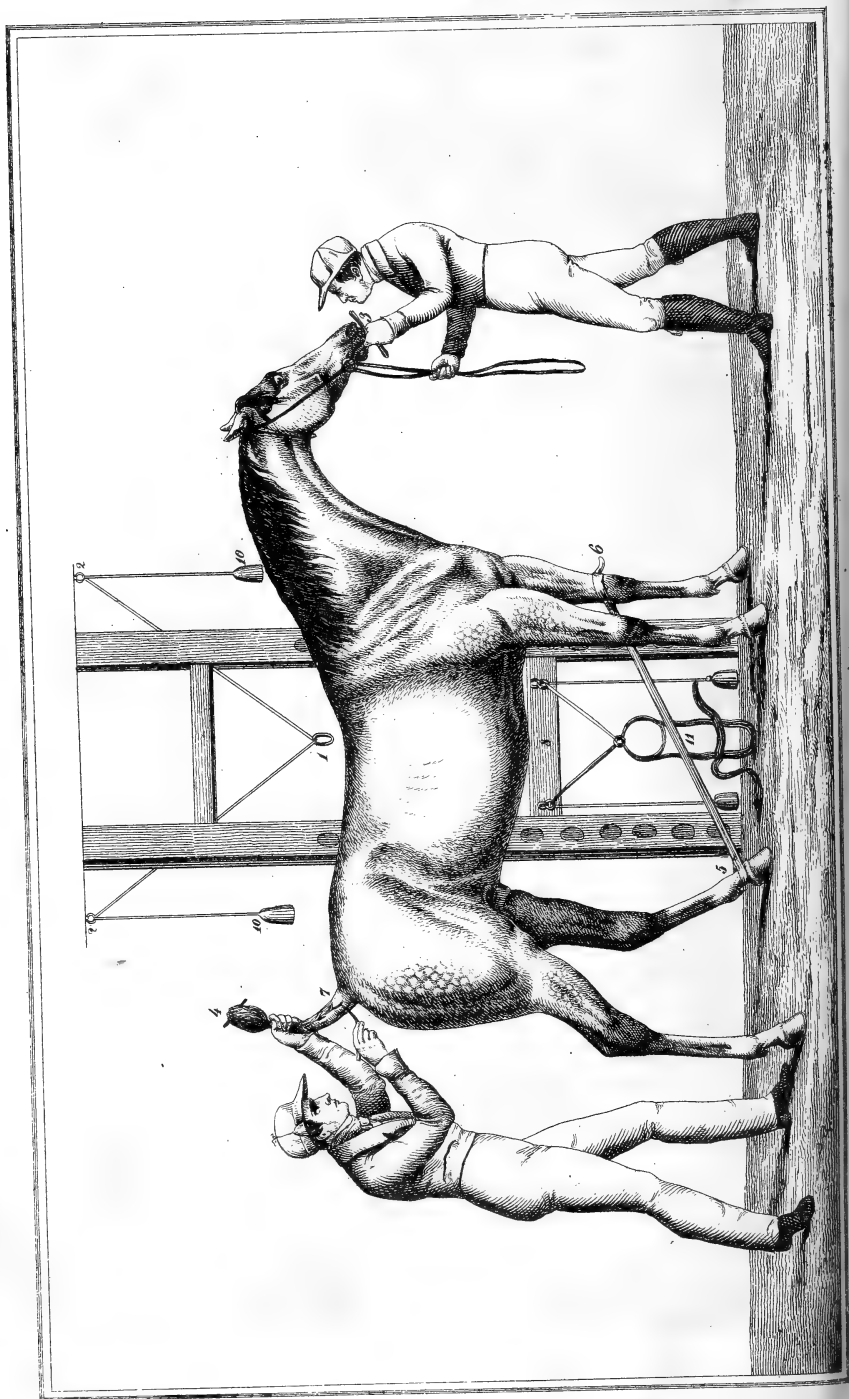
Some are of opinion, and particularly our plain, good old farmers, who are in the habit of raising fine horses, that nicking is injurious, weakening the back, unstringing the tendons, relaxing the muscles about the hind parts, causing a horse frequently to fall and sometimes to catch upon their ancles behind, almost breaking the rider's back: in all of which they are entirely mistaken, and would readily be convinced of the fact, if they were to study the anatomy of the horse. Every tendon, muscle, nerve, artery, &c., that is separated in nicking, is always cut in docking; and we do not find it the result of experiment, that a horse with a long tail is more durable, stronger, free from catching or sinking behind, than a horse that has been docked. Nicking will never make a bad horse a good one, or a good horse a bad one.

The opinion unfavorable to nicking, no doubt, has taken its rise from many delicate, weak, long-legged horses being nicked for the purpose of selling them. When the operation succeeds well, the horse assumes a new appearance, being more like a dancing master than a grave digger, after which he will continue to practice his old habits of catching behind, or making a bow, although he appears as if he could glide upon the wind. This elegant tail causes them to forget this is the same tender and weak horse that was in bad habits before he was nicked; and almost proves, without reflection, that nicking is the cause of his apparent weakness. Indeed if such opinions were founded on fact, all horses that had been nicked, would fall and catch behind, whenever they had to descend a small hill. I have never known an instance of a horse catching behind after being nicked, that was not in the habit previous to the operation being performed.

Before I describe the operation of nicking, it may be necessary to inquire into the effect, or how the elevation of the tail is brought about. In order to do this, and judge of the operation with propriety, we must consider the tail elevated or raised by one set of muscles, end-







PREPARING A HORSE

ing in large tendons, and depressed or drawn down by another; the muscles and tendons that elevate the tail, are stronger and more numerous, and nearer to the bone than those that depress it; they are closely connected to the bones of the tail by fleshy fibres, and terminate in strong tendons at the extremity. The tendons that throw down or depress the tail, are two in number, and may be found within a quarter of an inch of the outer sides of the tail, next to the hair. There are three arteries; two large, on the outer side and immediately under the tendons, and one in the centre between the two nearer the bone, all running into a longitudinal direction, and decreasing in size to the extreme end.

To perform the operation of nicking, it is first necessary the horse should be well secured, to prevent his kicking or doing other injury; a twitch is to be put on his upper lip, but not so high as to prevent his breathing; a cord is to be made fast to the fetlock of one of his hind-legs, thence carried forward and made fast to his fore-leg above the knee, which will effectually prevent his doing injury during the operation.—*See plate.*

Being now confined, you are ready to commence the operation, which chiefly consists in a transverse division of those depressing tendons of the tail, and such a position afterwards as will keep their extremities again from coming into contact; so that an intervening callous fills up the vacuity, and elevates, erects, and props the tail.—There are three different modes of nicking, all of which I will proceed to explain, giving an opportunity to any person, about to perform the operation, to make their selection.

To make a horse carry an elegant tail, is attended with some uncertainty, as much depends upon the spirit, disposition, form, size of the bone of the tail, &c. &c. &c. A horse of good spirit, tolerable shape, and a small bone in the tail, can be made to carry an elegant tail with the greatest ease; particularly if he carried a tolerably natural tail. But a dull, leather-headed, flop-eared horse, with a remarkable large bone in his tail, will set you a task, although you may break the bone in two or three places—indeed there is so much difference in horses, that some judgment must be exercised about the mode best to be adopted to the accomplishment of the object in view.

Nothing can more disfigure the appearance of a horse, than to be half nicked. The form of the tail, when this unfortunately happens, departs from the simplicity of nature, and never attains the elegance of art.

The first mode of nicking I shall describe, is the simplest, and attended with the least trouble; and although it succeeds well, twice out of three times, yet I think inferior to the other two I shall presently describe. Being prepared with a sharp knife and a crooked piece of iron or buck's horn, for the purpose of performing the operation:

1st. Have a twitch placed upon his nose as directed in the engraving annexed.—*Figure 3.*

2d. With a strong rope, confine his left hind-leg to his left fore-leg, above the knee.—*Figures 5 & 6.*

3d. Plat the tail close and neatly, from the root to the 'end, clubbing or turning it over a small stick.—*Figure 7.*

4th. Turn the tail up, with a strong arm that can keep it firm and steady, in a direct line with his rump and back-bone.—*Figure 7.*

5th. With a sharp knife make an incision on each side of the tail about three inches long, in a longitudinal direction, about two inches from the root, and about a quarter of an inch from the outer edge of the tail, next to the hair; so soon as you get through the skin, you will find exposed the two large tendons.

6th. Make a second pair of incisions, similar to the first, commencing within about two inches of the termination of the first.

7th. Make one other pair of incisions, in length proportioned to the length of the tail, taking care to leave about two inches at the end.

8th. With a crooked iron or horn, take up the tendons at the first incision, as near the root of the tail as possible, and cut them smoothly in two.

9th. Take up the tendons at the second incision, and by using strength, draw those in the first incision out at the second.

10th. Draw those of the second out at the third incision, and cut them off smoothly.

11th. Wash the tail in strong salt and water, and take from the neck vein half a gallon of blood, three times within a week.

12th. The horse may be turned out or used moderately, and should be fed on green or light food; his tail should be washed clean, with soap and water, three or four times within a fortnight; by which time, in all probability, he will be entirely well. A horse nicked in this way will require no pullying, provided the tail is well strained up, with a strong arm; twice a day.

The second mode of nicking is attended with more trouble than the first; but with the greatest certainty of a horse carrying an elegant tail. Having confined the horse as first directed, and prepared yourself with a sharp knife:

1st. Make an incision entirely across the under part of the horse's tail, deep enough on each side to cut in two the depressors or tendons, but shallow in the middle, and about two inches from the root of the tail. When the depressors are entirely cut in two, one end of them will suddenly draw towards the rump, and the other will slip or shoot out of the wound about half an inch, which must be cut off smoothly and even with the wound.

2d. The second incisions must be made like the first, from which they must be distant about three inches.

3d. The third incisions should be made like the second, except deeper. If any artery should be cut, it is no cause of alarm; as a plentiful bleeding is of infinite service in speedily curing the tail thus operated on, and the blood is easily stopped by wrapping the tail up with a small quantity of salt, added to a handful of flour, or by placing him in the pulleys; though from a gallon to a gallon and a-half of blood would not be too much to lose.

4th. After nicking, the tail should be washed in strong salt and water, and the horse may not be pulleyed for three or four days, at

which time all blood, dirt, &c., should be carefully removed, not only from the under part of the tail, but from amongst the hair also, and should be kept clean until he is cured, which will be about three weeks; by which time should he not be fat, his condition will be much improved.

5th. The tail should be taken out of the pulleys every three or four days, unplatted, and washed clean with strong soap suds.

6th. Bleed every five or six days, taking from a-half to a gallon of blood at each bleeding, and if the tail appears much inflamed, bleed oftener; it will remove fever and inflammation, and cause the wounds to heal very quick.

7th. His food should be easy of digestion, light and cool, such as bran, oats, or green food of any kind. If the root of the tail should be inflamed, (which is very often the case after pulleying,) or should small biles appear, apply a little tincture of myrrh, copperas, or blue-stone water. It very often happens, that the hair in the tail of a nicked horse shows a disposition to drop, which should be prevented by washing the tail in sharp vinegar, and keeping it nice and clean with soap suds. The matter discharged from the wounds, if permitted to remain amongst the hair for twenty-four hours, will take it off as readily as a knife. It is of very great importance to prevent this, as the best nicked horse in the world will look ugly, if he has little or no hair in his tail; besides, it generally takes twelve months to replace it.

Horses are sometimes nicked, when their blood is in a bad state, which is the cause of their tails swelling and showing marks of violent inflammation; to remove which, it will be only necessary to bleed plentifully, and apply a poultice made of a strong decoction of red oak bark and corn meal.

If this operation should be performed in a season of the year when flies are troublesome, the tail and buttocks of the horse should be anointed with sturgeon's oil, which will effectually remove them.

I shall now proceed to describe the third and best mode of nicking every description of horses; and which, if well attended to, will seldom or never fail to succeed.

1st. The stall, pulleys, halter, and manger, should all be prepared for the reception of a horse, previous to being nicked, as directed in the engraving prefixed. The pulleys (figure 2) about six or eight feet apart, and about the same distance from the stable floor, over each side of the stall, and firmly fastened to the wall; a smooth and small cord is then to be passed through each of the pulleys, and to each end must be confined two equal weights, as figure 10; the halter should be constructed and fastened as figure 11; the trough should be fastened to the stall or wall, to prevent its being pulled down, (fig. 8,) the stall should be three or three and an half feet wide, and not deep enough to allow a horse to rub and disfigure his tail, as figure 9.

2d. The horse should be confined, as figures 5, 6, and 3, and the tail closely and neatly platted up and clubbed at the end, or turned over a small stick, and securely tied with a waxed string, as figures 7 and 4.

3d. Being provided with a sharp knife and a crooked piece of buck's horn, and the tail being turned up by a strong arm, in a direct line with the back bone, as before mentioned, commence the operation by making a transverse incision, immediately across the tail, one and a-half inches from the root, and deep enough to separate entirely the tendons on each side of the under part of the tail, which will be found about a quarter of an inch from the hair on the outer edge; this incision in the middle may be shallow. The large arteries lie so immediately under the tendons, that they are often wounded or separated in performing this operation, which will be a great advantage in the healing of the wounds, instead of doing injury by the loss of blood. But whenever a horse may have bled from one to two gallons, the bleeding will readily stop by placing the tail in pulleys, or by applying a small quantity of flour and salt to the wound, and wrap the tail up moderately tight with a linen rag, from the root to the end.

4th. Make two incisions lengthwise or longitudinally, (commencing about two or two and a-half inches from the cross or transverse incision,) and about three inches in length, which will expose the large tendons on each side.

5th. Make two other incisions of the same kind, commencing about one inch from the second, and in length running within about two inches of the end of the tail.

6th. Make a transverse incision within half an inch of the termination of the longitudinal incisions, (or those made lengthwise,) pretty deep.

7th. With a buck's horn take up the large tendons in the second incisions, and draw the ends out of the first; take up those in the third, and draw the ends out of the second, and at the upper part of the wound cut off the tendons even and smooth.

8th. With a strong arm strain up the tail opposite the second incisions, until the bone slips or breaks; treat the tail opposite the third incisions in the same manner—also the fourth and last, which should be made across.

9th. Wash the tail in strong salt water, and the horse may be placed in a stall, turned in a pasture, or elsewhere, for two or three days.

10th. Wash the wound and tail clean with strong soap suds, and place the horse in the pulleys, by passing a small noose (*Figure 1*) over the stick confined in the hair, at the end of the tail.—*Figure 4*.

11th. Take from the neck vein half a gallon of blood, each week, until he gets well; or double the quantity should the tail be much inflamed. He should remain in the pulleys about three weeks, in order to give the new flesh time to get firm, and should be washed once a day with Castile soap, so that it may be kept entirely clean.

The tail should be taken out of the pulleys twice a week, the hair unplatted, and permitted to remain down all night, and the horse changed to a clean and large stall, with a good bed of straw, for the purpose of sleeping and refreshing himself. Before he is again confined, he may be rode two or three hundred yards, slow, and without

being fretted. Whilst standing in the pulleys, his legs should be frequently bathed with pot-liquor, in which bacon was boiled; vinegar and sweet oil, or lard and spirits of any kind; and a mash should be given him at least once a week, of one gallon of bran or oats, with a table spoonful of powdered brimstone, and one tea spoonful of saltpetre; not permitting him to drink for six hours afterwards. His halter should be made of substantial materials, to prevent his breaking loose whilst confined in the pulleys, pulling the hair out of the end of the tail, and doing himself other injury. A bucket of salt and water may be given twice a week during his confinement, which will be very grateful to the taste and cooling to the system.

12th. Great pains should be taken to have the weights to the pulleys equal, in order to keep the tail in a perpendicular direction, and prevent it from turning to either side during the time of healing; as a horse that carries his tail round to one side, instead of being elegantly nicked, is ruined. The wounds, occasionally, should be washed in blue-stone or copperas water, which will cause them to heal rapidly; the horse should have as much green and light food as he can eat, such as bran, oats, &c. Some horses that are nicked in this way, and are pulleyed only four or five days, carry very handsome tails; but I am of opinion to ensure success, it is necessary they should be kept in the pulleys until the wounds are perfectly well.

#### *Sect. 270.*

##### *Pricking.*

The pricking a horse has proved to be as useless an operation as it is simple, seldom or never having the desired effect; consequently the practice should be abolished. Many nicked horses fail to carry good tails; and much less is it to be expected from a horse that is pricked. I would recommend that the operation should never be performed.

#### *Sect. 271.*

##### *Foxing.*

To fox a horse is an operation so simple, that it can be performed by almost any person. The only skill is, to select such horses as will be improved by being foxed. There is an instrument generally used for this purpose; but the operation can be performed very correctly without it. The simplest and easiest mode is, to take a very small paint-brush, and with paint that will form a contrast to the color of the horse, mark the ears of the shape and length you prefer; then place on his nose a twitch; have one of his fore-legs held up; and with a sharp knife cut off the ears, carefully following the line which was previously made with the brush; the skin will immediately slip down and leave the gristly part a little naked, which must be washed in salt and water once a day for about a week, after which they should be greased with a little sweet oil, fresh butter or hog's lard, and they will get entirely well in two or three weeks. A horse with a small,

thin, delicate head, will show with less advantage after his ears are cut off, even if he carried them extremely bad previous to the operation.

*Sect. 272.*

*Docking.*

Docking a horse is an operation so simple, as to require but little skill or judgment in its performance. A twitch is to be placed upon the upper lip of the horse, but not so high as to prevent his breathing, (as in the engraving for nicking, *figure 3*,)—one of his fore-legs must be held up to prevent his kicking or doing other injury, and a waxed string must be tied very tight twice round the tail, just above the place where it is to be cut off; a large block of wood is to be placed upon his rump, and the tail turned up and laid smoothly on the block; then, with a sharp instrument, you may cut the tail the length you prefer, (though horses docked short generally carry the best tails,) or after the waxed string is securely tied, take the tail in one hand, and a large knife (sharpened on a brick to give it a rough edge) in the other, and with ease, at one stroke, you may cut the tail in two: then take a piece of iron, moderately hot, place a little rosin in the wound, and sear it, recollecting to cut off the waxed string two or three days afterwards, and grease the tail with a little fresh butter or sweet oil, which will cause it to heal quickly afterwards. When a horse is docked, the same tendons, arteries, and nerves are separated, that are divided in nicking; and it is very rare that a horse's life is endangered or lost in consequence of performing either operation.

*Sect. 273.*

[From Loudon's Encyclopedia of Agriculture.]

*Castrating colts.*

The time for castrating or gelding of colts is usually when they are about a year old; although this operation is frequently suspended till the second year, especially when it is intended to keep them on hand, and without employing them in labor till the following season. Parkinson disapproves of delaying this operation so long, and recommends twitching the colts, a practice well known to the ram breeders, any time after a week old, or as soon after as the testicles are come down; and this method, he says, he has followed himself, with great success. Blaine's remarks on the subject of castration appear worthy of notice: he says, when the breed is particularly good, and many considerable expectations are formed on the colt, it is always prudent to wait till twelve months: at this period, if his fore parts are correspondent with his hinder, proceed to castrate; but if he be not sufficiently well up before, or his neck be too long and thin, and his shoulders spare, he will assuredly improve by being allowed to remain whole six or eight months longer.

Another writer suggests for experiment, the spaying of mares,



thinking they would work better, and have more wind than geldings. But he does not appear to have been aware that this is by no means a new experiment; for Tusser, who wrote in 1562, speaks of gelding fillies as a common practice at that period.

The main objection to this operation is not that brood mares would become scarce, as he supposes; but that, by incapacitating them from breeding, in case of accident, and in old age, the loss in this expensive species of live stock would be greatly enhanced. An old or lame mare would then be as worthless as an old or lame gelding is at present.

The following mode of castrating colts is taken from Mr. Skinner's American Turf Register and Sporting Magazine:

The operator must in the first place provide himself with a strong rope, a couple of clamps for each colt, (if he intends altering more than one,) a little paste, a ball of twine or good thread, and a phial of the following mixture:

Take two tea spoonfuls of red precipitate; one tea spoonful of corrosive sublimate, to be well ground separately, and then intimately mixed.

The clamp is made thus: Take a piece of elder six inches long, and from three-quarters to one inch in diameter; bark it, and split it through the middle, and having taken out the pith, cut one adjoining end of each piece with a slope, from the inside outwards, about an inch, and notch it on the outside, as also the other end that is not sloped, that they may be securely tied together. Fill the hollows nicely with the paste, and sprinkle over it some of the mixture in the phial. Then place the sloped ends together in such a manner, that the other ends will be separated about an inch, and tie them by several turns of the thread in that position.

Every preparation being made; the colt thrown and carefully tied; the integuments of the testicles are to be laid open, the stone pulled out, and the epididymis separated from its adhesion to the lower end of the testicle as in the ordinary way. The cord is then caught in one of the clamps, which is pressed hard upon it, and firmly tied at the open end. When this is accomplished, the cord must be cut directly off, close to the edge of the clamp, and a little more of the above mixture should be sprinkled upon the ends exposed by the knife. After the operation is concluded, the clamps should be suffered to remain on eighteen or twenty-four hours. They may then be taken off by penning the colt in a confined place, and cutting the strings which tie their blunt ends.

Neither swelling, nor stiffness, nor any other inconvenience follows this operation, and the animal appears, after he is relieved of the clamps, as well as ever he was. This method may, with equal efficacy, be applied to every other animal whose age or size renders the old way precarious.

## Sect. 274.

*Directions for shoeing.*

“Shoeing a horse as most commonly practiced,” says White, “has a destructive tendency and produces a variety of diseases.” Although we believe that the proper shoeing of a horse is of the utmost importance, and with the view to throw out some hints on it, we have added a few sections. Still we cannot believe, that the injury done to horses in shoeing, is not to the extent that White and others have fancied.

We had the promise, from a practical smith, of an article on *shoeing*. A press of business has prevented him from complying. He, however, agrees in the main, with what we subjoin below: he calls it a good article. We think so too.

## Sect. 275.

*The concave-seated shoe.*

The proper form and construction of the shoe is a subject deserving of very serious inquiry, for it is most important to ascertain the kind of shoe that will do the least mischief to the feet.

The concave-seated shoe presents a perfectly flat surface to the ground, to give as many points of bearing as possible, except that, round the outer edge, there is a groove or *fuller*, in which the nail holes are punched, so that, sinking into the fuller, their heads project but a little way above, and are soon worn down level with the shoe. The ground surface of the common shoe is somewhat convex, and the inward rim comes first on the ground: the consequence of this is, that the weight, instead of being borne fairly on the crust, is supported by the nails and the clencher, which must be injurious to the crust, and often chip and tear it.

The web of the shoe is of the same thickness throughout, from the toe to the heel; and it is sufficiently wide to guard the sole from bruises, and as wide at the heel as the frog will permit, in order to cover the seat of corn.

On the foot side it is *seated*. The outer part of it is accurately flat, and of the width of the crust, and designed to support the crust, and the crust only, for it has already been proved that by the crust alone, or rather by the union between the numerous little plates proceeding from the crust and the covering of the coffin-bone, the whole weight of the horse is supported. Towards the heel this flattened part is wider, and occupies the whole breadth of the web, to support the heel of the crust and its reflected part, the bar: thus, while it defends the horn included within this angle from injury, it gives that equal pressure upon the bar and the crust, which is the best preventive against corn, and a powerful obstacle to contraction.

It is fastened to the foot by nine nails, five on the outside, and four on the inner side of the shoe; those on the outside extending a little farther down towards the heel, because the outside heel is thicker and stronger, and there is more nail-hold; the last nail on the inner quar-

ter being farther from the heel, on account of the weakness of that quarter. For feet not too large, and where moderate work only is required from the horse, four nails on the outside, and three on the inside, will be sufficient; and the last nail being far from the heels, will allow more expansion there.

The inside part of the web is bevelled off, or rendered concave, that it may not press upon the sole. The concave shoe prevents the possibility of injury, because the sole can never descend in the degree in which the shoe is bevelled. A shoe bevelled still further is necessary to protect the projecting or pumiced foot.

While the horse is travelling, dirt and gravel are apt to insinuate themselves between the web of the shoe and the sole. If the shoe were flat they would be easily retained there, and would bruise the sole, and be productive of injury; but when the shoe is thus bevelled off, it is scarcely possible for them to remain. They must be shaken out every time the foot comes in contact with the ground.

The web of the shoe is likewise of that thickness, that when the foot is properly pared, the prominent part of the frog shall lie just within and above its ground surface, so that in the descent of the sole the frog shall come sufficiently on the ground, to enable it to act as a wedge, and to expand the quarters, while it is defended from the wear and injury it would receive if it came on the ground with the first and full shock of the weight.

The nail holes are, on the ground side, placed as near the outer edge of the shoe as they can safely be, and brought out near the inner edge of the seating. The nails thus take a direction inward, resembling the direction of the crust itself, and take firmer hold; while the strain upon them in the common shoe is altogether prevented; and, the weight of the horse being thrown on a flat surface, contraction is not so likely to be produced.

#### *Sect. 276.*

#### *The preparation of the foot.*

We will suppose that the horse is sent to the shop to be shod. If the master would occasionally accompany him there, he would find it much to his advantage. The old shoe must be first taken off. We have something to observe, even on this. It was retained on the foot by the ends of the nails being twisted off, turned down, and clenched. These clenches should be first raised, which the smith seldom takes the trouble thoroughly to do: but after going carelessly round the crust and raising one or two of the clenches, he takes hold first of one heel of the shoe, and then of the other, and by a violent wrench separates them from the foot, and by a third wrench, applied to the middle of the shoe, he tears it off. By this means he must enlarge every nail hole, and weaken the future hold, and sometimes tear off portions of the crust, and otherwise injure the foot. The horse generally shows by his flinching, that he suffers by the violence with which this preliminary operation is performed. The clenches should always be raised or filed off; and where the foot is tender, or the horse is to be

examined for lameness, each nail should be partly punched out.— Many a stub is left in the crust, the source of future annoyance, when this unnecessary violence is used.

The shoe having been removed, the smith proceeds to rasp the edges of the crust. Let not the stander-by object to the apparent violence which he uses, for fear that the foot will suffer. It is the only means he has, with safety to his instruments, to detect whether any stubs remain in the nail holes; and it is the most convenient method of removing that portion of the crust into which dirt and gravel have insinuated themselves.

Next comes the important process of paring out, with regard to which it is almost impossible to lay down any specific rules. This, however, we can say with confidence, that more injury has been done by the neglect of paring, than by carrying it to too great an extent. The act of paring is a work of much more labor than the proprietor of the horse often imagines; the smith, except he be overlooked, will give himself as little trouble about it as he can; and that, which in the unshod foot would be worn away by contact with the ground, is suffered to accumulate month after month, until the elasticity of the sole is destroyed, and it can no longer descend, and the functions of the foot are impeded, and foundation is laid for corn, contraction, navicular disease, and inflammation. That portion of horn should be left on the sole, which will defend the internal parts from being bruised, and yet suffer the external sole to descend.

If the foot has been previously neglected, and the horn is become very hard the owner must not object if the smith resorts to some means to soften it a little; and if he takes one of his flat irons, and having heated it, draws it over the sole, and keeps it a little while in contact with it. When the sole is thick, this rude and apparently barbarous method can do no harm, but it should never be permitted with the sole that is regularly pared out.

The quantity of horn to be removed in order to leave the proper degree of thickness will vary with different feet. From the strong foot a great deal must be taken. From the concave foot the horn may be removed, until the sole will yield to a moderate pressure.— From the flat foot little need be pared; while the pumiced foot will spare nothing but the ragged parts.

The paring being nearly completed, the knife and the rasp of the smith must be a little watched, or he will reduce the crust to a level with the sole, and thus endanger the bruising of the sole by its pressure on the edge of the seating. The crust should be reduced to a perfect level, all round, but left a little higher than the sole.

The heels will require very considerable attention. From the stress which is thrown on the inner heel, and from the weakness of the quarter there, it usually wears considerably faster than the outer one; and, if an equal portion of horn were pared from it, it would be left lower than the outer heel. The smith should, therefore, accommodate his paring to the comparative wear of the heels, and be very careful to leave them precisely level.

He should be checked in his almost universal fondness for opening

the heels, or, more truly, removing that which is the main impediment to contraction. That portion of the heels between the inflection of the bar and the frog should scarcely be touched, at least nothing but the ragged and detached parts should be cut away. The foot may not look so pretty, but it will last longer without contraction.

The bar, likewise, should be left fully prominent, not only at its first inflection, but as it runs down the side of the frog. The heel of our shoe is designed to rest partly on the heel of the foot, and partly on the bar, for reasons that have been already stated. If the bar is weak, the growth of it should be encouraged, and it should be scarcely touched at the shoeing, until it has attained a level with the crust.

The horn between the crust and the bar should be carefully pared out. Every horseman has observed the relief which is given to the animal lame with corns, when this angle is well thinned; a relief, however, which is but temporary, for when the horn grows again, and the shoe presses upon it, the torture of the animal is renewed.

The degree of paring to which the frog must be subjected, will depend on its prominence, and on the shape of the foot. It must be left so far projecting and prominent, that it shall be just within and above the lower surface of the shoe, it will then descend with the sole, sufficiently to discharge the functions which we have attributed to it. If it be lower, it will be bruised and injured; if it be higher, it cannot come in contact with the ground, and thus be enabled to do its duty. The ragged parts must be removed, and especially those occasioned by thrush, but the degree of paring must depend entirely on this principle.

It appears, then, that the office of the smith requires some skill and judgment, in order to be properly discharged; and the horse proprietor will find it his interest occasionally to visit the shop and complain of the careless, or idle, or obstinate, and reward, by some trifling gratuity, the expert and diligent. He should likewise remember that a great deal more depends on the paring out of the foot, than on the construction of the shoe; that few shoes, except they press upon the sole, or are made outrageously bad, will lame the horse; but that he may be very easily lamed from ignorant and improper paring out of the foot.

#### *Sect. 277.*

#### *The putting on of the shoe.*

The foot being thus prepared, the smith looks about for a shoe. He should select one that as nearly as possible fits the foot, or may be altered to the foot. He will sometimes care little about this, for he can easily alter the foot to the shoe. The toe-knife is a very convenient instrument for him, and plenty of horn can be struck off with it, or removed by the rasp, to make the foot as small as the shoe; while he cares little, although by the destructive method, the crust is materially thinned where it should receive the nail, and the danger of puncture is increased, and the danger of pressure upon the sole is

increased, and a foot so artificially diminished in size will soon grow over the shoe, to the hazard of considerable or permanent lameness.

A shoe, thinner at the heel than at the toe, by letting down the heel too low, is apt to produce sprain of the flexor tendon, and a shoe thicker at the heels than at the toe, is fit only to elevate the frog, to the destruction of its function, and to its own certain disease, and also to press upon, batter and bruise that part of the foot which is soonest and most destructively injured.

*Sect. 278.*

*Calkins.*

It is expedient not only that the foot and ground surface of the shoe should be most accurately level, but that the crust should be exactly smoothed and fitted to the shoe. Much skill and time are necessary to do this perfectly with the drawing knife. The smith has adopted a method of more quickly and more accurately adapting the shoe to the foot. He pares the crust as level as he can, and then he takes the shoe, at a heat something below a red heat, and applies it to the foot, and detects any little elevations by the deeper color of the burned horn. This practice has been much inveighed against; but it is the abuse and not the use of the thing which is to be condemned. If the shoe be not too hot, nor held too long on the foot, an accuracy of adjustment is thus obtained, which the knife would be long in producing, or would not produce at all. If, however, the shoe is made to burn its way to its seat, with little or no previous preparation of the foot, the heat must be injurious both to the sensible and insensible parts of the foot.

Nothing is more certain, than that in the horse for work, the heels, and particularly the seat of corn, can scarcely be too well covered.—Part of the shoe projecting outward can be of no possible good, but rather an occasional source of mischief, and especially in a heavy country. A shoe, the web of which projects inward as far as it can, without touching the frog, affords protection to the angle between the bars and the crust.

Of the manner of attaching the shoe to the foot the owner can scarcely be a competent judge; he can only take care that the shoe itself shall not be heavier than the work requires—that for work a little hard the shoe shall still be light, with a bit of steel welded into the toe—that the nails shall be as small, and as few, and as far from the heels, as may be consistent with the security of the shoe; and that, for light work at least, the shoe shall not be driven on so closely and firmly as is often done, nor the points of the nails be brought out so high up as is generally practiced.

There are few cases in which the use of calkins (a turning up and elevation of the heel) can be admissible in the fore-feet, except in frosty weather, to prevent the slipping of the feet. If, however, calkins are used, let them be placed on both feet. If the outer heel only be raised with the calkin, as is too often the case, the weight cannot be thrown evenly on the foot, and undue straining and injury

of some part of the foot or of the leg must be the necessary consequences. Few things deserve more the attention of the horseman than this most absurd and injurious of all the practices of the smith. One quarter of an hour's walking, with one side of the shoe or boot raised considerably above the other, will painfully convince us of what the horse must suffer from this too common method of shoeing. If the horse be ridden far to cover, or galloped over much hard and flinty ground, he will inevitably suffer from this unequal distribution of the weight. If the calkin be put on the outer heel to prevent the horse from slipping, either the horn of that heel should be lowered to a corresponding degree, or the other heel of the shoe should be raised to the same level by a gradual thickening. Of the use of calkins in the hinder foot, we shall presently speak.

#### *Sect. 279.*

##### *Clips.*

These are portions of the upper edge of the shoe, hammered out, and turned up so as to embrace the lower part of the crust, and which is usually pared out a little to receive the clip. They are very useful, as more securely attaching the shoe to the foot, and relieving the crust from that stress upon the nails which would otherwise be injurious. A clip at the toe is almost necessary in every draught horse, and absolutely so in the horse of heavy draught, to prevent the shoe from being loosened or torn off by the stress which is thrown upon the toe in the act of drawing. A clip on the outside of each shoe at the beginning of the quarters will give security to it. Clips are likewise necessary on the shoes of all heavy horses, and of all others who are disposed to stamp, or violently paw with their feet, and thus incur the danger of displacing the shoe; but they are evils, in that they press upon the crust as it grows down, and should only be used when circumstances absolutely require them.

#### *Sect. 280.*

##### *The hinder shoe.*

In forming the hinder shoes, it should be remembered that the hind limbs are the principal instruments in progression, and that in every act of progression, except the walk, the toe is the point on which the whole frame of the animal turns, and from which it is propelled.—This part, then, should be strengthened as much as possible; and, therefore, the hinder shoes are made broader at the toe than the fore ones, and the toe of the foot, which is naturally broader than that of the fore-foot, is still further widened by rasping. Another good effect is produced by this, that the hinder foot being shortened, there is less danger of overreaching or forging, and especially if the shoe be wider on the foot surface than on the ground one; and thus the shoe is made to slope inward, and is a little within the toe of the crust.

The shape of the hinder foot is somewhat different from that of the fore-foot; it is straighter in the quarters, and the shoe must have the

same shape. For carriage and draught horses generally, calkins may be put on the heels, because the animal will be thus enabled to dig his toe more firmly into the ground, and urge himself forward, and throw his weight into the collar with greater advantage. But the calkins must not be too high, and they must be of an equal height on each heel; otherwise, as has been stated with regard to the fore-feet, the weight will not be fairly distributed over the foot, and some part of the foot or of the leg will materially suffer. The nails in the hinder shoe may be placed nearer to the heel than in the fore-shoe, because, from the comparative little weight and concussion thrown on the hinder feet, there is not so much danger of contraction.

*Sect. 281.*

*Different kinds of shoes.*

The shoe will vary in substance and weight with the kind of foot, and the nature of the work. A weak foot should never wear a heavy shoe, nor any foot a shoe that will last longer than a month. Here perhaps, we may be permitted to caution the horse proprietor against having his cattle shod too much by contract, unless he binds his hostler to remove the shoes once at least in every month; for if the contractor, by a heavy shoe, and a little steel, can cause five or six weeks to intervene between the shoeings, he will do so, although the feet of the horse must necessarily suffer. The shoe should never be heavier than the work requires. An ounce or two in the weight of the shoe will sadly tell before the end of a hard day's work.

*Sect. 282.*

*The bar-shoe.*

A bar-shoe is a very useful contrivance. It is the continuation of the common shoe round the heels, and by means of it the pressure may be taken off some tender part of the foot, and thrown on another which is better able to bear it, or more widely and equally diffused over the whole foot. It is principally resorted to in cases of corn, the seat of which it perfectly covers—in pumiced feet, the soles of which may be thus elevated above the ground and secured from pressure—in sand-crack, when the pressure may be removed from the fissure and thrown on either side of it—in thrushes, when the frog is tender, or is become cankered, and requires to be frequently dressed, and the dressing can by this means alone be retained. In these cases the bar-shoe is an excellent contrivance, if worn only for one or two shoeings, or as long as the disease requires it to be worn, but it must be left off as soon as it can be dispensed with. If it be used for the protection of a diseased foot, however it may be chambered and laid off the frog, it will soon be flattened down upon it; or if the pressure of it be thrown on the frog to relieve the sand-crack or the corn, that frog must be very strong and healthy which can long bear the great and continued pressure. More mischief is often produced in the frog



than previously existed in the part which was relieved. It will be plain that in the use of the bar-shoe for corn or sand-crack, the crust and the frog should be precisely on a level, and the bar should be the widest part of the shoe, to afford as extended bearing as possible on the frog, and therefore less likely to be injurious. Bar-shoes are evidently not safe in frosty weather; they are never safe when much speed is required from the horse, and they are apt to be wrenched off in a heavy clayey country.

*Sect. 283.*

*Tips.*

Tips are short shoes, reaching only half round the foot, and worn while the horse is at grass to prevent the crust being torn by the occasional hardness of the ground, or by the pawing of the animal; and the quarters at the same time being free, the foot disposed to contract has a chance of expanding and regaining its natural shape.

*Sect. 284.*

*The expanding shoe.*

Our subject would not be complete if we did not describe the supposed expanding shoe. It is either seated or concave like the common shoe, with a joint at the toe, by which the natural expansion of the foot is said to be permitted, and the injurious consequences of shoeing prevented. There is, however, this radical defect in the jointed shoe, that the nails occupy the same situation as in the common shoe, and prevent, as do the nails of the common shoe, the gradual expansion of the sides and quarters, and allow only of a hinge-like motion at the toe. This is a most imperfect accommodation of the expansion of the foot to the action of its internal parts, and even this accommodation is afforded in the slightest possible degree, or rather can scarcely be afforded at all. Either the nails fix the sides and quarters as in the common shoe, and then the joint at the toe is useless; or, if that joint merely opens like a hinge, the nail holes in the shoe can no longer correspond with those in the quarters which are unequally expanding at every point; and, therefore, there will be more stress on the crust at these holes, which will not only enlarge them and destroy the fixed attachment of the shoe to the hoof, but will often tear away portions of the crust. This has, in many cases, been found to be the effect of the jointed shoe: The sides and quarters of the foot have been broken until it has become difficult to find nail-hold. This shoe, to answer the intended purpose, should consist of many joints, running along the sides and quarters, which would make it too complicated and expensive and frail for general use.

While the shoe is to be attached to the foot by nails, we must be content with the concave-seated one, taking care to place the nail-holes as far from the heels, and particularly from the inner heel, as

the state of the foot and the nature of the work will admit; and where the country is not too heavy nor the work too severe, even omitting the nails on the inner side of the foot. Shoes nailed on the outer side, and at the toe, are more secure than some would imagine, while the inner quarter will be left free, to prevent contraction, or to arrest its progress.

The attempt, however, to lessen the evils produced by shoeing is most praiseworthy. Every contrivance permanently to fix the shoe on the foot without the use of nails has failed.

#### Sect. 285.

##### *Felt or leather soles.*

When the foot is bruised or inflamed, the concussion or shock produced by the hard contact of the elastic iron on the ground gives the animal much pain, and causes a short and feeling step, or even lameness, and aggravates the injury or disease. A strip of felt or leather is sometimes placed between the seating of the shoe and the crust, which, from its want of elasticity, deadens or materially lessens the vibration or shock, and the horse treads more freely and is evidently relieved. This is a very good contrivance while the inflammation or tenderness of the foot continues, but a very bad practice if constantly adopted. The nails cannot be driven so surely or so securely when this substance is interposed between the shoe and the foot; the contraction and swelling of the felt or leather from the effect of moisture or dryness will soon render the attachment of the shoeless firm; there will be too much play upon the nails; the nail holes will enlarge, and the crust will be broken away.

After wounds or extensive bruises of the sole, or where the sole is thin and flat and tender, it is sometimes covered with a piece of leather, fitted to the sole, and nailed on with the shoe. This may be allowed as a temporary defence of the foot; but there is the same objection to its permanent use from the insecurity of fastening, the strain on the crust, and the frequent chipping of it: and there are these additional inconveniences, that if the hollow between the sole and the leather be filled with stopping and tow, it is exceedingly difficult to introduce them so evenly and accurately as not to produce some partial or injurious pressure—that a few days' work will almost invariably so derange the padding as to produce partial pressure—that the long contact of the sole with stopping of almost every kind, will produce, not a healthy, elastic horn, but horn of a scaley, spongy nature—and that if the hollow be not thus filled, gravel and dirt will insinuate themselves, and cause unequal pressure, and eat into and injure the foot.

## CHAPTER XIV.

## ANNALS OF THE TURF.

In this chapter we have presented as correct an account of some of the most celebrated blood horses, imported and raised in this country, as we had the means to do. The materials constituting the Annals as given here, were principally taken from the *American Farmer*, and *American Turf Register*; and should have been considerably enlarged if the compiler would have had access to other sources than those furnished him by the publisher.

*Annals of the Turf.*—The transcendent consequence of the horse to man in every possible stage of human existence, has been the invariable theme of writers on the subject from the earliest records of time. Indeed it is impossible to conceive any other, out of the vast variety of animals destined by nature to human use, which can with the least prospect of success, dispute with the favorite horse the palm of his master's predilection and attachment. It is an attachment of a truly rational nature, and to a most worthy object. The very idea of being supported at ease by an auxilliary and borrowed animal power, and of being safely borne from place to place, at will, with a pleasant and gentle motion, or with the rapidity of lightning, must have impressed the mind of the first discoverers of the mighty benefits of the horse, with ineffable delight. Such sentiments and feelings respecting this noble animal have been constantly entertained and handed down to us from the earliest ages.

The general beauty, the harmony of proportion, the stateliness and delicacy of the superior species of this paragon of brute animals, could not fail of inspiring admiration in the breasts even of savage and untutored men. Time and the improving faculties of man gradually developed the various uses and qualifications of the horse. Endowed by nature with a portion of intellect, with a generous pliability of disposition and fortitude of heart, with vast and energetic bodily powers, he was found capable of bearing a sort of social part in all the pleasures and labors of man. He was associated with his master in the pleasures of the journey and the chase; he shares willingly and with ardor in the dangers of the martial field; and with a steady prowess partook in the humble labors of cultivating the soil for mutual subsistence. By the most illustrious nations of either ancient or modern times, the horse has ever been esteemed of the highest worth and consequence, and treated with a distinction and attendance befitting his rank as the first of domestic animals, approximating in society and service to human nature. It is among the most savage and debased tribes of men only, that the breed, condition, and comforts of this noble animal have been neglected.

This quotation from a very splendid English work on the blood horse, is no less just in sentiment than beautiful in language. It is proposed to treat of the value of the blood horse to our common stocks, and of the various uses to which his conformation adapts him.

It has at every period been fashionable with a certain class of moralists, who were more rigid than correct, to decry the sports of the turf; and, further, to contend that the breed of horses having received all the improvement of which it is susceptible, from the blood horse, the further propagation of the latter is useless; they would further have horse racing abolished, and the horses applied generally as stallions. But the use which these sort of reasoners would propose to derive from the racing breed, would soon destroy itself. They do not consider that in racing the necessity for thorough blood; is obvious and imperative, and such is a sure ground of its preservation.

Were the sports of the turf to be abandoned, that unerring test, by which to ascertain the purity of the blood, and the other requisite qualities of the race horse, would be lost, and consequently, that glorious and matchless species, the thorough-bred courser, would in no great length of time, become extinct among us—and with him all his noble and valuable properties, and his place be supplied by a gross, ill-shaped, or spider-legged mongrel, which would insure the degeneration of the whole race. I would ask, is not a cross of the blood horse upon the common stock indispensable to insure us light footed and quick moving saddle horses? Where do we go for the parade or cavalry horse if it is not the blooded stock, or to those highly imbued with that blood! Did not the speed and wind of the cavalry horses of Colonels Lee and Washington, during the revolutionary war, give those commanders a decided superiority over the enemy in the kind of warfare they waged, where celerity of movement was all important? And were not those horses procured in Maryland and Virginia, and partook of the best racing blood of those states? The value of the blood, or southern horse, from their ability to carry high weights, was strongly exemplified in the wars of the ancients; as they rode to war in heavy armor, and always selected and preferred for this purpose their highest bred horses, which were also frequently covered, like their riders, in heavy armor.

In former times in England, their hunters were only half bred horses, but later observations and experience have fully convinced them that only those that are thorough-bred (notwithstanding the popular clamor of their deficiency in bone) are adequate in speed, strength, and durability, to long and severe chases with fleet hounds, particularly over a deep country, and that they will always break down any horses of an opposite description that may be brought into the field.

The value of the racing blood when crossed upon the common cart breed is also apparent in making them superior in the plough and wagon, provided they have the requisite size, arising from quicker action and a better wind particularly in the long hot days of summer. There is the same difference of motion between the racer and the common bred horse as between a coach and a cart.

It is moreover a fact, although not generally known, that no other horses are capable of carrying with expedition such heavy weights; and were "a thirty stone plate, (four hundred and twenty pounds,) to be given, and the distance made fifty miles, it would be everlast-

ingly won by the thorough-bred horse. There is only one way in which a bred horse would be beat at high weights; it would be, (to use a queer phrase,) to make it a stand still race; in that case, I would back a cart horse; I think he would beat a race horse by hours."

The strength of the race horse, and his ability to carry high weights, arise from the solidity of his bones, the close texture of his fibres, the bulk and substance of his tendons, and from his whole peculiar conformation. His superior speed and endurance originate from his obliquely placed shoulders, depth in the girth; deep oval quarters, broad fillets, pliable sinews, and from the superior ductility and elasticity of his muscular appendages.

It is also from the blood horse that we acquire fineness of skin and hair, symmetry and regularity of proportions, elegance and grandeur. As a proof of the latter qualities, the highest dressed horses of the ancient emperors are invariably of the highest cast of Arabian or Southern blood.

The object of the preceding remarks was to show the impolicy of discouraging the sports of the turf, as being the indispensable test by which to try the purity of our blooded stock, and the only certain means of insuring its preservation; that the thorough-bred horse was beyond all question, the most useful species of the whole genus, since he was applicable to every possible purpose of labor in which horses are used, either for the saddle, for war, parade, hunting, the road or quick draught, and even for the laborious services of the wagon and plough. It now only remains to make some remarks (as connected with the above topics) on the standing and prospects of future patronage which the sports of the turf have in England and this country. It is an undeniable fact that the high degree of improvement to which the blood of stock horses in England have attained, is mainly owing to the liberal and weighty patronage which has invariably been extended to the sports of the turf in that country; it is patronized as a national amusement by the royal favor and munificence, and directly encouraged by the most distinguished nobility and gentry; by men who are ranked as her chief statesmen. The decline of this sport has frequently been predicted in that country, particularly at unfortunate periods of war and distress; but it has been steadily maintained for more than a century, with few or no fluctuations, and is at this time in a high state of prosperity.

Never were so many thorough-bred stallions kept in England as at present—never was New Market, Epsom, or Doncaster, better attended than at the late meetings. The number of blood horses annually exported from England is unusually great, and to her, Russia, France, Austria, and the United States of America, the East and West Indies, have been long indebted for their most valuable stocks.

In Virginia the sports of the turf have been revived and are extending over the state with great spirit, and are infusing into her citizens a due sense of their importance in giving value to the race horse. Virginia has long held a pre-eminence over every other state of the Union in raising fine horses—and it is mainly to be attributed to the

passion for this fascinating and rational amusement, to the steady encouragement given to it at all times, both during adverse and prosperous times, since the state had its foundation in a colony. To her the Carolinas, Georgia, Kentucky, and Tennessee, have always looked for a supply of blooded stallions; to her they still are indebted as well as the new states of Alabama, Louisiana, Mississippi, &c. Let then Virginia maintain and increase this celebrity, by adopting all means which are calculated to promote so laudable a distinction. Let her place and extend the sports of the turf on the most liberal and equitable basis, and let her in order to give increased value to her racing stock, speedily publish a Stud Book.

*Origin and progressive improvement of the race horse.*—It cannot but be an interesting task to inquire into the origin of the turf horse, and to ascertain the means by which he has been brought to his present high state of perfection. The English writers maintain the theory, that the horse genus was supposed to have consisted originally of two grand divisions or species: the silken-haired, flat, and fine bone courser, and the full bodied, coarse, and rough haired steed, adapted to draught and the more laborious purposes.

From these two original species may fairly be derived all those numerous varieties which we at this day witness in different parts of the world. Soil and climate most undoubtedly have considerable effects, through a long course of ages, in producing varieties of form, color, character, and properties. The largest horses are generally found to be the production of the rich low lands of the temperate climates, abounding in rich and succulent food. The fine skinned, with elegant symmetry, dry and solid bones, large tendons, and the highest degree of muscular energy, in fact, bearing the general characteristics of the blood horse, are bred under warm and southern skies, upon a dry soil, on the hills of the desert. The hypothesis is entertained, that Arabia is the native or breeding country of the courser, and that part of Europe, formerly denominated the Netherlands, or Low Countries, the original soil of the large draught horse. Other writers, however, contend, that all horses are derived from the same single primitive species, and that varieties are purely accidental, and the effects of varying soil and climate. This opinion, however specious, is not sanctioned by facts and experience in allowing full force to the arguments derived from the effect of soil and climate, yet it is equally true there are certain landmarks and boundaries of specific character, in both the animal and vegetable creation, which nature will never permit to be passed.

No length of time or naturalization upon the marshy soil of Belgium, it may safely be pronounced, would be sufficient to transform the high bred, silken and bounding courser of Arabia, into the coarse, bluff and fixed horse of the former country; nor would the sojournment of the latter, during any number of ages, in the south, have the effect of endowing him with these peculiar properties of body, which distinguish the aboriginal southern horse. The interchange just supposed, would no doubt have the effect of increasing the bulk of the courser and reducing that of the draught horse; but the natural charac-

characteristics of each, would remain unassailable by any other medium than that of intercopulation through which we know from experience they may be merged, and in effect annihilated.

Arabia Deserta is allowed to be the breeding country of the purest and highest bred racers; that is to say, possessed in the highest degree of those qualities which distinguish the species; and these are sleekness and flexibility of the skin, and general symmetry from the head to the lowest extremities. The eye, full and shining; the head joined, not abruptly, but to a curved extremity of the neck; the shoulders capacious, deep or counter, and declining considerably into the waist; the quarters deep, and the fore-arms and thighs long, large, and muscular, with a considerable curve of the latter; the legs flat and clean, with the tendon or sinew large and distinct; the pasterns moderately long; the feet somewhat deep; the substance of the hoof fine, like that of the deer; in size not large, seldom exceeding or reaching the height of fifteen hands.

It is in the mountainous country, among the Bedouin Arabs, that the blood and characteristic properties of this species of the horse, has been preserved pure and uncontaminated by any alien mixture or cross, as they pretend, for more than two thousand years.

It is well known that the English race horse was originally bred from the Arabian, Barb, and Turkish stocks, and contains in his veins nearly an equal admixture of the blood of each. The Barbary horses were generally smaller than the Arabians, but carried more depth of carcass. Their most prominent points are, ears handsome and well placed; fore-hand fine and long, and rising boldly out of the withers; mane and tail thinly haired; with lean small head; withers, fine and high; loins, short and straight; flanks and ribs, round and full; with good sized barrel; tail, placed high; haunches, strong and elastic; thighs, well turned; legs, clean; sinews, detached from the shank; pastern, too long and binding; foot, good and sound; of all colors; but grey the most common. They are bred upon a similar soil, and sprung from the desert, like the Arabians, of which they are generally deemed a variety. In goodness of temper and docility, these horses resemble the former, and are said to be very sure footed; generally cold tempered and slow, requiring to be roused and animated, on which they will discover great vigor, wind and speed, being in their gallop great striders.

The Turkish horses resembled the Barbs, and were said to be handsome, elegantly formed, full of spirit, possessing fine hair, soft skins, good speed, but more particularly remarkable for their unfailing wind, enabling them to undergo much labor and fatigue.

It is a curious physical question, that the Arabian, Barb and Turkish horses, should, only in particular individuals, have proved valuable foal getters, and that these properties should be denied to the generality of them, and that the whole of them should so soon be laid aside. Out of the vast number of these foreign horses, imported into England in early times, but very few of them established their characters as the propagators of high formed racers; and it may be assumed as a fact, that for some more than half a century past, not a

solitary Arabian, Barb, or Turkish stallion has been used in England; or if used at all, were found to be utterly worthless.

England soon discovered that from her fine climate and soil, she had obtained in size, form and speed, every quality which the best models of the original foreign breeding countries could afford to her; it is true she had to resort to the Arabians and Barbs for a foundation, but as soon as the stock arising from them had been sufficiently acclimated and diffused through the country, she found it safest to rely upon them for all those qualities which they themselves had acquired from their foreign progenitors.

The early English breeders found the Arabian stock to constitute an excellent cross upon the Barb and Turk, as from the Arabian blood was acquired speed; stoutness and stride from the Barb; length and height from the Turk.

But of all the foreign stallions imported into England, in early times, the fame of the two great Arabians, the Darley and Godolphin, has swallowed up that of all the rest; and the best English horses for nearly a century past, have been either deeply imbued in their blood, or entirely derived from it. They have produced stock of vast size, bone and substance, and at the same time endowed with such extraordinary, and before unheard of, powers of speed and continuance, as to render it probable that individuals of them have reached nature's ultimate point of perfection. The descendants of these Arabians have rendered the English courser superior to all the others, not only in the race, where indeed he has long excelled, but as a breeding stock.

To such of my readers who are unacquainted with the history of that justly celebrated horse, the Godolphin Arabian, the following particulars of him may not be unacceptable: He was, in color, a brown bay, somewhat mottled on the buttocks and crest, but with no white, excepting the off heel behind; about fifteen hands high, with good bone and substance. The fame of the Godolphin Arabian was greatly increased by the famous picture which was taken of him by the immortal Stubs, and which sold at his sale, for two hundred and forty-six guineas. This portrait of the Godolphin is doubtless an admirable piece. It represents his crest as exceedingly large, swelling and elevated; his neck, elegantly curved at the sitting on of the head; and his muzzle, very fine. He had considerable length; his capacious shoulders were in the true declining position, and of every part materially contributory to action, nature had allowed him an ample measure: added to this, there is in his whole appearance, the express image of a wild animal, such as we may suppose the horse of the desert. Certainly the horse was no beauty, but with his peculiar and interesting figure before me, I cannot help wondering, that it should not occur to his noble proprietor, a true sportsman as he was, that the Arabian might be worthy of a trial as a stallion. This horse was imported by Mr. Coke, into England, and it was strongly suspected that he was stolen, as no pedigree was obtained with him, or the least item given, as to the country where he was bred; the only notice given, was, that he was foaled in 1724. Mr.



Coke gave him to Mr. Williams, keeper of the St. James Coffee House, who presented him to the Earl of Godolphin. In this noble lord's stud he was kept as a teaser to Hobgoblin, during the years 1730 and 1731, when that stallion, refusing to cover Roxana, she was covered by the Arabian, the produce of which was Lath, not only a very elegant and beautiful horse, but, in the general opinion, the best which had appeared on the turf since Flying Childers. The Arabian served for the remainder of his life in the same stud, producing a yearly succession of prodigies of the species. He died in the year 1753, in his twenty-ninth year, and was decently buried, and cakes and ale were given at the funeral of his flesh. The following famous horses, some of which were of great size and powers, besides many others, with a great number of capital racing and brood mares, descended from the Godolphin Arabian, viz: Lath, Cade, Regulus, Babram, Blank, Dismal, Bajazet, Tamerlane, Tarquin, Phœnix, Slug, Blossom, Dormouse, Skewball, Sultan, Old England, Noble, the Gower Stallion, Godolphin Colt, Cripple, Entrance.

Mr. Darley, of a sporting family in Yorkshire, being a mercantile agent in the Levant, and belonging to a hunting club at Aleppo, made interest to purchase a horse, one of the most valuable ever imported into England, and which fully established the worth of the Arabian stock. He was a bay horse, his near foot before, with his two hind feet white; with a blaze in his face, and about fifteen hands high; he was imported into England in the year 1703, then four years old.

The Darley Arabian, (for such he was called,) got Flying Childers, Bartlett's Childers, Almanzor, Whitelegs, Cupid, Brisk, Dædalus, Skipjack, Manika, Aleppo, Bully Rock, Whistlejacket, &c. This horse had not that variety of mares which annually poured in upon the Godolphin Arabian; indeed, he covered very few, except those of Mr. Darley, his proprietor—but from these sprung the largest and speediest race horses which were ever known. Flying Childers and Eclipse, the swiftest, beyond a doubt, of all quadrupeds, were the son and great-grand-son of this Arabian, from which, also, through Childers and Blaze, descended Sampson, the strongest horse that ever raced before or since his time; and from Sampson was descended Bay Malton, who ran at York four miles in seven minutes forty-three and a-half seconds, being seven and a-half seconds less than it was ever done before over the same course.

*On crossing, breeding and rearing the Turf horse.*—The subject of crossing is one of the most important which has ever engaged the attention of the breeder or amateur, and it is still left in doubt whether we ought to adhere to remote crossing in propagating the race horse, or that we may successively breed "in and in," viz: putting horses and mares together of the same family.

All that we can do is to disclose the facts which that unerring guide, experience, has established, and the exceptions to the rule which those facts have pointed out to us. Crossing, or intermixing the blood of different racing breeds, has ever prevailed upon the turf, and experience has proven it to be a rational practice, when adopted with the view of an interchange of the requisite qualifications, external or

internal; such as the union of speed and bottom, slenderness and substance, short and long shapes.

Experience tells us that the greatest success has ever attended those breeders, and that the most valuable stock has resulted therefrom, who have adhered to remote crosses. The finest running, and highest formed horses that have appeared in England, were bred from the union of two distinct stocks, the Herod and Eclipse. The former stock was invariably remarkable for stoutness and lastingness; the latter, for speed; and by the union of these opposite qualities, (whereby a remote cross was taken up,) a stock was obtained in which was blended a sufficiency of the requisite qualities of both to make first-rate running horses. There was another distinct stock in England, which crossed well upon the Herod and Eclipse branches; I allude to the Matchem or Godolphin Arabian stock; and it may here be remarked, that there has not been in England, a first-rate running horse on the turf, for the last seventy years, without more or less blood of this valuable horse. However necessary a remote cross may be considered, yet exceptions have arisen to it as a rule, as some of the most celebrated horses in England were bred considerably in and in—Flying Childers, for instance, considered the fleetest horse in the world. Old Fox, also a celebrated racer and valuable stallion, had an affinity of blood in his pedigree, as well as other high formed racers and stallions. But these exceptions arose in Great Britain, in her earliest days of breeding, when that country was enriched by the importation of particular Barb, Turk, and Arabian horses, that had peculiar and extraordinary properties as stock getters, as their immediate descendants constituted the best racers of those days, and demonstrated that the character of the English race horse had attained its utmost perfection at that early date.

At a later period, but little success had attended the efforts of those who have bred in and in. The Earl of Egremont has occasionally tried it, as well as Lord Derby, (the owner of Sir Peter Teazle,) but with little encouragement. Still, the British writers are divided on the subject. Morland, in his treatise on the genealogy of the English blood horse, expressly says, that incestuous crosses should be avoided, viz: putting horses and mares together of the same class; while, on the other hand, Lawrence, in his splendid work on the "History and delineation of the Race Horse," makes the following remark of an opposite tendency: "An adherence to the practice (of remote crossing) cannot be held indispensably necessary on any sound theory; nor need any disadvantage be apprehended from coupling horses and mares of the same breed or family, even the nearest relative, upon the principles above and hereafter laid down. I have often heard of, and indeed seen, miserable legged and spindled stock resulting from such a course, but other very visible causes existed for the result.

"According to the adage, "like produces like," we ought to follow form and qualification; and if a brother and sister, or father and daughter excel in those respects, all others within our reach, we ought to enjoin them with good expectations, for aught I know, to the end of the chapter: and the prejudiced fear of adopting this practice,

has often led our breeders into the error of adopting an inferior form, from the presumed necessity of a cross." The present remarks are peculiarly applicable to the breeders of the race horse in Virginia, for they are at this very time making the experiment of breeding "in and in," or from the same family of horses, as it is well known that all the turf horses now, and for the last ten years past, produced in that state, are of the "Sir Archy stock." It were to be wished that there was a greater variety of the race blood in that state, to give breeders a wider field for selection; a descendant of Medley or Citizen, would cross well upon the present numerous stock of Sir Archy, and it would perhaps have been a fortunate circumstance, could the celebrated horse Pocolot, (who was bred and raised in Virginia,) have been retained in that state.

The subject of breeding is the next which claims our attention.

The business of breeding is divided into the systematic and chance medley; the formation of regular studs and observing some fixed principles, characterize the former; while the latter is a kind of random affair, common to the whole country where foals are raised for a man's pleasure or convenience, for which no extra preparations are made, or much reflection bestowed, further than to make use of any mare that may chance to be in possession, and of any horse which the vicinity affords or custom may present.

In the formation of studs, the object generally had in view is breeding for the turf, and one of the first principles is to breed from no stallions unless they be thorough-bred; in plain terms, both their sires and dams must be of the purest of the Turkish, Barb or Arabian coursers exclusively, and this must be tested in an authentic pedigree, throughout whatever number of descents or crosses.\* The brood mare should be equally pure or thorough-bred, and particular attention should be paid to her form, as one of the prime causes of failure of most breeders is confining their attention solely to the horse, without paying sufficient attention to the form of the mare, and permitting fashionable blood and the supposed necessity of a cross to have too decided a preference to correctness of shape. To constitute a thorough-bred animal, and to assure the attainment of every desired quality of perfection, both the male and female ought to possess it. Experience has proven the correctness of the principle that "like produces like;" acting upon this principle, we have the best assurances to expect success from a junction of the best shapes or the greater number of good points we can combine, both in the horse and the mare. From such junction the average will be favorable; true form will result from the union of true form in both sire and dam; and the next general result will be, that every horse sufficiently well formed, and furnished in the material points, will excel either in speed or continuance, or will possess an advantageous mixture of both.

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\*There is a practice in Virginia and North Carolina, in giving the pedigree of a stallion, to name only one or two crosses, particularly on the dam's side, and then pronounce him "the finest bred horse in the world." Who can pronounce on a horse's good or bad blood unless we know the whole of it? He may trace to the common dray breed of the country for aught we know.

*Blood is blood, but form is superiority.*

In the rearing of turf horses, the following principles are recommended by the most successful breeders; the land to be dry and sound, the harder the better, provided it be fertile; irregularity of surface a recommendation. Fresh springs or streams, shade and shelter, and extensive range. Sufficient number of inclosures, both for each species, which it is necessary to keep apart, and to prevent too great a number of any being crowded together. Houses or sheds in the inclosures; soft and sweet herbage for the colts and milk mares; and finally a very liberal allowance of land in proportion to the stock, that there may be not only ample grazing in the grass season, but an equally ample quantity of provisions of the requisite kind during the winter.

A firm, dry, and hard soil, will have a corresponding effect upon the feet, limbs, and tendinous system of horses bred upon it; as will a dry, clear and elastic air upon their wind, animal spirits and general habit. Such are the advantages enjoyed by the horses of the mountain and the desert; but these advantages are greatly enhanced in a country where abundant herbage and moderate temperature are superadded.

