

No. 646,214.

Patented Mar. 27, 1900.

M. HALLANAN.
FOOT COVERING FOR HORSES.

(Application filed June 21, 1898.)

(No Model.)

Fig. 1

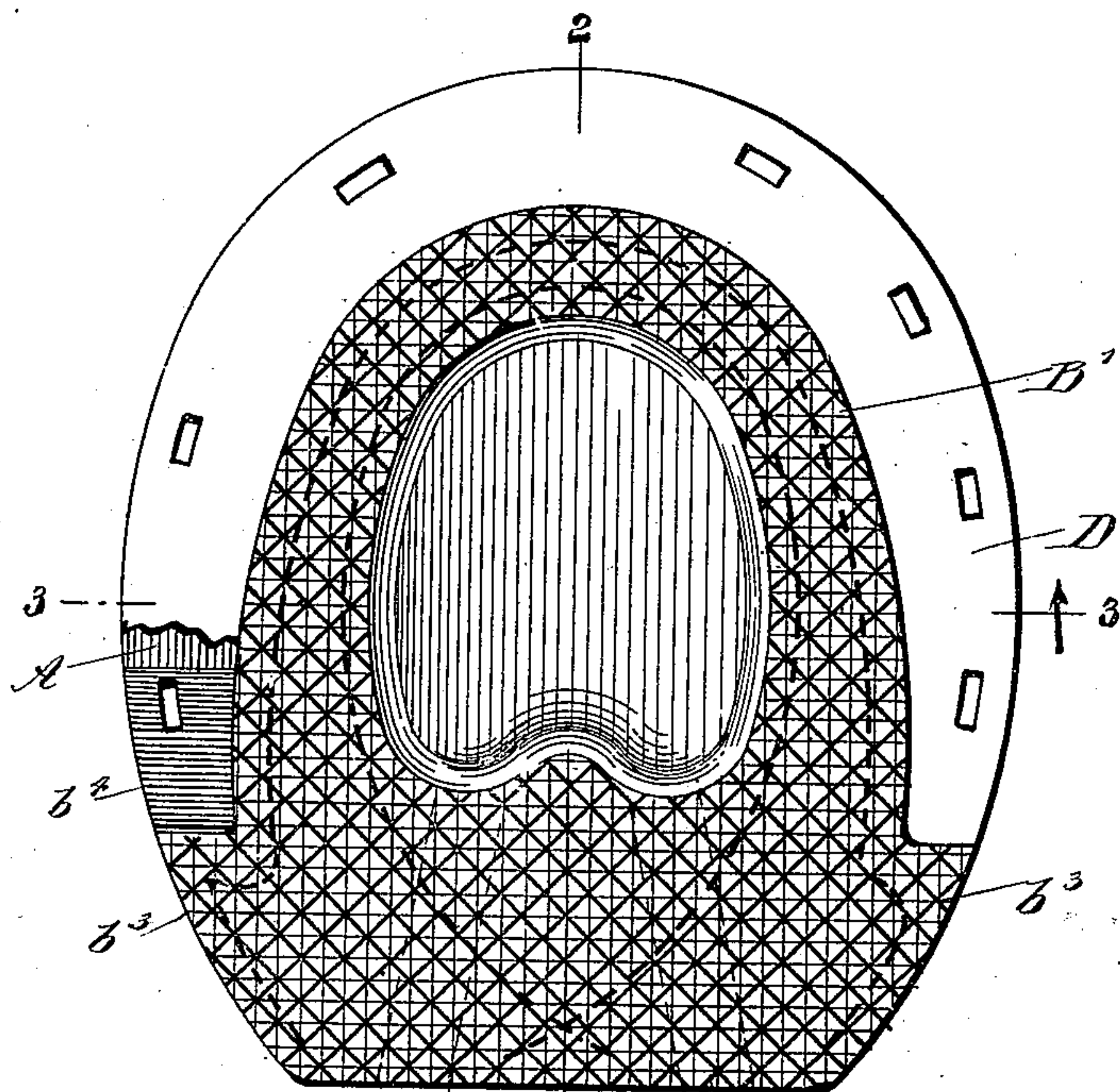


Fig. 2

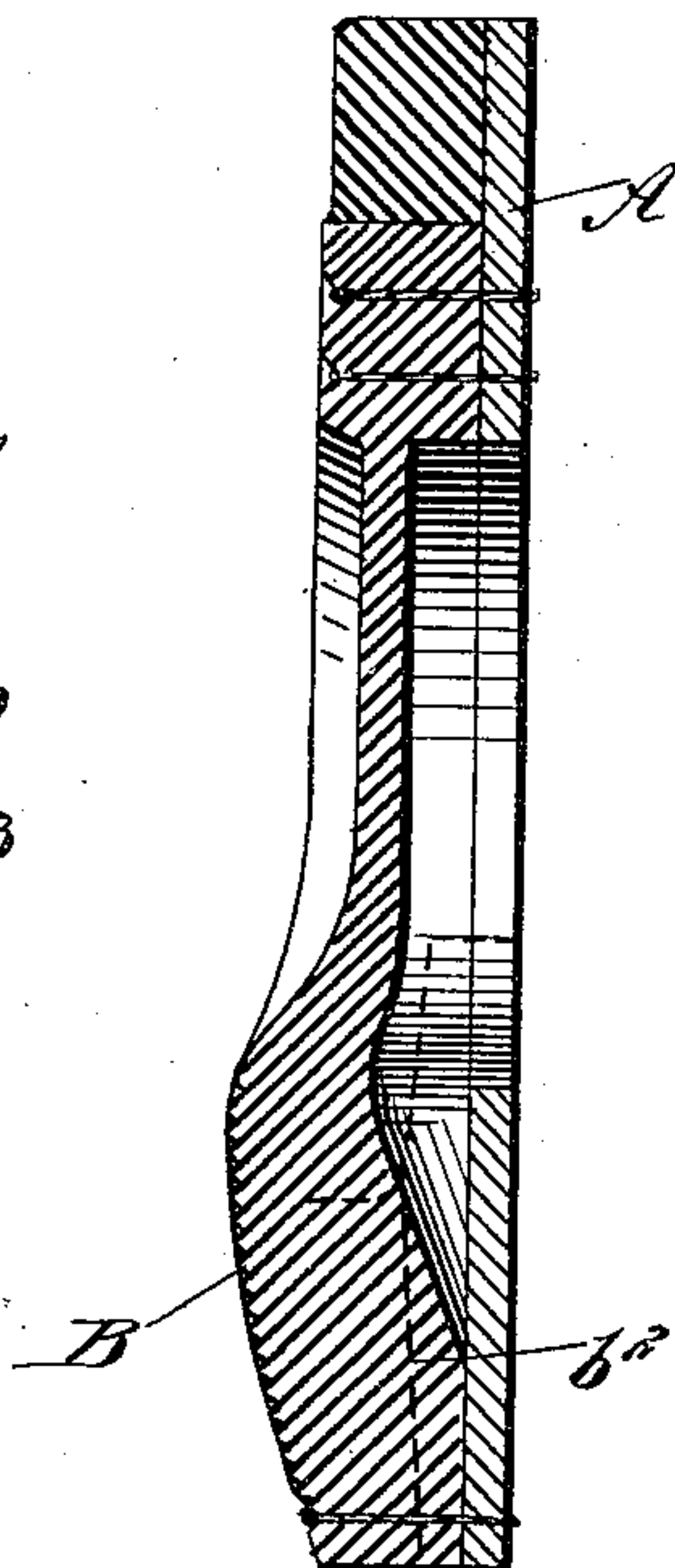


