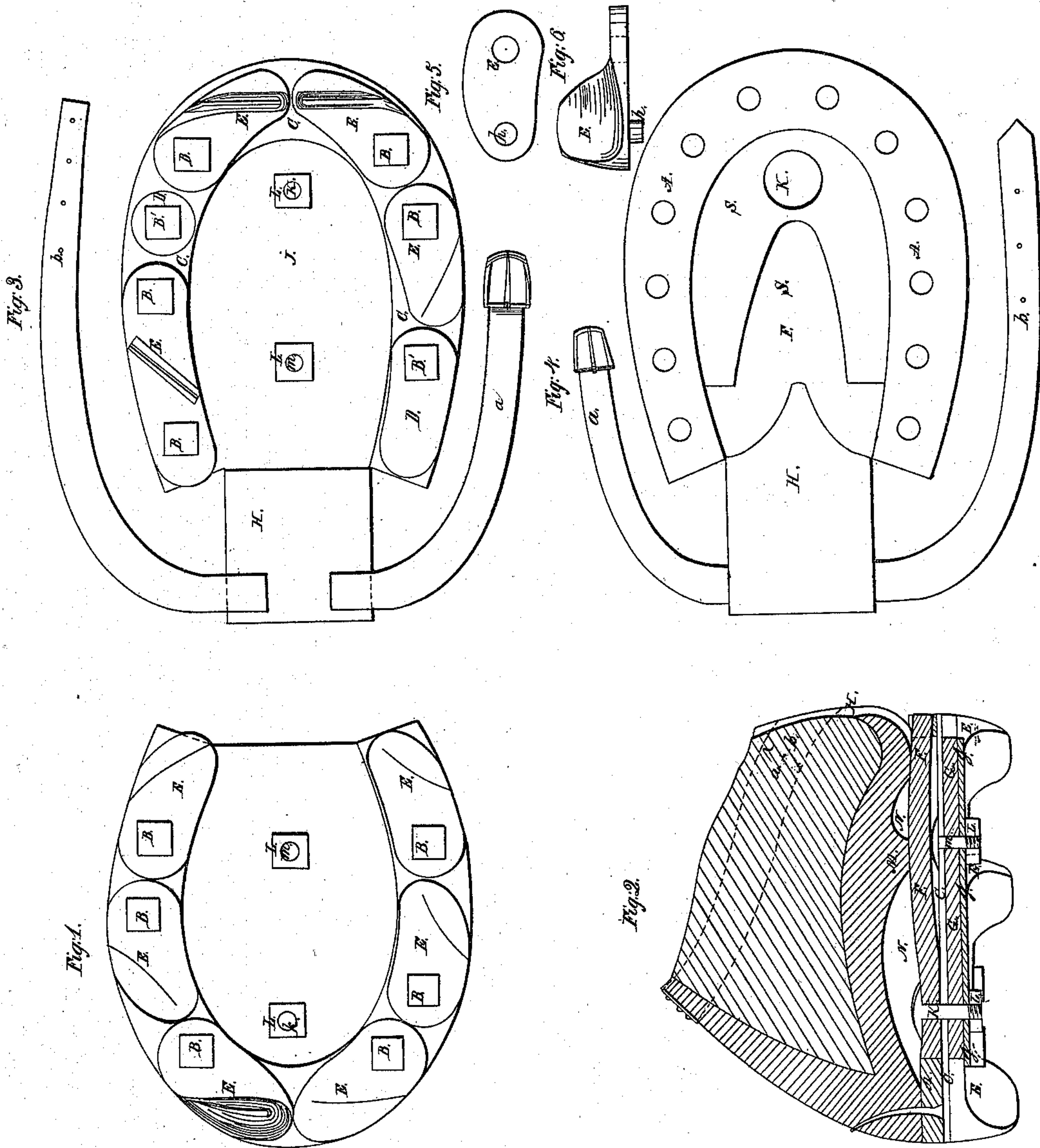


J. Johnson

Horse Shoe.

N^o 89,775.

Patented May 4, 1869.



Witnesses:
John E. Lane
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Inventors:
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United States Patent Office.

JONATHAN JOHNSON, OF LOWELL, MASSACHUSETTS.

Letters Patent No. 89,775, dated May 4, 1869.

IMPROVEMENT IN HORSESHOES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JONATHAN JOHNSON, of Lowell, in the county of Middlesex, and State of Massachusetts, have invented certain new and useful Improvements in Horseshoes, and in soles for horseshoes, and in the method, mode, or means for applying such soles to horses' feet, and to the shoes thereon, of which the following is a full and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 represents the bottom side of one of my improved horseshoes, and the sole, as it appears when applied, or when ready to apply to a horse's foot;

Figure 2 represents a sectional elevation of a horse's foot, with all the parts of my invention applied thereto;

Figure 3 is a bottom view, similar to fig. 1, but with different kinds of plates, for securing and confining the sole to the shoe;

Figure 4 is a top, or reverse side view of fig. 3, showing the heel-pad H, and the straps *a* and *b*, for holding it in position;

Figure 5 is a plan, or top view; and

Figure 6, a side elevation of a detached universal calk and plate combined, and which pertains to my invention.