All breeders concur in the propriety of keeping colts well the first and second winters; for colts, from the best shaped parents, will degenerate upon insufficient nourishment, and be stunted, from the palsy effects of damp and cold in the winter, if a comfortable and general shelter is not allowed them. Good keeping and warmth, during the first and second years, is indispensable, in order to invigorate the circulation of the animal's blood, to expand his frame, to plump up and enlarge his muscles, to encourage the growth of his bones, and to impart to them that solidity and strength which preserves them in the right line of symmetry.

It must be interesting to the amateur, the sportsman, and the breeder, to give a correct, though concise account of the most distinguished turf stock of blood horses, which existed in Virginia between the years 1750 and 1790, a period more remarkable for fine horses, than perhaps any other, either prior or subsequent to that time.

It was during this period that "races were established almost at every town and considerable place in Virginia; when the inhabitants, almost to a man, were devoted to this fascinating and rational amusement; when all ranks and denominations were fond of horses, especially those of the race breed; when gentlemen of fortune expended large sums on their stud, sparing no pains or trouble in importing the best stock, and improving the breed by judicious crossing." The effects of the revolutionary war put a stop to the spirit of racing until about the year 1790, when it began to revive, and under the most promising auspices as regarded the breed of turf horses, for just at that time or a little previous, the capital stallion Old Medley was imported, who contributed his full share to the reputation of the racing stock, whose value had been before so well established. Previous to the year 1800, but little degeneracy had taken place either in the

purity of the blood, the form or performances of the Virginia race horse; and in searching for the causes of a change for the worse, after this period, the most prominent one was the injudicious importation of inferior stallions from England. About the period of time last mentioned, Colonel Hoomes and many others, availing themselves of the passion for racing, inundated Virginia with imported stallions, bought up frequently at low prices in England, having little reputation there, and of less approved blood, thereby greatly contaminating the tried and approved stocks which had long and eminently distinguished themselves for their feats on the turf, their services under the saddle, and as valuable cavalry horses during the revolutionary war. In recommending renewed efforts to the Virginians, for the further improvement and preservation of their stock of blood horses, the necessity and importance of the immediate publication of a *Stud Book* (and of a *Racing Calendar* hereafter,) cannot be overlooked.

It is the wish of the writer, that the tendency of this, and the following pages, may excite a spirit and a desire for such a work, by showing that there are valuable materials extant, only requiring diligence and zeal to bring them to light, capable of being made up into a valuable publication on this subject. The want of such a work as a *Stud Book*, is now lamentably seen and felt in Virginia, where few pedigrees of any particular stock can be traced far back, before they are lost in the mazes of uncertainty and conjecture. It may safely be asserted that the stock of horses in Virginia never can arrive to that degree of improvement and perfection, and more particularly high value as to price, they otherwise would do, unless a record of this kind is published and preserved, to be resorted to for a correct knowledge of their blood. In breeding for the turf and selling turf horses, blood is every thing; as it has been found that particular strains or pedigrees of horses of this class, are remarkable for their speed and bottom, while others are miserably defective in these essential qualities of the race horse. A *Stud Book* and *Racing Calendar* will be a standing record, always enabling us to avoid the bad, and to cherish those particular strains of horses, that have established their good qualities for the turf. How has Virginia been injured in her racing stock by some particular stallions, bred in that State? Potomac, for instance, who, although they raced it well, yet being badly bred, propagated an inferior race of horses.

Let me, therefore, emphatically remind the breeder of the race horse to use great particularity and caution as to the stallions from which he breeds; examine well into their pedigrees, and to the qualities of the stock from which they are descended; as an experience of more than a century in England has proven the fact, that where a stallion has been stained with an inferior or "dunghill" cross, however remote in his pedigree, it is certain to lurk out and exhibit itself in his progeny, no matter how well he may have raced it himself.

We should breed back as much as possible upon the good old stocks of Jolly Roger, Janus, Morton's Traveller, Fearnought, and Medley, of which I propose to give a particular account in the succeeding pages. It has been well for us that the importation of stal-

lions from England has long since ceased, and I hope never to see it revived again. The sod of the Beacon course (four miles and upwards) is now too little trod by the English race horse; short races with light weights are now too common; the consequences are, that their stock of blood horses are rapidly losing that stamina and inherent goodness of constitution or stoutness, which enabled them in former days to carry high weights, and to support frequent and hard running. Fifteen or twenty years ago, the Virginians bred altogether from imported English stallions, and at that time also, there were more sportsmen on the turf; yet we have at this day better race horses, under less patronage, from American bred stallions, than at that day. Does not this prove that by adhering to our own stock, and breeding from large highly formed, full blooded stallions, that our turf horses will soon equal or exceed any in the world? and as our race stock is considered stronger and more active, it will be found advisable to breed them for the saddle, plough or wagon.

Jolly Roger, was the first horse that gave distinction to the racing stock of Virginia. His performances on the English turf, and that of his pedigree, are recorded in the name of "Roger of the Vale." After he was imported into this country he took the name by which he is now known; he was foaled in 1741, and commenced covering in Virginia about the year 1748. He was got by Roundhead, who was by Flying Childers, who was by the Darley Arabian. The dam of Roundhead was the famous "plate" mare Roxana by the Bald Galloway, the dam of the celebrated racers and stallions Lath and Cade by the Godolphin Arabian. The dam of Jolly Roger was got by Mr. Croft's famous horse Partner, the best racer and stallion of his day, his grandam by Woodcock—Croft's Bay Barb; Makeless; Brimmer; Son of Dodsworth; Burton Barb mare.

Jolly Roger got many fine racers, stallions and brood mares, and is a favorite cross in the pedigree of the Virginia bred turf horse, and very july too.

Jolly Roger got Spanking Roger, out of the imported mare Jenny Dismal, and Longsdale out of an imported Monkey mare.

Janus was a chesnut horse, foaled in England in 1746, and got by Janus, a bay horse foaled in 1738, full brother to Blank and Old England, being got by the Godolphin Arabian out of the famous "Little Hartley mare" by Bartlett's Childers, son of the Darley Arabian.

Janus was imported into Virginia by Mr. Mordecai Booth, of Gloucester county, Va., in the year 1752; his dam was got by old Fox, (whose name stood eminent in the English pedigree,) his granddam by the Bald Galloway.

Although Janus partook of every cross in his pedigree calculated for the distance turf horse, yet his stock were more remarkable for speed than bottom. Janus, from his shoulders back, was considered the most perfect formed horse ever seen in Virginia, by the most skilful connoisseurs; he was remarkable for roundness of contour, strength of articulation, and indicating great powers and stamina in his whole conformation.

His stock partook of these qualities in an eminent degree, and for thirty or forty years they were considered as a "peculiar stock," as they invariably exhibited even in the third and fourth generations from the old horse, the same compactness of form, strength and power. The Janus stock have exceeded all others in the United States for speed, durability and general uniformity of good form; and more good saddle and harness horses have sprung from them than from any other stock.

Celer was justly considered as the best son of old Janus, as he propagated a stock equal in every quality to those of the stock begotten by his sire. He was bred by Mr. Mead of Virginia, and foaled in 1774, and died in 1802, aged twenty-eight years.

As the pedigree on his dam's side is not generally known, I will here give it. The dam of Celer was got by the imported horse Aristotle, a brown bay, finely formed, full fifteen hands high, bred by Mr. Bladen and got by the Cullen Arabian, his dam by Crab, his grandam by Hobgoblin, great grandam by the Godolphin Arabian, out of a famous mare called White Cheeks.

Morton's imported horse Traveller, contributed in an eminent degree to the improvement of the turf stock of horses in Virginia. He was a bay horse, foaled about the year 1748, and was a covering stallion at Richmond court house, Virginia, as early as the year 1754. He was bred by Mr. Crofts, at Raby in Yorkshire, (who was the fortunate breeder and owner of some of the first horses in England,) and was got by his famous horse Partner, who was a grandson of the Byerly Turk, and was himself the grandsire of King Herod. The dam of Traveller, was by Bloody Buttocks (an Arabian) Greyhound; Makeless; Brimmer; Place's White Turk; Dodsworth; Layton Barb mare. Morton's Traveller was bred from the best running stock in England in that day: the famous Wetherington mare was full sister to Traveller; she bred Shepherd's Crab and other capital racers.

Morton's Traveller got Tryall and Yorick out of Blazella, imported, and Burwell's Traveller out of a Janus and Lycurgus; also Lloyd's Traveller out of a Jenny Cameron, and Tristram Shandy out of a Janus, Ariel full brother to Partner, and Partner out of Colonel Tasker's imported mare Selima.

Partner was the best son of Morton's Traveller, proving to be not only a fine race horse, but a valuable stallion. He was foaled about the year 1755. Partner got Rockingham out of Nelson's imported mare Blossom, and Fitz Partner out of the dam of Celer and the celebrated horse Mark Anthony.

Mark Anthony's dam was by Othello, (a son of Mr. Parton's capital English horse Crab,) his grandam the imported mare Moll Brazons; she was sired by Spark, who was imported to this country by Governor Ogle, of Maryland, and was given to him by Lord Baltimore, who received him from Frederick, Prince of Wales.

Mark Anthony was foaled about the year 1763, and did not exceed fifteen hands in height, and was a horse of beauty and intrinsic value, whether viewed as a racer or stallion. In the former character he was not excelled by any horse of his day, being "remarkable for his

swiftness," having at the same time good wind, enabling him to run four mile heats in good form. In the latter character he stood deservedly celebrated, and propagated a stock which were held in the highest estimation for their various valuable qualities, whether for the turf, the saddle or the harness. Mark Anthony got Collector out of a Centinel, and Monarch out of a thorough-bred mare, and Romulus out of a Valiant.

Yorick got Pilgrim out of a little Davie, and Bucephalus out of a Careless, and Junius out of an Othello.

Burwell's Traveller got Southall's Traveller out of an imported mare, and Camillus out of a Fearnought mare.

Lloyd's Traveller got Leonidas out of a Morton's Traveller mare. Junius got Spangloss out of a Jolly Roger mare.

Fearnought holds the first claim prior to the day of Medley, and is therefore entitled to the palm in preference to any stallion that had preceded him in giving the Virginia turf stock a standing equal to that of any running stock in the world. The blood which flowed in the veins of old Fearnought must have been peculiarly rich in those qualities that make up the conformation of the race horse, as not only the whole stock got by Fearnought run well, but also his sons and his grandsons were remarkable for generally getting good running stock. There was also strength and stamina universally pervading the Fearnought stock, to which may be added good size, that made them the best distance horses of their day. The fact is, that the Fearnoughts run well all distances, and the old horse stood higher than any other horse on the continent for getting racers; and he got more of them than any other—he also was the sire of more fine stallions than any other horse of his day.

Old Fearnought was bred by William Warren of England, and foaled in the year 1755. He came out of Mr. Warren's fine brood mare Silvertail, and was got by Regulus the best son of the Godolphin Arabian. Regulus, when six years old, won eight King's plates. He never was beat, being very superior to any horse of his day.

Silvertail, the dam of Fearnought, was foaled in 1738, and got by Heneage's Whitenose; her dam by Rattle; Darley's Arabian; the old Child mare, got by Sir Thomas Gresley's bay Arabian out of Mr. Cook's Vixen, who was got by the Helmsly Turk, out of a Royal Barb mare.

Fearnought was imported into this country by Colonel John Baylor, who advertised him in the year 1765, as "a bright bay, fifteen hands three inches high, remarkably strong and active, and the full brother to the late Mr. Warren's invincible horse Careless." Old Fearnought died in the fall of 1776, at the age of twenty-one years. Among other capital stallions and racers, he got the following, viz :

Nonpareil, out of a Janus mare.

Nimrod, out of a Partner.

America, out of a Jolly Roger.

Regulus, out of the imported mare Jenny Dismal.

Godolphin, full brother to Regulus.

Shakspeare, out of an imported Cub mare.



Gallant, out of a Stateley mare.

Shakspeare, out of an imported Shakspeare mare.

Apollo, out of an imported Cullen Arabian mare.

Harris's Eclipse, out of Baylor's imported Shakspeare mare.

Laurel, out of a Fearnought.

Matchless, out of Sober John.

King Herod, out of an Othello.

Whynot, out of an Othello.

Dandridge's Fearnought, out of———

Symmes' Wildair, out of a Jolly Roger, who proved to be the best son of old Fearnought.

Wildair got—

Commutation, out of a Yorick mare.

Highflyer, out of a Yorick mare.

Chanticleer, out of a Pantaloon mare.

Chanticleer, the best son of Wildair, got—

Magog, out of a Wildair.

Prestley, (full sister to Magog,) the dam of Wilkes' Madison.

Cornelia, the dam of Mr. Randolph's Gracchus.

The stock of old Medley may justly be ranked as among the most remarkable and valuable that have ever signalized themselves on a Virginia race course. This stock of horses lacked nothing but size to have made the best racers in the world; and yet their want of size was not manifested on the turf: as their ability to carry weight exceeded any other stock; they were also more remarkable for good wind or bottom, for fine limbs and good eyes, than any other race of horses that have been bred in Virginia. These qualities resulted in this stock, (and were more peculiar to them than to any other,) from the close proximity of the points of the hips to the shoulder, from the uncommon solidity of their bones, the close texture of their sinews, and the bulk and substance of their tendons, which always enabled them to carry the highest weights, and to endure the greatest stress on their bodily powers. To these qualities may be added their uncommon purity of blood, derived from their sire old Medley, who was one of the purest blooded horses ever bred in England.

Gimcrack, the sire of Medley, was one of the most remarkable horses of his day in England. He was a grey, and called the "little grey horse Gimcrack," foaled in 1760, got by Cripple, a son of the Godolphin Arabian. Gimcrack was one of the severest running and hardest bottomed horses that ever ran in England; although small, yet his ability to carry weight was very great, for he frequently gave the odds as high as twenty-eight pounds, and he continued on the turf until eleven years of age, thereby showing his uncommon hardness of constitution and firmness of limbs which he richly transmitted into the veins of Medley. Gimcrack at four years old won seven 50*l.* plates, four miles; also in 1765, at four miles, 50*l.*; also one thousand guineas, two hundred and fifty guineas forfeit. He beat the Duke of Cumberland's Drone, four miles for five hundred guineas, giving him twenty-one pounds.

In 1766 he was sent to France, and in 1767 returned to England,

and won in that year, four 50*l.* plates, five miles. In 1768, two 50*l.* plates and the silver bowl. He beat Mr. Vernon's Barber for three hundred guineas, giving him twenty-eight pounds, in 1770. He beat Lord Rockingham's Iacho for three thousand guineas, giving him twenty-eight pounds; also Lord Rockingham's Pilgrim for the whip and two hundred guineas, the whip equal to the guineas. Gimcrack was then ten years of age. Earl Grosvenor had two portraits taken of Gimcrack. That of Gimcrack preparing to start is reckoned excellent of its kind. The two portraits, it is said, represent this horse in different shades of grey; the iron grey of his youth, and the hoary white of his old age. Gimcrack had acquired such fame and celebrity that his last proprietor left him a length of time at Tattersal's for the inspection of the public.

The dam of Medley was Armina, by Snap, (full sister to Papillon, the dam of Sir Peter Teazle, the best in England.) Medley acquired his beautiful symmetry and proportions from Snap, who was a horse of great beauty and justness of proportion, strong, vigorous, and muscular; and was upon an equality as a racer, if not superior to any horse of his time. Medley was imported into this country by Malcomb Hart, in the year 1785. Among many other distinguished racers and stallions, Medley got the following, viz :

Boxer, out of a Fearnought mare.

Opernico, out of a Lindsay Arabian mare.

Quicksilver, out of a Wildair.

Young Medley, out of a Blue and all Black.

Melzar, out of a Wildair.

Lamplighter, out of a Longsdale.

Fitz-Medley, out of a Dandridge Fearnought mare.

Gimcrack, out of an Ariel.

Bellair, out of a Yorick.

Bellair may justly be distinguished as the best son of old Medley, not only as being upon an equality as a racer, but as having got more fine stallions, racers, and brood mares, and as being decidedly the best bred son of his distinguished sire. Bellair partook of the best blood that has been highly valued in Virginia, viz : of Morton's Traveller through Yorick, Fearnought, Partner, Mark Anthony, &c.

Colonel Tasker's famous running mare Selima, that was the dam of Partner, was the great grandam of Bellair; and I will here take occasion to correct an error in the pedigree of this celebrated mare, as it has prevailed for more than thirty years in all the published pedigrees which I have seen of Bellair. Colonel Tasker's Selima, is represented to have come out of a mare called Snap Dragon, by Snap; this is a manifest error. The Godolphin Arabian, who sired Selima, died in 1753; Snap was foaled in 1750, and did not commence covering until six years old, hence the first Snap mares were not foaled till 1757, four years after the Godolphin was dead. Colonel Tasker's Selima was bred by Lord Godolphin, and came out of a mare by old Fox, that was the dam of Daphne, and also of the celebrated running horse Weasel, that was the property of Lord Rockingham; the grandam of Selima by Flying Childers; Makeless; Taffolet Barb; Natural Barb mare.

I would urge upon the breeders of the Virginia Turf horse to take in, in their different crosses, as much of the blood of old Medley and Bellair as possible, to give their stock firm limbs, very much needed at this time, as the Virginia race horses of the present day train off the turf too early.

The following letter, appropriate to the present subject, is from that eminent breeder and sportsman, Colonel John Tayloe, formerly of Mount Airy, Virginia, now of Washington City :

“In reply to your favor, I shall be happy if any information I am able to give you in regard to old Medley, and such of his stock as I have owned, can be of service to you. Old Medley was imported to this country about the year 1785, was owned by Mr. Malcomb Hart, and stood at Hanover Court House. He was one of the most beautiful horses I ever saw. I cannot at this remote period pretend to describe him further than he was a grey horse of the finest proportions and not more than fourteen and a-half to fifteen hands high. I have always esteemed him one of the best horses ever imported into the United States, and concur with you in opinion that his stock is decidedly the best we have had. His colts were the best racers of their day, although they were generally small; but their limbs were remarkably fine, and they were distinguished for their ability to carry weight. I owned some of the best of his colts. Bellair and Calypso I bred; Grey Diomedé and Quicksilver, I purchased from the profits which I realized from their successful performances on the turf. I have reason to hold Medley in grateful remembrance.

“As respects Bellair, he was strong built, and rather stout; good eyes; and remarkable fine bony legs; rather above fifteen hands. I do not think his bottom was surpassed by any horse on record; if ever he locked his antagonist, I felt certain of success. When he ran with Mr. Randolph's Gimcrack, he was in excessive bad order, after a long journey, in bad weather, from Maryland. They ran three four mile heats, in each of which Bellair mended, and was not beat far. I refused five hundred guineas for him immediately after the race. I concur with you respecting the old Virginia stock, which should not be lost.”

Having given an account of Col. Tasker's imported mare Selima, it may not here be improper to add that of Carter Braxton's imported mare, Kitty Fisher: as those two mares bred more fine stock in Virginia, than any other imported mares brought to this country; it being well known to the sportsmen and breeders for the turf, that some of the highest formed racers and stallions bred in that state, were descended from those two mares.

Kitty Fisher was a gray mare, foaled in 1755, and imported by Carter Braxton, in the fall of 1759. She was bought by Mr. Braxton, at New Market, England, in the spring of 1759, being then the property of the Marquis of Granby, and stood at the time engaged in a sweepstake for £3600 for three years old fillies; but the Marquis being abroad with the British armies, he was allowed to withdraw himself from his racing engagements, and directed all his running stock to be sold. At the sale, she was purchased as above, and sent

over to this country. She was got by Cade, (one of the finest sons of the Godolphin Arabian,) her dam, by the Cullen Arabian, out of the famous mare, Bald Charlotte. (Bald Charlotte was a high bred mare, of the finest form, and winner of King's plates.)

Kitty Fisher was trained in this country, and run, and won easily, several matches.

It is peculiarly pleasing to recur to those periods in Virginia, when the blooded horse held such a high place in the estimation of the people; when men the most distinguished for their wealth, their talents, or patriotism, were seen vying with each other, who should import the finest blood horses or mares from England, or raise them from those already imported. It was the object of the writer, in the preceding pages, to call up those periods to review, and give an account of the most valuable stallions and mares, from which the Virginia stock were bred during those times, hoping it will serve to animate the breeders of the present day, and stimulate them to emulate their ancestors, in their zeal and success in rearing the blood horse.

Justice, a chesnut horse, fifteen hands high, was bred by William Manby, of Gloucestershire, England, and got by Regulus, out of the Bolton Sweepstakes. Justice covered in Prince George county, Virginia, in 1761.

Othello, a beautiful black, fifteen hands high, very strong, was got by Mr. Panton's Crab, in England, out of the Duke of Somerset's favorite brood mare. Othello covered in Virginia, on James' river, in 1761, and was a most capital stallion. He got Selim, and the dam of Mark Anthony.

Crawford, a fine dapple gray, fifteen hands high, was bred by his royal highness, the Duke of Cumberland, and got by his Arabian. Covered in Virginia, in 1762.

Juniper, a fine bay, fifteen hands one inch high, foaled in 1752, was got by Babraham, one of the best sons of the Godolphin Arabian. The dam of Juniper, by the Stamford Turk, &c. Juniper covered in Charles City, Virginia, in 1762, and was an excellent stallion. He is a remote cross in the Virginia pedigree.

Ranter, a beautiful bay, fifteen hands high, foaled in 1755, imported into Virginia in 1762, by Wm. S. Wadman. He was got by Dimple, a son of the Godolphin Arabian; the dam of Ranter, by old Crab, Bloody Buttocks, &c. Ranter stood in Stafford county, Virginia, in 1753, and is an old cross in our pedigrees.

Aristotle, brown bay, fifteen hands high, got by the Cullen Arabian, his dam, by old Crab, &c. Aristotle was one of the finest and highest formed horses imported into Virginia in his day; he propagated a most valuable stock for the time he lived, having died shortly after coming into Virginia. He stood at Berkely, Charles City county, in 1764.

Bucephalus, brown bay, fifteen and a-half hands high, foaled in 1758, was got by Sir Matthew Wethererton's horse Locust; his dam, by old Cade, Partner, &c. Bucephalus was a very strong horse, and stood at Tappahannock, Virginia, in 1765.

David, a bay horse, fifteen hands high, well made, very active, and descended from the best stock in England. Stood in Virginia in 1765.

Dotterell, a high formed horse, fifteen and a-half hands high, a powerful, strong boned horse, was got by Changeling; his dam, by a son of Winn's Arabian, &c. Changeling was one of the finest horses in England, of his day. Dotterell stood in Westmoreland county, Virginia, in 1766.

Merry Tom, a beautiful bay, four feet eleven inches high, was got by Regulus, (one of the best sons of the Godolphin Arabian,) his dam, by Locust, a son of Crab; his grandam, by a son of Flying Childers, &c. In 1762, he won two hundred guineas, sweepstakes, at Richmond; in 1753, he won £50 at Durham, and the noblemen and gentlemen's subscription at Cupar, in Scotland. Merry Tom stood in Prince George county, in 1767. He was the sire of the noted horse, Smiling Tom.

Sterling, a fine dapple gray, foaled in 1762, was got by the Bellsiz Arabian, (which Mr. J. Simpson offered fifteen hundred guineas for,) out of Mr. Simpson's Snake mare; she was got by Snake, a son of the Lister Turk, out of the Duke of Cumberland's famous mare, the dam of Cato. Sterling traces down to the famous old mare bred by Mr. Crofts, at Raby, in Yorkshire, and sold to the Duke of Cleveland. Sterling was a very fine horse, and became famous as a valuable foal getter. He was owned by William Evans, and stood in Surry county, Virginia, in 1768. He did not exceed fifteen and a-half hands in height.

Lath, a bay horse, fifteen hands one inch high, strong and bony, was got by Shepherd's Crab; his dam by Lath, a son of the Godolphin Arabian, &c. Lath was landed in this country in 1768, and won that year, the £50 weight for age plate, at New Market, on Long Island. In 1769, he won the Jockey Club purse of £100, at Philadelphia, beating the then best running horses in that state and from Maryland. In 1770, he also won the £100 plate at the same place. In 1771, he won the £100 plate at New Market, and never was beat but once; when he ran out of condition. Lath was descended from the most valuable blood in England, and contributed in an eminent degree to the improvement of the stock of horses of his day.

Whirligig, was a dark bay, fifteen hands high, and was imported from England, in the year 1773. He was got by Lord Portmore's bay horse, Captain, (a son of young Cartouch,) his dam, by the Devonshire Blacklegs, son of Flying Childers, &c. In April, 1769, when this fine horse was rising six years old, his owner received forfeit of one thousand guineas, from Rapid; the same year he beat Volunteer, for two hundred guineas. In October, 1770, he beat Warwickshire Wag, for one hundred guineas; and the same year he beat Atrides, for one hundred guineas, &c. Whirligig stood to mares in Halifax county, North Carolina, in the year 1777.

*Selim.*—This beautiful and valuable stallion, was a dark bay, a little rising fifteen hands high, was got by Othello, (commonly called Black and all Black,) whose sire was old Crab. The dam of Selim

was a beautiful mare of that name, got by the Godolphin Arabian, and full sister to the celebrated horse Babraham, of England. Selim was a tried and approved racer, and a stallion of deserved celebrity. He stood in Virginia, from the year 1770 to 1780, and propagated a valuable race of horses.

A retrospect of the older stallions of Virginia, evinces the important fact that they did not exceed from fifteen to fifteen and a-half hands in height; and yet Virginia, in those days, had a stock of horses equal to any in the world. They were remarkable for substance or fine stamina. This stock of horses was the immediate descendants of the best Arabian, Barb, or Turkish blood which had been early imported into England from Oriental countries, and has exhibited a degeneracy as to substance or stamina, in proportion as it has been removed from this elder foreign blood.

The above stallions were the descendants of Oriental stock, as well as Janus and Fearnought, (who were the grandsons of the Godolphin Arabian.) During the days of those horses and their offspring, Virginia was famed for her fine saddle horses, and their weights on the turf was one hundred and forty-four pounds, for aged horses: now it is proverbial that the blood horse of Virginia rarely produces a fine saddle horse, nor have they a single turf horse capable of running four miles in good time with their former weight. All their good races are now made by young horses carrying light weight, say from ninety to one hundred and three pounds.

The same retrospect of the English stock discloses the same facts: Lawrence remarks, that a "retrospect seems to evince great superiority in the foreign horses of former times, many of the best English racers in these days, being the immediate descendants, on both sides, of Arabs, Barbs, or Turks, or their sires and dams. That union of substance and action, which was to be met with in former days, has been of late years still more scarce."

As evidence of the correctness of Lawrence's opinion, it may be adduced that the established weights on the English turf, in former days were increased to one hundred and sixty-eight pounds, and it was during this period that their horses continued to improve both in substance and speed, and notwithstanding the great weight of one hundred and sixty-eight pounds they had to carry, they ran four miles from seven minutes thirty seconds, to seven minutes fifty seconds. From the days of Eclipse, the weights were gradually reduced, and have been brought down to one hundred and nineteen pounds, and on no track exceeding one hundred and thirty-three pounds. Yet there is not a racer now in England, able to run his distance in as good time as they were in former days, with their high weights.

The present rage for breeding horses to a great height should not be so much attended to as obtaining the requisite substance, and from the above list we see that from fifteen to fifteen and a-half hands in height, has combined with it that necessary union of substance and action, which enabled the horses in former times, to run in such fine form, and carry such high weights. The most obvious way to insure this desirable substance or stamina in our stock, is to increase the

weights of the turf to the old standard, and not to permit colts to start in public until four years old. The great superiority of the elder English race horses is, in part, to be attributed to the favorable circumstance of their not having started in public until five or six years old. This delay has the obvious favorable effect of enabling the bulk and substance of their limbs and inferior joints to become strong in proportion to their weight, and their whole tendinous system consolidated and firm. Flying Childers, Bay Bolton, Brocklesby, Betty, Bonny Black, Buckhunter, the famous Carlisle gelding, Eclipse, and a great number of others, did not race in public until five and six years old; and they were racers of the highest eminence, for performance and heavy weight, of any on record in the English annals of the turf.

The first step towards an American Stud Book, or collecting an account of our blood horses, is to ascertain the number of stallions imported from England, with their pedigrees annexed, because it is to the importation of horses and mares from that kingdom, that we are indebted not only for the foundation of our stock of turf horses, but for their present value. There is not a pedigree of a single blood horse or mare in this country, but what goes, in every cross, directly or remotely back to English stock.

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## CHAPTER XV.

### AMERICAN STUD BOOK,

ABRIDGED AS SUGGESTED BY THE PUBLISHER.—*Compiler.*

- Abelino, g c by Dragon, dam Celerrima. 1804. John Hoomes.  
 Abjer, imported, got by Old Truffle, dam Briseis by Benningbrough, gr dam Lady Jane, by Sir Peter Teazle. Foaled, 1817, died 1828. Alabama. Jas. Jackson.  
 Adeline, b f by Henry, dam by Old Oscar. New Jersey. J. Vandyke.  
 br m by Spread Eagle, Whistle Jacket, Rockingham, Old Cub, &c. 1806. John Tayloe.  
 Young, by Topgallant, dam Adeline by Spread Eagle. 1809.—John Tayloe.  
 Adelaide, b f by Thornton's Ratler, dam Desdemona by Miner Escape, &c.  
 Adria, b f by Pacific, dam Oceana. 1831. J. Southall.  
 Admiral Nelson, imported, b h by John Bull. Foaled, 1795. William Lightfoot.  
 African, bl h by Careless, dam by Lloyd's Traveller. Flatbush, 1788. A. Giles.  
 Agnes, or the Thrift mare, by Bellair, dam by Wildair. Wm. Thrift.  
 b m by Sir Solomon, by Tickle Toby, her dam Young Romp, by Duroc. 1822. Gen. Coles.

- Agricola, bl h by Highflyer, dam by imported Dove, gr dam Emery's noted running mare. Chesterfield, Va. Reuben Short.
- Agrippa, g h by the Winter Arabian, dam by Harrison's Pretender. Kentucky. R. J. Breckenridge.
- Alaricus, by Haskin's Americus, dam Henderson's Young Medley, g dam, by Thornton's Wildair, &c.
- Alexander, imported, was bred by Sir William Wynne, Bart., got by Lord Grosvenor's Old Alexander. Virginia. Wm. Smalley.
- Alexandria, sor m by imported Alexander, dam Black Maria by Shark. 1811. J. Tayloe.  
Imported was by Alexander, her dam by Woodpecker. John Hoomes.
- Alderman, imported, got by Pot8os, dam Lady Bolingbroke, by Squirrell, Cypron, the dam of King Herrod, &c. John Banks.  
Mare, dk b by Alderman, dam by Clockfast, out of a Wildair mare. 1799. J. Wickham.
- Albert, by Americus, dam by Wildair, by Fearnought. 1798. Robert Saunders.
- Alfretta, ch f by Christian's Hotspur, by Timoleon, dam Lady Alfred, by old Sir Alfred. 1831. Hugh Campbell.
- Alice, gr f by Henry, dam Spirtmistress. Queen's county, New-York. 1829. Thos. Pearsall.
- Alice Gray, gr f by Brilliant, dam by Sir Archy. Foaled, 1829.—Thomas Snowden, Jun.
- All Fours, imported, got by All Fours, son of Regulus—Blank Bolton Starling—Miss Meynell by Partner—Greyhound.
- All Trumps, s m by Sir Archy, dam by imported Jack Andrews.—Richard Adams.
- Alknomac, ch c by Kosciusko, dam by Buzzard. Kentucky. Ed. M. Blackburn.
- Alzira, by Archduke, dam by Bedford, g dam by Pollyphemus.—Wm. Garnett.
- Amanda, by Gray Diomede, dam Amanda by Bedford. Powhattan, Va. Wade Mosby.  
b m by Bedford, dam by Old Cade, g dam by Col. Hickman's Independence. J. Broaddus.  
Duroc, b m by Duroc, dam by Sir Solomon, g dam imported Trumpetta, &c. 1827.
- Amazon, by Dictator, dam Statira by Percy, g dam Homespun by Romulus. 1800. Wade Hampton.
- Amazonia, b m by Tecumseh, Sir Harry, Celer, &c. Nash. Cy. N. C. 1815. Nath. Ward.  
b m by Sir Peter, dam Diana by Americus.
- Americus, by imported Shark, dam by Wildair, by Fearnought, King and Queen, Va. 1798. John Hoskins.
- Andrew Jackson, b h by Virginian, dam by Sir Arthur, g dam by Florizell.
- Andromache, by Old Cub, her dam by Sweeper, g dam Clarissa, by imported Ranger. Washington. 1808. Wm. Thornton.
- Anna, b f by Truxton, dam Dido by Cœur de Lion. 1810.



- Antoinette, b f by Marshal Ney, dam Camilla by Timoleon. Raleigh, N. C. 1830. C. Manly.
- Anvelina, imported, b m. Presented by Mr. O'Celly in 1799, to Col. J. Tayloe.
- Apollo, dk b h by Old Fearnought, dam Spotswood's imported Cullen Arabian mare. 1777. Richard Elliott.
- Apparition, imported b c by Spectre, dam young Cranberry (bred by Earl Grosvenor.)
- Arabian Lindsay's or Ranger, presented by the Emperor of Morocco to the captain of an English vessel, and landed in the West Indies, there he broke three of his legs, and was made a present to a gentleman from Connecticut, where he went by the name of Ranger. Captain Lindsay was sent by General Lee, in 1777-8, who purchased him and brought him to Virginia.
- Jones's—A dapple grey fifteen hands high, black legs, mane and tail. Selected in Tunis by Major Stith, American Consul there, and purchased for Commodore Jacob Jones of the U. S. Navy.
- Selim, g h presented by Murad Bey to the late Gen. Sir F. Abercrombie, and after his death he became the property of Commodore Barron, of whom he was purchased, and afterwards sold and carried to Kentucky. 1815. John Tayloe.
- Winter's—Was captured during the last war, (1814,) then one year old, by the privateer Grampus, of Baltimore, on board the brig Doris, his Majesty's transport, No. 650, on his passage from Senegal in Africa, to Portsmouth, England, and was intended as a present for the then Prince Regent, late King of England. This horse was sold, and purchased by E. J. Winter, member of Congress, from the State of New York. This Arabian is now white, and about four feet nine inches high.
- Bagdad—Was purchased by George Barclay, Esq. of New York, from Hassana de Gris, Minister to England from Tripoli, who imported him to England, as a horse of the purest Arabian blood: he was purchased by a Company in Nashville, Tennessee, for \$8,000. 1823.
- Bussora—Imported from the land of Job, for which \$4,000 was paid. Stood at New York.
- Ballesteros, dk br formerly the property of Ferdinand, King of Spain, and still bears the Royal Mark. When the French Army got possession of Madrid, the steed belonging to the King of Spain, was taken by the Spanish nobles, carried to Cadiz and there sold. Amongst others was young Ballesteros—he became the property of Richard S. Hackley, Esq. Consul at that place, who disposed of him to Captain Singleton, of Philadelphia, who brought him to this country, and sold him to Thomas Guy of Richmond, Va. Broad Rock, Va. 1816. William Ball.
- Arabarb, bl imported by Col. Lear, a large strong horse, well proportioned but not handsome; he was the sire of the dam of Fairfax. Col. Lear.
- Arabia, bl h by Old Janus, from a blood mare by an imported horse. Cumberland county, Va. 1777. Thomas Moody.

- Arab, b h by Sir Archy, dam Bet Bounce, by Sir Harry. Brunswick county, Va. 1829.
- Arabella, br f by Arab, dam by Virginian, g. dam by Old Sir Archy. 1827.
- by Dare Devil, dam a Clockfast mare. Richmond. 1823. Samuel McCraw.
- Arch Duke, imported. A brown bay, got by Sir Peter Teazle.—Richmond. 1803. John Banks.
- Archibald, imported, bred by the Duke of Hamilton, and foaled in 1801. He was got by Walnut, son of Highflyer. William Smalley.
- Archy Sir, (Benehans,) by Old Sir Archy, dam by Eagle, gr dam by imported Druid, g g dam by Old Mark Anthony.
- Ariadne, by imported Citizen, dam by Blank. Col. Holcombe. by Ball's Florizelle, dam Thunderclap, (bred by Mr. Wickham, Richmond,) g dam Ariadne, by Bedford.
- Ariel, b f by Young Contention, dam Kitty by imported Whip.—Georgia. 1830. Charles A. Rudd.
- Artless, b m by a son of imported Bedford, dam a Ratth de Cashe by Terror. South Carolina. 1809. Harrison.
- Aspacia, gr m by Bellair, dam Polly Peachem. 1795. J. Tayloe.
- Atlas, b h by imported Ranter, dam by imported Lansdale, out of an imported mare. Balt. cy. 1787. M. Nestor.
- Atalanta, ch f by Old Slouch, dam Brilliant mare. South Carolina, 1791. Wm. Alston.
- b f by Roanoake, dam Young Minikin, &c. J. Randolph.
- Augusta, imported by Sattram, dam by Wildair, Clockfast, Apollo, Janus, Jolly Roger, &c. Foaled, 1802. William Rives.
- Aurora, gr m by Gov. Lloyd's Vintzun, dam Pandora by Grey Diomedé. Thomas Emery.
- Aurelia, imported by Anville, dam Augusta by Eclipse, Herod, Bajazette, &c. 1800.
- Aura, b f by Roanoake, dam Amy Robsart. J. Randolph.
- Autocrat, imported gr h sixteen and a-half hands high, by Grand Duke, dam Olivetta, (by Sir Oliver,) g dam Scotini by Delphini, Scotia by Eclipse, &c. Grand Duke by Arch Duke out of Handmaid by John Bull, &c. Foaled, 1822.
- Autocrat, imported, gr c got by Grand Duke, dam Olivetta by Sir Oliver—Scotina by Delphi—Scota by Eclipse—foaled, 1822. N. Y. W. Jackson.
- Babraham, by imported Juniper, dam Col. Tasker's imported Selima, &c. Philadelphia, 1780. Jacob Hittzheimer.
- Babraham, imported b h fifteen hands two inches high, got by Old Fearnought, son of Godolphin Ar.—Silver imported into Virginia, by Wm. Evans, of Surry county, and got by the Belsize Arabian in England, and foaled, 1759. Virginia, 1765. Wm. & Geo. Evans.
- Imported b h got by Wildair, Babraham, Sloe, Bartlett's Childers, Counsellor, Snake, &c. Foaled, 1775. Va., 1783. A. Willis.

- Bacchus**, b c by Sir Archy, dam by Rattler, (by Shark,) g dam by Wildair. Wilkinson.
- Badger**, imported gr h by Bosphorus, (a son of Babraham,) dam by Black. N. Carolina, 1777. Gov. Eden.  
by imported Badger, dam by Galloway's Selim out of an imported mare by Spot. Maryland, 1806. Benjamin Ogle.
- Bajazette**, imported, by the Godolphin Arabian, dam by Whitefoot, Leedsman, Moonah, Barb Mare: 1740.  
(Little Devil,) by Dare Devil, dam Miss Fauntleroy. 1801. John Tayloe.  
(Young,) b h by Bajazette, dam a Janus mare, (bred by B. Moore, N. Carolina.) King and Queen, Va. 1774.
- Bald Eagle**, b c by Spread Eagle, dam Broadnax by Old Janus, &c. J. Breckenridge.
- Bally Shannon**, by Wedding Day, dam Miss Fauntleroy. 1801. J. Tayloe.
- Ball Hornet**, b by Black and all Black, dam Rosetta by Shylock.
- Bango Seib**, by Bedford dam, dam of Byron by Archy. R. Benehan.
- Baronet**, imported b h by Virtumnus son of Eclipse, his dam Penultima by Snap. This horse was imported into New York with Pot8os mare, the gr dam of Am. Eclipse.
- Barefoot**, imported, was by Tramp, (he by Dick Andrews out of a Gohanna mare,) dam Rosamond by Buzzard out of Roseberry. Sold in England for over \$12,000. Foaled, 1820. Imported by Sir Isaac Coffin, 1825-6.
- Baron Bostrop**, gr c by Roanoake, dam Miss Ryland. 1825. J. Randolph.
- Baron Trenck**, by Sir Archy, dam by Old Galatin, g dam imported by Gov. Telfair of Georgia. Wm. Terrell, (Georgia.)
- Bashaw**, b h by imported Wildair, dam De Lancey's imported Cub mare. New Jersey.  
Mare, dk ch by imported Bashaw, imported Jolly Roger, Aristotle, Merrypintle, &c., dam an imported mare from Lord Cullen's Stud.
- Bay Bett**, b m by Ratler, dam b m bred by Isaac Duckett of Maryland in 1809, got by Dr. Thornton's imported horse Clifden, her dam by Richard Hall's Tom by imported Eclipse. General C. Irvine.
- Bay Maria**, b f by American Eclipse, dam Lady Lightfoot, &c.—1831.
- Bedford**, imported by Dungannon, (he by Eclipse,) dam Fairy by Highflyer, Fairy Queen by Young Cade, &c. Bowling Green, Virginia, 1792. John Hoomes.  
Mare, by imported Bedford, dam by imported Dare Devil. Foaled, 1810. Greenville, Virginia. Thomas Spencer.
- Bellissima**, b f by Melzar, dam by Old Wildair, Fluvia, &c. 1807. J. Tayloe.
- Belvidera**, b c by Symme's Wildair, dam by imported Clockfast, gr dam by Old Yorick, &c. Brunswick county, Virginia, 1798. Hartwell Tucker.

- Belvidera, b f by Roanoake, dam Archy Minikin. John Randolph. Ben Cooper, gr c by Messenger, dam Temptation by Heath's Childers. 1803.
- Benyowski, b h by Americus, (by Diomed) dam imported Anvelina. 1802. John Tayloe.
- Bertrand, b h by Sir Archy, dam Eliza by imported Bedford, g dam Mambrino.  
Junior, ch by Bertrand, dam Transport. South Carolina, 1827. J. B. Richardson.
- Bet Bounce, b f by Sir Harry, dam Atalanta by Old Medley, &c. Foaled, 1825.
- Betty, ch f by Contention, dam Flora by Ball's Florizelle. Loudon, Va. J. Lewis.
- Black Maria, by American Eclipse, dam Lady Lightfoot. 1826. J. C. Stephens.  
by Shark, dam by Clockfast, g dam Maria by Regulus, &c. 1804. J. Tayloe.
- Black Merino, by Vintzun, dam by Comet, g dam by Don Carlos, Old Figure, &c.
- Black Ghost, by imported Oscar, dam Pill Box by imported Pantaloon, Melpomone, &c. Dr. A. Dixon, (Va.)
- Black Eyed Susan, by Sir Archy, dam by imported Druid, g dam by imported Saltram. 1812. C. Harrison.  
by Potomac, dam by Galatin, by Diomed, &c. 1819. Stephen Hester.
- Black and all Black, by Madison, dam Virago by Whip.  
by imported Brunswick, dam by Ariel, g dam Brent's Ebony g g dam imported Selima. Pennsylvania, 1780. Elihu Hall.
- Blakeford, ch c by Gov. Wright's Silver Heels, dam Selima by Topgallant, Gabriel, Chatam, &c. Maryland. Robert Wright, Jun.
- Black Rose, bl m by Stockholder, (by Sir Archy,) dam by Hamiltonian, by imported Diomed, g dam by Columbus, (by imported Pantaloon,) out of Lady Northumberland, &c. Frederick county, Va. 1826. D. H. Allen.
- Blemish, b m by Gracchus, dam imported Duchess. 1819. H. Burwell.
- Blossom, imported, by Old Sloe, her dam by Regulus, the sire of Fearnought, &c. Thomas Nelson, (Va.)
- Bolivar, gr h by Oscar, (by Wonder,) dam by Pacolet, Truxton, &c. by Sir Robert Wilson, dam Darning Needle.  
b h by Rattler, dam by Sir Solomon. 1826. Wright.
- Bompard, by imported Obscurity, dam by Pilgarlic, g dam by imported Jack of Diamonds, &c.
- Bonnets O'Blue, gr f by Sir Charles, dam Reality by Sir Archy. W. R. Johnson.
- Bonny Black, b f by Bagdad, dam Fancy. Tennessee. D. W. Sumner.
- Bonnyface, imported, also called Master Stephen, dk b h got by a son of Regulus out of the Fen mare, got by Hutton's Royal colt, Blunderbuss, &c. Foaled, 1768. Virginia. French.

- Bonny Lass, (L. Hardiman's,) by Jolly Roger, dam imported Bonny Lass.  
 Imported by Bay Bolton.
- Bonaparte, b by Col. Tayloe's Grey Diomedé, dam by Matchem, g dam by Marius—Silver Heels, &c. Maryland. S. Nerwood.
- Boxer, by imported Medley, dam by Baylor's Fearnought, g dam by Jolly Roger, &c. Goochland county. J. Curd.  
 by Sir Archy, dam by imported Druid—Symme's Wildair—Americus, &c. Ohio, 1830. P. Claiborne.
- Bravo, b c by Henry, dam Gulnare, &c. Queen's county, N. York, 1829. Thomas Pearsall.
- Brenda, ch f by Gracchus, dam Mariana. F. B. Whiting.  
 b m by (Ame's) Sir Archy, dam Madame Lavallette. Foaled, 1823. J. J. Ambler.
- Britannia, imported, b m was got by Pegasus, dam Peggy, was very fleet, but invariably bolted. 1800. John Tayloe.
- Bright Phæbus, full brother to Miller's Damsel.
- Brilliant, imported gr by Phenomenon, dam Faith by Pacolet—Atlanta by Matchem, &c. Foaled, 1791. J. Tayloe.  
 br c by Sir Archy, dam Bet Bounce. 1826. W. R. Johnson.  
 b c by Marplot, dam Brilliant mare. 1797. Joseph Atston.  
 Chichester's, by Timoleon, dam Caroline by Marshall. Fairfax county, Virginia, 1828.
- Brilliant, ch h by Eden's imported Badger, dam by Othello, gr dam by Morton's Traveller, &c. Towsen's Tavern, Maryland, 1786. J. R. Holliday.
- Broadnax, by Old Janus, dam by Apollo, g dam by Fearnought, g g dam by Jolly Roger, &c. 1784. ——— Broadnax.
- Brown Filly, imported, was by Sir Peter Teazle out of the dam of Horn's. South Carolina, 1802. John M'Pherson.
- Brunswick, imported, (called Lightfoot in England,) was got by Oronooko, a son of Crab. J. Randolph.
- Bryan O'Linn, imported by Atston, dam by De Sang—Regulus—Partner—Brocklesby's Betsey, by the Curwen bay Barb.—Foaled, 1796. North Carolina, 1803. Turner.
- Buckskin, by Mark Anthony, dam Brandon. B. Harrison.
- Bucephalus, imported br h got by Sir M. Witherton's Locust, dam by Old Cade, g dam by Partner. Foaled, 1758. Archibald Ritchie.  
 b h by Symme's Wildair, &c. 1807. Col. Edward Ward.
- Buxoma, ch f by Pulaski, dam Virginia Nell. 1829. J. Blick.
- Cadmus, b h by Sir Archy, dam by Shylock. Kentucky. N. Hutchcroft.
- Cade, by Old Partner, dam imported Kitty Fisher. 1788. William Lumpkin.
- Caira, ch by Wildair, (by Fearnought,) dam by Sloe, the dam of Grey Diomedé. 1796. Richard Brooke.
- Calypso, g m by Medley, dam Selima by Yorick. 1793. J. Tayloe.  
 b f by Chance Medley, dam by Vintzun. Col. Chambers.

- Calista, gr f by Roanoake, dam Miss Peyton. J. Randolph.  
 Calmuc, ch c by Timoleon, dam Fair Forester, &c. 1831. Doctor Goodwin.
- Camden, by Old Janus, dam Polly Haxen. King and Queen, Va., 1782. Harry Gaines.
- Camilla, by Tanner, dam Stella by Tasker's Othello. Henry Carter, ch m by Timoleon, dam Duchess by Bedford. Halifax, N. C.—Robert A. Jones.  
 by Old Wildair, dam Minerva by Obscurity. Wm. Broadnax.  
 b m by Bolingbroke, dam by Thornton's Diomede, he by Ball's Florizelle, imported Whip, &c. King and Queen county, Va., 1826. Hugh Campbell.
- Camillius, b h by Burwell's Traveller, dam Camilla by Old Fearnought. Foaled, 1773. Prince George, Va. 1782. J. Gordon.
- Candidate, b c by Cormorant, dam by Mexican out of Maria, &c. Freds. James Smock.
- Carlo, imported b h by Balloon, dam own sister to Peter Pindar by Javelin. 1809. Dr. Thornton.  
 by imported Carlo, dam by imported Florizelle out of a mare raised by Col. R. K. Heath, &c. Major Gibbs.
- Careless, by imported Fearnought, dam Camilla, by Dove—Othello, Spark, &c. Maryland, 1776. Richard Sprigg.  
 by Cormorant, dam by imported Shark, gr dam Betsy Pringle, &c. 1801. J. Hoomes.
- Caroline Whitefoot, b m by Oscar, dam Indian Hen by Othello, g dam by Lloyd's Traveller, &c. Caroline county, Virginia, 1818. Elisha Wilson.
- Caroline, b m by Old Sir Archy, dam by imported Dion, g dam Miss Seldon by Sorrel Diomede—Wildair, &c. 1823. Dr. Tho. Hall.
- Carolina, b f by Saltram, dam Medley mare, g dam Old Reality, &c. Marmaduke Johnson.
- Carrion Crow, by Young Royalist, dam by imported Spread Eagle. Paris, Kentucky. Jefferson Scott.
- Castania, by Arch Duke, dam Castianira. 1803. J. Tayloe.
- Castaway, b c by Roanoake, dam Miss Peyton. 1827. J. Randolph
- Catherine the Great, b f by Roanoake, dam young Grand Duchess. J. Randolph.
- Centinel, imported, ch h by Blank out of Naylor by Cade. Foaled, 1758.
- Centaur, br h by Evan's Starling, dam an imported mare. Foaled, 1764.
- Chance, imported b h by Lurcher, (son of Dungannon,) dam by Hyder Ally. John Tayloe.  
 Medley gr h by imported Chance, dam by Young Diomede.
- Chanticleer, by Wildair, dam by Pantaloon. 1798. B. Wilkes.  
 br by Sir Archy, dam Black Ghost by imported Pill Box by imported Pantaloon—Morton's Traveller. James G. Green.
- Charles Carroll, ch c by Sir Charles, dam Susan by Bond's Sir Solomon, &c.

- Chariot, imported b h by Highflyer, dam Potosi by Eclipse—Blank Godolphin Arabian—Snip—Partner, &c. Foaled, 1789. N. Carolina, 1800. J. & L. Lyne.
- Charlemont, imported b c (afterwards called *Big Ben*.) in which name he ran many races in England, and afterwards in this country called Traveller. Foaled, 1786. Manchester, Virginia. James Strange.
- Chateau Margeaux, imported dk br h got by Whalebone, best son of Waxay, dam Wasp by Gohanna—Highflyer—Eclipse, &c.—Foaled, 1822. Va. 1835. J. J. Avery & Co.
- Chesnut Mare, by Diomede, dam by Alderman, g dam by Clockfast, &c. J. Wickham.
- Childers, imported b by Blaze, son of the Devonshire Childers, dam by Old Fox, &c. Stafford county, Virginia, 1759. Francis Thornton.
- Heath's ch h by Baylor's Fearnought, dam an imported mare by Bajazet. Richard Barnes.
- Chieftain, ch c by Director, dam by Hoskin's Sir Peter, gr dam by Highlander, &c. Richard Hill.
- Cicero, by Sir Archy, dam by imported Diomede, g dam by imported Fearnought—Jolly Roger, &c.  
Mare, dam (of Trifle) by Cicero, dam by Bedford, g dam by Bellair—Shark, &c. 1822. Tho. Graves.
- Citizen, imported b h by Pacolet, a son of Blank, a son of Godolphin Arabian—Fairy Queen by Young Cade, &c. Foaled, 1785.  
by Pacolet, dam Fancy. Tennessee, 1818.
- Cincinnatus, (Bowie's,) by Lindsay's Arabian, his dam by imported Figure, g dam Thistle by imported Dove.  
by Bay Richmond, dam Blue Skin by Baylor's Fearnought.—Ringold.
- Claret, imported, got by Chateau Margeaux, who was by Whalebone, his dam by Partisan—Silvertail by Gohanna—Orville, &c.—Foaled, 1830. N. C. Wyat Cardwell.  
Mare, by Claudius, dam by Bolton, g dam Sally Wright. 1791. J. Hoomes.
- Clermont, by Spread Eagle, dam Peggy. (Went to the South.)—J. Tayloe.  
ch c by Kosciusko, dam Josephine by Young Bedford, &c. S. Carolina, 1824. J. J. Moore.
- Clifden, imported b h by Alfred, a son of Matchem. Foaled, 1817. Dr. Thornton.  
(or Cliften,) ch h by Dr. Brown's Wonder, dam Iris by Sterling, &c. 1815. J. Lewis.
- Clio, by imported Whip, dam Sultana by imported Spread Eagle.  
ch m by Sir Archy, dam Beauty by Diomede, g dam Virginia by Dare Devil. Foaled, 1817. C. W. Van Ranst.
- Cœur de Lion, imported b h by Highflyer out of Dido by Eclipse—Spectator—Blank, &c. Foaled, 1789. (1800.) J. Hoomes.

- Collector, by Old Mark Anthony, dam Lady Legs. Died, 1813.—  
S. R. Carney.
- Collier, ch c by Sir Charles out of a Whip mare. 1826. William  
Finney.
- Combination, by Gracchus, dam Evelina by Phenomenon.
- Commutation, b h by Symme's Wildair, dam by Yorick, g dam by  
Little David, &c. 1788. John Belfield.
- Commodore, imported, bl b h sixteen hands high by Caleb Quotem,  
(a son of Sir Peter Teazle,) dam Mary Brown by Guilford, &c.  
Geneva, N. Y. C. A. Williamson.
- Comet, ch by Tayloe's Yorick, dam by Ranger, g dam by Dove.  
John Brown.
- Constantia, b m by imported Whip, dam by imported Bedford—im-  
ported Shark, Wormly King Herod, &c. 1814. D. H. Allen.
- Constellation, c h c by Thornton's Rattler, dam Nettleop. L.  
Berkely.
- Consul, by First Consul, dam by imported Aracohen, Messenger, a  
Bashaw mare, &c.  
Mare, by First Consul, by dam imported Obscurity, g dam Moll by  
Grey Figure, &c. 1827.
- Contract, imported, ch h by Cotton out of Eliza Leeds, dam Helen  
by Hamiltonian, gr dam Drowsey by Drone, g g dam Mr. Good-  
rich's Old English mare, &c. New-York, 1829. William  
Jackson.
- Constitution, by Diomede dam, (dam of Timoleon,) by imported  
Saltram—Old Wildair, &c.
- Conqueror, b h by imported Wonder, (Cripple,) his dam by Saltram.  
A. J. Davie.
- Contest, ch c by Contention, dam Fairy by Sir Alfred. Petersburg,  
Va. William Haxall.
- Copper Bottom, c c by Sir Archy, dam by Buzzard, g dam, dam of  
Betsy Richards. Edward Parker.
- Copper Head, by Kosciusko out of a Whip mare, g dam by Buzzard,  
Grey Diomede, &c.
- Cora, by Bedford, dam Little Moll by Medley. J. Tayloe.  
by Dr. Brown's Godolphin, dam by Charles Fox, g dam by Hall's  
Eclipse, &c. G. W. Peter.  
ch m full sister to Virago and Nettle by Wildair by Ajax.
- Coriander, by Diomede, dam by Shark. W. B. Hamlin.
- Corporal Trim, ch by Sir Archy, dam by Old Diomede. J. Powell.
- Corporal Casey, ch c by Virginius, dam Josephine by Bland's Bed-  
ford, &c. 1826. J. J. Moore.
- Crawford, imported gr h bred by the Duke of Cumberland, and got  
by his Arabian. Covered in Virginia in 1762. Robert Ruffin.
- Crusader, by Sir Archy, dam Lottery by Bedford. South Carolina,  
1830.
- Cumberland, gr h by Pacolet, dam Virginia by Dare Devil. James  
Jackson.
- Cupbearer, b h by Bedford, dam Louisa, by Harris' Eclipse. John  
Tayloe.



- Cupid Oscar, b h by Edelin's Oscar, jun. dam by Thornton's Mercury, Prince George, Maryland, 1827. Thomas N. Baden.
- Dare Devil, imported b h by Magnet, dam Hebe by Chrysolite out of Proserpine, sister to Eclipse, &c. Foaled, 1787.
- Young, by imported Dare Devil, dam by a son of Old Partner out of a mare which was got by an imported horse. New Kent county, Va. 1802. John Clopton.
- Dairy Maid, by Bedford, dam Racket by Medley.  
s m by Sir Hal, dam by imported Oscar, g dam by Old Diomede, Bellair, &c. J. M. Botts.
- Dart, ch m by Diomedon—Old Celer—Old Warning—Old Spadile, &c. out of a thorough-bred mare. 1815. (Crippled.)
- Darning Needle, b m by Sir Archy, dam by imported Diomede. Foaled, 1813. E. Warfield.
- Dasher, gr c by Cincinnatus, dam Shrewsbury Nan. Maryland. Thos. M. Forman.
- Dashall, br h by Sir Archy, dam Meg Dodds. Reeds, Caroline cy. Messrs. Corbins.
- De Kalb, b h by Arab, dam by Virginian, g dam Prudentia by Shylock. South Carolina, 1832. A. R. Ruffin.  
br c by Kosciusko, dam Virginia Coquette. 1825. J. Ferguson.
- Desdemona, by Dare Devil, dam Lady Bolingbroke. 1800. John Tayloe.  
b m by Miner's Escape, dam by Dare Devil, gr dam by Mask.—1819. E. G. W. Butler.  
br ch m by Virginus, dam Miss Fortune, by imported Star, g dam Anvelina. 1818.
- Delegate, ch c by imported Valentine, dam Cornelia Van Horne, &c. 1831. T. M. Forman.
- Democrat, b h by Grey Diomede, dam by Hall's Imported Eclipse, g dam by Don Carlos. Walter Bowie.
- Derby, imported dr b h sixteen and a-half hands high, got by Peter Leley out of Urganda, formerly Lady Eleanor, she by Milo, dam by Sorcerer out of Twins, &c. Foaled, 1831. R. D. Shepherd.
- De Witt Clinton, ch h by Rattler, dam (Flirt's dam) by Duroc, g dam by Baronet.
- Diana, gr f by Gallatin, dam by Clio by imported Whip. 1817.
- Diana Vernon, br b m by Ratray, dam Cora by imported Carlo out of Pandora. Maryland, 1817. James Parker.
- Dictator, by imported Mexican, dam by imported Flimnap, g dam imported. Bought at the Duke of Bridgewater's sale in 1762.—Foaled, 1790. Gen. John M'Pherson.
- Dinwiddie, b h by Diomede, dam by Wildair, g dam by Apollo—Partner, Fearnought, &c. 1804. Dr. William Cutler.
- Dion, imported by Spadile, dam Faith by Pacolet, g dam Atalanta by Matchem—Lass of the Mill by Oronooko, Old Traveller, &c. 1795. J. Hoomes.

- Dion mare, b m by imported Dion—Highflyer—Apollo—Old Jolly Roger, &c. Halifax, Virginia, 1806. J. Sims.
- Diomede, imported, ch h by Florizelle, dam by Spectator, g dam sister to Horatio by Blank. (Died in 1807, thirty years old.)
- Eagle, br c by imported Eagle, dam Chesnut mare by Diomede, gr dam by Alderman—Wildair, &c. 1814. J. Wickham.
- Mare, b by imported Diomede, dam by Gimcrack, (alias Randolph's Roan.) Buckingham county, Virginia, 1815. Edward Curd.
- Mare, b by Ragland's Diomede, imported Dion—imported Highflyer—Apollo, &c. 1816. J. Sims.
- Directress, ch m by Director, dam by Old Potomac, g dam by Gimcrack, &c. 1822. — Jackson.
- Doctor, b c by Pacotaligo, dam Virginia, (Coquette.) 1819. J. Ferguson.
- Dolla Bella, b f by Roanoake, dam Bay Doll. 1825. J. Randolph.
- Don Carlos, by imported Valentine, dam Fenella by Silver Heels.—
- Don Juan, ch c by Timoleon, dam Rosemary, by imported Diomede.
- Dora, b f by Kosciusko, dam Josephine. 1825. John S. Moore.
- Doubtless, by Fitz Diomede, (son of Diomede,) dam by Picture. G. P. Tayloe.
- Douce Davie, b c by Roanoake, dam Cornelia. 1825. John Randolph.
- Dragon, imported by Woodpecker, dam Juno by Spectator. Died, 1812, aged twenty-five years. John Hoomes.
- Dreadnought, ch c by imported Expedition, dam Tulip. Thomas M. Forman.
- Dubious, b c by Bertrand, dam Darning Needle, &c. 1829.
- Duroc, ch h by imported Diomede, dam Amanda by Grey Diomede, &c. Died, 1826. Powhatan county, Virginia, 1810. Wade Mosby.
- Duchess, imported b m bred by the Duke of Grafton, got by Grouse son of Highflyer out of Georgiana, own sister to Conductor by Matchem—Babraham—Partner, &c. 1801. John Randolph.
- of New York, imported ch m got by Catton, dam by Sancho—Coriander—Highflyer, &c. Foaled, 1821. Virginia. R. D. Shepherd.
- Dumpling, ch f by Gracchus, dam Everlasting. 1818. John Randolph.
- Eagle, imported b sixteen hands high, got by Volunteer (a son of Eclipse,) out of a Highflyer mare. Foaled, 1796. Whitby, Virginia, 1812. S. S. Saunders.
- br b by Spread Eagle, dam Arminda, &c. 1801. Sold to Mr. Alston, S. Carolina. J. Hoomes.
- br b by Old Sir Solomon, dam Aurora by Honest John, gr dam Zelippa by imported Messenger. N. Jersey. Stephen Hunt.
- Easter, ch f by Gohanna, dam by Napoleon, g dam by Sir Harry—Diomede, &c. 1829. Thomas Graves.
- Echo, ch f by American Eclipse, dam Maria Slamerkin. 1825.

**Eclipse**, Harris's b h by imported Fearnought, dam an imported mare by Shakspeare, &c. Died, 1790. Raised by John Baylor.

**Maryland**, dk ch h by American Eclipse, dam Lady of the Lake, g dam Maid of the Oaks. Baltimore, 1829. Samuel Briscoe.

**Eclipse**, by imported Eagle, dam Laurretta by imported Bedford, &c. Kentucky, 1825. Lewis Sheely.

**Herod**, by imported Driver, dam imported Miss Bennington.—Washington city, 1808. William Thornton.

**Election**, c c by Spectator, dam Fairy by Bedford. 1811. John Hoomes.

**Eliza**, ch m by Bagdad, dam Mellwood by Topgallant. Tennessee. L. J. Polk.

b f by Justice, dam Nancy Dawson. 1803. James Ferguson.

**Elizabeth**, by Sir Archy, dam by Robin Redbreast. Gen. Wynne.

**Elvira**, ch f by Bedford, dam Virginia Sorrell. (Sold to H. King.) J. Tayloe.

**Endless**, ch f by Gracchus, out of sister to Everlasting. 1819.—J. Randolph.

**Enterprise**, b h by Diomede, dam Forlorn Hope. Henry Macklin.

**Engineer**, ch by imported Eagle, dam by imported Archduke out of imported Castianira, &c. — Broadnax.

**Englishman**, imported by Mr. Walter Bell of Virginia, his dam by Eagle, also imported—Pot8os—Pegasus, Small Bones by Justice, &c. Foaled, 1812.

**Equa**, ch m by imported Chance, dam by Republican President, g dam by imported Figure—Dove, &c. 1815. Isaac Duckett.

**Escape**, (or Horns,) imported ch h fifteen and a-half hands high, was got by Precipitate, his dam by Woodpecker. Foaled, 1798. John Hoomes.