Fig. 3

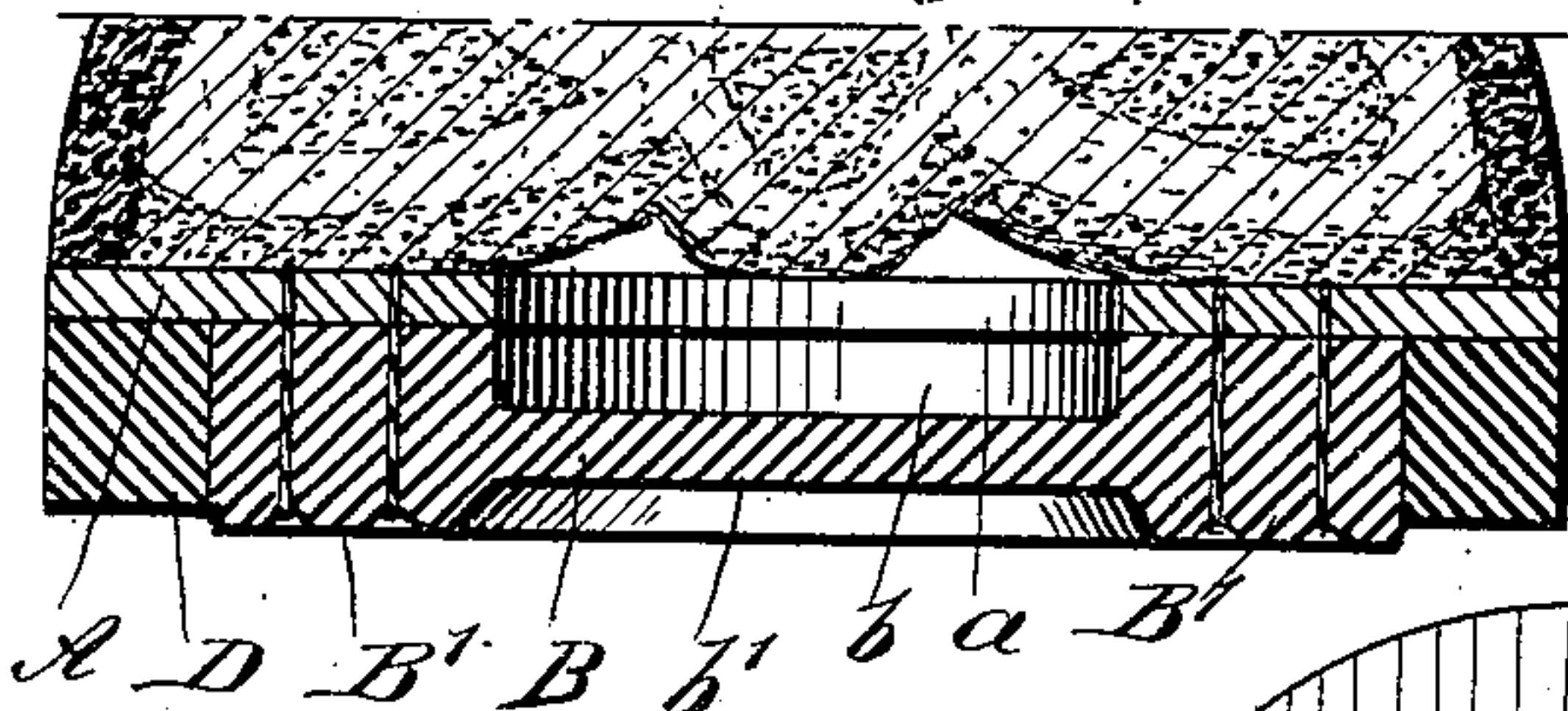


Fig. 4

