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HOUSE OF REPRESENTATIVES

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# THE ROAD HORSE

WITH SPECIAL APPLICATION TO HIS  
SELECTION AND MANAGEMENT IN  
THE RURAL DELIVERY SERVICE

BY

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United States Department of Agriculture



AUGUST 12, 1912.—Ordered to be printed

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1912

IN THE HOUSE OF REPRESENTATIVES,  
*August 12, 1912.*

*Resolved*, That there be printed as a House document ninety-three thousand copies of a pamphlet entitled "The Road Horse," as edited and prepared by the Bureau of Animal Industry of the Department of Agriculture, with special application to the selection and management of the road horse used in the Rural Delivery Service, of which fifty thousand copies shall be for the use of the House of Representatives and forty-three thousand copies for the use of the House document room.

Attest:

SOUTH TRIMBLE,  
*Clerk.*

351625

UNITED STATES DEPARTMENT OF AGRICULTURE,  
BUREAU OF ANIMAL INDUSTRY,  
Washington, D. C., February 16, 1912.

Hon. P. V. DE GRAW,  
*Fourth Assistant Postmaster General,  
Post Office Department, Washington, D. C.*

DEAR SIR: I am sending you herewith manuscript entitled "The Road Horse," by Mr. H. H. Reese, of the Animal Husbandry Division of this bureau, together with illustrations.

This is for the use of your department in disseminating information concerning the selection and management of the road horse for rural carriers. I trust that you will find the material suitable for your use.

Very respectfully,

A. D. MELVIN,  
*Chief of Bureau.*

Approved.  
JAMES WILSON, *Secretary.*





## THE ROAD HORSE.

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### TYPE.

The general type of horse desirable for road work is one weighing from 900 to 1,150 pounds and standing from 15 to 16 hands.

### AGE.

A road horse should not be given heavy driving until 5 years of age. The limit of his usefulness depends upon his individuality, care, and handling.

### BREEDING.

The Standardbred has produced far more good road horses than any other breed, although desirable ones are found with other light blood predominating. Morgans are very useful roadsters, and good roadsters are frequently found which have Thoroughbred and saddle blood. Draft blood is not desirable.

### DESCRIPTION.

The following diagrammatic outline gives a detailed description of a road horse:

*General appearance.*—Form symmetrical, smooth, stylish. Quality, hair and skin fine; bone clean, smooth. Temperament alert, free, steady, kind.

*Head and neck.*—Head small, neat, straight, flat between eyes. Muzzle fine; nostrils prominent; teeth sound. Eyes full, clear, prominent, mild. Forehead broad, full. Ears small, fine, well set. Neck muscled, graceful arch; throatlatch fine; windpipe large.

*Fore quarters.*—Shoulders long, oblique; arms short. Forearms muscled, long, wide. Knees broad, prominent, strong, well supported. Cannons short; bone clean; tendons prominent, straight. Fetlocks wide, strong, straight. Pasterns strong, medium length, angle with ground 45°. Feet medium size, almost circular; hoof smooth, dark, fine texture; sole moderately concave; frog well developed, sound, large, elastic; heel wide and fairly high.

*Body.*—Withers prominent, not meaty, fairly narrow. Chest deep, broad. Ribs long, well sprung, close. Back medium length, well muscled, straight, broad. Loin, wide, short, thick. Underline long; flank narrow.

*Hind quarters.*—Hips level, smooth, wide. Croup long, wide, muscular. Tail attached high, gracefully carried. Thighs long, muscular. Quarters heavily muscled, deep. Gaskin long, wide, muscular. Hocks clearly defined, wide, straight, strongly supported. Pasterns strong, sloping. Feet medium size, almost circular; hoof smooth, dark, fine texture; sole moderately concave; frog well developed, sound, large, elastic; heel wide and fairly high.

*Action.*—Walk elastic, quick. Trot rapid, straight, regular, well balanced.

#### UN SOUNDNESS.

The following are some of the most common forms of unsoundness in a road horse:

*Splints.*—Location, inside of cannon bone; sometimes outside as well. Formation, bony enlargements. Detection, pass hand over inside of cannon and feel for bony prominences; splints are usually easily seen. Result, possible lameness when forming, when causing pressure on a tendon, or when close to the knee joint.

*Sidebones.*—Location, back of foot just above hoof, most common on fore feet. Formation, ossified cartilage. Detection, place region between thumb and fingers and press; if healthy, it will yield; if sidebones are present, it will be rigid and hard; bad sidebones are readily visible to the eye. Result, frequently lameness.

*Ringbones.*—Location, all four limbs, front and sides of pastern bone, usually just above the hoof. Formation, bony enlargements. Detection, pass hand over pastern and feel for bony prominences; ringbones are also easily seen as a rule. Result, lameness, if it interferes with the action of the joint or tendons.

*Curb.*—Location, at back of hock below point. Formation, thickened tendon, ossified in long-standing cases. Detection, stand at side of hock and notice a fullness just below point of hock on back edge. Result, often lameness when first developing.