N. B.—Escape was called Horns in England, under which name he raced.

**Mare**, ch bred by Dr. Thornton in 1821 by Miner's Escape, dam Young Adeline by Topgallant. — Irvine.

**Ethiopia**, bl m by Tayloe's Bedford (by Bedford) dam by Pot8os, who was by Old Medley out of a Conductor mare, g dam Celer,

**Eudora**, b m by imported Dragon, dam by imported Clifden, g dam by Flag of Truce—Goode's Brimmer. H. Baldwin, Jun.

**Eugenius**, imported ch c by Chrysolite, dam Mixbury by Regulus—Little Bowes by a brother to Mixbury—Hutton's Barb, &c.—Foaled, 1770.

**Exile**, ch c by Cœur de Lion, dam Syren Silver, g dam Caroline by Eclipse, &c. Davidson, Tennessee. 1806.

**Expedition**, or Ballinamuc, imported, fifteen hands three and a-half inches high, was got by Pegasus, his dam Active by Woodpecker, gr dam Laura by Whistlejacket. Foaled, 1705. J. Humphreys.

**Express**, imported, was got by Postmaster out of a Cypron mare, g dam by Matchem. Foaled, 1785.

**Fair Play**, b c by Play or Pay, dam Bellaria. 1802, J. Hoomes.

- Fair Forester, b m by imported Chance, Celia by Symmes' Old Wildair—Lady Bolingbroke, &c. John Baker.
- Fairfax, (afterwards called Rattler,) by Rattler, dam Laura by Arabarb, imported by Col. Lear, an Arabian horse.
- Fair Star, b f by Torpedo, dam Betsy Wilkes. Foaled, 1831. G. A. Blaney, U. S. A.
- Fanny, ch f by Cœur de Lion, dam Fanny Foster by Wildair.—Tennessee, 1808.
- Fanny Foster, ch by Old Wildair, dam by Old Partner—Old Fearnought—Old Jolly Roger, &c. North Carolina, 1795. John Foster.
- Murray, g f own sister to Miss Peyton. 1814. J. Randolph.
- Fancy, br m by Wilke's Wonder, dam by Mark Anthony, Fearnought, &c. Tennessee, 1809. J. Sumner.
- Farmer John, b c by Sterling, dam imported Janette. Richard Hoones.
- Favourite, imported b m by Volunteer, dam by Matchem, Dainty Davie—Bayton, &c., bred by Mr. Fenwick. Foaled, 1790.—imported, 1796. John Hoomes.
- Fayette, by Fitzhugh's Regulus, dam by Othello, imported Juniper, Morton's Traveller, &c. Charles City county, Virginia, 1788. Prestly Thornton.
- Fearnought, imported br bay, fifteen hands three inches high, got by Regulus, (who was by the Godolphin Arabian,) dam Silver Tail, by Heneague's Whitenose, her dam by Ratler, &c. Died, 1776, aged twenty-one years. J. Baylor.
- Feather, ch f by Rattler, dam Marianna. Frederick county, Virginia, 1827. B. F. Whiting.
- Federalist, by Lath, dam by Old Fearnought out of Col. Tasker's Selima, raised by J. Tayloe. J. Pryor.
- Fenella, by Silver Heels, dam Black Merino, by Vintzun—Comet—Don Carlos—Old Figure, &c. Easton, Maryland. G. S. Winder.
- Fidelity, c f by Sir Charles, dam by Sir Alfred—Florizelle—Diomedé, &c. Pennsylvania. Edward Parker.
- Figure, imported b h by Grey Figure—Old Figure by an Arabian, his dam the dam of Bowle's Cyrus, and got by Young Standout, his gr dam. Old Jason, Young Figure's dam was Marianna dam of Ralph Gore's gr mare. 1767. Dr. Hamilton.
- Firefly, ch f by Reigo, dam Shepherdess by Phenomenon. Richard Adams.
- Firetail, imported b by Phenomenon out of Columbine by Espusike's, &c. 1801. Imported by Cain & Ray.
- Firebrand, imported ch c by Buzzard out of Fanny, own sister to King Fergus the sire of Hamiltonian.
- First Consul, by Flag of Truce, dam by imported Slender, g dam imported Dign by famous Eclipse. Philadelphia, 1804-5. J. P. Bond.
- Fitzpartner, by Old Partner, dam Brandon by imported Aristotle.—Albemarle, Virginia, 1800. David Clarkson.

Flagellator, ch h by Sea Gull, dam Honesty by imported Expedition, g dam by imported Messenger, &c. John Frost.

Florizelle, imported, (Helen's,) dappled bay, sixteen hands high by the noted Florizelle, out of a brown mare by Alfred, his g dam Fairy Queen by Young Cade, g g dam Black Eyes by Crab out of Warlock, Galloway by Snake, &c. Imported, 1794, by Helen for Ringgold & Co.

Florizella, br f by imported Florizelle, dam Betsy Bell. Foaled, 1802. Thomas M. Forman.

(or Grey Tail,) by Ball's Florizelle, dam (Dr. Cutler's race mare,) by Wildair, g dam by Apollo—Eclipse—Mark Anthony—Imported Partner, &c.

Flounce, g f by Buzzard, dam Portia. Delaware, 1828. T. Massey.

Florida, b f by Contention, dam by Francisco—Jack Andrews—Dare Devil—Clockfast, &c.

by Old Rattler, dam Flora by Ball's Florizelle. 1827. J. Lewis.

Flying Dutchman, b h by John Richards, dam by Eclipse, g dam by Tippoo Saib, imported Royalist, &c.

Flying Childers, ch h by Sir Archy, dam (the dam of Sumpter) by Robin Redbreast. — Wynne.

Forester, ch h by Sir Alfred out of a Hornet mare. Sold Mr. Powder, Frederick, Maryland. Richard Craddock.

Imported by Magog, dam by Forester. (Stood in Kentucky, 1803.)

Foskari, b c by Kosciusko, dam by Whip, gr dam by Columbus, &c. Kentucky. Ed. M. Blackburn.

Francisco, by imported Hambleton, dam Nightingale by Chanticleer, Jolly Roger, &c. John Minge.

Fylde, imported br h sixteen and a-half hands high, by Antonio out of Fadlidinida, she by Sir Peter Teazle, her dam Fanny out of Ambrosia by Woodpecker, he by Herod out of Miss Ramsden, she by Old Cade, a son of Godolphin Arabian, &c. Imported, 1832. John Avery.

Gallant, b h by Fearnought, his dam Stately by Sober John out of an imported mare. Robert Taylor.

Gallatin, (Expectation,) by Bedford, dam Mambrina, out of a sister of Nailor's Sally, and sold to Col. Alston for four thousand dollars. 1798. J. Tayloe.

Gamester, b c by Spread Eagle, dam Sappho by Buckskin. 1803. Richard A. Rapley.

Gascoigne, by Roanoake, dam Lady G. 1824. J. Randolph.

Gayoso, b c by Rinaldo, dam Orange. 1829. Thomas Massey.

Genesis, b c by Sir Archy, dam Henrietta by Sir Hal. Baltimore, 1827. Ph. Wallis.

Gentle Kitty, by Young Post Boy, dam Gen. Ridgby's Dairy Maid by Bedford.

Georgiana, by Sir Archy, dam Gattellier's mare. 1826. William Wynne.

ch m by Napoleon, dam Old Poll by Druid. E. B. Hicks.

Gestion, by Spread Eagle, dam Calypso. 1802. J. Tayloe.

- Giannini, bl b m by Burwell's Post Boy, imported horse Chariot out of the Cumming's mare, &c. Granville, N. Carolina, 1809.
- Giles Scroggins, by Sir Archy, dam Lady Bedford. N. Carolina, 1828. W. B. Moses.
- Glider, (2d,) b c by Glider, dam Temptation. 1802. T. M. Forman.
- Godolphin, by imported Diomede, dam Sally Shark by Shark, g dam Betsy Pringle. New Market, Virginia. John Baylor.
- Gohanna, br b h by Sir Archy, dam Merino Ewe, by Jack Andrews, &c. 1829. Half-Sink, near Richmond. J. M. Botts.
- Goliath, ch h by American Eclipse, dam Lady of the Lake, &c.—1827. W. Livingston.
- Golden Rod, by Mousetrap, dam Nancy Bell, bred by Gen. Jones.
- George's Juniper. (See Juniper George's,) imported.
- Grace, b f by Roanoake, dam Wildfire. 1822. J. Randolph.
- Gracchus, ch h by Diomede, dam Cornelia by Chanticleer, &c. 1806. John Randolph.
- Mare by Gracchus, imported horse Dion, imported Highflyer—Apollo, &c. Halifax, Virginia, 1818. John Sims.
- Grace, b m by Ravenswood, dam Old Everlasting by Sans Culotte. 1822. John Randolph.
- Grand Duchess, ch m by Gracchus, dam imported Duchess. J. Randolph.
- Greensville, g f by Bedford, dam Arminda by Medley. Sold J. Jones, 1803. J. Hoomes.
- Grecian Princess, b m by Virginian, her dam Calypso by Bellair, g dam Irby's Dare Devil mare, &c. 1824. G. W. Jeffries.
- Grenadier, b h by Wilkes, (who was by Old Figure,) dam by Selim, Britannia, &c. Petersburg, 1782. Thomas Eaton.
- Grey Mare, by Slouch, by imported Medley out of a full bred mare. N. B.—The dam of the gr m was sold by W. A. Lee to Doctor Irvine.
- Grey Archy, by Old Sir Archy, dam by Grey Medley, (son of imported Medley,) g dam by imported Messenger, &c. Tennessee, 1810. B. Philips.
- Grey Doll, by Spot, (before he was castrated,) dam by Sterling, (son of Volunteer,) Duetta by Silver Tail. John Randolph.
- Alfred, by Lindsay's Arabian, dam by imported Tom Jones.
- Greyhound, gr by imported Spread Eagle, dam Pandora by imported Medley, &c. 1806. H. T. Thornton.
- Gulnare, gr f by Duroc, dam Sportmistress. Queen's county, N. Y. 1824. Thomas Pearsall.
- Hackabout, imported, got by Eclipse, dam by Cyphon and sister to Tandem, g dam sister to Apollo by Regulus—Snip, &c. Foaled, 1794. Imported, 1798. John Hoomes.
- Hail Storm, b h by imported Pantaloon, dam Wingyfeet by Jolly Roger, g dam Melpomone by Burwell's Traveller, &c.—Charles city, 1802. Fr. H. Dancy.
- Half Pone, by Rattler, dam Maid of Patuxent by Magie, g dam Kitty Fox, by a son of imported Venetian. H. G. S. Key.

- Hamiltonian**, or **Hamlintonian**, ch h by Diomede, dam by Shark, g dam by Spot by Apollo. 1801. J. Tayloe.
- Hamlet**, b c by Maryland Eclipse, dam Forest Maid. Laurenceville, Virginia, 1830. R. K. Meade.
- Hannibal**, by Sir William, dam Sally Currie. 1828. J. W. Jeffries.
- Haphazard**, by Collector, dam by Fearnought—Spadilla, &c. 1805. J. Tayloe.
- Harriet**, b f by Bedford, dam Proserpine. 1804. J. Hoomes.
- Hautboy**, gr c by Gallatin, dam Sappho by Tartar. 1815.
- Haymaker**, dk ch s h by imported Clifden, dam Harlot by Hall's Eclipse, &c. Albany, 1829. C. M. Bennet.  
N. B.—This horse was bred by Col. Lyles of Maryland.
- Hazard**, ch c by Timoleon, dam by imported Royalist, g dam by Diomede, &c. Tennessee, 1829. John Swinney.
- Hedgford**, imported br by Filho da Puta, dam Miss Cragie by Orville, g dam by Lurcher—Phenomenon, &c., Filho da Puta by Haphazard, Waxey, Woodpecker, Squirrel, &c. Foaled, 1826.—Imported, 1832. William Jackson.
- Henrietta**, br m by Sir Hal, dam Lady Burton. 1822. J. W. Eppes.  
b f by Henry, dam Agnes. Baltimore, 1827. Philip Wallis.
- Hephestion**, red s h by Buzzard, dam Castianira. (Sold for fourteen hundred dollars.) 1809. J. Tayloe.
- Highflyer**, imported br by Tattersall's Highflyer, his dam by Cyphon out of Young Cade's sister—Old Cade, Partner, Makeless—Brimmer, &c. Foaled, 1784. (South River.) J. Craggs.  
by imported Sir Harry, dam imported Pamona. Hanover, Virginia, 1815. Daniel Wade, Jun.
- Highflyer Mare**, by imported Highflyer—Apollo—imported Jolly Roger, &c. 1790. Halifax, Virginia. John Sims.
- Highlander**, imported gr by Bordeaux, his dam (Teetotum) by Matchem, g dam Lady Bolingbroke by Squirrel, g g dam Cypron, the dam of King Herod, &c., bred by Mr. Douglass in England.—Foaled, 1783.
- Hippona**, b m by Virginian, dam by Rockingham, (by Florizelle,) g dam by Magog by Chanticleer. South Carolina. P. M. Butler.  
b f by Roanoake, dam Grand Duchess. 1822. J. Randolph.
- Hippona**, imported b f by Sir Peter, dam by Woodpecker, g dam by Sweetbrier out of Buzzard, dam by Dux, &c. Foaled, 1802. Gen. M'Pherson.
- Honest John**, imported br b by Sir Peter Teazole, dam by Magnet—Le Sang, Rib, Mother Western by (Smith's) Son of Snake, &c., imported 1794. Milton, N. Jersey, 1806.
- Honest John**, by Tuckahoe, dam Chehoangti by imported Arab.—Bordentown, N. Jersey, 1826. James Davidson.
- Honesty**, by imported Expedition, dam by imported Messenger, g dam by imported Bay Richmond, &c. J. H. Vanmeter.
- Honey Comb**, by imported Jack Andrews, dam Pill Box by Pantaloon. Dr. A. T. Dixon.
- Hope**, imported by Volunteer, imported by Dr. Tate of Philadelphia.

Hugo, ch c by Sir Charles, dam by imported Chance, g dam Celis by Symme's Wildair—Lady Bolingbroke, &c. Richard Adams. Hyena, br m by Young Wonder, (full brother of Nell Saunders,) out of Rosy Clack, &c. 1820.

Idiora, b m by imported Citizen, dam by imported Sea Gull, gr dam by Huntsman—Old Janus, &c. Foaled, 1810. Charles Shields. Inaugural, b c by Arab, dam Jenny by Archduke. 1829. J. C. Goode.

Independence, by imported Fearnought, dam Dolly Fine, by Old Silver Eye, &c. Col. Hickman.

Iris, ch f by Marplot, dam Nancy Dawson, &c. 1795.  
gr f by imported Sterling, dam by imported Cœur de Lion, g dam Mead's Oracle. Loudon, Virginia, 1830. J. Lewis.

ch f by Sir William, dam Shepherdess. 1828. Richard Adams. Isabella, imported dk br f by Trumpeter, dam Demirip, sister to Noble, &c. 1802. Gen. John M'Pherson.

b f by Roanoake, dam Mexican. 1825. J. Randolph.

b f by Arab, dam Lady Bedford. 1827. J. W. Jeffries.

Ivanhoe, b c by Virginian, dam Jenny by Archduke. 1824. J. C. Goode.

Jack Andrews, imported b h fifteen and a-half hands high, by Joe Andrews, (son of Eclipse,) his dam by Highflyer—Cardinal Puff, Tattler, Snip, Godolphin Arabian, &c. Foaled, 1794.—Charles City county, Virginia. William Lightfoot.

Jack, the Bachelor, imported by Blaze, dam by Gallant—Smiling Tom, &c. Foaled, 1753.

Jack Frost, b c by Ranger, dam Betsy Bell. Rose Hill, 1799.—Thomas M. Forman.

Jack of Diamonds, imported dk b h got by Cullen's Arabian—Darby Arabian, Byerly, Turk, &c. Virginia, 1763. Imported by Col. Spottswood. Solomon Dunn.

James Fitzjames, b c by Tariff, dam Norna, g dam Lady Talman, (the dam Kate Kearny and Sussex.) W. D. Taylor.

Jane Shore, b m by Sir Archy, dam Fair Rosamond. 1827. Henry Macklin.

Jane Grey, gr f by Old Slouch, dam Nancy Dawson.

Lowndes, by imported Driver, dam Modesty, g d Madge by Hall's Union.

Janus, imported bl h fifteen hands one inch high, by Old Sterling—Old Crab, Monkey, Basto, &c. Foaled, 1754. William Hynes.

Imported ch by Janus, dam by Fox—Bald Galloway, &c. Died 1779-80, aged thirty-four. Gloucester county, Virginia. Mordecai Booth.

Jeff, br c by Stockholder, dam Maria Hill by Oscar. Nimrod Porter.

Jefferson, br h by Virginian, dam Old Favorite by Bellair, &c. 1825. J. J. Harrison.

Jenny, by Archduke, dam by imported Sterling, g dam by imported Obscurity out of Miss Slamerkin.



- Jenny Cameron, by Lloyd's Traveller, dam Kitty Fisher. 1785.—  
William Scott.
- Deans, ch m by Gracchus, dam Cornelia. 1815. J. Randolph.  
Wildflower, ch m by Bernadotte, dam Kate Cole.
- Cockracy, ch m by Potomac, dam by imported Saltram—imported  
Wildair, Driver, Fearnought, &c. 1814. Kentucky. E. War-  
field.
- Jerry, dap gr by Pacolet, dam by Topgallant, g dam by Grey Med-  
ley, &c. Col. Elliott.
- Jessica, b m by Shylock, dam by imported Young Sir Peter Teazle,  
g dam Castianira, (dam of Sir Archy.) Richard Adams.
- Jezebel, ch f by Bedford, dam Miss Chance, &c. Messrs. Tayloes.
- Jessamine, br f by Dockon, dam Virginia, (Coquette.) 1824. J.  
Ferguson.
- Jet, bl f by Bluster, dam Statira. 1820. J. Randolph.
- Jewess, b f by Roanoake, dam Jessica.
- Jim Carr, br f by Forester, dam Forest Maid. 1831. Richard I.  
Meade.
- Joan, b f by Roanoake, dam Grey Doll. J. Randolph.
- John Dismal, ch by Sober John, dam Jerry Dismal.  
Richards, b k by Sir Archy, dam by Rattler, (by Shark,) g dam by  
imported Medley—Wildair, Nonpareil, &c.
- Hancock, b c by Roanoake, dam Roanoaka by Florizelle. 1823.  
John Randolph.
- Stanly, b h by Sir Hal, dam Ariadne by imported Citizen, &c.—  
Foaled, 1818. Pennsylvania. Edward Parker.
- W, b c by Roanoake, dam Young Frenzy. 1825. J. Randolph.
- Jolly Air, by Old Wildair, dam by imported Flimnap—Brimmer—  
imported Valiant, &c. J. J. Harrison.
- Juliet, ch by Mutnomer, (he by Tom Tough,) dam by imported Old  
Bedford, g dam by Bellair out of King's Kitty Fisher. W. D.  
Taylor.
- Juniper, (George's) imported b h fifteen hands one inch high, by  
Babraham, (who was by Godolphin Arabian,) dam Aurora by  
Stamford Turk, &c. Charles City county, Va., 1762. Robert  
Harrison.
- Junius, imported, bl h got by old Sterling, old Crab, Monkey, Cur-  
win's Bay Barb, Spot, &c., foaled in 1754. Va. 1759.
- Junius, by (Craig's) Yorick, dam by Othello, g dam by Monkey,  
out of a Spanish mare imported by Mr. N. Harrison. Prince  
Edward county, Va. 1777. Edw. Watts.
- Juno, gr f by Gray Archy, dam Fancy by Wilkes' Wonder, &c.  
Tennessee, 1823. D. W. Sumner.
- Jupiter, b h by the noted Janus, bred by Capt. James Bell of Sussex,  
remarkable for swiftness, &c. 1775. J. Mason.
- Justice, imported ch h fifteen hands high, got by Regulus out of  
the Bolton Sweepstakes, &c. Prince George county, 1761.
- Justice, imported b h got by Blank, dam Aura by Stamford Turk,  
g dam by a brother to Conqueror, Childers, &c. Va. 1780.  
Geo. Gould.

- Kate Cole, c m by Badger's Hickory, dam by Bucephalus, Celer, Fearnought, &c. Pennsylvania, 1811. C. Irvine.
- Kearney, b f by Sir Archy, dam Lady Talman by Sir Harry, &c. 1826. Col. Wynne.
- Kill Devil, late Ajax, b h by Dare Devil, dam Atalanta by Old Medley. J. Tayloe.
- King Herod, (Wormley's,) b h by Baylor's Fearnought, dam by imported Othello, out of imported Kitty Fisher. Jersey, 1777. Herbert Haynes.
- Hiram, imported, was by Clay Hall, dam the Prince of Wales, Rockingham, g dam Yorico by Eclipse, g g dam Fidget by Spectator, &c. Prince George, Maryland, 1817.
- King William, imported red sor h got by Florizelle, dam Milliner by Matchem, Cassandria by Blank, &c. Foaled, 1781. Chester county, Pa. Dr. Norriss.
- Kitty Fisher, imported gr m by Cade, dam by the Cullen Arabian out of the famous mare Bald Charlotte. 1759. Carter Braxton.
- Kitty Fisher, b by Tiller's Bedford, (by Old Bedford,) dam by Old Bedford, Boxer, Claudius, Mexican, &c. W. D. Taylor.
- Kitty Clover, b m by Tom Tough, dam by Archduke, Sterling, King Herod, &c. Enoch Mason.
- Clover, bl m by American Eclipse, dam by imported Light Infantery, (she is half sister to Sir Lovell.) New York, 1825. M. Beach.
- Medley, gr m by imported Medley, dam Hoskin's Kitty Fisher, &c.
- Lady Bug, b by Young Forizelle, dam by Jack Andrews—Driver, Highflyer, &c. Wm. D. Taylor.
- Burton, by Sir Archy, dam Sultana: she was out of the mare got by the horse sent as a present by the Bey of Tunis to Thomas Jefferson. 1813. J. W. Eppes.
- Bedford, by imported Bedford, dam by imported Dare Devil—Mercury, Apollo, Jolly Roger. (See also Bedford mare) foaled, 1810. J. W. Jeffries.
- Field, b m by Sir Archy, dam by Diomedé. 1830. J. J. Harrison.
- G. imported (Magician's dam,) bred by Sir Thos. Gascoigne, got by Hambletonian, Golden Locks by Delphine, Violet by Shark, Quick's Charlotte by Blank, Crab, &c. Roanoake, 1804.—John Randolph.
- Grey, imported by Gohanna, dam by Grey Skin—Woodpecker, Herod, Young Hag by Skim, &c. Foaled, 1803.
- Granville, b m by Roanoake, dam by imported Bryan O'Lynn—True Blue, Celer, Old Partner, &c. Oxford, N. C. 1827.—Wm. M. Sneed.
- Jane, by Potomac, dam Anvelina. N. Carolina, 1811. J. B. Richardson.
- Jane, b f by Shylock, dam Dutchess by Bedford. 1826. Mark Alexander.

- Lady La Grange, ch f by Sir Archy, dam by imported Dragon, g dam by imported Medley—Mark Anthony, &c. Laurenceville, Va. R. K. Meade.
- of the Lake, b m by Kosciusko, dam by Bedford—g dam Mellissant by Arion—Obscurity, Valliant, &c. S. Carolina. Foaled, 1814. B. F. Taylor.
- Mar, gr m by a thorough-bred son of Badger's Hickory, dam by Mark Anthony—imported Dove—imported Lath, &c. 1818. C. Irvine.
- Relief, ch f by Am. Eclipse, dam Maria Slamerkin. New Jersey, 1827. Dr. E. A. Darcy.
- Lalla Rookh, by Handel, dam Phillis by Old Topgallant. George Chicester.
- Lamballe, ch f by Kosciusko, dam Psyche by Sir Peter Teazle, &c. South Carolina. Richard Singleton.
- Lamplighter, b h by Hart's imported Medley, dam by Lonsdale out of Kitty Fisher, &c. Hanover Court House, 1801. Paul Thilman.
- Langford, imported br c got by Starch out of Peri, by Wanderer, her dam Thalistris, by Alexander, out of Rival by Sir Peter—Horne by Drone—Manilla by Goldfinder. Foaled, 1833. F. P. Corbin.
- Lass of the Mill, gr f by Spread Eagle, dam Araminda. J. Hoomes.
- Last Chance, ch f by Sir Archy, dam Lady Bunbury. 1825. J. Randolph.
- Lavender Girl, b f by Henry, dam Ophelia by Little Medley, &c.—1832.
- Lee Boo, br b by Cragg's Highflyer, dam Captain James Betts' mare; she was of pure blood. Maryland, 1803. Osborn Spriggs.
- Leonidas, b by Sir Archy, dam Vixen by imported Jack Andrews raised by J. G. Green, and sold to J. M. Botts.
- Leocadia, br ch m by Virginius, dam Lady Jane by Potomac, g dam imported Anvelina.
- Leopold, ch h by Ogle's Oscar, dam Katydid by imported Expedition. — Frost.
- Leather Stockings, ch h by Rob Roy, dam Cora by Brown's Godolphin. Georgetown, D. C. 1827. — Peter.
- Leviathan, imported (first called Mazercon,) ch got by Muley out of a Windle mare, g dam by Anvil out of Virago by Snap—Muley by Orville, and he by Benningbrough, and he by King Fergus out of a Herod mare. Foaled, 1823. Imported to Alabama.
- Lexington, b h by Symmes' Wildair, dam by Lonsdale, g dam by Jolly Roger, &c. 1800. Andrew Woodley.
- Liberty, by Sharp's Othello, dam by George's Juniper. Maryland. Charles Ridgley.
- Light Infantry, imported by Eclipse, dam by Feather, g dam by Childers, g g dam Widdrington mare, she by Old Partner.
- Linnet, by Trafalgar, dam Humming Bird by Tom Tough. Messrs. Corbins.

- Little David, by imported Childers, dam Jenny Cameron. J. Tayloe.
- Billy, by Florizelle, dam by Celer. W. R. Johnson.
- Lively, b m by American Eclipse, dam Haynes' Maria by imported Diomede, g dam Lively by Lively—Wild Goose by Selim, &c. New Jersey. Henry De Groot.
- Lochinvar, b c by Oscar, dam Virago by Shark. 1810. J. Tayloe.
- Lonsdale, by Jolly Roger, dam a bay mare imported, she by Monkey—Lonsdale's Bay Arabian, &c. John Byrd.  
gr h by Page's Young Medley, dam Marianna by Telemachus, &c. 1824. F. B. Whiting.
- Logan, a Mahogany bay, by Sir Archy, out of the dam of Lafayette by Virginia.
- Lottery, ch f by Bedford, dam Anvelina. 1803.
- Louisiana, b f by Old Rattler, dam Desdemona. 1829. E. G. W. Butler.
- Lovely Lass, b f by Timoleon, dam Lady Alfred by Old Sir Archy. 1832.
- Love Lace, by Flying Childers out of an imported mare by Bosphorus.
- Lubly Rosa, b f by Sir Archy, dam Equa. 1830. P. Wallis.
- Lucy Lockett, b f by Roanoake, dam young Minikin. 1823. J. Randolph.
- Lucy Gwynn, b m by Sir Charles, dam by Sir Harry—Bedford—Dare Devil—Wildair, &c. Messrs. Tayloes.  
Grey, b f by Washington, dam Betsey Hunter. Norfolk, 1820. E. Townes.
- Ludee, gr f by Old Slouch, dam Nancy Dawson. 1798.
- Luzborough, imported b h by Williamson's Luzborough, (a son of Sir Peter Teazle,) whose dam was by Dungannon, a son of Eclipse. Luzborough's dam was out of a Dick Andrews mare, sent to France and she by Whiskey out of Eleanor, &c. g g dam by Diomede, &c. Greenville. (Imp'd 1832.) J. Avery.
- Mab, b f by Archduke, dam Fairy by Bedford. 1809. J. Hoomes.
- Mabel, dk b f by Sir James, dam Meg Merrilies. Lewis Berkley.
- Macbeth, bl b by Sir Archy, dam by Shylock, g dam Lady Burton. Foaled, 1828. D. H. Allen.
- Macedonian, b by Roanoake, dam Statira by Alexander the Great.—1824. J. Randolph.
- Macaw, b f by Roanoake, dam Paroquet, &c. J. Randolph.
- Madame Lavalette, b m by Peace Maker, dam by Bedford, g dam by Medley, &c. 1815. J. J. Ambler.
- Magic, imported ch h (sold for \$4000,) by Volunteer, dam Marcella by Mambrino—Media by Sweetbrier—Angelica by Snap, Regulus, &c. Prince George county, Maryland.
- Magog, by Chanticleer, dam Camilla by Wildair. J. J. Harrison.
- Magnetic Needle, imported b by Magnet, he by Herod, his dam sister to the dam of Eusophroyne, she by Sweetbrier, his g dam Rarity by Matchem, &c. Foaled, 1787. Trenton, N. J., 1804.

- Maggy Lauder, by Dr. Hamilton's imported Figure, dam by imported Othello, g dam by imported Spark.
- Maid of the Forest, gr f by Winter Arabian, dam Young Buzzard mare by Hamiltonian, &c.  
of Warsaw, by Gohanna, dam Chesnut mare by Trafalgar, g dam Rosalba. King William county, Virginia, 1831. Lewis Hill.
- Mambrino, dk c by American Eclipse, dam Grand Duchess. Delaware county, Pa. 1830. Humphrey Hill.
- Marcella, b f by Roanoake, dam imported Philadelphia. 1823. J. Randolph.
- Marcellus, (formerly Red Rover,) ch h by Sir Charles, dam Shepherdess by Phenomenon, &c. Rich. Adams.
- Marcia, gr m by Archduke, dam Celerrima by Celer. 1810. J. Tayloe.
- Maria Antoinette, g f by Andrew, (by Sir Andrew,) dam by Wiley's Marok, g dam by Old Gallatin—imported Medley, &c. Georgia. Foaled, 1831. C. A. Redd.
- Archy, b f by Old Sir Archy, dam by imported Diomede—Old Gimcrack, (alias Randolph's Roan.) Buckingham, Virginia, 1816. Isaac Curd.
- Maria Louisa, by Pacolet, dam Letitia by Truxton—Gallatin, &c. Tennessee. A. Shelby.
- Maggy Slamerkin, (Old,) by imported Wildair, dam Delancey's Cub Mare. (Wildair and Cub mare were imported together.) Col. Delancey.
- Maria, b m by Sir Archy, dam Fornlorn Hope. Sold E. Parker, Pa. H. Macklin.  
b f by Monsieur Tonson, dam Eliza by Timoleon. North Carolina, 1829. J. W. Jeffries.
- Mary Grey, g m by Amie's Sir Archy, dam by Old Bellair—Shark, Aristotle, &c. Alabama. Levi Gist.  
King, g m by Muckle John, dam by Quicksilver, and he by imported Medley. Georgia, 1825. Charles A. Redd.
- Mary, b f by Cœur de Lion, dam Fanny Foster, &c. 1809.  
ch f by Sir Archy, dam by Francisco. Wm. Minge.
- Eldridge, ir gr by Napoleon 2d, dam by Pacolet, g dam by imported Sir Harry—imported Dare Devil, Bett and Macklin's Fearnought, &c. Pulaski, Tennessee. Geo. A. Glover.
- Robinson, b m by Sir Archy out of the imported Pot8os mare, &c. Lancaster, Pennsylvania. E. Parker.
- Marigold, ch m by Tom Tough, dam Hoskins' Sir Peter, g dam by imported Bedford—imported Dare Devil, Symmes' Wildair, &c.
- Marion, by Old Sir Archy, dam by Citizen—Alderman, Rœbuck, out of a Herod mare. Halifax, North Carolina, 1830. B. S. Long.
- Mark Time, b by Ar. Bagdad, dam by imported Spread Eagle—Quicksilver, (by Hart's Medley,) &c.
- Mark Anthony, imported, by Spectator, dam Rachel by Bland—Regulus, Soreheels, Makeless, Dr. Arcy's royal mare, &c. Foaled, 1767. Stood in Virginia.

- Mark Anthony, (Randolph's) bro h by Sir Archy, dam Roanoake. 1826. J. Randolph.
- Marlborough, by Thornton's Rattler, dam Young Red Eye, g dam by imported Bedford—imported Gasteria, &c.
- Marmaluke, b f by imported Venetian, dam Magg Lauder. Rose Hill, Maryland. Thos. A. Foreman.
- Marshal Ney, dap gr by Pacolet, dam Virginia by Dare Devil.
- Marmion, by Virginian, dam by Sir Archy—Cotton's Phenomenon, (he by imported Restless)—Whirligig by imported Whirligig, &c. 1825.
- Marshal Duroc, by Old Duroc, dam Maid of the Oaks. 1812. Bela Badger.
- Ney, by American Eclipse, dam Diana by First Consul. Elkton, Maryland, 1828. Samuel Hollingsworth.
- Mars, r h by Mountaineer, dam Camilla by Peace Maker, &c. Al-bemarle, 1829. Walter Coles.
- Matilda, g m by imported Jonah, dam by Gray Diomedé, Whistle Jacket, &c. 1810. D. W. Sumner.
- Mary Dacre, bl f by imported Valentine, dam Wright's Selima.—1829.
- Medley, imported, gr h by Gimcrack, he by Cripple, &c.; dam of Medley was Arminda by Snap, &c. Foaled, 1776. Hanover Court House, Virginia, 1785. Malcomb Hart.
- gr c by Sir Hal, dam Old Reality. 1824. W. R. Johnson.
- (Thompson's,) by imported Medley, dam by imported Aristotle, g dam by Fearnought, &c. Stood in Scott county, Kentucky, 1803.
- Medora, ch f by Rattler, dam Sportmistress by Old Hickory, out of Miller's Damsel, &c. Butler Coles.
- Meg Dodds, br m by Sir Archy, dam Black Ghost by imported Oscar, &c. Nansimond, Virginia. J. G. Green.
- Mele Mele, by Virginian, dam Lady Burton. 1826.
- Melpomone, by Burwell's Traveller, dam Virginia by Old Mark Anthony, g dam Polly Byrd, &c.
- Merryfellow, b c by W. R. Johnson's Byron, dam the dam of Camilla, &c. King and Queen, Virginia, 1831. H. Campbell.
- Merry Gold, b f by imported Barefoot, dam Meg Dodds. New Jersey, 1831. W. Gibbons.
- Messenger, imported, gr h by Mambrino, dam by Turf, g dam by Regulus out of a sister of Figurant by Sterling, out of the Fox mare, the dam of Snap, &c. Foaled, 1780. C. W. Van Ranst.
- Duroc, dk ch by Duroc, dam Vincenta by imported Messenger—imported Slender—imported Lath, &c. New York, 1790. E. and A. Stephens.
- Midas, by American Eclipse, dam by Sir Robin, (he by imported Robin Redbreast,) g dam by Dare Devil, imported Shark, Apollo, &c. 1828. Wm. Towndes.
- Miller's Damsel, by imported Messenger—dam the English Pot8os mare by Eclipse.
- Maid, full sister to American Eclipse. 1820. C. W. Van Ranst.
- Mink, b f by Roanoake, dam Cut Leggs. 1829. J. Randolph.

- Mendoza, imported, b h got by Javelin—Paymaster, Pamona by King Herod, Snap, Regulus, &c. Foaled, 1808. Petersburg, Virginia. — Dunlop.
- Miss Fortune, by American Eclipse, dam the dam of Maryland Eclipse, &c. J. Sewall.
- Serab, b f by imported Serab, dam Agnus, by Sir Solomon, &c. 1830.
- Midway, ch m by Kosciusko, dam Ruth by Big Ben, Psyche, &c. B. F. Taylor.
- Money Maker, b f by Speculator, dam Milksop by Cœur de Lion. J. Hoomes.
- Pelham, b m by Virginian, dam Sugar by Constitution, g dam by imported Dragon, Atalanta, &c. James Bleik.
- Pone, ch f by Dare Devil, dam Milksop by Cœur de Lion, &c. 1806. J. Hoomes.
- Peyton, gr m by Gracchus, dam Telegraph by Old Wildair, &c. 1812.
- Ryland, g m by Gracchus, dam Duetta by Silvertail—Vanity by Celer, &c. 1813. J. Randolph.
- Tudor, b m by Hyperion, dam Logania by Medley, &c. 1808. J. Randolph.
- Modesty, by Hall's Union, dam Madge, (by Galloway's Selim,) g dam an imported mare by Spot, &c. Benjamin Lowndes.  
ch m by Ridgley's Tuckahoe, dam Dairy Maid.
- Moggy, b m by Defiance, dam by Old Messenger. 1820.
- Molly Fisher, b m by Janus, dam Gemima by Bedford, g dam imported Rachel by Drone. 1814. Gen. W. Hampton.
- Molton Mare, light b by Molton—Fleetwood, imported Bashaw, imported Jolly Roger, Starling, &c. out of a thorough-bred English mare.
- Monsieur Tonson, (or *Sir John*,) by Pacolet, (by Citizen,) dam by Topgallant, g dam by Gray Medley, imported Oscar, imported Fearnought, &c. Thos. Watson.
- Monkey, imported, by the Lonsdale Arabian—Curwen's Bay Barb, Byerly Turk. (This horse was 22 years old when imported, and stood in Virginia and North Carolina, and got some fine colts.)
- Morgiana, bl f by Sir Archy, dam by Sir Hal. J. S. Garrison.
- Morgan Rattler, b h by Rattler, dam Iris. 1823. J. Lewis.
- Mountain Leader, ch s h by Old Wildair, dam a Mousetrap mare. Chesterfield, 1803. Caleb Boush.
- Mountaineer, by Spread Eagle, dam Spot by Bedford, &c. William Dandridge.  
ch s h by Old Peacemaker, dam Jane by Knowsley. 1822. W. Coles.
- Moscow, c c by American Eclipse, dam Die Vernon by Old Florizelle, &c. Yonkers, N. Y. 1826. W. Lyles.
- Mousetrap, or *Jack Rap*, imported, ch h by Young Marske out of Gentle Kitty by Silvio, Dorimond—Portia by Regulus, Hutton's Spot, Fox, Cub, &c. Foaled, 1787. North Carolina, 1793.
- Murat, ch c by Old Madison, dam Maria Archy. 1826.

- Murdoch, by Sir Charles, dam gr m by Bedford, her dam by Old Wildair. Chesterfield, Virginia, 1830. Charles Graves.
- Myrtilla, br f by Marylander, dam Desdemona by Miner's Escape. Foaled, 1828. Dr. Crawford.
- Nameless, imported, b m by Felho da Puta, by Haphazard, out of Miss Barnet, her dam Rosetta by Young Woodpecker—Dun-gannon, Justice, &c. Foaled, 1825. Imported, 1829. N. Y. Chas. Green.
- Nancy, b f by Spread Eagle, dam ———  
b m by Ball's Florizelle, dam the Bedford mare Spot. 1814. Walter Coles.
- Air, by imported Bedford, dam Annette by Old Shark, g dam by Rockingham, Gallant, &c. Foaled, 1799. Died, 1822. James B. Richardson.
- Coleman, by Young Fearnought, dam Latonia by Old Partner, gr dam by imported Jolly Roger, &c. 1806. J. Verrell.
- Napoleon, br b by imported Diomede, dam by Eclipse, g dam by Mercury, &c. 1808. H. Cheshire.
- Narcissa, by imported Shark, dam Rosetta by Wilkins' Centinel—Diana by Claudius, &c. J. J. Harrison.
- Nelly Sparks, br m by Bertrand, dam by Whip, (by imported Whip,) Bompard, &c. Kentucky, 1828. Edward M. Blackburn.
- Nell Gwynn, ch f by Thornton's Rattler, dam Vixen by Trafalgar. Saunders, ch m by Wonder, dam by imported Dare Devil—im-ported Centinel, &c.
- Nettle, ch m by Wildair, dam Desdemona. Dr. E. A. Darcy.
- Nettletop, by imported Spread Eagle, dam by Shark—Old Janus, &c. out of a thorough-bred mare.  
ch m by Trafalgar, by imported Mufti, dam Nettletop by Spread Eagle, &c. L. Berkley.
- Nerissa, b f by Roanoake, dam Jessica by Shylock. 1825. John Randolph.
- Nicholas, imported, got by Saint Nicholas, dam Miss Rose. Foaled, 1833. R. D. Shepherd.
- Ney, b h by Mountaineer, dam Lady Eagle. 1827. Walter Coles.
- Netty, imported, ch m got by Velocipede, dam Miss Rose. Foaled, 1831. R. D. Shepherd.
- Nonplus, imported b h got by Catton, dam Miss Garforth by Walton, Hyacinthus, &c. Foaled, 1824. South Carolina. Richard Singleton.
- Nightingale, by Chanticleer, dam Winguryfeet, (by Jolly Roger,) g dam Melpomone by Burwell's Traveller.
- Nili, bl m by Black and All Black, dam by Careless—Augustus, Pilgrim, Fearnought, &c. Tennessee. H. Baldwin, jun.
- Nimrod, ch c by Baylor's Fearnought, out of a Partner mare—im-ported Janus—imported Jolly Roger. Williamsburg, Virginia, 1775. Richard Taliaferro.
- Noli Me Tangere, by Richmond, dam Noli Me Tangere by Topgal-lant. 1800. Dr. Thornton.



- Oakley, ch c by Crusader, dam Josephine by Bedford. South Carolina, 1829. J. J. Moore.
- Oceana, b f by Bagdad, dam Florida by Conqueror—Rosemary, (Southall's mare,) by Diomede—Celia by Wildair. 1827. J. Southall.
- Octavia, b f by Rockingham, dam Frederica by Escape. C. Tayloe.
- Ocean, ch c by Timoleon, dam Anna by Truxton. Tennessee, 1828.
- Orange, b m by Cooper's Messenger, dam by Slasher, (he by Messenger,) g dam bred by General Green, of Philadelphia, out of a Virginia bred mare, &c.
- Orelia, b h by Pacolet, dam by Truxton, g dam Dr. Butler's Rosella by imported Mendoza, &c.
- Orphan Boy, b h by Am. Eclipse, dam Maid of the Oaks, &c. Bathgate & Purdy.
- Orphan, b c by Cormorant, dam Darlington mare by Darlington.
- Onea, br f by Pacotaligo, dam Virginia (Coquette.) 1821.
- Opossum, g m by Shark, dam by Old Twig—g dam by imported Fearnought—Jolly Roger, &c. Mark Alexander.
- Opernico, b h by imported Medley, dam by Lindsay's Arabian, g dam by imported Oscar, &c. New Castle, Virginia, 1797. Nicholas Symme.
- Oscar, imported, a deep sorrel, by Young Snip, dam by Lord Morton's Arabian, g dam by Old Crab, g g-dam by the Bald Gallo-way, &c. Cumberland county, Virginia, 1777. Wm. Gay.
- (Ogle's,) b h by imported Gabriel, dam Vixen by Old Medley, g dam Penelope by Yorick, &c. Bellair, Maryland, 1800.
- Jun. by Ogle's Oscar, dam Edelin's Floretta by imported Spread Eagle, &c. Carlisle, Pa. 1822.
- Young, b h by Tuckahoe, dam by Ogle's Oscar, g dam by Medley, Cub, Tamerlane, &c. Maryland, 1824. Charles Ridgley.
- Ir gr by Roanoake, dam Lady Eagle. 1829. Walter Coles.
- Otho, dk b h by imported Shock, imported Morton's Traveller, imported Justice, imported Juniper, imported Othello, imported Childers, out of a thorough-bred mare purchased from the stud of King George II. Foaled, 1765. George Branham.
- Othello, or Black and All Black, imported, a beautiful black, got by Portmore's Crab, out of the Duke of Somerset's favorite mare, Miss Slamerkin, &c. Foaled, 1743. Imported, 1755-6. Gov. Sharpe, (Maryland.)
- Packingham, by Florizelle, dam by Magog, g dam by Flimnap—Mark Anthony, &c.
- Pacific, b h by Sir Archy, dam Eliza, (full sister of Gallatin,) by imported Bedford out of imported Mambrino, &c. Nashville, Tennessee. D. W. Sumner.
- Pacolet Mare, imported, by Pacolet, dam Whiteneck by Crab—Goddolphin Arabian—Conyer's Arabian, &c. Imported into Pennsylvania. Hiltzheimer.
- by Pacolet, dam by Dragon, g dam by Truxton—Bompard—Pillgarlick, &c. Tennessee, 1824. Reuben Cage.

- Pacolet, by Old Pacolet, dam by Albrack, (by Truxton.) St. Louis, Mobile. B. McMenemy.
- (Old,) by imported Citizen, dam by Tippoo Saib, (the dam of Palafox by Old Diomede, Wilkes' Wonder, &c.) Died, 1825, aged seventeen years. Sumner county, Tennessee. G. Elliott.
- Parrot, b f by Roanoake, dam Paroquet. 1811. J. Randolph.
- Paroquet, b f by imported Merryfield, dam Popinjay, Bourbon's dam. 1819. J. Randolph.
- Partner, imported, b h by the Duke of Hamilton's Figure, Old Figure, Standard, &c. Partner's dam was Britannia, full sister of Col. Hopper's Pacolet, g dam Queen Mab, &c. Hanover, Morris county. John Blanchard.
- (Moore's,) imported, by Croft's Partner, dam (sister to Starling,) by Bay Bolton, son of the Brownlow Turk by the Pulliam Arabian, &c. J. Randolph.
- Paragon, g h by Spread Eagle, dam by Bellair out of Andrew Meade's Oracle. 1808. Ralph Wormley.
- Paul, imported, ch fifteen hands high, by Saltram, dam Virago by Snap, Paul's dam Purity by Matchem, g dam the Old Squirt mare. Powhatan, Virginia, 1807. Thomas Harris, Jun.
- Peacock, (Young's,) by imported Citizen—imported Sterling—imported Mousetrap, &c.
- (Randolph's,) b c by Roanoake, dam Roanoaka. 1828.
- Peacemaker, dk b h by imported Diomede, dam Poll by Young Black and All Black, out of a Mercury mare, g dam Nanny by Black and All Black, g g dam by imported Oscar—Old Partner, &c. 1807. J. Tayloe.
- Peggy, (Young,) ch m by Gallatin, dam 'Frumpetta by Hephestion, g dam Peggy by Bedford. Kentucky. E. Warfield.
- ch m by imported Bedford, dam imported Peggy. 1803. Wade Hampton.
- Peggy Madee, gr f by Sir Hal, dam Fair Rosamond, &c. 1823.
- Pennsylvania Farmer, by Partner out of a full-bred mare. 1775. J. Tayloe.
- Mare, by Pennsylvania Farmer, dam by Pegasus, g dam by Bolton, &c. J. Hoomes.
- Pey Eye, b e by Bedford, dam Milksop, &c. 1804.
- Phenomenon, or *Big Ben*, by imported Wonder, dam by Dare Devil, &c. J. Mayo.
- b h by Roanoake, dam Young Frenzy. 1824. John Randolph.
- Phenomena, b f by Sir Archy, dam Lottery by Bedford, &c. 1827. R. Singleton.
- Phœbe, by Bright Phœbus, (full brother of Miller's Damsel,) dam by Republican President, (he by Cragg's Higflyer,) g dam by Lindsay's Arabian—imported Ranger, &c.
- Philadelphia, imported, b m by Washington, dam Miss Totteridge by Dungannon—Marcella by Mambrino—Media by Sweetbrier—Angelica by Snap, &c. 1808. J. Randolph.
- Phillis, by Fearnought, dam a celebrated mare of Col. Baylor's, got by imported Sober John, &c.

- Phillis, ch f full sister to Gohanna. 1821. John M. Botts.  
by Old Topgallant, dam by Grey Diomede, g dam also by Grey Diomede, out of a thorough-bred mare. 1811. Geo. Chicester.
- Picture, by imported Shark, dam by Sweet Larry, by Spadille—Janus, &c.
- Pocahontas, b f by Randolph's Janus, out of the dam of Powhatan, by Topgallant, dam Pocahontas by Vintzun. Gov. Wright.  
b m by Sir Archy, dam Young Lottery, (by Sir Archy,) out of Lottery—Bedford, out of imported Anvelina. 1819. R. Singleton.
- Porcupine, ch by imported Diomede, dam Diana by Claudius. 1804. Wm. E. Broadnax.
- Portia, b m by Clipper, (a son of Old Messenger,) her dam the dam of Moggy by Defiance.  
b f by Shylock, dam Jessica. 1825. J. Randolph.
- Post Boy, by Gabriel, dam by Hyder Ally, g dam by the Old Grey Arabian, g g dam by Ariel—Othello, &c. — Ridgley.
- Potomac, b h by imported Diomede, dam by Pegasus, &c. Mecklenburg, Virginia, 1804. Rich. Dennis.
- PotSos, by Old Medley, dam by Conductor, g dam by Celer, &c.  
Mare, imported, was got by Eclipse, dam by Gimcrack, &c.—Foaled, 1792. Wm. Constable.
- Powhatan, by Oscar, (he by Assiduous,) dam a Bashaw mare. Spotsylvania county, Virginia. John Holliday.
- Powwancy, by Sir Alfred, dam Virgo by imported Young Sir Peter Teazle, g dam Castianira.
- Precipitate, imported, a sorrel horse, fifteen and a-half hands high, bred by the Earl of Egremont, got by Mercury, dam by Herod, g dam by Matchem, out of Mr. Pratt's Old Squirt mare, &c. Foaled, 1787. Imported, 1804. Wm. Lightfoot.
- Prestley, by Chanticleer, dam Camilla by Wildair, g dam Minerva by Obscurity, &c.
- President, by Old Celer, dam by Mark Anthony out of Bonny Lass. dap gr by imported Clockfast, dam Haines' Old Poll by Fear-nought—Moore's Partner, &c. Dinwiddie county, Virginia, 1796. Drury Jones.
- Primrose, (Dr. Stockett's,) by Grey Medley, dam by Apollo, g dam by imported Granby—Hamilton's Figure, &c.
- Prince Frederick, imported, a bay fifteen and a-half hands high, was got by Fortunio by Flororet, dam by Lexicon, g dam by Sportsman, g g dam Golden Locks by Oronooko—Valiant, &c. Boston, 1798. Edw. Davis.
- Edward, ch by Muckle John out of a Whip mare, &c. Georgia, 1828. C. A. Rudd.
- Promise, imported, ch m by Buzzard out of a Precipitate mare, the dam of Wizard, her dam out of Lady Harriet by Mark Anthony, &c. Wm. Haxall.  
b m by (Tennessee,) Oscar, dam by Pacolet, second Diomede by imported Diomede—Wildair, &c. Tennessee, 1823. J. C. Guild.

- Psyche, imported, gr m by Sir Peter Teazle, dam Bab by Bordeaux, out of Speranza, own sister to Saltram by Eclipse—Snap, &c. Imported by Gen. McPherson. South Carolina. Foaled, 1802.
- Punch, imported, got by King Herod, dam by Old Marske—Cullen Arabian—Black Eyes by Regulus—Crab—Warlock—Galloway, &c. 1799. Wm. Powers.
- Punchinella, imported, by Punch, dam Craig's Highflyer by Highflyer of Tattersall's, g dam by Galloway's Selim, &c. Washington City, 1808. Wm. Thornton.
- Purity, gr m by Sir Archy, dam by Bedford, g dam (dam of Trifle) by Bellair—Shark—Wildair, &c. Foaled, 1827. Chas. Botts and T. Lawson.
- Pulaski, ch h by Virginian, dam Constitution (by Diomedea,) g dam the dam of Lady Lagrange by imported Dragon, Bet Bounce, &c. Thomas S. Goodrum.
- Rabbi, g c by Winter's Arabian, dam by one of the best sons of Hambletonian, g dam by Spread Eagle. Alabama. J. & A. Gist.
- Rachel Foster, gr m by Virginian, dam by Palafox—Betty Mufti by imported Mufti, &c.
- Raffle, ch m by Bellair, out of a full sister to Narcissa. 1798. S. Tyler.
- Randolph, gr c by Rinaldo, dam (Ridgley's) Ophelia by little Medley, &c.
- Ranger, imported, a Milk White horse got by Regulus, (son of Godolphin Arabian,) his dam by Mercury, Andrew, her dam by Steady, &c. (Unsuccessful in racing.) Dr. Hamilton.  
b c by Roanoake, dam Never Tire. John Randolph.
- Ranter, imported, b foaled, 1755, got by Dimple, (son of the Godolphin Arabian,) dam by Crab out of Bloody Buttocks, &c. Imported in 1762, and stood in Stafford county, Virginia, in 1763.
- Rasselas, by Sir Archy, dam by imported Play or Pay, g dam by Bellair, imported Pantaloon, &c. 1823.
- Rattler, or (Rattle,) by imported Shark, dam Lady Leggs, (the dam of Collector,) by Centinel—imported Fearnought and imported mare, &c. North Carolina. Foaled, 1796. — Bignell.  
ch h by Rattler, (by Sir Archy,) dam by Old Prize Fighter, g dam Luffborough's Spread Eagle Mare. Lancaster, Pennsylvania, 1829. Edward Parker.
- Ratray, by imported Clifden, dam by Fitzpartner out of Ariminna by Brimmer.
- Rapley, gr c by Bassino, dam Clio by imported Whip. Gen. Taylor, (Georgia.)
- Rappahannock, by Richmond, dam by Sir Alfred, g dam by Seymour's Spread Eagle, Pantaloon, &c. Pennsylvania, 1830.
- Ravenswood, dk b h by Sir Harry, dam Duchess by Grouse. 1815. J. Randolph.
- Reality, by Sir Archy, dam by Medley, g dam by Centinel, Mark Anthony, Janus, &c.

- Recruit**, ch by imported Sterling, dam Citizen by Wildair, gr dam Minerva by Obscurity, g g dam Diana by Claudius, &c. Hickory Hill, 1807. Samuel Marshall.
- Red Fox**, by Virginian, dam by imported Knowsley.
- Reform**, br h by Marylander, (by Thornton's Rattler,) dam by Richmond—Ogle's Oscar—Grey Diomedé—Hall's Union—Leonidas, &c. Prince George county, Maryland. Geo. Simms.
- Regulus**, (L. Burwell's,) imported, got by Regulus, (a son of the Godolphin Arabian,) he was half brother to Bald Partner by Smiling Tom out of a Partner mare, her dam by Cupid—Hautboy—Bustler, &c. Foaled, 1747.
- Reindeer**, b c by Arab, dam by Marske, &c. 1827. J. J. Harrison.
- Renovator**, g c by Chichester's Brilliant, dam Indiana by Florizelle. 1831. H. A. Tayloe.
- Republican**, by True Whig, dam Young Selima, sister to the noted Chatam, &c. William Brent.
- Republican President**, by imported Highflyer, dam by imported Venetian—Don Carlos—imported Ranger—imported Dove, &c. 1805. Isaac Duckett.
- Revenge**, ch c by Florizelle, dam Britannia. 1812. J. Tayloe.
- Rhodian**, gr m by Ragland's Diomedé, Quicksilver, imported Pantaloon, imported Fearnought, &c. Halifax county, 1816. Robert Easley.
- Rhea**, by Chatam, dam by Eclipse, (who was the sire of Brimmer, &c.) g dam by imported Shark, g g dam by imported Silver Eye.
- Richmond**, ch c by Ball's Florizelle, dam Chesnut mare by Diomedé, &c. Sold to Dr. Thornton. 1812. J. Wickham.
- Riego**, bl h by Francisco, dam by imported Sir Peter Teazle, g dam imported Castianira. Hector Davis.
- Rinaldini**, ch c by Baronet, dam Temptation by Heath's Childers, &c. 1804. Thos. M. Forman.
- Roan Colt**, imported, got by Sir Peter Teazle, dam by Mercury, g dam Cytherea by Herod, g g dam by Blank, &c. Foaled, 1802. Imported by John McPherson.
- Roanoake**, b h by Sir Archy, dam Lady Bunbury by Trumpeter, &c. 1817. J. Randolph.
- Roanoaka**, ch f by Ball's Florizelle, dam Cornelia by Chanticleer—Vanity by Celer, &c. 1815. J. Randolph.
- Rœbuck**, by Sweeper, (son of Beaver's great Driver,) dam by imported Bajazett.  
by Rœbuck, (who was got by Powell's Selim, a son of Old Selim,) dam of Young Rœbuck by imported Druid, Shark, Figure, Mark Anthony, &c. Bremo. Foaled, 1810. John H. Cocke, Sen.
- Rob Roy**, ch h by Gracchus, dam imported Lady Bunbury. John Randolph.
- Robin Adair**, by Sir Archy, dam Lady Burton by Sir Archy. Dr. Wm. Terrell, (Geo.)

- Robin Redbreast, imported, b h by Sir Peter Teazle, his dam Wren by Woodpecker out of Papillon by Snap, (the dam of Sir Peter Teazle,) Woodpecker by Herod, Sir Peter by Highflyer, Herod, &c. Foaled, 1796. Virginia, 1800.
- Roderick, by Dare Devil, dam by Bellair, g dam by Wildair. 1808. John Thornton.
- Roman, imported, b h got by Camillus, dam by Eagle, g dam by Trumpeter, g g dam by Highflyer, g g g dam by Snap out of Miss Cleveland by Regulus, &c. Imported into New York, 1823. S. Williams.
- Rosalba, b f by Spread Eagle, dam Alexandria. 1801. J. Hoomes.
- Rosabella, ch m by Topgallant, dam by imported Play or Pay, g dam by Old Bellair—imported Pantaloon—Janus, &c. Southampton county, Va. 1819. James Rochelle.
- Rosalinda, gr m by Tayloe's Oscar, dam by imported Expedition—imported Grey Highlander, imported Traveller, &c. N. Jersey. Jacob Vandyke.
- Rosamunda, b f by Bedford, dam Gasteria. 1804. J. Hoomes.
- Rosemary, by imported Diomede, dam Celia by Old Wildair, g dam Lady Bolingbroke, &c.
- Rosierucion, b c by Dragon, dam imported Anvelina. 1803. J. B. Richardson.
- Rosy Clack, by imported Saltram, dam Camilla by Wildair.
- Rosy Carey, by Sir Archy, dam Sally Jones by imported Wrangler.
- Rosella, b m by Obscurity, dam Maggy Lauder. 1817. T. M. Forman.
- Rowena, br m full sister to Lafayette by Virginian.
- Roxalana, gr f by Selim, (the Arabian,) dam Britannia by Pegasus, &c. 1806. J. Tayloe.
- Royalist, imported b h by Saltram, dam by King Herod, g dam by Marske—Blank, Dizzley Driver, Smiling Tom, &c. Foaled, 1790. Died in Tennessee, aged twenty-four.
- Royal Oak, bl h by imported Othello, (or Black and All Black.) His dam was Dr. Maglather's Lovelace by Flying Childers, near the city of Anapolis, his gr dam an imported mare by Bosphorus, &c. Salem county, N. J., 1777. William Riddle.
- Rusty Robin, c by Diomede, dam by Shark, g dam Black Eyed Susan, &c. Thos. Goode.
- Ruler Mare, imported by Ruler, dam by Turk, (he by Regulus,) g dam by Snake, &c.
- Ryland, b c by Roanoake, dam Miss Ryland. 1824. J. Randolph.
- Sarpadon, imported br c got by Emilius, dam Icaria by the Flyer—Parma by Dick Andrews, &c. Foaled, 1828. Va. Meritt, Townes & Avery.
- Sally Baronet, by Dungannon, dam by Michau's Celer, g dam by Celer, Old Fearnought, &c.
- Hope, ch f by Sir Archy, dam a bay mare imported by Dunlop of Petersburg, was by Chance, and was own sister to Grimalkin, that was sold to the Emperor of Austria for \$7,933, her gr dam by Phenomenon, &c.

- Sally Hill, dk ch m by Trafalgar, dam Musidora by imported Archduke, g dam Proserpine by imported Dare Devil, &c. 1818. C. B. Berkely.
- Maree, b m by Carolinian, dam by Jack Andrews—imported Drive, Highflyer, &c.
- Saltram, imported dk b h fifteen hands three inches high, (was near twenty years old when imported,) was got by Eclipse, his dam Virago by Snap, g dam by Regulus out of own sister to Black and All Black, sire of Tuting's Polly, &c. Foaled, 1780.—William Lightfoot.
- Saltram, by Sterling, dam Marcia by Shark. 1800. Alexander Spotswood.
- Saladin, b c by Crusader, dam Onea by Dockon. 1830. James Ferguson.
- Salvador, by Singleton's Ganymede, dam Clio by imported Whip, g dam Sultana by Spread Eagle, &c.
- Sambo, ch c by Sir Archy, dam by imported Buzzard, g dam imported Symmetry by Trumpeter.
- Sam Patch, by Rob Roy, dam by Telegraph, g dam by Oscar, g gr dam Ridgley's Primrose. 1826.
- Sans Culotte, ch s by Old Celer, dam Logania by imported Medley, &c. Charlotte county, 1802. Stephen Davis.
- Satellite, by Citizen, dam an imported mare by Waxy, imported by Col. Bland of Prince George county.
- Saucy Pat, f by Cormorant, dam Minerva. Eagle's Nest, 1803.—B. Grymes.
- Scarious, by Roanoake, dam Miss Peyton. 1829. J. Randolph.
- Sea Gull, imported by Woodpecker, dam Middlesex by Snap—Miss Cleveland by Regulus out of Midge, &c. Foaled, 1786. — Bush.
- Selah, dap gr by Bussora Arabian, dam by imported Messenger out of a full bred mare. C. W. Van Ranst.
- Selima, by Topgallant, dam Jack Bull by Gabriel. T. Murphy.
- Serab, imported by Phantom out of Jessee, by Totteridge, &c.—her dam Cracker by Highflyer, out of Nutcracker by Matchem.—Foaled, 1821. Sold in England for \$14,000. S. & I. Coffin.
- Shark, imported, a dk br b by Marshe, his dam by Shafton's Snap, g dam by Marlborough, (brother to Babraham,) out of a natural Barb mare. Foaled, 1771. Nottingham near Fredericksburg, Virginia, 1767. A. Spotswood.
- bl c by American Eclipse, dam Lady Lightfoot. 1830.
- Shakspeare, dk br h by Baylor's Fearnought, dam Stella by Othello, &c. 1777. Robert Baylor.
- dap gr h by Baylor's Fearnought, dam imported, was by Cub, a son of Old Fox, &c. Northumberland, Virginia, 1776. P. P. Thornton.
- b h by Virginian, dam by Shenandoah, by Potomac.
- Shawnee, by Tecumseh, dam by Citizen, full sister of the dam of Marion.

Shenandoah, by Potomac, dam Hill's bay mare by imported Febrifuge—Grey Diomede, Wildair, &c.

gr c by Pilgrim, dam Swan by imported Eagle. 1828. John Randolph.

Shepherdess, bl m by Sweeper, (by Hamilton's Figure,) dam by Tasker's Othello—Morton's Traveller, &c. 1829. T. J. Hanson.

Sidi Hamet, br b by Virginian, dam Lady Burton by Sir Archy, &c. Foaled, 1825. S. Davenport.

Signora, b f by Roanoake, dam Miss Peyton. 1824. J. Randolph-Silver, imported dap gr by Mercury, (who was by Eclipse,) dam by Herod, g dam Young Hag by Skim, Crab, Childers, Basto, &c. (did not succeed as a stallion.) John Drew.

by John Richards, dam by Sir Solomon, g dam Trumpeter. N. J. 1828. J. Davison.

by Jolly Friar, Whitacre's Mark Anthony, Lee's Old Mark Anthony, Spadille, imported mare.

Silver Tail, by imported Clockfast, dam Young Primrose by Wormley's King Herod, &c.

by Sir Archy, dam Coquette. 1829. Thomas Branch.

Sir Archy, or Robert Burns, b h by Old Diomede, dam imported Castianira. J. Tayloe.

Archy, jun. b h by Sir Archy, dam by Albemarle, (son of Diomede,) out of Penelope by Shark.

Archy, b h by Sir Archy, dam Transport by Virginius, &c. Kentucky. William Dickey.

Andrew, gr by Marske, (by Old Diomede,) dam Virago by imported Whip, Partner, &c. Georgia, 1816. John Thomas.

Andrew, bl c by Thomas' Sir Andrew, dam Black Eyed Susan by Potomac. 1826.