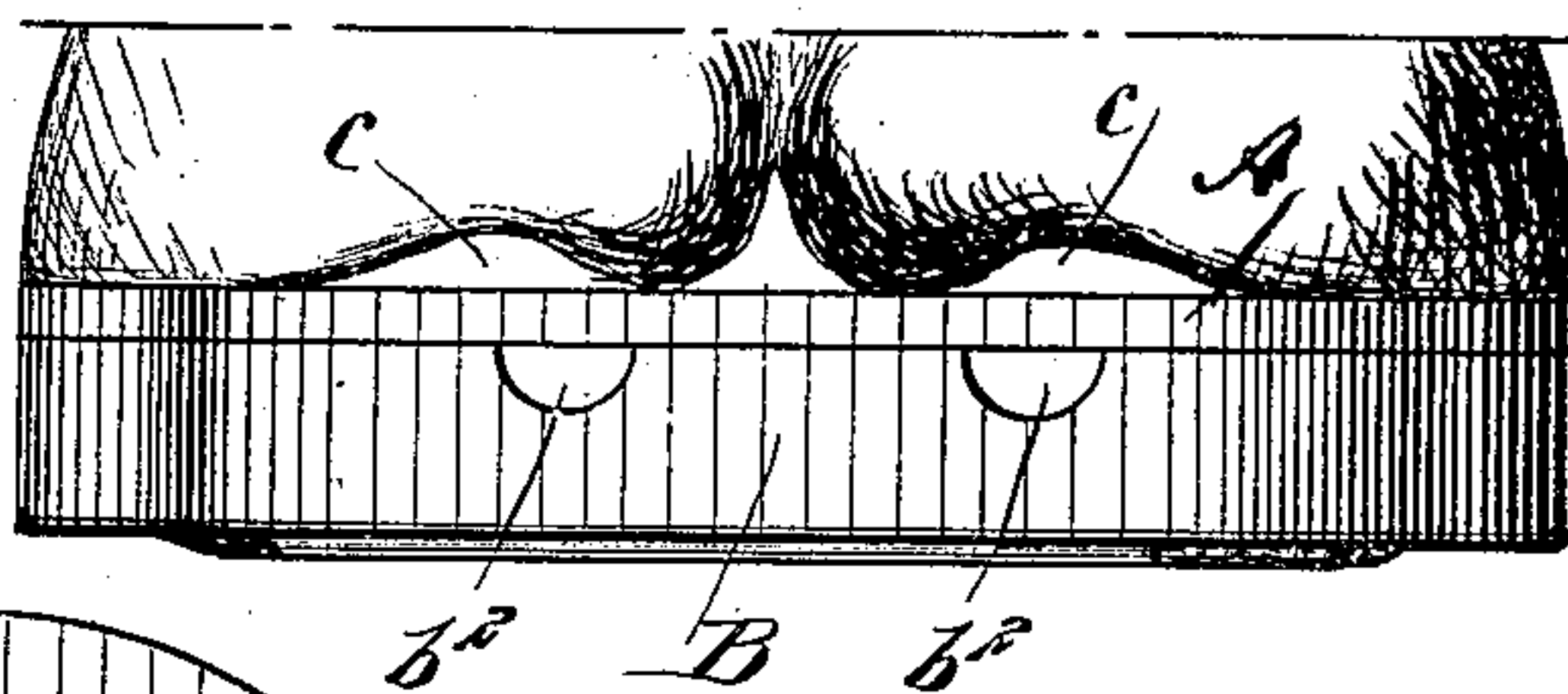
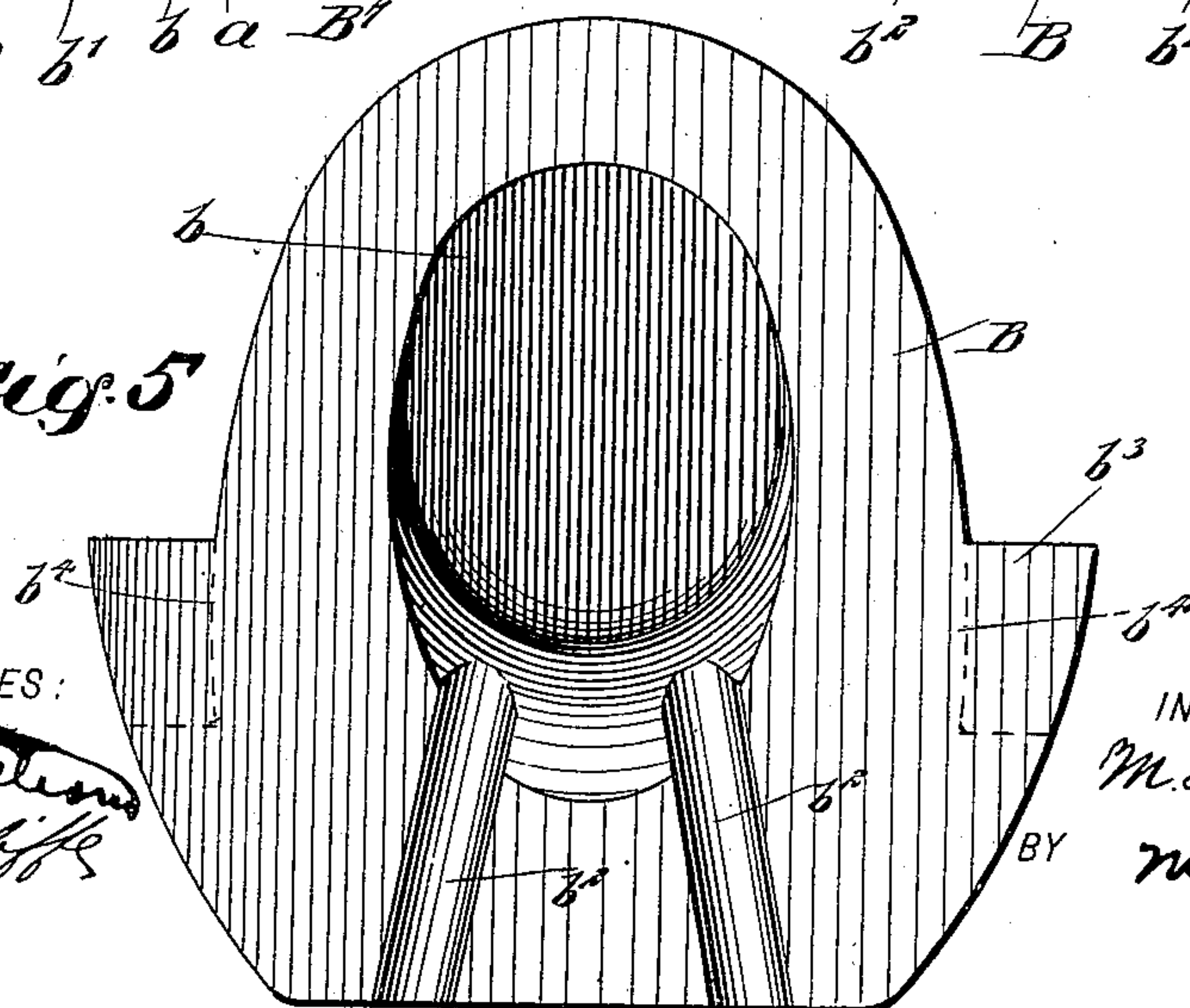