*Bone spavin.*—Location, inside of hock where thick bony part tapers into cannon. Formation, bony enlargements. Detection, compare the two limbs from squarely in front or behind, pick up suspected limb for a minute, and start animal on a trot as soon as limb reaches ground; horse will limp if bone spavin is present. Result, lameness, especially when horse is first led out.

*Bog spavin.*—Location, natural depression on inner and front part of hock. Formation, collection of synovia. Detection, compare two limbs from obliquely in front; soft to touch. Result, sometimes causes lameness.

*Blood spavin.*—Location, same as bog spavin. Formation, enlarged vein causing abnormal amount of blood. Detection, same as for bog spavin. Result, usually considered unsoundness, although does not often cause lameness.

*Thoroughpin.*—Location, depressions which lie just below the tendon which runs from point of hock into gaskin. Formation, collection of synovia. Detection, press on swelling and notice corresponding filling on opposite side of hock; compare the two limbs for differences. Result, rarely causes lameness.

*Roaring; heaves.*—Cause, in former, paralysis of the nerve supplying the larynx, which results in the loss of control of a muscle at this point,



thereby interfering with the passage of air. In latter case, animal has difficulty in forcing air out of lungs, due to paralysis of related parts, often associated with eating dusty or unwholesome roughage. Detection, in both cases there is a wheezing sound in breathing when animal is vigorously exercised. Coughing will likely follow drinking or cutting off wind at throat with hand. In heaves, peculiar movement in the flanks and abdomen, especially after exertion, can usually be seen.

*Blindness.*—Detection, have eyes toward good light and look for bluish or hazy appearance; move hand slowly before them and note manner of batting eyelids; lead animal over obstacles and note manner of lifting feet. Have animal in darkened stable; hold lighted candle before eye; three images should appear; the first large, upright, and moving in the same direction the candle moves; the second small, upright, and moving with the first; and the third inverted and moving in an opposite direction from the other two. Result, animal very annoying to drive, shies frequently, stumbles easily, and is hard to keep in road.

#### FEEDS.

*Grain.*—Oats is the standard grain feed for light horses. Corn is quite commonly fed. It should form a part of the ration, especially in the winter. In England it is claimed hunting horses fed beans and peas can be recognized by their increased endurance. Barley is fed crushed in some sections of the country with very good results. Rye and wheat are generally in such demand for other purposes that it is hardly worth while to consider them as a horse feed.

*Commercial by-products.*—Bran has a corrective effect on a horse's digestive apparatus and is useful to feed preceding or on idle days, especially mixed with warm water as a mash. Shorts, or middlings, when fed with bran has practically the same feeding value as oats. Linseed meal is slightly laxative. It is very concentrated and should not be fed in greater amounts than 2 pounds per day. Alfalfa meal, which is ground alfalfa hay, makes a good supplement to the grain ration, especially where alfalfa hay can not be secured. Gluten feed and gluten meal are by-products from the manufacture of starch from corn, and brewer's grains are by-products from breweries. Molasses, a by-product from the manufacture of sugar from sugar cane, is relished by horses. It is slightly constipating, but may be fed in any quantity up to 10 pounds a day. It produces a sleek coat and in trials has often increased weight. Any of the above feeds can be used in a ration to supplement oats. They lend variety, lessen cost, and it is possible to have the ration balanced by their use.

*Roughage.*—Timothy hay has long been considered the standard roughage for driving horses in this country. Alfalfa hay is coming to be recognized as a good feed for driving horses, when properly cured. Clover hay should not form a large percentage of the roughage for a road horse. Good oat straw or corn stover can form one-half of the roughage part if fed with good hay. Cowpea and soy-bean hays are useful in this connection.

*Succulence.*—Grass, carrots, rutabagas, sugar beets, silage, etc., can well be fed in limited amounts to produce a laxative and cooling effect on the digestive apparatus.



## FEEDING.

*Quantity, kind, etc.*—Since roads and work are not uniform, it is necessary to adjust the driving horse's ration to the work done, allowing, of course, for recuperation. A popular standard for maintaining horses is to allow 10 pounds of hay and 10 pounds of grain per 1,000 pounds of live weight. The proportion of grain and roughage should be about equal, pound for pound. To regulate the kind and quantity of feed properly, the quality of the feed, the supply and market prices, the amount of work done, the individuality of the horse, his condition as to flesh and spirits, the condition of the droppings, and the appetite must all be taken into account. Sudden changes should be avoided, and the horse should never be fed more than he will readily clean up, nor should he be fed when very hot. It does not pay to feed cooked, cut, ground, or soaked feeds except in cases of poor teeth or faulty digestion. The teeth should be in good condition to masticate feed properly. It is advisable to sprinkle dusty hay. The grain ration should be thoroughly mixed before being fed and the roughage should be shaken out. Damp grain should not be allowed to mold in the trough. All feed should be of good quality. Judgment, common sense, fairness with the horse, and the happy medium of feeding enough but not too much will aid greatly in maintaining a horse in the most serviceable condition. A horse should be given only a small amount of water when hot or if he has gone without drinking for a considerable length of time. Experimental evidence seems to show that it does not make any difference whether he is watered before or after eating. Salt should be kept before the horse constantly. Condimental stock feeds are usually not worth what they cost in the stores. If a condiment is needed, the following will be found useful:

|                          |          |    |
|--------------------------|----------|----|
| Sulphate of soda.....    | pound..  | 1  |
| Bicarbonate of soda..... | do....   | 1  |
| Chlorid of soda.....     | do....   | 1  |
| Fenugreek.....           | ounces.. | 2  |
| Linseed meal.....        | pounds.. | 25 |

Mix well together. Give one teaspoonful at each feed.

