152
No. 26.]

[Price 6d.]

THE HORSE BOOK

ENLARGED AND REVISED EDITION.

PUBLISHED BY
THE ROYAL SOCIETY
FOR THE PREVENTION OF CRUELTY TO ANIMALS,
105, JERMYN ST., LONDON, S.W.

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THE
HORSE BOOK,

BEING

SIMPLE RULES FOR MANAGING, FEEDING, AND KEEPING A
HORSE HUMANELY AND ADVANTAGEOUSLY IN THE
STABLE AND ON THE ROAD, TO WHICH ARE ADDED A
FEW WORDS ON THE HORSE'S EYE, FOOT AND STOMACH ;
WITH HINTS ON DRAUGHT.

ENLARGED AND REVISED EDITION.

LONDON:

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ABRIDGED PREFACE.

A large proportion of suffering is caused by owners and drivers who are ignorant of the capabilities, habits and requirements of their animals, or who want them to do more than they can. Much injury is also caused by the indolence of coachmen, who omit to give proper exercise to animals. There are also many persons who pamper and overfeed their animals, under the impression that they are behaving kindly to them, when, in reality, their conduct is the cause of disease and pain.

It is to explain some of the simple wants of a horse that this little book is published; and it has been written as simply as possible, so that its contents may be read and remembered by those who may not have an opportunity of perusing a larger book.

Many persons have a distrust of book-rules, priding themselves on being "practical persons." To such it may be as well to observe, that there is no rule here given that has not had the full approval of practical persons.

[This book was revised by the late Mr. Fleming, Army Veterinary Inspector, War Office, F.R.G.S., M.A.I., President of the Central Veterinary Medical Society; President of the Royal College of Veterinary Surgeons; Author of "Horse-shoes and Horse-shoeing," "Practical Horse-shoeing," etc.; and has now been brought thoroughly up to date.]

THE POINTS OF A HORSE.

(For Explanation, see opposite.)

THE POINTS OF THE HORSE.

Opposite the various "points" will be found the name of some of the special diseases or injuries which occur at that particular spot.

THE HEAD.

1.	The Poll	...	...	...	Poll evil.
2.	The Forelock or Forehead	...	...	...	The best place to shoot a horse.
3.	The Ears...	...	...	...	Injury to Cartilage by Twitch or other violence.
4.	The Bridge of the Nose				
5.	The Nostrils	...	...	...	Running at the Nose a symptom of Glanders, Strangles, Catarrh, etc.
6.	The Upper Lip	}	...	{	Bit and Chain Curb injuries.
7.	The Lower Lip				
8.	The Chin.				
9.	The Jowl and Throat	...	...	...	Glanders, Strangles, Catarrh, etc.

THE NECK.

10—10.	The Crest and Mane	...	Mange and other Irritation and Scurf.
11—11.	The Lower border, Windpipe	Tracheotomy, and Injury by Bearing-Rein.	

THE BODY.

12.	The Withers	...	...	...	Fistulous.
13.	The Back	}	...	...	Saddle injuries, Sitfast.
14.	The Loin				
15.	The Croup	...	...	...	Sores, Rub of Harness.
16.	The Tail	...	...	...	Docking injuries.
17.	The Belly	...	...	...	Direct injuries.
18.	The Flank	...	...	...	Ditto
19.	The Sheath	...	...	...	Warts and Soreness from neglect to keep clean.

THE FORELEG.

20.	The Shoulder	...	...	...	Lameness.
21.	The Chest and Point of Shoulder	...	...	...	Collar injuries.
22.	The Upper Arm	...	...	...	Flesh Wounds.
23.	The Elbow	...	...	...	Capped Elbow and Girth Galls.
24.	The Lower Forearm	...	...	...	Flesh Wounds.
25.	The Knee	...	...	...	Broken knees, Capped knees.
26.	The Canon or Shank & Back Tendon	...	...	...	Sprains, Splints.
27.	The Fetlock	...	...	...	Sprains, Overshot Joint.
28.	The Pastern	...	...	...	Ringbones.
29.	The Coronet	...	...	...	Quittor, Treads, Overreach, Side Bones at Back.
30.	The Foot or Hoof	...	...	...	Laminitis, Navicular, Corns, Thrush, Pricks, etc.

THE QUARTER AND HIND LEG.

31.	The Hip Joint	...	...	...	Lameness, infrequent.
32.	The Thigh	...	...	...	Direct injuries.
33.	The Stifle Joint...	...	...	...	Displacement of Patella.
34.	The Lower Thigh	...	...	...	Flesh Wounds.
35.	The Hock Joint	...	...	...	Curbs, Sprains, Spavin, etc.

The names below the Hock are similar to those below the Knee.

STABLE HINTS.

1.—Let your stable be well drained, and well lighted. The vapours from a damp, putrid floor will cause Rheumatism, Coughs, Colds, Grease, Cracked Heels, and other ailments, while the sudden change from darkness to light frequently causes Blindness.

2.—Let the floor of the stall be quite flat and level, with a gutter grating in the centre of the stall sunk one inch, and a similar one at the back. When the floor slopes at all, the litter should be arranged thickly behind and thinly in front, so as to produce a level surface as nearly as possible. Standing lower behind than before is very painful and causes Lameness by straining the ligaments and tendons.

3.—Every stall should be at least six feet wide, and nine feet long. This will enable the horse to turn round without bruising himself, and to lie down and stretch himself with comfort. The more a horse lies down the longer his legs will last. An ordinary stall converted into a loose-box is a great improvement, as the horse can then select his own position and relieve himself by changing it when tired. In a stall he cannot well do so, and being constantly tied with his head and body in one direction is not only monotonous, but

gives rise to Crib-biting, Weaving and other bad habits. The best way to tie a horse in a stable is to fasten a small wooden ball at the end of the strap or rope, run the same through the ring at head of stall, and then snap into the halter. Have the strap or rope just long enough to allow the horse to get his head well to the floor, with this arrangement he can never get his foot on the strap or rope as the weight of the ball will keep it taut.

4.—Let each stall or box be separated by moderately high partitions, not by swinging bars. These will prevent the horses from injuring each other, but not from seeing each other. Where there is but one stall it may easily be converted into a loose box by two horizontal bars let into two holes in the pillar at one end, and the back wall at the other. Where there are more boxes than one made in a stable, they should be separated by partitions about five feet high, with perpendicular bars on the top of them.

5.—Have the doorway sufficiently wide and high. If it is too narrow, a horse on passing through is liable to injure, and even fracture, the haunch; while if too low, he may strike the top of his head, and thus give rise to the serious and sometimes fatal injury commonly known as "poll-evil."

6.—Slippery stones should not be laid down at the entrance to the stable, as a horse is very liable to fall upon them.

7.—See that there are proper openings just under the ceilings to permit the hot foul air to escape, and suitable openings at the bottom of the walls to admit fresh air. Impure air is bad for man and beast, and predisposes to many diseases.

8.—The temperature of a stable should be that of a sitting-room or parlour: not over 60 degrees in summer, nor under 50 degrees in winter. Extremes of heat or cold are equally bad.

9.—Do not keep hay over a partly-open stable ceiling, as the steam and breath of the animal make it unwholesome.

10.—If the hay must be kept over the horse, the ceiling between should be of plaster. It will in some measure prevent the vapours from passing up to the food.

11.—Have no opening into the manger from the hay-loft. Dust is very often thrown into the horse's eyes when fed in this way, and thus Blindness is begun. The breath ascends directly to the food through the opening, which, at the same time, pours a continual draught down on the horse's head; thus producing Chills as well as bad food.

12.—Do not have the hay-rack placed over the horse's head. Hay-seeds and dust get into the eyes and ears.

13.—Never allow anyone to tease or tickle your horse in the stable, as Vicious Habits are thus easily induced.

14.—Never beat the horse when in the stable. Kindness and gentle treatment in the stable will not only prevent, but will in every case cure viciousness.

15.—Let the horse's litter be dry and clean, underneath as well as at top. Change the litter partially in some parts, and entirely in others, every morning; and brush out and clean the stall thoroughly. There is nothing so sweet, clean and economical for the horse's bed as sawdust, when straw is too expensive. Tan-bark and sawdust mixed makes a good bed.

16.—Make the bed deep and turn it over frequently. A little bedding soon gets wet and dirty, and it is not economical. Never allow your horse to stand on hot fermenting manure, as this will soften the hoof and bring on diseases of the feet, nor allow the old litter to lie under the manger. The gases given off from it taint the horse's food, and entering the nostrils irritate them and the lungs, as well as the eyes.

17.—See that your horse is well cleaned every morning, and on his return to the stable at night, if he is jaded and tired, give him a thorough grooming, rubbing his legs by hand. Remember that to procure a good coat to your horse naturally, use plenty of rubbing and brushing.

“Elbow grease” opens the pores, softens the skin, and promotes the animal’s general health.

18.—When practicable, clean your horse outside his stable, because the dust fouls the crib, and makes him loathe his food.

19.—Use the curry-comb lightly. If your curry-comb is new, and the teeth are sharp, run a file over them a few times, as otherwise you will do more harm than good. Never use the curry-comb on head, tail or mane, and during the shedding season use only an old and dull curry-comb. To fine-skinned horses it should seldom be applied.