Arthur, by Sir Archy, (Old,) dam Green's Old Celer Mare, &c.—W. R. Johnson.

Bolingbroke, by Selden's Old Superior, dam by Hyde's imported Pretender, Highflyer, Shark, &c. H. Campbell.

Richard, gr h full brother to Monsieur Tenson by Paeolet, &c.—Tennessee, 1830. Thomas Forall.

Solomon, by imported Tickle Toby, dam Vesta by Dreadnought, Clockfast, &c. Died, 1829. 1805. James Macklin.

William, by Amazon, dam Black Eyed Susan by Potomac, &c.

William, ch h (Clay's) by Sir Archy, dam by Bellair, g dam by Pilgrim, &c. L. Long.

William, by Sir Archy, dam Transport by Virginius, &c. J. B. Richardson.

Simon Pure, bl h by Sir Archy, dam Philadelphia. J. Randolph.

Skim, (alias Farmer, or Lord Portmore's Skim,) imported, gr by Starling out of Miss Mayes by Bartlet's Childers. Foaled, 1746.

Sky Leaper, br b by Sir James, dam Vixen by Trafalgar. — Allens.

Slamerkin, (See Maria Slamerkin and Maggy Slamerkin.)



- Slender, imported b by King Herod, dam Rachel by Blank, g dam by Regulus, Sore Heels by Basto, Makeless, &c. Foaled, 1799. Sans Souci, N. Y.
- Slim, imported, a dk ch by Wildman's Babraham, dam by Roger's Babraham, g dam by Sedbury out of Ebony, &c. Marcus Hook, N. Y. 1775. A. Dick.
- Sloven, imported, bl h foaled, 1756, by Cub, dam by Bolton Sterling, Godolphin Arabian, Bonny Black, &c.
- Smiling Tom, ch c by Cœur de Lion, dam Betsy Baker by imported Spark, &c. 1806.
- Snow Storm, b h by Contention, dam Roxana by Sir Harry, g dam by Saltram, Wildair, Fearnought, &c. Foaled, 1825. E. Warfield, (Kenty.)
- Soldier, ch c by Bedford, dam Raffle by Bellair. 1803. J. Hoomes.
- Sophy Winn, b m by Blackburn's Whip, dam by Buzzard, g dam by Columbus, Celer, &c. 1822. E. Warfield.
- Sourkrout, imported b by Highflyer, dam Juvell by Squirrel, Sophia by Blank, out of Lord Leigh's Diana by Second, &c. Foaled in 1786. Stood in Tennessee.
- Spark, imported, was imported by Gov. Ogle, and given to him by Lord Baltimore, who received him as a present from Frederick, Prince of Wales; Spark's dam was Miss Colvill.
- Sportmistress, g m by Hickory, dam Miller's Damsel by Messenger, &c. Queen's county, N. Y., 1818. Thomas Pearsall.
- Spread Eagle, imported by Volunteer, (one of the best sons of Eclipse,) his dam by Highflyer, Engineer, Cade, Lass of the Mill by Old Traveller, Young Greyhound, &c. Foaled, 1792. Bowling Green, Va. J. Hoomes.
- Standard, b c by Sir Archy, dam an Archy mare. 1829. Wray & Simple.
- Star, imported dk b by Highflyer, dam by Snap, g dam by Riddle by Matchem. Foaled, 1785. Died, 1811.
- St. Paul, imported sor h got by Old Saltram, dam Purity by Matchem, Pratt's famous Squirt mare, &c. Foaled, 1789. Va. 1804. William Lightfoot.
- Shock, imported, got by Shock, Partner, Makeless, Brimmer, &c.—Va., Caroline county. John Baylor.
- Sir Peter Teazle, imported, roan h got by Sir Peter Teazle—Mercury—Cythera by King Herod—Blank, &c. Foaled, 1802.—S. Carolina. Gen. John M'Pherson.
- Statira, imported, ch m by Alexander the Great, (sister to Lycurgus by Buzzard,) Rose by Sweetbrier—Merleton by Snap. Foaled, 1809. J. Randolph.
- Sterne's Maria, by (Gibbs') Carlo, dam by Ridgley's Cincinnatus—L. Beard's Badger out of Black Snake, &c.
- Steuben, by Kosciusko, dam Irvina by Virginian—Pandora by Bellair, &c. 1825. J. Ferguson.
- Storm, b c by Cormorant, dam Darlington mare by Darlington, &c. 1799. J. Hoomes.

- St. George, imported, br b fifteen hands three inches high, foaled, 1789, was got by Highflyer, dam by Eclipse—Miss Spindle Shanks by Oman—Godolphin Arabian, &c.
- St. Paul, imported, ch h by Saltram, dam Purity by Matchem, out of the Old Squirt mare. Foaled in 1791. Imported to Virginia, 1804. ——— Harris.
- Sting, by Jack Andrews, dam Marigold by Dungannon, out of a thorough-bred mare.
- Sterling, imported, b h by Volunteer, dam Harriet by Highflyer, g dam by Young Cade, g g dam Childerkin by Second, out of the dam of Old Snap, &c. Foaled, 1792. J. Hoomes.
- Imported, dap gr by the Belsize Arabian out of Mr. Simpson's Snake mare, she by Snake out of the Duke of Cumberland's famous mare, dam of Cato, &c. Foaled, 1762. Surry county, Va., 1768. William Evans.
- Strap, imported, b h by Bennington, dam by Highflyer—Tattler—Snip, &c. Foaled, 1800. North Carolina, 1808. H. Cotton.
- Stump the Dealer, by Old Diomedé, dam by Shark. 1804. Thos. Hamlin.
- Sukey Tawdry, b f by imported Sterling, dam Nancy Medley.—King George, Va., 1800. Charles Stuart.
- Sultana, by Black Sultan, dam Barb mare. J. W. Eppes.  
by Spread Eagle, dam Orelia by Percy. S. Carolina. Richard A. Rapley.
- Sumpter, ch by Sir Archy, dam by Robin Redbreast, own sister to the dam of Rattler, Flying Childers, &c.
- Superior, by (Cook's) Whip, dam a Union mare. Kentucky. E. M. Blackburn.  
b h by imported Diomedé, dam Lady Bolingbroke. 1811. J. M. Selden.
- Surprise, by Old Sir Solomon, dam Potter's Oscar, Jun., by Ogle's Oscar.  
ch c by Americus, dam Calypso. Foaled, 1801. W. Alston.
- Susan, ch m by Bond's Sir Solomon, dam Columbia by imported Baronet, Old Cub, Partner, &c.
- Susan Favourite, gr m by Sir Hal, dam Wynne's Young Favourite by Bedford.
- Susanna, ch m by Multnomer, dam by imported Knowsley, g dam by Boxer, Symmes' Wildair, Old Janus. W. D. Taylor.
- Suwarrow, b by Columbus, dam by imported Venitian—imported Figure, Slamerkin by Wildair, &c.
- Sweeper, by imported Figure, dam by Tasker's Othello—Morton's Traveller, Tasker's Selima, &c. Prince George county, Maryland, 1780. Joseph Pierce.
- Sweet Erin, ch f by American Eclipse, dam Maria Slamerkin, &c. New Jersey, 1829. Dr. E. A. Darcy.
- Sweetest when Naked, gr m by Tattersall's Highflyer in England, dam gr m Virago, imported by Mr. Hyde. (She was foaled in America, and bred by Alexander Spotswood.) 1817. J. Tayloe.

Sylph, b c by Roanoake, dam Witch. 1828. J. Randolph.  
 Syren, ch f by Silver, dam Caroline by Eclipse. Tennessee, 1800.  
 Symmetry, imported ch m bred by Lord Clermont, foaled, 1799, got  
 by Trumpeter, dam Young Doxy by Imperator, g dam Old Doxy  
 by King Herod.

Tranby, imported br c got by Blacklock, his dam by Orville—Miss  
 Grimstone by Weazle—Ancaster, &c. Foaled, 1826. Virginia,  
 1835. J. J. Avery & Co.

Take In, b c by Gracchus, dam Young Frenzy. 1823. John Ran-  
 dolph.

Tartar, g c by Winter Arabian, dam Young Buzzard mare.  
 by Diomede, dam by Celer, g dam by imported Bay Richmond.  
 Amelia, Va. James Hill.

b c by Bedford, dam Atalanta by Dictator. Foaled, 1805.

Tecumseh, by Sir Archy, dam the imported Gamenut mare out of  
 Allegrante by Pegasus. A. J. Davie.

Telegraph, imported br h by Sir Peter Teazle, dam Fame by Panta-  
 loon out of the dam of Diomede by Spectator, &c. Foaled,  
 1795. — Baldock.

b h by Lamplighter, dam by Old Wildair, g dam by Rockingham,  
 &c. King William county, Va., 1800. Wm. Anderson.

Telemachus, by Old Diomede, dam by imported Dare Devil, g dam  
 by Commutation—Damon, &c. Brunswick, Va. — Mer-  
 ritt.

Temptation, b by Heath's Childers, dam Maggy Lauder by imported  
 Fearnought, &c. 1786. T. M. Forman.

Terror, by Janus—Mark Anthony—out of an imported mare.  
 br c by American Eclipse, dam Lady Lightfoot. 1829. —  
 Stephens.

Thaddeus, by Ball's Florizelle, dam Dare Devil mare, g dam by Old  
 Wildair, &c. Edm. Irby.

Thalestris, gr f by Elliott's Jerry, dam Cornelia Bedford by the  
 Duke of Bedford, &c.

Thistle, by imported Dove, dam Stella by imported Othello, g d Task-  
 er's Selima.

Thor, b h by Diomede, dam by Wildair, g dam by Clockfast, &c.  
 Philip Rogers.

Tib, by Sir Archy, dam by Old Celer, g dam by Clodius, g g dam  
 by imported Fearnought, &c.

Tickle Toby, imported br foaled 1785, got by Alfred, dam Celia by  
 Herod, out of Proserpine by Marske, &c.

Timoleon, ch c. by Sir Archy, dam by imported Saltram—Old Wild-  
 air—Driver, &c.

Tom Jones, imported gr h fifteen hands high, by Croft's Partner—  
 True Blue—Cyprus Arabian. Foaled, 1745. Richmond co.,  
 Virginia. Sir M. Beckwith.

by imported Tom Jones, dam Betsy Blazella by Blaze, &c. Mary-  
 land, 1764.

Tom, by imported Eclipse, dam an imported mare. Richard Hall.

- Tom Tough, ch c by imported Escape, (Horn's,) dam Fairy by Bedford, &c.
- Tom Tackle, br c by Archduke, dam Fairy by Bedford. 1805.
- Tom Piper, by Janus, dam Ethiopia by Bedford, (he by Teller's Bedford,) g dam by imported Bedford.
- Topaz, ch c by Rob Roy, dam Flora by Ball's Florizelle. 1826.—Joseph Lewis.  
b c by Roanoake, dam Jet. 1828. John Randolph.
- Topgallant, b h by imported Diomede, dam by Shark—Harris' Eclipse—Mark Anthony, Janus, &c. Foaled, 1800. J. Tayloe.  
b by Topgallant, dam by Old Wildair—imported Black and All Black, (or Othello.)  
by imported Druid, dam by Bedford, (sire of Rosabella.)
- Torpedo, by Sir Alfred, dam by Potomac out of the dam of Madison and Monroe.
- Touchstone, imported by Clothier, (by Matchem,) out of Bethell's mare Riot—Riot by Regulus—Matchem by Cade out of a Partner mare, &c. dam's side not given.
- Transport, br b by Virginia, dam Nancy Air. 1812. J. B. Richardson.
- Traveller, (Morton's,) imported b h by Partner, who was a grandson of the Byerly Turk—Traveller's dam was by Bloody Buttocks, an Arabian, Greyhound, Makeless, &c. Richmond county, Va. 1754. Foaled, 1748.
- Trouble, ch c by Duroc, dam Sportmistress, &c. 1821.
- Tripsy, by Figure, dam Humespun by Romulus, Venus by Hero, &c. 1800.
- Trimmer, by Hall's Eclipse, dam by imported Slim, Old Figure, &c. Prince George, Maryland, 1791. Wm. Lyles.
- Tristram Shandy, by Morton's Traveller, dam by Old Janus out of a fine English mare. Caroline county, Virginia, 1777. James Upshaw.
- True Whig, by Fitzhugh's Regulus dam, dam of Apollo.
- True Blue, imported b h by Walnut, dam by King Fergus, Celia by Herod out of Proserpine by Marske. Foaled, 1785. James Turner.  
ch by Tormentor, dam by Expedition, Sir Solomon, Honest John, Messenger, &c.
- True Briton, b by Tasker's Othello, dam Milley by Spark, and was full sister to Col. Hopper's Pacolet, her dam Queen Mab.—1761.
- Trumpetta, imported b m by Trumpator, dam by Highflyer, g dam by Eclipse out of Vauxhall's dam, who was by Young Cade. Foaled, 1797. J. Tayloe.  
by Hephestion, dam Peggy by Bedford, g dam imported Peggy by Trumpator, &c. 1816.
- Trumpator, b c by Dragon, dam imported Trumpetta. 1804. J. Tayloe.

- Trumpator, by Sir Solomon, dam by Hickory, g dam imported Trum-  
petta. Kentucky, 1829. Samuel Davenport.
- Tuckahoe, by Florizelle, dam by imported Alderman, g dam by  
Clockfast, &c. Va., 1827. J. Wickham.
- Tulip, ch by Lindsay's White Arabian, (Ranger,) dam by imported  
Othello, g dam by George's Juniper, &c. 1782.  
ch f by Alexander, dam Maria Archy. 1830.
- Twig, by imported Janus, dam Puckett's Switch, also by Janus.—  
Thomas Hudson.
- Uncas, ch c by Sir Archy Montario, dam Leocadia by Virginius.—  
1828. J. B. Richardson.  
ch c by Stockholder, dam by Powhatan. 1827. O. Shelby.
- Uncle Sam, b by John Richards, dam Sally Baxter by Oscar, im-  
ported Expedition, Old Cub. 1828. Thomas M. Forman.
- Valeria, b f by Monsieur Tonson, dam Betsy Wilkes, &c. 1832.  
G. A. Blaney.
- Valentine, imported by Magistrate, dam Miss Forester by Diomede,  
Alexander, the dam of Captain Absolute by Sweet William.—  
1826. Thomas Connagh.
- Vansickler, (Bela Richards's,) b c by John Richards, dam Covert  
mare by Am. Eclipse.
- Van Tromp, by Sir Hal, dam by Cœur de Lion. Gen. R. Eaton.
- Velocity, by Rob Roy, dam Simmes' (Mab) bay mare by Ogle's Os-  
car, g dam Edelin's Floretto, &c. 1827. — Simms.
- Victor, ch by Contention, dam by Minor's Escape, g dam by Sans  
Culotte, Mahomet out of a thorough-bred mare.
- Victorious, by imported Fearnought, dam by Clevis, (he by Fear-  
nought,) g dam by Hunting Squirrel. Imported by Gen. Nelson.
- Violet Fame, by Contention, dam by Tom Tough, her g dam by  
Strange's Traveller out of a full-bred Wildair mare.
- Vincenta, by imported Messenger, dam by imported Slender, g dam  
by imported Lath, &c.
- Viola, gr f. by Gallatin, dam Clio by imported Whip. 1820. Wade  
Hampton.
- Volante, ch f by imported Young Peter Teazle, dam Selima by  
Spread Eagle, &c. 1809. J. Tayloe.
- Vintzun, by imported Diomede, dam Maria by Clockfast, Maria by  
Regulus, &c. (Sold for \$2,750.) Gov. Lloyd.
- Virago, imported by Star, dam Virago by Panton's Arabian out of  
Crazy by Lath, which was sister to Snip, &c. Orange county,  
Va. Robert Young.
- Virginia, by Skyscraper, dam Polly Ready Money by Bowie's Cin-  
cinnatus out of a Virginia mare.  
Sorrel, ch m by Virginia Sorrel, dam Black Selima by Fearnought.  
1798. J. Tayloe.
- Virginian, b h by Sir Archy, dam Meretrix by Magog, Narcissa by  
Shark, Rosetta by Centinel, Diana by Claudius, &c. Foaled,  
1815. J. J. Harrison.

Virginius, by imported Diomede, dam Rhea by Chatam, g dam by Eclipse, (who was the sire of Brimmer, Wilton Roan, &c.) imported Shark, Silver Eye, &c.

ch by Virginius, dam Transport. 1826. J. B. Richardson.

Violante, s m by Sir Peter Teazle, dam Selima by Spread Eagle, &c. 1810. J. Tayloe.

Walnut, by imported Archibald, dam Cremona by Spread Eagle, g dam Gasteria by Balloon.

Washington, gr by Pacolet, dam Old Rosy Clack by imported Saltram, &c. O. Shelby.

ch h by Timoleon, dam Ariadne by Citizen. North Carolina, 1829.

Waxy, b by Sir Archy, dam by Sir Alfred, g dam by Haxall's imported mare Primrose by Buzzard.

Waverley b c by Sir Charles, dam Josephine by Flying Dragon, g dam by Hamiltonian—St. George—King Herod, &c. 1829.—Winchester, Va. J. M. Brome.

Whip, imported br h fifteen hands three inches high, got by Saltram, his dam by King Herod, g dam by Oronooko—Cartouch, &c. Foaled, 1794. Imported, 1801. Richard Bland.

Whirligig, imported dk b fifteen hands high, by Lord Portmore's horse Captain, he by Cartouch, &c. his dam by the Devonshire Blacklegs, son of Flying Childers, &c. 1774.

White Feather, by Conqueror, dam by Diomede. L. Long.

White Leather, b c by Roanoake, dam Everlasting. 1824. J. Randolph.

White Stockings, by Silver Heels, dam Snip by Oscar out of Britannia, &c. Maryland. Robert Wright.

Why Not, b h by Old Fearnought, dam by Othello, g dam by Spark, &c. Gloucester, New Jersey, 1780. James Tallman.

Wildair, imported b h (foaled in 1753, and imported in 1764,) was got by Cade out of the Steady mare, her dam by Partner—Greyhound, Matchless, &c. Wildair was imported by Mr. Delancy of New York, and afterwards re-shipped to England.

(Symmes') br b h by Old Fearnought, dam by Jolly Roger out of Kitty Fisher, &c. Rocky Mills, Hanover county, Va. Col. John Symmes.

Wildair, (Sims') b h by imported Wildair, dam by Ariel, g dam by imported Othello, &c. Maryland, 1778. Col. Jos. Sims.

by John Symmes' Wildair, dam by Handell, g d by Camden—Jolly Roger, &c. Forks of Hanover, Va. 1804. John Thornton.

by Ajax, dam by Knowsley, g dam by Highflyer, g g dam by Old Wildair, &c. R. Walker.

(Jones's,) blood b by Symmes' Wildair, his dam by Flimnap out of a Fearnought mare. Wylie Jones.

Wild Devil, b h by Old Dare Devil, dam by Symmes' Wildair—Rockingham—Spanking Rodger, &c. Hanover Town, Virginia, 1803. John Anderson.

- Wonder, imported dk ch h fifteen hands three inches high, got by Phenomenon out of Brown Fanny by Old Diomede, g dam by Marske—Skim—Crab—Childers—Basto, &c. Foaled, 1794. Imported in 1802.
- Woodpecker, ch by imported Dragon, dam (Irby's) Dare Devil mare, Old Wildair, Fearnought, &c. 1804. C. Sallard.
- Woosky, ch f by Dragon, dam Raffle by Bellair. 1805. J. Hoomes.
- Worthy, g m by Sir Hal, dam by Sir Archy. Maryland, 1814. J. Powder, jun.
- Wrangler, by imported Diomede, dam Lady Bolingbroke. Colonel Selden.
- Wrangler, bl b by Sir Alfred, dam Clio by Sir Archy—Beauty by Diomede—Virginia by Dare Devil, &c. 1824. C. W. Van Ranst.
- Wyandott, ch by Platt's Alexander, dam Honest Jane—Alexander by imported Bedford—Honest Jane by imported Honest John.
- Young Arch Duchess, by Janus, dam Arch Duchess. J. Randolph.
- Young Duroc, b by Old Duroc, dam by imported Gabriel, g dam by Lindsay's Arabian, &c. Pennsylvania. John Snyder.
- Young Ranter, br b by Ranter, dam a fine blooded mare.
- Romp, (dam of Livingston's Camilla,) by Duroc, dam Romp by imported Messenger.
- Sir Solomon, jun. by Old Sir Solomon, dam Maid of Northampton by imported Clifden. 1823. Henry Lazier.
- Truffle, imported br h bred by the Duke de Guiche, was got by Truffle out of Helen by Whiskey, her dam Brown Justice by Justice, Old Truffle was got by Sorcerer out of Hornby Lass by Buzzard, &c. Orange county, Virginia, 1830. James Barbour.
- Yorick, by Tayloe's Yorick, dam by Figure, g dam by Dove, Tasker's Othello out of Selima, &c. 1783. Fielder Bowie.
- Zabud, by the Winter Arabian, dam by imported Spread Eagle, g dam by Sir Peyton, (by Shylock.) Kentucky. R. J. Breckenridge.
- Zamor, gr by Silver Heels, (by Ogle's Oscar,) dam Aurora (by Vintzun,) g dam Pandora, (by Grey Diomede,) g g dam by Hall's Union, Leonidas, &c.
- Zelieka, ch m by Gracchus, dam Miss Chance by imported Chance. Messrs. Tayloes.

## CHAPTER XVI.

RACE HORSES—KEEP OF—INSTRUCTIONS FOR TRAINING—RIDING, &amp;c.

## RACE HORSES.

[From Mason.]

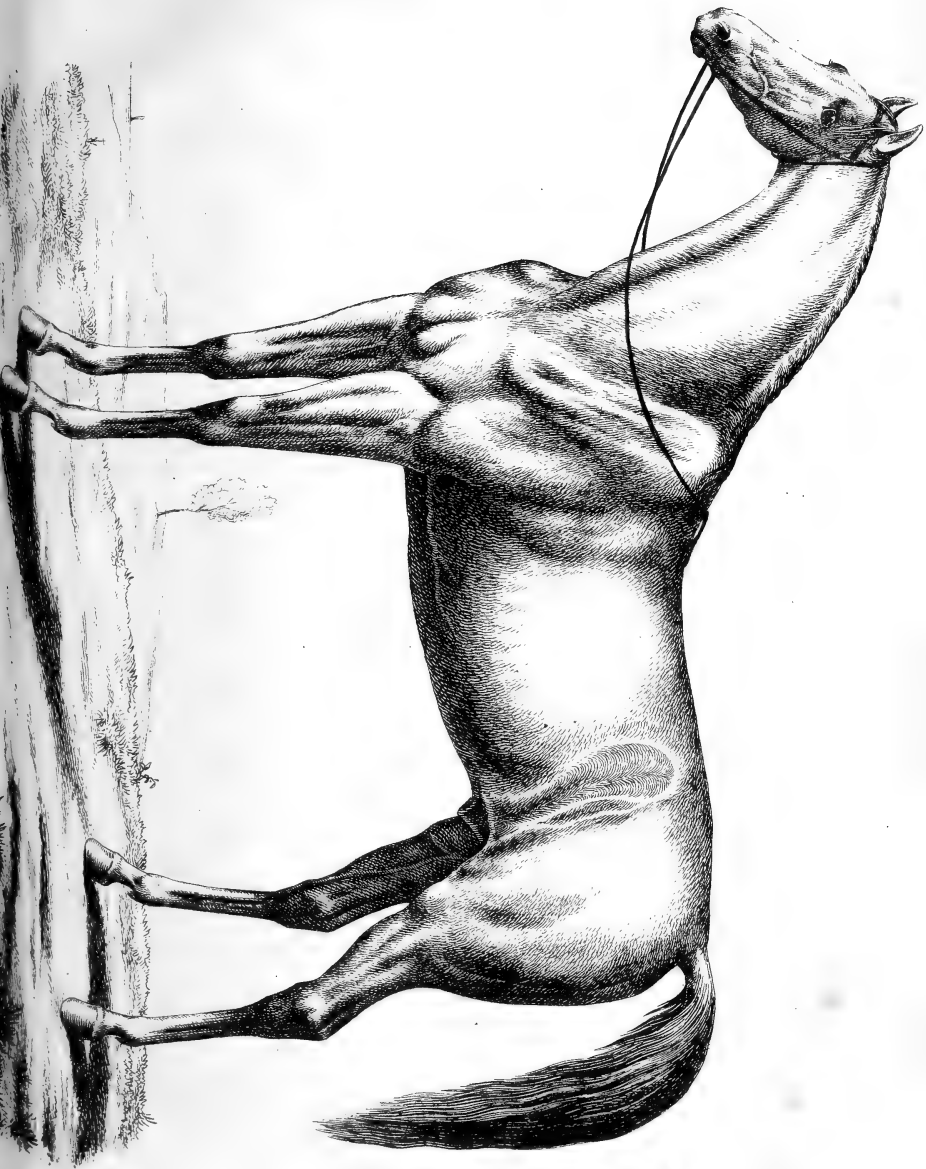
It is a remarkable fact, that horses run in all shapes. But most generally, those excel upon the turf, that are of the following form: head and neck thin, small, and delicate; eyes large, plump, and full of expression; nostrils wide, red, and expanded; throttle large; shoulders high, thin, and running very far back; breast plump, full, and wide; body long, round, and rather light than heavy; back short as possible; thighs long, large, full, and bulging; fore-arm large and swelling towards his breast; hocks broad, strong, and bony; legs of moderate size, thin, flat, and sinewy; pasterns rather long and small, than otherwise; feet of proportionable size to the balance of his form; though, of the two extremes, small is the best; he should be nervous, tractable, and of good spirit, and he should be from five feet to five feet four inches high. Such a horse, well managed, kept and placed in races, will seldom fail to distinguish himself on the turf.

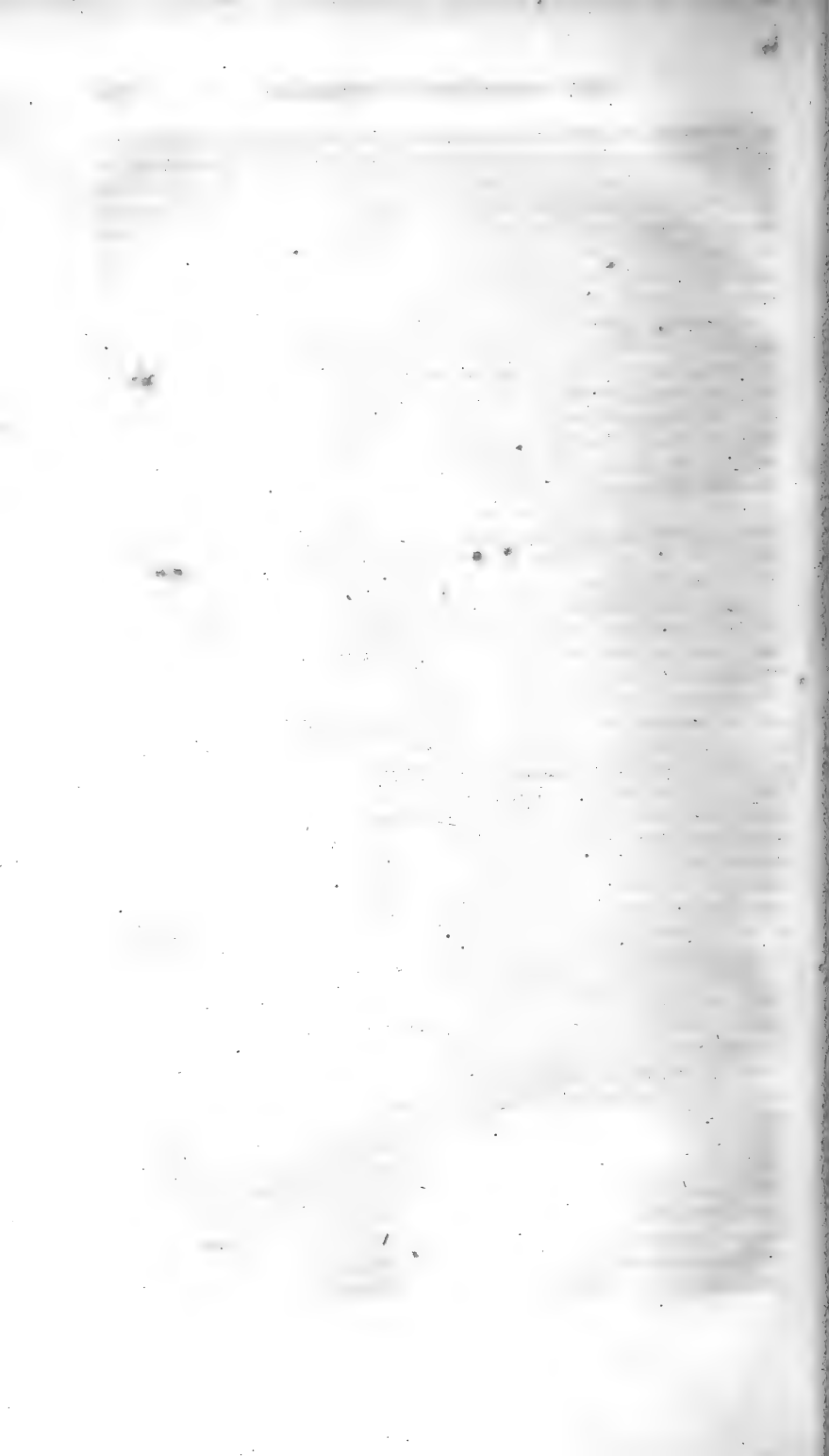
*The keeping a horse* for a race is attended with much trouble, and requires great attention: but is more simple than is generally believed by persons wanting experience on that subject.

A large majority of grooms, even to the present day, are in the habit of giving to race horses large quantities of physic, (though the number engaged in this practice has been diminished within the last ten years,) and for the sake of those very valuable animals, I hope ere long, such an injurious practice will be entirely abolished. All the medicine on earth will never give to a horse speed and bottom, that is naturally deficient in those respects; and if he is affected at all by its use, it must operate to his disadvantage.

The plainest and simplest mode of keeping horses, has proved much the best, to all who have ventured, in defiance of old opinions and customs, to use that course. When a horse is in health, the medicine generally given by grooms, has the effect of relaxing the muscles, enfeebling the system, and expanding the pores of the skin. I am clearly of opinion, that those large doses, which are so often given, never cause a horse, when running, to fetch a longer breath, brace his muscles, added to the elasticity of his tendons, invigorated his system, or gave him, in any way, extra powers to perform the task assigned him; but on the contrary, are frequently the means of throwing a horse out of order, that in all probability, under different treatment, would have proved successful, if not master on the turf: indeed, this has sometimes been proved by the change of owners, and when a good horse has fallen into the hands of one that has observed plain and simple treatment—the horse that previous to the change never was more than second or third best, has run with more than anticipated success.







But many old and ignorant grooms who have never been benefited by experience, and all the knowledge they possess have been handed to them by persons equally ignorant with themselves, are under a belief, that unless a horse swallows a certain number of wind balls, that it is impossible he can win a race; added to which, they are extremely superstitious, and some, even at the present day, confide in tricks and witchcraft. It is to be much regretted that a good horse should ever fall into the hands of such blockheads.

The first thing necessary in the keeping a race horse is, a good log stable, about fifteen feet square; then provide a plenty of good and sweet old corn, fodder, and oats, and a sufficient quantity of clean and dry straw, to change his bed every two or three days.

Most horses, when first taken up for the purpose of being kept, require bleeding; which a groom can always be a judge of from the appearance of the animal. Good cloths, girts, &c. should be provided and kept on the horse, except at the hours for rubbing, which should be regularly three times a day; in the morning, and evening after practice, and at twelve o'clock; for which purpose a curry-comb, brush, straw and a large woollen cloth, must be provided and well used. Good rubbing assists in putting a horse in order, and places on his skin a beautiful gloss. His legs must be washed three times a day in clear cold water, after which they must be rubbed dry with straw, and the naked hand rubbed over the ancles and pasterns, until a small degree of warmth is felt. The stable should be kept perfectly clean.

A horse should be given such practice as he is well able to bear. As those animals frequently differ in every respect so widely from each other, it is impossible to lay down any rule that should govern, relative to the speed or quantity of practice necessary for horses in training. I will only remark, that a horse should be practiced in a moderate gallop, the distance he is intended to be run, moving briskly every time he passes the stand, and for a short distance on the back of the ground: he then should be walked about a mile, and again galloped in manner first directed. Some fleet and delicate horses require very little practice indeed; while other hardy and hard botomed horses require and can bear very hard practice. But the appetite of a horse is the best criterion, as relates to that subject.

If a horse refuses to eat, it is an evidence that his practice is either too hard or too quick; when he eats heartily, it is a proof that he is able to bear what is given him. When a horse is first taken into keeping, his allowance for the first two or three days, should be rather short; which should be offered four times a day. His exercise should be walking, for the first three or four days; two or three times the distance, or round the course of his contemplated race; after which time, his food may be increased with his exercise, and he may be regularly fed with from two quarts at a feed to four quarts. His food should be often changed and prepared thus: his hommony (Indian corn ground coarse) should be first winded, then thrown into clean water, so as to separate the part that is nutritious from the husk and chaff; the oats should be lightly beaten in a common hommony mortar, to separate them from the hull or chaff, which may be blown

off; his fodder should be stemmed whenever it is discovered he has too much belly. A horse never should be drawn suddenly, as nothing is more weakening.

The best medicine on earth, that can be employed in keeping of a horse, to give him wind and bottom, as the grooms term it, is good and sweet food. A greater proportion of old oats, hay, or homony, opens the bowels; and a large proportion of fodder and oats, when prepared in the way directed, has the reverse effect; so that by using food that actually contains nourishment, and will certainly benefit your horse, you may place him in whatever kind of order you think proper, without using those medicines which have a certain tendency to weaken and relax him. About two mashes during the time of keeping, is very beneficial; the first as soon as you commence; the second, about eight days previous to his running; composed of one gallon of bran, one table spoonful of flour of sulphur, and one tea spoonful of saltpetre. Most grooms are in the habit of giving one, two, or three sweats, during the time of keeping; which method of hardening the flesh I am much opposed to. If a horse is too gross, gradually increase his exercise, which will have the desired effect. Whenever a horse has to undergo one of those sweats, he is so much weakened and relaxed, as to require at least one week to recover his strength. Should a horse, in keeping, lose his appetite, it can readily be restored, by a single innocent drench, composed of a quarter of an ounce of asafetida, one table spoonful of salt, and one quart of sassafras tea. Good food, regular feeding, moderate exercise, and strict attention to rubbing, are of much more importance and benefit to a horse in keeping, than the administering of large doses of physic, which his nature does not require.

When a horse is well kept, he will not appear very fat, but his flesh will be very firm and hard; his legs and ancles must be perfectly cool, and not puffed or swelled; his eyes should be lively, and countenance cheerful; he should possess no bad habits, but be tractable, gentle, and manageable; his actions smooth and graceful; he should be taught patience; and often practiced in starting around the race course, never permitting him to go off, until the word GO is given. Many advantages result in a race, to a horse, being properly broke in starting.

After a horse has gone through his practice, and has been well rubbed, &c. &c., his feet should be stuffed, (during the time of his standing in the stable,) with fresh cow manure, or clay and salt, to prevent his ancles from swelling or being heated; his legs should be bathed once a week, with equal parts of old peach brandy and fresh butter, or sweet oil and vinegar, stewed over the fire until well mixed, and applied warm as the hand can bear it.

Whenever a horse commences his brisk exercise, the under part of his ancles should be occasionally greased, to prevent their cracking and the scratches being produced. The heels of most young horses crack, during their exercise, unless this precaution is used; fresh butter, sweet oil, or hog's lard, answers well for that purpose. The subject of keeping horses is so extensive, that to treat fully

on it, would require a book at least the size of this; the reader, therefore, must be content with the hints and few pages I have devoted to this subject.

### *Race Riders.*

To become a valuable and a good race rider, requires more capacity, judgment, experience, and honor, than are often found in boys in the habit of riding. And no person can be successful on the turf, unless he can place the utmost confidence in his rider; whose integrity and honor it would be advisable frequently to put to the test.—Boys are sometimes so young, foolish, and destitute of principle, as to receive bribes and promises; preventing the best horse from winning, to the disgrace of all concerned, and the serious injury of his owner; who, in such cases, never should fail to make an example of all persons engaged in the villany.

A good race rider will have the pad of his saddle wet, before he mounts, to keep it firm in its place; he will try his stirrups, and prove them long enough to raise himself about two or three inches clear of the saddle: he will then tie his bridle a length that will allow his horse, when he bears him gradually and steadily, to run at his ease, without being jerked or jostled; he should never make a false start, but come up even and go off smoothly, without fretting or causing his horse to rear; and above all other things, strict and pointed attention should be paid to the orders given, and they rigidly adhered to.

A rider should bear a little forward, steadily as possible, and without altering the attitude of his body, when whipping, pushing, or running at his ease, taking great care to remain steady in his stirrups, holding his elbows close, and his hands low.

A rider, after running his heat, should never dismount, or give up his horse to any other person, until it is his turn to prove his weight, and is directed to come to the stand.

### *Instructions for training horses.*

BY CHARLES DUVALL.

Let the horse be in good flesh when you put him up; night and morning walk him four miles, well clothed with one blanket and a suit of horse clothes, for eight days; water him between the walking with forty swallows; feed him at nine in the morning, at twelve o'clock, at six in the evening, and at nine at night, with three quarts of oats and chopped corn, one-fifth chopped corn, giving him one bundle of blades after feeding in the morning, at twelve o'clock, and at six o'clock; after feeding at nine at night, give him two bundles of blades. Let him be well rubbed before each feed with straw as to his body, and his legs with woolen rubbers; let him have a good bed of straw; let his feet and legs, night and morning, before you take him in, be washed with warm water and Castile soap; then for eight days more, in the morning, gallop two miles before watering and one mile after, and in the evening one mile before watering and one mile after, clothing and rubbing before each feed as before. After

that prepare him for sweating, by feeding with two quarts at six o'clock, and at nine o'clock the same, giving him no blades, and having him well muzzled; let him be well rubbed and have a good bed of straw, always keeping his feet well stuffed with cow dung.— Let your turf be kept well harrowed and soft. At day-break, take him to his training ground with three, four, or five blankets, and his body clothes; let him go four miles, the first three half-speed, the fourth mile at a sweeping rate with a tight rein, and a rider not exceeding the weight the horse should carry. Then strip him on the field, carefully scraping, rubbing, and brushing him till dry; then put on his usual clothes and walk him an hour; stable him; scald a gallon of bran, add cold water to it till milk warm, and let him drink what he will of it. Then let him be well rubbed and dressed; then scald two quarts of bran, and two quarts of oats; mix them, putting among them a table spoonful of flour of sulphur and as much antimony as will lie on a cent, and let the horse eat it warm; then take two bundles of stemmed blades, and sprinkle them with salt and water, and give him; then take some warm bran and water and wash his legs, rubbing them dry with straw and woolen rubbers; then leave him till twelve o'clock; then feed as usual with three quarts at twelve; at four in the evening brush him and let him walk an hour; then water him with water aired or branch water; then walk him a quarter of an hour, take him in and have him well cleaned and rubbed; then feed at six and nine with three quarts of grain; then muzzle him. In the morning after his sweat take him to the ground and strip him as for a race; then run him two miles with a tight rein, and continue him two miles more in a loose; then clean him and rub him dry; clothe him and walk him till cool, then take him in, wash his feet, and rub them dry, cleaning him, rubbing him, stuffing his feet, and feeding as usual; so continue to gallop every night and morning, as before directed, to wit: In the morning, first gallop two miles, second gallop one mile, and in the evening one mile each gallop; sweat every eight days.— Train your colts in martingales; bleed after the first sweat, and if necessary after the second sweat. Those are the rules I observe in training.

CHARLES DUVALL.

From which, the rules observed by Mr. Thomas Larkin, of Virginia, varied in these particulars: he feeds in the morning with four quarts, at twelve with two quarts, and at night with four quarts; same blades as Mr. Duvall. Morning, gallops first two miles and a-half, second two miles. Evening, gallops first two miles, second one mile and a-half. Sweats five miles, and brushes his horse before he takes him in; after cleaning, and rubbing, and drying him, two miles. He washes with cold water, except when he sweats his horse, and waters after the horse comes in and is clean, just before feeding, forty swallows morning and evening, and twelve swallows at twelve o'clock; mixes a spoonful of sulphur in the mash, after sweating, but no antimony; walks before galloping, two miles; between the gallops, one mile.

Mr. Duvall, in 1797, gave me the foregoing rules: Mr. Larkin trained for me two years. And as a sportsman, that all horses may run in the best order, and that their superiority of foot and bottom alone may entitle them to the palm, I with pleasure comply with your request, that through your inestimable paper, all excuses by gentlemen having fine horses, as to the mode of training them, may be removed, and the friends of the turf gratified with fine sport.

*American Farmer.*

[From the American Turf Register.]

*Mr. Editor:*—The within was recently found among the papers of an old sportsman of the turf, (a pencil memorandum,) in the shape of answers to questions, by a gentleman well known to the Virginia turfites, who was at that time about to begin his racing career. I have examined it with a trainer of long experience, and with few alterations hand it to you for publication in the Sporting Magazine.

A VIRGINIAN.

A horse when put in training should be fat: his exercise ought to commence with walking about eight miles a day; three in the morning, two at twelve o'clock, and three in the evening. This should be continued at least four weeks. A light gallop of a mile in the morning, should now be added, and at the end of a week, a mile in the evening. In another week, half a mile more morning and evening. He will now be in condition for his first sweat; his exercise may now be the same as the last week, except a "burst of heels" once or twice in the week, of three or four hundred yards; at which time he will be ready for his second sweat. This given, the horse should have, every other morning, a move of a quarter of a mile; this continued for a week, and his third sweat may be given. After this his exercise may be increased to two miles, morning and evening; one mile of which (in the morning) should be at half-speed, with a dash of a quarter every other morning, more or less, according to his appetite. The sweats should vary according to the high or low condition of the animal. At the end of the week, after the fourth sweat, he may, perhaps, require a draw,\* and another a day or two before he runs. I do not approve of physicing generally; when there is much grossness, or general bad health, a purge may be necessary. Race horses should be watered regularly three times a day, in a clear brook, in the morning after exercise, at twelve o'clock, and in the evening: after exercise, walking them until perfectly cool, previous to watering. They should be fed with hommony and oats, (the first divested of its mealy particles,) in the proportion of one of the first to two of the latter. Sometimes when the condition of the horse is low, he should be allowed a greater proportion of hommony; as horses when in training must feed well, every thing in the food way must be tried to make them do so: as hommony alone, oats, corn in the ear, meal, cut oats, &c. I once trained a mare, and ran her successfully, feeding her three days in the week on meal with chopped or cut oats. They

\*A very light sweat.

should be fed five times a day; at day-break, after the morning exercise, at eleven o'clock, a little before the evening exercise, and at night: one quart at first, three the second time, three at eleven o'clock, one the fourth time, and three the last, with about nine pounds of blades without picking, divided as the grain. Some horses eat more than others, and should be allowed accordingly.\* When there is costiveness, sprinkling the fodder with water, or a mash must be given: a bucket of salt and water is also sometimes useful. Sweating should be done by heavy clothing and gentle exercise, giving the horse a swallow or two of water with a little meal stirred in it two or three times during the sweat. To put a horse in order, at least twelve weeks are necessary; for a colt, nine weeks. A colt, to be in condition to run a good race, should just be low enough to feel his ribs pretty plainly, but they should not be seen: a horse should be much lower. The usual preparation for a sweat is a mash at night, muzzled, heavy clothing, (three or four blankets,)—the next morning after breakfast, walk three or four miles, and gallop one slowly; give a mouthful or two of water,† and gallop two or more, as the weather is warmer or colder: carry him then to the stable, take out the under blanket, rolling the cover up, half at a time, scrape well, rub body and legs until perfectly dry, put on blanket and hood, and walk for an hour or two, occasionally giving a mouthful of water with a handful of meal in it, about milk warm at first. His legs, when perfectly cool, should be washed with warm water and soap, rubbed dry, and the horse put to rest and given a mash,‡ (scalded oats,) in the evening walked four or five miles.

The quantity of exercise mentioned, is for horses, after four years old, and upwards; few colts require more than three miles a day.—Every eight or ten days the horses should be taken from the exercise ground and walked on the road. A careful trainer will always know the condition of his horse's legs every morning before galloping, and decide whether they receive their work or be sent, if their legs be feverish, to have the fever extracted by standing in the water, to the pond. To keep up the appetite, I have known nothing better than a table spoonful of the powder of poplar bark, (the *liriodendron tulipifera*,) every day or two when it is observed that they are mincing their food: salt should be given once a week.

[It will be seen by a comparison of the above instructions, which correspond with the system now usually pursued in the south, that it is much milder than the system laid down by Mr. Duvall of the olden time. It is wonderful, (observes our correspondent,) how their horses could stand such severe training: and he supposes that the greater fleetness of the horses of the present day may be ascribed, in some measure, to changes which have been adopted in the system of

\*Particularly large horses: small horses sometimes will eat fourteen or fifteen quarts a day. I think thirteen enough for the latter—more is apt, I think, to give them gouty legs, &c.

†Milk warm, with a little meal stirred in it.

‡Not always necessary, except there is much costiveness.



training. It is true that many of our fine horses are let down and trained off at an early age, but that may be attributed to the severe trials to which they are put at a tender age—four mile heats, in quick time, at three years old!]

*Rules and regulations of the Richmond Jockey Club.\**

Whereas, it is necessary that all well regulated associations should have some rules for their government, and the Richmond Jockey Club being sensibly impressed with this truth, therefore resolved, that the following be the rules and regulations of the Richmond Jockey Club:

1st. There shall be two regular meetings of this Club, at Tree Hill, each year, and each to continue four days, to be called Spring and Fall meetings. The Spring meeting shall commence on the second Tuesday in May, and the Fall meeting the third Tuesday in October.

2d. There shall be a President, Vice President, Secretary, Treasurer, and four Stewards, appointed by ballot.

3d. It shall be the duty of the president to preside in all meetings of the Club; to act as judge in each day's race; appoint his assistant judges on the evening preceding each day's race; report the result of each day's race, and stand as judge in all sweepstakes, with such other persons as the parties may appoint.

4th. It shall be the duty of the vice president to attend all meetings of the Club; assist the president in the discharge of his duty; act as president pro tem. in the absence of the president.

5th. It shall be the duty of the secretary to attend the judges on each day's race; assist them with his counsel; keep a book, in which he shall record the members' names, the rules of the Club, and add to them any resolutions which may change the character of either; also record the proceedings of each meeting; the entries of horses; an account of each day's race, including the time of running each heat; publish the races, and after they are over, publish the result; for this service, he shall be exempt from paying his subscription.

6th. The stewards shall be appointed by ballot, and serve for one meeting next succeeding their appointment. They shall wear a white rose on the left side of the cape of their coat. It shall be their duty to attend on the course, preserve order, clear the track, keep off the crowd from horses coming to the stand after the close of a heat; may employ able-bodied men to assist them, who shall be paid out of any money in the hands of the treasurer, and they be designated by a red sash.

7th. There shall be three judges in the starting stand, the president and two assistant judges, whose duty it shall be to keep the stand clear of any intrusion during the pendency of a heat, except the officers, trainers, and weigher, and also see that the riders are dressed in jockey style.

8th. All disputes shall be decided by the judges of the day, from whose decision there shall be no appeal, unless at the judges' dis-

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\*The rules of New Market, (near Petersburg, Va.,) Broad Rock, and most of the courses in Virginia, are nearly the same.

erect; and no evidence to be received of foul riding, except from distance judges and patrols.

9th. There shall be two distance and three patrol judges, who shall repair to the judges' stand after each heat, and report the nags that are distanced, and foul riding if there be any.

10th. The distance of the proprietor's purse shall be three mile heats, and be run for on the second day of each regular meeting.—The purse shall be \$300—entrance \$15.

11th. The distance of the Jockey Club purse shall be four mile heats, spring and fall, and be run for on the third day of each regular meeting—entrance \$20.

12th. All sweepstakes, advertised to be run for over the Tree Hill course, on any day of the regular meeting of the Club, shall be under the cognizance of this Club; and that whenever a subscriber makes an entry, he may change it any time before the stakes closes.

13th. No person shall start a horse for any purse under the control of this Club, other than a member, he being at least one-third interested, and producing proof of his horse's age; nor shall any member start a horse, unless his entrance and subscription be paid before starting.

14th. All entries of horses to run, shall be made in open Club, on the evening preceding each day's race, by five o'clock, or during the sitting of the Club, and no entry made after that time shall be allowed: *Provided*, if there be no meeting, then with the secretary or treasurer, by five o'clock.

15th. No persons shall be benefited by the winning of any purse, under the control of this Club, unless he be a member or the owner of the horse.

16th. Any person desirous of becoming a member for the purpose of starting a horse, may do so, he being approved by the Club, and paying double entrance.

17th. The winning horse of the Jockey Club purse shall not be permitted to start for the proprietor's purse, nor the winning horse of the proprietor's purse for the Jockey Club purse, during the same meeting.

18th. No compromise or agreement between any two persons starting horses, or their agents or grooms, not to oppose each other upon a promised division of the purse, shall be permitted or allowed, and no person shall run their nags in conjunction, that is, with a determination to oppose, jointly, any other horse or horses which may run against them. In either case, upon satisfactory evidence produced before the judges, the purse shall be awarded to the next best horse, mare, or gelding; and the persons so offending, shall never again be permitted to start a horse on this course.

19th. No two riders from the same stable shall be allowed to ride in the same race; nor shall two horses, trained in the same stable, be allowed to start in the same race.

20th. Riders shall not be permitted to ride in a race unless dressed in the jockey style.

21st. Riders, after the heat is ended, must repair to the judges' stand, not dismount until ordered by the judges, and then carry their saddles themselves to the scales, there to be weighed.

22d. The rider who has won a heat shall be entitled to the track, and the foremost entitled to any part of the track, he leaving a sufficient space for a horse to pass him on the outside, but shall not, when locked by another horse, leave the track he may be running in to press him to the outside, doing which will be deemed foul riding. A rider may take the track on the inside, but he must do it at his own peril, as, should he be posted in making the attempt, it will not be considered as foul. Should any rider cross, jostle, strike an adversary or his horse, or run on his heels intentionally, or do any thing else that may impede the progress of his adversary, he will be deemed distanced, though he come out ahead, and the purse given to the next best nag: and any rider offending against this rule, shall never be permitted to ride over or attend any horse on the course again.

23d. If any nag shall run on the inside of any pole, they will be deemed distanced, although they may come out first, and the purse awarded to the next best nag.

24th. The distance stand shall be sixty yards from the judges' stand for mile heats, and sixty additional yards for every mile in a heat, unless it be the best three in five, and then ninety yards to a mile.

25th. The time between heats shall be twenty minutes for mile heats, thirty minutes for two mile heats, forty minutes for three mile heats, and forty-five minutes for four mile heats. Some signal shall be sounded from the judges stand five minutes before the period of starting, after the lapse of which time, the judges shall give the word to such riders as are ready—but should any horse be restive in saddling, the judges may delay the word a short interval, at their own discretion.

26th. A horse that does not win a heat out of three, shall not be entitled to start for a fourth, although he may save his distance. A drawn horse shall not be considered as distanced.

27th. No stud horse shall be exhibited within the walls of the course until the ladies have retired.

28th. All members and their families shall pass the gate free, and all who are not members shall pay the following tolls, viz :—for every four-wheeled carriage one dollar; for every gig and two-wheeled carriage, cart, man and horse, fifty cents: and for every person on foot, twenty-five cents.

29th. Any person who may kill a dog on the course, shall be paid two dollars out of the funds of this Club, and if there be none in hand, by the judges, out of the purse of that day on which the dog or dogs may be killed.

30th. The following weights shall be carried, viz :

2 years old, a feather,

3 “ “ 86 lbs.

4 “ “ 100 “

5 “ “ 110 “

6 “ “ 118 “

7 “ “ and upwards, 124 lbs., with an allowance of three pounds to mares and geldings. The weigher shall see that each rider shall have his proper weight, before he starts, and that they have within two pounds after each heat.

31st. The age of horses shall be recorded by the year in which they are foaled; during the year 1800, shall be considered as a yearling; during the year 1801, two years old; during the year 1802, and so on.

32d. New members can only be admitted upon recommendation; any person wishing to become a member, shall be balloted for and two black balls will exclude him.

### *Betting.*

When both parties are present, either party has a right to demand that the money be staked before the horses start; and if one refuse, the other may, at his option, declare the bet void.

If any party be absent on the days of race, the party present may declare the bet void, in the presence of the judges, before the race commences; but if any person offer to stake for the absentee, it is a confirmed bet.

A bet made on a heat to come, is no bet, unless all the horses running in a previous heat start again.

All bets made between horses that are distanced the same heat are considered drawn, and when between two horses throughout a race, and neither of them win it, the horse that is best at the termination of the race, wins the bets.

If an entrance horse, or subscriber die, no forfeit shall be required.

A premium given to another to make a bet shall not be refunded, although the bet is not run for.

### *Handy Cap Races.*

1st. The judges for the season, on meeting with the secretary, shall Handy Cap.

2d. A list of all the horses, mares, and geldings which have started at the said meeting, shall be made, to which any others, if proposed and particularly described, may be added.

3d. Any horse, &c., which has not run during the said meeting, for sweepstakes, Jockey Club, or proprietor's purse, shall carry the weights of the course.

4th. When the distance to be run, the entrance required, and the prize be agreed on, the judges and secretary shall proceed to assign them their weights.

5th. No horse, &c., shall be bound to carry more weight than the rules of the course prescribe.

6th. On the supposed best horse, &c., his or her proper weight shall be imposed.

7th. From horses, &c., of the second, third, &c., rate or reputation, as much weight may be taken as will, in the opinion of the Handy Cappers, make them equal to the first rate; in equalizing them as aforesaid, they are not bound to regard the winning horses, &c., as a change of distance, or a hard run, may change their ability to perform.

8th. Those who Handy Cap, shall particularly mark such horses, &c., which are started in shoes, or not allowed to exert themselves

in a previous race—any such horse, &c., shall carry the weight of the course, subject to the determination of the judges and secretary.

9th. As soon as the list of horses, &c., with their weights, be prepared, the secretary shall post up the same in the Club Room at this place to which shall be added the distance to be run, the sum to be run for, and the entrance money.

10th. When the aforesaid nine rules be complied with, until ten o'clock, P. M., shall be allowed the owner or starter to determine whether he will contend for the prize, and no longer; as they determine, they shall give their names to the treasurer or proprietor of the course, with a description of their horses, &c., who shall make a list of them as entered, which list shall point out their places at starting—two or more to make a race.

### *English Rules of Racing.*

Abstract of the laws which govern the Race Course in Great Britain, as extracted from a Liverpool paper.

Horses take their ages from May day, i. e. a horse foaled any time in the year 1823, is one year old on the first day of May 1824. Four inches are a hand; fourteen pounds a stone; two hundred and forty yards a distance.

Oath weights are, each to appoint a party to ride without weighing. Feather weight signifies the same. Give and take plates are weights for inches; fourteen hands to carry a stated weight, all above to carry extra, or be allowed the proportion of seven pounds to an inch. A Whim Plate is a weight for age and a weight for inches. A Past Match is to insert the ages of the horses in the articles, and to run any horse of that age, without declaring till you come to the post to start. Hand Cap weights are weights according to the supposed abilities of the horses. Plates or shoes are not allowed in the weight.

The horse that has his head at the ending post first, wins the heat. Riders must ride their horses back to the winning post to weigh; and he that dismounts before, or wants weight, is distanced. If a rider fall from his horse, and the horse be ridden in by a person of sufficient weight, he shall take place the same as if it had not happened, provided he goes back to the place where the rider fell.

Horses not entitled to start without producing a proper certificate of their age, if required; except where aged horses are included, in which case a junior horse may start without a certificate, provided he carry the same weight as an aged horse.

For the best of the plate, when there are three heats run, the horse is second who wins one. For the best of the heats, the horse is second that beats the other twice out of three times, though he doth not win the heat. When a plate is won at two heats, the preference of the horses is determined by the places they hold in the second heat. When three horses have each won a heat, they only must start for a fourth, and their places must be determined by it, though before no difference between them. No distance in a fourth heat. In running

heats, if it cannot be decided which is first, the heat goes for nothing, and they may all start again, except it be between two horses that had each won a heat. Horses drawn before the plate is won are distanced.

A bet after the heat is over, if the horse betted on does not start again, is no bet. A confirmed bet cannot be off, without mutual consent. Either party may demand stakes to be made, and on refusal may declare the bet void. If a party be absent on the day of running, a public declaration of the bet may be made on the course, and a demand whether any person will make stakes for the absent party; and if no person consent to do so, the bet may be declared void. Bets agreed to be settled in town, or any particular place, cannot be declared off on the course.

The person who bets the odds, has a right to choose the horse of the field. When he has chosen the horse, the field is what starts against him; but there is no field unless one starts with him. If odds are bet without mentioning the horse before the race is over, it must be determined as the odds were at the time of making it. Bets made between particular horses are void if neither of them be the winner, unless specified to the contrary.

At New Market, if a bet be made for any particular day in any meeting, and the parties afterwards change the day, all bets must stand; but if altered to another meeting, bets made before the alteration are void. Bets determined, though the horse does not start when the words "absolutely, run or pay," or "play or pay," are made use of in betting. For example; I bet that Mr. Udny's ch. mare, *Mirandela*, absolutely wins the King's plate at Chelmsford, in 1824. I lose the bet though she does not start, and win though she goes over the course alone.

All double bets are considered as play or pay.

Since Epsom races, 1812, all bets are made in pounds, and not in guineas, as formerly.

Horses running on the wrong side of a post, and not turning back, are distanced. Horses distanced if the riders cross or jostle. Horses that forfeit are beaten horses, where it runs or pays. Bets made on any horses winning any number of plates that year, remain in force till the first day of May. Money given to have a bet laid, not returned if not run. All matches, bets, and engagements are void on the decease of either party before determined. An untried stallion or mare, is one whose produce had not started in public at the time of closing the engagement.

In estimating winnings, it is the practice to consider the clear sum gained only, and consequently to exempt the winner's stakes. A winner of sweepstakes of twenty guineas each (three subscribers) is, therefore, not disqualified from running for a fifty pound plate, expressed to be for horses that never won a plate, match or sweep-stake of that value.

## PART SECOND.

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In this part of our compilation, the reader will find a historical description of the mule—general remarks on breeding, raising and training of them—and an estimate of their comparative value with the horse, for agricultural purposes; and their superior utility as substitutes for horses, in many respects, in point of economy, for the purpose of canal and railroad labor, &c.

The hybrid produce of an *ass* with a *mare*, is called a *mule*. The *hinny* is the hybrid produce of the she *ass* and a *stallion*.

They may be readily distinguished by the reader, if he will pay attention to the following striking marks of difference:

### THE MULE

### THE HINNY.

- |                             |                                |
|-----------------------------|--------------------------------|
| 1. Has a large clumsy head. | 1. The head is long and thin.  |
| 2. Has long, erect ears.    | 2. Ears like those of a horse. |
| 3. Has a short mane.        | 3. The mane is short.          |
| 4. The tail is very thin.   | 4. Tail well filled with hair. |

The mule is more common than the hinny; because the hinny is less hardy, less useful, and consequently, if ever, seldom cultivated.

We have been exceedingly diligent in investigating the subject of the comparative value and general usefulness of the mule. After all our enquiries, we find nothing, in all we have elicited from mule owners, to induce us to dissent from any thing that has been said by Samuel W. Pomeroy, whose invaluable essay on the natural history of the mule, for the general purposes of agriculture, in comparison with horses, we have taken from the *American Farmer*. This is a prize essay. There were seven competitors, each tasking his time, and bringing all that was available into requisition to obtain the premium, a silver cup of thirty dollars value, offered by the patriotic and well known Robert Oliver, Esq., for the best essay on the mule.

## A DISSERTATION ON THE MULE.

By *S. W. Pomeroy, Esq., V. Pres. Mass. Ag. S. H. A. U. S. Cor. Mem. Imp. Ag. S. of Florence.*

Opinion is the Queen of the World—it gives motion to the springs, and directions to the wheels of power.—*John Q. Adams.*

Knowledge is power.—*Bacon.*

Economy is power.—*Burke.*

Soon after the accession of Charles III. to the crown of Spain, he issued a severe edict, prohibiting his subjects from wearing *flapped hats and cloaks*; which caused an insurrection that obliged him to leave Madrid, after witnessing the massacre of near a hundred of his Walloon guards; and might have terminated in a revolution but for the immediate banishment of his ministers, and the revocation of the edict. An eminent writer has introduced a history of the occurrence, by observing, that “it is easier to conquer half the world than to subdue a single prejudice or error; most nations having a superstitious attachment to those habitudes which they derive from their ancestors, that seemed to come along with them into the world, and with which they were nursed and brought up.”

Perhaps it may be deemed by many quite as visionary or absurd, to attempt an introduction of the mule, as a substitute for the horse, for the purposes of agriculture and hackney employments, as was the project of the Spanish monarch for compelling his subjects to wear the *French costume*, to the exclusion of one they had been so long accustomed to look upon as a *distinction*, which was the birth-right of every true Spaniard; and as we may suppose, so congenial to the indolent habits for which that nation had long been proverbial.

It must be acknowledged that there are serious, though I trust in this age of improvement, not insurmountable impediments—for we have to combat not only hereditary prejudices, or, to speak more correctly, such as have proceeded from a deficiency of means and want of knowledge, to develop the valuable properties, and to subdue propensities of a contrary character in this hybrid race, but we are met at the threshold by the same species of pride which the Spaniards manifested in regard to their costume, founded on the enthusiastic, I may almost say, superstitious attachment to the horse.

It is believed that a vast portion of our countrymen, and I may with propriety add the people of Great Britain, from whom we have derived a few inveterate prejudices, as well as many illustrious examples that have had a commanding influence in leading our country to the high destinies that await her, do not consider that a *mule*, especially a well bred one, would be in their view, one of the most desirable of animals if they had never seen a *horse*; it must be admitted, however, that he holds the second rank, and it is principally from this circumstance, that so little attention has been paid to him in both countries. Comparison is the chief cause of his degradation—they look at and give their opinions not of himself, but comparatively with



the horse. They seem not aware that he is a *mule*—that he has all the qualities of his nature, all the gifts attached to the connecting and final link of two distinct species, and think only of the figure or more shining qualities of the horse which are wanting in him, and that we cannot expect him to have; for he possesses those of more intrinsic value, which the Supreme Author of nature has denied to both of his parents.

There are few subjects of animated nature that have engaged the attention of the most eminent naturalists, more than the genus *Equus* to which the horse and ass, with their *hybrid* offspring, are assigned. *Linnæus*, with a view to establish by new arguments, his doctrine or theory of the *sexual system* of plants, which *Spallanzani* had attempted to overturn, illustrated their generation by pursuing the chain of nature from the animal kingdom to the vegetable; and exhibited, as prominent examples, the two different productions of mules. He says, “from the mare and male ass proceeds the mule, properly so called, which in its nature, that is, in its medullary substance, nervous system, and what *Malpighi* calls the keel, (*carina*, *БОТТОМ*, in sportsmen’s language,) is latent in, and derived from the mare. But in its cortical substance and outward form, in its mane and tail, resembles the ass. Between the female ass and the horse, the other kind of mule is engendered, whose nature or medullary substance resembles that of the ass; but its outward form and cortical structure, or vascular system, that of the horse.”\* This race were denominated *Hinne* and *Hinnus* by the ancients, from their *neighing* somewhat like a horse, a name they still retain. They were not held in much estimation by the Romans, according to Pliny, who describes them as difficult to manage, and so slow that little service could be derived from them. Buffon has noticed this animal, which he calls *Bordeau*, and says it is smaller than the mule, as it preserves the diminutive stature of the ass. It has been stated, however, by some of our worthy and intelligent Navy officers, that they have raised *Hinnys* in *Spain*, that were of respectable size, and more beautiful than the mule; that is, they resemble the horse much more; and if my information is correct, a few have been bred upon the *Spanish main* and shipped to the West India Islands; but were by no means esteemed so hardy or valuable for service as mules.