*Rations.*—In December, 1909, a 1,000-pound driving mare at the United States Morgan horse farm, averaging 20 miles daily, consumed the following ration:

|                   | Pounds. |
|-------------------|---------|
| Hay.....          | 10      |
| Whole oats.....   | 1       |
| Ground oats.....  | 1½      |
| Cracked corn..... | 6½      |
| Mixed feed.....   | 3       |

The mixed feed consisted of corn, oats and bran in about equal parts. In the United States Cavalry, 12 pounds of oats and 14 pounds of hay are fed to the horses the year around. During November, 1911, a 950-pound mare at the Bureau of Animal Industry experiment farm, averaging 12 miles daily, consumed the following ration:

|                  | Pounds. |
|------------------|---------|
| Hay.....         | 6½      |
| Whole oats.....  | 6½      |
| Ear corn.....    | 1½      |
| Cowpea hay.....  | 3       |
| Corn stover..... | 3       |

The cowpea hay contained a good percentage of grain. Street car horses in Bremen, averaging 1,150 pounds in weight, consumed the following ration:<sup>1</sup>

|            | Pounds. |
|------------|---------|
| Corn.....  | 14.3    |
| Oats.....  | 2.2     |
| Peas.....  | 1.1     |
| Hay.....   | 8.8     |
| Straw..... | 2.2     |

Ration of driving horse at Wyoming Station, weighing 1,200 pounds:<sup>1</sup>

|              | Pounds. |
|--------------|---------|
| Alfalfa..... | 21.25   |
| Straw.....   | 3.2     |

#### MANAGEMENT.

*Quarters.*—A box 10 by 12 feet with a clay floor is a good stall for a road horse. It should be light, warm, clean, and well ventilated. Straw makes the best bedding. There should be a paddock at least 100 feet square in which the horse can exercise on idle days.

*Grooming.*—Thorough grooming has a more important effect on a horse than mere improvement of appearance. It cleans and loosens the skin and stimulates the action of the pores. It keeps away parasites and increases the flow of blood to the skin and surface muscles. On returning from a drive, in a hot condition, the horse should have his head, nostrils, mouth, and parts under the tail sponged with cold water. A light cooling-out blanket should be placed on the animal and, if very hot, he should be walked until he begins to cool off. Then he should be rubbed dry and blanketed. The legs and feet should be cleaned after a drive, and the feet should be kept moist. Clipping early in the spring before the new hair comes out is beneficial if the horse has a long coat and can be protected from cold.

*Shoeing.*—Shoes should be fitted hot, but not extremely so. Generally the farrier will be successful by getting the feet in as nearly a natural condition as possible and applying a neat, well-fitting shoe. To prevent overreaching or forging, the front feet should have a beveled toe or roller motion shoe, and the hind feet should be shod to lessen the time of breaking over. Interfering and winging are corrected by weighting the proper portion of the shoe. It may take several trials to determine just what special shoeing a horse needs. Rubber and leather pads, rubber shoes, rope shoes, etc., help to lessen concussion and prevent slipping on city pavements.

*Driving.*—Become acquainted with your horse. Know his limit of speed, wind, and endurance. On starting out, drive slowly until the barrel is empty and then warm up to the pace gradually. When he gets his "second wind" he can be pushed. Do not hold a heavy line, but have your horse in hand. Avoid constant tapping with the whip or clucking. Have the harness pliable, well fitting, and free from dirt.

<sup>1</sup> From Farmers' Bulletin No. 170, U. S. Department of Agriculture.



## CONCLUSION.

To have a serviceable road horse, select one of the proper conformation, action, and disposition. Having this, study the animal, and vary feeds and methods to suit his individual requirements. Study the details and have the little things as well as the big things right. Know your horse's best working condition and seek to keep him in that condition.

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## HORSE'S PRAYER TO ITS OWNER AND DRIVER.

(Submitted through Hon. P. V. De Graw, Fourth Assistant Postmaster General, with the compliments of the Humane Society.)

To thee, my master, I offer my prayer:

Feed me and take care of me. Be kind to me. Do not jerk the reins. Do not whip me when going up hill.

Never strike, beat, or kick me when I fail to understand what you want of me, but give me a chance to understand you. Watch me, and if I refuse to do your bidding, see if there is not something wrong with my harness or feet.