20.—Look well to your horse’s feet, as he may have picked up a nail or stone, and to stand on either would produce Lameness. Let the heels be well brushed out every night, for dirt, if allowed to cake in, causes Grease and Sore Heels.

21.—When a horse is washed, never leave him till he is rubbed quite dry and bandaged all round. He will probably get a chill if neglected.

22.—When a horse comes off a journey, the first thing is to walk him about till cool, if he is brought in hot. This prevents him taking cold.

23.—The next thing is to groom him quite dry ; first with a wisp of straw, and then with a brush. This removes dust, dirt and sweat, and allows time for the stomach to recover itself, and

the appetite to return. It also refreshes the animal. If he has been fasting long, give him a small quantity of hay during grooming.

24.—When cool, dry and willing to eat, let him have his corn; and stand by while he consumes it. He cannot do without his food and yet is unable to complain if forgotten.

25.—Let the horse have some exercise every day, otherwise he will be liable to disease.

26.—Look often at the animal's feet and legs. Disease or wounds in those parts, if at all neglected, soon become dangerous.

27.—You cannot be too particular about having a blacksmith who understands his business. A poor blacksmith may ruin your horse's feet, and no feet, no horse. (*See page 34 and following.*)

28.—The shoes should be removed or changed every three or four weeks. The hoof is continually growing, and any fault in the foot or shoe must be corrected without delay, or Lameness will result.

29.—The frog and sole of the hoof should never be pared, nor the heels opened. This robs the foot of its natural protection, exposes it to bruises and injuries of different kinds, and leads to contraction and disease.

30.—The shoes should not be heavy. Heavy shoes fatigue the limbs, and are worn out long before they should be.

31.—The shoes ought to be the full size of the hoof. Small shoes are injurious to the foot, and lead to its being mutilated to fit the shoe.

32.—The outer crust of the hoof should never be rasped. Rasping removes the smooth, hard fibres, and makes the hoof brittle and deformed.

33.—No more nails than are absolutely necessary should be employed to attach the shoe. Nails weaken the hoof by breaking and splitting its fibres.

34.—Never have your horse's heels closely trimmed, nor the hair cut from the inside of his ears. Trimming heels leads to inflammation, and causes Sore Heels; and the hair in the ear, as a non-conductor of heat and cold, protects the nerves, and prevents the entrance of dust and particles of foreign matter, which would cause deafness.

35.—Feed your horse well if you wish him to work well, because his strength depends on his feeding. (*See "Hints on Feeding," p. 27.*)

36.—Horses should not be fed directly they leave work. The stomach is fatigued with exercise, and they cannot relish or digest their food till recovered.

37.—Give the horse as much water as he will drink, three times a day or oftener, especially before feeding. A horse that is frequently watered, will drink less on the whole than when watered at long intervals, and will not do himself any injury. Don't give him ice-cold water, it may cause Colic.

38.—It is a good plan to have clean water always accessible to the horse while in the stable.

39.—Do not urge the animal to drink water which he refuses. It is probably hard and unwholesome. (*See Rule 126.*)

40.—Forbid drugs being administered to your horse without your knowledge, especially nitre. They are not needed to keep the animal in health, and may do the greatest and most sudden mischief.

41.—Going from a hot stable into the cold air suddenly should be avoided, as also the contrary. It produces Colds and violent Inflammations.

42.—Should your horse meet with accidental injury, or become sick, consult a competent Veterinary Surgeon at once. Do not permit an incompetent person to administer drugs.

TRAVELLING HINTS.

43.—Do not buy a horse that is too light for your work. You will gain nothing by overloading him, he will soon become unsound and worn out—besides, it is cruel to take a mean advantage of a willing animal.

44.—Do not overload or overdrive your horse. If you exhaust him to-day, he will be unfit to work to-morrow—overworking is false economy.

45.—In loading, consider the distance to be travelled and the conditions of the road ; if you forget these things you will cause unnecessary distress and strain your horse. If your load is hard to draw, make frequent stops to give the horse opportunity to recover his wind.

46.—Do not use any animal, either to ride or drive, when sick or wounded. It is both inhuman and wasteful.

47.—Every horse should have two hours' steady work each day ; but less is required for an old than for a young one. Moderate exercise excites perspiration and digestion, both of which are necessary to health. It is also good for the eyes and feet.

48.—Many horses suffer greatly from being

always kept either in a state of idleness or overwork. These two extremes, equally distant from healthy exercise, are fertile causes of disease and injuries of every kind, and should never be allowed by those who have the care of animals.

49.—Keep your harness soft, dry and clean, particularly the inside of the collar and saddle, as the sweat, if allowed to dry in, will cause irritation, and produce galls. Harness can be cleaned by scraping with a dull knife and rubbing with a mixture of tallow and lard. Harness treated in this way will last longer, look better, and by its flexibility be more comfortable for the horse.

50.—If your harness chafes anywhere, pad it, before starting, to give the place a chance to heal.

51.—If you are riding, see that your saddle is sufficiently large, and that it fits and bears evenly on the horse's back. A small saddle, from not resting on the proper parts, galls and pains the horse cruelly. The saddle should not touch the withers nor the ridge of the back, for these are the parts most readily bruised, and most difficult to restore to soundness.

52.—A saddle that needs to be girthed excessively tight should not be put on. A moderate girthing will secure it, if it fits the animal in a proper way.

53.—Tight girthing is very painful and injurious. It confines the movements of the ribs,

and thus prevents the full play of the lungs in breathing.

54.—Never allow the stuffing of your saddle to get hard and knotty by use. In that condition it becomes a source of great pain and makes the animal kick and plunge when the rider mounts it, or it damages the back.

55.—Sharp bits are worse than useless, in ordinary cases. They make the mouth tender at first, and afterwards hard and callous; so that the horse then becomes unmanageable.

56.—The harness should be light, and fit easy and comfortably, and the collar be sufficiently large to admit of your hand at the bottom. Heavy, cumbersome, bad-fitting harness is annoying to the horse, is so much dead weight, and hampers his movement; and a tight collar may cause great distress, or even Apoplexy, in hot weather or during severe exertion.

57.—As a rule the collar should fit well and should sit as nearly as possible at a right angle to the traces. This will enable the horse to draw without any upward pressure on his wind-pipe or any downward pressure on his neck.

58.—When from some defect in the animal, or other cause, the bearing-rein is used, it must be so loose that the horse can have the free use of his head when going up hill. In addition to the easier position of the neck, a greater portion of

the weight can be thrown into the collar, especially going up hill; thus saving a great and unnecessary expenditure of muscular power.

59.—There is an important difference between a tight bearing-rein, or hame-rein, and a tightened rein in the driver's hand. The first is injurious, and cannot help the horse, while the latter is often useful. The latter is a steady support to the animal's head, from a distinct and intelligent source, the driver; whereas the former is only the horse's head fastened to his own shoulders! The bearing-rein or hame-rein is inconsistent with the action of the horse's head, as clearly shown by the fact that when a horse falls the rein is generally broken.

60.—See that the wheels of the vehicle are kept properly greased. This seemingly trivial cause—often unattended to—gives the horse much extra labour; and has been calculated to double his work!

61.—When horses are long out at work, the driver should always carry a nose-bag for each, and proper food. They can thus get a little food (without being unharnessed) during the intervals of rest, which will render them less likely to gorge themselves when in the stable.

62.—When practicable, let the horse have something to rest the nose-bag on. This saves him the necessity of tossing it up at every mouthful; and avoids the danger of straws and dust getting into his eyes and nostrils.

63.—The nose-bag should be leather at bottom, and of open, porous texture above. The lower part will thus retain the food safely and the horse can breathe easily through the upper part. It is a good plan to have brass eyelet holes in the bag, just below where the nostrils reach.

64.—A day or two before a long journey, give liberal feeds. This extra nourishment will be needed, and may prevent exhaustion.

65.—On the morning of starting feed earlier than usual. Digestion and exertion cannot both go on at the same time. Starting on a journey with a full stonach is likely to bring on Staggers or Fits.

66.—On the road, feed in small quantities about every two hours. This will prevent exhaustion, yet not overload the animal's stomach. Long-fasts and then full feeds are the most certain means you can use if you wish to bring on Staggers, Megrims or Apoplexy.

67.—Let the horse when he stops have a mouthful of wet hay, and a sip or two of water. This assuages his thirst without injuring his wind.

68.—If he wishes to drink at a pond on a journey, let him have a few swallows of water. A little will allay his thirst, while taking exercise, but a large draught will do harm.

69.—When your horse has quenched his thirst,

do not dash the remainder of the water in his face; but wipe the animal's eyes and nostrils with a wet sponge. The latter practice refreshes; the former terrifies.

70.—To make the horse suffer thirst is cruel and dangerous.

71.—Lead the horse carefully through the stable door on going out. Neglect of this is a frequent source of injury. Accidents make the animal frightened for a long time.

72.—If you are unacquainted with the animal, caress and coax and humour him at starting. Many horses go unsteady through fear of a stranger, and not from vice.

73.—Accustom your horse to stand quite still till you are mounted or seated. Then start at a walk. You can then see if the horse is all right, and will most likely avoid accidents.

