

G. N. KINNELL.
OVERSHOE SUPPORT FOR HORSES.
APPLICATION FILED NOV. 20, 1908.

1,010,381.

Patented Nov. 28, 1911.

FIG. 1.

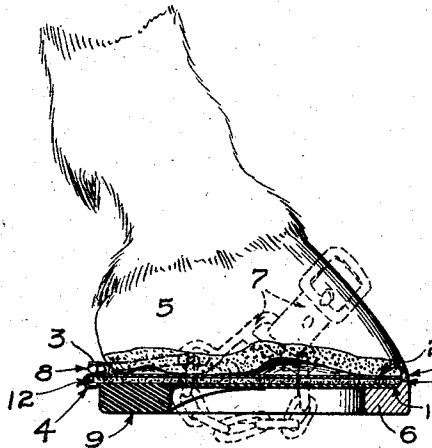


FIG. 2.

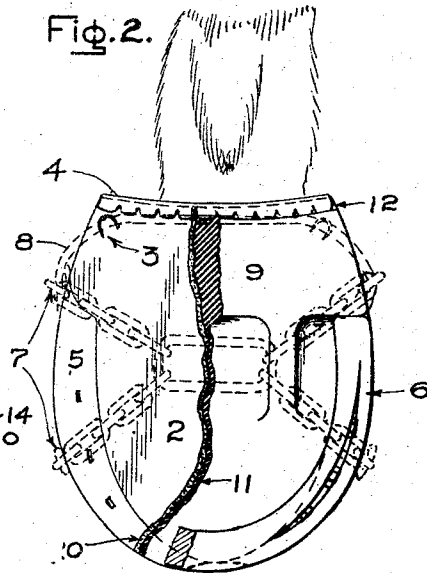


FIG. 3.

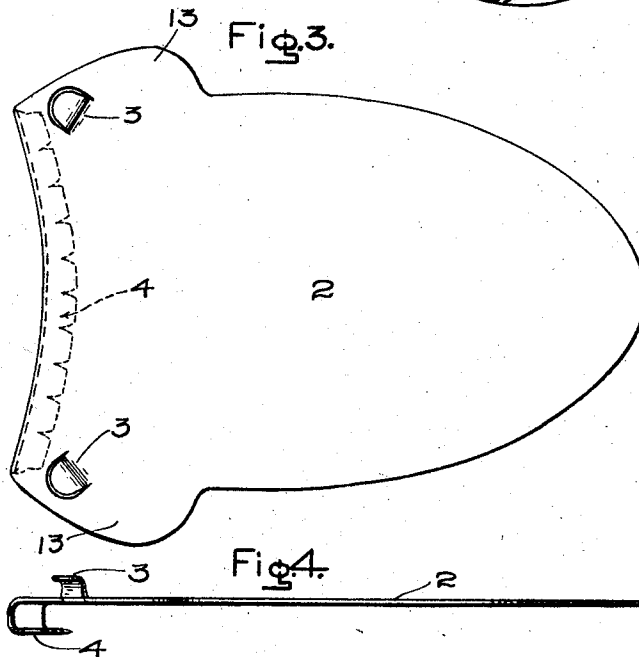
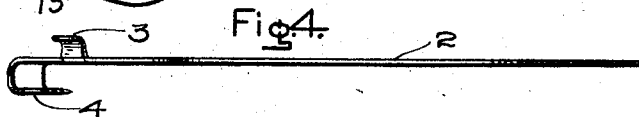


FIG. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE N. KINNELL, OF PITTSFIELD, MASSACHUSETTS, ASSIGNOR TO THE KINNELL MANUFACTURING COMPANY, OF PITTSFIELD, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

OVERSHOE-SUPPORT FOR HORSES.

1,010,381.

Specification of Letters Patent. Patented Nov. 28, 1911.

Application filed November 20, 1908. Serial No. 463,532.

To all whom it may concern:

Be it known that I, GEORGE N. KINNELL, a citizen of the United States, residing at Pittsfield, in the county of Berkshire and State of Massachusetts, have invented certain new and useful Improvements in Overshoe-Supports for Horses and other Hoofed Animals, of which the following is a specification.