Notwithstanding mules have a disposition to propagate, there have been but two or three well authenticated instances recorded of their having bred; and those productions were considered monsters—such a phenomenon among the ancients was deemed a prodigy.† Buffon was indefatigable in his researches on the subject; and although he admits that it is possible for either *gender* to propagate, he is confident that their parents are of a species distinct from each other. He

\* See “a dissertation on the sexes of plants,” by Sir Charles Linnæus—read before the Imperial Academy of Sciences at St. Petersburg, Sept. 6, 1760—and which obtained the premium of one hundred golden ducats.

† *B. Orth*, of Lebanon county, Pa., informed us that a mule of his had a perfect foal in 1838, and was then doing well,—*Compiler*.

says "the ass is an ass, and not a horse degenerated," as some have supposed, "he is neither a stranger, an intruder, nor a bastard—he has, like other animals, his family, his species, and his rank: his blood is pure and untainted, and although his race is less noble, yet it is equally good, equally ancient as that of the horse." This profound naturalist continues a very minute and eloquent comparison between the horse and the ass—some of his expressions I have taken the liberty to apply to the *mule* and the horse in a preceding paragraph.

It may promote the object in view, to enter extensively upon the history of the ass; and we commence with the supposition, that when men became so far civilized as to have burdens to *carry*, or required to be *carried* themselves, this animal was the first domesticated for that purpose—and it is reasonable to infer that those of the least spirit and most tractable, were put in requisition in the first instance; when by breeding *in* and *in*, without any care in the selection of *sire* or *dam*, became in process of time degenerated to very inferior grades. Be this as it may, it is an unquestionable fact that different races of the ass now exist, possessing properties as distinct as are found in the family of the *camel*. For instance, the *dromedary*, selected from the race of *single hunched* camel by far the most numerous, and to whom they bear the same relation as the full-bred *courser* does to the ordinary horse—requiring the same care to preserve the purity of blood, is of slender form, long and tall—never permitted to carry burdens; but with a *rider*, is able to traverse vast tracts of desert, with the *continued* speed of a *high mettled race horse*. The *bactrian* camel with two protuberances on his back, though shorter, is much heavier and more muscular; travels at a pace seldom, if ever, exceeding three miles an hour, and is capable of conveying such burdens that the Arabs style him emphatically, "the *GREAT ship of the desert*;" yet they are of the same species—a cross between them, breed and constitute another variety, which multiply, and, according to Buffon, have the most vigor, and are preferred to all others.

Ancient writers recognize several distinct varieties of the ass.—According to Dr. Harris four different races are indicated in the original Hebrew scriptures, viz: Para, Chamor, Aton and Orud.\* The wild ass (Para) was a native of Arabia Deserta and those countries which formed the great Assyrian empire. They are now found in southern Tartary, in the mountainous districts and saline plains of Persia, are migratory in large herds, visiting in winter the northern parts of India, and said to be so fleet that no horse can overtake them in the chase. This race is frequently alluded to by the inspired writers; and afford similies diametrically opposite to those drawn from the domestic race. The sublime description of the former in the

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\* See the Natural History of the Bible, by Thaddeus Mason Harris, D. D. 1 vol. 8vo. Wells & Lilly, Boston. A work I would earnestly recommend to those readers of the sacred volume, who are desirous to be better acquainted with many allusions to subjects of natural history, founded on their nature, habits and characteristic qualities, developing beautiful similies, which would otherwise lie concealed, and enabling them to judge more correctly of the propriety of such allusions.

book of Job, exhibits such a contrast, that I trust its insertion in this place will not be deemed improper :

“ Who from the forest ass his collar broke,  
 And manumized his shoulders from the yoke ?  
 Wild tenant of the waste, I sent him there  
 Among the shrubs, to breathe in freedom's air,  
 Swift as an arrow in his speed he flies ;  
 Sees from afar the smoky city rise ;  
 Scorns the thronged street, where slavery drags her load,  
 The loud voiced driver and his urging goad ;  
 Where'er the mountain waves its lofty wood,  
 A boundless range, he seeks his verdant food.”

SCOTT'S VERSION.

It appears that at a very early period of sacred history, the common domestic ass (Chamor) was employed in all the menial labors of a patriarchal family, while a nobler and more estimable breed (Aton) was destined to carry the patriarchs, the well-born, and those on whom marks of distinction were to be conferred. Balaam rode upon an Aton. This race constituted an important item in a schedule of the pastoral wealth of those times ; of course attracted particular attention and care. Saul, after searching three days, applied to Samuel, as a seer, to discover where his father's atonoth (female plural) had strayed. And David it seems had an officer, apparently of high dignity, appointed expressly to superintend his stud of atonoth, or brood asses of the superior race.

There was another race called by Aristotle half-ass (Hemionus) which is also mentioned by Theophrastus, whom Pliny quotes, as the wild mule that bred ; and were found in Africa and the northern parts of Asia Minor. There can be no doubt but this is the same race discovered by Professor Pallas among the Mongolian Tartars, which he so particularly describes under the name of Hemionus or wild mule that breeds, and that it is not a hybrid, but actually of the species of ass resembling a mule.\* This race is identified by Harris, with the orud of scripture.

The wild ass of northern and western Africa, whose flesh was so much admired by the Roman epicures, may, I believe, be ranked as another distinct race. Adamson, a French naturalist, who resided a number of years on the banks of the Senegal, describes those brought from the interior by the Moors, as so essentially different from any he had seen in Europe, it was with difficulty he could recognize them to be the same species—neither do they answer the description of the wild ass of Asia, of which we have been speaking. But his ac-

\* *Heroditus* says that in the army of *Xerxes*, which invaded Greece, there were chariots of war drawn by wild asses. M. Lardner, a celebrated commentator, renders them Zebras in his French translation, which he supports from *Oppian*, lib. 3, v. 183. But it is now supposed, that the Zebra is of a species distinct from the ass ;—and *Buffon* asserts, that none were ever discovered out of Africa : and there only in the southern hemisphere. It is therefore highly probable, that those alluded to, were the Hemionus, which are described as much larger than the wild ass, and nearer the size and form of the Zebra.—See *Beloe's Heroditus, Polymnia*, Chap. 86.

count of them corresponds with the diminutive domestic race introduced from Africa, particularly from Senegal and the Cape de Verd islands; and from which the small race of Donkeys now in Europe and in this country may with great probability claim their origin.

The Arabian ass, like the horse of that country, is considered the most estimable of his species—and there are strong reasons for concluding that he is descended from the Hebrew Aton so highly valued by the patriarchs, judges and kings of sacred history; and that the same race have been preserved in some degree of purity to the present time. Indeed there can be but little doubt on the subject, if we admit the fact, that the habits, manners and pursuits of the descendants of Ishmael, have continued with scarcely an iota of variation, from the day they took rank among the nations of the earth. This supposition seems to be fully confirmed by the observation of a recent traveller of celebrity—who says: “at Orfah, the Ur of the Chaldees, Haran, the residence of Abraham and Laban, was pointed out at a distance of eight hours. Here and throughout the journey, the leading incidents of the pentateuchial history, live in local traditions; and the habits of life bear perpetual and most striking illustrations of manners recorded in the sacred history. The habits of the people in these regions, under all the various changes of their civil and religious relations, are as immutable as their deserts, their rivers, and their mountains.”\* Our position is further strengthened by information from an intelligent traveller of undoubted veracity, who has visited Arabia on the south-western side of the Peninsula to Mocha; and on the eastern, to the confluence of the Euphrates and Tigris. He represented the superior race of asses of that country, as most beautiful—of perfect symmetry, great spirit, activity and vigor; many of which could not be purchased for less than four or five thousand dollars—an enormous price, considering the value of money among those people. It is also a fact, that the Arabs are as tenacious of preserving the pedigree of their horses, as the most careful breeder for the turf in England—and not less so of their asses. The descent of some of them, they trace to those in the train of the Queen of Sheba when she visited Solomon—as they also do that of their horses to the numerous stud of that wise and gallant king.

Dr. Harris supposes the wild ass (Para) to be the Onager of the Greeks and Romans—and that the Aton was of a different kind; but may not writers of different periods have confounded the wild ass with the Aton in their representations of the Onager? for it is not improbable, but that the Aton was of the most improved breed known, produced from crosses of a choice selection of the domestic, the wild ass, and the Hemionus or wild mule—which last Professor Pallas recommends to complete the perfection of the species. This supposition is supported by Buffon, who infers as a certain fact, that by a cross of the remotest of different races of the ass, the most beautiful productions are obtained.

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\*Buckingham's travels in Mesopotamia, including a journey from Aleppo across the Euphrates to Orfah (the Ur of the Chaldees and Edessa of the Greeks.)

The production and employment of mules may be traced to a remote period of antiquity.\* The scripture account of them and their importance in the equipage of princes, is familiar to every one. Homer is quite diffuse in his description of them.† Heroditus who is styled the father of history, makes frequent mention of these animals; and it is known that they were introduced in the chariot races at the Olympic games, in the seventeenth olympiad, about five hundred years before Christ. The Romans well knew their value. Pliny informs us, from Varro, that Q. Axius, a Roman senator, paid four hundred thousand sersterces, upwards of thirteen thousand dollars, for a male ass for the propagation of mules; and he says further, that the profit of a female ass in breeding stock for the same purpose, was estimated in Ceteberia, now the kingdom of Valencio in Spain, at a like sum. We may infer from a passage in Tacitus, and in Plutarch's life of Marius, that mules were generally employed to transport the baggage of the Roman armies; and that the superior officers rode those of a high grade, having their horses led. It seems that the dillitanti of Rome held them in great estimation; as we are informed that there was no lady who had any pretensions to fashion, but had her saddle mule; and that those of Nero and Poppea were shod with gold and silver—not plates, as iron shoes are now formed, but the whole hoof enclosed.‡

As it is not requisite to pursue our history of the mule any further among the ancients, we shall drop their appellation of male and female ass, and adopt the modern one of *Jack* and *Jennet*.

Spain has continued to support the reputation for a superior race of

\*There is, among the learned, a diversity of opinion as to the production of the mule. The Hebrews, says Paxton, of Edinburgh, ascribe the invention of mules to Anah, B. C., 1796—Gen. 26: 24. This opinion is called in question by Michaelis, and others, by translating the Hebrew word *emim*, giants, and not mules, as it is translated in the common version, or *Maulpferde*, in German. We have no space to enlarge, but we would add, that for reasons, satisfactory to us, we think that *emim* might be translated with propriety, waters, springs, warm medicinal springs. The root of the word *emim* is *ime*, to be hot, to boil. To discover such springs, (for it is ascertained that there are, in that region, medicinal fountains,) would be as memorable an occurrence; and it is as likely to be made by Anah, in the wilderness, as he fed the asses of Zibeon, his father, as that he found the mules.—*Compiler*.

‡“ And twelve young mules, a strong laborious race,  
New to the plough, unpracticed to the trace.

The royal car, at early dawn obtain,  
And order mules obedient to the rein.

Now mounting the gay seat, the silken reins  
Shine in her hand; along the sounding plains  
Swift fly the mules; nor rode the nymph alone;  
Around, a bevy of bright damsels shone.”

*Homer's Odessey, books 4 and 6.*

‡The Roman ladies had equipages drawn by mules, as appears from medals of Julia and Agrippina—and at this day, we may add, in Spain, the carriages of the nobility, and even of princes, are usually drawn by mules.—*Compiler*.

mules to the present period; and it is probable that the Arabian breed of jacks were introduced by the Moors, when they held possession of that fine country; which by crosses and the effects of soil and climate, have formed two valuable races which we shall notice in the sequel.\*

The Portuguese race are supposed to differ but little from the Spanish; those, however, that have come within my view, were strikingly inferior in every point.

It was not until the close of the sixteenth century, that *coaches* were used in France; before which, it is said, the nobles rode to court, parliament, &c., on mules that were brought from the vicinity of the Alps and Pyrennees. They were usually black, of large size, well made, and mostly bred from fine Spanish mares. Savoy, has long been noted for an excellent breed of mules. None very extraordinary are found in Italy; those used by the Veterino, are strong and of respectable size, but of a sluggish and debased spirit.

Very little can be said of those animals in Great Britain. The *Catholic prelates* brought over a number of superb mules prior to the reformation; but in the reign of Elizabeth, so little was known of them, that a writer of that period says: "in Devonshire, some were produced by a jack brought from France, and were knocked on the head by the people, who viewed them as monsters." A superior race of mules were bred in Flanders, from jacks introduced by the Spanish monarchs, while they held dominion in that country. Fifty of them were brought to England by the Duke of Cumberland, presented to him by the Empress Queen, and from their beautiful appearance, engaged the attention of a few individuals; but the spirit soon subsided, notwithstanding those who bred and used them, were warm in praise of their utility. Among a voluminous mass of treatises on agriculture and rural economy, published in that country, scarce a line can be found devoted to the mule, except by Dr. Anderson, who, in his "Recreations in Agriculture," has a few judicious remarks on the subject.

Indeed, the result of extensive research justifies the conclusion, that the only treatise published in any language, embracing a system of breeding asses and mules, is contained in twelve books on the husbandry and economy of the Romans, one of the most valuable works that has been handed down to us, and written in the reign of the Emperor Claudius, by Columella, in which is displayed the genius of a naturalist, and the labors of an accurate observer. He was a native of Cadiz, and owned estates in Spain, where the finest mules were then bred, and from whence the patricians and dignitaries of Rome were supplied at enormous prices. Varro, to be sure, has

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\*The extensive use of mules in Spain at one period, produced fears that the breed of horses might decline, and a royal ordinance prohibited their employment under the saddle, to all but the high nobility and privileged orders—so that even Columbus, one of nature's noblemen, was obliged to apply for permission to ride from Seville to court on a mule; which was granted in consideration that his age and infirmities incapacitated him from riding on a horse.—See *Irving's Life of Columbus*.

given directions relative to these animals, but so blended with fable, as not to deserve attention. In the third book of Virgil's *Georgics*, however, may be found a few lines highly pertinent to the subject of breeding mules.

In our own country, prior to the war of the revolution, a few jacks of an ordinary kind were imported—a small number of mules bred; and all exported to the West Indies. I have reference to New England, as I am not aware that any attention was paid to the system in the middle or southern states, though it is not improbable that some valuable mules may have been raised by the farmers and planters for their own use. When peace took place, the price of mules in the West Indies excited attention to the breeding of them, which was principally confined to Connecticut: and several cargoes of the small race of jacks were imported from the Cape de Verd islands, and St. Michael, one of the Azores.

It should be observed that the exportation of jacks from Spain, or any of her colonies, was strictly prohibited, and continued to be till after the peninsular war. From this miserable stock, a system of breeding mules commenced, the best calculated to deteriorate any race of animals, that has been or could be devised since their creation. The purchaser of a jack, when about to commence mule-dealer, made little enquiry concerning him, but of his capacity to propagate a mule. He placed him in a district where there was the greatest number of mares of qualities so inferior, that their colts would not compensate them for the expense of taking them to a horse, and contracted to purchase their mules at four months old. Those are kept in herds, with precarious shelter in winter, having ample opportunities to mature and transfer that propensity for kicking, which seems at first merely playful, into an habitual means of defence, to be exercised when the biped or any other race of animals approach them. In this kicking seminary, they remain two years, and are then driven to market. At subsequent periods, a few jacks of higher grades were procured, from which a small number of good sized mules were bred and a few of them broke. The breed of jacks has now somewhat improved, and mule-dealers are now located in most of the New England states and some parts of New York. But the system as above detailed, with few exceptions, has continued; and it is from such a race of jacks and such a system of breeding and management, that the mules have been produced with which the farmers and planters of Maryland, Virginia, and the southern states have been supplied from New England; and such have furnished a criterion for a great portion of our countrymen to form an estimate of the value and properties of this degraded animal. It affords us great pleasure to be enabled to pursue our investigation in a higher sphere.

After the father of his country had secured its liberties and retired to Mount Vernon to enjoy his favorite pursuit, a correspondence was solicited with this illustrious personage, by many of the most distinguished characters in Europe; and which he strongly encouraged, if the subjects related to agriculture or the arts. Among them was Arthur Young, who, by a life devoted to experimental farming and

voluminous publications, particularly his tours and annals, infused a spirit into the landed interest, which gave an impetus to improvements in agriculture and rural economy in Great Britain, that was productive of such results at a subsequent period, that enabled his countrymen to subsist, while defending single-handed, their own liberties and those of the civilized world.

The following is an extract of a letter from General Washington to Mr. Young, dated, Mount Vernon, December 4, 1788: "I am glad to find you are propagating the Spanish breed of sheep in England, and that the wool does not degenerate:—for the multiplication of useful domestic animals is a blessing to mankind. I have a prospect of introducing into this country a very excellent race of animals also, by means of the liberality of the King of Spain. One of the jacks which he was pleased to present to me, (the other perished at sea) is about fifteen hands high, his body and limbs very large in proportion to his height; and the mules which I have had from him, appear to be extremely well formed for service. I have likewise a jack and two jennets from Malta, which the Marquis de Lafayette sent to me. The Spanish jack seems calculated to breed for a heavy slow draught; and the others for the saddle, or light carriages.

"From these altogether, I hope to secure a race of extraordinary goodness, which will stock the country. Their longevity and cheap keeping, will be circumstances much in their favor. I am convinced from the little experiment I have made with the ordinary mules, (which perform the same labor with vastly less feeding than horses,) that those of a superior quality, will be the best cattle we can employ for the harness; and indeed, in a few years, I intend to drive no other in my carriage; having appropriated for the sole purpose of breeding them, upwards of twenty of my best mares."

It will be recollected, that a few months subsequent to the date of this letter, the writer was again called into the service of his country, and during a period of eight years, at a very important epocha, could not devote a moment's personal attention to the experiments he had contemplated with so much zeal.

Several of my friends who had viewed the jacks and mules at Mount Vernon, in the lifetime of General Washington, gave such glowing descriptions of them, and understanding that part of that stock was inherited by George W. P. Custis, Esq., I was induced to address a few queries to him on the subject: this gentleman, with his characteristic urbanity, very promptly furnished replies, with liberty to make such use of them as I pleased, and I cannot do better, than to transcribe them from a letter received about three years since. Mr. Custis observes:

"Royal Gift and Knight of Malta, were sent to Gen. Washington about the year 1787; the Gift, with a Jennet, a present from the King of Spain; and said to have been selected from the royal stud. The Knight, I believe, was from the Marquis de Lafayette, and shipped from Marseilles. The Gift was a huge and ill shapen jack, near sixteen hands high, very large head, clumsy limbs, and to all appearance little calculated for active service: he was of a grey color, proba-



ably not young when imported, and died at Mount Vernon, but little valued for his mules, which were unwieldy and dull. The Knight was of a moderate size, clean limbed, great activity, the fire and ferocity of a tiger, a dark brown, nearly black color, white belly and muzzle; could only be managed by one groom, and that always at considerable personal risk. He lived to a great age, and was so infirm towards the last as to require lifting. He died on my estate in New Kent, in the state of Virginia, about 1802 or 3. His mules were all active, spirited and serviceable; and from stout mares attained considerable size.

“General Washington bred a favorite jack called Compound, from the cross of the Spanish and Maltese. The Knight upon the imported Spanish Jennet. This jack was a very superior animal: very long bodied, well set with all the qualities of the Knight, and the weight of the Spanish. He was sire of some of the finest mules at Mount Vernon, and died from accident. The General bred mules from his best coach mares, and found the value of the mule to bear a just proportion to the value of the dam. Four mules sold at the sale of his effects, for upwards of eight hundred dollars, and two more pairs, at upwards of four hundred dollars each pair; one pair of these mules were nearly sixteen hands high. The only jacks I know of at present, of the genuine Mount Vernon stock, are, one sold by me to Judge Johnson, of South Carolina, for five hundred dollars, at two years old; one given by me to William Fitzhugh, Esq., and one which I believe is possessed by my uncle, George Calvert, Esq., of Riversdale.

“The jack purchased by Judge Johnson, I have understood, has a very high reputation in the south.

“Upon losing my groom, (Peter,) who was the first and last groom to the Mount Vernon jacks, I parted with my stock.

“There are many jacks that have come into the country of late years, but of their value and properties I am unable to speak: though I rather presume that they are generally small, and only fitted to get mules for the cotton cultivation in the light lands of the south. Some very fine mules are raised about Hagerstown, Maryland, from jacks of the old breed; they are bred from stout wagon mares.

“As to my opinion of the value of mules, I shall always appear extravagant. I have scarce a horse on my estates for agricultural purposes, nor would I accept one as a gift, (except for road wagons,) of which I have no need, as my property lies upon navigable water.—Nothing ever was so good as mules for the uses of this, our southern country; they live longer, eat less, and above all, are better suited to our slaves than any other animal could possibly be; their strength, patient endurance of privation and hardships, slender pasturage, exposure—and in short, all those ills to which animals are subject where slaves are their masters, give to mules a decided preference in all the agricultural states of the south.

“I do not know of any being trained to the purposes of pleasure carriages. They are often ridden, and go pleasantly, with great surety of foot. I have no doubt, that in time they will be generally

used for carriages, and would particularly suit mail coaches; they are very swift and have great durability in travelling."

The Knight of Malta, mentioned by Mr. Custis, was unquestionably the first Maltese jack ever brought into the United States. The second came in the frigate Constitution, on her return, I think, from her first cruise in the Mediterranean; and, I have understood, was sold in the District of Columbia, or one of the adjoining states.—Since that time, a number have been introduced by officers of the navy from Malta—and the large Spanish breed from Minorca and Majorca. From the Mount Vernon and those stocks, some fine mules have been bred in the middle states, and probably farther south. A few valuable Maltese jacks have been imported in merchant ships.

The impressions received, when on a visit to the West Indies in my youth, by observing, on the sugar plantations, the severe labor performed by mules in cane mills, induced me, when I commenced farming, to purchase the first well broke mule I could light on; and notwithstanding he was so small as to require a vehicle and harness constructed purposely for him, his services were found so valuable, and the economy of using those animals so evident, that I was stimulated to great exertions for procuring several others of larger size; in this I succeeded, after great difficulty, to such an extent, as to have had more labor performed by them on farm and road, for thirty years past, than any other person, I presume in New England; and every day's experience has served to fortify my conviction of the superior utility of the mule over the horse, for all the purposes for which I have proposed him as a candidate. And it should be considered, that those I have used, were of an ordinary breed, vastly inferior to such as may be easily produced in our country, by attention to the introduction of a suitable race of jacks, and a proper system of breeding and management. The question occurs, how is this to be effected? I will premise, that there exists a strong analogy between three varieties of the horse, and those of the domestic ass, considered the most valuable. We have the Arabian, the hunter, and the stout cart horse. There is the heavy Spanish jack, with long slouching ears, which Mr. Custis has described, that answers to the cart horse; another Spanish breed called the Andalusian, with ears shorter and erect, of tolerable size, plenty of bone, active, more spirited, and answering to the hunter. Then comes the Arabian jack, with ears always erect, of a delicate form, fine limbs, and full of fire and spirit. Judicious crosses from these varieties, will be requisite to produce such kind of mules as may be wanted for general purposes. From the small jack of African origin, with a *list* down his back and shoulders, are bred a small race of mules, by far the most hardy of any. With attention to the selection in breeding the jacks, with, perhaps, a *dash* of some cross of the foregoing description, a stock of mules may be produced, preferable to all others, for the light lands and cotton culture of the middle and southern states.

To procure any number of Arabian jacks from their native country, is hardly practicable at the present time. Egypt has been celebrated by Sonnini and other travellers, for superb jacks of the Arabian breed,

which probably has been often improved by those introduced by the pilgrims from Mecca. I apprehend no great difficulty in obtaining them from that country. There is, however, no question, but the Maltese jacks are of the Arabian race, more or less degenerated.—The most of those brought to this country, that I have ever seen, were selected on account of their size, and had been used to the draught. I should recommend the selection of those that are esteemed most suitable for the saddle, as likely to possess greater purity of blood. A jack of this kind was, a number of years since, imported from Gibraltar, that had been selected by a British officer at Malta, and very much resembled the Knight of Malta described by Mr. Custis. I found upon a careful examination, that he differed but little from the description I had heard and read of the Arabian race; indeed I could discover some prominent points and marks, that agreed with those found by Professor Pallas, to belong to the Hemionus, or wild mule of Mongalia. From this jack I have a stock, out of a large Spanish Jennet of the Andalusian breed, that correspond very minutely with Mr. Custis' description of Compound, bred by General Washington, and also a mule, that now, not three years old, stands fifteen hands, and has other points of great promise.

Such have been the ravages of war and anarchy in Spain for a long time past, that the fine race of jacks that country once possessed, have become almost extinct. In Majorca, and probably some part of the coast of Spain opposite, the large breed may be obtained; and there formerly was a superior race in Andalusia, which it is hoped have been preserved. Crosses on one of these breeds by the Arabian or Maltese, I consider indispensable to furnish a race of jacks for the production of the most desirable mules, uniting the weight and bone of one, with the spirit and vigour of the other: although their height will in a great measure, depend on the mares; yet if sired by full-blooded Maltese jacks, their limbs are too slender and their pasterns too long for heavy draught; but for the saddle, especially from blood mares, they are admirable, and out of stout mares, suitable for light carriages.

My attention has been but lately directed to breeding mules; and those intended only for my own use. The system adopted, is to halter them at four months, and have the males emasculated before six months old; which has great influence on their future conduct, and is attended with much less hazard and trouble, than if delayed until they are one or two years old, as is the general practice. If they are treated gently, and fed occasionally out of the hand, with corn, potatoes, &c., they soon become attached; and when they find that "every man's hand is not against them," they will have no propensity to direct their heels against him, and soon forget they have the power. In winter, they should be tied up in separate stalls, and often rubbed down. By such treatment, there is not more danger of having a vicious mule than a vicious horse—and I am decidedly of opinion, that a high spirited mule so managed and well broke, will not jeopardize the lives of men, women or children, by any means so much as a high spirited horse, however well he may have been trained.

The longevity of the mule has become so proverbial, that a purchaser seldom inquires his age. Pliny gives an account of one taken from Grecian history, that was eighty years old; and though past labor, followed others that were carrying materials to build the temple of Minerva at Athens, and seemed to wish to assist them, which so pleased the people, that they ordered he should have free egress to the grain market. Dr. Rees mentions two that were seventy years old in England. I saw myself a mule perform his task in a cane mill, that his owner assured me was forty years old. I now own a mare mule, twenty-five years old, that I have had in constant work twenty-one years, and can discover no diminution in her powers; she has within a year past, often taken upwards of a ton weight in a wagon to Boston, a distance of more than five miles. A gentleman in my neighborhood has owned a very large mule about fourteen years, that cannot be less than twenty-eight years old. He informed me a few days since, that he could not perceive the least failure in him, and would not exchange him for any farm horse in the country. And I am just informed, from a source entitled to perfect confidence, that a highly respectable gentleman and eminent agriculturalist, near Centreville, on the eastern shore of Maryland, owns a mule, that is thirty-five years old, as capable of labor as at any former period.

The great Roman naturalist, in one of the most beautiful passages of his elaborate history of nature, observes that "the earth is constantly teased more to furnish the luxuries of man than his necessities."\* We can have no doubt but that the remark applied with great justice to the habits of the Romans in the time of Pliny; and I am confident, that ample proofs can be adduced, that it will lose none of its force or truth, at the present period, in all northern climates, or any section of the United States where the horse is employed for agriculture as well as for pleasure. Far be it from me, however, to disparage this noble animal, on the contrary, I feel a strong attachment for him; and at the same time, a full conviction, that the substitution of the mule, for the purposes before stated, as extensively as may be consistent with the requisite production of each species, will have the effect of restoring the horse to the station from which he has been degraded, and place him, as in former ages, upon a more dignified footing—an object of acknowledged luxury; and thereby introduce a more correct system of breeding and management, in which our countrymen are so generally deficient, consequently more perfect animals, and such an advance in the price of them, that will

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\*"It is the earth, that like a kind mother, receives us at our birth, and sustains us when born. It is this alone, of all the enemies around us, that is never found an enemy to man. The body of waters deluge him with rains, oppress him with hail, and drown him with inundations; the air rushes on in storms, prepares the tempest, or lights up the volcano; but the earth, gentle and indulgent, ever subservient to the wants of man, spreads his walks with flowers, and his table with plenty; returns with interest every good committed to her care, and though she produces the poison, she still furnishes the antidote, though constantly teased more to furnish the luxuries of man than his necessities, yet even to the last she continues her kind indulgence, and when life is over, she piously hides his remains in her bosom."—*Pliny's Natural History, Book II., Ch. 63.*

afford the farmer what he is now a stranger to—such remuneration as will make his brood mares a profitable species of stock. And it is obvious, that the system will be followed by an improvement in the breed of mules, in the same ratio as the miserable race of scrub mares, which are now consuming the profits of agriculture, shall become extinct.

It does not appear that the horse was employed by the ancients for any purpose of husbandry. The ox and the ass drew the plough and the wain, and performed all kinds of drudgery, until after the feudal system was established in Europe; when it is probable, that the numerous retainers of the feudal lords, who held their lands by the tenure of performing knight's service, found themselves under the necessity of making the horses they were obliged to keep, contribute towards their support in the cultivation. From this time I believe we may date, and to this cause may be attributed the introduction of the horse for the purposes of agriculture. Since that period, the history of Europe is little else than the annals of war and its preparations; and no material for that scourge, except the deluded human victims, seems more necessary than the horse; accordingly we find, that throughout the whole country, from the Rhine or the Seine, to beyond the Danube and Vistula, which has been the principal arena, the system of agriculture has embraced extensively, the breeding of horses of grades and forms adapted to the several uses of war. Indeed, whole provinces are appropriated almost exclusively to the rearing of those animals for disposal to the different combatants; and it must be obvious, that their general use in husbandry, at the same time, would follow as a necessary consequence. It cannot be expected, therefore, but that the Dutch and Germans who have emigrated to our country, should bring with them such strong predilections for the horse, which have continued with most of their descendants, especially in those sections where communities of that respectable and industrious portion of our population have been located. In Great Britain, to the causes which have produced the effects described on the continent, may be added the insular position of the United Kingdom, vulnerable from numberless and distant points, the horse has been considered, in connection with the unconquerable spirit of the nation, as one of the most efficient means of repelling invasion. A circumstance that would itself be sufficient to account for the over-weening attachment to this animal. But identified, as his services have been for a long period, with the convenience, sports and recreations of all ranks and classes, and the science of breeding and training forming a characteristic feature, it could not excite surprise, if the approach of that terrible spectre, famine, should produce little or no effect in the reduction of the number. And although some of the most distinguished characters of the nation, eminent for their practical knowledge in rural affairs, have been for half a century, advocating the substitution of the ox for the purposes of agriculture, and demonstrating the feasibility, economy, and vast saving of food, yet it is said the number of laboring oxen have lately diminished and horses increased. Five millions of the latter are now supposed to subsist

in the United Kingdom, and two-thirds employed in husbandry—consuming, at a moderate estimate, the produce of twenty millions of highly cultivated acres.\* And what is the consequence? Consumption follows so closely upon supply, that at every season of harvest, let the preceding one be ever so abundant, fast sailing vessels are riding in the various ports with their anchors atrip, to convey intelligence of the result to all parts of the world where a surplus of bread corn is grown—exciting such an interest in our own country, that the farmer on the shores of Erie and Ontario, and on the banks of the Ohio, may be seen reading bulletins of British weather—the rain and sunshine of every day in July, and the two following months—often within thirty days after the time of their publication in London or Liverpool. Can it be supposed that in a country, where an attachment to the horse borders so nearly upon infatuation, that the question of the utility of the mule as a substitute, would be seriously agitated, or engage scarce a momentary investigation?

In no country is the mule better adapted to all the purposes of husbandry, for which the horse is used, than in every section of our own. And it would be highly desirable to be able to exhibit a calculation of the actual saving in dollars and cents, by his employment; but unfortunately, no correct data can be had. And as I consider such calculations, unless founded on experimental facts, and those multiplied, to be as “tinkling cymbals,” I shall merely submit a desultory comparison between the mule and the horse, derived from such facts as my own experience, and information from authentic sources, will justify the assumption of.

From what has been stated respecting the longevity of the mule, I think it may be fairly assumed, that he does not deteriorate more rapidly after twenty years of age, than the horse after ten, allowing the same extent of work and similar treatment to each. The contrast in the mule's freedom from malady and disease, compared with the horse, is not less striking. Arthur Young, during his tour in Ireland, was informed, that a gentleman had lost several fine mules, by feeding them on wheat straw cut. And I have been informed, that a mule-dealer in the western part of New York, attributed the loss of a number of young mules during a severe winter, when his hay was exhausted, to feeding them exclusively on cut straw and Indian corn meal. In no other instance have I ever heard or known of a mule being attacked with any disorder or complaint, except two or three cases of inflammation of the intestines, caused by gross neglect in permitting them to remain exposed to cold and wet, when in a high

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\*Mr. Pitt, in an able “essay on the consumption of corn,” published by the Board of Agriculture in 1806, estimates that each draught horse employed on roads, canals and mines, in pleasure carriages of all descriptions, and carts in cities, consumes the average product of four acres for oats and beans, and three acres for hay. It is stated in the same essay, that “the aggregate of oats imported into England (only) for twenty years ending in 1797, amounted to the enormous quantity of eight millions six hundred and fifty-five thousand and forty-six quarters,”—upwards of sixty-nine millions of bushels!—See “*Communications to the Board of Agriculture*,” Vol. V.

state of perspiration after severe labor, and drinking to excess of cold water. From his light frame and more cautious movements, the mule is less subject to casualties than the horse. Indeed, it is not improbable, that a farmer may work the same team of mules above twenty years, and never be presented with a farrier's bill, or find it necessary to exercise the art himself.

Sir John Sinclair, in his 'Reports on the Agriculture of Scotland,' remarks, that "if the whole period of a horse's labor be fifteen years, the first six may be equal in value to the remaining nine; therefore, a horse of ten years old, after working six years, may be worth half his original value." He estimates the annual decrease of a horse, to be equal to fifty per cent. on his price, every six years, and supposes one out of twenty-five, that are regularly employed in agriculture, to die every year; constituting a charge of four per cent. per annum for insurance against diseases and accidents. He considers five acres of land of a medium quality, necessary for the maintenance of each horse, and the annual expense, including harness, shoeing, farriery, insurance, and decline in value, allowing him to cost two hundred dollars, to exceed that sum about five per cent. which is the only difference between the estimate of this illustrious and accurate agriculturalist, and that of a respectable committee of the Farmer's Society of Barnwell district, South Carolina, who, in a report published in the Charleston Courier of the twenty-third of February last, state, that "the annual expense of keeping a horse, is equal to his value!"—The same committee also state, that "at four years old, a horse will seldom sell for more than the expense of rearing him." That "the superiority of the mule over the horse, had long been appreciated by some of the most judicious planters; that two mules could be raised at less expense than one horse; that a mule is fit for service at an earlier age, if of sufficient size—will perform as much labor, and if attended to, when first put to work, his gait and habits may be formed to suit the taste of the owner." This report may be considered a most valuable document, emanating, as it does, from enlightened practical farmers and planters, in a section of our country, where we may suppose a horse can be maintained cheaper than in Maryland, or any state farther north.

I am convinced that the small breed of mules will consume less food in proportion to the labor they are capable of performing, than the large race, but I shall confine the comparison to the latter—those that stand from fourteen and a-half to rising of fifteen hands, and equal to any labor that a horse is usually put to. From repeated experiments, in the course of two winters, I found that three mules of this description, that were constantly at work, consumed about the same quantity of hay, and one-fourth the provender that was given to two middling sized coach horses moderately worked. And from many years attentive observation, I am led to believe that a large sized mule will not require more than from three-fifths to two-thirds the food to keep him in good order, that will be necessary for a horse performing the same extent of labor. Although a mule will work and endure on such mean and hard fare, that a horse would soon

give out upon, he has an equal relish for that which is good; and it is strict economy to indulge him, for no animal will pay better for extra keeping by extra work. But if by hard fare, or hard work, he is reduced to a skeleton, two or three weeks' rest and good keeping will put him in flesh and high condition for labor. I have witnessed several such examples with subjects twenty years old; so much cannot be said of a horse at half that age. The expense of shoeing a mule the year round, does not amount to more than one-third that of a horse, his hoofs being harder, more horny, and so slow in their growth, the shoes require no removal, and hold on till worn out; and the wear, from the lightness of the animal, is much less.

In answer to the charge generally prevalent against the mule, that he is "vicious, stubborn and slow," I can assert, that out of about twenty that have been employed on my estate at different periods during a course of thirty years, and those picked up chiefly on account of their size and spirit, wherever they could be found, one only had any vicious propensities, and those might have been subdued by proper management when young. I have always found them truer pullers and quicker travellers, with a load, than horses.\* Their vision and hearing is much more accurate. I have used them in my family carriage, in a gig, and under the saddle; and have never known one to start or run from any object or noise; a fault in the horse that continually causes the maiming and death of numbers of human beings. The mule is more steady in his draught, and less likely to wast his strength than the horse: hence more suitable to work with oxen; and as he walks faster, will habituate them to a quicker gait. But for none of the purposes of agriculture does this superiority appear more conspicuous than ploughing among crops; his feet being smaller and follow each other so much more in a line, that he seldom treads down the ridges or crops. The facility of instructing him to obey implicitly the voice of his driver or the ploughman, is astonishing. The best ploughed tillage land I ever saw, I have had performed by two mules tandem, without lines or driver.

There is one plausible objection often urged against the mule, that "on deep soils and deep roads, his feet being so much smaller than those of the horse, sink farther in;" but it should be considered that he can extricate them with as much greater facility.†

A most unaccountable prejudice exists among many farmers, that "if a mare once brings a mule, she will never after take a horse." Such an idea would not deserve refutation, were it not entertained by men of sound understanding. Now I have made particular enquiry among a number of mule breeders, who uniformly agree that the

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\* The testimony of many respectable farmers, we have on this subject, goes to corroborate that the mule is not so vicious as is believed by some. We called to see J. G. Rupp's mules, and found them as gentle and docile as any horse. Mr. Rupp informed us he would not exchange one of his mules for the best horse—they answer admirably well for all agricultural purposes.—*Compiler.*

† If the small feet are objections or defects—the defects may be remedied in some measure, by making the shoe broad, wider, and a little larger, especially at the toe, which will considerably enlarge the base of the foot.—*Compiler.*



notion has not the least foundation in truth. And it is a fact that I have myself had mares that had brought two mules in succession, that obtained surreptitiously, access to a horse, and brought colts, much against my inclination and interest.

Few can be ignorant of the capacity of the mule to endure labor in a temperature of heat that would be destructive to the horse, who have any knowledge of the preference for him merely on that account, in the West Indies, and in the southern states.

It is full time to bring our comparison to a close; which I shall do by assuming the position, that the farmer, who substitutes mules for horses, will have this portion of his animal labor performed, with the expense of one spire of grass instead of two; which may be equal, so far, to making "two spirés grow where one grew before." For although a large sized mule will consume somewhat more than half the food necessary for a horse, as has been observed, yet if we take into the account the saving in expense of shoeing, farriery, and insurance against diseases and accidents, we may safely affirm, that a clear saving of one-half can be substantiated. But in addition to this, the mule farmer may calculate, with tolerable certainty, upon the continuation of his capital for thirty years; whereas the horse farmer, at the expiration of fifteen years, must look to his crops, to his acres, or a bank, for the renewal of his—or, perhaps, what is worse, he must commence horse jockey at an early period.

The intense interest with which the public mind is at present occupied on the subject of canals now in operation and progress, encourages me to offer the mule as an important auxiliary in the economy of their management; as, I trust, it will not be denied, that on the cheapness of transportation on them, depends their utility, as well as profit to the stockholders. The mule seems so peculiarly adapted for the labor on canals, that compared with the horse, he may be considered almost equal to a locomotive power engine. Among the advantages we have enumerated respecting his use in husbandry, the most of which are applicable to canal labor, that of the much greater security from diseases and casualties, which must necessarily require a great number of supernumerary horses, to prevent interruption in the line of passage, is not the least important; nor is the very trifling expense at which the mule can be supported during the winter months, as he will bear being taken off his feed till the boats are about to be launched in the spring, and in a few days can be made fit for efficient duty—while a horse will require at least half feed if he does nothing, or must be fed high for some time before he can resume the labor demanded of him. The same advantages may be derived by his employment on railways.

In a communication published in the *Utica Observer*, the 16th of May inst., by Henry Seymour, one of the canal commissioners of New York, it is stated that a packet boat on the Erie canal requires a team of three horses to tow sixteen miles—going eighty miles in the twenty-four hours, including stoppages and detention at locks; the relays demanding fifteen horses for each nautical day. If it takes five days for a boat to be towed from Lake Erie to the Hudson, seven-

ty-five horses will be required. I am not certain but it may be done in a little less time, but as there must always be supernumeraries kept, we shall be within bounds to estimate that number. In the same communication, the expense of each horse is estimated at fifty cents per day, I presume for subsistence and other items only, without reference to interest or deterioration of capital, for the object of the estimate seems merely to show a comparison between the packet boats and freight boats, on a question of profit and loss; as it is remarked, that "many contingent expenses might be added to both." The freight boats require but two horses, and allowing for the time occupied in taking in and discharging their cargoes, with the other necessary detentions, average forty miles per day—which being double the time of the packet boats, although they may not require the same number of relays, the expense cannot materially differ. From these premises we may conclude, that for every boat navigating the grand Erie canal, there must be expended seventy-five dollars for the subsistence of the horses, each time they tow her from the Lake to the Hudson and back. Now if this can be done as effectually by mules for one-half this sum, and with an extension of capital free of interest, fifteen years longer than that vested in horses, the aggregate of this immense saving will appear by ascertaining the number of boats at the present time on the canal. But this is out of my power; and I should, perhaps, lead the reader nearer the verge of incredulity, were I to offer my own prediction what that number will be, thirty years hence, the ordinary period of a mule's labor.

I cannot resist an impulse to exhibit the mule in one other point of view. For the movement of machinery, the employment of this animal, when judiciously selected, has met with a decided preference, in comparison with the horse, independent of the economy in using him. And if we consider the rapid, and probably progressive increase of labor saving machines, in every department where they can be made subservient to the requirements of society, it is evident that there will be a corresponding demand for animal power, as well as for that, more potent, derived from the elements; and although the latter may vastly predominate, yet should the horse be employed, and his increase for other purposes continue, as it now does, in the ratio of population, the number at no very distant period, may become as alarming in our own, as it is at present in our mother country. And notwithstanding we may feel secure, from the extent of our territory and extreme diversity of soil and climate, but above all, from being in possession of Indian corn—the golden fleece found by our "pilgrim fathers," when they first landed on these shores; yet such peculiar advantages may not insure us against the visitations of one of the most distressing calamities that a feeling community can possibly be subjected to.

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## AN APPENDIX,

CONTAINING SOME ADDITIONAL REMARKS ON, AND RECEIPTS FOR,

### THE DISEASES OF HORSES;

MANY VALUABLE RECEIPTS AND DIRECTIONS TO CURE THE DISEASES,  
DISORDERS AND DISTEMPERS INCIDENT TO

COWS, OXEN, CALVES, SHEEP, SWINE AND DOGS;

HINTS TOUCHING RAISING, &c., OF POULTRY;

THE WHOLE SELECTED FROM VARIOUS ENGLISH, FRENCH AND GERMAN  
AUTHORS, TRANSLATED, AND ALPHABETICALLY ARRANGED  
UNDER THE FOLLOWING GENERAL HEADS:

- I.—OF HORSES.
  - II.—OF COWS, OXEN & CALVES.
  - III.—OF SHEEP.
  - IV.—OF SWINE.
  - V.—OF DOGS.
  - VI.—OF POULTRY.
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## PART THIRD.

[APPENDIX.]

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### I.—OF THE HORSE.

*Anbury* is a bloody wart on a horse's body. An experienced farrier of Chester county, Pennsylvania, says: for an anbury, take a hot iron and make it very sharp: then take the anbury in your hand and sear it off to the bottom with the iron red hot; then mix a little verdigris powdered, and train oil; heat them, and anoint the place once a day till it be cured.

*Basilicon ointment.*—To make this valuable ointment, take honey, storax, galbanum, bdellium, black pepper, the marrow of a stag, of each, a like quantity; twice as much ammoniac, and as much of the powder of frankincense; incorporate them with sheep's suet.

*Back.*—To cure a horse's sore back.—If the wound is bad it must be laid open to the bottom, and digested with horse turpentine, beat up into the yolk of an egg, now and then washing it with a little spirits of wine; thus you need not fear the fistula. When drawn a little, dress it with the above mentioned black salve made hot, and spread on tow, or a thick linen rag, in order to incarn and heal it.

*Brittle hoofs.*—Some horses have very brittle hoofs; to make them grow tough and strong, take equal quantities of dog's grease, turpentine and tar, boiled together; anoint the hoofs three times a day.

*Bruise, inward.*—For an inward bruise, take one and a-half pint of strong beer; one and a-half ounce of bole ammoniac; boil them a little together, and give it to him lukewarm, with a horn. It is very good, says Jefferies, for an inward bruise of a beast.

*Bots.*—First bleed the horse copiously in the mouth, that he may swallow much of the blood; elevate his head considerably; or should he not swallow any, take three pints of milk and sweeten it well with molasses, and drench him with it lukewarm; suffer him to stand for forty-five or fifty minutes; the bots will during this time let loose their hold, and fill themselves with the blood, or milk and molasses;

then take a pint of linseed oil; give him one-half, and the remainder next morning; it is so safe that you may ride or work him immediately after it. The oil given will kill them instantly.—*Proved.*

An experienced farmer, in reply to the question; what is the most convenient and effectual remedy to cure bots, or that will afford immediate relief? says: take one pint of linseed oil, and one gill of spirits of turpentine; mix, and give it to the afflicted animal, with a horn. I have tried it often, and it never failed.

Another, from one of the oldest books, on this subject, that has ever been printed in the United States. Take one-half pint of urine; one gill of rum; of pepper and gun powder, a large spoonful of each; shake them well together, and teem it in your horse. It is said to be an absolute cure.

*Blisters*, ointment for.—Nerve, and marshmallow ointments, of each, two ounces; of quicksilver and Venice turpentine, one ounce of each; one and a-half dram of Spanish flies powdered, a dram of sublimate, and two drams of origanum.

Previous to the application of a blister to any part of a horse, the hair should either be shaved or cut off as close as possible; the blistering ointment should be regularly spread with a warm knife on a stout piece of oznaburgs; and during the operation of the blister, the horse should be tied short to prevent his biting the part or doing other injury.

*Blister*.—Take of Spanish flies half an ounce; oil of turpentine, one ounce; hog's lard, four ounces; mix them well together; or

Take of tar, four ounces; vitriolic acid, two drams; oil of origanum, half an ounce; hog's lard, two ounces; Spanish flies, two ounces. This blister is excellent for the spavin.

*Colic*.—To cure colic, take a handful of the herb called shepherd's purse, and boil it in a quart of strong ale, and when lukewarm, take the seeds of wood-roof, stamp them, put them into it; then give it to the horse.—*Jefferies.*

*Colic (Lowther's) tincture*.—Take senna, guaiacum, licorice sliced small, aniseed, elecampane root, coriander seed, of each, two ounces; opium, one-half ounce; one pound of raisins; let the whole be bruised and mixed, and add two quarts of brandy and one quart of whisky. The dose is ten ounces. It will give immediate relief; then drench with one quart of a strong, warm, decoction of tansy; it will cure. *Proved.*

*Cramp* is a contraction of sinews of any one member. To cure or relieve the suffering animal, is first to chafe and rub the member contracted with vinegar and common oil, and then wrap it all over with wet hay, or else with woolen cloths dipped in a decoction of catnip, either of which is a present remedy.

*Crown scab* is a cankerous matter on the coronet and on the heels. To cure it, take turpentine, honey, hog's grease, wax, and sheep's suet, of each, two ounces; melt them together, and boil it to a salve; apply it, and it will cure this or any other wound.

*Costiveness*.—Take rye straw, cut it fine, scald and wet it well; then mix rye meal or bran with it, and a small portion of linseed meal, and let the horse eat it very warm; it will soon loosen him.

*Proved.*

*Dropsy*.—Jefferies recommends the following: In one gallon of beer, put a quantity of wormwood seed, leaves and stalks, and boil it to a quart; skim and strain it; then add to it three ounces of treacle; one and a-half ounce of long pepper, beaten to powder; bleed him in the neck vein after he has stood awhile; give him the drench, and rub his fore-legs with train oil; then turn him to pasture.

*Diabetes* is a profuse staling. The following is an efficient cure: Take liver of sulphur, two drams; uva ursi, four drams; oak bark, one ounce; catechu, one-half ounce; alum, one-half dram; give as a daily drink, in a pint of water.

Another simple but effectual remedy. Take juniper berries, burdock and marshmallows, of each, a handful; garlic, two tubers or heads; and three quarts of water; mix and bruise; strain it; give the whole at once as a drench; repeat if necessary.

*Digestives* are applications to recent or old wounds.—*See Wounds*. A weak solution of blue vitriol is an excellent digestive; so is the tincture of aloes, and the tincture of myrrh.

*Distemper*.—We here insert the following on distemper, from a celebrated German work, written by John Joseph Zuend, Thierarzt. Passing, we remark, that our friend, Mr. John Beck, of Litiz, Lancaster county, Pennsylvania, kindly furnished the book from which we translated this and other valuable articles:

*Treatment of distemper*.—The animal must be kept warm, by clothing him with a rug; especially, should the enlarged glands be kept warm by applying skins with fur on, which will act as a discutient, or promote suppuration. Cold water is injurious; the horse should have comfortable litter to repose on.

Administer the following from two to five times a day: Pulverized gentian, one ounce; glauber salts, three ounces; and crude antimony, mixed.

It will be highly beneficial to take a considerable quantity of live coals, and pulverize them in a suitable vessel, holding them to the nostrils of the animal so that he may inhale the fumes; in obstinate cases this should be repeated twice a day, especially in dry, cold weather. This powder will remove all acrimony in the nose, and will diminish the mucous discharge. Should the swelling of the glands be obstinate, apply the following mixture: Take one-fourth ounce

of laurel oil; one-half ounce turpentine. If the swollen glands begin to suppurate, they should not be lanced till fully brought to a head; then make an incision to let the pus discharge, and it will soon heal. If the animal should not be relieved upon the above treatment, then take the following: Pulverized gentian, calamus, and sulphur, of each, one ounce; one-eighth ounce of factitious cinnabar, and a tea spoonful of oil of turpentine; mixed with meal and water; give it twice daily for several days.—*Zuend.*

*Embrocations*, or liquid applications, spirits of wine, tincture of various herbs, such as yarrow, tansy, &c., hot vinegar, mixed with salt and common soap, all form excellent embrocations. The following forms an excellent one. Take one quart of whisky, and put it in a kettle and warm it; don't let it take fire; put in as much common soap as it will dissolve, then bottle it and add one-half ounce of gum camphor; one-half ounce sal ammonia; one ounce of oil of origanum; one-half ounce of oil of wormwood; before you apply it, wash the affected part with warm vinegar or spirits of wine.

*Another excellent one.*

Take alcohol, one pint; spirits of turpentine, one-half pint; linseed oil, one gill; oil of amber, one-half gill; oil of juniper and mineral tar, of each, one gill; camphor, one-half ounce.

*Another.*

Take sal volatile, one ounce; laudanum, spirits, two ounces; mindererus spirits, five ounces; sugar of lead, one-half ounce; vinegar, one pint; Goulard's extract, one-half ounce; spirits of camphor, one ounce; and one pint of water.

*Eye water for a horse's eyes.*—Take lapis calimmaris, Venetian bole, white vitriol, of each, one ounce; boil them in four quarts of water, in an earthen glazed pipkin, till it comes to one quart. Then add two drams of sugar of lead, and salt of vitriol, and camphor dissolved in alcohol, one-quarter of an ounce; tincture of aloes, one-half ounce; red rose water, two gills; prepared tutly, one-half ounce; mix, and keep it in a bottle for use.

Montague says, this exceeds all other eye waters, even to cure the stroke of the whipcord on the eye, if swelled by that or a blow; first boil butter and beer with it till the swelling is gone, then use the eye-water.

*Eyes, sore ones.*—The juice of onions is excellent to wash sore eyes; it takes away dimness, mists, clouds, spots or haws.

*Film in a horses eye.*—Take, says Jefferies, a piece of very salt beef, dry it in an oven, and beat it to powder: take licorice stick, dry it, and beat it to powder: searce it through a fine searce, and blow them into the horse's eye once a day, and it will remove the film by two or three times doing; if a rheum attends the eye at the same



time, dip a little flax in some melted rosin, and lay it in the hole over the horse's eye.

*Fistula.*—To cure a fistula, first sear the fistula with a hot iron until the skin looks yellow, then make a plaster of rosin, sheep's suet and brimstone, melted together, and lay it on hot, but not to scald; if it is broke, or likely to break, then lay on a plaster of shoemaker's wax, spread on alumed leather; take verdigris, butter, and salt, well mixed and melted together, pour it scalding hot into the sore, and use this till the flesh looks red; then tent with verdigris, burnt alum, wheat flour and the yolks of eggs, well beaten and mingled together, till it is healed: to skin it, take barm and soot mixed together, and spread it on the sore; it is a perfect cure; the searing, and plaster of rosin, soot and brimstone, is very good for windgalls.—*Jefferies.*

*Galls*—windgalls.—An intelligent and experienced farmer, rising of seventy years of age, residing in Allen township, Cumberland county, has assured us that the following ointment, if applied two or three times a day, will cure the most obstinate windgalls.

Take one pound of the leaves of stramonium, (Jamestown weed,) bruised; two pounds of fresh butter or hog's lard, and one gill of the spirits of turpentine; put the whole of the ingredients into a clean earthen crock and place it with the contents over live coals for twenty or thirty minutes, stirring it occasionally; then strain it through a coarse cloth or canvass, and it forms a consistent ointment, with which anoint the windgalls two or three times a day.

Fifty dollars had been offered for the above receipt, so says our informant, who kindly furnished it.

*Gigs*, small tumors, vesicles or bladders in the mouth's of horses. The only cure is to cut or slit them open to discharge the matter, and then wash them with salt and water.

*Glanders.*—In a valuable book before us, called "The Complete Farrier," printed 1809, Philadelphia, we find some useful remarks, which we insert below.

The *strangles* have sometimes been mistaken for *glanders* or sore throat, but in this disease the inflamed glands very soon suppurate and burst, whereby all the other symptoms are generally removed, whilst in the *glanders*, the glands seldom suppurate: in order, however, to avoid all danger, it is advisable, the moment a horse is perceived to have a discharge from his nose, to put him into a stable where he can have no communication with other horses: if the glands of the throat are enlarged and inflamed, apply a large poultice to them; steam the head three or four times a day; let him be well clothed particularly about the head, and give him of powdered nitre, one ounce, and an unwashed calx of antimony, two drams, mixed, for a dose every day, or once in twelve hours. Should the discharge arise from a cold, it will soon be removed by that means. When considerable

ulceration is perceived in the nose, with the other concomitant symptoms of glanders, the horse should be destroyed instantly.

The most effectual mode of purifying stables in which glandered horses have been kept, is to remove or carefully wash every thing on which the horse may have deposited any matter, and afterwards to cover every part of the stable with a thick coat of lime and size.

*Grease.*—Wash the parts affected with a strong solution of salt and vinegar, twice a day, then follow it with the following fomentation: Take wormwood, eight handfuls; John's wort, centaury, camomile, of each, four handfuls; elder blossoms, two handfuls; bayberries, one-half pound; boil them in two gallons of water, till one third is consumed, and make a fomentation.

The horse's legs are to be bathed twice a day, with woolen cloths wrung out of the liquor, and applied as hot as he can bear them, adding a little of the spirit of wine or brandy. And if they are much inflamed, omit the washing with salt and vinegar; apply the fomentation four times a day; washing it previously with soft soap and a decoction of black walnut bark. If accompanied with much swelling, bathe the parts repeatedly with the camphorated spirits of wine. This is made by putting an ounce of gum camphor into a pint of spirit. The legs should be frequently rubbed with a good wisp of hay, or a brush. This cure has never failed.—*Shellenhammer.*

*Gripes, gullion, spasmodic colic.*—Dr. Winters recommends that if a colt has the colic, the following:

Fresh beef broth, one quart; sweet oil, three spoonfuls; oil of lillies, one spoonful; one-half ounce of salt; one dram of hellebore, (the root,) mix, and use it as a clyster. Then give the following as a drench: decoction of birth-wort, one quart; pulverized laurel berries, one ounce; mix, and give it.

*Hidebound* is a state of the skin, when the interstitial matter between that and the fleshy panicle is not in a state to allow of its pliancy and elasticity. Vegelius, a distinguished writer, recommends the anointing the whole body with oil and wine mixed together, rubbing them strongly against the hair, in a warm sun, in order that the skin may be relaxed, and a sweat break out; after which the horse should be well curried, and placed in a warm stable, with plenty of litter.

Whatever cure may be tried, the horse must have rest for some time, and be fed with sweet, good hay, or grass according to the season of the year. In spring there is nothing better than new grass.—*Mills.*

If the directions of a very old writer were observed, few horses would become hidebound. Columella observes, "that the bodies of cattle ought to be rubbed down daily, as well as the bodies of men;" and says "that it often does them more good to have their backs well rubbed down, than their bellies over-filled with crude provender."—*Deane.*

We cannot forbear noticing a remedy we saw in a book. The operation is not only simple but cruel. "The head and legs of the horse being secured, two men, one on each side, pull the hide from the ribs in about fifty places, with pincers." The unfortunate animal must certainly have an unkind master to suffer his horse to be thus treated. A similar cure is recommended in a book published, in 1840, Pennsylvania. See Philadelphia edition, of Winter's, p. 715. We would say, do not try the cure—it is worse than a "hoaks."

Jefferies recommends: First let him bleed in the neck vein, then give him this drink: take celandine, two handfuls; of wormwood and rue, one handful of each, (if it be in summer, the leaves and stalks will do, but if in winter, use the roots and all,) chop them, and put the whole into three quarts of strong beer; boil them till they are reduced to a quart, then strain all the moisture from the herbs, and dissolve it in three ounces of molasses, and give it to the horse lukewarm, fasting; then for a week together, rub the horse's body all over with oil and beer, or butter and beer, against the hair.

Let his diet be warm mashes of malt or bursting oats, rye or barley, and he will soon recover.

*Heels, kiked.*—Take of wine lees mixed with soap like an ointment; dress the sores therewith, and it will in forty-eight hours heal any mules, pains, and scratches whatsoever—the leaves and roots of elder are good to dry up any of those evil humors.—*Jefferies.*

*Horse spice.*—This invaluable preparation is highly recommended as a drink for a cold, and to make a horse thrive and prevent disease.

Take one-quarter of a pound of aniseed and English licorice, fennel, brimstone, of each—slice the licorice and dry and beat them all together. Then add one-half pound of elecampane, powdered; mix the whole and keep for use. An ounce of this spice, with a spoonful of sallad oil, and a spoonful of treacle-jean, is a good drink in a quart of strong beer.

If on letting your horse bleed, you wish to give him a drink, put an ounce of this spice in a pint of strong beer heated lukewarm, and give it in the morning fasting; let him stand in the stable, and give him warm water to drink, and a mash.

*Ives, or properly Vives,* is supposed to be a relic of strangles—it is an enlargement of the parotid glands.—SEE PART I.—*Vives.*

Let blood in both his veins, then take two spoonfuls of pepper, as much hog's grease, and as much vinegar, and work them together, and put them equally into each ear, and put a little wool or flax in afterwards; then stick up the ears for twenty-four hours. Let him stand in the stable all the time: give it him fasting; he may take his usual food and drink, only keep him in the stable three or four days.

*Proved.*

*Imposthimes* or abscesses filled with viscid mucus, or tumors filled with matter, may be ripened or brought to suppurate by the following application :

Bruise mallow roots, and white lily roots, and boil them in milk ; thicken them with linseed meal, and apply it as a poultice.

*Kernels*.—For hard kernels under the throat : mix soap and brandy together, and apply it to the kernels hot ; then heat it with a hot iron ; it will either sink them flat or break them.

*Kick*.—A horse's kick cured. The horse's leg was swelled by it ; upon which my neighbor applied a poultice of boiled and mashed turneps, mixed with hog's lard, once a day. This assuaged the pain, and reduced the swelling ; and to prevent the humor's falling down to the part, he rubbed in verjuice above the wounded part, and thus made a speedy cure.—*Montague*.

*Knees broken*.—For old broken knees much swelled and hard, Nathan Shaw recommends the following : Mix one and one-half ounce of the oil of turpentine, and the same quantity of strong beer together ; then bathe it with your hand upon the swelled knee, two or three times a day, for three days ; then apply the charge of crown soap and brandy, hot, and let it stay on till it comes off itself ; it will much lessen if it does not take it quite away ; let him stand in. The oil of worms is a great mollifier of a hard and bony part, and hard swellings.

*Knots*, fleshy ones, that move from the place where they grow, may be discerned by feeling. These may be removed by holding the knot between the finger and the thumb, then with the point of a penknife slit a hole in the middle and cut the knot out ; if it bleeds much, sear it with a hot iron, then apply, or fill the wound with the fur of a rabbit ; next day take out the wool, and wash the wound clean with vinegar, and dry it with a cloth ; and apply No. 61, ointment to cure wounds, Section 181.

Before you anoint the wound, wash it with No. 62, or 63, p. 120. Tie a rag over it to prevent dirt getting into. Dress it once a day ; a cure will soon be effected.

*Lax*, or much scouring.—Take a little alum and bole armeniac, finely powdered, put them in a quart of new milk, stir it until it becomes a curd, then give it to the horse with a horn. A pint of verjuice is good for a sucking foal.

The following is highly recommended : Take a handful of the herb called shepherd's purse, boil it in a quart of strong ale, and when lukewarm, take the seeds of wood-roof ; bruise them, put them into it ; then give it to the horse to drink.

*Legs, sore ones*—*an Indian cure*.—Take sassafras leaves, dry or green, in winter or summer, apply on the sores a poultice thereof,

with milk and hog's lard, renewing it occasionally. When the poultice is off apply the leaves, which will cure very easy to the patient.  
*Jefferies.*

*Looseness in horses.*—This complaint originates in an increased peristaltic motion of the intestines, with an increase of their watery secretion, and is distinguished from dysentery by the purging being complete from the first, and seldom occasioning much fever or disturbance in the general health, unless exceedingly violent. The stools are merely solutions of the aliment, and unmixed with membranous films as in dysentery or molten grease. It sometimes succeeds to over strong physic, at others the food enters into new combinations, and forms a purge. Some horses have their bowels constitutionally weak, as lank-sided small carcassed ones, where the mechanical pressure hurries the contents forward. Salt mashes and sea water will purge horses violently sometimes. It is always proper to encourage warmth in the skin, and to change the food. The change should be generally from one more moist to one less so, as beans, &c. Barley will sometimes stop looseness; malt usually increases it. Buckwheat is often a check to habitual diarrhea. Efficacious astringents, as the one below, will be found necessary. Repeat it, if necessary, and give the horse only warm water to drink.

Take powder of ipecacuanha, one dram; powdered opium, a-half dram; prepared chalk, two ounces; boiled starch, one pint. Another, equally good: Take suet, four ounces; milk, eight ounces; boiled starch, six ounces; powdered alum, one dram. Or, you may administer No. 111, or 112.

Shaw recommends the following: Take a pint of red wine, or claret; warm it, and add one ounce of beaten cinnamon, and give it to the horse a little warm: you may add the yolks of two new laid eggs. Once or twice is a cure. Give him warm water at night, and cold water next day, and ride him upon it.