74.—Go slowly the first and the last mile. So that the horse can get warm and become cool by degrees.

75.—Never attempt to go fast and far at the same time. If you succeed, you will probably have damaged your animal for ever.

76.—On a journey, you must not go faster than a steady trot—not more than seven miles an hour. The unevenness of the hard road shakes and tries the horse's feet and legs.

77.—Never urge the horse to useless spurts of speed or other unnecessary exertion. He will go much longer if permitted to go steadily.

78.—Never ride or drive fast in a town, for you may endanger your own safety or that of some one else.

79.—Never trust your horse to himself. Be on your guard, and just feel his mouth with the bit, lightly and steadily. You will thus prevent many an accident through being on the alert.

80.—Never keep a dead pull on the rein, because it hardens the mouth. Don't pull his head back when you are driving him, and don't pull his head forward when you are leading him.

81.—Keep your hand low and steady and gently feel the mouth with the bit. You thus awaken the animal's attention, without irritating or punishing him.

82.—Never leave the reins loose on the horse's neck. He is very likely to stumble on missing the support of your hand

83.—When you wish your horse to go slower, say "Steady!"—when you wish him to stop, say "Woh!" By always using the same words, he will be led to moderate his pace as you wish, without bit or whip being used.

84.—Never stop by pulling up sharply and

suddenly, unless in case of necessity. It is very painful, and requires immense exertion; this tries the chest and fore and hind legs of the horse to a great and most injurious degree.

85.—Cheer your horse every now and then by your voice and a pat or two. All animals understand and answer to a kind word.

86.—Do not keep on jerking the reins or using the whip. If you do so the horse cannot tell what you really mean when you use them in earnest, and jerking the reins hardens the mouth.

87.—Never use the whip if you can help it. Rather tell him what you want him to do. If he refuses, back him so as to distract him, and then try again, because it is then available as a last resource.

88.—Never whip a horse when he is frightened unless it is to prevent him from backing you into a ditch or tipping over your carriage. Be cool yourself and he will soon gain confidence.

89.—Horses often shy owing to defective sight (read Rule 1), and very often in the twilight, because in these cases they cannot clearly discern objects. Gentleness and good sense in a driver will in a great measure overcome the difficulty. If you whip a shying horse past the object which frightens him, you only confirm the habit.

90.—More frequently, however, horses shy owing to nervousness or misconception respect-

ing the objects at which they shy. This arises from natural temperament, over-feeding, want of sufficient exercise, defective training, or bad harnessing.

91.—If you speak encouragingly and let your horse come slowly to the object, yet not too close, you will teach him that it will not hurt him. You will then let him ascertain what it was that frightened him, and so give him courage.

92.—Avoid very stony or rough parts of the road. It spares the horse and will, in all probability, prevent many an accident.

93.—When the road is very bad and your horse tired, it is well to dismount and lead him. He will then be of use where you can employ him to real advantage.

94.—Go up hill by easy stages and zig-zag over the road if it is safe to do so. Have a "Scotch" ready to put under the wheel whenever you stop, and when the "Scotch" is fixed, back your horse a little to take the pull off him. If it is a two-wheeled cart let the prop down to take the weight. When you get to the top let him go slow for a bit on the level to recover and cool himself.

95.—If a horse is made to stop going up a hill and no stone or support is put to the vehicle, he will very likely fall down if there is a heavy load. For the whole weight, dragging on the collar, stops his breathing.

96.—If you are driving a cart with a very heavy load, a prop should be at hand to bear up the shafts while you stop. This eases the weight off the animal's back and relieves him very much.

97.—Never ride fast in the dark, if you value either your own or your horse's neck, because you will probably break one or the other, if you fall or come in contact with some object.

98.—Never take a jump if you can do without it. It shakes a horse unnecessarily, and a good rider will never leap over a gate if he can go through it.

99.—On a hard road, ride at the side where it is softest. It spares your horse's feet and legs—a worthy object.

100.—If you wish to gallop, do so only on soft turf, or the smooth, moist sea-sand. Hard ground, such as a high road, is sure to injure the feet and legs.

101.—Never let a horse trot downhill. It hurts the horse, as it jars the shoulders, weakens the tendons and “springs” the knees. A horse should always be taught to go carefully downhill.

102.—When you come to a steep hill, get down and walk. You cannot go fast, and it will greatly spare your animal.

103.—Stop often, if but for a few moments, during severe exertion. It enables the horse to recover his wind.

104.—Every now and then, when you rest,

slacken your girths, and shift your saddle. If the day be hot stand him in the shade ; if cold, cover him ; if stormy, stand him where the rain does not drive into his face. These apparently trifling things ease the horse very much.

105.—Never stop long in cold, wet, or windy weather without putting some loose cloth over the horse's loins. This keeps in the animal's natural warmth, and prevents his getting a chill.

106.—Never keep a horse standing exposed to the weather, if it is cold and stormy, for any but the briefest possible space of time ; but rather keep moving, however slowly. Movement assists the circulation of the blood, and thus maintains the heat of the body.

107.—When a horse in harness is kept standing on an incline, always turn his head downhill. This will rest the muscles of his hind legs, which are those principally engaged in drawing.

108.—Take off his blinkers if you are allowed to. He is much more likely to be frightened of what he can hear but cannot see. Train young horses to go in harness without blinkers. They add to the weight of the headgear, are clumsy, heat the eyes and head injuriously in hot weather, deprive the horse to a great extent of the use of his vision, and damage the sight. They have nothing whatever to recommend them but custom.

109.—In hot weather, if the flies worry him, sponge him with a weak mixture of Jeyes' or Condyl's Fluid and water, taking care of his eyes.

TRANSVERSE SECTION OF HORSE'S TAIL OR
" DOCK."

This diagram shows the joint surface of one of the bones (a), with all the muscles (b), arteries (c), veins (d), and nerves (e), covered by the skin (q). See Rule 110.

Give him also a face-mane, made either of pieces of string hanging from his forehead strap to below his nose, or made from a dark piece of cotton with a hanging fringe which he can shake.

110.—Do not allow the horse's tail to be docked, nor the hair on it to be cut except in winter. It is a most useful defence, given by Nature against flies and other annoying insects.*

111.—To cure a horse of rubbing his tail, wash the dock with warm water and good Castile Soap, and thoroughly dry the part with a clean coarse towel; the rubbing to be kept up till the part is not only dry, but well warmed with the friction.

112.—Give your horse one day's rest from work in the week, as you like to give yourself one, and he will work the better for it.

113.—Be gentle with your horse. Nervous excitement upsets not only his temper, but also his digestion. A horse appreciates a kindly voice, and the care and good treatment he receives will have more to do with his condition than the amount of grain you give him.

* * * When in doubt on any point, think of the animal and his capabilities, and say:—

“HOW SHOULD I LIKE IT IF IN HIS PLACE?”

* H.R.H. The Duke of Connaught, who is well-known as a practical horseman, says of docking—“Personally I think the docking of horses' tails is a relic of barbarism. I think it is a shame to deprive a dumb animal such as the horse of the tail God has given it.” See also “The Crime of Docking,” by Steven Harding Terry, published by the R.S.P.C.A. (New Series, No. 48), Price 3d.

A STUDY IN CONTRASTS

Copyright

UNDOCKED.

Copyright

DOCKED.

These two pictures testify eloquently against the abominable fashion of docking.

HINTS ON FOOD.

114.—If you don't feed your horse well, he cannot work well, but he must be fed with due regard to his age, weight, size, constitution, and work. When a horse is worked hard, give him four meals of oats and good hay cut up into chaff, and mixed with the oats. If not working hard a horse should have three meals a day.

115.—Never use bad hay on account of its cheapness, there is no proper nourishment in it, and it will induce disease.

116.—Damaged corn is exceedingly injurious. It brings on Inflammation of the Bowels and Kidneys, and Skin Diseases.

117.—Chaff is better for old horses than hay, as it is chewed and digested better by them.

118.—Mix chaff with corn or beans, and do not give the latter alone. It makes the horse chew his food more, and digest it better.

119.—Hay or grass alone will not support a horse under hard work, as there is not sufficient nutritive matter in either.

120.—When a horse is worked hard, its food should chiefly be oats with chaff; if not worked

hard, give less oats and more chaff or hay. Oats supply more nourishment and flesh-making material than any other kind of food.

121.—For a saddle or coach horse, $\frac{3}{4}$ of a peck of sound oats and eighteen pounds of good hay are sufficient per day. If the hay is not good, add a quarter of a peck more oats. A horse which works hard must be fed well. If worked very hard, he may have rather more of each ; one that works little should have less.

122.—Rack feeding is very wasteful. The better plan is to feed with chopped hay from a manger. The food is not then thrown about, and is more easily chewed and digested. (*See Rule 12.*)

123.—Oats should be bruised for an old horse, but not for a young one. The former, through age and defective teeth, cannot chew them sufficiently ; while the young horse can do so, and the oats are thus properly mixed with the saliva, and converted into wholesome nutriment.

124.—Grass should always be cut for hay before the seed drops, because the juices that ripen the seed are the most valuable part of the hay. If they are used up by its ripening and dropping, the grass will not turn into hay ; but will only wither and grow yellow.