Do not give me too heavy loads; never hitch me where water will drip on me. Keep me well shod. Don't force me along the smooth, slippery streets, and when I fall, be patient and help me, as I will do my best to keep up and serve you. Examine my teeth when I fail to eat; I may have an ulcerated tooth. That, you know, is very painful. I am unable to tell you in words when I am sick; so watch me, and I will try and tell you by signs. I suffer pain like you, but can not speak as you.

Pet me sometimes; I enjoy it, and I will learn to love you. Protect me in summer from the hot sun. Keep a blanket on me in winter weather, and never put a frosty bit in my mouth, but hold it in your hand a moment first.

I carry you, pull you, wait patiently for you long hours, day or night. I can not tell you when I am thirsty; give me clean, cool water often in hot weather.

Finally, when my strength is gone, instead of turning me over to a human brute to be tortured and starved, take my life in the easiest and quickest way, and your God will reward you in this life and in Heaven. You will not consider me irreverent if I ask this in the name of Him who was born in a stable. Amen.



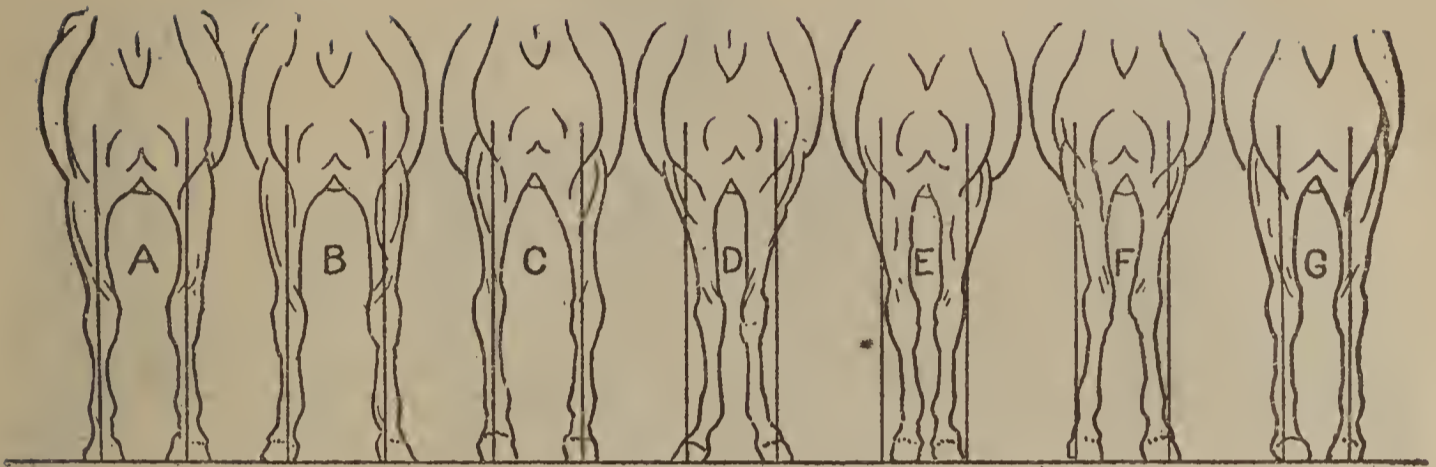


FIG. 1.—FRONT VIEW OF FORE LIMBS.

A vertical line downward from the point of the shoulder should fall upon the center of the knee cannon, pastern, and foot. Cut A of Fig. 1 represents the right conformation. B, C, D, E, F, and G represent common defects.

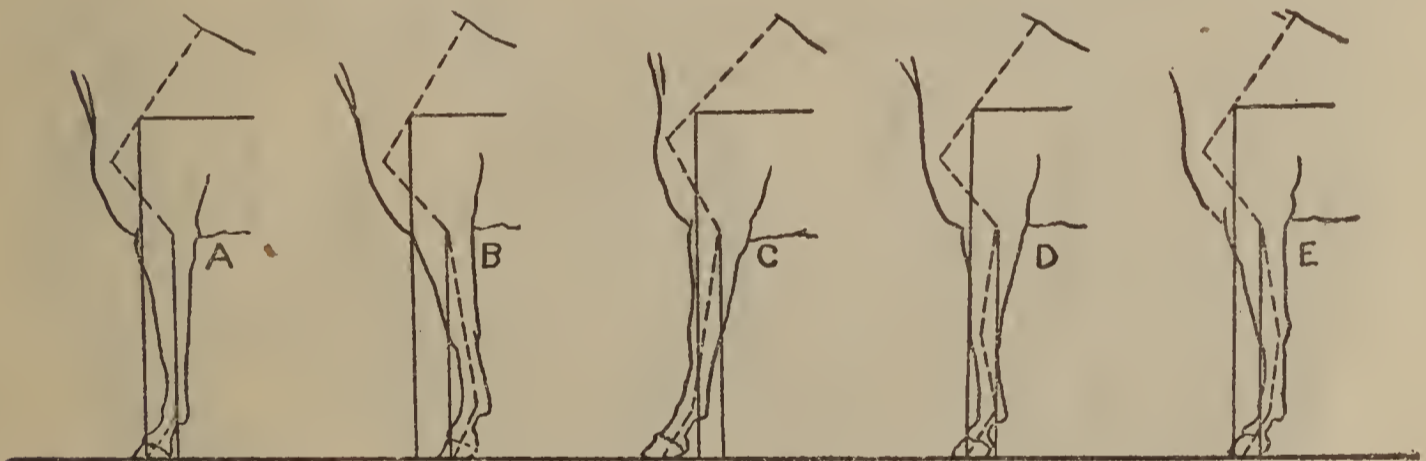


FIG. 2.—SIDE VIEW OF FORE LIMBS.