*Mange* is a contagious disease, not uncommon among low bred and badly kept horses, but which is seldom generated in those properly managed. When it is the effect of impoverished blood, a different course of feeding must be substituted, not heating, but cooling, though generous; as carrots, spread oats, malt mashes, stable soiling, &c. When it arises in full-fed horses, bleed twice, lower the feeding, substituting for corn, soiling, carrots, or bran mashes. Give No. 32, p. 88; or No. 41, p. 100; or No. 46, Sect. 163. Having administered either of the above, and after physicking, dress with the following:

Take sulphur vivum, eight ounces; powdered arsenic, two drams; mercurial ointment, two ounces; turpentine, two ounces; lard, eight ounces; mix—dress with it every morning.

Jefferies recommends for the mange, to bleed in the neck once or twice—then with a card to rub off the scurf—then take tar, turpentine and linseed oil, as much as you think proper—incorporate them

well together, being hot, (but not to scald,) anoint the mangy places therewith.

N. B.—Never put a saddle or a collar used on a mangy horse, upon a sound one, for it will infect the sound animal.

*Malanders.*—To cure this disease, wash the cracks with warm suds, fish brine or old urine, then rub them with an ointment of hog's lard, mixed with two drams of sublimate of mercury. Or, apply a poultice of the roots of marshmallows and flaxseed, softened with linseed oil, tying it on with a roller. Continue that until the seeds fall off and the sores become clean. Afterwards a mixture of turpentine and quicksilver will be a proper application.

*Mash.*—A mash is generally given to a horse for the purpose of cooling the system, opening the bowels, and for disguising different kinds of medicines which may be necessary to be administered; which if given in any other way, would be attended with trouble and difficulty, and would not be productive of effects so salutary.

#### No. 1.

Take of bran, one gallon; sassafras tea, (scalding hot,) one quart; powdered brimstone, one table spoonful; saltpetre, one tea spoonful.

#### No. 2.

Take of oats, one gallon; flour sulphur, one table spoonful; saltpetre, one tea spoonful; boiling water, one quart.

#### No. 3.

Take of bran, one gallon; salts, (glauber,) four ounces; sulphur, one table spoonful; sassafras tea, (scalding hot,) one quart; let them be well mixed and given milk warm, not permitting the horse to drink cold water for six hours afterwards.

*Morfounder*, influenza, distemper, cold, catarrh, &c., are names, as we remarked in part first, which are often applied to one common disease, which often in rainy, variable seasons appears as an epidemic, and affects thousands of horses at once. It is observed to be particularly prevalent in this form in the spring of some years, more than of others. It is not contagious like the more malignant form, but is brought on as an epidemic by the same causes being applied to nearly all subjects alike; which are alterations of heat with cold, moisture, and dryness, &c. In crowded cities and large towns, it is more prevalent than in more open situations, and it is more frequently found in the young than in aged horses. Where it does not exist as an epidemic, it is brought on by an accidental cold taken. It is of great consequence to distinguish it from pure inflammation of the lungs, with which it is very apt to become confounded; and which mistake is often a fatal one, from the treatment being in some essential particulars different. Inflammation of the lungs commences by a short

cough, without much other disturbance to the health, than the pain it gives the horse to cough, but which is often so considerable as to make him stamp his feet while coughing. If a horse in the distemper coughs early, it is not a hollow, harsh sounding, and distressing cough of this kind—if he expresses uneasiness, it is principally from a sore throat, which is very common in distemper, but by no means common in pneumonia. The sore throat in distemper gives the horse a disposition to refuse his food, or he chews it and lets the quid fall without swallowing it. He refuses water, particularly if it be placed on the ground; his cough is quick, short, and usually sounds more moist than harsh and dry; but though common, this is not invariably the case; his eyes are heavy and moist, his breathing is quickened, and his ears and legs are alternately hot and cold. His nose, on looking into it, is redder than usual, and sometimes his glands, as well submaxillary or jaw glands, as his parotid or vives, are tumefied. On the second or third day, excessive weakness comes on; the cough becomes more painful, the pulse is quickened, and the nose begins to run. After which the horse either runs off the disease by this supuration, or it goes on to destroy him by the height of the fever, and a degree of weakness produced, or by suffocation from water in the chest. Now and then, although recovery takes place, an obstinate cough is left; and in a few cases the disease terminates in glanders.

The treatment may in some cases be cut very short; for as in almost every instance a shivering fit begins the disease, so when many horses are in a stable, and the disease is very prevalent, those who have not been attacked should be watched, and the moment such an attack does take place, give of sweet spirit of nitre, or when not at hand, of spirit of hartshorn, an ounce, in a pint of sound ale. Exercise the horse briskly, then well hand-rub him, clothe him warmly; and it is more than probable that the disease will be cut short. But should it proceed, or should the disease have gone on unobserved to the appearance of the symptom detailed, begin by bleeding moderately, if the horse be not already weak; or if there have not appeared the running of matter from the nose. If there have, the bleeding had better be dispensed with, unless the fever appear, from the quick full pulse and redness of the inner surface of the nostrils and eyelids, to be still so considerable as to require it; in which case we must not be deterred from one moderate bleeding; and which, if the febrile symptoms do not abate, may be even repeated. It will, however, in general cases, be advisable to avoid bleeding after the second day of the attack, or after the running has appeared from the nose, or after considerable weakness has come on. In all cases a very cool temperature is essentially requisite; hot stables, or hot clothing are very pernicious, but particularly the former. A hood is not improper over the head, because it encourages the running to make an early appearance; and for this reason a warm mash may advantageously be hung round the neck three or four times a day. Before the running commences, give night and morning, the fever powder, (No. 73 or 74,) in a mash or drink; after the running has come on, or as soon as the weakness has become considerable, give night and morning either

of the fever drinks. Take sweet spirit of nitre, one ounce; simple oxymel, six ounces; tartar emetic, three drams. Malt mashes, when the weakness is great, are proper; at other times, bran mashes with plenty of chilled water are best. To relieve the throat, rub the outside with mild liquid plaster, (take Spanish flies, powdered, a-half ounce; oil of origanum, one dram; oil of turpentine, two ounces; oil of olives, or goose grease, three ounces; steep the flies in the turpentine five days—strain off and add the oil or goose grease,) and if the weather be warm enough to allow it, two or three hours turning out in a field each day is proper. Green meat in the stable, when it can be procured, should likewise be given.

*Malignant epidemic, murrain or pest.*—Now and then the distemper or influenza assumes a character of uncommon malignance, which is happily not frequent here, but not unfrequent in continental countries, sweeping off a third of the horses and kine, without any means being found to arrest its progress. In these cases it is found highly contagious, attacking almost all the horses as well as cattle within its sphere of action, or which communicate with each other. Dr. Lazard, and Osmer, English writers of established reputation, noticed the appearances of this disease long ago; and their descriptions are not different from the milder kind noticed above but in degree. The throat is intensely sore, and the mouth ulcerated; the glands of the head swell, and sometimes these and other parts suppurate and burst. The matter from the nose is bloody, and the stench intolerable; the weakness is also peculiarly great, and shows itself early.

The treatment recommended by Blaine is the early use of malt mashes; even ale is indispensable. Green meat should be allowed, and a very cool stall is necessary, having a free communication with the open air. As medicine, three doses are necessary, every day, of the malignant epidemic fever drink;\* half a pint of yeast, with a pint of ale, has been given with good effect, three times a day; also, to prevent the infection from spreading, fumigate the stables and all the out-houses with the preventive fumigation.

Take manganese, three ounces; common salt, four ounces; oil of vitriol, five ounces; water, two ounces; put the mixed manganese and salt into a basin; then, having before mixed the vitriol and water very gradually, pour them, by means of tongs, or anything that will enable you to stand at sufficient distance, on the articles in the basin, gradually. As soon as the fumes arise, retire and shut up the door close.

*Nail prick.*—An approved cure for a prick of a nail. The farrier cut away some of the hoof, to make the more room for the oils to enter. He then applied the compound oil of vitriol and turpentine; after that a mixture of rosin, Burgundy pitch, and horse turpentine melted together, and farthered him with a hot poker; then put a rag

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\* Take simple oxymel, mindererus spirits, beer yeast, of each, six ounces; sweet spirits of nitre, two ounces.



over it and nailed on a patent shoe. He dressed it twice with the oil and pitch mixture; and the third dressing was wound-water that hardened and cured.

*Netherjoint strain.*—Jefferies says, to cure this, take wheat flour or meal, the clay of a wall and wine lees, all mixed together, and spread a plaster thereof on the strain, renewing it once in twenty-four hours—for a new strain twice is a cure; the clay must have no lime in it.

*Oil, British,* how made.—Take spirits of turpentine and linseed oil, of each, half a pint; oil of amber, oil of juniper, and mineral tar, of each, one gill; mix.

*Oil of spike.*—The following is a good receipt for its preparation: Take spirits of turpentine, one pint; mineral tar, one-half pint: oil of amber, three ounces; oil of rosemary, one ounce; mix.

*Opodeldoc,* or soap liniment.—Take common white soap, three ounces; camphor, one ounce; oil of rosemary, oil of organum, of each, one-eighth of an ounce; alcohol, one pint; cut the soap fine, and with a gentle heat dissolve it in the alcohol in which the other articles had been previously dissolved. Pour into wide mouth vials or jars to cool.

*Opodeldoc, liquid,* to make.—Take two ounces of whisky, and warm it, (be careful it does not take fire,) put in as much common soft soap as it will dissolve; then bottle it and add one ounce of gum camphor; one-half ounce sal ammoniac; two ounces oil of organum; and one-half ounce oil of wormwood.

*Ointment* to remove swellings.—Take hog's lard, and spirits of turpentine, mixed; sufficient oil of vitriol must be put in to make the composition a dark brown color, and rub the part affected twice a day with a small quantity at a time.

*Ointment* for blisters.—Take nerve and marshmallow ointments, of each, two ounces; of quicksilver, and Venice turpentine, one ounce, of each; one and a-half dram of Spanish flies, powdered; a dram of sublimate, and two drams of organum.

*Ointment,* Burdon's.—Take yellow rosin the size of a hen's egg, to be melted in an earthen pot over a slow fire, to which add the same quantity of beeswax. When melted, add half a pound of hog's lard, and when that is dissolved add two ounces of honey, and half a pound of common turpentine, and keep gently boiling a few minutes, stirring all the time. Take it off the fire, and when it has cooled a little, stir into it two ounces of verdigris finely powdered, then give the whole a few minutes gentle boiling, and pour through a sieve for use. Nothing takes fire out of a burn or scald in human flesh so soon as this ointment.

We would suggest, that no store in a newly settled district ought to be without a plentiful supply of the above ointment for sale; it is equally good for cuts and bruises and putrifying sores, and might be denominated with propriety, the universal remedy.

*Phrenitis*.—See Section 131, p. 73 and 74, for a description of this disease.

Dr. Zuend, a graduate of the Veterinary School of Vienna, under the care of Professor John Bidl, Michael Erdely, B. Langenbacher, A. Hayne, B. Stutz and E. Veith, recommends the following to be given twice a day, mixed with syrup.

Take sulphas of potassa, three ounces; gentian, pulverized, one ounce; tartar emetic, one-eighth of an ounce; and liver of sulphur, one-eighth of an ounce. If necessary should be continued for a few days.

*Poll-evil*.—The following is somewhat similar to the one we gave in Part I. We take this from the Practical Farmer:

I send you a receipt for the cure of the poll-evil and fistula. Secure the horse for the operation. You must make an incision in the tumor, and put in a piece of ratsbane the size of a grain of corn, or if fine, wrap it in a piece of soft paper and put it into the incision; take a stitch or two to secure it from coming out, and it will perform the cure. It is necessary, after it commences running, to keep it clean from the outside, as, if the matter is suffered to remain on the outside, it will take off the hair. There has been a good many cured in this neighborhood in this way. After the operation, the horse can be turned to grass or kept in the stable, as it may suit the owner.

JOSEPH GOOD.

MADISON C. H., VA., *March 18, 1840.*

We present here another "leaf" from P. Montague, Gent., whom we mentioned, p. 102. The "leaf" is part of the same dialogue:

G. What is the safest cure for the poll-evil?

D. If it proceeds from blows, bruises, &c., bathe the swelling often with hot vinegar; if you perceive an oozing through the skin, use two parts of vinegar, one part spirits of wine; and if there be an itching, heat and inflammation, you are to bleed, and apply poultices of bread, milk and elder flowers; you are likewise to give the mercurial ball, and repeat it occasionally. But if there are signs of matter, the best method then is to forbear purging, and apply the ripening poultices, till it comes to maturity and burst of itself, or is opened with a knife; but great care should be taken to avoid the tendinous ligament that runs along the neck under the mane: when the matter is on both sides, so must the opening, and the ligament remain undivided. It sometimes happens, that a second incision is required, in which case, dress with the common digestive of turpentine, honey and tincture of myrrh, and after digestion, with the precipitate ointment, or wash the sore with the following made hot, and fill up the cavity with tow soaked therein:

Take vinegar, or spirits of wine, half a pint; white vitriol, dissolved in spring water, half an ounce; tincture of myrrh, four ounces; or it may be made sharper by adding more vitriol.

Mr. Gibson was so fond of this wash, that he declares he has cured a great number of horses without any other formality of dressing, than washing with this twice a day, and laying over the part a quantity of tow, soaked in vinegar, and the white of eggs beat together.

*Poison.*—Against poison or venom. Take a good handful of rue, boil it in three pints of new milk; then add one gill of sallad oil, and give it to the horse lukewarm with a horn; it is excellent against poison.—*Jefferies*.

*Piss.*—To make a horse piss, says an American author, boil the size of a hen's egg of Castile soap in a quart of beer, add a small handful of parsley; give it him lukewarm; it will make him piss.

*Plaster* to cure all deep sores.—Translated from the French.

Take Venice turpentine, and oil of laurel, six ounces, each; gum elemi, eight ounces; rosin pitch, twenty ounces; melt, stir, and will be made—to be applied to the sore.—*Andre Delacroix*.

*Quitterbone.*—N. Shaw says, the quitterbone is a hollow ulcer on the top of the coronet, and so is the matlong: the cure is, first to tent it with verdigris till you have eaten out the core, and made the wound clean, then heal it up with the same salve that you healed the scratches.—*See Scratches below*.

*Ringbone.*—If the callosity, says Jefferies, of a ringbone does not spread itself below the coronet of the hoof, and is hard and bony, you may take it out by applying a caustic, thus: shave off the hair close, and apply the caustic, made of stone lime and soft soap, and let it lie on but twenty-four hours; in that time, or less, if your caustic be good, it will penetrate to the very root of the ringbone, and come clean out in fourteen or fifteen days. In the mean time keep some of your suppling and drawing salves to it, also keep it clean from filth and dirt: when the ringbone is out, apply your healing salves, and wash the wound with soap suds, or lime, or alum water, or whey, dressing it once in twenty-four hours.

When proud flesh arises, scald it off with butter and salt, or burnt alum, or any of your eating powders. [No. 54, or 55, p. 107.] Thus do with care, and there will be no doubt of cure.

A ringbone at first coming is easily cured—sometimes by a mild blister only; if it should be obstinate and grow, then first fire gently (rather cruel!) and apply a blister plaster or two, and when they are dry, make a poultice of oatmeal, oil and vinegar, and bind it on, and turn the horse to pasture; it is a cure without much eye-sore.

*Sick horse*, to cure one.—Give him some groundsel to eat. At first, begin with putting a little into his mouth: or it may be cut

small and given amongst his manger meat. It is a wild herb, and may be gathered almost all the year, especially in corn fields. This is much in practice with the London coachmen.—*Montague*.

*Scratches*.—Take eight ounces of hog's grease, brimstone, lime, gun powder, of each, three ounces; black soap, eight ounces; and as much soot as will suffice to bring them to a salve; boil the hog's grease and soap together, and bring the other hard simples to a fine powder, and so mix all together, and make a black ointment; with this anoint the sores once a day, after they are cleansed and made run.

*Shoulder slip*.—Boil wax, rosin and turpentine, olive oil and lard; add to it some hartshorn; and chafe this ointment in as hot as possible, by placing before a hot shovel.—*Montague*.

*Surfeit*.—For a horse when he is badly surfeited. Take four ounces of the inner bark of the white shaking aspen tree, boil it in three quarts of spring water, to a-half gallon; then take out the bark and dissolve one ounce of aloes in the liquor, and add thereto one gill of molasses, and give it to the horse lukewarm as a drench.

*Staggers*.—In addition to what we have said of staggers, Section 130, p. 72 and 73, we would recommend the following from Zuend, p. 149:

Take gentian, pulverized, one ounce; sulphas of potassa, four ounces; tartar emetic, liver of sulphur, one-eighth of an ounce, each; mixed, and administered.

*Strangles*.—How a farmer in Ireland cured all his horses of the strangles in 1759:

Six out of nine horses had the strangles; the old ones caught it of the young ones, as the old ones never had them before. The farmer applied poultices under the jaws, to draw out and break the humor there, but some broke out at the neck. He gave them two spoonfuls of flour of mustard to make them sneeze, and void the puss more freely, and for warming their bodies. This, with hot mashes, cured them all.—*Montague*.

*Swellings*.—To cure a swelling in a horse's back. Boil soap in strong beer grounds; when off the fire, mix some spirits of wine with it, and bathe the part as hot as possible, and it will reduce a swelling in an hour's time. If you have not the spirits, make use of brandy or gin; dip a rag in it, and apply it to the humor; afterwards chamber or make a hollow place in the saddle.—See p. 121, No. 68.

*Stumbling*.—The stumbling of a horse may be either natural or produced by accidents, such as splint, windgalls, sinew strains, shoulder sprains, withers injured, &c. &c., but whether produced by accident or natural defect, cannot be remedied. All horses, and particularly those that go well, stumble more or less; but there is a very wide distinction between a light tip or touch on the foot, and a stum-

ble that will bring a horse and sometimes his rider flat in the dirt. Horses given to this practice, are very much lessened in value, and can never be rode by any person aware of his bad quality, without being in pain, dreading every time he lifts his feet, that all will be prostrated in the dust.

To ascertain if a horse stumbles,

1st. Examine well his knees, to discover if they are scarred, or the hair knocked off.

2d. Take him amongst uneven ground, small gullies, or old corn ground, and let him be rode with the bridle hanging slack upon his neck, in all the different gaits he has been accustomed to, and if he is in the habit of stumbling, he will very soon make a sufficient number of low bows to convince you of the fact.

3d. When a horse stumbles and immediately springs off, appearing alarmed, it is a proof that he is an old offender, and is under the apprehension of having one other flogging added to the great number he had, no doubt, received for the same fault. Such a horse I consider unsafe, and therefore cannot recommend him to purchasers; he being not so good, even for a slow draught, as one possessing more activity.

*Swelling* by a blow upon the chest or elsewhere.—“If it comes by a blow, be it where it will, hot or cold, so that it be not broke, lay nothing to it but the charge of soap and brandy, and heat it well in, and in four or five days it will either sink or break it; if it breaks, apply some decoction, or wash for sores.” Apply No. 61, Section 181, or either Nos. 62, 63, or 64, p. 120.

*Tumors*, cankerous ones in the feet.—Take cow dung, tar, and hog's fat, make a poultice thereof, as hot as possible, so as not to scald, and apply it round the hoof.

*Treads* of a horse's heel cured.—The following has been tried by Montague, p. 41:

It swelled and run, and in time would have turned to a quitter, had I not immediately applied a remedy. I began with boiling soap in grounds of beer, and rubbed it in very hot; then I mixed tar, fresh grease, horse turpentine and a little verjuice together, and heated the mixture in an iron ladle and applied it very hot. At three times using I cured my plough-horse.

*Ulcer*.—“Take three quarts of new milk, and a good handful of white plantain; set it on the fire and let it boil to a pint; then take three ounces of alum, and one and a-half ounce of white sugar candy, pound them to fine powder, and put it into the milk and plantain, and boil it a little till it comes to a curd; then strain it, and with the warm whey, bathe the ulcer; then dry the wound, and lay on some unguentum basilicon. (See article, *Basilicon ointment*, above.) This drieth, cleanses, and kills any itch, and heals the foulest ulcers in man or beast.”

“Also, if you take one quart of milk, powdered alum two ounces, and a spoonful of vinegar; then take away the curd and use the rest; this will dry up and heal any foul sore whatsoever.”

*Urine*, to provoke, in a horse.—Beat a handful of parsley root with half a pound of aniseed, boil them in a quart of strong beer or more, then strain it, and add to the liquor half a pound of oyster-shell powder, which give him warm out of a horn.

*Vomit*.—A rare receipt to cause a horse to vomit. From Jefferies' book, p. 199:

Take two great roots of polypodium\* of the oak, wash and scrape it very clean, and tie it to his snaffle; then let it be steeped in oil of spike a whole night, and in the morning fasting, put on his bridle with the roots fast to it, and ride him softly an hour or better; and if he be troubled with any rheumatic or phlegmatic humor, or cold, which may clog or annoy his stomach, it will cause him to vent or vomit it up at his mouth or *nose*,† and cause him to cough, sneeze and send forth a great quantity of filth and slimy matter, and in a short time he will become very clean in his body, for this will both refine his blood and exhaust all the waterish humors in such sort, as by temperate ordering and doing as here prescribed, you may keep him a long time sound.

You may give it to any horse that hath taken a cold—you may give him white wine and honey, and horse cordial, formerly mentioned.

*Warts*, a cure for.—Rub warts with muriate of ammonia, and it will remove them, if repeated several times. If they are very hard or horny, it may be necessary to touch them a few times with nitric acid, which will speed their removal.

Both articles in drug shops.

Another very simple, but effectual cure. Tie a strong silk thread around the base of the warts, as tightly as you can; in a few days the warts will be perceptibly diminished, and may be in a few days more, easily separated from the skin or flesh.

*Wind-broken*.—The excellent ball for broken-winded horses, that has made a perfect cure of upwards of seven hundred, in less than nine months, after many other medicines being tried in vain.

Take myrrh, elecampane, and licorice root, in fine powder, three

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\* *Polypodium vulgare*, commonly called polypody, is a fern growing in the clefts of rocks, old walls, decayed trunks of trees; but the variety growing on oak is usually preferred, though without any good reason. It is now used among physicians, if used at all, as a pectoral in chronic catarrh and asthma. Anciently it was employed for the evacuation of bile and pituitous humors, in melancholic and maniacal cases.—*Compiler*.

† We do not think “*he will vomit it up at his nose!*” The nostrils are apertures to admit air to the lungs.

ounces, each; saffron, three drams; asafetida, one ounce; sulphur, squills and cinnabar of antimony, of each, two ounces; aurum mosaicum, one ounce and a-half; oil of aniseed, eighty drops. You may make it into paste with either treacle or honey, and give the horse the quantity of a hen's egg every morning for a week; and afterwards, every other morning, till the disorder is removed.—*Montague's Farrier*, p. 57.

*Worms.*—From the same author, p. 115:

*For killing worms in horses.*

A Devonshire gentleman, whom I furnished with a plough-man, assured me his master had a pound of the best roll tobacco, shred very fine; of which he gave his horse every day one ounce at a time amongst his wetted corn, &c. This was given every morning and night, but not to a horse that goes to grass. If his case was desperate, you may give him more, even for some time. It is a certain cure.

*A purge for the worms.*

Take pure aloes in fine powder, one ounce; jalap root, powdered, two drams; oil of aniseed, one-quarter of an ounce, mixed with syrup of buckthorn berries; beat up the whole into a ball. This is to be repeated three times, allowing three or four days respite between each ball. Give it early in the morning, with warm water and some bran or oatmeal in it, and exercise him every three or four hours.

*Wounds.*—Dr. Diegendesch recommends, not only external applications to wounds, but to promote a speedy cure of wounds, and to keep the horse in good condition, says the following drink should be given for eight or ten days:

Take woundwort, four handfuls; sanicle, burdock, of each, two handfuls; root of tormentil, three handfuls; black snake root, one handful; boil the whole in from ten to fifteen gallons of water, and add some sassafras or spice wood, and give the horse to drink two or three times a day. Dress the wound as directed in **CHAP. XIII.**

*Yellow water.*—Take Venetian soap, juniper oil, saltpetre, sal prunella, sweet spirits of nitre, of each, one ounce; make it into a ball with pulverized licorice root, and give the horse two ounces at once, and repeat if necessary. If attended with a violent fever, bleed, and give bran mashes; or,

Take a gallon of strong beer, or ale, add thereto two ounces of Castile soap, and one ounce of saltpetre; stir, and mix daily of this with his feed.

The following is also highly recommended in a German work:

Take pulverized gentian, and calamus, of each, one-half ounce; sulphas of potassa, two ounces; tartar emetic, liver of sulphur, and oil of turpentine, one-eighth of an ounce, each; mix it with flour and water, and give the above in the incipient stage of the disease.

The dose, if necessary, may be given daily for several days.

## II.—OF COWS, OXEN AND CALVES.

Horned cattle, as well as other domesticated animals, are liable to diseases; but as their life is less artificial than that of the horse, they are not so much subject to the great variety of diseases to which the horse is, although they are not the less dangerous.

We have under this head, given the names of the principal diseases, &c., with their cures; but for the want of space have not entered into a minute detail of either.

*Abortion*, slinking or slipping the calf, is a misfortune to which cows are particularly subject, in the earliest periods of gestation. Cows in danger of slipping their young, should be bled, confined in a stable, till next morning; then give the following purging drink:

### No. 1.

Take epsom salts, one pound; nitre, two ounces; ginger and aniseed in powder, one ounce, each; treacle, four ounces; pour three pints of boiling water upon the ingredients, and give it lukewarm.

After it has operated, give her the following:

### No. 2.

Take alum, in powder, four ounces; nitre, one ounce; aniseed, two ounces; opium, one-half dram; treacle, four table spoonfuls—mix for one drink; repeat in about eight or ten days; this will prevent abortion.

If a cow has slipped, put her up—give her the following drink:

### No. 3.

Take spermaceti, two ounces; spirits of turpentine, one ounce; the yolk of one egg; beat all in a mortar; then add caraway seeds, two ounces; treacle, four ounces; mix in a quart of gruel, and add a wine glassful of gin; give it lukewarm; repeat every third day, for nine days.

*Black water*, and red water.—These two complaints are but different stages of the same disease—See *Red water*. Bleed and give the following laxative medicine:

### No. 4.

Take epsom salts, six or eight ounces; water, one pint; castor oil, eight ounces; ten ounces of common salt may be substituted for eight ounces of epsom when more handy. After bleeding, and costiveness having been subdued, give the following astringent drink:

### No. 5.

Take Venice turpentine, four ounces; nitre, two ounces; bay berries, two ounces; armenian bole, two ounces; alum, four ounces;



make into one ball. Then slice the ball into a pitcher, and pour over it a quart of hot gruel; give it lukewarm—repeat every other night.

*Blains* or gloss-anthrox, inflammation of the tongue—it is said to be contagious. The treatment is simple; and if adopted in an early period of the disease, effective in nearly all cases. The little bladders which appear on the tongue, must be freely lanced from end to end, a strong solution of alum and salt applied, and a laxative given, and the animal kept on cooling drinks and moistened food. A strong decoction of celandine forms an excellent wash for the lanced tongue.

*Bloody murrain* or pest.—These terms correspond with that of plague in the human species. The reader who desires an interesting account of this malignant epidemic, is referred to the "Treatise on Cattle," Philadelphia Edition, 1836, page 379.\*

[ From the Farmer's Cabinet.]

SIR:—If the following remarks, relating to a disease which is considered by a large portion of the community as incurable, be viewed by you of a sufficient importance to entitle them to a place in your paper, when convenient please publish them.

There are two processes recommended for the cure of the murrain in cattle; one of them is to give the animal one pint of spirits of turpentine, and in twenty-four hours afterwards, a pint of olive oil or hog's lard; in forty-eight hours afterwards half a pint of turpentine, and in twenty-four hours after this, half a pint of olive oil or hog's lard.

The other is to give a pint of flaxseed oil, and in twelve hours afterwards two pounds of glauber salts, followed immediately by repeated doses of warm water, for ten or twelve hours.

*Note.*—Perhaps all of these combined would be still better, (the

\*In this short note, we will, for the satisfaction of those who may not feel disposed, or be able to purchase the work referred to, give a condensed and brief chronological account of bloody murrain.

The earliest record we have of murrain, is the destruction of the cattle of the Egyptians, B. C. 1491—Exod. 9.

During the siege of Troy, vast numbers of cattle perished by this disease. Plutarch tells us that during the reign of Romulus, this pest swept off many of the Roman cattle. Livy also speaks of a like visitation. Virgil, in his Georgias, who wrote fifty years before Christ, when speaking on this subject:

During the autumnal heats th' infection grew,  
Tame cattle and the beasts of nature slew.

A. D. 376, a murrain broke out among the cattle in Europe. In 810, every head of cattle was destroyed, by murrain, in the Emperor Charlemagne's army, and a great part of his dominions. In 1514 and 1599, the Venetian States were ravaged by this disease. In 1682, France was visited by murrain; and again in 1711. In 1743 and 1744, it appeared again in France, and in a great part of Germany. In 1745, Holland was scourged a second time—more than 200,000 cattle perished. In 1747, more than 150,000 died in England. It prevailed to an alarming extent in 1746, 1749, 1755 and 1756. In 1758, it spread over Finland. The limits of a note preclude extension.

quantity of each ingredient to be such as experience may dictate,) as acting more quickly on different parts of the system. It seems the symptoms of this disease are not generally discovered until within a short time previous to the death of the animal, which soon ensues, unless arrested by medical aid; consequently such substances as tend to restore the system to a healthy state the most rapidly, combined with other substances, to prevent injury to the animal, seems proper.

CHESTER CO., PA., *February 23, 1837.*

A.

The following infallible cure, was given by Mr. Jones of Virginia, to Mr. Harrison of Charles City county, Virginia:

A quart of the infusion of cedar berries, (containing about half a pint of the berries,) was given at a time, and in nearly every case the good effects were almost instantaneous; a considerable discharge from the bladder and bowels followed, and in five or ten minutes time, the animal began to eat. In nineteen cases out of twenty a perfect cure was effected. It may be necessary to repeat the drench four or five times.

A writer in the *Genesee Farmer*, says: mullen had been recommended. I took some of the leaves, steeped them in new milk, and about three quarts of tea, poured off without straining, given to the ox, (which had already discharged four or five gallons of blood,) which produced an immediate cure.

From the same paper: Take a piece of pokeroot as big as a man's fist, supposed to be half a pound, for a common cow, cut fine; add two quarts of water; boil it to one quart, and pour it down when warm. The dose may be repeated once a day for two or three days, until the cure is complete.

The remedy employed in Europe, in the middle of the last century, when the murrain carried off great numbers of cattle, consisted in a mixture of equal parts of gun powder, salt, soot and brimstone; one spoonful of this composition was given for a dose, and was hid down with warm water.

*To prevent murrain.*—It is recommended to take a mixture of clay, salt, tar and powdered brimstone. For twenty-five head, two quarts of tar, four ounces of brimstone per week; to put in a trough to which cattle have free access.

The Editor of the *Farmer and Gardner* says: if you wish to preserve your cattle's health, always keep a mixture of tar and salt in equal proportions in a trough where they can have constant access to it. This should be renewed once a week in winter, and twice a week in summer.

*Calves, diseases of*, such as cords, diarrhea, costiveness, hoose or cough, canker, inflammatory diseases.—See each article below. Directions to raise calves: See the closing article of Division II.

*Canker* in the mouth arises from improper food. The insides of the cheeks and gums are tender, red and ulcerated; teeth loose. The following remedy is generally a cure:

## No. 6.

Take burnt alum, rock alum, common salt, armenian bole in powder, of each, one-half ounce; honey, two ounces.

Pour one-half pint of hot vinegar upon those ingredients in a covered jar; close it down; when cold, wash the mouth well two or three times a day. If fever accompanies, give a purgative. Give No. 11, below.

*Cancer* of the eye.—The remedy would be extirpation of the eye, if it were deemed worth while to attempt it.

*Catarrh*, felon, cold, distemper, all these are names of one distemper, which prevails most in the spring of the year. The causes are various. Cows after calving are subject to colds. Where fever has not yet appeared, a warm cordial drink will often be beneficial.

## No. 7.

Take sweet fennel seeds, fresh powdered, and cumin seeds, two ounces; long pepper, turmeric, ginger, elecampane, one ounce; treacle, or coarse sugar, two ounces. Mix in a quart of ale; pour boiling hot upon the whole in a pitcher; cover down till lukewarm, and then give it.

*Cleansing drink*.—Epsom salts, one pound, and two ounces of ginger, put into two gallons of bran slop, warm, is an excellent cleansing drink; to which may be added, if thought necessary, a pint of good ale. Ale is a good drink for cows.

*Colic* or gripes produced by various causes. The following carminative drink is recommended:

## No. 8.

Take oil of turpentine, one ounce; tincture of opium, six drams; spirit of nitrous ether, two ounces; water, one pint; mix for one dose. Or, give, if the colic is accompanied with costiveness, the following: Dissolve five drams of aloes in half a pint of brandy; or purge should be given: other ardent spirit; mix the infusion with two quarts of water gruel, and administer the draught in a lukewarm state. The animal should be kept dry.

*Cough*.—Jefferies recommends for an old cough, to steep two pounds of hysop in one-half gallon of water, made thick with wheat bran and the roots of leeks, washed clean and bruised, to be given to the beast, fasting. Or, take common garlic with dragon water; new ale and butter, any quantity thought necessary; and being lukewarm, give it the beast; repeat, if necessary.

The following, from an old German book, is said to be a sovereign remedy for *Husten des Rindviehs*:

## No. 9.

Take garlic, four ounces; fir tops and gentian, of each, two ounces; tormentil root, dittany, angelica, zedoary, of each, one ounce; laurel berries, and myrrh, each, two ounces; bole armenian, twelve drams; elder and juniper berries, of each, eight ounces; pulverize the whole, and add as much honey till it forms a mass of the consistency of molasses. From one-half to one ounce may be given at one time, in a pint of warm ale or cider.

*Cords* or gut tie; this is a fatal species of intestinal strangulation. This is a disease caused by improper feeding of calves, causing gripings and spasms which will so violently contract the intestines, into cords, as it is termed. The animal will show this affection by throwing itself down, &c. The first thing to be done is to correct the morbid acidity in the stomach.

## No. 10.

Take solution of potash, epsom salts, of each, two ounces; warm water or thin gruel, one-half pint. Dissolve the salts in the gruel; add the solution of potash, and give it daily.

*Costiveness*.—Calves, especially, are liable to this complaint. In case of a young calf, remove the dung from the fundament; inject a clyster composed of some sweet oil; an infusion of mallows or camomile; and give a gentle purgative drink.

## No. 11.

Take glauber salts, two ounces; powdered ginger, aniseed, a-half ounce each; treacle, two spoonfuls, with a pint of lukewarm water, having been poured hot on the ingredients, and left stand to cool. The quantity to be varied according to age.

*Cud*, loss of.—Rumination, or the chewing of the cud, is that motion of the first stomach, called the rumen, by which the food is forced back into the mouth to be perfectly masticated. The rumen sometimes ceases to perform its proper functions, and this is what is called loss of cud. To cure the loss of cud, give the animal the following:

## No. 12.

Take Barbadoes aloes, six drams; common salt, six ounces; ginger, powdered, three drams; anodyne carminative tincture, two ounces; water, one quart. Mix and give it early in the morning.

Jefferies recommends, and we have seen it tried, and proved, to take a piece of leaven, put it into the beast's mouth, and it will recover; but if it be of long standing, take out the tongue of the beast, prick the vein under it with an awl in two or three places, so it bleeds plentifully, and it will get well.

Another cure; administer the following warm laxative :

No. 13.

Take Barbadoes aloes, one-half ounce; Castile soap, six drams; ginger, three drams; cascarilla bark, two drams; warm water, one pint; mix. After the operation of the laxative, give the following tonic drench:

No. 14.

Take cascarilla bark, ginger and soda, each two drams; to be given in a pint of ale, beer or warm water; good julep for cows.—*Vaneisdorn*.

Never failing cure for loss of cud.—Take some honey and salt, and as much wheat bran as will make three balls the size of a hen's egg, and give it to the animal. This ball may be improved by adding one-half dram of asafetida.

*Diarrhea*, or scouring, is common in cattle. To effect a cure it is necessary that the animals be taken under cover, kept warm and dry, and have nutritious food allowed them. If the scouring be obstinate, let half a pound of pulverized common chalk be boiled in two quarts of water, to which add four ounces of hartshorn shavings, and one ounce of cassia. When the decoction is cold, add two drams of laudanum, and one pint of lime water. The dose is one or two hornfuls, two or three times a day, according to the nature of the disease. Or, give No. 112 or 111, Sect. 214, PART I. Or take about two pounds of mullein leaves, boiled in one gallon of milk, and given without being strained, adding, however, one dram of opium.

*Elfshot*, or *elfshotten*, a disease in horned cattle, the symptoms or concomitants of which, are sluggishness and loss of appetite. The original of the name seems to have been derived from the same source that sympathy, *alias* animal *magnetismus*, is derived from—superstition, a prolific source of erroneous opinions. Those troubled with such notions, will maintain, at much expense of argument, that the cattle are shot by witches, or elves, with hair balls. A late case has been gazetted and re-gazetted, in all the papers of the Union, which occurred in York county, Pennsylvania. We mean the Henry Miller and Daniel Sultzenberger scrape.

The disease, however, is not an imaginary one—it is a real one—no sympathy about it. It is believed to be an opening in the peritoneum or film of the belly, caused by relaxation. It resembles a hole made by a bullet, and may be felt through the skin, which remains unhurt. These openings are closed, and the animals cured by rubbing (not sympathetically) that part with salt and water. It should be repeated two or three times in the course of a day. Any one can perform—no particular one—not a *seventh son* need be entrusted to perform. We need no *hocus pocus*, as friend Clarke says, to cure all *natural* diseases—“*some cloths to the contrary*.”

*Fever.*—Mild fever, pantas or pantasia. Cattle sometimes appear affected with heat, redness of the nostrils and eyelids; they refuse food, are dull, evacuate and stale with difficulty; and the urine is high colored. These symptoms are often aggravated every other day, giving it the appearance of intermittent affection. The complaint is often brought on by over driving in very hot weather, occasionally by pushing their fattening process too fast. If there be no appearance of malignancy, and the heaving be considerable, bleed, and give half an ounce of nitre in a drink night and morning; but unless the weather be cold do not house the animal.

Inflammatory fever is called among farriers, cow-leeches, and graziers, by the various names of black quarter, joint felon, quarter evil, quarter ill, showing of blood, joint murrain, striking in of the blood, &c. Various causes may bring this on. It is sometimes epidemic, and others it seems occasioned by a sudden change from low to very full keeping. Over driving has brought it on. No age is exempt from it, but the young oftener have it than the mature. Its inflammatory stage continues but a few days, and shows itself by a dull heavy countenance, red eyes and eyelids: the nostrils are also red, and a slight mucous flows from them. The pulse is peculiarly quick; the animal is sometimes stupid, at others watchful, particularly at first; and in some instances irritable. The appetite is usually entirely lost at the end of the second day, and the dung and urine either stop altogether, or the one is hard and the other is red. About the third day a critical deposit takes place, which terminates the inflammatory action: and it is to the various parts on which this occurs, that the disease receives its various names. The deposit is, however, sometimes universal, in the form of a bloody suffusion throughout the whole skin. In others, swellings from the joints, or on the back or belly; and in fact, no part is exempt from their attack.— Sometimes the animal swells generally or partially, and the air being suffused under the skin, crackles to the feel. After any of these appearances have come on, the disease assumes a very malignant type, and is highly contagious.

*Treatment of inflammatory fever.*—Before the critical abscesses form, or at the very outset of the disease, bleed liberally, and purge also: give likewise a fever drink, (No. 74, Sect. 188, PART I.) If, however, the disease be not attended to, in this early stage, carefully abstain from bleeding or even purging: but instead, throw up clysters of warm water and salt to empty the bowels, and in other respects treat as detailed under malignant epidemic. (No. 73, Sect. 188.) It may be added, that four drams of muriatic acid, in three pints of oak bark decoction, given twice a day, has proved useful. The swellings themselves may be washed with warm vinegar both before and after they burst.

*Fits or phrenzy.*—Symptoms nearly similar to those which show themselves in the horse. The treatment must be same as that of the horse.—See Index—*Phrenzy*.

*Foul* in the foot, or hoof-ail.—Dr. Peck describes this disease thus: A hard crack first appears between the hoofs, attended with inflammation—fetid and offensive matter is discharged, similar to the grease in horses. Sometimes it appears in the form of a large tumor upon inflammation. Cleanse it well, says E. Skellet, then apply the folthe coronet, between the hair and foot, attended with violent pain and lowing ointment. It should be spread on tow, and bound on with cloth and string. Soft soap, common turpentine, of each, one pound, to be put into a pipkin, over a slow fire, until it is completely dissolved; then take it from the fire and add four ounces of turpentine, which should be stirred until it is incorporated. Or, you may apply No. 145, PART I.

*Garget* is a disease among cattle, especially among cows; their udders become greatly extended and indurated with this distemper, of which they will pine away and die, unless a remedy be speedily applied. M. Gelle, a French writer, recommends the opening of the dew-lap, and inserting into it a piece of the root of Mechoacan, as big as a nutmeg, with a string fastened to it, that it may be drawn out when the cure is effected. The humor, he says, will, in twenty-four hours, be revulsed from the udder to the dew-lap, and soon discharges itself at the orifice, which completes the cure. The causes of garget are various—exposing the animal to cold and wet, and the want of physic, after calving, often produces garget. The best mode of treatment is, washing and fomenting the udder and teats, giving a dose of physic, and the application of the following ointment: Take an ounce of yellow wax, and three of lard; melt them together, and when they begin to get cool, rub in one-quarter of an ounce of sugar of lead, and one dram of alum finely powdered—apply. The cure is certain.

*Grain sickness*.—This disease is caused by a surfeit of grain; and its remedies are bleeding and purging. Dr. Skellet recommends to take not less than three quarts of blood: and he also recommends the following purging drink: sulphur, ten ounces; nitre, two ounces; turmeric and cumin seeds, of each, one ounce.

Dr. Parkinson strongly recommends *chamber lye* and salt as an effectual remedy for grain sickness.

*Horn distemper*.—Writers say this is a disease which has its seat in the horns. The distemper causes the pith of the horn to be gradually consumed. It is occasioned by poor keeping, by which the blood becomes thin and reduced, and does not circulate properly in the extremities.

Those who are curious, may see a "*horny*" discussion of this subject in the Farmer's Cabinet, Vol. II.

To cure this disease, Dr. Dean recommends that the horn should be bored with a nail gimblet, in such a manner as to effect the discharge of the matter which has become purulent. The hollow part should be cleansed; then inject a mixture of rum, honey, myrrh and

aloes, and give laxatives immediately, or before the gimblet and syringe are called into requisition.

*Hollow horn, to prevent.*—By pouring about half a gill of spirits of turpentine in the cup or cavity on top of the head, just behind the junction of the horns; let it be repeated about ten days or two weeks after the first application.—*Proved.*

*Hoves, hoven, blown, or fog sickness.*—This complaint is usually occasioned by the animal feeding for a considerable time upon rich, succulent food, so that the stomach becomes distended or overcharged, and they, through their greediness, forget to lie down to chew the cud.

There are many cures in books for hoves. Dr. Young announces the following as a specific for this disease: Take three gills of olive oil; one pint of melted butter or hog's lard; give this mixture by means of a horn or bottle, and if it does not produce a favorable change in fifteen minutes, repeat the same quantity, and walk the animal gently.

We will now venture a word or two, and a cure which will not fail. We have the cure from an old friend near Manheim, Lancaster county, Pennsylvania.

The succulent matter, while undergoing fermentation in the distended stomach, creates a great deal of carbonic acid gas in the stomach. Now, to neutralize this, we think our friend's cure is the *thing*. He says, make as quick as you can, a pint or more of lye, either with hot embers thrown into a quart of water; or, dissolve, if at hand, pearl or potash, and turn it *down* the throat of the *cow*—*up* comes the wind—it will relieve at once.—*Proved.*

A spoonful or two of hartshorn and warm water will cure hoves. Capt. James Cooper of Haddonfield, N. J., has published a cure for hoven cattle, which is simple, and has been tested. Make a twisted band of straw, the size of the wrist, and place it in the mouth of the animal, drawing it tight, and making fast the ends over the head, just behind the horns. This will cause the beast to endeavor to rid itself of the inconvenience, by chewing the band; and the act of moving the tongue and jaws will open the gullet, and permit the pent-up air to escape. This receipt is worth double the price of the whole book.

*Compiler.*

*Jaundice* or yellows.—This disease may be known, principally by the yellowness of the eyes and mouth; a dull or languid appearance.

At the beginning of the disease, give the following drink:

No. 15.

Take Castile soap, one-half ounce; Venice turpentine, one-third ounce; ginger, three drams; powdered gentian, one ounce; rub the soap and turpentine together in a mortar, until they are incorporated;



then add gradually a pint of water, and afterwards the ginger and gentian.

Another remedy is, after bleeding, to give the following :

No. 16.

Take nitre, in powder, three ounces; salt of tartar, Castile soap, of each one-ounce; epsom salts, four ounces; rhubarb, one-half ounce; turmeric in powder, two ounces; divide these when well rubbed together, into two doses, and give them every twenty-four hours, in a quart of warm whey or gruel. If necessary, bleeding must be repeated.

*Joint oil* or synovia, loss of.—Wounds, or punctures of joints, often penetrate so deep as to pierce through the tendons and ligaments, occasioning a loss or discharge of the natural secretion of the joint, viz: Its oil or synovia; the same accident may happen from any injury exciting inflammation, and that inflammation passing on until it produces an opening into the joint. This disease is always an alarming one, and the principle of cure is to produce the process of healing as quickly as possible, by exciting active inflammation; this may be done after the first effects of the injury have subsided, in consequence of bleeding, purging and fomenting, in the usual manner, and then applying the volatile blister to the joint, composed of Spanish flies, in powder, two drams, and spirits of ammonia, four ounces; at the same time the orifice is to be plugged with a tent, dipped in the following composition:

Take sweet spirits of nitre, three drams; butter of antimony, and extract of lead, each, two drams.

The blister and caustic may be occasionally repeated; the mixture every twenty-four hours, till the effusion of joint oil is completely stopped; then the following balsam may be applied once or twice a day, in order to heal up the wound:

Take tincture of myrrh, two ounces; blue vitriol water, one-half ounce.

The vitriol water may be made by dissolving ten drams of blue vitriol, in powder, in a pint of hot water; the balsam to be well shaken together previous to using it. The blister is to be well rubbed on the joint, till a plentiful discharge takes place from the surface, when it becomes no longer requisite. By this treatment a cure is generally effected, unless when the bones are materially injured along with the soft parts, and then any plan of cure will prove ineffectual.

*Lice* sometimes are troublesome to neat cattle.—To kill them, take a little quicksilver, and work it well with fasting spittle, so says Jefferies, upon the palm of your hand till the quicksilver be killed; then take the white of two eggs and bray them with quicksilver till they be as an ointment; spread these upon a list that will go round about the beast's neck; let it be broad as your hand, and they will come to it, and it will kill them. Rub some train oil on several parts of the beast.

A strong decoction of tobacco will kill lice; it will certainly drive them away.

Clater recommends the following wash:—Take stavesacre, (larkspur or lousewort,) half a pound; tobacco cut small, two ounces; boil in one gallon of urine down to three quarts. With this wash, sponge such parts as are infested; repeat if necessary, in five days. A piece of brimstone as large as a grain of corn, well pulverized, given in salt, will cause them to drop off, and prevent others from getting on for eight or ten days. Repeat when necessary. It is considered that brimstone is as necessary for a cow in summer as salt.

*Mange*.—This is a cutaneous disease, which is very contagious. Its symptoms are, a scurf on the external part of the body, which is always attended with itching. Some say it is caused by a kind of animalcula, which burrows in the skin. But we think it generally proceeds from scanty or improper food, during the winter; it only, we believe, makes its appearance in spring. Rub off the scurf with a currycomb; then apply with a hard brush, well rubbed on, the following ointment:

#### No. 17.

Take hog's lard, eight ounces; spirit of turpentine, two ounces; flower of sulphur, four ounces; sulphur vivum, two ounces.

The following drink, will, by promoting the suspended secretion, very much accelerate the cure:

#### No. 18.

Take of caraway seed, in powder, aniseed, flour of sulphur, of each, two ounces; grains of Paradise, and nitre, each, one ounce; crude antimony, one-half ounce; treacle, four spoonfuls. Mix it in a quart of warm ale, and give in one dose. If required repeat.

*Milk*, or puerperal fever.—(See *Fever* above.) The milk fever attacks cows generally in a high condition at the time of calving. If the fever is high, as soon as possible, and repeat it every twenty-four hours, give the drink recommended under article *Abortion*, No. 2.—If the bowels be not readily moved by a purgative, inject the following clyster:

#### No. 19.

Take thin gruel, three quarts; common salt, eight ounces; spirits of turpentine, one-half pint; treacle, four ounces. Mix; give lukewarm.

The following cordial drink may be given as soon as the bowels are opened:

#### No. 20.

Take grains of Paradise, ginger, salt of tartar, oil of turpentine, of each, one-half ounce; aniseed, caraway, flour of mustard, each two ounces; treacle, four spoonfuls. Mix, and give in a quart of warm gruel, with a wine glass of gin and brandy; both good for cows!

*Moor-ill, wood-ill or evil*, all imply the same disorder; a weakness of the digestive system, proceeding from debility by taking cold from being exposed. The best remedy is to provide a warm place and nutritious food for your cattle thus affected, and give the following drink:

## No. 21.

Take grains of Paradise, aniseed, caraway seed, fenugreek, of each, two ounces. Mix it in two pints of warm water, and give it at once with two spoonfuls of treacle or coarse sugar.

*Puckeridge or wornals*, are tumors on the backs of cattle occasioned by a dipterous insect which punctures their skin, and deposits its eggs in each puncture. When the eggs are hatched, and the larva or maggots are arrived at their full size, they make their way out, and leave a large hole in the hide, to prevent which the destruction of the egg should be attempted by nipping the tumor, or thrusting in a hot wire.

*Poison.*—Cattle are sometimes poisoned by eating laurel. The symptoms are foaming at the mouth, and the greenish juice by which the mouth is discolored, is an evidence of poison.

*Remedy.*—Take one pint of sweet oil, or hog's lard; mix with it two quarts of new milk, and administer. If given seasonably, a cure is generally effected. Or give the diseased animal the white of eight or ten eggs; it will relieve the animal.

A gallon of strong infusion of mountain dittany, has in many instances been given, and afforded instant relief.

*Red water.*—(See article, *Black water.*)—The name of this malady indicates its nature. When an animal is attacked with this disease, it should be placed under shelter, and drenched with a pound of glauber salts; repeating the dose on the succeeding day. Perhaps the following is a better remedy: make a strong decoction of Peruvian or oak bark, with a small quantity of alum; give it to the extent of two or three hornfuls twice or thrice a day.

*Staggers.*—The seat of this malady is either the stomach or brain. When it arises from the former case, medicine is of but little avail. When staggers arise from fulness of blood, bleeding and cooling purgatives should be resorted to, and the animal should be confined in a warm stable, and rubbed freely with straw every day. The following drench has often been given to advantage:

## No. 22.

In one quart of water, put Barbadoes aloes, six drams; common salt, eight ounces; flour of mustard, one-ounce; brandy or rum, a wine glassful. Then follow it by the following clyster, and blood letting:

## No. 23.

Take common salt, eight ounces; warm water, four quarts.

*Tail sickness*; a distemper well known.—The end of the tail becomes hollow and relaxed, but not destitute of feeling. A cure is easily effected. Cut off a small piece of the tail which will be attended with a discharge of some blood. But when the tail is but little affected, and near to the end, a slit of two inches in the end of it, is preferable to amputation. We know what Leiberkuhn has said on this subject: we never tamed “black cats” for the purpose!

*Teats, sore ones.*—To heal sore teats the following ointment ought always to be kept ready: Take elder ointment and yellow basilicon ointment, of each, four ounces; spirits of turpentine, one ounce; mix them well. The cow's teats may be well rubbed with this ointment ever night and morning after milking. If, in summer, and the flies plague them, add one ounce of asafetida or aloes in powder, and dissolve it along with the ointment. This will prevent the flies.

*Ulcers* are solutions of the soft part of an animal's body, together with the skin. The following applications are good to cure ulcers:

No. 23.

Take goose grease, one pound; hog's lard, two pounds; red lead, three ounces; pulverized alum, one ounce.

No. 24.

*Ulcers, inflamed, a fomentation for.*—Take camomile flowers, one-half pound; wormwood, a handful; bay and juniper berries, four ounces; yeast, six quarts; vinegar, one quart. The whole to be boiled for fifteen minutes.

If there be fungous matter, or proud flesh, a small quantity of the following caustic over the whole surface, will act as escharotic:

No. 25.

Take soft soap, one ounce; arsenic, oil of vitriol, spirits of lavender, each, one-half ounce. The soap and arsenic to be mixed, and then the vitriol added by degrees.

No. 26.

*Ulcers, cancerous.*—First cleanse the wound from all extraneous matter; sprinkle it with red precipitate; and afterwards dress it with the following:—Egyptiacum, two ounces; compound tincture of myrrh, spirits of turpentine, of each, one ounce; sublimate, powdered, one dram; spirit of salt, four drams. Mix, and keep it in a bottle for use. Dress the wound with small pledgets of lint dipped in the above mixture, once a day.

*Urine, bloody.*—If a cow or ox passes bloody urine, make a slop or drink of bran, put into it a small handful of fluellen, celandine, an onion bruised, and one pint of linseed oil, and let the animal drink it.

*Vomiting.*—Our attention was directed to this subject from listening to an angry discussion between two butchers, on vomiting by cattle. They were at issue and could not decide; coming accidentally to the dispute, the question was put to us: what is your opinion? We promised to read and think on the subject, and then give the result of our enquiries. We here insert a translation of an article to the point, from a work, entitled *Journal Pratique*, 1830, page 322.

A certain Mons. Fleureus, having made several tests, but did not succeed in making an ox vomit, (see *Recueil Med. Vet. Aout.*, 1833,) he concluded neat cattle cannot vomit—his attention was directed to the journal above quoted, where he found recorded a case of true vomiting. This case appeared singular, and was accordingly recorded. An ox presented the following appearance: the hair rough and shaggy, the skin dry and close, the muzzle feverish, with no appetite; rumination tardy and at long intervals; considerable tension of the left flank. Rumination was preceded by deep and sonorous eructations or belchings, having a penetrating odor. This lasted from eight to ten minutes, after which the animal got up, backed himself in his stall, stretching the chain on his neck, his fore-limbs trembled, he brought his hind extremities under him, and bent his neck, depressed his head, and, after a deep and powerful inhalation, he vomited fifteen pounds of semi-fluid matter, perfectly triturated.—The vomiting ceased, the ox remained for a moment motionless, and then lay down again and ruminated afresh. He continued this about thirty-five minutes, when he had a renewed fit of vomiting, perfectly similar to the preceding.

The author of the book proceeds to state, that the ox was bled and physicked, and the disease was soon cured.

He supposes the cause of vomiting, in this case, arose from driving the animal in warm weather, and over-heating, and then obliging the ox to drink putrid water.

Another writer, M. Crewzel, relates several instances of oxen and cows vomiting. The curious and doubting, if they can read, will be satisfied on this subject, if they will consult an interesting work, called *Memoire sur le Vormissement, par T. Girard, p. 21 to 29.*

*Warts* are excrescences growing from the cuticle, at first, but afterwards identified with the true skin. Any of the mercurial ointments, if applied, will remove warts.

*Wethering*, or retention of the after-birth or burden.—It sometimes happens that this is retained; for which no better remedy has been hitherto discovered, than warm clothing and drenching with ale, administered as a forcer.

*Wounds.*—Cattle are liable to wounds. In cases of common flesh wounds, apply a salve made of white lead and oil of turpentine, incorporated with a little brandy; drawing the lips of the wound close together, so as to exclude the air. If the laceration be deep, it should be washed with warm milk water, and the ragged flesh, if any, cut

away; after which the wound may be filled with tow, dipped in ointment, composed of Venice turpentine and balsam copaiva, in equal parts, mixed with double the quantity of yellow basilicon.

*Worms.*—These are occasionally found in the intestines of cattle. The following is recommended by Diegendesch, as a perfect cure.—Take pulverized masterwort, calcined deer's horn, pulverized chalk, of each, one-half ounce; mix it with one pint of wine or vinegar; give it as a drench, at once.

## RAISING CALVES.

[From the Genesee Farmer.]

It is a very general practice in many places, to permit calves to run with, or at least to suck the cows during the first season, and a prevalent opinion is that this is the best way to raise them. The former practice—that of allowing the calf to run constantly with the cow—is always injurious to a good milker, for unless a cow has the whole of her milk regularly drawn from her, which rarely happens where it is left entirely to the will of the calf, unless the udder is completely emptied, the lactic secretions are constantly diminished—and the cow would consequently become eventually dry. But where the calf is turned to the cow only at stated intervals—at morning and evening—and pains are taken that all the milk is withdrawn, although this does not injure the cow, yet it is found to be a very expensive practice; for a calculation will readily show that the milk of a cow during the season, if appropriated to dairy use, would bring more than the whole value of the calf in autumn. Giving the calf but a part of the milk of the cow, and weaning it early in summer and turning it to pasture, is no improvement; for unless it has a good supply of nutritious food, and unless this is continued through the season, there can be no hope of raising a valuable animal. The frequent raw-boned, stunted, ill-shaped ones, which we see, are a sufficient comment on the truth of this.

Experience has shown, both in England and in this country, that the finest animals may be raised in great numbers, without allowing them to suck the cow after the first three or four days. One of the best practices is the following:—The calf is allowed to suck a few days, till it has increased in strength and appetite, sufficient to enable it to swallow readily, during which time care should be taken to milk the cow while it is sucking, in order to draw off the whole of the milk; it should then be separated from the cow. Some recommend even to remove it when it is not more than twelve hours old. It may be learned to drink by allowing it to suck the finger placed in the vessel. It should at first be fed entirely on new milk. In two or three days, a very small quantity of water, of the same temperature with the milk, is added, and increased very gradually day after day;

at the same time a small quantity of meal is to be added with it, and this also is to be gradually increased, and at the same rate, in order to supply the deficiency of nourishment occasioned by the addition of the water. At the same time, skimmed milk may be gradually substituted for new milk. This should at first be boiled, and afterwards cooled to the proper temperature, as otherwise it would be liable to cause purging. The temperature may then be gradually diminished till it is given cold. Thus in a few weeks the calf will have learned gradually, but almost imperceptibly, to subsist entirely on water or old milk mixed with meal. The meal at first should be fine, but coarser may subsequently be substituted; and finally shorts or bran may be given if necessary. By thus gradually accomplishing any change, it may be done without the least difficulty; at the same time there will be no danger of injury to the calf, which would be the case if sudden changes were employed. Sudden changes indeed, should never in any case be adopted, for they are always detrimental, and sometimes fatal.

Calves for killing, may be fattened in this way, and with proper attention be in as good condition at an age of five or six weeks, as when fed exclusively on new milk; and it may in many instances, be of importance to adopt it for fattening calves, especially during the season of the year, when milk is valuable.

Calves should have, at all times, plenty of clean litter and a good supply of fresh air. Calves for the butcher sometimes injure themselves by sportiveness; this may be prevented by keeping them nearly in the dark, as they evince less of a playful disposition than when exposed to full light. But they should never, on any account, be confined by tying, for this does not abate the restlessness of their disposition, and they are constantly spending themselves in exertions to get loose.

It is a very improper but not unfrequent practice, to give little attention to calves, after the early part of the season, and to suffer them to feed on pasture alone, without any other food. In this way they very commonly become poor, and but little prepared to withstand the coming winter. Their future value greatly depends on their treatment during the first year, consequently they should be kept in good condition throughout the season; and through autumn they should be gradually accustomed to the food on which they are to be wintered.

### III.—OF SHEEP.

The diseases of sheep are numerous in some countries. In this, unless too carelessly treated, their diseases are few. Where, however, sheep are not attended to, as duty demands, they are liable to the following diseases, which we have named below, and pointed out cures for all maladies incident to this valuable animal:

*Blood.*—The blood is a fatal malady to which sheep are liable. The symptoms are panting, heaving of the flanks, and standing still. The most effectual remedy is bleeding, and a mixture of common salt and nitre mixed with bran. The animal should also be turned into a dry pasture.

*Blast, or hoves.*—Sheep, like cattle, are subject to hoves. Common salt and water, made strongly saline, has cured this disease. A certain French writer recommends to take three ounces of tar, and fifteen of new milk; half an ounce of solution of prepared ammonia, and give one gill at a time, and repeat it if necessary.

*Braxy, dry braxy, water braxy, bowel sickness*—all names for the same disease, perhaps varying at different stages. It is an inflammatory disorder, which quickly terminates in dropsy of the belly or chest. The cure recommended, is to bleed freely from the neck vein; give some salt, in half a pint of water, and a tea spoonful of tincture of opium; a dram of powdered aloes may be added, and a little ginger.

*Claveaux, or sheep pox.*—This disease appears in small pimples; sometimes in blotches and pustules, on the skin. This disease is to be treated like inflammatory fever in the ox or cow.

*Colic.*—A wind colic will also sometimes affect sheep more from the quality than the quantity of what they eat; it is best relieved by an ounce of castor or salad oil, with an ounce of gin.

*Cough.*—The usual remedy for this disease is bleeding about one pint. If any medicine is required, give half an ounce of common, or one ounce of epsom salts, dissolved in four ounces of thin gruel. Then give the diseased animal some garlic bruised, in stop made of wheat bran.

*Disorder of the eyes.*—If the eyes are inflamed or sore, the remedy is simple. Press out the juice of celandine, and drop a quantity of it into the eyes, night and morning.

*Dropsy.*—Sheep are liable to this disease. Tapping, fresh and wholesome pasture, are perhaps the only remedies.



*Fever.*—Fever in sheep is an inflamed state of the blood, disordering the eyes and mouth, and affecting the whole body, though not visibly. When any of the symptoms of a fever appear, the feet of the sheep should be examined, and if found to be hot, there is no doubt of the character of the disease. Other diseases will produce an inflammation of the eyes and mouth; but hot feet are an infallible symptom of fever. This disease is often fatal in itself, and frequently induces others which are equally so. The cause is generally a cold. When only two or three of the flock are affected by it, the case is less desperate; but when many are attacked with it, it is more fatal.

The remedy is to keep the sheep in warmer and more sheltered places, bleed and give the following medicine: Heat a quart of ale, and dissolve it in an ounce of mithridate—add half an ounce of Virginia snakeroot, and one dram of cochineal in powder. This quantity serves for four doses, and one of them to be given morning and evening. If the sheep is bound in its body, an ounce of lenitive electuary is to be mixed with each dose; but if looser than ordinary it ought not to be checked as it will contribute to the cure.

*Foot worms.*—Sheep are liable to breed worms between their feet; principally, however, when they are kept in wet pastures. It is very painful to them, and will make them pine away. It is perceived by their frequent holding up one foot; and by setting it tenderly down.

Let the foot be washed clean, particularly between the toes, and there will be found a little lump like a tuft of hair. This is the head of the worm. It is to be taken out with care, for it is of a tender substance, and if it be broke in the foot, it will occasion inflammation. The best method is to open the flesh on each side of it, and then, by means of a pair of nippers, to take it out. Dress the wound with tar and grease melted together in equal quantities, and turn the sheep loose. It is better to put it into a fresh pasture, for if the same disorder returns, it is generally worse.

*Foot rot.*—For the foot rot in sheep, take alum, green vitriol and white mercury, the first in the largest proportion: dissolve them in water, and after the hoof is pared, anoint it with a feather, and bind on a rag all over the foot.

The Middlesex shepherds use the green vitriol alone, after pounding it fine. Others again anoint with a feather dipped in aqua fortis, or weak nitric acid. The drovers to Smithfield carry a bottle of this with them, to apply to lame sheep. It hardens the hoof, and enables the sheep to travel better. Another mode is to spread three or four inches of slacked lime over a floor, pare the sheep's feet well, and turn them into this house, where they may remain for a few hours, and then be put into a dry pasture. The treatment may be twice or thrice repeated.