125.—Vetches and cut grass should always be given in the spring to horses that cannot be turned out into the fields. They are very cooling and

refreshing, and almost medicinal in their effects ; but they must be supplied in moderation, as they are liable to ferment in the stomach if given largely, and act unfavourably on the bowels.

126.—Water your horse from a pond or stream, rather than from a spring or well. The latter is generally hard and cold, while the former is soft and comparatively warm. The horse prefers even muddy water, if soft, to clear hard water.

127.—A horse should have at least a pail of water morning and evening ; or (still better) four half-pails, a half-pailful four times in the day. This assuages his thirst without bloating him. But he should not be made to work immediately after he has had a full draught of water, for digestion and exertion can never go on well together. (*See* pages 46 and 47.)

128.—Do not urge the animal to drink water which he refuses, but always let him have easy access to water in the stable, and water him an hour and a half or two hours after feeding him at night.

129.—A moderate quantity of water will do a horse no harm at any time. If he be exhausted, however, and the water be very cold, it may give rise to serious symptoms, as it abstracts a large amount of heat, and acts injuriously on the bowels ; while nature is too prostrated to produce a favourable reaction.

130.—Do not allow your horse to have warm water to drink. Because if he has to drink cold water after getting accustomed to warm, it will give him the Colic.

131.—When your horse refuses his food after drinking, go no farther that day, because the poor creature is thoroughly tired out.

132.—In such a case, a bucket of warm oatmeal gruel with a little ground ginger will do good. These stimulate and refresh the horse, and bring back his appetite.

133.—In bleak cold weather, add half a pint of horse beans to the morning and evening meals.

134.—Keep a piece of rock salt in the manger for the horse to lick.

135.—A warm bran mash does good given once a week. If the horse rests on Sunday—as he ought—feed the mash Saturday night. Don't let the bowels of any horse become constipated.

HINTS FOR ACCIDENTS.

When a horse falls whilst drawing a vehicle—

1.—Jump down and hold the animal's head down, to prevent his dashing it about, to his own injury.

2.—Loosen the bearing-rein or hame-rein (if you have one on the horse), and the parts of the harness which fasten him to the vehicle.

3.—Back the vehicle, so as to get the shafts and traces clear.

4.—If the ground is slippery, put down sacks, or strew sand or ashes, so as to give him a foothold, and prevent his slipping about and injuring himself.

5.—Steady and support the horse's head, as a frightened horse cannot use his senses aright, and excite him, with hand and voice to rise.

6.—When you have got him up, pat and encourage the nervous animal, and see if he is wounded or otherwise injured.

7.—Let him stand still a short time to recover

himself, and then, if not hurt, proceed gently and with greater caution than before.

8.—Never whip him or punish him for falling or stumbling, as it will make him unnecessarily nervous. A stumble or an accident is very often due to bad driving, holding the reins slack, or failing to notice some stone or slippery place on the road, the fault in such cases is yours, not his.

SECTION OF A HORSE'S FOOT.

(See explanation on opposite page.)

SECTION OF A HORSE'S FOOT.

- A. Large metacarpal, or canon bone.
- B. Suffraginis, or large pastern bone.
- C. Corona, or small pastern bone.
- D. Pedal, or foot-bone.
- E. Navicular bone.
- F. Insensitive or horny laminae.
- H.H. Inferior sesamoideal ligament.
- K.K.K. Flexor tendon. (Flexor pedis perforans.)
- M. Flexor tendon. (Flexor pedis perforatus.)
- N. True suspensory ligament.
- O. Sesamoids.
- P.P.P.P. Extensor tendon of foot. (Extensor pedis.)
- R. Portion of the coronary secreting band.
- S. Sensitive frog.
- T. Outer wall or crust of foot.
- V. Sensitive laminae.
- W. Horny frog.
- X. Horny sole.
- Y. Sensitive sole.

FOOT, EYE AND STOMACH.

The Foot.

As the foot is the first part which a purchaser should examine, it will be well to commence with a simple description of it: first in its outward appearance, and then as to its internal structure.

The generality of horse-owners would, in all probability, if examined, be found to know little of its structure. To most persons, the foot of a horse appears to be only a roundish hard lump of horn, on which an iron shoe is nailed to prevent its being worn away by the roads. Such persons may perhaps hear with astonishment that it is one of the most complex, elaborate, and important parts of a horse, perfectly adapted to the work it is intended to perform, and that our artificial assistance, far from preserving, often cripples, and very frequently totally ruins it.

The real foot of the horse is enclosed in a horny case called the Hoof, the outside rim of this casing forms what is called the Crust or Wall, marked (a) in the accompanying illustration. The fore-part is about half an inch thick, becoming thinner towards the heel, and then curves sharply inwards.

THE FOOT.

AAAA—Crus or Wall ; BB—Horny or Insensitive Sole ; C—Frog ; DD—Bars (an inflection of the Crust or Wall) ; E—Cleft of Frog ; F—Base on Heel of Frog ; H—Heel of Foot ; K—Toe of Foot ; L—Point on Apex of Frog ; M—Seat of Corn between Bars and Crust, usually found in the inside heel.

The ends which incline inwards are called the Bars (D). In the natural state of the foot they are quite prominent and visible ; but in a horse which has been frequently shod they are often nearly obliterated, as, in general, the farrier, by a mistaken and very faulty system, cuts them almost entirely away. The mischievous effects of this practice will be seen when we come to consider the uses of the hoof. In the middle and hinder part of the hoof is an elastic horny substance called the Frog (C), which occupies about a quarter of the sole. It forms a soft and yielding cushion on which the horse's foot partly rests, being thus relieved from the shock of the hard hoof on the ground. This important part is pared away by the ignorant and prejudiced farrier.

The part of the hoof which has a plane surface which is opposed to the ground, and extends from the frog to the outside or wall of the hoof, is called the Sole. It is horny and hard, yet not solid, but somewhat elastic.

In the hinder part of the foot, where the two ends of the frog terminate, are the Heels (H) ; and these also are of the same horny character. A full description of the internal structure of the foot would be beyond our limits. The illustration, photographed from an actual foot, will, however, give a general idea.

Immediately inside the hoof, in the fore part and sides, is the bone of the foot, properly so called, or the Coffin Bone, as it is termed. It

fills the fore part of the hoof, is filled with numerous blood vessels, through which the circulation of this extreme part of the body is carried on; the substance of the bone not only allowing the blood-vessels to pass freely through, but protecting them from every obstruction. Around this bone are a great number of blood-vessels, the ridges which fit exactly between leaves or ridges on the inner part of the hoof, which are horny and dove-tail, and so help to attach bone to hoof. At its summit, in front, is fixed the large extensor tendon of the foot.

Fitting into this bone, at the top, is another called the Small Pastern Bone, to which is joined another strong tendon that regulates the use of the foot. On its upper surface it forms a cup-like hollow, and receives the end of the Large Pastern Bone; while below and behind it is a small movable piece named the Navicular Bone, which seems to have for its object the steadying and strengthening the action of the powerful flexor tendon that is inserted in the sole of the coffin-bone.

If the foot were a flat and unyielding mass, the danger of slipping would be, in many instances, very great. But instead of this, it has a prominent edge all round, which takes a firm hold of the ground and obviates the difficulty. Further, this hoof is somewhat elastic, and on the weight of the horse being fully thrown on it, allows the inner soft cushion or frog to descend and press firmly and tightly on the earth. Thus

two ends are wonderfully and completely attained ; firmness in the tread, insuring the horse's safety, and a regularity of pressure which obviates the jarring that would be so painful and prejudicial.

When the animal is in a state of nature, its hoof is strong enough to need no artificial protection ; but on the hard and stony roads common in all civilised countries, it has been found necessary to fit something to the foot, to protect it from the great wear and tear which is unavoidably incurred. For this purpose nothing has been found so effectual as to what is termed shoeing, or affixing a thin plate of iron round the outer hard and horny hoof. When done with judgment, the proper action of the foot goes on nearly as usual ; but if injudiciously performed, the action of the horse is impeded, lameness is caused, and temporary or permanent disease are brought on. (*See Rules 26-34.*)

Many persons, from an idea of saving time, desire the smith to come and shoe their horses, instead of sending them to the forge. This should never be done. For when the workman is by his fire, if the shoe should not quite fit (as is nearly certain to be the case), he can easily heat and alter it ; but if at a distance, in the farmer's or gentleman's stable, he has not the opportunity of doing so, and can only make foot and shoe match by cutting away the wall of the hoof—a most injudicious and dangerous practice, which a careless workman is too often willing to be satisfied with.

To those who consider the matter, it must be obvious that this tender and important organ ought not to be left to the care of a smith without supervision. His trade requires judgment and discretion; and there are no better means of ensuring careful shoeing than for the horse proprietor to visit the forge while his horse is being shod and observe the proceedings. Much depends on the preparation of the shoe; but it should be constantly kept in mind that a horse may be easily lamed from rash and ignorant paring of his hoofs. Indeed, the great evils of shoeing are cutting the sole and frog, putting on too heavy and too small shoes and rasping the outer surface of the wall of the hoof—(See Rules 26–34). As the subject is one of very great importance, it will not be out of place here to reprint the following article, written by R Boylston Hall, which appeared in *The Livery Stable* (New York).

Practical Horseshoeing.