A vertical line drawn downward from the center of the elbow joint should fall upon the center of the knee and pastern joints and back of the foot; and a vertical line drawn downward from the middle of the arm should fall upon the center of the foot. Cut A of Fig. 2 represents the right conformation. B shows the foot placed too far back; C, too far forward; D, "knee-sprung;" and E, "knock-kneed."

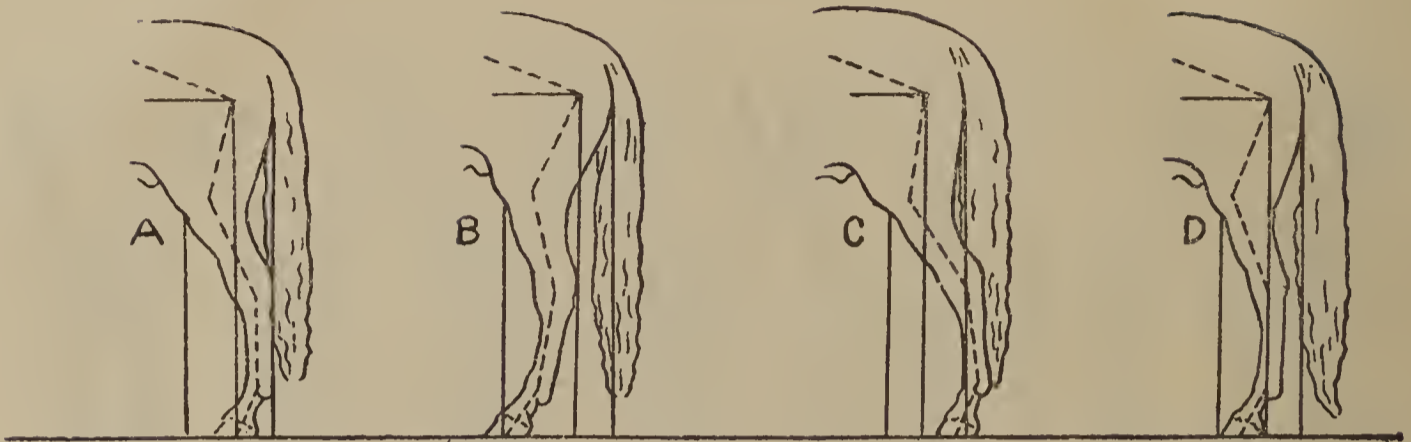


FIG. 3.—SIDE VIEW OF HIND LIMBS.

A vertical line drawn downward from the hip joint should fall upon the center of the foot and divide the gaskin in the middle; and a vertical line drawn from the point of the buttock should coincide with the angle of the hock and pastern joints. Cut A of Fig. 3 represents the right conformation. B, C, and D represent common defects.