*To prevent the foot rot.*—Keep the sheep in dry pastures, and if stony, the better; examine them often and carefully; and when any fissures or cracks, attended with heat make their appearance, apply

oil of turpentine and common brandy. When these do not avail, wash the diseased part, and pare as close as possible without drawing blood, and apply some of the caustics above named. In all cases it is of great consequence that the animal be afterwards exposed only to a moderate temperature—be invigorated with proper food and kept clean in early dry pasture.

*Jaundice.*—Sheep are more subject than any other animals to obstructions of the liver. When this is the case it is seen in a yellowness of the eyes, and a tinct of the same kind in the skin. Farmers in some places, call this the cholera, or, in their language the color.

When sheep are attacked with jaundice they should be put into an open pasture, and kept in moderate motion, but not fatigued. Boil in four gallons of water two pounds of fennel roots, the same quantity of parsley roots, and twice as much roots of couch-grass, all cut small. When the water is very strong of them, and there is about half the quantity left, strain it off, by pressing it hard. Bruise as much great celandine as will yield three pints of juice, add this to the liquor, and put in three drams of salt of steel. Mix all together, and every day heat so much of it as will serve to give every sheep that is ill, a gill and a half for a dose. This, with the forementioned directions, rarely fails of a cure.

*Lambs.*—Diseases of lambs are confined to indigestion, and eruption of secreted matter: the former shows itself in colic, which is relieved as in sheep, and also by diarrhea, to be likewise cured by the means detailed for them; the latter is more obstinate, begins on the rump, gradually extending along the chine, and when it becomes more universal, it usually destroys. The cure consists in giving daily drinks of half a dram of cremor tartar, and one dram of sulphur, in four ounces of camomile decoction. Anoint also with mild mercurial ointment and Turner's cerate in equal quantities.

*Lungs.*—Sheep are subject to be diseased in the lungs, which is easily perceived by their breathing, or by their coughing. Nothing requires a more speedy remedy; for they grow incurable, when it is neglected but a short time, and die as men in the consumption. Change of their pasture is essential to the cure—without it no remedy is effectual. It is owing to cold, and generally attacks sheep that have been kept on low grounds in wet weather.

When any of the flock exhibit symptoms of diseased lungs, drive them into an enclosed pasture where there is short grass and gravelly soil; and where there is spring or other running water. Bruise a basketful of the leaves of colt's foot, and press out the juice.—Bruise a quantity of plantain leaves and roots together, and press out the juice. Mix these, and bruise as much garlic as will yield about a fourth part as much juice as one of the others. Mix all together, and add to them a pound of honey, an ounce of aniseeds, and an ounce and a-half of elecampane. Give a quarter of a pint of this, warm, to every sheep that is affected, once in a day, and it will by degrees make a perfect cure.

*Maggots in the head.*—Maggots sometimes infest the head of sheep. Treatment is simple. Take sublimate powder, two drams; one-half ounce of turpentine; one quart of water; shake it well, and apply to the infected part. As soon as this is applied, the maggots will creep to the outside of the wool; brush them off, and apply train oil. Repeat if necessary.

*Nipples, sore ones.*—Lambs often die of hunger from their dams refusing them suck. The cause of this, is sore nipples, or some tumor in the udder, in which violent pain is excited by the striking of the lamb. Washing with sugar of lead, or spirits, will remove the complaint.

*Pendro, goggles, turnsick,* are all popular names for a disease, technically called *hydatids*, *Wasserblaeschen*, (Ger.), a very singular animal, formed like a bladder, and distended with an aqueous fluid. This animal is known among medical writers as the *tænis globulus*, which by some unaccountable means finds its way to the brain, and settles itself there, either in some of its ventricles or more frequently on its substance. Their size varies from the smallest speck to that of a pigeon egg, and the sheep it attacks are generally under two years old. These animals are likewise occasionally found in all the natural cavities of the body.

*The appearances of cerebral hydatids* are, stupidity, a disposition to sit on the rump, to turn to one side, and to incline the head to the same while at rest. The eyes glare, and from oval, the pupils become round. An accurate examination will now usually discover some softness at a particular part of the skull, generally on the contrary side to that which the animal hangs the head; when no softness of the skull is discernable, the hydatid usually exists in some of the ventricles, and the destruction of the sheep is certain and quick, from the greater disturbance to the functions of the brain; but when it is situated on the surface, it sometimes requires many months to destroy; an absorption of the bone takes place and the hydatid increases, which produces the thinness in the skull opposite to the affected part.

This disease is not incurable, as has been supposed, but it is only relieved by a manual operation. In France it has been successfully treated by the application of the actual cautery; a pointed iron, heated red hot, is forced through the skin and skull, to the surface of the brain; the principal nicety of which, is in penetrating the hydatid with the hot iron without wounding the brain itself. In England, some shepherds are very dexterous at wiring, which they do by thrusting a wire up the nostrils till it rests against the skull. In the passage of the wire, the hydatid is usually ruptured; others elevate the skull (by means of a trephine, or even a knife) opposite to the softened portion, and extract the hydatid, if possible, whole, which a little care will effect, by drawing it away with a blunt pincer, gently moving it from side to side. Tapping is merely letting out the fluid contents of the hydatid by an awl, which is practiced by some shepherds with success; and if the instrument be not thrust too far, the

animal is never injured; to avoid which, it is passed obliquely. A well hardened gimblet is a proper instrument, with which the skull is easily penetrated, and an opening by the twisting of the instrument is made, sufficiently large in the hydatid itself, to discharge its contents, which is all that is sufficient to insure its destruction, and which, if no other exist, is followed by immediate recovery.

*Pelt rot.*—In this disease the wool falls off, but the skin does not become sore, but merely covered with a white crust. The cure is easy:—Full feeding, warm keeping, and anointing the hard part of the skin with tar, oil, and butter, mixed together.

*Poison.*—Sheep are sometimes poisoned by eating laurel or ivy.

*Remedy.*—Take a gill of sweet oil, hog's lard or fresh butter; mix it with a pint of milk. Or, take an egg and give it to each of the sickened sheep, in the shape of a natural bolus, by simply breaking the egg and slipping the yolk, and as much white as possible, down the throat of the animal. The sheep will then vomit up the leaves and green juice, but not the egg.

Another effectual remedy to cure poisoned sheep, is to take three spoonfuls of floured mustard and a pint of warm water, and give it.

*Purging.*—Leave nature to her course when a purging comes on with a fever; but when the fever is abated it should be stopped; and the same remedy that answers for this purpose, may be adopted for such purgings as come on of themselves. Boil a quarter of a pound of raspings of logwood in two quarts of water, till but a quart is left, and when it is nearly boiled down, put in a stick of cinnamon, strain it off, and give the sheep a quarter of a pint, four times a day, till the purging ceases.

If this does not produce the desired result, the following addition will render it sure of success:—To every dose add a quarter of an ounce of diascordium without honey, and ten grains of Japan earth powdered, and give the doses only morning and evening.

*Red water.*—This is an inflammation of the skin that often raises it into blisters, in which are contained a sharp humor, thin, watery and colored with blood. Nothing should be done to strike it in, but the cure must be effected by correcting the bad state of the blood. Sheep afflicted with it should be separated from the flock, otherwise it will be very apt to spread through the whole. They should also be put into a pasture where the grass is sweet and where they can have access to good water.

Mix half an ounce of sulphur with an ounce of honey; work it well together, and then divide it into two. Dissolve one of those in half a pint of juice of nettles, and give it every day for a fortnight. Slit the blisters when they are full of this watery humor, and having let the matter out, wet the place with juice of wormwood. After four days of this course, bleed them; and then continue the same.

*Rot.*—This is the most destructive disease to which sheep are subject. Like the murrain, among cattle, it is contagious and generally spreads through the whole flock, and often over the neighboring country. Flocks that are fed upon open commons are more subject to it than those who have shelter, and are taken care of at night. It frequently prevails in cold seasons, and when dribbling rains come on soon after shearing. Want of food will also occasion this disease; as will likewise the eating of such grass as is full of unwholesome plants. These are among the causes of this fatal distemper; but the worst and most common is infection.

Keep sheep out of the way of these causes of the rot, and the same care will preserve them from most other disorders to which they are liable; damp grounds are always dangerous, and especially in wet seasons.

When a sheep is infected with the rot, the white of the eyes looks dull, and they have a faint aspect, the animal is feeble and his skin is foul—the wool comes off in handfuls with the least touch and the gums look pale and the teeth foul. He will also be dull and listless in motion and heavy, as if his legs were not able to carry him. Many are generally infected at a time, and the first care must be to remove them from the sound ones, and put them in a close fold. They must have but little water, and their food must be dry hay and oats. Bleeding is destructive in the rot. The fact that sheep fed in salt marshes never have the rot, suggested salt as a remedy. It is a good preventive, but not an infallible cure. Though the farmer cannot rely upon it, yet among other remedies, it is highly useful.

The following remedies and treatment have often effected cures. Bruise an ounce of the grains of Paradise, and four ounces of juniper berries dried; add to these four pounds of bay salt, and half a pound of loaf sugar, grind them all well together, and sprinkle some of this upon the hay and oats that are given the sheep. Let this be continued three days, and look from time to time to the eyes, and examine every other way, to see whether they mend or grow worse. If there be signs of amendment let the same course be continued; if not, the following must be used:—Steep four pounds of antimony in two gallons of ale, for a week—then give the sheep this every night, and morning, a quarter of a pint at a time. Boil a pound of the roots of avens, and two pounds of the roots of masterwort, in two gallons of water, till there is not more than six quarts remaining—strain this off, and press it hard, then pour a pint of it into a pailful of water that is to be given to the sheep for their drink.

By these means, carefully managed, and under a good regulation in cleanness, dryness and warmth, the rot will often be cured.

*Scab.*—This is a disorder to which sheep are very liable. When they are kept in dry wholesome pastures they are but seldom afflicted with the scab; but when they are on low wet grounds, or get under the drippings of trees in bad seasons they are frequently affected by it, in the severest manner. The symptoms are scurfy skins, which

in a little time rise to scabs; the wool grows loose and the sheep pine and become lean.

If they are attacked in a season when they can be sheltered, it should be immediately done, as nothing is so sure to effect a cure. If the season will not admit of shearing, they must be washed with soap suds, made very strong, and used warm with a piece of flannel or a brush. After this they must be turned loose into a clean pasture and driven up again as soon as well dried, and the sore parts of the skin must be well wetted with lime water. The scurfy part of the skin must be regarded; and the doing this three times, at two days distance each, will generally effect a cure. But if it fail, the parts that have been thus washed and cleaned, must be anointed with a mixture of equal parts of tar and grease, and they will soon be perfectly well. No inward medicines are required, for the complaint is only of the skin.

*Staggers.*—Sheep, as well as horses, are afflicted with the staggers. It is occasioned by improper food. Oak leaves and buds, are particularly prejudicial. They bind the bowels, and staggers frequently follow. The symptoms are the same as in sturdiness, but more violent; and there is generally a trembling, at the same time, in all the limbs.

To cure this disorder, dissolve an ounce of asafetida in two quarts of water. Give a quarter of a pint, warm, every three hours. It commonly opens the bowels at the same time that it takes immediate effect on the nervous system, and thus performs a cure. When the sheep are recovered, let them be kept out of the way of a return to the same food, and they will be in no danger of a relapse.

*Staggers, Blind.*—Half a pint of hog's lard melted and poured down a sheep, will cure the blind staggers in ten minutes.

*Sturdiness.*—This is a giddiness in the head. It is owing principally to rich feeding. The remedy is as follows:

Bleed profusely and give the following medicine: Bruise some roots of wild valerian, squeeze out the juice, heat it, and give a quarter of a pint. Repeat the dose every four hours. When the sheep is recovered, turn it upon the common, or into some barren hilly pasture. It will be kept from relapses by having but little food, and that perfectly wholesome. If the disease returns, it is commonly fatal.

*Tag.*—The tag is an external disease owing to the complaint last named. It is a distemper of the tail, beginning with filth and foulness, and ending in ulceration. The tag is situated in the inner part of the tail—it consists of scabs and sores, very painful and wasting to the animal, and is owing to the fouling this part by a purging. That tag is worst which follows a fever, because the inflamed state of the blood tends to increase the disorder, and when it begins during the continuance of the disease, the matter of the fever may chance

to settle it there. Two things are to be done; the first is to stop the purging; the other, to clean the tail.

The last mentioned remedy, either in its weaker or stronger form, is to be used to stop the purging; and the tail being clipped, and the sore part laid bare, first wash it with milk and water blood warm, and then with lime water. After this, turn the sheep into a clean dry pasture. Two days after look at it again, and, if not well, repeat the washing, and anoint it with grease and tar mixed together. Twice doing of this is generally sufficient to complete the cure.

*Throat stoppage.*—Sheep affected with stoppages in the throat, wheeze and breathe with difficulty. It is commonly occasioned by bad pasturage and colds. The remedy is to put them on higher ground, keep them warm and give them the following medicine:

Bruise a good quantity of pennyroyal, and squeeze out the juice. Put to a quart of it, a pound of honey, and half a pint of sharp vinegar. Give half a pint of this, blood warm, every night.

*Ticks.*—A simple, easy, and infallible method to destroy ticks, is a free use of Scotch snuff, by applying on the back of the sheep.

Lawrence recommends the following ointment as superior to tobacco, in all its forms and applications:

Take mercury, four ounces; Venice turpentine, two ounces; spirit of turpentine, well mixed in a mortar; then add two pounds of hog's lard; first well melt over a fire. This ointment applied, destroys all the ticks—promotes the health of the animal, and encourages the growth of the wool.

*Wood-evil.*—This disorder is a kind of cramp. It seizes the legs and will often attack a whole flock at once. The cause is cold and wet. Laying under the drip of trees in raining seasons, has often occasioned it, and hence its name.

In order to effect a cure, the sheep must be removed to a dry pasture and then proper remedies may take effect. The following medicine is recommended: Boil in a large quantity of ale as much cinquefoil and hedge mustard as can be well stirred into it. When the liquor is very strong, strain it off, and add a pint of juice of valerian root to every gallon. Give half a pint of this, morning and evening. Boil in vinegar a large quantity of the leaves of hedge mustard, and with the liquor hot, rub the legs.

*Worms.*—If they are in the head of the sheep, the following cure should be tried:—Force vinegar by a syringe into the head of the sheep. This will produce sneezing and convulsions in the sheep, by which the worms will be discharged.

A writer in the Genesee Farmer recommends a decoction of tobacco to be used as a substitute for vinegar.

To prevent worms from forming in the head, tar the noses of sheep in summer time.

Mix a little fine salt with tar, just enough to make the tar agreeable to the animal, and place the mixture under cover, where the sheep can have access to it, and they will keep their noses sufficiently smeared to prevent the insect from attacking them.

*Wounds.*—To cure wounds on sheep, a salve like the following should always be ready, and applied when needed:

Let one ounce of myrrh and aloes, each, and four ounces of spirit of turpentine be mixed with a quart of good brandy; the vessel should be corked up and exposed for one or two weeks to a moderate heat; after which, it may be strained off and preserved for future use in a closely stopped bottle.

*Wounds about the head*, called *sore heads*, which are caused by running against some object, sometimes become very aggravating. The following ointment will be found very useful in such cases:

Black pitch, one pound; tar, eight ounces; black brimstone or native sulphur, in powder—put these ingredients in an iron pot, boil them over a slow fire, and as soon as the sulphur begins to unite with the rest of the ingredients, take the whole off the fire. Apply it as an adhesive plaster.

At the solicitation of a special friend of the publisher, we add the following from the *Practical Farmer*, lately conducted by the Rev. John Winebrenner:

*A comparison of the different breeds of sheep.*

In the western states, where land is of course not so valuable as in the east, the Bakewell breed of sheep, although of a more tender constitution than the Southdown and Cotswold, and of coarser and smaller fleece, may be advantageously kept for their wool, notwithstanding its quality is rather coarse; it appears, however, from all the information on this subject, (the comparative value of the breeds of sheep,) that the Southdown and Cotswold are much hardier, better nurses of their lambs, and require less attention through our winter, and will live on shorter pasture in summer. The Merino and Saxon sheep have often too much the same objection as the Bakewell; they are of rather weakly constitutions, and not very good in rearing their lambs. Some of the Southdown wool is pretty fine and makes good cloth: the mutton is, perhaps, superior to all other kinds, (excepting some of the small Welch breeds,) their constitutions are very vigorous and strong, and they will make a living in any situation. The Cotswold are equally hardy, but want richer keep than the Southdown, their fleeces weigh heavy, and their quarters have been known to reach eighty pounds in England. Some of the Southdown and Cotswold lambs have weighed, at six months old, sixty pounds; and when full grown, two hundred and forty pounds.

We subjoin, in the first place, a comparative statement of the value of the different breeds of sheep:



Saxon Lamb, six months old, weighing 18 lbs. at 6 cents,	\$1 08
Merino lamb, " " 20 " "	1 20
Bakewell, " " 30 " "	1 80
Cotswold, " " 60 " "	3 60
Southdown, " " 50 " "	3 00

In the second place, their wool :

Saxon Fleece, weighing 3 lbs. at 40 cents, - - -	\$1 20
Merino, " 3 31 - - - - -	93
Bakewell, " 5 20 - - - - -	1 00
Cotswold, " 10 25 - - - - -	2 50
Southdown, " 5 31 - - - - -	1 55

Of course this is rating the best breed of sheep at the price of the common kind, which cannot be, for a long time to come. These animals are now worth about twenty dollars each, at least.

In the third place, we give a comparative statement of the sheep when full grown :

Saxon Sheep, weighing 50 lbs. at 4 cents, - - -	\$2 00
Merino, " 60 4 - - - - -	2 40
Bakewell, " 110 4 - - - - -	4 40
Southdown, " 240 4 - - - - -	9 60

#### IV.—OF SWINE.

The diseases to which swine are subject, are not numerous.—Hogs are not easily doctored. More can be done for them by preventing, than curing diseases. And the best preventive is to give them wholesome food; keep their sties clean, airy and dry; give them room to exercise, and dry straw to lie on. If these things are attended to, and little brimstone and antimony given in small doses, and now and then some charcoal, they require little more attention except when actually diseased. They are subject to catarrh, &c.

*Catarrh* and diseases of the lungs, are usually accompanied with a dry husky cough and a wasting of the flesh. The best remedy is, as above stated; a little antimony or madder, a comfortable dry sty, with wholesome food. To cure an obstinate case of catarrh, the following has been highly recommended:

Take two ounces of coriander seed; one of ginger; three of honey; and half an ounce of turmeric; let it be powdered fine, and boiled in three quarts of new milk; then let the hog drink it.

*Fever.*—To cure this, says a porcine doctor, let them bleed in the tail, and give them thrice a day, water wherein pepper and parsnep roots have been boiled. Old mother Jacobs of E. B., boils pokeroot, and gives it in swill to her fevered pigs.

*Garget* is an inflammatory affection of the udder of the swine, owing to the obstruction of the lactial ducts, by coagulated milk.—When the disease is slight, the udders may be bathed with camphorated spirit. When the disease is violent, and the pigs do not suck their dams, the milk should be expressed by the hands.

*Kidney worm*.—This is a disease common in hogs, called weakness of the kidney. The following remedies have often been tried, and they never failed: Take twenty or thirty grains of calomel and mix it in half a pound of corn meal dough, and give it to the hog affected, and in a few hours he will be well.

An experienced farmer says, that a free external application of spirits of turpentine, to the part affected, is a sovereign and infallible cure for the disease, if resorted to before the animal is worn out with the disorder.

*Mange*.—This is a cutaneous eruption. The animal affected with it, should be thoroughly washed with strong soap lye, and rubbed with the following ointment:

One ounce of flour of sulphur; two drams of hellebore; three ounces of hog's lard; one-half ounce of water of kali; so as to form an ointment.

A little oil poured on the back of a hog will sometimes cure the mange. Some say a small mess of rye now and then, as a change in their food, is good against the mange, and other disorders.

*Measles*.—It sometimes happens, though seldom, that swine have the measles; while they are in this state, their flesh is very unwholesome food. This disorder is not easily discovered while the animal is alive, and can only be known by its not thriving or fattening as the others. After the animal is killed and cut up, its fat is full of little kernals, about the size of the roe or eggs of a salmon. When this is the case, put into the food of each hog, once or twice a week, as much crude pounded antimony as will lie on a shilling.

Schneyder recommends boiled hempseed to be mixed with the swill; he says it has never failed to cure measles.

*Murrain*.—In the Annals of Agriculture, Vol. 36, the following recipe is inserted for the murrain in hogs: A handful of nettles previously boiled in a gallon of small beer, when one-half pound of flour of sulphur, one-quarter pound of elecampane, three ounces of licorice, and one-quarter pound of aniseed are to be added in a pulverized state. This preparation should be administered in milk, and the quantity here stated is sufficient for six doses.

The murrain in hogs is known by the animal's hanging down his head which is swollen; short and hot breathing, palpitation of heart, staggerings, and an abundant secretion of viscid matter from the eyes.

*Pox*.—Swine pox. Take an ounce of nitre, pound it, and dissolve it in a pint of cider, add to it half a pint of sweet oil, and one spoonful of honey; to be given to the swine lukewarm.

*Staggers.*—If hogs are affected with this disease, bleed them; give them a small quantity of nitre.

In this disorder, says J. P. De Gruchy, the animal turns round rapidly, and if not assisted, will die in half an hour.

*Remedy.*—You will see a bare knob in the roof of the mouth.—Cut it and let it bleed. Take the powder of loam and salt; rub it with it, and then give the hog a little urine.—*Mem. Phil. Agricultural Society*, Vol. II., page 28.

*Charcoal for hogs.*—Charcoal is useful for fattening and preserving the health of hogs. About one-half pint per day, will add to the health, and prove a specific against intestinal worms.

*Cutting and spaying.*—Cutting the young pig is performed at six or seven weeks old, according to their strength; in a week after which they may be weaned. After weaning shut up the sow closely, feed well, and on the reflux of the milk, she will express very loudly her desire for the company of the boar. It is necessary to state that sows are voracious, and occasionally fierce and savage animals, and have actually devoured young children. The sow is spayed while she gives suck, and the boar safely castrated at any age. The operation of castrating is performed by cutting them across the middle of each stone, then pull them gently out and anoint the wound with tar. Spaying is performed by cutting in the mid flank, on the left side, with a sharp knife or lancet; then stitch up the wound, anoint the part with tar salve, keeping the animal warm for two or three days. The usual way is to make the incision in a sloping manner, two inches and a-half long, that the fore-finger may be put in towards the back, to feel for the ovaries, which are two kernels as big as acorns, one on each side of the uterus, one of which being drawn towards the wound, the cord or string is cut, and thus both taken out.

## V.—OF DOGS.

The following is from Loudon's *Agricultural Encyclopedia*, Part III., Book VI., Chapter VIII., Section 7403—7423, with some additions and remarks; and addenda, containing cures for hydrophobia.

The *diseases of dogs* are very numerous. The following are described by Blaine as the most prevalent, with their methods of cure:

The *canine asthma* is hardly ever observed to attack any but either old dogs, or those who, by confinement, too full living, and want of exercise, may be supposed to have become diseased by these deviations from a state of nature. It is hardly possible to keep a dog very fat for any great length of time, without bringing it on. This cough is frequently confounded with the cough that precedes and accompanies the distemper, but it may be readily distinguished from this by an attention to circumstances, as the age of the animal, its

not affecting the general health, nor producing immediate emaciation, and its less readily giving way to medicine.

The cure is often very difficult, because the disease has in general been long neglected before it is sufficiently noticed by the owners. As it is in general brought on by confinement, too much warmth, and over feeding; so it is evident the cure must be begun by a steady, persevering alteration in these particulars. The medicines most useful, are alteratives, and of these occasionally emetics are the best. One grain of tartarized antimony (i. e. tartar emetic) with two, three, or four grains of calomel, is a very useful and valuable emetic. This dose is sufficient for a small dog, and may be repeated twice a week with great success—always with palliation.

Of *diseases of the eye*, dogs are subject to almost as great a variety as ourselves, many of which end in blindness. No treatment yet discovered will remove or prevent this complaint.

*Sore eyes*, though not in general ending in blindness, are very common among dogs. It is an affection of the eyelids, is not unlike the scrofulous affection of the human eyelids, and is equally benefited by the same treatment: an unguent made of equal parts of nitrated quicksilver ointment, prepared tutly and lard, very lightly applied. Dropsy of the eyeball is likewise sometimes met with, but it is incurable.

*Cancer*.—The virulent dreadful ulcer, that is so fatal in the human subject, and is called cancer, is unknown in dogs; yet there is very commonly a large scirrus swelling of the teats in bitches, and of the testicles (though less frequent) in dogs, that as it sometimes becomes ulcerated, so it may be characterized by this name. In the early state of the disease discutients prove useful, as vinegar with salt, and camphor and Spanish flies, with mercurial ointment, have sometimes succeeded; taking care to avoid irritating the part so much as to produce blister. But when the swelling is detached from the belly, and hangs pendulous in the skin, it had better be removed, and as a future preventative suffer the bitch to breed. Scirrus testicles are likewise sometimes met with; for these no treatment yet discovered succeeds but the removal of the part, and that before the spermatic chord becomes much affected, or it will be useless.

*Colic*.—Dogs are subject to two kinds of colic; one arising from constipation of the bowels, the other is a kind peculiar to dogs, apparently partaking of the nature of rheumatism, and also of spasm. From a sudden or violent exposure to cold, dogs become sometimes suddenly paralytic, particularly in the hinder parts; having great tenderness and pain, and every appearance of lumbago. In every instance of this kind, there is considerable affection of the bowels, generally costiveness, always great pain. A warm bath, external stimulants, but more particularly active aperients, remove the colic. Colic arising from costiveness, is not in general violently acute from the pain it produces; sometimes, however, it appears accompanied with more spasm than is immediately dependent on the confinement

of the bowels. In the former, give active aperients, as calomel with pil. cochice, i. e. aloetic pill and clysters; in the latter castor oil with laudanum and ether.

*Cough.*—Two kinds of cough are common among dogs, one accompanying distemper, the other in an asthmatic affection of the chest.

*Distemper.*—This is by far the most common and most fatal among the diseases of dogs; hardly any young dog escapes it—and of the few who do escape it in their youth, three-fourths are attacked with it at some period afterwards: it being a mistake that young dogs only have it. It, however, generally attacks before the animal arrives at eighteen months old. When it comes on very early, the chances of recovery are very small. It is peculiarly fatal to grey hounds, much more so than to any other kind of dog, generally carrying them off by excessive scouring. It is very contagious, but it is by no means necessary that there should be contagion present to produce it; on the contrary, the constitutional liability to it is such, that any cold taken may bring it on; and hence it is very common to date its commencement from dogs being thrown into water, or shut out on a rainy day, &c. There is no disease which presents such varieties as this either in its mode of attack, or during its continuance. In some cases it commences by purging, in others by fits. Some have cough only, some waste, and others have moisture from the eyes and nose, without any other active symptom. Moist eyes, dullness, wasting with slight cough, and sickness, are the common symptoms that betoken its approach. Then purging comes on, and the moisture from the eyes and nose from mere mucus, becomes pus or matter—there is also frequently sneezing, with a weakness in the loins. When the disease in this latter case is not speedily removed, universal palsy comes on—during the progress of the complaint some dogs have fits. When one fit succeeds another quickly, the recovery is extremely doubtful. Many dogs are carried off rapidly by the fits or by purging; others waste gradually from the running from the nose and eyes, and these cases are always accompanied with great marks of putridity.

In the early stages of the complaint, give emetics: they are peculiarly useful. A large spoonful of common salt dissolved in three spoonfuls of warm water, has been recommended; the quantity of salt being increased according to the size of the dog, and the difficulty of making him vomit. While a dog remains strong, one every other day is not too much: the bowels should be kept open, but active purging should be avoided. In case the complaint should be accompanied with excessive looseness, it should be immediately stopped by balls made of equal parts of opium, gum arabic, prepared chalk, and conserve of roses with rice milk as food. Two or three grains of James' powder may be advantageously given at night, in cases where the bowels are not affected, and in the cases where the matter from the nose and eyes betokens much putridity, we have witnessed great benefit from balls made of what is termed Friar's balsam, gum guaiacum, and camomile flowers in powder. Dogs in every stage of

the disease should be particularly well fed. A seton we have not found so useful as is generally supposed; where the nose is much stopped, rubbing tar on the upper part is useful, and when there is much stupidity and the head seems much affected, a blister on the top is serviceable.

Or, Take one part aloes, two parts saltpetre, and four parts sulphur, incorporate the whole together, and take as much as will lie on the point of a dinner knife, either put it into warm milk, and drench the dog, or give it to him in slices of meat. Tie up your dog for twenty-four hours after, and repeat the same in a day or two after, should the dog not be relieved.

*Fits.*—Dogs are peculiarly subject to fits. These are of various kinds and arise from various causes. In distemper, dogs are frequently attacked with convulsive fits, which begin with a champing of the mouth and shaking of the head, gradually extending over the whole body. Sometimes an active emetic will stop their progress but more generally they prove fatal. *Worms* are often the cause of fits in dogs. These deprive the animal wholly of sense; he runs wild till he becomes exhausted, when he gradually recovers, and perhaps does not have one again for some weeks. Confinement produces fits and likewise costiveness. Cold water thrown over a dog will generally remove the present attack of a fit; and for the prevention of their future recurrence, it is evident that the foregoing account of causes must be attended to.

*Inflamed bowels.*—Dogs are very subject to inflammation of their bowels, from costiveness, from cold, or from poison. When inflammation arises from costiveness, it is in general very slow in its progress, and is not attended with very acute pain, but it is characterized by the want of evacuation and the vomiting of food taken, though it may be eaten with apparent appetite. In these cases, the principal means to be made use of, are the removal of the constipation by active purging, clysters, and the warm bath. Calomel with aloes, forms the best purge. But when the inflammation may be supposed to arise from cold, then the removal of any costiveness that may be present, is but a secondary consideration. This active kind of inflammation is characterized by violent panting, total rejection of food and constant sickness. There is great heat in the belly, and great pain; it is also accompanied with great weakness, and the eyes are very red. The bowels should be gently opened with clysters, but no aloes or calomel should be made use of. The belly should be blistered, having first used the warm bath. When the inflammation arises from poison, there is then constant sickness, the nose, paws, and ears are cold, and there is a frequent evacuation of brown or bloody stools. Castor oil should be given, and clysters of mutton broth thrown up, but it is seldom any treatment succeeds.

*Inflamed lungs.*—Pleurisy is not an uncommon disease among dogs. It is sometimes epidemic, carrying off great numbers. Its

attack is rapid, and it generally terminates in death on the third day, by a great effusion of water in the chest. It is seldom that it is taken in time, when it is, bleeding is useful, and blisters may be applied to the chest.

*Madness.*—The symptoms of madness are concisely summed up by Daniel, in the following words: “at first the dog looks dull, shows an aversion to his food and company, does not bark as usual, but seems to murmur; is peevish and apt to bite strangers; his ears and tail drop more than usual, and he appears drowsy; afterwards he begins to loll out his tongue and froth at the mouth, his eyes seeming heavy and watery; if not confined, he soon goes off, runs panting along with a dejected air, and endeavors to bite any one he meets.” As persons are continually alarmed at the approach of every strange dog, the following observations, founded on experience, may be of service in knowing what dogs to avoid: I have seen many mad dogs, but never knew one in that state to curl its tail. This is a certain indication of not being mad. If you see a dog dirty at the mouth, coming at a trot, with his head high, and a drooping tail, avoid him as you would a viper. Or if you see one sitting sickly and dirty at the mouth, avoid him, though it is not likely that he will snap at you in that period of the disease. I never met a mad dog, on being pursued, (if his pursuers were not in actual reach to stone him, &c.,) to exhibit any signs of fear. He generally goes, if not impeded, in a straight line against the wind, at a brisk trot, wholly unconcerned at the shouts of the multitude pursuing him, and never squats his tail. I never knew a dog that was not mad, on being pursued and shouted after by a number of people, not to exhibit every symptom of terror; squatting his tail, turning his head and scampering in every direction. If a mad dog escapes being killed, he seldom runs above two or three days, when he dies, exhausted with heat, hunger, and disease. As this is a subject of no slight importance, we shall stand excused for introducing the criteria as described by Blaine, whose account of the disease founded on long experience and attentive observation, is calculated to remove many unfounded and dangerous prejudices relative to it. He describes it as commencing sometimes by dullness, stupidity and retreat from observation; but more frequently, particularly in those dogs that are immediately domesticated around us, by some alteration in their natural habits; as a disposition to pick up and swallow every minute object on the ground; or to lick the parts of another dog incessantly; or to lap his own urine, &c. About the second or third day, the disease usually resolves itself into one of two types. The one is called raging and the other dumb madness. These distinctions are not however always clear; and to which is owing so much of discrepancy in the accounts given by different persons of the disease.

*The raging madness*, by its term, has led to an erroneous conclusion, that it is accompanied with violence and fury, which however, is seldom the case: such dogs are irritable and snappish, and will commonly fly at a stick held to them, and are impatient of restraint; but they are seldom violent except when irritated or worried. On

the contrary, till the last moment they will often acknowledge the voice of their master, and yield some obedience to it. Neither will they usually turn out of their way to bite human beings, but they have an instinctive disposition to do it to dogs, and in a minor degree to other animals also; but as before observed, seldom attack mankind without provocation.

*Dumb madness* is so called, because there is seldom any barking heard, but more particularly, because the jaws drop paralytic, and the tongue lolls out of the mouth, black, and apparently strangulated: a strong general character of the disease, is the disposition to scratch their bed towards their belly; and equally so is the general tendency to eat trash, as hay, straw, wood, coals, dirt, &c., and it should be remembered, that this is so very common and so invariable, that the finding these matters in the stomach after death, should always render a suspicion formed of the existence of the disease, confirmed into certainty. Blaine is also at great pains to disprove the notion generally entertained that rabid dogs are averse to water; and neither drink or come near it. This error, he contends, has led to most dangerous results, and is so far from true, that mad dogs, from their heat and fever, are solicitous for water, and lap it eagerly. When the dumb kind exists in its full force, dogs cannot swallow what they attempt to lap; but still they will plunge their heads in it, and appear to feel relief by it: but in no instance, out of many hundreds, did he ever discover the smallest aversion to it. He lays very great stress on the noise made by rabid dogs, which he says is neither a bark nor a howl, but a tone compounded of both. It has been said by some that this disorder is occasioned by heat or bad food, and by others, that it never arises from any other cause but the bite. Accordingly this malady is rare in the northern parts of Turkey, more rare in the southern parts of that empire, and totally unknown under the burning sky of Egypt. At Aleppo, where these animals perish in great numbers for want of water and food, and by the heat of the climate, this disorder was never known. In other parts of Africa, and in the hottest zone in America, dogs are never attacked with madness.—Blaine knows of no instance of the complaint being cured, although he has tried to their fullest extent, the popular remedies of profuse bleedings, strong mercurial and arsenical doses, vinegar, partial drowning, night shade, water plantain, &c.; he therefore recommends the attention to be principally directed towards the prevention of the malady.

*The preventive treatment of rabies or madness*, is according to Blaine, always an easy process in the human subject, from the immediate part bitten, being easily detected; in which case the removal of the part by excision or cautery, is an effectual remedy. But unfortunate for the agriculturist, it is not easy to detect the bitten parts in cattle, nor in dogs; and it would be therefore most desirable if a certain internal preventive were generally known. Dr. Mead's powder, the Ormskirk powder, sea bathing, and many other nostrums, are deservedly in disrepute—while a few country remedies, but little known beyond their immediate precincts, have maintained some char-



acter. Conceiving that these must all possess some ingredient in common, he was at pains to discover it: and which he appears to have realized, by obtaining, among others, the compositions of Webb's Waterford drink. In this mixture, which is detailed below, he considers the active ingredient to be the buxus or box, which has been known as a prophylactic as long as the times of Hippocrates and Celsus, who both mention it. The recipe detailed below has been administered to nearly three hundred animals of different kinds, as horses, cows, sheep, swine and dogs: and appears to have succeeded in nineteen out of every twenty cases where it was fairly taken and kept on the stomach. It appears also equally efficacious in the human subject; in which case he advises the extirpation of the bitten parts also. The box preventive is thus directed to be prepared:— Take of the fresh leaves of the tree-box, two ounces; of the fresh leaves of rue, two ounces; of sage, half an ounce; chop these fine, and boil in a pint of water to half a pint; strain carefully, and press out the liquor very firmly; put back the ingredients into a pint of milk, and boil again to half a pint; strain as before; mix both liquors, which forms three doses for a human subject. Double this quantity is proper for a horse or cow. Two-thirds of the quantity is sufficient for a large dog; half for a middling sized, and one-third for a small dog. Three doses are sufficient, giving each subsequent morning fasting; the quantity directed being that which forms these three doses. As it sometimes produces strong effects on dogs, it may be proper to begin with a small dose; but in the case of dogs we hold it always prudent to increase the dose till the effects are evident, by the sickness, panting, and uneasiness of the dog. In the human subject, where this remedy appears equally efficacious, we have never witnessed any unpleasant or active effects, neither are such observed in cattle of any kind. About forty human persons have taken this remedy, and in every instance it has succeeded equally as with animals: but candor obliges us to notice that in a considerable proportion of these, other means were used, as the actual or potential cautery: but in all the animals other means were purposely omitted. That this remedy therefore has a preventive quality, is unquestionable, and now perfectly established; for there was not the smallest doubt of the animals mentioned either having been bitten, or of the dog being mad who bit them, as great pains were in every instance taken to ascertain these points.

*To prevent canine madness.\**—Pliny recommends worming of dogs; and from his time to the present it has had, most deservedly, says Daniel, its advocates. He tells us that he had various opportunities of proving the usefulness of this practice, and recommends its general introduction. The fact, however is, that taking out the worm has nothing to do with annihilating the disorder, although it will most certainly hinder the dog seized with it from doing any hurt to man or beast. A late author asserts, he had three dogs that were wormed, bit by mad dogs at three several periods, yet notwithstanding they all

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\* See Addenda, to division V.

died mad—they did not bite, nor do any mischief, that being determined to make a full experiment, he shut one of the mad dogs up in a kennel, and put to him a dog he did not value—the mad dog often run at the other to bite him, but his tongue was so swelled that he could not make his teeth meet; the dog was kept in the kennel until the mad one died, and was purposely preserved for two years afterwards, to note the effect, but he never ailed anything, although no remedies were applied to check an infection that might have been received from the contact of the dog. The writer has had various opportunities of proving the usefulness of worming, and inserts three of the most striking instances, under the hope of inducing its general practice. A terrier bitch went mad, that was kept in a kennel with forty couple of hounds; not a single hound was bitten, nor was she seen to offer to bite. The bitch being of a peculiar sort, every attention was paid to have the gradations of the disease (which were extremely rapid,) minutely noted; the hydrophobia was fast approaching before she was separated from the hounds, and she died the second day after; at first warm milk was placed before her, which she attempted to lap, but the throat refused its functions; from this period she never tried to eat or drink, seldom rose up, or even moved, the tongue swelled very much, and long before her death the jaws were distended by it. A spaniel was observed to be seized by a strange dog, and was bit in the lip; the servant who ran up to part them, narrowly escaped, as the dog twice flew at him; a few minutes after the dog had quitted the yard, the people who had pursued, gave notice of the dog's madness, who had made terrible havoc in a course of ten miles from whence he had set off. The spaniel was a great favorite, had medicine applied, and every precaution taken; upon the fourteenth day he appeared to loath his food, and his eyes looked unusually heavy: the day following he endeavored to lap milk, but could swallow none; from that time the tongue began to swell: he moved but seldom, and on the third day he died. For many hours previous to his death, the tongue was so enlarged that the fangs or canine teeth could not meet each other by upwards of an inch. The hounds were some years after parted with, and were sold in lots: a madness broke out in the kennel of the gentleman who purchased many of them, and although several of these hounds were bitten and went mad, only one of them ever attempted to bite, and that was a hound from the Duke of Portland's, who in the operation of worming, had the worm broke by his struggling, and was so troublesome that one-half of it was suffered to remain; the others all died with symptoms similar to the terrier and spaniel, viz: a violent swelling of the tongue, and a stupor rendering them nearly motionless, and both which symptoms seemed to increase with the disease. The idea that worming prevents a dog from receiving the infection when bitten, should be exploded; but the foregoing show how far it may be recommended for the restriction of a malady horrid in its effects, where a human being is concerned, and which, to the sportsman and farmer, are attended with such dangerous and expensive consequences. Blaine, on the contrary, asserts that the practice of worming, is wholly useless and

founded in error; and that the existence of anything like a worm under the tongue is incontestably proved to be false; and that what has been taken for it, is merely a deep ligature of the skin, placed there to restrain the tongue in its motions. He also observes, that the pendulous state of the tongue, in what is called dumb madness, with the existence of a partial paralysis of the under jaw, which they could not bite, having happened to dogs previously wormed, has made the inability to be attributed to this source, but which is wholly an accidental circumstance; and happens equally to the wormed and unwormed dog.

*The worming* of whelps is performed with a lancet, to slit the thin skin which immediately covers the worm; a small awl is then to be introduced under the centre of the worm to raise it up; the farther end of the worm will with very little force make its appearance, and with a cloth taking hold of that end, the other will be drawn out easily; care should be taken that the whole of the worm comes away without breaking, and it rarely breaks unless cut into by the lancet, or wounded by the awl.

*Mange.*—This is a very frequent disease in dogs, and is an affection of the skin, either caught by contagion, or generated by the animal. The scabby mange breaks out in blotches along the back and neck, and is common to Newfoundland dogs, terriers, pointers, and spaniels, and is the most contagious. The cure should be begun by removing the first exciting cause, if removable, such as filth or poverty; or, as more general the contrary, (for both will equally produce it,) too full living. Then an application should be made to the parts, consisting of sulphur and sal ammoniac: tar lime water will also assist. When there is much heat and itching, bleed and purge. Mercurials sometimes assist, but they should be used with caution; dogs do not bear them well. *Or*, fresh butter, free from salt, quarter of a pound; red precipitate, one ounce; Venice turpentine, one ounce: mix the whole well together, and put it into a pot for use; rub it on the parts affected morning and evening; keep your dog tied up, and keep him warm and dry for some days.

*Worms.*—Dogs suffer very much from worms, which, as in most animals, so in them are of several kinds—but the effects produced are nearly similar. In dogs having the worms, the coat generally stares; the appetite is ravenous though the animal frequently does not thrive; the breath smells, and the stools are singular, sometimes loose and slimy, and at others hard and dry; but the most evil they produce is occasional fits, or sometimes a continued state of convulsion, in which the animal lingers sometime and then dies; the fits they produce are sometimes of the violent kind; at others they exhibit a more stupid character—the dog being senseless and going round continually. The cure consists, while in this state, in active purgatives joined with opium, and the warm bath; any rough substance given internally, acts as a vermifuge to prevent the recurrence.

## ADDENDA TO DIVISION V.

*Hydrophobia* is a disease, which, when once having arrived at that pass as to show itself by the usual symptoms in the system, baffles equally the skill of the most learned physician, and the nostrums of the boldest empyric. But, fortunately, it is not so rapid in its progress, but that it may be arrested and entirely counteracted, if proper means are seasonably resorted to, duly administered and faithfully persisted in. These means nature has provided, in the plant called the skull-cap, which grows almost every where in abundance in our country.

It is not, however, species of the plant bearing this name, that will answer; but that particular one called in latin, *scutellaria latiflora*, or side bearing flower, and not that one called *scutellaria galericulata*, or helmet shaped. The former of these is efficacious in preventing this incurable disease; the latter is not. A mistake in taking one for the other, has sometimes produced fatal effects, at the eastward.

Of the superior merits of this invaluable plant, in the bite of a mad dog, as evinced in particular instances, we have not room here to detail at large. Dr. Vandever left it on record, that in upwards of three hundred cases in which he seasonably administered it, the success was complete, without a failure. Lewis asserted, that he had met with like success in upwards of one hundred cases, of three or four of which, says a writer in the New York Evening Post, I was myself present, in the county of West Chester, an eye witness.

Dr. Thatcher says: Should this plant ultimately prove a successful remedy for a disease so truly deplorable in its nature, and so destructive in its consequences, no encomiums can surpass its merit, even if recorded in letters of gold. The following is his description of it:

The *scutellaria* is perennial, of which there are numerous species indigenous to the United States. The plant is found in great abundance on the banks and borders of ponds, flowering in July or August. The stem is square, branched, and attains the height of from one to three feet. The leaves are opposite, narrow pointed or narrow foot stalk. The racemes are axillary and lateral, bearing small violet colored blossoms, intermixed with small leaves. The calix is hooded or helmet forked, from whence originated the general name of skull-cap, or scutellaria.

This, however, is a description of the genera, not the species.— Those who use the skull-cap should get the right species.

To prepare and administer this remedy, the following will serve as a formula. Dr. Vandever and Lewis followed this.

The leaves should be gathered when in flower, in July or August, carefully dried, and reduced to a fine powder, and put into bottles well corked for use. When a person has received a bite by a mad dog, he must take a strong infusion of the leaves or powder, a gill four times a day, every other day.

The day it is omitted, he must take a spoonful of the flour of sulphur in the morning, fasting, and at bed time, in new milk, and

apply the powdered green herb to the wound every two hours, continuing the prescription for three weeks. For cattle or horses, three times the quantity of each. For dogs, at least twice the quantity.

The distinguished and benevolent Robert Bowne says: My confidence in the virtue of this herb is so great, that if bitten myself, I would trust my life to it, rather than to the skill of all the physicians in the city of New York.

The following recipe, to cure canine madness, has been sold in various parts of the United States, for five dollars. With a view to place it within the reach of as many as possible, we give it a place. The translation is not our own, and we believe it is sufficiently plain to be understood; hence, we feel no desire to make any corrections as to style, and syntactical position of words and sentences.

### DOCTOR WILLIAM STOY'S

*Infallible cure for the bite of a mad dog.—Directions how to use the drink.*

The drink must be warmed in a clean vessel. If it is to be given to more than one person, at the same time, the drink must be well stirred each time it is apportioned; so that the one may not get more of the strength, and a greater quantity, than the other. When any person is already affected with the malady, and cannot, without assistance, take the medicine, then those who give it them, must hold a handkerchief to their nose and mouth, in order that they may not inhale the breath of the patient. The drink must be taken in the morning, on an empty stomach, and the patient must fast for a few hours afterwards, and, if possible, abstain from fresh water; which might cause instant death, if taken immediately after the medicine. In case of necessity, you may give the patient, after having taken the medicine, a little wine, or wine and water; but not immediately after taking the medicine. On the day when the medicine is used, you must not drink any warm beer or milk. A pancake baked in butter, may be eaten for dinner. The clothes, which the person had on when bitten, must either be put away altogether, or buried for some time, or washed. Where there are wounds, they must be cleansed with an oak chip, and rinsed a few days in succession, several times a day, with a little of the drink, at a running stream if there be one convenient. For healing the wound, a little drawing salve will be sufficient. After using this drink, you must not eat any pork, nor any thing baked, or cooked with lard. Wild ducks, &c., and fish, must also be avoided. All herbs, or articles, which have the name of (Kappis-Kraut) cabbage, both pickled and sweet, small beans or peas must also be avoided for fourteen days, after taking the said drink. After taking the drink, moderate perspiring is very good; but you must not overheat yourself, nor suffer your angry passions to be excited.

The dose is as follows, viz: For one person, take one quart of strong beer and one ounce of henbit, (*Huehnerdarm*,) put the same into a clear earthen vessel, and boil it over a clear coal fire, until it is

diminished to one-half; after which take one ounce of treacle, (*theriac*,) and put the same therein, stirring it all the while; and whilst boiling, strain it through a clean linen rag of the shirt of a man, into a clean tin dish, and let it stand until it is milk warm—after which, put it into a bottle, and give to the person bitten, in the following manner, viz:—If he has a strong constitution, give him the whole dose in three times, in three equal portions. Thus, every person must take this medicine according to the strength of his constitution. If he is of mature age, and yet of a weak constitution, a gill in the morning will be sufficient; still, however, three mornings in succession. If a child of twelve years, then take but half an ounce of the red henbit (*Huehnerdarm*) and an half ounce of treacle, (*theriac*,) but still the same quantity of beer. And when the child is under twelve years of age, give him in proportion. If it be a cow or other animal, then give it the whole portion at one time; but cattle must be kept fourteen days from water—nor dare they have dirty water—their drink may consist of water and rye bran; nor durst this be cooked in an unclean pot. The dose for cattle must be double as much as for a strong man.

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## VI.—OF POULTRY.

Under the term poultry are included several kinds of birds that are usually considered stock for farms. The rearing of these, either for family consumption or for market is practiced by almost every farmer; whether profitably or not, depends in a great measure upon the manner of rearing them. That it may be made a profitable business, particularly in the vicinity of large cities, is abundantly proved by the prices obtained for poultry. When it is recollected that the amount of capital necessary to engage in this business to a very considerable extent, is but a trifle, and that the care and management of a large amount of poultry may be bestowed by the females and children about a farm house, and that the returns for the sale of it are both speedy and certain, it is a matter of surprise that more attention has not been paid to this branch of farm stock. When a turkey will command as much money as a bushel of wheat, and a chicken is equal in value to one-half bushel of corn, as is very often the case, farmers will find it to their interest, to pay some attention to their poultry yards.

The want of proper care, in rearing this stock, renders it less profitable to those now engaged in it, than it otherwise would be. A few plain practical remarks upon this subject, may not therefore be amiss, before it is disposed of.

In the rearing of dung-hill fowls, their yards should be selected with a reference to giving them a supply of sand and gravel. Their houses should be kept perfectly clean and constantly supplied with pure water. Their nests should be so situated as to prevent the

hens when setting from seeing each other. Young hens are most profitable for eggs, old ones for hatching chickens; the former lay a greater number of eggs, the latter set with more care and assiduity. One cock is sufficient for six or seven hens. The eggs placed under a hen when setting should not exceed one dozen in number, and care should be taken to select those which are fresh. Food should be placed near the nests that the setters may not be compelled to leave their nests for too long a period. The chickens when first hatched should be fed on boiled potatoes, and carefully protected from wet which is extremely prejudicial to them. The disease to which young chickens are most liable is the gapes, formerly supposed to arise from a small worm in the throat. The better opinion, however, is that it proceeds from inflammation, owing to exposure to cold and wet.—The best mode of curing this disease, is, by protecting the chickens wholly from the wet, and feeding them on pungent heating food.—For this purpose, red pepper pods may be boiled with their food; they should also have some pepper grass mixed with their green food.

To fatten chickens, they should be confined in a well ventilated and somewhat darkened place. They should be fed four times a day, with steamed potatoes or buckwheat. They should have plenty of pure water, and a supply of sand and gravel. Their coops should be well aired and kept perfectly clean. Some animal food should also be occasionally given with the vegetable, experiments having long since proved that this kind of diet is very necessary to the successful rearing of nearly all kinds of poultry.

*In selecting a stock of geese*, those of a large size should be taken. When they are about to set, their nests should be so arranged as not to permit the setters to see each other, nor should they be separated from the ganders of the flock. From ten to twelve eggs should be placed under each goose. There should be a constant supply of food kept near their nests, that they may not be driven to leave them for any length of time. The goslings should be kept in a warm sunny place, secured from rains and vermin, and fed with crumbs of bread, wheat, barley or oats. While young, they should not be permitted to run into water, as it is liable to engender disease. When put up to fatten, green food should be mixed with their oats.

*Turkeys.*—The black breed of turkeys is, on many accounts, deemed preferable to the brown. Each turkey hen usually lays from eight to ten eggs. The young brood are extremely tender. For the first month or six weeks, they should be placed in a warm airy situation, free from wet, and carefully fed with bread, steeped in fresh milk, with which chopped onions may be occasionally mixed with advantage. After that period their food may be changed to meal; buckwheat and other kinds of grain may be given. Some writers upon this subject recommend that young turkeys should be fed upon the following preparation: Two eggs boiled hard and cut up fine, a handful of young mustard also cut up fine, and a small quantity of ground pepper, mixed with scalded Indian meal sufficient for one

hundred young turkeys. This preparation is deemed salutary in preventing those diseases to which they are liable. With due care one male and eight females are sufficient to rear from fifty to seventy turkeys.

*Ducks.*—These animals thrive best with plenty of water, near a barn yard, and if thus situated they require but little care. Their food may be much the same as that given to chickens. They require a constant supply of water and sand. They also require a supply of animal food. If suffered to run at large upon a farm they are useful in destroying worms, slugs and caterpillars. The ducks lay a great many eggs and may be easily fattened.

*Raising Ducks.*—Being aquatic in their habits, most persons suppose they ought to give the young ones a great deal of water. The consequence is, they soon take colds, become droopy, and die. This mode should be avoided. Ducks, when first hatched, are always inclined to fever, from their pinion-wings coming out so soon. This acts upon them as teething does on children. The young ducks should, consequently, be kept from every thing which may have a tendency to create cold in them. To prevent this, therefore, I always allow my young ducks as little water as possible. In fact, they should only have enough to allay their thirst, and should on no account be permitted to play in the water. If the person lives near the city, liver and lights should be boiled, and chopped up fine, and given to the young ducks. Or, if fish, crabs, oysters, or clams can be procured, they should be given. In case none of these can be got, all the victuals should be boiled before feeding. Boiled potatoes mixed with hommony, are also excellent. Half of the ducks which are lost, are because raw food is given them. To sum up all in a word—if you wish to raise almost every duck that is hatched, give them little water, and feed them on no food which is not boiled. By observing this plan, I raise for market, and for my own table, between two and three hundred ducks every year.—*Southern Agr.*

*Raising of poultry.*—1. All young chickens, ducks, and turkeys, should be kept under cover, out of the weather during rainy seasons.

2. Twice or thrice a week, pepper, shallots, shives, or garlic, should be mixed up with their food.

3. A small lump of asafetida should be placed in the pan in which their water is given them to drink.

4. Whenever they manifest disease, by the dropping of the wings or any other outward sign of ill-health, a little asafetida, broken into small lumps, should be mixed with their food.

5. Chickens which are kept from the dung-hill while young, seldom have the gapes; therefore, it should be the object of those who have the charge of them, so to confine the hens as to preclude their young from the range of barn or stable yards.

6. Should any of the chickens have the gapes, mix up small portions of asafetida, rhubarb, and pepper, in fresh butter, and give each



chicken as much of the mixture as will lie upon one-half the bowl of a small teaspoon.

7. For the *pip*, the following treatment is judicious: take off the indurated covering on the point of the tongue, and give twice a day, for two or three days, a piece of garlic the size of a pea. If garlic cannot be obtained, onion, shallot or shives will answer; and if neither of these be convenient, two grains of black pepper, to be given in fresh butter, will answer.

8. For the *snuffles*, the same remedies as the gapes will be found highly curative—but in addition to them, it will be necessary to melt a little asafetida in fresh butter, and rub the chicken about the nostrils, taking care to clean them out.

9. Grown up ducks are sometimes taken off rapidly by convulsions. In such cases, four grains of rhubarb and four grains of Cayenne pepper, mixed in fresh butter, should be administered.

*Baltimore Farmer and Gardner.*

*Cure of dropsy in the crops of young turkeys.*—This kind of dropsy is announced by a dull look, paleness of the head, loss of appetite and aversion to food. They allow themselves to be taken with ease, and seem to be without strength. Very soon a slight swelling of the crop is added to these symptoms, which, in ten days, becomes very considerable. I have taken nearly a pint of water from one. By pressing on the crop of some of them, a certain quantity of matter is discharged by the bill, but never enough to entirely ease the crop. All these symptoms increase and the fowl dies at the end of fifteen or eighteen day's illness.

I sought after the cause of this disorder, and it was easy to find that it was occasioned by the stagnant water which these animals drank; in the course of the year, the heat had been great, and there was little rain. The heat had hatched a vast swarm of small red worms, resembling ascarides. It is quite certain that these insects must have been swallowed by the turkeys, and from this cause, and the bad quality of the water which they had drunk, a great degree of inflammation in the crop would ensue, with a stoppage which conducts to the gizzard. I divided the turkeys into three classes; for those who were still sound, I ordered grain and good water; with all that were diseased I practiced the operation of tapping with a lancet, in the lowest part of the crop. I injected at the opening, by means of a small syringe, a slight decoction of Jesuits' bark, mixed with a little brandy, which was repeated twice in the course of the day.—Next day the wound was better marked. I made again the same injection, and, two hours after, I forced them to eat a little of the yolk of an egg, mixed with some crumbs of bread. At the end of three days, the wound in the crop was closed, which I might have prevented, but finding a natural opening in the bill, I made them take, during eight days, in their drink, the same substances which had been injected; and they were, by degrees, put upon their usual diet. I need not add, that clear water was given them instead of that of the standing pools. Ten of these animals had died before my arrival; two perished

during the treatment, and the rest of the flock, which might be about forty, either escaped the disease or were cured.—*Farmer's Receipt Book.*

[ From the Farmer's Cabinet.]

*Raise more poultry.*— \* \* \* \* \* I was pleased with the suggestion made by your correspondent Q., in the last number of the Cabinet, for feeding poultry with boiled potatoes, inasmuch as it is a cheap food, and may be always at hand. A farmer near Liverpool, England, keeps a large stock of poultry of various kinds in the same enclosure, with singular success. He has nearly an acre of land enclosed, with a close fence, about seven feet high. Within this enclosure are put up sheds for the different kinds of poultry, to secure them well from the rain, which is of great importance. There is a small stream of water which passes through the lot, to which they all have access, and they are regularly fed, three times a day, with boiled potatoes, which is their only food, excepting what grass, insects and worms, they pick up in their movements through the lot.

All young poultry require to be kept dry, and most old ones are the better for it, and it is said that young turkeys, during their tender age, are the better for having a small quantity of red pepper occasionally mixed with their food, to stimulate their digestive organs to greater activity when they gormandize too much.

The practice of cutting up chives, garlic or onion tops, and mixing them occasionally with the food of young poultry, is well known to most good house-wives, and is thought to be very serviceable in promoting their health. K.

PEQUEA, *Lancaster county, June 25th, 1838.*

*To fatten poultry.*—An experiment has lately been tried of feeding geese with turneps cut in small pieces like dice, but less in size, and put into a trough of water; with this food alone, the effect was that six geese, each, when lean, weighing only nine pounds, actually gained twenty pounds each, in about nine week's fattening.

*McKenzie.*

*Don't give your chickens salt.*—A correspondent says in a letter: "The fatal effects of mixing salt, in any considerable quantities, with food intended for chickens, or which they can eat, received a singular illustration on the farm of a friend a few days since. As an inducement to his horse to eat a handful or two of salt, he mixed it with a quart or two of meal, and fed it to the animal. The horse refused the mixture, and it was left where it was soon found by the chickens, which, to the number of forty-five or fifty, soon caused its disappearance. Within twenty-four hours, every one that eat of the meal died, and the greater part did not live half that time. There is an old saying among poulterers, that 'salt is health to a gosling, but death to a chicken,' and the foregoing result would seem to prove that, like other old saws, it contains some truth."—*Gen. Farmer.*

## ADDENDA.

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*List of the principal medicines and drugs used in the treatment of diseases, with a brief description of the most important ones.*

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**ALOES**—*Aloe*, Ger.—There are two kinds used in the practice of farriery; the Hepatic aloes and the Socotorine aloes. Both are the products of a perennial plant, which grows in the south of Europe, Asia, Africa and America. The Socotorine is the purest, and is preferred as human medicine. That obtained from Barbadoes, is preferred for horses.

They should be finely powdered. Fifteen ounces, mixed with one of powdered ginger, and beaten up with eight ounces of palm oil, and afterwards divided into proper doses, forms a purgative more effectual, and less liable to gripe than any other preparation of this drug. It should be given in the shape of a ball.

A physic dose should not be kept more than two months; after that time the purgative qualities will be materially impaired.

In physicking a horse, whatever is to be done should be done at once. Whatever quantity is intended to be given, should be given in one dose.

The system of giving small doses of aloes as alteratives is not good. It is never safe to ride a horse far or fast, with even a small dose of aloes within him.

Most of all objectionable is the custom of giving small doses of aloes as a nauseant, in inflammation of the lungs. It is treading on very dangerous ground, when, with much inflammation of the lungs, that is given which will stimulate and may inflame the intestines.

Aloes are most commonly, because most easily, administered in the form of a ball, but in a state of solution their effect is more speedy, effectual, and safe. Two ounces of aloes, and one ounce of gum, (to suspend the imperfectly dissolved portion of the aloes,) are put into a pint of boiling water, and the mixture frequently stirred. When it is cold, two ounces of tincture is added, as an aromatic, to prevent the griping of the aloes, and also to keep the mixture from fermenting. The aloes must not be boiled in the water. The dose of the solution should vary from six to eight ounces.

**ACETATED LITHARGE**.—See *Litharge*.

**ALEPPO SCAMMONY**—*Purgirwinde*, Ger.—This is a concrete, gummy, resinous juice, obtained from the roots of the Syrian bind-

weed, called *convolvulus scammonia*, an exotic plant growing in Asiatic Turkey. The best is from Aleppo, in light spongy, friable masses, of a shining blackish ash color. It consists of nearly equal proportions of gum and resin.

In its medicinal effects, it is a powerful purgative, and chiefly used in obstinate constipation. In using, follow the formula in which it is prescribed.

Botanists say that the scammony plant has been found in Sussex county, New Jersey.

**ADDERWORT**—*Natterwurz*, Ger.—Is well known, has but one leaf which grows with the stalk, a finger's length above the ground—green and broad, like water plantain.

**ALUM**—*Alaun*, Ger.—This is a salt composed chiefly of argillaceous earth and sulphuric acid. From its astringent powers, in the form of alum whey, it has been used internally in cases of superpurgation. The whey is prepared by adding two drams of powdered alum to a pint of hot milk.

A solution of two drams to a pint of water, forms a useful wash for cracked heels, &c.

**AGARIC**—*Feuerschwamm*, Ger.—Is one of the genus of funguses, and is used in several instances, combined with other drugs: see the formula in which it is recommended, No. 2, p. 71.

**ACACIA**—*Schotendorn*, Ger.—Acacia is the bark of the Willdenow, a tree growing in the sandy deserts of Arabia Petrea and Egypt. The gum of this tree is called Gum Arabic. The extract of the bark is used in connection with aloes, &c., as a liquid purge, p. 71.

**ALLSPICE**—*Nelkenpfeffer*, Ger.—Is well known; description unnecessary.

**ANISEED**—*Anissame*, Ger.—The anise is an annual umbelliferous plant, growing naturally in Crete, Syria, and other places of the east. It possesses carminative properties, and is recommended, in combination with other ingredients, as a purgative.—See page 71, No. 1.

**AMMONIA**—*Salmiak*, Ger.—This is an alkali; when in a gas, it is found in a state of nature, and is, to the annoyance of the horse, and the injury of his eyes and lungs, plentifully emitted by the urine and putrifying dung of the badly constructed stable.—See page 48.

In flatulent colic, it has been used with decided benefit, when all other remedies have failed. It is best administered in the form of aromatic spirit of ammonia, and in doses of one or two ounces, in warm water.

**ANTIMONY**—*Spiessglas*, Ger.—This metal is found in nature, most abundantly combined with sulphur. There are several valuable preparations of this metal. There is a compound of sulphur and antimony, technically called *the black sulphuret of antimony*.

**TARTAR EMETIC**—*Brechweinstein*, Ger.—This is another preparation of antimony—it is the tartrate of potash and antimony, or a combination of super-tartrate of potash and oxide of antimony, and is a very useful nauseant, and has considerable effect on the skin. It is particularly valuable in inflammation of the lungs, and in every catarrhal affection. It is given in doses of one dram, or one dram and

a-half, and combined with nitre and digitalis. It is also beneficial in the expulsion of worms. Here it must be given in doses of two drams, and with some mechanical vermifuge, as tin-filings, or ground glass, and administered on an empty stomach, and for several successive days. Although it may sometimes fail to expel the worm, it materially improves the condition of the horse, and produces sleekness of the coat.