My present invention relates to overshoes having a tread portion adapted to serve the purpose of calks to prevent slipping. Such overshoes may comprise means, such as a toe member, for securing the device against downward and rearward displacement in connection with a member extending across the heel, adapted to prevent forward displacement, and my present invention concerns means for securely holding this member in place. The securing means should be such as to prevent the rearwardly extending heel member from slipping up over the heel on to the sensitive tissue, or down out of engagement with the foot, or forwardly between the shoe and the hoof.

In my prior application Serial No. 460,336, I have shown an overshoe consisting of interconnected diagonal strands or articulations adapted to serve as calks and suspended by a spreader and equalizing lever on each side of the foot, each lever being subject to upward and forward tension and subject to rearward tension through a heel member seated in the notches under the heels of the hoof and above the rearwardly projecting ends of the metallic shoe. The heel member may be of fine quality steel wire or chain, but I prefer heavy baling wire which does not stretch and is not very resilient, yet is flexible enough so that in use it fits itself to the surface upon which it bears and becomes bent or set so that there is practically no tendency for it to spring out of position.

Various other novel features and functions of said overshoe are explained in said application.

My present invention is shown in connection with such an overshoe, though it is applicable to any overshoe having a rearwardly extending tension member. It is particularly useful where the heels of the hoof are too low or too flat to prevent the heel member from slipping upward or where the rear ends of the metallic shoe do not project sufficiently to prevent the heel mem-

ber from slipping downward, or where the rear end of the shoe is flexible or otherwise insecure so that the heel member is likely to work forward between the shoe and the hoof. My present invention contemplates a special recess and metallic bearing surface for the heel member, which is adapted to be used in such relations and for such purposes.

As shown herein, the invention is applied to a hoof the forward or toe portion of which is shod with a short metallic shoe, which is utilized to secure in place a pad provided rearwardly with an elastic heel block. This rear portion being flexible, the notches between it and the heel of the hoof would not prevent an overshoe heel member from working forward between the pad and the hoof. The special grooved recess or bearing surface for securing the heel member is shown herein as formed in a supplemental plate adapted to be securely held in place in any desired manner, preferably by engagement between the shoe or pad and the hoof, although, as shown in my application Serial No. 481,831, the groove for the heel member of the overshoe may be formed in the material of the shoe instead of in a plate secured thereto or thereby.

My present invention will be more fully understood by reference to the accompanying drawings, in which—

Figure 1 is a vertical, longitudinal section of a hoof and pad shoe with my overshoe (shown in dotted lines) applied thereto. Fig. 2 is a plan view of Fig. 1 looking at the hoof from below. Figs. 3 and 4 are details of one form of holding means for the heel member of the overshoe.

The invention is illustrated herein in connection with my overshoe referred to above, which comprises diagonally arranged chains interconnected by a central link and held in place by securing means 7, 7, consisting of spreading and equalizing levers, one on each side of the foot, each subject to upward and forward tension through a toe strap and subject to rearward tension through a heel member 8.

The hoof 5 is provided with a metallic shoe 6, which extends part of the distance from the toe toward the heel and is utilized to hold in place an elastic heel pad or block 9, preferably of rubber, which is formed with a forwardly extending portion 11 and

is reinforced by a back 10 of tough material, such as leather or metal.

The elastic pad and backing are too flexible to prevent the heel member 8 from working forward between the hoof and the pad, and this is one of the cases where my special securing means for the heel member is useful. Hence, I provide a special shoulder or groove adapted to hold the heel member against slipping and to afford a substantial bearing face to resist forward pull thereof.