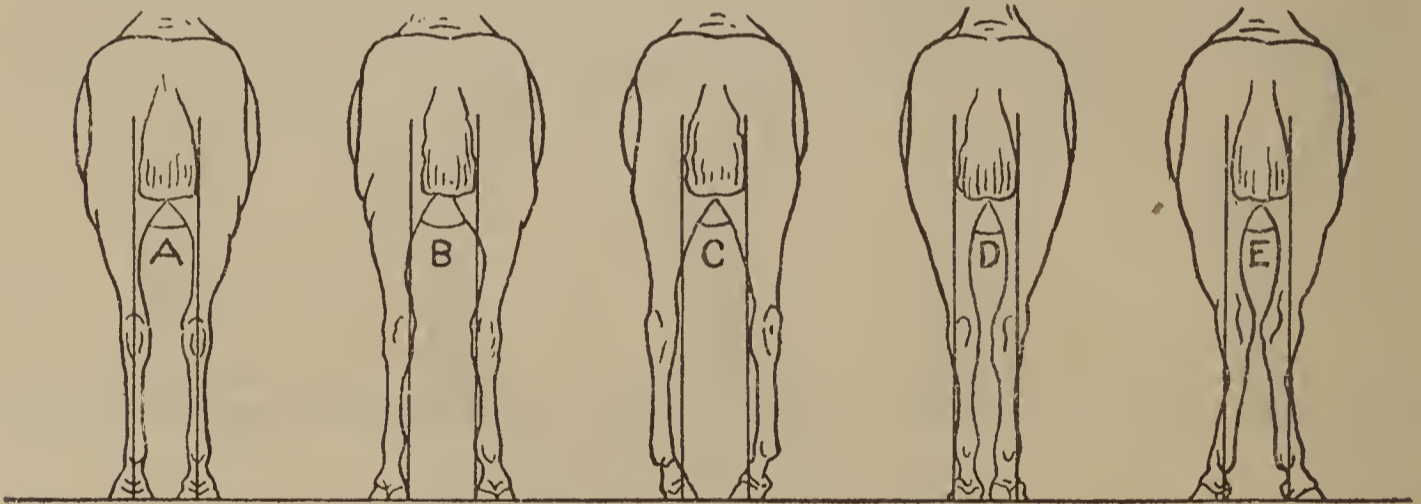
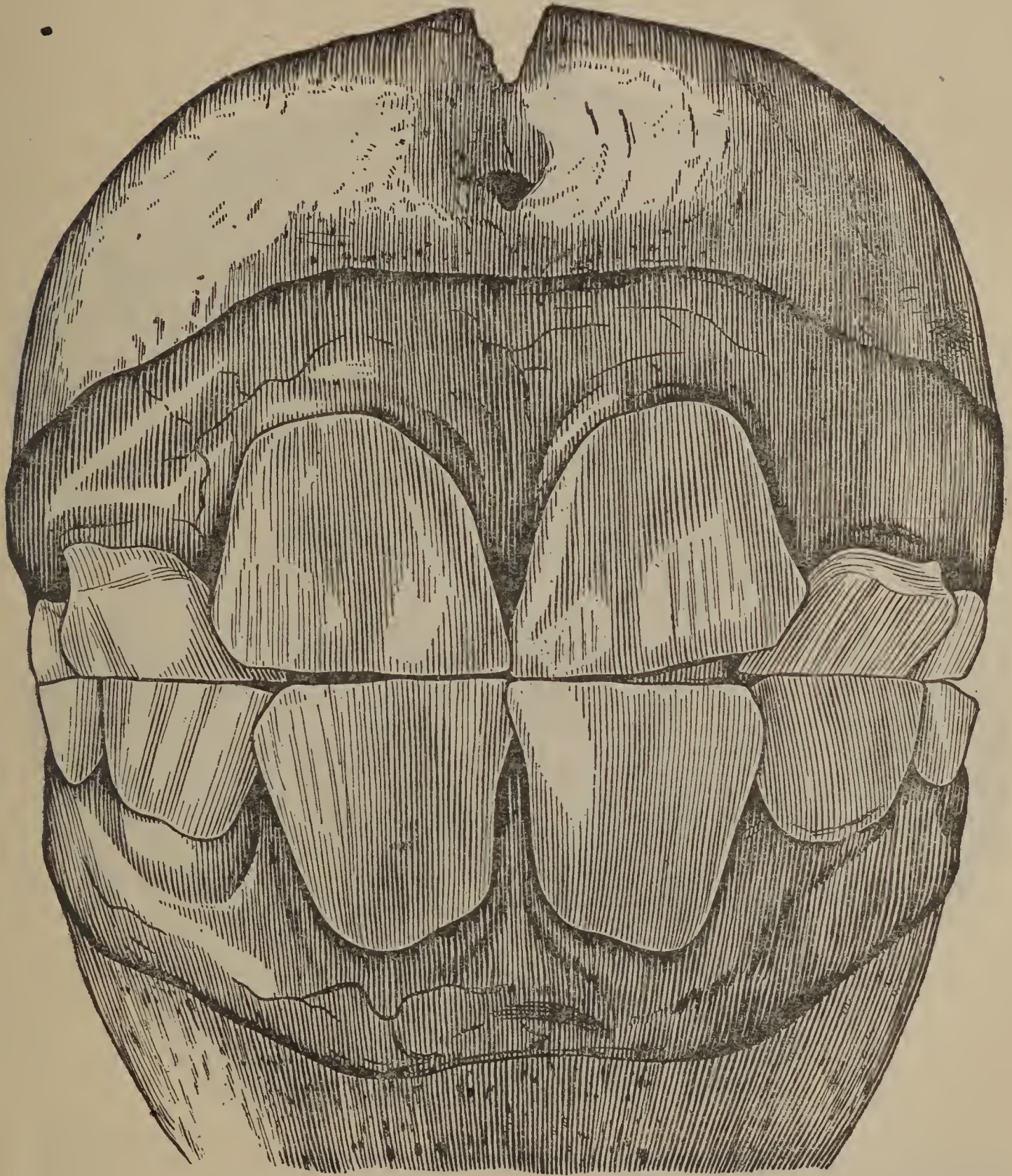


FIG. 4.—REAR VIEW OF HIND LIMBS.

A vertical line drawn downward from the point of the buttock should fall upon the center of the hock cannon, pastern, and foot. Cut A of Fig. 4 represents the right conformation. B, C, D, and E represent common defects.