The most important matter as connected with the comfort and utility of our horses, is unquestionably the proper care of their feet and the shoeing of them, to fit them to exert their due amount of strength in performing the tasks their owners set for them. Most of the shoes placed upon the feet of our ordinary carriage and driving horses are constructed on a basis that is radically wrong. Go into the best equipped blacksmiths' shops, look at the stock of shoes ready for use and you will find that they are uniformly constructed

on the same plan, whether they be hand made or machine-made. They are all made—if plain, uncalked shoes—thicker at the heels than at the front of the shoe. Now this is wrong. If the feet are made true and are properly balanced by the smith, with the use of his rasp, why should he throw that foot out of balance by placing upon it a shoe that is not level—that is, of even thickness from heel to heel? Now as this foot is thrown out of balance by an unbalanced shoe, how much more out of balance must it continue to become from wearing such a shoe, when it is borne in mind that the shoe wears off at the front part much faster than at the hind part—that is, at the heels? The shoes are, therefore, made just hind end foremost. As the wear is the more rapid at the front of the shoe, would it not be even better to make all shoes at the heels, say just a trifle less thick than at the front of them? Would not this plan equalise—certainly to an improving degree of balance—this unequal wear and be a good improvement over the plan so universally in vogue? It certainly would, and I have shown by many years of experience in the use of shoes so formed much increased comfort to the joints, making the articulation smooth, with great decrease of friction with its consequent fatigue to the animal. The horses will do more work, will do it more comfortably, rest better after their work and consequently eat better, digest their food more perfectly and keep in better condition of flesh, wearing the shoe I recommend for them. This same bad custom is in vogue in placing calks on shoes. Invariably

will you find that the heel calks are struck to be much higher than the toe calks. I have seen many, many shoes removed from the feet of horses where the front of the shoe has worn out, calks and all, and the heel calks still so high that could the front of the shoe stand repairing and thickening again by placing thereon a new toe calk, the heels would need no change to correspond in proper depth. Another serious mistake is in the use of shoes entirely too heavy for our carriage and driving horses. I am speaking more particularly now. If the sole is left in the foot and not pared out at all, only rasped down so as to be just a shade above the wall on the ground surface so that the shoe will have no bearing on it, no wide web of iron need be placed on the foot to protect the foot. Nature's protection, the sole, beats all of the artificial protection that can possibly be devised by the ingenuity of man to take proper care of the foot for whatever use the horse is put to. It is a very beneficial protection in winter for the snow path, for it will render it almost an impossibility for the horse to "ball up," that is, fill his foot with snow in the entire inside of it, as he would be liable to do if the sole was pared out, as is the almost universal custom. There would be a much lessened possibility of picking up stones, nails, etc. A good, strong, thick, healthy sole left in the foot would offer a comparatively safe resistance to the penetration of a nail; certainly it would, in this respect, be a protection not offered by the thin sole of a pared-out foot. When the foot is properly treated, as mentioned, shoe with a narrow web

shoe. For the ordinary carriage and road horses, five-eighths of an inch is plenty wide enough. A shoe of this width, made of proper thickness, will wear as long as one of nearly double the width ; then just think of the increased comfort, the decreased wear and tear of the joints, muscles and tendons in lifting at each step a shoe lightened by nearly one-half in weight. For with the sole left intact, as mentioned, such a shoe will be of sufficient width to offer all the protection required under any and all circumstances.

In “ sharpening ” horses for the slippery road in winter driving, place the toe calk on the inside web of the shoe and don’t make it too long. For the ordinary driving horse, say about 15 to $15\frac{3}{4}$ hands, the toe calk need not be over one and one-eighth to one and one-quarter long, from side to side, and not over one half-inch in height, at the most, and the heel calk, to correspond to this, should not be over three-eighths of an inch in height and should be stuck up from the heels of the shoe at the points. This will be found preferable to the welding on of a calk running along the side of the shoe from the point of the heel forward, as used by many. The heel calk, as is shown by the wear of it, is not much used, and is placed on the heel more to balance, by equalising the thickness of the shoe, than for any other purpose. Even on the hind shoes, where the work is done, this will be found to be the case. A horse does not get his hold on the ground with the heel of his shoe to propel the load, neither does he use the heels in the act of “ backing ” the load ; the

toe gets the grip on the ground from which the horse pushes the load, for he does not pull it.

To keep the feet in proper balance and in proper health, the shoes should be reset or new ones put on, as the case may require, about every three weeks, for it must be borne in mind that a foot in a fair degree of health, grows about three-eighths of an inch each month, and grows irregularly. The object in changing them as often as advised is to take advantage of this irregular growth and pare the walls to keep the feet toned and balanced. Let the smith have a chance to live ; if he tones up the horses' feet about every three weeks he has little to do and can keep them in a most admirable condition. Remember the smith's bill, if he be a careful one, is the most important of all the bills a horse owner has to pay. He should be paid a fair price, so he can afford to devote a proper amount of time to the preparation of the feet and the adjusting of the shoes. To the smith let me say, never put a shoe to the foot that is too hot to be borne in the hand.

The Eye.

The eye of the horse differs in some points from that of man, and it has some parts not possessed by the latter, which are required by the sight and habits of the animal.

The horse has no eyebrow, and his eyelashes are arranged in a peculiar manner, the longest hairs being on the upper lid, probably that the eye may be defended from excess of light, and

from insects, which would naturally endeavour to annoy the horse in that unprotected part. Many stable boys and grooms, in their desire to make their horses appear neat, are so foolish as to cut away those necessary and important lashes, to the intolerable pain and inconvenience of the poor animal, who is unable, while at work, to turn or shelter himself from any inconvenience or annoyance.

On the lower lid are some long projecting hairs or bristles, which are supposed to be useless by ignorant persons, and are sometimes cut away. Are they, however, useless? Far from it! They are intended to let the animal know the presence of anything that may approach the eye too closely. If you will touch one of those hairs and observe the sudden twitch and closing of the eye, you will be able to appreciate the importance of these supposed useless and superfluous excrescences.

The horse has no hands wherewith to rub his eyes, when they are irritated by dust or similar substances. A continual drying of the liquids which moisten that part is continually going on, more especially when moving quickly along; and so the horse is provided with an efficient substitute for so necessary a purpose. Just inside the upper lid is a little organ called the Lachrymal Gland, which is continually sending out a liquid to flow over the eye and wash away all lesser impurities. Besides this provision, there is a thin cartilage or membrane concealed in one

corner of the eye, vulgarly called the Haw, and this, whenever the animal wishes, can be pushed out along the surface of the eyeball. The dust or insect that may be the cause of the irritation, wet with the tears, is immediately carried away.

Many persons who profess to understand horses are ignorant of this beautiful provision. The Haw is sometimes thickened and protruded when suffering from inflammation of the neighbouring parts; it is then not infrequently mistaken for a tumour or swelling, and absolutely cut out instead of being cured by a little rest or cooling medicine. Let anyone fancy the torture of being exposed to the full glare of the sun and to a dusty road, without being able to wipe or rub the eye, and they will easily comprehend the barbarity and absurdity of the practice. The loss of blood which follows the operation may sometimes relieve the inflammation; but the cure could have been equally well accomplished by simple and rational means, without depriving the animal of this necessary appendage.

When in a darkened stable, the Iris, or brownish curtain around the centre of the eye, expands, so as to admit the passage of sufficient rays of light for distinct vision; but on coming into the glare of day the same aperture immediately closes or grows less, a small quantity of light being necessary under these altered circumstances. Any person who has felt the pain and inconvenience of coming suddenly from a dark room into the full blaze of day will readily con-

ceive the necessity for lighting a stable in a proper manner. This is too often neglected in confined stables, and the consequences are most injurious, for by a continuance of this change, from darkness to sudden daylight, the eye becomes seriously affected. The Retina or sensible nervous expansion, becomes deadened and more or less useless ; the horse's sight is injured ; he starts and shies at objects which he sees imperfectly ; and many a man who has received a dangerous injury has had to thank his inattention to this simple cause rather than any vicious habit of the animal, to which it has been attributed (*see* Rules 1 and 16). Blindness is almost certain to be caused by inattention to the above caution ; but even blindness itself is less dangerous to the driver or rider than imperfect sight. In the first case, the horse is forced to trust entirely to the bridle ; but in the latter, objects only half distinguished terrify and startle, though they would under ordinary circumstances be passed without notice.

Blinkers too are often a source of danger, for they heat the eyes, prevent the horse from seeing what he may hear is approaching him, or only give him a passing glimpse of something which, could he see it better, would not frighten him. If a horse has become used to blinkers, caution and sound judgment must be used in gradually accustoming him to do without them, but a colt, properly broken in, will never need them. It is worth remembering that army horses, and the horses of many of the large railway and carrier companies are worked without them.

Another source of injury to the eye is the vapour which is constantly arising from a hot, foul stable. Every intelligent reader must have felt the cough and watering eyes which are caused to himself in going into such a place. What, then, must be the operation of the same causes on animals shut up for many hours at a stretch, and exposed to their full activity? The eyes are inflamed by the ammoniacal vapours that are produced; the throat is irritated; a cough is developed; and blindness, with cough or asthma, are the inevitable consequences.

The Stomach.