**ARSENIC**—*Berggift, Giftmehl, Ger.*—This is a sudden and violent mineral poison, combined in most metallic bodies, and especially in cobalt. It is sometimes, in doses of from ten to twenty grains, daily given as a tonic; but its principal use is in curing ulcers, especially fistulous ulcers—p. 113. As a tonic it should be dispensed with.—See p. 152.

**ASARABACCA**—*Hasselwurzel, Ger.*—This is a perennial plant, the product of England, although the dried roots are generally brought from the Levant. It is a powerful evacuant.

**AGRIMONY, or AGRIPPA**—*Leberklette, or Odermennig, Ger.*—This plant is a native of the United States. The number of stamina from five to twelve. It has long leaves, some greater, and some smaller, set upon a stalk, all of them dentated about the edges; green above and greyish underneath, and a little hairy withal—yellow blossoms, one above another, in long spikes. It grows upon banks and along fences. It flowers in July and August.

The leaves are aperient, detergent in their properties, and also strengthen the tone of the viscera. They are very serviceable in laxity of the intestines, scorbutic, and other disorders arising from debility.

**ASAFETIDA**—*Teufelsdreck, or Slinkender Asand, Ger.*—The plant which furnishes this drug is a native of Persia. The gum-resin is procured from the roots of the plants which are at least four years old.—See p. 43, where it is fully described.

**BAYBERRIES**—*Lorbeer, Ger.*—The bayberry grows in every kind of soil, and varies in size from two to seven feet in height. In autumn the twigs are surrounded with bunches of small grayish berries, which are covered with wax, which is obtained by boiling them in water, until the wax separates and floats upon the surface. The bark, as well as the berries, possesses medicinal virtues. The juice of the berries purges the sharp humors of the stomach and bowels; corrects and strengthens the digestive powers, and improves the appetite.

**BETONY**—*Ehrenpreis, Ger.*—There are two kinds of betony, which are not much unlike in their medical properties. The water-betony, rises up with square, hard, greenish stalks, sometimes brown, set with broad, dark green leaves, dentated about the edges with notches, somewhat resembling the leaves of the wood-betony, but much larger; two are usually set at a joint. It grows by the side of ditches, and water courses. It flowers in July, and seed is ripe in August. It is very useful in ulcers and bruises.

**BENNET**—*Benedickdenkraut, Ger.*—Bennet or avens, grows by fences, and borders of fields; the blossoms are white or yellowish in July. The root is an excellent remedy in chronic disorders, as a

general strengthener and astringent, and its antiseptic power is said to be superior to the best Peruvian bark.

**BIRTHWORT.**—*Hohlwurz*, Ger.—Early in the spring, this plant sends up a stalk eight or ten inches high, with three large smooth green leaves near the top, and a white flower of three leaves about an inch above the other leaves. From the centre of the blossoms there grow white buds, with six sides or ridges containing seed. The root is soft, and is covered with little knobs and fibres. It commonly grows in beech and maple land.

**BITTERSWEET.**—*Alpranken* or *Bitter sues*, Ger.—This plant grows wild in moist hedges; has woody brittle stalks, and climbs on trees. But if there be no bushes near, it creeps along the ground, and frequently strikes new roots. It flowers in the month of June and July. It is said to occasion considerable evacuation by sweat, urine, and particularly by stool. It acts also as a discutient and resolvent.

**BITTER APPLE.**—*Coloquintenapfel*, Ger.—This article is the produce of Syria and the island of Crete. It is a drastic purgative. Combinations of it with jalap, or aloes, and some other ingredients, have been given with good effect in obstinate constipation.

**BLISTERING.**—See p. 214, Sect. 267.

**BOLE AMMONIAC, OR ARMENIAN.**—*Aminischer Bolus*, Ger.—This is an argillaceous earth combined with iron, and is supposed to possess some astringent property.

**BUCK'S HORN, OR BUCK'S THORN.**—*Kreuzdorn*, Ger.—There are two varieties; the high and the low. It puts forth several slender, trailing stalks, from one to three feet in length, from a little turfy protuberance; it has long narrow leaves, deeply indented around the edges. It usually grows in swamps, and in other wet places. It is serviceable where great debility prevails.

**BURDOCK.**—*Klette*, Ger.—This is a very common plant, sufficiently known from its burs, which adhere to the intruder's clothes. The roots are aperient, diuretic and sudorific.

**BALSAM COPAIVA.**—This balsam is the product of the Spanish West Indies, and some parts of South America.

**CALAMINE.**—See *Zinc*.

**CALOMEL.**—See *Mercury*.

**CAMPHOR.**—*Kampfer*, Ger.—The camphor laurel grows in great abundance, and to a very considerable size, in the forests of Japan.

It is a stimulant, when applied externally. In the form of camphorated oil, it promotes the absorption of fluids thrown out beneath the skin, the removal of old callus, and the suppleing of joints stiff from labor.

**CANTHARIDES.**—*Spanischen Fliezen*, Ger.—These are the basis of the most approved and useful veterinary blisters. The cantharis is a fly, the native of Italy and the south of France, destroyed by sulphur, dried and powdered and mixed with palm oil and resin, in proportions already directed.—See *Blistering*, p. 214.

**CARAWAYS.**—*Kuemel*, Ger.—These and ginger are retained as the only cordials requisite for the horse.

**CASTOR OIL**—*Ricinusöl*, Ger.—If it is a purgative in the horse, it must be given in the enormous and expensive doses of a pound or a pound and a-half.—See p. 66.

**CATECHU**—*Schotendornsaft*, Ger.—Japan earth, yet no earth, but extracted from the wood of one of the acacia trees, is a very useful astringent. It is given in superpurgation, in doses of one or two drams, with one or one and a-half dram of opium, as a yet more powerful astringent; four drams of chalk, to neutralize any acid in the stomach or bowels, and two drams of powdered gum being also added, to sheathe the over-irritated mucous coat of the intestines.

**CAUSTICS**—*Ätzmittel*, Ger.—These are sometimes necessary to destroy fungous excrescences, or stimulate indolent ulcers, or remove portions of cellular substance or muscle infected by any poison. They are the butyr of antimony, blue vitriol, verdigris, corrosive sublimate, lunar caustic, and sulphuric acid.

**CHALK**—*Kreite*, Ger.—Is used only in combination with catechu, for superpurgation, and in the proportions directed under the article catechu. The prepared or levigated chalk is generally preferred.

**CAMOMILE**—*Kamille*, Ger.—The powder of the flower is a useful vegetable tonic and the mildest in our list. It is given in doses of one or two drams, and is exhibited in the early stage of convalescence to ascertain whether the febrile stage of the disease is passed, and to prepare the way for a more powerful tonic, the gentian.

**CHARCOAL**—*Holtzkohle*, Ger.—Is a useful antiseptic, and, mixed with a poultice, readily removes the fetid smell of unhealthy ulcers, or cracked heels.

**CASCARILLA**—*Cascarilrinde*, Ger.—This bark is from the Bahama Islands, particularly from the one named Elutheria. The virtues of it are partially extracted by water, and wholly by alcohol, though it is more efficacious by giving it in powder. It is an admirable substitute for cinchona. It is often given with desired effect in flatulent and spasmodic colics and diarrheas.—No. 7. p. 73.

**CELANDINE**—*Schellkraut*, Ger.—This plant is so well known that no description is necessary.

It is useful in obstructions of the liver and gall; cures the yellows; the juice dropped into the eyes, clears from films, and cloudiness. Applied to ulcers, it soon stays all pus, and cleanses them.

**CASTORIUM**—*Beibergeil*, Ger.—This is the name of a substance collected in the follicles, near the anus, in the beaver called castor. It is an excellent anti-spasmodic, and acts particularly on the uterine system.

**CARLINE THISTLE**—*Eberwurz*, Ger.—A plant which grows in Europe and this country. For its medicinal properties, the formula in which it is given in this work, will explain.

**CENTAURY**—*Tausendgueldenkraut*, Ger.—This plant flourishes in many sections of the United States, and affords a pure bitter, with slight aromatic flavor. It is usually given in a strong infusion, of which copious draughts are to be administered. It opens the obstruction of liver and gall; helps yellows; eases pains.

**CALAMUS**—*Kalmuswurzel*, Ger.—The calamus or sweetflag grows in marshy places.

Its medicinal properties are carminative, and it also possesses stomachic virtues, and is given in flatulency.

**COLT'S FOOT**—*Hufhattig*, Ger.—This grows wild in moist places, and produces yellow flowers in March and April. In cough and tisis, and in disorders of the breast and lungs, it is given with good effect.

**CRESS-SEED**—*Kressesaamen*, Ger.—The black cress, not much unlike wild mustard, has long leaves and jagged on both sides. The stalks are small, limber and tough. It grows usually among stones and rubbish. Its medical properties nearly the same as mustard seed.

**CARDUS BENEDICTUS**—**BLESSED THISTLE**.—It is so well known, that a description is not necessary. It grows plentifully in gardens. It helps the plague, sores, boils, and itch, the bitings of mad dogs and venomous beasts—provokes urine.

**CINNAMON**—*Zimmt* or *Canehl*, Ger.—The bark is from a tree, a native of Ceylon, but is now cultivated in Jamaica and other West India islands.

The oil is a most powerful stimulant, and is used in human practice as a cordial in stomach cramp. But it is principally used as an aromatic.

**CLEAVERS, OR GOOSEGRASS**.—*Klebelkraut*, Ger.—This plant has many names. It is called arapine, and gooseshare. The common cleavers have very rough, square stalks, rising up to six or ten feet high, if it meet with any thing whereon to climb, or else lying on the ground, full of joints, and at every one of them shoots forth a branch; the leaves are usually six, set in a round compass like a star, with white flowers.

Its juice is very good to close up fresh wounds, and the powder of the dried herb. It stays scouring in horses and cattle. Boiled in hog's lard, it reduces all kinds of hard swellings, or kernels in the throat. Given internally, it cleanses the blood.

**COMFREY**.—*Wallwurz*, Ger.—It is so well known that a description of it is not necessary.

**CROTON OIL**—*Crotonæl*, Ger.—See *Croton Tigli*.

**CINNABAR OF ANTIMONY**—*Zinnober*, Ger.—This composition is a compound of purified quicksilver, five ounces; and sublimated sulphur, one ounce. It is used in fumigations, and forms an ingredient in other medical preparations.

**CORIANDER**—*Koriander*, Ger.—This plant is well known. Like caraway, it is used as a carminative.

**CLOVES**—*Gewuerznelken*, Ger.—Cloves are the produce of a beautiful tall tree, a native of the Molucca islands. They are among the most stimulating aromatics.

**CUDWEED, OR LIFE-EVERLASTING**.—*Rheinblumen*, Ger.—This is readily known by its small white stalk, with small leaves, and small round white flowers, with innumerable little leaves growing in a whirl. It grows in dry, barren, and sandy places.



It is diuretic and strengthening; a tea or strong decoction is good for strangury, gravel, &c.

**CHARGES** are thick adhesive plasters spread over parts that have been strained or weakened, and, being applied to the skin warm, adhere for a considerable time. The following mixture makes a good charge: Burgundy or common pitch, five ounces; tar, six ounces; yellow wax, one ounce, melted together, and when they are becoming cool, half a dram of powdered cantharides well stirred in. This must be partially melted afresh when applied, and put on the part with a large spatula, as hot as it can be without giving the animal too much pain. Flocks of tow should be scattered over it while it is warm, and thus a thick and adhesive covering will be formed, which cannot be separated from the skin for many months. This is applied for old sprains of the loins, and also strains of the back sinews.

**COLOMBO ROOT.**—The root is from Colombo, in the island of Ceylon, the bark sides covered with bark, the woody side of a bright yellow color.

**CLYSTERS**—*Klystier*, Ger.—These are useful and too often neglected means of hastening the evacuation of the bowels, when the disease requires their speedy action. The ox bladder and wooden pipe may still be employed.

Two ounces of soft or yellow soap, dissolved in a gallon of warm water, will form a useful aperient clyster. For a more active aperient, eight ounces of epsom salts, or even of common salt, may be dissolved in the same quantity of water: a more active injection, but not to be used if much purgative medicine has been previously given, may be composed of an ounce of Barbadoes aloes, dissolved in two or three quarts of warm water. If nothing else can be procured, warm water may be employed.

The principal art of administering a clyster consists in not frightening the horse. The pipe, well oiled, should be very gently introduced, and the fluid not too hastily thrown up; and its heat should be as nearly as possible that of the intestine, or about blood-heat.—See page 215, Sect. 268.

**COPPER.**—There are two combinations of this metal used in veterinary practice: the verdigris or subacetate, and the blue vitriol or sulphate.

**VERDIGRIS**—*Gruenspan*, Ger.—It is the common rust of copper, produced by vinegar, or any thing sour, or even common salt. It is applied externally as a mild caustic, in the form of fine powder, or mixed with an equal quantity of the sugar (superacetate) of lead, it eats down proud flesh, or stimulates old ulcers to healthy action; when boiled with honey and vinegar, it constitutes the farriers' *Egyptiacum*.

**BLUE VITRIOL**—*Blauer Vitriol*, Ger.—It is the union of sulphuric acid and copper. It is principally valuable as an external application, dissolved in water in the proportion of two drams to a pint, and acts as a gentle stimulant; but when an ounce is dissolved in the same quantity of water it becomes a mild caustic. In the former proportion, it rouses old ulcers to healthy action and disposes even recent

wounds to heal more quickly than they otherwise would do; and in the latter it removes fungous granulations or proud flesh. The blue vitriol is sometimes reduced to powder and sprinkled upon the wound for this purpose, and is a good application for canker in the foot.

**CORDIALS**—*Hertzstärkende mittel*, Ger., are useful or injurious according to the judgment with which they are given. When a horse comes home thoroughly exhausted, and refuses his food, a cordial may rouse the stomach and the system, and may prevent cold and fever; but it is poison to the animal when administered after the cold is actually caught and fever begins to appear. More to be reprobated is the practice of giving frequent cordials. The artificial excitement of the cordial soon becomes as necessary to enable the horse to do even common work, as is the excitement of the dram to sustain the animal spirits of the drunkard.

To recall the appetite of the horse slowly recovering from illness, a cordial may sometimes be allowed; or to old horses that have been worked hard and used to these excitements when young; or to draught horses, that have exhibited slight symptoms of staggers, when their labour has been unusually protracted, and their stomachs left too long empty. The most harmless cordial if abused, and the best if given with discretion, is composed of four parts each of caraway powder and bruised raisins, and two each of ginger and palm oil, well beaten into a mass.

**CORROSIVE SUBLIMATE**.—See *Mercury*.

**CREMOR TARTAR**—*Weinsteinrahm*, Ger.—See *Superacetate of Potash*.

**CROTON TIGLII**.—The croton nut has not been long introduced into veterinary practice. An oil has been extracted from it, and used by the surgeon; the meal is adopted by the veterinarian. It is given in doses from a scruple to a-half a dram, and, from its acrid nature, in ball with an ounce of linseed meal. When it does operate, the effect is generally observed in six or eight hours. On account of its quick operation, it may be given in lockjaw and staggers; and also in dropsy of the chest or belly, but it is often uncertain in its operation, and its griping and the debility it occasions are serious objections to it as common physic. A turpentine tincture of the powdered nut makes an active blister; but not so effectual or so safe as the cantharides.

**DIAPHORETICS**—*Schweistreibend*, Ger., are medicines that increase the sensible and insensible perspiration of the animal. Antimony in its various forms, and sulphur, have some effect in opening the pores of the skin, and exciting its vessels to action, and especially when assisted by warmth of stable or clothing, and therefore useful in those diseases where it is desirable that some portion of the blood should be diverted from the overloaded, and inflamed, and vital organs of the chest, to the skin or the extremities; but the only diaphoretics on which much confidence can be placed, and especially to produce condition, are warm clothing and good grooming.

**DIGESTIVES**—*Verdanungsmittel*, Ger., are applications to recent or old wounds, to cause them more easily to heal. A weak solution of blue vitriol is an excellent digestive; so is the tincture of aloes and

of myrrh. The best digestive ointment is one composed of three parts of the common calamine ointment (Turner's cerate) and one of common turpentine.

**DANEWORT, OR DWARF ELDER**—*Zwergholunder*, Ger.—This resembles the elder, both in form and quality, rising up with a four square rough hairy stalk, four feet high; the winged leaves are somewhat narrower than the elder—flowers are white, with a tint of purple. It grows very common in hedges.

**DIGITALIS**—*Fingerhutkraut*, Ger.—The leaves of the common fox-glove, gathered about the flowering time, dried carefully in the dark, powdered, and kept in a close black bottle, form one of the most valuable medicines in veterinary practice. It is a direct and powerful sedative, diminishing the frequency of the pulse, and the general irritability of the system, and acting also as a mild diuretic. It is usually given in combination with emetic tartar and nitre. The average dose would be one dram of digitalis, one and a-half of emetic tartar, and three of nitre, and repeated twice or thrice in the day. It lessens the pulsations; when at every sixth or seventh beat, the pulsations are suspended, while two or three could be slowly counted, this is precisely the effect which is intended to be produced; and however ill the horse may appear to be, from that moment the animal will begin to amend. The dose must then be diminished one-half, and in a few days it may be omitted altogether; but the tartar and nitre should be continued. There is no danger in the intermittent pulse thus produced; but there is much danger when the digitalis fails to produce any effect on the circulation. The disease is then too powerful to be arrested by medicine.

In the form of infusion or tincture, digitalis is very useful in inflammation of the eyes. It is almost equal in power to opium, and it may with great advantage be alternated with it, when opium begins to lose its power. The infusion is made by pouring a quart of boiling water on an ounce of the powder. A portion of the liquid should be introduced into the eye. Of the tincture one or two drops should be introduced. To form the tincture, three ounces of the digitalis should be added to a quart of spirit.

**DOGWOOD**—*Kornel-Kirschbaum*, Ger.—This grows in almost every part of the United States, and in some parts is called box-wood. The flowers generally make their appearance in the middle of May.

The bark both of the stem and root, is astringent, and has been used as a substitute for the Peruvian bark, possessing similar properties.

**DILL**—*Dill*, Ger.—The dill is an annual umbelliferous plant, cultivated in gardens, as well for culinary as medical use. The seeds possess carminative properties, hence are recommended in flatulent colics.

**DITTANY**—*Diptam*, Ger.—Is a well known mountain plant. It is an excellent remedy, if given in strong decoctions, in cases of hoves.

**DRAGONROOT, OR INDIAN TURNIP**—*Arumwurzel*, Ger.—This is a native, and hardy perennial plant, growing in shady places, and in

swamps. Early in the spring it pushes up a one leafed, conical shaped spatha.

The leaves are generally marked with black spots, and sometimes with white streaks, which have occasioned the vulgar names of *lords* and *ladies*. The root is bulbous, resembling in shape a small turnep. In common practice both the root and leaves have been used with advantage externally for blistering, and internally in cachexies, rheumatisms, and all other complaints of cold phlegmatic habits.

**DRAGONWORT**—*Stabwurz, or Aberrante*, Ger., is a species of artemesia, that grows upon mountains, and the sides of hills, about six or seven inches high; the leaves grow in a cluster from the top of the root, spear-shaped, blossoms yellow; the root black, about the size of cloves, very tender, resembling the claws of a dragon, hence sometimes called dragon's claw. It is esteemed an excellent medicine in billious fever, pleurisy, colds, &c.

**DIURETICS**—*Urinreibende mittel*, Ger., constitute a useful, but a much abused class of medicines. They stimulate the kidneys to secrete more than the usual quantity of urine, or to separate a greater than ordinary proportion of the watery parts of the blood.

Mowburnt hay and foxy oats are the unsuspected causes of many a disease in the horse, at first obscure, but ultimately referable to injury or inflammation of the urinary organs.

**ELECAMPANE**—*Alantwurz*, Ger.—Grows three or four feet high; flowers large and yellow, in July and August. It is highly recommended as an expectorant. The fresh root, in ointment, is serviceable in curing wounds and ulcers.

**EYE BRIGHT**—*Augentrost*, Ger.—This is a small low herb, growing in meadows. The juice of it, dropped into the eyes for several days, helps infirmities of the eyes that cause dimness of sight.

**ELMTREE**—*Ulmbaum, (Rusehebaum,)* Ger.—This tree is well known. The inner bark, boiled in water and taken, is good in diarrhea and scouring.—See page 165, No. 119.

**FENNEL**—*Fenchel*, Ger.—This is so well known to all that we deem it superfluous to say much about it.

**FRANKINCENSE**—*Weirauch*, Ger.—To be had in shops. And is used as prescribed in the formula.

**FENUGREEK**—*Fenegræicum*, Ger.—This is a well known medicine, and to be had in every apothecary shop.

**FOX-GLOVE**—*Purpurrother furgerhut*, Ger.—This is cultivated in some gardens. It rises to the height of two or three feet, and its leaves are large, egg-shaped, serrated, and covered with hairs. Blossoms of a beautiful purple color, hanging downwards in a row along one side, which are compared to the fingers of a glove. The fox-glove has been employed with advantage in those disorders where the frequency of the pulse requires to be abated.

**FLUELIN**—*Grundheil*, Ger.—It shoots forth long branches, partly lying on the ground, and partly standing upright, with red leaves, a little pointed, somewhat hairy, and of a greenish white color. The leaves bruised and applied with barley meal to watering eyes, helps them; it heals and closes green wounds; also foul or old ulcers.

**GENTIAN**—*Enzian*, Ger., stands at the head of the vegetable tonics, and it is a stomachic as well as a tonic. It is equally useful in chronic debility, and in that which is consequent on severe and protracted illness. It is generally united with camomile, ginger, and, when the patient will bear it, carbonate of iron. Four drams of gentian, two of camomile, one of carbonate of iron, and one of ginger, will make an excellent tonic ball. An infusion of gentian is one of the best applications to putrid ulcers.

**GINGER**—*Ingber*, Ger., is as valuable for a cordial, as gentian is for a tonic. It is the basis of the cordial ball, and it is indispensable in the tonic ball. The veterinary practitioner should always purchase it in its solid form. If the root be large, heavy, and not worm-eaten, the black ginger is as good as the white, and considerably cheaper.

**GOAT'S THORN**—See *Buck's thorn*.—Not the same as *goat's beard*, or *goat's rue*, vulgarly called *cat-gut*, from the resemblance of some of its roots to that plant.

**GUAIACUM**—*Franzosenholz*, Ger.—Guaiacum or *lignum vitæ*, is a genus of plants producing three species. It is a native of the West Indies. The gum of this tree is of a friable nature, of a deep greenish color, and sometimes of a reddish hue. It is a stimulating medicine, both diaphoretic and purgative.

**GROUND IVY**—*Kreuzkraut*, or *Gundelreben*, Ger.—The ground ivy is called by several names, viz: *alehoof*, *cat's foot*, &c. It is a well known herb, lies spread and creeping upon the ground, shooting forth roots, at the corners of the tender jointed stalks, &c. The root is in small fibres. It flowers early and long; the leaves continue green towards winter.

**GARLIC**—*Knoblauch*, Ger.—This is well known. It is highly stimulating. It provokes appetite, assists digestion, removes flatulence, promotes expectoration and urine.

**GUM AMMONIACUM**—*Ammonischer Gummi*, Ger.—This gum is the inspissated juice of the *heracleum gummiferum*, an umbelliferous plant, indigenous to the interior parts of Africa, the desert of Barka, and the western regions of Egypt. It is highly recommended in obstructions of the glandular viscera of the abdomen; and in combination with other medicines, in the cure of gutta serena. It possesses expectorant powers. It is also used in a variety of plasters, and forms an excellent application to remove chronic and indolent swellings and glandular indurations.

**GALL NUTS**—*Gall-äpfel*, Ger.—The gall nuts are nests of an insect called *cynips quercifolii*, which deposits its eggs in the leaves and other tender parts of a species of oak, a native of the Levant, and of the warm countries of Europe. They are powerful astringents. An infusion or decoction of galls may be used with advantage as an astringent gargle; and an ointment of one part of finely powdered galls to eight of simple ointment, is applied with success in hemorrhoidal affections.

**GROUNDSEL**—*Grundschnelle*, Ger.—Common groundsel has a round, green and brownish stalk, spread towards the top into branches

set with long and green leaves, cut on the edge, resembling oak leaves, but smaller, and round at the end. It is an universal medicine for all diseases produced by heat. The herb alone, preserved in ointment, is efficacious in all hot diseases. The decoction of the herb will relieve pains in the stomach. The juice, taken in wine, expels gravel, cures colic, and acts upon the liver.

**GAMBOGE**—*Gummigutt*, Ger.—This is a concrete vegetable juice, of a gummy, resinous nature. It issues from the *Cambogia gutta*, a native of Cambia, in the East Indies. The best is of a deep yellow color. It is generally used in combination with jalap, calomel, &c.

**GOULARD'S EXTRACT**.—See *Lead*, also, p. 82.

**HELLEBORE**—*Nieswurcz*, Ger.—Is a powerful nauseant, and lowers both the force and the frequency of the pulse, and is therefore given with good effect in inflammations, and particularly that of the lungs; but it requires watching. If it is pushed a little too far, trembling and giddiness, and purging follow, and the horse is sometimes lost. The hanging of the head, frothing of the mouth, and, more particularly, the sinking of the pulse, would give warning of danger. Its dose varies from a scruple to half a dram. In doses of a dram, it could not be given with safety.

**HEMLOCK**—*Schierling*, Ger.—Is used by some practitioners, instead of digitalis or hellebore, in affections of the chest, whether acute or chronic; but it is inferior to both. The dose of the powder of the dried leaves is about a dram.

**HYOSCIAMUS, OR HENBANE**—*Blisenkraut*, or *Schwarze Nieswurzel*, Ger.—Black henbane grows at the sides of fences, about old ruins, and on dunghills, and it grows about two feet high. The stalks are thick, woody, irregularly branched, and covered with a hairy down. The leaves surrounding the stalk at their base, stand irregularly; are large, soft and downy, pointed at the ends, and very deeply indented at the edges; their color is grayish green, having a disagreeable smell; the flowers are large and egg-shaped, and of a dirty yellowish color, with purple streaks. The root is long and tough.

**HYSSOP**—*Isop*, Ger.—This is a well known herb. Its leaves have an aromatic smell and a warm pungent taste. It is of great service when applied in poultices to bruises, the pain of which is speedily mitigated.

**HOREHOUND**—*Andorn*, Ger.—This plant, as is well known, grows among rubbish, flowering from July to September. The leaves have a very bitter taste, and possessing highly tonic properties.

**HORSE RADISH**—*Meerrelig*, Ger.—Grows on the sides of ditches, and in gardens, where it is cultivated for culinary and medicinal purposes. It is a powerful anti-scorbutic, and when taken freely, stimulates the nervous system, promotes urine and perspiration.

**HARTSHORN**—*Hirehorn*, Ger.—See *Ammonia*.

**HOUSELEEK**—*Hauswurzel*, Ger.—Grows on the roofs of houses and old walls, flowering in July. This herb bruised and applied to burns, or fresh wounds, and other external inflammations, will give relief.

**INFUSIONS**—*Auflesungen*, Ger.—Dried vegetables yield their pro-

erties more readily and perfectly than when in their green state. Boiling water is poured on the substance to be infused, and which is previously grossly pounded or powdered; the vessel is then covered and placed by a fire. In five or six hours the transparent part may be poured off, and is ready for use. In a few days, however, all infusions become thick, and lose their virtue.

The infusion of camomile is advantageously used instead of water, in compounding a mild tonic drench: the infusion of catechu is useful in astringent mixtures; the infusion of linseed is used instead of common water in catarrh and cold; and the infusion of tobacco in some injections.

**IODINE**—*Iodin*, Ger.—This substance has been given with effect in doses of five grains daily, to reduce the enlarged glands which sometimes remain after catarrh. It has likewise power in reducing almost every species of tumor, and may be tried where it would be dangerous to use the knife.

**IPECACUANHA**—*Brechwurz*, Ger.—The root is brought from Spanish America. It is divided into two sorts, Peruvian and Brazilian. The Peruvian is preferred for medical use, and is emetic in its properties.

**IRON**—*Eisen*, Ger.—Of this metal there are two preparations adopted by veterinarians. The rust, or *Carbonate*, is a mild and useful tonic in doses from two to four drams. The *Sulphate* (green vitriol or *copperas*) is more powerful, but should never be given in early stages of recovery, and always with caution. The dose should be the same as that of the carbonate. The sulphate has lately been recommended for the cure of that deceitful stage or form of glanders, in which there is nothing to characterize the disease but a very slight discharge from the nostrils. It is to be dissolved in the common drink of the horse.

Forge-water used to be a favorite tonic with farriers, and also a lotion for canker and ulcers in the mouth.

**JALAP**—*Jalappenwurzel*, Ger.—Is imported from New Spain. Its medicinal properties are principally purgative. When combined with a small portion of ipecacuanha, it is an excellent purgative.

**JAMESTOWN WEED**—*Stechapfel*, Ger.—This plant is known as jimson weed, stink weed, thorn apple, &c. Its medicinal properties are narcotic. It is a strong narcotic poison, though useful if properly administered.

**JUNIPER OIL**—*Wachholderöhl*, Ger.—This essential oil is retained because it has some diuretic property, and is a pleasant aromatic. It may, therefore, enter into the composition of the diuretic ball.

**LARD**.—This, or palm oil, is far preferable to honey, or molasses, or syrups, for making up balls, because the ball more readily dissolves in the stomach. It likewise renders a purgative less liable to gripe. It is the principal basis of all ointments.

**LAUDANUM**.—See *Opium*.

**LEAD**—*Blei*, Ger.—Combinations of this metal are admitted into veterinary practice. The subacetate is common under the name of *Extract of Lead*, or *Goulard's Extract*. It is used in the propor-

tion of a dram to a pint of water in the early stages of inflammation of the eye. In double the proportion it is serviceable in superficial inflammations of various kinds, or in poultices for the feet where there is much inflammation or pain; but in cases of sprain, or deep injury, or inflammations, it is perfectly useless.

The *Sugar of Lead* is the acetate or superacetate of that metal. This dissolved in water in the proportion of two drams to a pint, makes an extemporaneous Goulard's Lotion, but not more valuable than the former.

*White Lead*, (carbonate of lead,) is sometimes sprinkled, in the form of fine powder, and with advantage, on swelled legs, where the skin is very red and irritable, and moisture is exuding through it. It is used alone or mixed with paste, or a bread-and-water poultice: but lead, although in the first mentioned form, a great favorite with many persons, might, without great loss, be expunged from the Veterinary Pharmacopœia.

**LIME**—*Kalk*, Ger.—Is rarely used, but the *Chloride of Lime* is exceedingly valuable. Diluted with twenty times its quantity of water, it should help to form the poultice applied to every part from which there is the slightest offensive discharge.

**LINIMENTS**—*Salben*, Ger.—Are applications designed either to soothe an inflamed surface, or, by gently stimulating the skin, to remove deeper seated pain or inflammation. As an emollient liniment, one composed of half an ounce of extract of lead and four ounces of olive oil will be useful. For sprains, old swellings, or rheumatism, two ounces of hartshorn, the same quantity of camphorated spirit, an ounce of oil of turpentine, half an ounce of laudanum, and a dram of oil of origanum, may be mixed together: or an ounce of camphor may be dissolved in four ounces of sweet oil, to which an ounce of oil of turpentine, and a dram of oil of origanum should be afterwards added. A little powdered cantharides, or tincture of cantharides, or mustard powder, will render either of these more powerful, or convert it into a liquid blister.

**LINSEED**—*Leinsaamen*, Ger.—An infusion of linseed is often used instead of water, for the drink of the horse with sore throat or catarrh. A pail containing it should be slung in the stable or loose box. Thin gruel, however, is preferable; it is as bland and soothing, and more nutritious. Linseed meal forms the best poultice for almost every purpose.

The oil of linseed is not a certain, but always a safe purgative. It must be given, however, in doses of a pint or a pint and a-half.

**LUNGWORT**—*Lungenkraut*, Ger.—This is a kind of moss that grows on trees, especially oak and beech, with broad, grayish, rough leaves, diversely folded, crumpled and gashed in on the edges, and sometimes spotted with many small spots on the upper side. It is of great use in diseases of lungs, and for coughs and shortness of breath, which it cures in both man and beast.

**LICORICE**—*Suessholssaft*, Ger.—The plant is perennial, a native of the south of Europe. It is well known as a pleasant demulcent in combination with the infusion of linseed.



**LUNAR CAUSTIC OR NITRATE OF SILVER.**—Is an eschoratic.—p. 108.

**LIVERWORT**—*Leberkraut*, Ger.—This grows in moist and shady places, with many small green leaves. It is good for liver diseases, and possesses cooling and cleansing properties.

**LITHARGE**—*Silberglæt*, Ger.—To be had in the shops.

**MAGNESIA.**—The sulphate of magnesia, or epsom salts, should be used only in promoting the purgative effect of clysters.

**MOTHERWORT**—*Mutterkraut*, Ger.—Grows in waste places, and flowers in July and August. The flowers are thorny whirls, purplish within, and white on the outside; the leaves are opposite, two to each whirl.

**MARJORAM**—*Wurzkraut*, Ger.—Sweet marjoram is well known. The wild or field marjoram, has a root which creeps much under ground, and continues a long time, sending up many brownish, hard, square stalks, with small dark leaves, resembling the sweet marjoram. Bears a small black seed.

**MALLOWS**—*Eibish*, Ger.—Grows in wet places. The leaves have a soft wooly surface, feeling like velvet. The flowers are white, palish color, and appear in August.

**MASHES**—*Masche*, Ger.,—constitute a very important part of horse provender, whether in sickness or health. A mash given occasionally to a horse that is otherwise fed on dry meat prevents him from becoming dangerously costive. To the overworked and tired horse nothing is so refreshing as a warm mash with his usual allowance of corn in it. The art of getting a horse into apparent condition for sale, or giving him a round and plump appearance, consists principally in the frequent repetition of mashes, and they form the principal diet of the sick horse.

Mashes are made by pouring boiling water on bran, and stirring it well, and then covering it over until it is sufficiently cool for the horse to eat.

If the horse refuses the mash, a few oats may be sprinkled over it in order to tempt him to eat it; but if it is previously designed that corn should be given in the mash, it should be scalded with the bran, to soften it and render it more digestible. Bran mashes are very useful preparatives for physic, and they are necessary during the operation of the physic. They very soon become sour, and the manger of the horse, of whose diet they form a principal part, should be daily and carefully cleaned out.

When horses are weakly and much reduced, malt mashes will often be palatable to them and very nutritive; but the water that is poured on a malt mash should be considerably below the boiling heat or the malt will be set, or clogged together. If owners were aware of the value of a malt mash, it would be oftener given when the horse is rapidly getting weaker from protracted disease, or when he is beginning to recover from a disease by which he has been much reduced. The only exception to their use is in cases of chest affection, in which they must not be given too early. In grease, and in mange, accompanied with much emaciation, malt mashes will be pecu-

liarily useful, and especially if they constitute a principal portion of the food.

**MERCURY.**—The mercurial ointment is prepared by rubbing quicksilver with lard, in the proportion of one part of mercury to three of grease, until no globules appear; the practitioner should, if possible, prepare it himself, for he can neither get it pure nor of the proper strength from the druggist. It is employed with considerable advantage in preparing splents, spavins, or other bony or callous tumours, for blistering or firing. One or two drams, according to the nature and size of the swelling, may be daily well rubbed in; but it should be watched, for it sometimes salivates the horse very speedily. The tumors more readily disperse, at the application of the stronger stimulant, when they have been thus prepared. Mercurial ointment in a more diluted form is sometimes necessary for the cure of malanders and salanders; and in very obstinate cases of mange.

**Calomel—Kalomel, Ger.**,—the submuriate or protochloride of mercury, may be given, combined with aloes, in mange, surfeit, or worms. It is admissible in some cases of chronic cough, in farcy, and in jaundice, but is not a medicine that seems to agree with the horse. It is given in doses from a scruple to a dram, but must not be too often or too long repeated. As soon as the gums become red, or the animal begins to quid or drop his hay, it must be discontinued.

**Corrosive Sublimate—Sublimat, Ger.**,—the oxymuriate or bichloride of mercury, combined with chlorine in a double proportion, is a useful tonic in farcy, and perhaps the most to be depended upon. It should be given in doses of ten grains daily, and gradually increased to a scruple, until the horse is purged, or the mouth becomes sore, when it may be omitted for a few days, and resumed. It is used externally in solution; and in substance in quittor, as a stimulant to foul ulcers and in the proportion of five grains to an ounce of rectified spirit in obstinate mange, or to destroy vermin on the skin. It is, however, too uncertain and too dangerous a medicine for the horse-proprietor to venture on its use without the sanction of a veterinary surgeon.

**Æthiop's mineral**, the black sulphuret of mercury, is a good alterative for obstinate surfeit or foulness of the skin, in doses of three drams daily. Four drams of cremor tartar may be advantageously added to each dose.

**MINT—Munze, Ger.**—If the use of an infusion or decoction of this plant, or of the oil that is extracted from it, is a vehicle in which the oil of turpentine and laudanum may be administered in cases of colic.

**MUSTARD—Senf, Ger.**—There are two kinds of mustard, the black and the white, both well known. It provokes appetite, assists digestion, and promotes the fluid secretions.

**MASTERWORT—Meisterwurz, Ger.**—Grows in meadows and rich soils, two feet high; leaves three together, saw-edged, and spear-shaped; flowers in June. The root is given in flatulency, weakness of stomach and dropsical affections.

**MUGWORT**—*Beifuss*, Ger.—This plant grows two or three feet high, leaves deeply divided, pointed; on the upper side of a deep green, and on the under soft or downy; flowers small and purplish.

**MULLEN**—*Woolkraut*, Ger.—Is so well known that a description is not necessary here.

**MYRRH** may be used in the form of tincture, or it may be united to the tincture of aloes as a stimulating and digestive application to wounds. Diluted with an equal quantity of water, it is a good application for canker in the mouth.

**NITRE**.—See *Potash*.

**NITROUS ETHER, SPIRIT OF**.—Is a very useful medicine in the advanced stages of fever, and may be denominated a stimulant, although it never brings back the dangerous febrile action which was subsiding. It is given in doses of three or four drams.

**OILS**.—Those that are worth retaining will be found under the names of the vegetables from which they are extracted.

**OINTMENTS**.—Those have been fully described under the accidents and diseases in which their use is required.

**OLIVES, OIL OF**.—This is sometimes given as a purgative when aloes or other aperients cannot be obtained. It is useless to give it in a less quantity than a pint, and then it is uncertain in its operation, although harmless. In all liniments and ointments, spermaceti, or even linseed oil, may be substituted without detriment, and the peculiar smell of the latter may be subdued by oil of aniseed or origanum.

**OPIUM**—*Mohnsafte*, Ger.—However underrated by some, there is not a more valuable drug on our list. It does not often act as a narcotic except in enormous doses; but it is a powerful anti-spasmodic, sedative, and astringent. As an anti-spasmodic, it enters into the colic drink, and it is the sheet anchor of the veterinarian in the treatment of tetanus or locked jaw. As a sedative, it relaxes that universal spasm of the muscular system, which is the characteristic of tetanus. In the early and acute stage of fever, it would be bad practice to give it in the smallest quantity; but when the fever has passed, or is passing, there is nothing which so rapidly subdues the irritability that accompanies extreme weakness; and it becomes an excellent tonic, because it is a sedative.

If the blue or green vitriol, or cantharides, have been pushed too far, opium soonest quiets the disorder they have occasioned. It is given in doses of one or two drams; either the powdered opium being made into a ball, or the crude opium dissolved in hot water, and given with its sediment.

**PALM OIL**—*Palm öl*, Ger.—When genuine, is the very best substance that can be used for making masses and balls. It has a pleasant smell, and it never becomes rancid.

**PITCH**—*Pech*, Ger.—Is used to give adhesiveness and firmness to charges and plasters. The common pitch is quite as good as the more expensive Burgundy pitch. The best plaster for sand-crack consists of one pound of pitch, and an ounce of yellow beeswax melted together.

**PHYSIC**—*Abführungsmittel*, Ger.—The cases which require

physic, the composition of the most effectual and safest physic ball, and the mode of treatment under physic, have been already described.—See p. 215, Section 268.

**POTASSA**—*Pottasche*, Ger.—Two compounds of potassa are used in veterinary practice. The nitrate of potassa, *nitre*, is a valuable cooling medicine, and a mild diuretic, and, therefore, it should enter into the composition of every fever ball. Its dose is from two to four drams. Nitre, while dissolving, materially lowers the temperature of water, and furnishes a very cold and useful lotion for sprain of the back sinews, and other local inflammations. The lotion, however, should be used as soon as the salt is dissolved, for it quickly becomes as warm as the surrounding air.

**POULTICES**—*Umschläge*, Ger.—Few horsemen are aware of the value of these simple applications in abating inflammation, relieving pain, cleansing wounds, and disposing them to heal. That poultice is the best for general purposes in which moisture and warmth are longest retained. Perspiration is most abundantly promoted in the part, the pores are opened, swellings are relieved, and discharges of a healthy nature procured from wounds.

Linseed meal forms the best general poultice, because it longest retains the moisture. Bran, although frequently used for poultices, is objectionable, because it so soon becomes dry. To abate considerable inflammation, and especially in a wounded part, Goulard may be added, or the linseed may be made into a paste with a decoction of poppy heads. To promote a healthy discharge from an old or foul ulcer; or separation of the dead from the living parts, in the process of what is called coring out; or to hasten the ripening of a tumor that must be opened; or to cleanse it when it is opened, two ounces of common turpentine may be added to a pound of linseed meal; but nothing can be so absurd, or is so injurious, as the addition of turpentine to a poultice that is designed to be an emollient.

If the ulcer smells offensively, two ounces of powdered charcoal may be added to the linseed meal, or the poultice may be made of water, to which a solution of the chloride of lime has been added in the proportion of half an ounce to a pound.—See p. 212, Sect. 265.

**POWDERS**—*Pulver*, Ger.—Some horses are very difficult to ball or drench, and the violent struggle that would accompany the attempt to conquer them may heighten the fever or inflammation. To such horses, powders must be given in mashes. Emetic tartar and digitalis may be generally used in cases of inflammation or fever; or emetic tartar for worms; or calomel and even the farina of the Croton nut for physic; but powders are too often an excuse for the laziness or awkwardness of the carter or groom. The horse frequently refuses them, especially if his appetite has otherwise begun to fail; the powder and the mash are wasted, and the animal is unnecessarily nauseated. All medicine should be given in the form of ball or drink.

**RAKING**—*Mastdarmleerung*, Ger.—This consists in introducing the hand into the horse's rectum, and drawing out any hardened dung that may be there. It may be necessary in costiveness or fever, if a clyster pipe cannot be obtained; but an injection will better effect the

purpose, and with less inconvenience to the animal. The introduction of the hand into the rectum is, however, useful to ascertain the existence of stone in the bladder, or the degree of distention of the bladder in suppression of urine, for the bladder will be easily felt below the gut; and at the same time by the heat of the intestine, the degree of inflammation in it or in the bladder may be detected.

**RESIN—Harz, Ger.**—The yellow resin is that which remains after the distillation of oil of turpentine. It is used externally to give consistence to ointments, and to render them slightly stimulant. Internally, it is a useful diuretic, and is given in doses of five or six drams made into a ball with soft soap. The common liquid turpentine, is, however, preferable.

**ROWELS—Haarseil, Ger.**—As exciting inflammation on the surface, and so lessening that which had previously existed in a neighboring, but deeper seated part, they are decidedly inferior to blisters; therefore they should not be used in acute inflammation of the lungs or bowels, or any vital part. When the inflammation, however, although not intense, has long continued, rowels will be serviceable by producing an irritation and discharge which can be better kept up than by a blister. If fluid is thrown out under the skin in any other part, the rowel acts as a permanent drain. When sprain of the joint or the muscles of the shoulder is suspected, a rowel in the chest will be serviceable. The wound caused by a rowel will readily heal, and with little blemish, unless the useless leather of the farrier has been inserted.—See page 213.

**RUE—Raute, Ger.**—This is a well known garden plant; it has an unpleasant smell, pungent bitter taste; an infusion of the leaves powerfully promotes perspiration, quickens the circulation, and removes obstructions.

**SETONS AND ROWELS.**—See page 213, Sect. 266.

**SALT, COMMON.**—See *Soda*.

**SAVIN—Sæbenbaum, Ger.**—Grows in gardens, and is well known. The dry plant powdered is an excellent remedy to cleanse ulcers. Savin is a warm stimulating medicine.

**SEDATIVES—Stillende-mittel, Ger.**, are medicines which subdue irritation, repress spasmodic action, or deaden pain. Digitalis, hellebore, opium and turpentine, are medicines of this kind. Their effects are considered under their respective titles.

**SILVER—Silber, Ger.**—One combination only of this metal is used, viz: the *lunar caustic*. It is far preferable to the hot iron, or to any acid, for the destruction of the part, if a horse should have been bitten by a rabid dog; and it stands next to the butyr of antimony for the removal of fungus generally.

**SPIGELIA MARYLANDICA, OR PINKROOT—Wurmkrautwurzel, Ger.** This is a perennial plant, and grows wild in most of the southern States. The roots are celebrated as an anthelmintic, particularly for the expulsion of lumbrici from the alimentary canal.

**SPEEDWELL.**—See *Fluelin*.

**SODA—Aschensalz, Ger.**—The *chloride of soda* is exceedingly useful in changing malignant, corroding and destructive sores into the

state of simple ulcers, and in ulcers that are not malignant it much hastens the cure. Poll-evil and fistulous withers are much benefited by it, and all farcy ulcers. It is used in the proportion of one part of the solution to twenty-four of water.

*Common Salt*, (chloride of sodium,) forms an efficacious aperient clyster; a solution of it has even been given as an aperient drink. Sprinkled over the hay, or in a mash, it is very palatable to sick horses; and in that languor and disinclination to food which remain after severe illness, few things will so soon recall the appetite as a drink composed of eight ounces of salt in solution. To horses in health it is more useful than is generally imagined, as promoting the digestion of the food, and, consequently, condition. Externally applied, there are few better lotions for inflamed eyes than a solution of half a dram of salt in four ounces of water. In the proportion of an ounce of salt to the same quantity of water, it is a good embrocation for sore shoulders and backs; and if it does not always disperse warbles and tumors, it takes away much of the tenderness of the skin.

**SOAP**—*Seife*, Ger.—Is supposed to possess a diuretic quality, and therefore enters into the composition of some diuretic masses.—See *Resin*.

**STARCH**—*Stärke*, Ger.—May be substituted with advantage for gruel, in obstinate cases of purging, both as a clyster, and to support the strength of the animal.

**STOPPINGS**—*Verstopfungen*, Ger.—Constitute an important, but too often neglected part of stable management. If a horse is irregularly or seldom worked, his feet are deprived of moisture; they become hard, unyielding, and brittle, disposed to corn, contraction, and founder. The very muck of a neglected and filthy stable would be preferable to habitual standing on the cleanest litter without stopping. In wounds, bruises, and corns, moisture is even more necessary to supple the horn, and relieve its pressure on the tender parts beneath. As a common stopping, nothing is better than cow dung with a-fourth part of clay beaten well into it, and confined with splents from the binding of the broom, or the larger twigs of the broom. In cases of wounds a little tar may be added; but as a common stopping, it is too stimulating and drying. Pads made of thick felt have lately been contrived, which are fitted to the sole, and, swelling on being wetted, are sufficiently confined by the shoe. Having been well filled with water, they will continue moist during the night. They are very useful in gentlemen's stables; but the cow dung and clay are sufficient for the farmer.

**SPURGE**—*Wolfsmilch*, Ger.—This is an indigenous, low shrub, growing in woody and shady places, and flowering in February or March. It has spear-shaped leaves, and the flowers grow by threes from the same joint sitting upon the stem, and are of a beautiful red or rose color. The whole of this plant is so corrosive, that six of its berries are said to kill a wolf. The bark of the root of this plant is used in medicine. When applied in a recent stale, or infused in vinegar, it is effectual in raising a blister.

**SULPHUR**--*Schwefel*, Ger.--Is the basis of the most effectual applications for mange. It is an excellent alterative, combined usually with antimony and nitre, and particularly for mange, surfeit, grease, hidebound, or want of condition; and it is a useful ingredient in the cough and fever ball. The black sulphur consists principally of the dross after the pure sulphur has been separated.

**TANSEY**--*Rheinfarn*, Ger.--This is a well known plant. The seeds of it are an excellent vermifuge.

**TOLU**--*Tolubalsam*, Ger.--This is the product of a tree which grows in Spanish America. It possesses highly expectorant properties.

**TORMENTIL OR SEPTFOIL**--*Tormentil*, Ger.--Has reddish weak branches rising from the root, lying upon the ground, with short leaves, which compass the branches in several places; but those that grow on the ground are set upon footstalks, like the leaves of cinquefoil, but longish and serrated.

**TUTLY**--*Zink-kalk*, Ger.--Impure oxide of zinc.

**TAR**--*Theer*, Ger.--Melted with an equal quantity of grease, forms the usual stopping of the farrier. It is a warm or slightly stimulant, and therefore useful, dressing for bruised or wounded feet; but its principal virtue seems to consist in preventing the penetration of dirt and water to the wounded part. As a common stopping it has been stated to be objectionable. From its warm and drying properties, it is the usual and proper basis for thrush ointments; and from its adhesiveness, and slightly stimulating power, it often forms an ingredient in applications for mange; some practitioners give it, and advantageously, mixed with the usual cough medicine, and in doses of two or three drams for chronic cough. The common tar is as effectual as the Barbadoes, for every veterinary purpose. The oil, or spirit (rectified oil) of tar is sometimes used alone for the cure of mange, but it is not to be depended upon. The spirit of tar, mixed with double the quantity of fish oil, is, from its peculiar penetrating property, one of the best applications for hard and brittle feet. It should be well rubbed with a brush, both on the crust and sole, every night.

**TINCTURES**--*Tincturen*, Ger.--As applications to wounds or inflamed surfaces, the tinctures of aloes, digitalis, myrrh, and opium, are highly useful.

**TOBACCO**--*Taback*, Ger.--In the hands of the skilful farrier, may be advantageously employed in cases of extreme costiveness, or dangerous colic; but should never be permitted to be used as an external application for the cure of mange, or an internal medicine to promote a fine coat.

**TONICS**--*Stærkende-mittel*, Ger.--Are valuable medicines when judiciously employed; but like cordials, they have been fatally abused. Many a horse recovering from severe disease has been destroyed by their too early, or too free use. The veterinary surgeon occasionally administers them injuriously, in his anxiety to gratify the impatience of his employer. The mild vegetable tonics, camomile, gentian, ginger, and, perhaps, the carbonate of iron, may sometimes be given with benefit, and may hasten the perfect recovery of the horse.--Against the more powerful mineral tonics, except for the particular

purposes that have been pointed out under the proper heads, the horse proprietor and the doctor should be on his guard.

**TURPENTINE**—*Terpentin*, Ger.—The common liquid turpentine has been described as one of the best diuretics, in doses of half an ounce, and made into a ball with linseed meal and half a dram of ginger. The oil of turpentine is an excellent anti-spasmodic. For the removal of colic it stands unrivalled. Forming a tincture with cantharides, it is the basis of the “sweating blister,” used for old strains and swellings.

**UVA URSI**, or **BEARBERRY**.—This is an evergreen, creeping plant, with small oblong oval leaves, resembling very closely those of the common garden box. It is indigenous both to Europe and the United States. In its properties it is diuretic. It acts powerfully on the urinary organs.

**VINEGAR**—*Essig*, Ger.—This is a very useful application for sprains and bruises. Equal parts of boiling water and cold vinegar will form a good fomentation. Extract of lead, or bay salt, may be added with some slight advantage. As an internal remedy, vinegar is rarely given.

**WAX**—*Wachs*, Ger.—The yellow wax is used in charges and some plasters to render them less brittle.

**WINTERGREEN**—*Wintergruen*, Ger.—This plant is known in many places by the name of calico tree; in others as ivy; it is the broad-leaved laurel, grows seven or eight feet high, blossoms are white, tinged with red in June and July; in combination with other articles forms a good poultice in palsy.—See No. 12, p. 77.

**WALLWORT**—*Attich*, *Niederholunder*, Ger.—See *Danewort* or *dwarf elder*.

**WOLF'S MILK**—*Wolfsmilch*, Ger.—See *Euphorbia* or *spurge*.

**ZINC**—*Zink*, Ger.—The impure carbonate of zinc, under the name of *Calamine Powder*, is used in the preparation of a valuable healing ointment. Five parts of lead and one of resin are melted together, and when these begin to get cool, two parts of the calamine, reduced to an impalpable powder, are stirred in. The calamine is sometimes sprinkled with advantage on cracked heels, and superficial sores.

The sulphate of zinc, *white vitriol*, in the proportion of three grains to an ounce of water, is an excellent application in ophthalmia, when the inflammatory stage is passing over; and quittor is most successfully treated by a saturated solution of white vitriol being injected into the sinuses.

**ZEDOARY**—*Zitwer*, Ger.—A medicinal root, from a plant growing in the East Indies. It is a warm stomachic.



## DIRECTIONS,

### *Respecting gathering and preserving vegetable substances.*

Herbs, leaves and roots should be gathered in dry weather, after the dew is off, and are to be separated from decayed, withered and forcing leaves or matter. The proper drying of vegetable substances is of the greatest importance. We shall submit a few plain remarks on this subject.

#### *Of Leaves or Herbs.*

Of leaves, choose only such as are green and full of juice; pick them carefully, and cast away such as are declining. The leaves of plants or herbs which run up to seed, are not so good when they are in flowers as before. Dry them well in the sun, and not in the shade. When well dried, put them up in brown paper; do not press them too compactly; and keep in a perfectly dry place. You may readily know when they are injured by their loss of color and smell.

#### *Of Flowers.*

Let them be gathered when the sun shines on them. Dry them well in the sun, quickly and with attention. They should be kept free from the influence of moisture after being dried.

#### *Of Seeds.*

Let them be ripe when they are gathered; but before they fall spontaneously. Dry them a little in the sun before you lay them up.

#### *Of Roots.*

Roots which are annual, should be collected before they shoot out their stalks or flowers. Choose such as are neither rotten, nor worm-eaten. Cleanse them with a brush and cold water, as soon as practicable: never suffer roots to lie long in cold water. Free the main roots from all fibres and non-essential parts.

The drier the time you gather roots, the better they are. Roots which consist principally of fibres, and have but a small top, may be immediately dried. Such as are soft dry in the sun. Such as are large will keep longer than such as are small. If roots are very thick and strong, better slice them and string them upon threads; if covered with tough bark, they may be peeled, and then dried. Such as loose their virtues by drying, are to be kept buried in dry sand.

#### *Of Barks.*

Barks and wood should be collected in spring and autumn. Spring is preferred for resinous barks, and autumn for those that are gummy.

Barks should be taken from young trees, and separated from all impurities.

For the bark of roots, take the roots of such herbs as have pith in them, as parsley, fennel, &c., slit them in the middle, and when you have taken out the pith, that which remains is called bark, and is only to be used.

#### *Of Juices.*

Juices are to be pressed out of herbs when they are young and tender, and also out of some stalks, and out of some flowers.

Having gathered your herbs, when it is very dry, bruise them in a stone mortar, with a wooden pestle, then having put them into a canvas bag, press them, and take the juice and clarify it.

To clarify the juice, put it into a skillet or a pipkin, and set it over the fire, and when the skum rises, take it off; let it stand over the fire until no scum rises, and the juice is clarified. Then boil it until it acquires the thickness of honey when cold.

#### *Of Decoctions.*

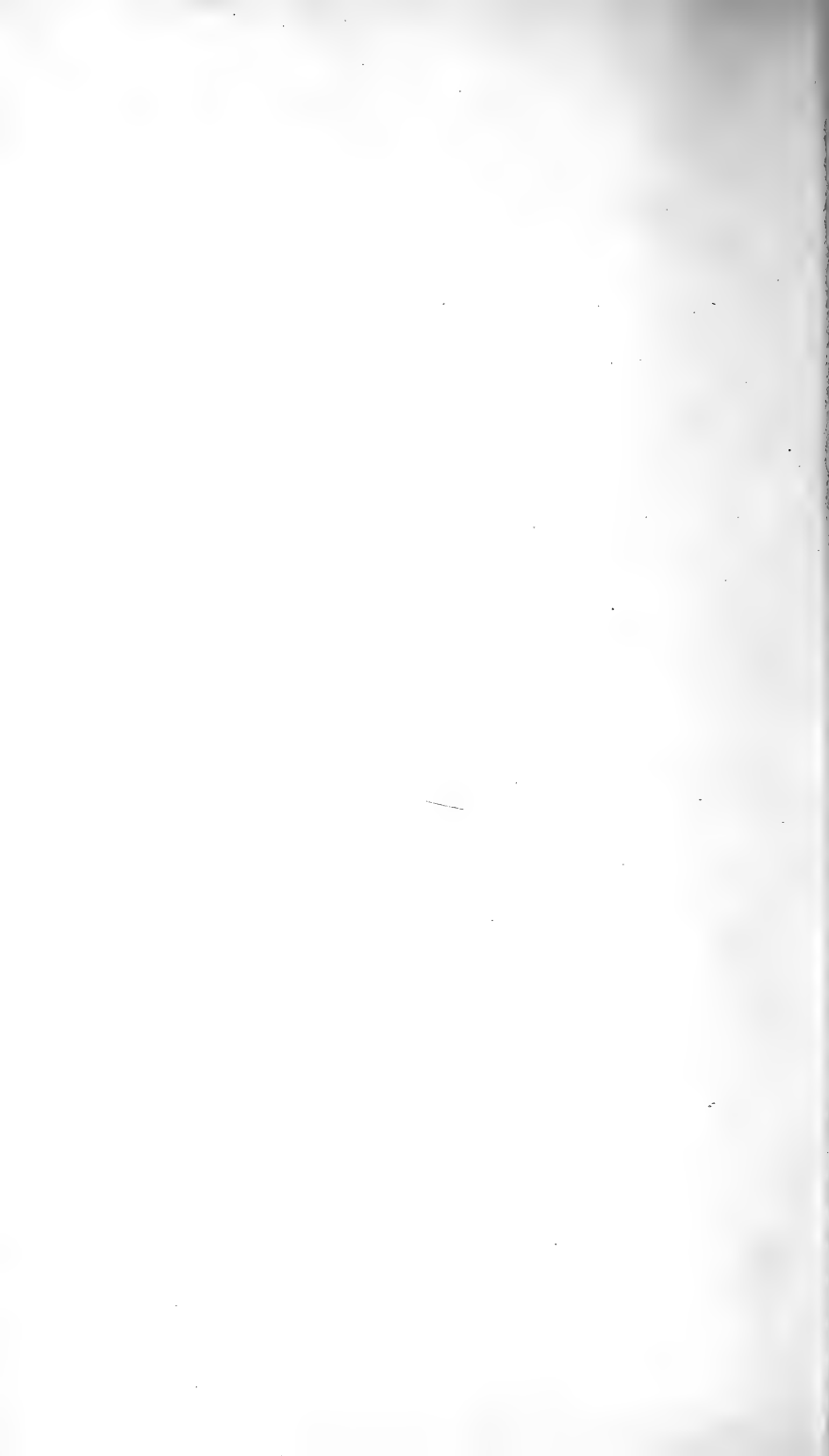
Decoctions are made of leaves, roots, flowers, seeds, fruits or barks. Decoctions made with wine last longer than those made with water. All decoctions should be kept in glass bottles closely stopped; and in a cool place.

#### *Of Vegetable Ointments.*

To make vegetable ointments, bruise the herbs or roots, and to two handfuls of bruised herbs add a pound of hog's lard; beat them well together in a stone mortar with a wooden pestle, then put it into a stone or earthen pot, cover it with paper, and set it either in the sun or some other warm place, for three or four days; then take it out, press it very hard; to this lard then add as many more herbs bruised as before, and proceed in like manner; if the ointment be not strong enough, do it the third or fourth time: the last time, boil it till the herbs be crisp, then strain it, pressing it hard, and to every pound of ointment add two ounces of turpentine, and as much wax.

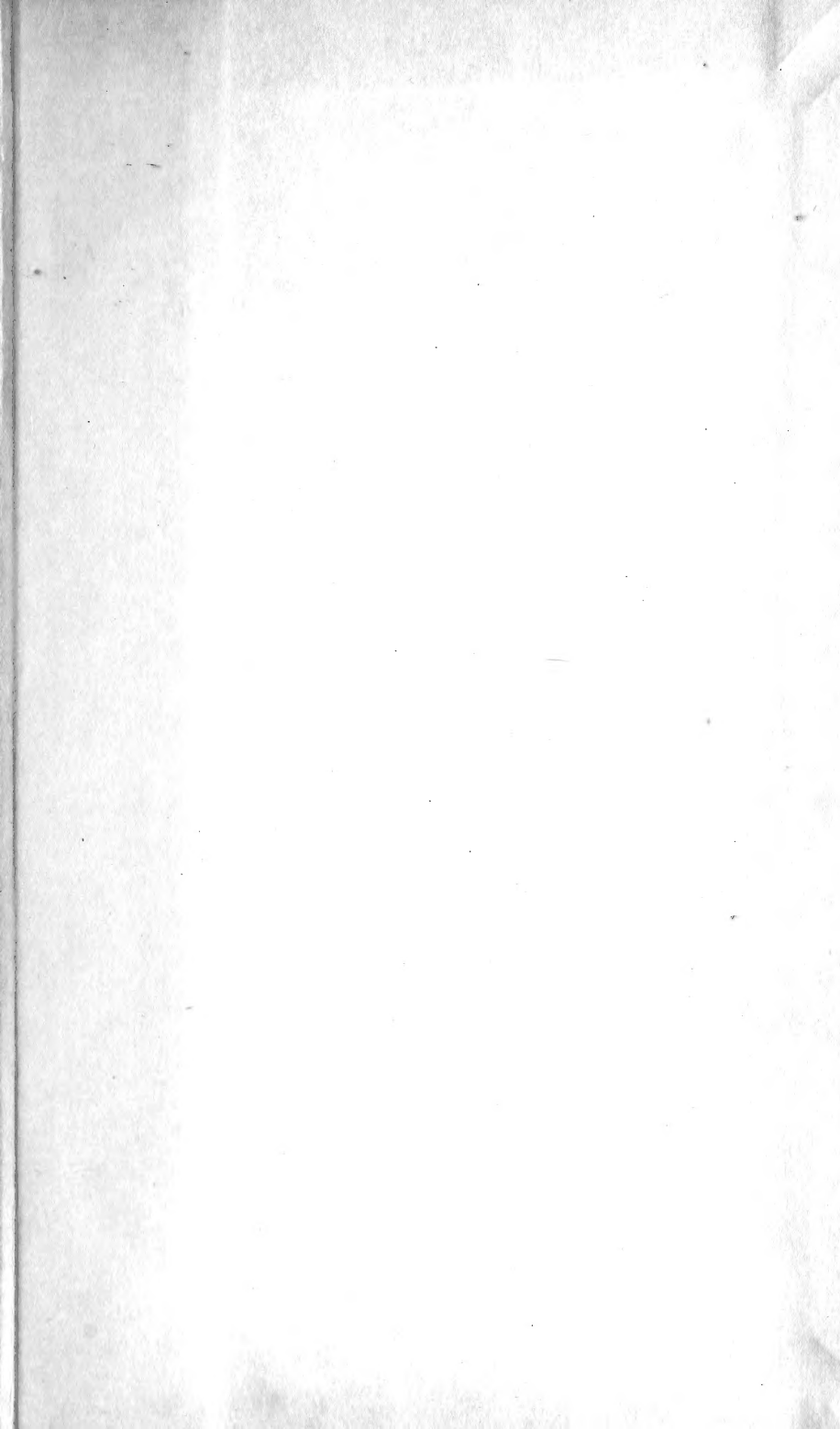
THE END.











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