In this invention an ordinary plate-shoe, A, is used, and this plate-shoe is fastened to the foot with nails, in the usual way.

This plate-shoe is provided with a series of screw-tapped holes, to receive certain screw-bolts B and B', which I employ for fastening the universal calks and their plates, or for fastening plain plates and the sole C to the shoe.

The bolts B are common iron bolts, and are used only with plates provided with calks, and are no new thing, but the bolts B' have hardened steel heads, and these last-named bolts are used when smooth plain plates D are employed for confining the sole to the shoe, and when no calks are necessary, as on "county roads," when the ground is bare.

Should the occasion require a change of the plates, calk-plates can be readily substituted for the plain plates, and the universal calks and plates applied, as shown in fig. 1, first removing the plain ones.

These universal calks and plates are adapted to any part of the shoe, and either at the extremity of each heel, or at each side of the centre at the toe, or at any reasonable and desired place or position along the sides of the shoe, without varying the bearing-point of the calks more than one inch, if so small a variation should be found necessary to relieve the foot of the horse, the screw-tapped holes in the shoe being formed at a distance of one inch from centre to centre, and the universal calk-plates made each with a bolt-hole, *d*, and a steady-pin, or holding-plug, *h*, to correspond with the holes in the shoe, the plug *h* entering one hole, and a screw-bolt entering the next hole to it.

The sole C covers the entire surface of the bottom side of the shoe, and this sole is secured to the shoe

by plain plates D, or by the universal calk-plates E, made in the same shape, or by plates of different form, if found necessary or important; but I consider the universal plate, which is adapted to any part of the bottom surface of the shoe, as before described, much the best, the cheapest, and most convenient device for holding the sole on the shoe, and this, whether said universal plates are plain, or provided with calks, as clearly shown in the drawings.

Above the leather sole C, and fitting within the shoe, is an inner sole, F, of leather, the rear end of which is provided with a heel-pad, H, furnished with straps *a* and *b*, one or both of which may be elastic, so as to yield to the action of the foot when the horse is travelling.

The inner surface of this heel-pad is provided with an absorbent, which is intended to be saturated with healing-ointment, or to contain some substance which will have a beneficial effect upon the heel-crack, or a sore heel, and to keep out all sand, dirt, or injurious substance; but where the heel is not sore, the heel-pad and straps need not be used.

Below the sole C is an outer sole, G, also of leather, and a metal sole, J, covers the whole surface of the latter, for the purpose of protecting the leather or rubber pad, and a bearing for the nuts.

A bolt, K, preferably of brass or copper, passes through all the four soles, and has a hardened steel nut, L, on its lower end, and a flat head bearing on the top of the inner sole F. This bolt holds all the parts, or soles together, and the hardened steel nut will endure a long time.

A bolt, *m*, which may be of iron, passes through the sole C, and through the outer sole G, and the metal sole J, to hold the three or more pads or parts together, below the sole F. This bolt is also provided with a hardened steel nut, and for the same purpose as the other.

This bolt has a flat head, and its position, or place of application should be directly under, or nearly under the lowest depending portion of the frog M. This is of great importance, as this brings a portion of the weight of the horse directly on the frog, which causes the foot to expand, gives it a healthy action, and prevents corns, (as they are called,) and which, in most cases, if properly treated, will be cured, or effectually removed.

For this purpose, and in connection with my improved foot-expanding device, or apparatus, I fill, or partly fill the space N, around the sides of the frog, with an absorbent, S, shown in fig. 4, and while the pressure or weight is brought upon the frog, this absorbent must be kept saturated with water, or with oil, or with medicated liniment, or some suitable substance for softening and lubricating the parts while the expanding action is progressing; and this saturating-substance is applied to the absorbent S, by loosening the straps *a* and *b*, and turning down the heel-pad, and by injecting between the top of the inner sole and the foot, or by removing a portion of the plain or the calked

plates, and turning one edge of the sole downward, to expose the under side of the foot and the frog, which may then be washed or cleaned, the saturating-material applied, and the plate replaced and secured on the shoe.

The inner sole F may be of any required thickness, and additional thicknesses applied, to accommodate the length of the frog.

The absorbent S may be secured by means of the bolt K, as shown in fig. 4, or applied loosely in the space N.

The metal sole J protects the outer sole G, and forms a good support for the steel nuts L, which are screwed up against it, as shown.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The sole C, in combination with the inner sole F, the outer sole G, the metal sole J, and the bolts K and *m*, in the manner and for the purpose substantially as described.

2. The method, substantially as described, of securing the sole C to the shoe, viz, by means of plain or calked plates, as set forth.

3. The heel-pad H, and straps *a* and *b*, in combination with the sole F, arranged and applied in the manner and for the purpose specified.

4. In combination with the soles C, F, and G, the absorbent S, for the purpose and substantially as described.

5. The arrangement of the bolt *m* beneath the inner sole F, directly or partly under the frog M, in the manner and for the purpose specified.

6. The universal plates and calk E, as described, and which are adapted to any part of the shoe, and changeable to any other part or position thereon.

JONATHAN JOHNSON.

Witnesses:

JOHN E. CRANE,
LANG MONROE.