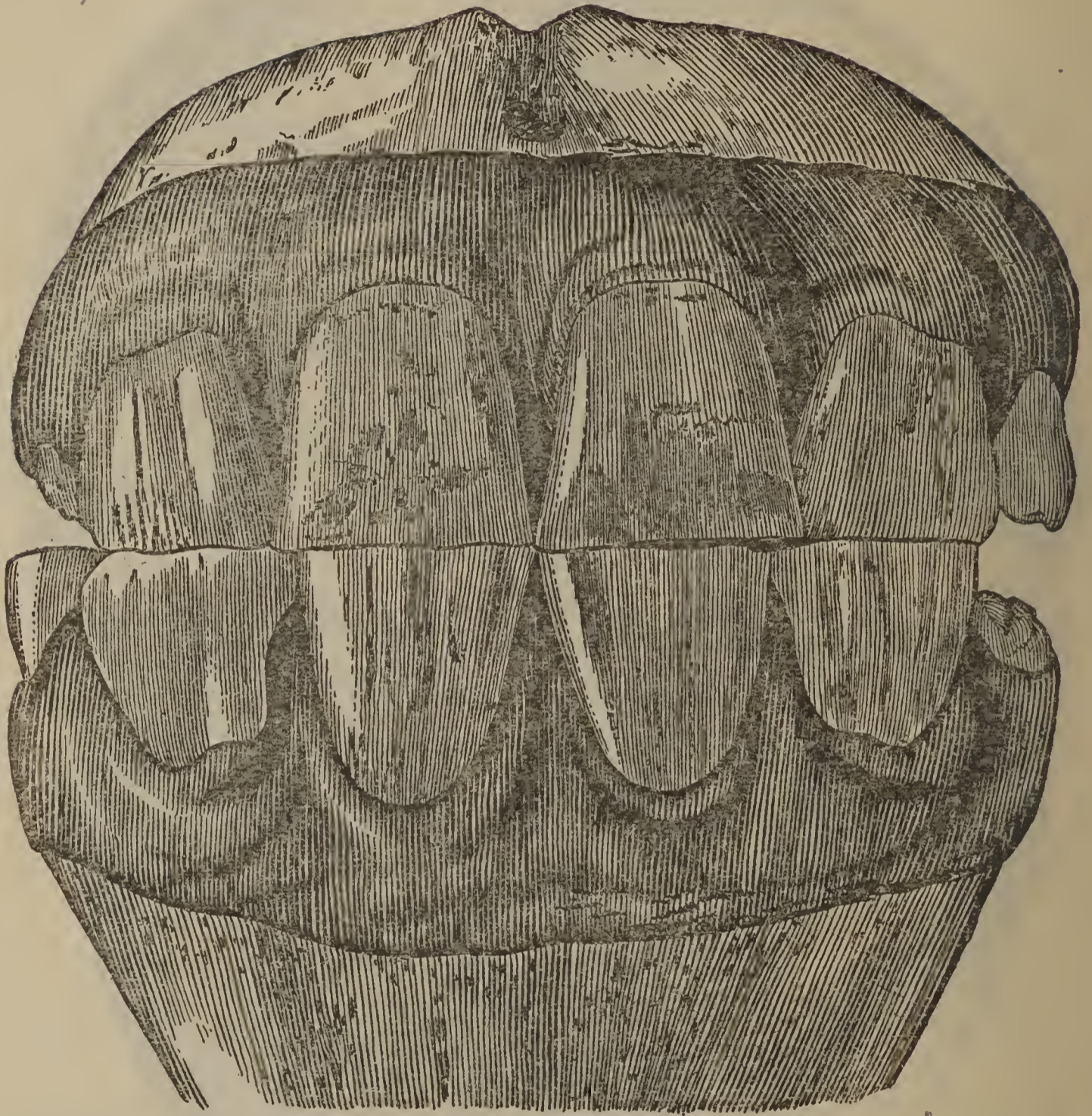




PL. 1, FIG. 1.—A three-year-old mouth. The four permanent incisors are seen, much wider and larger than the neighboring teeth.

(From Goubaux and Barrier's "The Exterior of the Horse," by permission of the J. B. Lippincott Co.)





PL. 1, FIG. 2.—A four year-old mouth. The second pair of permanent incisors have appeared in both jaws, on a level with the first pair.