The horse has the smallest stomach in proportion to its size of any of the domestic animals, and it is considerably less, in proportion, than a man's. Therefore, it must have food and drink frequently. To explain our present subject, it will be sufficient to say that the horse's chest contains his lungs, by which he breathes, and his heart. Behind them, separated only by a thin wide muscle that forms a partition, is the stomach destined to receive and digest the food. Each of these organs become larger when in use; the lungs occupying more room when the animal is moving about, and breathing more quickly. The space they occupy is then so filled, that only one of them can be distended at a time. The horse can distend his lungs, and breathe hard, trot, or gallop fast, provided his stomach be empty; he can fill the latter with safety, when at rest, or nearly so, till the food is digested. But if they are both full, the greatest

danger is to be apprehended ; the horse is sure to be “blown ” almost immediately, because he has no room to breathe, and apoplexy, or rupture of the stomach, may cause the animal to drop dead in a minute. It goes without saying that the horse is to be fed the first thing in the morning, but if an unusually hard day’s work is ahead for the animal, it is better that he should have an extra feed the night before, and only the average breakfast, for a meal requires time for digestion, and an overfed horse is as inactive as an overfed man. Recollect this rhyme, which may perhaps serve to recall an important principle to mind :—

“ Full feed, then rest ;
Often feed doest best.”

Carry a nosebag—the kind with the upper portion well ventilated, so you can give the horse a feed any time without unharnessing him. A small feed every two hours, with a short rest, is better for the horse than a comparatively full feed in the middle of the day. Staggers, megrims, and apoplexy are brought on by long fasting and overfeeding thereafter. A wisp of wet hay and a swallow or two of water at intervals of a couple of hours will refresh a horse that has been travelling hard and fast. In warm weather, after the animal has been given a drink, it is well to sponge out his nostrils and eyes, as it is very refreshing. Four half pails of water four times a day are better for him than a full pail of water morning and night. If you want the horse to be well and strong, don’t hurry him when feeding, or work him the moment he has finished.

GROOMING THE HORSE.

Clipping the horse is a comfort to the animal in summer, if you are able to protect him from the flies. In the winter, it is cruel and foolish, however much it may add to his appearance. Grooms and stablemen often urge that a horse be clipped because it makes it easier for them to keep him clean. In cleaning a horse, he should first be led from his stall, because otherwise the dust will settle in his crib, fouling the food. If a horse is washed, he must immediately be well dried, as he is otherwise liable to take cold. The currycomb must always be used gently, as it otherwise becomes an instrument of torture, but when it comes to the matter of brushing and rubbing, the more thoroughly it is done, the handsomer the animal's coat will appear, and the more thoroughly will he be ready for a day's work, because brushing softens his skin, frees the pores from dandruff and other impurities, opens them and stimulates them into action. The hair should never be cut from a horse's ears, nor from his pasterns, because the hair in the ears keeps them warm, and prevents deafness, and the hair about the hoofs keeps the fetlocks dry, and prevents sore heels. It may make work easier for the men in the stable, but it won't add to the comfort or usefulness of the horse. Washing, currying, and grooming the horse had best be the work of the early morning.

On returning from a day's work, if the horse is hot, he should be allowed to cool gradually before being placed in his stall, so as to avoid taking a chill. Then his legs should be well rubbed down by hand. This operation soothes and rests the animal, and enables the man to detect and remove thorns, burrs or splinters. Then the horse's hoofs should be carefully examined, and if there is a stone wedged between the hoof and the shoe, it must be removed. Otherwise the animal will probably be lame by morning. It is best to have the shoe of a city horse changed every three weeks, because the hoof is constantly growing, and any fault in shoe or foot requires instant attention.

HINTS ON DRAUGHT.

Whenever a horse is employed for the purpose of drawing any vehicle, it is of the utmost importance that he should be able to employ all his strength to advantage, and yet with some degree of comfort to himself. Every one who thinks at all must acknowledge that if a horse has to do his work in a cramped and confined condition, or when he is inconveniently placed as regards the load, he cannot exert his full power, which is so much loss to his master ; or, if forced to perform a certain amount, that he is obliged to waste a great deal more of his strength (or muscular power) than is required, to his own great pain and injury.

The strength required of an average sized horse or team of horses, and the strain on the horses to draw a heavy load over stones or out of a deep rut, hole, or over many other avoidable obstacles, is often greater than to draw the same load over a smooth surface fifty yards.

It would be a small estimate to say a careless driver strains his team in that manner twenty times a day.

If a driver prevents straining his horses twenty times each day he will save them 1000 yards of unnecessary pulling, and in the 300 working days

of the year 300,000 yards, and in five years 1,500,000 yards—nearly 1000 miles.

With proper judgment and carefulness the driver, at the end of five years, will have, in place of a team of weak, overworked, bony horses, a team of healthy and strong ones.

• From a business point of view will it not pay any horse owner, driver or teamster to be careful and considerate, and to avoid all unnecessary strains on horses ?

The question how to properly attach the horse to the vehicle, is therefore, of the greatest importance to every master who wishes to get a proper degree of work in a fair and rational manner. Yet, from being unacquainted with the principles, few examine closely into the practice. An immense amount of horse strength is wasted every day on loads, which, if properly attached, might be comfortably moved with far less trouble, exertion, and pain.

The act of pulling is performed by leaning forward, with the weight of the body, against the resistance of the load, and also by strong movements of the limbs, keeping up and increasing the pressure ; the weight of the body being of the utmost importance, as any one may find, by pulling at a rope passing over one shoulder, and standing upright all the time. It will be found that what was before pulled with ease cannot now be moved at all, or at any rate, only by the most severe and

continued effort of the limbs. These muscular movements, by exhausting the strength, try the system violently, whereas the body-weight is easily employed, without consuming the vital energies.

From the upright position of the man's body, he is not fitted to draw loads. If, therefore, this great difference is perceivable with his light frame, how great must be the waste of strength when the horse is prevented from throwing his whole weight fairly into the collar? Yet this is constantly the case through various causes.

First, and unfortunately in too many cases, the Collar is quite unfit for the animal. A horse-collar is frequently looked upon merely as a ring for the neck, to which the traces are to be affixed: whereas there is no part of the harness which is so important, and which ought to fit so accurately. How often is a little collar, only fit for a pony, jammed on the neck of a much larger animal, so that every pull he makes must give the feeling of strangulation; and that will, in all probability, cause distress, or some kind of fit, if long continued, besides its liability to gall and wring the poor animal's shoulder? When this has taken place the work cannot be fairly performed; and, to do it at all, the anguish of the poor horse must be indescribable.

Secondly, the horse is often prevented from throwing his weight into the collar by a Tight Check Rein, Bearing Rein, or Hame-rein; a useless and painful incumbrance introduced by

(Photo Copyright.)

An unnatural and uncomfortable position for the head,
which injures the animal and wastes his strength.

vanity, and retained by thoughtlessness amounting to cruelty. Ask horsekeepers why they use it, and hardly any two will give the same answer, though it is generally supposed by them to be a great safeguard in case of stumbling. The real object with which it was introduced was to make every horse to which it was applied, however weak, or old, or poor, assume the lofty carriage of the thorough-bred horse; and the tossing of the head, the foam at the mouth, and the restless agitation of the body (mute but expressive signs of pain and suffering) came, in a little while, not only to be disregarded, but even looked at with approbation. Fortunately, people are beginning to realise the uselessness of this tight rein.

Many well-known authorities have spoken as to the uselessness of these reins, and the following opinions are worth quoting :—

The Duke of Portland says :—“ If I see horses approaching me, with a cruel, tight-bearing rein, their heads hauled up to an unnatural height, I expect to find, and generally do, a very third-class looking coachman on the box with a very fourth-class looking carriage, which is generally occupied by people of a vulgar type.”

Major-Gen. Sir R. Baden-Powell says :—“ To consider it necessary to use the bearing-rein is a fault which gives away so many an owner as having either very second-rate horses or a third-rate coachman, and in either case as being ignorant of horsemanship himself.”

Another well-known horse owner and horse-lover wrote of these reins—"Let anyone watch the horses in the Park, or standing as they do for hours at the theatres, shops, etc., with foaming mouths, and tongues swollen and hanging out, trying to get a little ease for their poor heads and necks by tossing them up, putting them sideways, or in any possible position, vainly appealing to their unheeding, ignorant masters or coachmen to slacken, if only for a few minutes, the torturing rein, and then say if we can call ourselves a humane people."

INJURIES DUE TO THE BEARING-REIN.

By common consent veterinary surgeons, the men who are most intimate with the anatomy of the horse, condemn the bearing-rein, or the tight hame-rein.

One of the most frequent causes of trouble arising from the use of either of these reins is the displacement and partial dislocation of the upper cartilages of the trachea, or windpipe, at the base of the tongue, the continued pressure of the bearing-rein forcing them against the gullet and muscles of the inner surface of the neck, as shown at A, Fig. I.

It is here seen that the pressure of the jaw and base of the tongue has thrown back the epiglottis and arytenoid cartilages against the gullet, B, and almost closed it up, acute pain and frequently inflammation being the result. Let any of my readers try the experiment with a cord

Fig. 1.

Fig. 2.