In the form shown herein, the securing means comprises a plate 2, inserted between the hoof and the shoe, and in the case of the elastic heel pad 9, 10, it is preferably inserted between the hoof and the pad. The plate is preferably formed with a body portion tapering toward the toe and formed with curved sides, so that it may be readily inserted or withdrawn while the shoe and pad remain fixed on the hoof. The forward portion of the plate 2 preferably extends forward to the extreme toe of the shoe at 14, though this is not always necessary. The plate 2 is provided with widened portions 13, 13, adapted to extend out flush with the sides of the hoof at points in the rear of the ends of the metallic portion of the shoe, thereby providing shoulders adapted to limit forward movement of the plate 2 independently of the toe portion thereof. Hence, the latter may be shortened or omitted, particularly where the invention is used in connection with the ordinary all metal shoe. The plate 2 is preferably provided at the rear edge with a downwardly extending flange 4, inturned over the rear edge 12 of the pad. This plate may be secured to or made part of the pad portion 10, 11, by riveting or otherwise, but as above explained, it is especially adapted for ready application and removal whenever the overshoe is applied or removed. It is formed or provided with shoulders or grooves for the heel member 8. As shown, the grooves are formed as integral projections 3, 3 struck up from the material of the plate 2, at each corner thereof, and bent so as to hold the heel member against displacement. It will be understood that these projections may be of greater extent to afford wider bearing surfaces, and that considerable variation in form and arrangement is permissible. With such holding means, the heel member 8 may be a simple length of wire or chain without the cushion covering shown in my prior application.

It will be noted that there is a true combination and interdependence of function when my overshoe is used in connection with the elastic heel pad, inasmuch as the overshoe is particularly useful in cases where there is snow and ice likely to crowd in between the hoof and the pad and thereby wedge the pad away from the hoof. At such

times and at all other times when in use, the plate 2 stiffens the pad, and the overshoe serves as an additional securing means to prevent the unsecured portion of the pad from springing away from the hoof. Hence, when the pad is stiffened by the plate against upward flexure and held by the overshoe against downward flexure, the pad, plate, and overshoe constitute a secure support for the grooved recesses 3, 3, and these, in turn, furnish an adequate bearing to resist forward, upward, or downward thrust of the heel member on the overshoe.

While I have herein fully shown and described, and have pointed out in the appended claims certain novel features of construction, arrangement, and operation which characterize my invention, it will be understood by those skilled in the art that various omissions, substitutions, and changes in the forms, proportions, sizes, and details of the device and of its operation, may be made without departing from my invention.

I claim:

1. In a foot appliance of the class described, a shoe attached to the hoof, a sole pad provided intermediate the hoof and the shoe, and an overshoe having a supporting element disposed about the wall of the hoof, in combination with means provided independently of the foregoing affording auxiliary support for the overshoe.

2. In a foot appliance of the class described, a sole or tread member secured to the hoof and comprising a heel element disposed across the heels of the hoof, and an overshoe comprising a supporting element disposed about the wall of the hoof, in combination with a plate of metal or other inflexible material inserted between the hoof and said sole member and projecting rearward beyond the line of the heels, said plate being provided with means for holding said overshoe supporting element in normal position, and being further provided on its rear edge with a forwardly projecting shoulder or flange adapted for contact with said sole member.

3. In a foot appliance of the class described, a sole or tread member secured to the hoof, and an overshoe comprising a supporting element disposed about the wall of the hoof, in combination with a plate of metal or other inflexible material projected between the hoof and said sole member and provided with means for holding said overshoe supporting element in normal position, and separate means preventing the plate from working forward.

4. In a foot appliance of the class described, means for protecting the tread of the hoof comprising a pad and elastic heel block secured to the hoof by a short metallic shoe and nails driven through the latter into the hoof; and metallic grooved recesses or

bearing surfaces secured above the rear end of said elastic heel block and adjacent the heels of the hoof, in combination with an overshoe having a heel member disposed
5 about the heels of the hoof and engaging said grooved recesses and having tread members engaging the under surface of said elastic heel block.

10 5. In a foot appliance of the class described, means for protecting the tread of the hoof comprising a pad and elastic heel block secured to the hoof by a short metallic shoe and nails driven through the latter into the hoof; and metallic grooved recesses
15 or bearing surfaces secured above the rear end of said elastic heel block and adjacent the heels of the hoof, in combination with an overshoe having a heel member disposed

about the heels of the hoof and engaging said grooved recesses. 20

6. The combination with a shoe secured to the hoof and a band element disposed about the wall of the hoof, of a plate adapted to be interposed between the hoof and said shoe, means provided on the plate for the
25 support of said band element in normal position, and separate means provided on the plate preventing forward or upward displacement of the plate.

In testimony whereof I affix my signature 30 in presence of two witnesses.

GEORGE N. KINNELL.

Witnesses:

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SARA E. COOLEY.