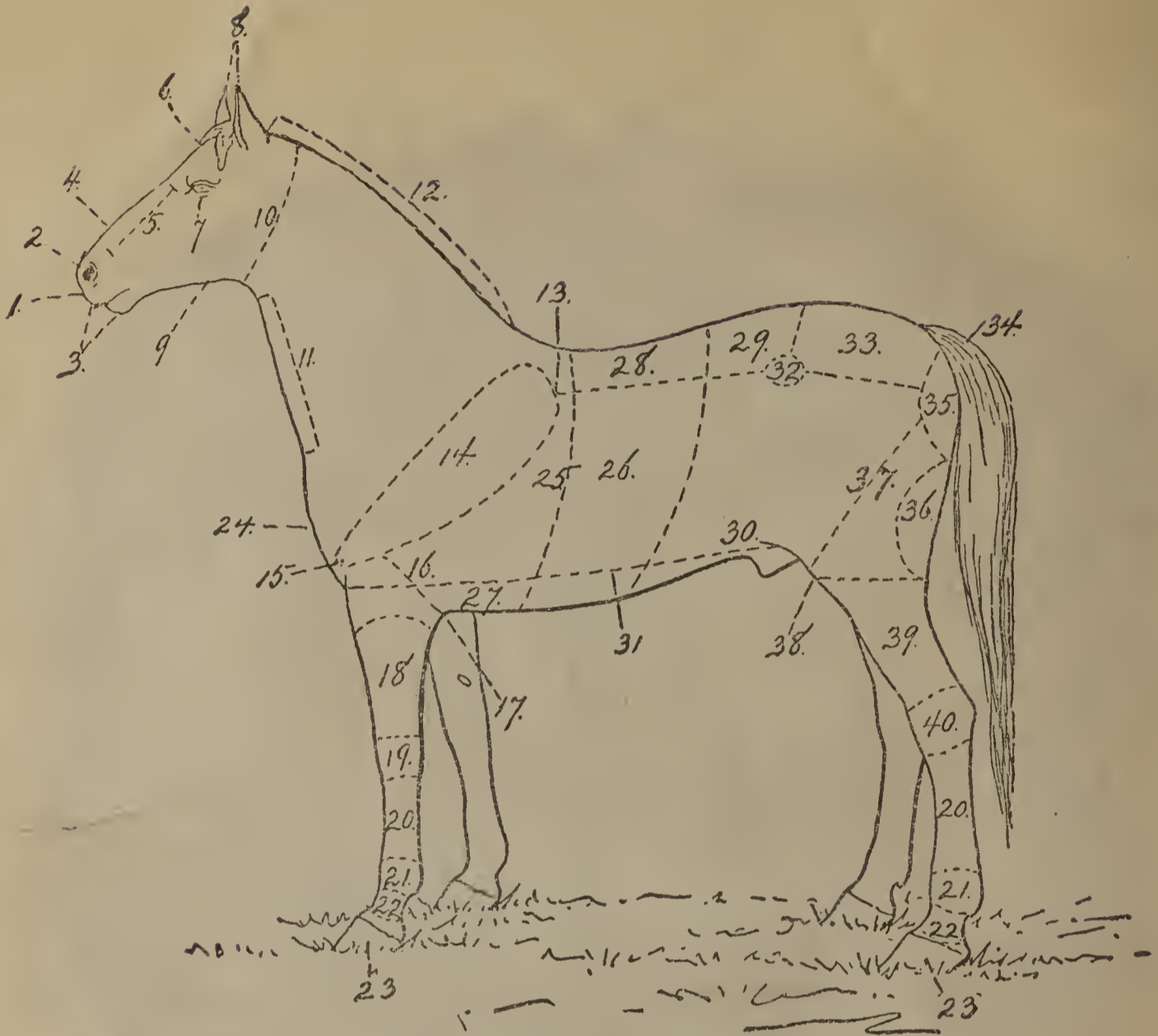
(From Goubaux and Barrier's "The Exterior of the Horse," by permission of the J. B. Lippincott Co.)





PL. 1, FIG. 3.—A five-year-old or "full" mouth. The mouth is entirely *made*. All the incisor teeth are on the same level in their respective jaws.

(From Goubaux and Barrier's "The Exterior of the Horse," by permission of the J. B. Lippincott Co.)



PL. IV.—POINTS OF THE HORSE.

- |  |                           |  |
|--|---------------------------|--|
| 1. Muzzle.                               | 14. Shoulder.             | 28. Back.                                  |
| 2. Nostril.                              | 15. Point of shoulder.    | 29. Loin.                                  |
| 3. Lips.                                 | 16. Arm.                  | 30. Hind flank.                            |
| 4. Nose.                                 | 17. Elbow or elbow joint. | 31. Underline.                             |
| 5. Face.                                 | 18. Forearm.              | 32. Hip.                                   |
| 6. Forehead.                             | 19. Knee.                 | 33. Croup, or rump.                        |
| 7. Eye.                                  | 20. Cannons.              | 34. Tail.                                  |
| 8. Ears.                                 | 21. Fetlocks.             | 35. Buttock.                               |
| 9. Angle of lower jaw.                   | 22. Pasterns.             | 36. Quarter.                               |
| 10. Throatlatch, throat, or<br>throttle. | 23. Feet.                 | 37. Thigh.                                 |
| 11. Windpipe.                            | 24. Breast.               | 38. Stifle joint.                          |
| 12. Crest.                               | 25. Girth.                | 39. Gaskin, lower thigh stifle,<br>or leg. |
| 13. Withers.                             | 26. Barrel, or ribs.      | 40. Hock.                                  |
|  | 27. Fore flank.           |  |

(From B. A. I. Bul. 61, U. S. Dept. Agr.)