SECTION OF HORSES' HEADS WITH THE BEARING-REIN, AND WITHOUT.

The effect of forcing the head into an unnatural position.

across his mouth ; he will gladly desist after a moment or two.

Another serious anatomical objection to the bearing-rein is the constant tension of the cervical ligament, c. This is an exceedingly tough and elastic band, mainly concerned in raising and regulating certain movements of the head, and should always be in a perfectly natural state ready for use the moment it is required. By continued pressure of the skull against the first three bones of the neck its elasticity is partially destroyed, and when the bearing-rein is taken off, the horse, in sheer relief, droops his head so that the ligament and surrounding muscles may recover their normal condition.

Another frequent cause of irritability is the extension of the natural gape of the mouth by the bracing up of the bearing-rein. This is frequently the cause of warty excrescences, cracks and sore mouths, with the results that the horse cannot answer to the driving-rein or bit. He becomes irritable and bad-tempered, and is consequently ill-treated by the coachman.

Fig. II. shows the natural position of the head and neck. The cartilages of the windpipe, A, are, in their natural position, situated between the angles of the lower jaw, the back of the pharynx and the gullet, and should be quite free from any pressure.

For the difference between driving with a

tightened rein and a tight bearing-rein, consult Rule 59 carefully. The former is judicious ; the latter hurtful.

Thirdly, a great cause of unnecessary pain and labour to many horses is a neglect in keeping the wheels greased in a proper manner. "Some persons may not be aware," says Heiover, in his work, *Bipeds and Quadrupeds*, "that the trifling neglect of a pair of wheels being comparatively dry or well-greased will cause twenty miles to take far more work out of a horse than forty would in the latter case ; yet wheels absolutely screaming from dryness are often seen and heard attached to carts and waggons ; and thus would the brute in human form let them scream, till he had finished his journey's end or his day's work, though his horses were drawing from such cause, at least one ton in four of resistance more than they would if the defect were cured."

Men who have loaded carts and driven horses all their lives, ought to know how horses should be worked to their masters' advantage and the comfort of the animals ; but the generality of working men know little, and care less on the subject. If this were not so, how is it that we frequently see the following error ?—a disproportion between the vehicle and the animal. May not a person everywhere observe a fault of this kind ?—a little horse staggering under the weight of a high and heavy cart, which, if the load be in the front of the axle, shows the shafts running absolutely downwards ; or

if behind the axle, nearly lifts the unfortunate creature off his legs, placing him in a position in which it is impossible he can exert his power at all favourably; and, on the other hand, how often is a tall horse seen between the shafts of a low gig or cart, pulling the shafts upwards at a sharp angle?—a position just as awkward and disadvantageous, and as wasteful of animal power, as that mentioned before.

Another instance of mismanagement may sometimes be seen in which it is hard to say whether we ought first to pity the horse, or smile at the folly of the master. It is where two or more are hitched on to a cart or waggon, a tall horse in the shafts and a little one in front.

Any one who considers for a moment must see that, whenever the front horse pulls, he must drag the shafts down on the wheel horse's back. The harder the pull, the greater the weight the wheel animal has to bear; while, if the front one is not kept pulling, all advantage is lost from his employment.

The proper way in such cases is, to employ two horses of the same size; but as it may sometimes be necessary to employ two of different height, we will here point out an unobjectionable method of harnessing them.

The horse draws in a straight and level line; therefore, whenever the shafts and traces are level

or nearly so—sloping a little upwards—we may be sure the draught is properly applied. All that we have to do then, is to remove the traces of the fore horse from the front of the shafts, and attach them to the hind part, supporting the increased length by a small strap or chain. This is simple enough when once understood ; yet people go on for years, without ever considering or attempting to remedy this often recurring fault, which in the course of time tells more severely.

If the shorter horse is fit to be put in the shafts, then the taller one in front will ease the load off the other's back the more he pulls ; an arrangement every way desirable.

The best manner of using a draught horse is when one of a suitable size is employed to draw a cart or gig ; more work being then got out of him without useless labour, than in any other way. The market gardeners' carts which come to London are good examples of this. The vehicle runs lightly and easily ; the weight is distributed judiciously—properly balanced on the axles ; and the shafts press only slightly upon the horse's back. Immense loads may be thus drawn with greater facility than by many a half-empty country cart, with ungreased wheels, unsuitable horse, and load thrown in at random.

The next best way is to harness two horses abreast, both of them being then able to employ their strength directly on the weight to be moved.

The worst way is to use a team. The draught on the front horses is variable and unequal at the best of times ; while the power, being exerted at a distance from the weight, becomes in a great measure neutralised and lost.

Many more hints on these subjects could be given, but we are writing for unprofessional readers, and space prevents our enlarging on these matters. Let one rule suffice for all. The bodily feelings which a human being experiences under any circumstances are pretty similar to those felt by a horse, so that a clear and simple rule for guidance is afforded by the consideration that what would be painful and disagreeable to us would be just the same to him.

It is the master who should look to these points ; for the servant, in most cases, cannot comprehend the propriety of a change, nor would willingly make one, having no interest in it. But it is on the owner the loss of labour every day falls, and the extra expense at the end of the year is out of his pocket. To him therefore we must look for a change in the right direction. On him, too, falls the moral and legal responsibility which the dictates of humanity or the rules of justice demand, in his treatment of the dumb creatures dependent on him.

HORSE MAXIMS.

There is a great deal of saving in a walk.

Find some way of keeping the horses busy all winter.

It is expensive to warm ice water inside the stock.

If you must put frosty bits in some mouth, let it be your own.

Warm the bits with your breath and hand in freezing weather.

There is more profit in coaxing than in kicks.

Be gentle, be kind, be patient.

Always speak to a horse as you would to a gentleman.

A horse can travel safer and better with his head hanging free than he can when it is checked into an unnatural position.

Many a horse stands up all night because his stall is not made comfortable to lie down in.

Kindness and reasonable persuasion are the best weapons to use in training and educating a horse. If he shies or frightens, soothe and encourage him rather than beat and abuse him.

A horse has a smaller stomach than an ox, and consequently he must be fed less at a time.

He has less power to digest coarse foods. He eats much slower, as he must do all his chewing before the food is swallowed. For these reasons he requires a longer time to eat, and his food should be more concentrated.

The practice of feeding the horse immediately after very hard work and when he is tired is altogether too common. Wait a bit. And do not water right after eating. The horse should remain quiet for a full hour before starting on the road or at hard work after heavy feeding.

Did you ever get in your mouth or on your plate some potato that had soured in the hot weather? If so you know something of the misery a horse must suffer when compelled to take all his food from a sour manger. Sourness is easily detected and easily cured by a pail of scalding water. A pinch of charcoal dust thrown in the manger daily will help keep things sweet and prevent acidity in the horse's stomach.

The breath of a horse or any other animal upon his food is unwholesome. For this reason put into the manger only food enough for one meal.

Meal is not a natural food for a horse which can chew well. It is eaten too fast and does not get enough saliva with it to digest well. The saliva is the first secretion in the process of digestion, and it must do its part to have the food agree fully with the animal.

Green forage crops must be fed with discretion and not largely at first, or the result will be profuse sweating, resulting in weakness, and sometimes colic. It is never safe to turn horses with

strong, unsatisfied appetites for green crops loose in the rank growth.

Potatoes are an excellent food for horses during the winter, in connection with other food, keeping their bowels open and their skins loose.

There is nothing better than sweet apples to help put a horse in fine condition. Give four quarts at a mess three times a day with the grain. Few people realise the value of sweet apples as a relish for horses. But potatoes and apples should be cut up before feeding them to avoid danger from choking.

Experienced horsemen understand that with a heavy feed of oats, at night, and a light breakfast, a horse gets a reserved stock of muscular strength laid in in advance, and travels faster and further than one having a hearty morning meal.

Spasmodic salting is all wrong for any animal, and especially for horses. It may cause colic, and often does. The horse eats too much salt at a time, if only salted now and then, and when this is the case the coats of the stomach and bowels are irritated, and congestion takes place, and excessive thirst. A lump of rock salt in the manger is the better way.

Teamsters should feed their own horses, and every teamster who takes pride in his team should handle the measure himself, and should make appetite and digestion of food a subject of study.

Horses refuse their feed because of overwork, too little exercise, or because the food is not of good quality, soreness of mouth or teeth,

or general faulty management. If the trouble is due to overfeeding, short rations for a day or two will remedy it. Food that is not eaten within a reasonable time should be removed from the manger, and the ration correspondingly reduced. No animal should have more than it will eat up clean. When a horse refuses to eat and becomes thin and weak for no apparent reason, something is the matter with him. Call a first-class veterinarian.

The digestion of food is frequently badly retarded or prevented by mistakes in watering. Water should always be offered the horse before he is fed, and never less than an hour or two hours after feeding. The drink is rapidly taken from the stomach by the intestines, and the time mentioned is sufficient to distribute three or four gallons of water throughout the digestive tract, diluting the salivary secretion so as to supply all water needed for digestion of the food. When regular watering is practised no water will be craved soon after food. To observe this method prevents the washing of undigested food from the stomach into the intestines, where it ferments, producing gas and resulting in colic.

Some teamsters start a balky horse by lifting and examining his feet, shifting some part of the harness, doing something that gets his mind turned into another direction.