Fig. 5



WITNESSES:

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FOOT-COVERING FOR HORSES.

SPECIFICATION forming part of Letters Patent No. 646,214, dated March 27, 1900.

Application filed June 21, 1898. Serial No. 684,042. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL HALLANAN, of the city of New York, borough of Manhattan, in the county and State of New York, have
5 invented certain new and useful Improvements in Foot-Coverings for Horses, of which the following is a full, clear, and exact description.

The object of my invention is to provide a
10 foot-covering for horses adapted to completely cover and protect the foot at the bottom, but having provision for automatically causing a circulation of air to the interior of the pad.

Reference is to be had to the accompanying
15 drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a face view showing my improved
20 foot-covering, the view including an ordinary shoe having a part broken away. Fig. 2 is a longitudinal section on the line 2 2 of Fig. 1. Fig. 3 is a transverse section of the foot-covering, taken on the line 3 3 of Fig. 1 and showing a part of the foot. Fig. 4 is a rear view
25 of the foot-covering applied; and Fig. 5 is an inner face view or top view of the pad, the back plate being omitted.

In the use of pads in connection with horse-
30 shoes it is generally thought desirable and is the general practice to close the hoof completely, the hollows being stuffed with oakum, &c. The result is that the foot is kept in softer and better condition than when fitted
35 with ordinary shoes only. It is, however, urged by some horsemen that there are horses whose feet become too soft by entirely covering them, and the present invention provides a foot-covering which will meet the requirements of horse owners having this opinion.
40 In carrying out my invention I overcome the objections to merely omitting the oakum or other filling, as this omission alone would merely result in providing a lodgment for
45 dirt and would not positively provide for the proper circulation of air to the foot. To secure the necessary circulation of air, I provide an air-chamber in a novel manner, as hereinafter particularly described, and defined in the claims.

The back plate A is formed with an opening *a* at about its center, and to this back plate

is secured a pad B, which has a depression *b* in its upper side, complementary to the opening *a* of plate A, the bottom of said depression
55 being formed by a flexible diaphragm *b'*. My idea is that with a back plate of ordinary thickness the opening *a* would not afford sufficient air-space. Moreover the forming of the depression in addition to enlarging the
60 air-space brings the bottom *b'* of the depression lower down and so close to the ground that even a slight unevenness of the ground will bring pressure onto the flexible diaphragm and cause the latter to be pressed inward to
65 expel air from the air-chamber. The air forced out by the diaphragm will escape between the top of the back plate and the bottom of the foot at the heel, as indicated by the letters *c* in Fig. 4, and air will enter as the
70 diaphragm reacts. To provide a freer outlet and inlet, however, I form ducts *b²* in the pad, leading rearwardly from the air-chamber to the outside beneath the plate A. The
75 air passing outward and inward through the ducts *b²* and spaces *c* will tend to prevent an accumulation of dust. In any event a small tool may be employed to maintain the pad in an effectively-clean condition.

The pad on the face is formed with a frog
80 or thickened heel part and with a ridge or bead *B'*, which follows the lines of the shoe around the diaphragm *b'*. This form of pad is not herein claimed broadly, as it forms the subject of Letters Patent granted to me August 22, 1893, No. 503,849; but in the present
85 instance it has a correlation to the diaphragm *b'* and protects the latter by sustaining most of the wear, but the diaphragm being near the face of the said ridge or bead and being
90 readily flexed will be acted on sufficiently to automatically expel and draw in the air.

The pad is shown with lateral extensions *b³*, which are rabbeted, as at *b⁴*, and the shoe D extends only to the quarters, but these features form no part of my present invention.

To supplement the diaphragm, the thickened portion or frog is undercut or tapered, so as to yield adjacent to the diaphragm and
100 coact with the latter in forcing out and drawing in the air.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A foot-covering for horses, provided with a pad having depressions at its central portion both upon the upper and the lower surface, to form between said depressions a diaphragm set back from the tread-surface.

2. A foot-covering for horses, &c., having an air-chamber which is open at the upper side and is closed at the bottom by a flexible diaphragm, and the diaphragm being surrounded by a ridge or bearing-surface projecting below the diaphragm.

3. A foot-covering for horses, comprising a back plate and a yielding pad proper, the back plate being cut away to form an opening at about the center, leaving a clear space beneath the natural frog, and the yielding pad having a depression in its upper surface complementary to said opening, the lower side of the depression being closed by a diaphragm which is bodily flexible, the said flexible diaphragm being the only portion of the foot-covering beneath the natural frog.

4. A foot-covering for horses, comprising a

back plate having an opening at about the center, and a pad having a depression complementary to said opening and having a rearwardly-extending duct leading from said depression below the back plate.

5. A pad for horses, having a central depression upon its lower or tread side and a protecting-ridge surrounding said depression, and an air-chamber in the hoof side above the said depression, the pad between said depression and air-chamber thus forming a diaphragm.

6. The combination of the back plate having a central opening, with a pad having on its hoof side a depression or air-chamber whose outline coincides with that of the opening in the back plate, and a diaphragm below said air-chamber.

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Witnesses:

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