Generally it is the driver who is responsible. It's the ignorant driver who makes the balky horse.

If the horse kicks the side of the stall he can

probably be broken of the habit by hanging a smooth stick of wood from the joist above by a rope, so that when he indulges his vice, his feet or legs will strike the stick. This will put it in motion ; it will swing back and forth and take his attention so he will forget about kicking. This is a pretty sure cure.

If the horse paws in the stable, turn him out every day for a run in the yard. When driven every day he will not paw, unless fed irregularly.

If you cannot stop your horse from bolting his food by putting a handful of shelled corn in his manger, give him cut hay with ground food. He will masticate that.

A very bad habit in a horse is that of sudden starting when harnessed, and often leads to broken traces and swingletrees, and to runaways and smashups. The fault is usually taught the horse by a fool driver who cuts him with a whip unexpectedly. A vice of this kind in a horse that is afraid of the whip is rarely cured, but may be mitigated by gentleness.

An unnecessarily cruel thing about a harness is a tight throat-strap. Don't leave it so loose that the bridle can be rubbed off during fly-time, but see that it does not press the throat when the head is up, thus cutting off the breath, stopping the blood and causing a swelling of the throat glands.

It is cruel to make a horse work in a hard, ill-fitting collar. How do you like a shoe that causes blisters, corns and bunions on your feet ?

CARE OF THE HARNESS.

Every horse should have two collars, to be changed daily. Both collars should be padded to fit smoothly and flat to the surface covered, and should not present bumps, ridges, or be too close. By using two collars, sore necks and shoulders may be avoided, as the pressure and friction will be better distributed. Use leather collars only, for sweat collars, being soft and warm, make a horse's hide tender where it should be tough. Inspect your harness carefully. Thread knots and tacks will produce sores. Keep the harness clean by scraping with a dull knife and rubbing with a mixture of tallow and lard. The harness treated in this way will last longer, look better, and by its flexibility be more comfortable for the horse. Be sure to scrape the collar every day and to rub it off with a greased rag. Accumulations of dirt and dandruff caked on the collar by sweat make it rough, and sores will result. Many of the chains, rings and buckles on your harness are quite unnecessary, and are meant only for show. Where they are unnecessary, take them off, and you will enable your horse to draw or carry a heavier load, and be more comfortable in doing so. Don't buckle the belly band or other straps too tight. Neither man nor horse works well when tightly girthed. Be sure that the bit is just right, so that the horse's mouth and tongue need not be

injured. A rusty bit may produce a cankered mouth. An icy bit in winter may take the skin off a horse's mouth and tongue, and if it doesn't do that, set up a toothache. If the bridle is buckled too tight the horse's mouth will be stretched most painfully.

The harnessing of horses is a matter of common-sense. The driver's object should be to have no more and no heavier harness than is necessary for the work and to have it well-fitted, and adapted to enable the animal to draw his load, and back it, with most ease. These remarks apply to draught horses particularly. A draught horse pulls his load by two separate forces—first by his weight, and then by his muscles. Drivers, therefore, should adapt his harness so that he may throw all his weight into his collar when that is necessary. This cannot be done by a horse when Bearing-reins are used ; and it follows that such a horse is placed at a disadvantage when he has to put out his strength. And worse, the poor animal in trying to put out his strength relies solely on his muscles, for he cannot throw his weight fully into the collar, and he therefore is made to struggle and flounder about sometimes until he falls, or sprains his muscles. Perhaps there is no more distressing sight than a plucky cart horse, reined back tight to the hames, when ascending a hill with a heavy load. Every driver knows the truth of this, for his common sense has condemned it many times. It is with a view of inducing drivers to employ their common sense in considering this kind of folly that these remarks have been written.

GIVE YOUR HORSE HIS HEAD!

HORSE WITH FREE HEAD.

Drawing a load of one ton up a medium incline, with his head in a natural position.

HORSE WITH HAME-REIN.

A common sight which means discomfort, injury and needless straining.

Our illustrations on the opposite page show a horse fastened up tight with a Hame-rein, pulling a load up a slight hill. Common-sense tells the reader that the horse is in pain. The pressure on his mouth is terrible every time the animal presses his weight forward, and this checks him, and he struggles, slips, and scratches with his toes as he places them on the ground. As we want common-sense drivers to see the truth, we have not selected a severe case of suffering—but a very common sight. We ask the reader to think on the photograph until he comprehends what a plucky horse feels, and what the reader would feel too, if his own head were tied back when he had to draw a heavy load in a truck, or to wheel a well-laden barrow. Let him compare it with the next picture, where the horse ascends a much steeper hill with comparative ease and comfort, although, as we have purposely shown him, inferior in strength to the first horse. Can there be any doubt which is the right and which is wrong?

If a horse cannot lay to his work and bend his neck forward, be sure he is not properly harnessed. If he has to do his work in a cramped position, he cannot exert his full power, which is so much loss to his master. If forced to perform heavy work, then he is obliged to waste a great deal more of his strength (or muscular power) than is required, to his own great pain and injury. The second picture shows that the act of pulling is performed, as we have already said, by leaning forward, by the weight of the body against the resistance of

the opposing force, and then, by strong movements of the limbs, keeping up and increasing the pressure ; the weight of the body being of the utmost importance, as anyone may try by pulling at a rope passed over one shoulder, his body being leaned forward ; and then while the body is bolt upright, and not leaning at all. It will be found that what was before pulled with ease cannot now be moved at all, or at any rate, only by the most severe and continued use of the limbs. These muscular movements, by exhausting the strength, try the system violently, whereas the body weight is easily employed, without consuming the vital energies. This may be tested upon the next hill the reader arrives at.

All these remarks will commend themselves to the common sense of carters, if they will think on the subject. They have been made by common-sense men, and proved in practice by common-sense persons, who have given up the Hame-rein in consequence.

One day the writer saw a carter loosen his horse's Hame-rein at the foot of a hill. He said to the driver, "What are you doing that for, my good man ?" The carter smiled, and answered thus : "Don't you see that hill ? How could I expect my horse to pull this load up there unless I let him have his head free ?" It was strange that the driver did not see his words condemned the Hame-rein altogether ; but he did not. Therefore the writer rejoined, "It is right, no doubt, to let a horse's head be free going up hill,

but why did you keep it reined up tight and make the poor creature uncomfortable, all the distance you have travelled with that heavy load ? ” He replied, “ He can get along well enough on level road with it.” The writer answered, “ Then of what use is it ? You admit it is injurious going up hill, and that it does not prevent the animal from getting along somehow on level road. Why have it at all if it does not help—Why have it if it makes the animal uncomfortable ? ” The carter said, “ Well, I fancy it isn’t much good—but it is the fashion, and so I use it.” The carter began to think on the subject then and there, left off the Hame-rein in the course of the same week, and afterwards admitted that nothing could induce him to put it on again.

THE HORSE'S PRAYER.

To THEE, MY MASTER, I offer my prayer : Feed me, water and care for me, and, when the day's work is done, provide me with shelter, a clean dry bed and a stall wide enough for me to lie down in comfort.

Always be kind to me. Talk to me. Your voice often means as much to me as the reins. Pet me sometimes, that I may serve you the more gladly and learn to love you. Do not jerk the reins, and do not whip me when going uphill. Never strike, beat or kick me when I do not understand what you want, but give me a chance to understand you. Watch me, and if I fail to do your bidding, see if something is not wrong with my harness or feet.

Do not check me so that I cannot have the free use of my head. If you insist that I wear blinkers, so that I cannot see behind me as it was intended I should, I pray you be careful that the blinkers stand well out from my eyes.

Do not overload me, or hitch me where water will drip on me. Keep me well shod. Examine my teeth when I do not eat, I may have an ulcerated gum or decayed tooth, and that, you know, is very painful. Do not tie my head in an unnatural position, or take away my best defence against flies and mosquitoes by cutting off my tail.

I cannot tell you when I am thirsty, so give me clean cool water often. Save me, by all means in your power, from that fatal disease—the glanders. I cannot tell you in words when I am sick, so watch me, that by signs you may know my condition. Give me all possible shelter from the hot sun, and put a blanket on me, not when I am working but when I am standing in the cold. Never put a frosty bit in my mouth ; first warm it by holding it a moment in your hands.

I try to carry you and your burdens without a murmur, and wait patiently for you long hours of the day or night. Without the power to choose my shoes or path, I sometimes fall on the hard pavements which I have often prayed might not be of wood but of such a nature as to give me a safe and sure footing. Remember that I must be ready at any moment to lose my life in your service.

And finally, O MY MASTER, when my useful strength is gone, do not turn me out to starve or freeze, or sell me to some cruel owner, to be slowly tortured and starved to death ; but do Thou, My Master, take my life in the kindest way, and your God will reward you here and hereafter. You will not consider me irreverent if I ask this in the name of Him who was born in a Stable. Amen.

TO KILL A HORSE HUMANELY.

Be careful not to shoot lower than the place marked above.

Every Farmer, Knacker and Horse Breeder should have on his premises one of the R.S.P.C.A. Slaughtering Pistols.*

* On receipt of a postcard to 105, Jermyn Street, an Illustrated Pamphlet on the subject will be forwarded gratis.

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