(No Model.)

# J. McGURN.

## NAILLESS HORSESHOE.

No. 566,089. Patented Aug. 18, 1896.

Fig. 1

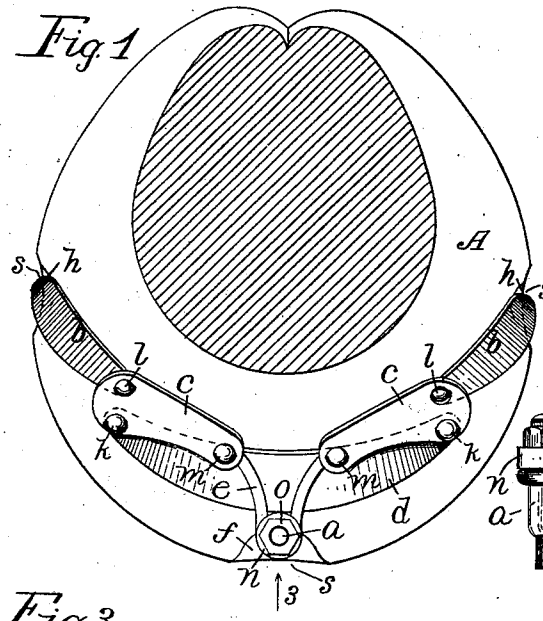



Fig. 8.

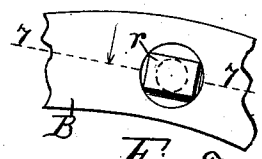



Fig. 2.

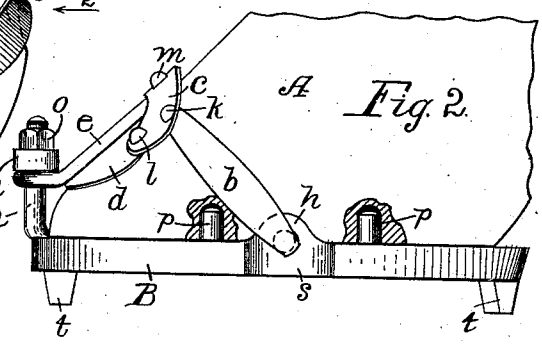



Fig. 3.

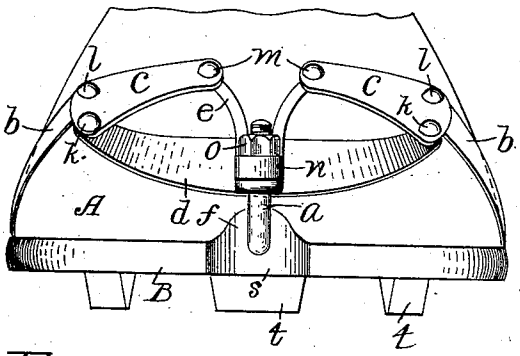



Fig. 5.

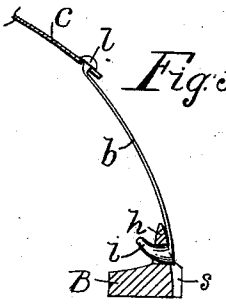



Fig. 6.

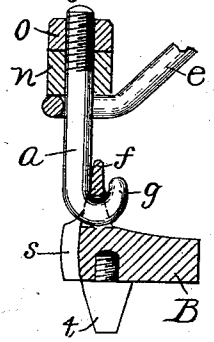



Fig. 4.

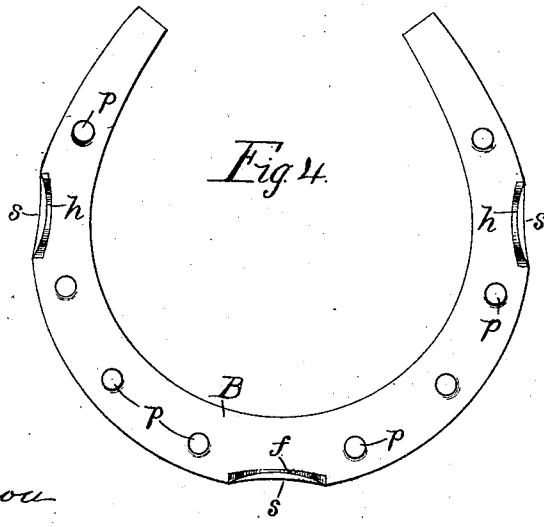
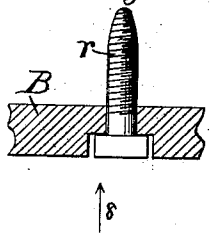



Fig. 7

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# UNITED STATES PATENT OFFICE.

JOHN McGURN, OF ROCHESTER, NEW YORK.

## NAILLESS HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 566,089, dated August 18, 1896.

Application filed May 2, 1896. Serial No. 590,000. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN McGURN, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Horseshoes and Holding Devices, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

My invention relates to horseshoes and the method of securing them to the feet of the horse, and it has for its object the producing of means for readily securing the shoes to the hoofs and for quickly loosening and removing them therefrom without the aid of a skilled blacksmith.

The invention is hereinafter fully described and more particularly pointed out.

Referring to the drawings, Figure 1 is a view looking directly down upon the foot of a horse, showing my improved shoe and holder in place thereon. Fig. 2 is a side view indicated by arrow 2 in Fig. 1 with parts broken away. Fig. 3 is a front view indicated by arrow 3 in Fig. 1. Fig. 4 is a plan of the shoe. Fig. 5 is an edge view of one of the side straps with associated parts in vertical section. Fig. 6 is a side elevation of the front holding-bolt with associated parts in vertical section. Fig. 7 shows a modification of a holder for the shoe, parts being sectioned, as on the dotted line 7 7 in Fig. 8. Fig. 8 is a bottom view of a portion of the shoe indicated by arrow 8 in Fig. 7. Figs. 6, 7, and 8 are drawn to a scale larger than that of the other figures.

Referring to the parts shown, A is the foot of the horse, and B the shoe. The shoe is drawn firmly against the bottom of the foot by means of a bolt *a*, coacting with side straps or holders *b b*, levers *c c*, a fulcrum-bar *d*, and connector *e*.

The shoe is formed with an upwardly-extended lug or part *f* at the toe, through a horizontal opening in which the bolt *a* passes, as clearly shown in Fig. 6, the bolt being formed with a hook *g* for the purpose. The shoe is also formed with similar upwardly-extending perforated lugs *h h* at the sides, into which the straps *b b* are caught by means of inwardly-turned hooks *i*. (Clearly shown in Fig. 5.) The upper ends of these straps are connected with the respective levers *c c* at *l l*. The fulcrum-bar *d*, which lies closely against the forward surface of the hoof in a horizontal position, is joined at its ends to the respective levers at *k k*. The connections *k k* and *l l* are near each other, in pairs, the outer ends of the respective levers being made wide for the purpose of these connections. The connector *e* passes around the bolt *a*, having its upward extended branches joined, at *m m*, to the adjacent ends of the levers *c c*. A washer *n* is provided for the bolt, above the connector *e*, with a tightening-nut *o* over all.

It will be understood that by turning the nut down on the bolt the connector *e* will be drawn downward, pulling with it the inward ends of the levers. The latter, turning on the fulcrum-bearings *k k*, will pull upward strongly upon the side straps *b b*, and thus the shoe will be pulled firmly upward against the hoof at the points *f h h*, it being understood that the turning of the nut downward will pull upward on the bolt *a*.

The shoe is formed with studs or holders *p*, Figs. 2 and 4, at its upper surface, adapted to enter corresponding cavities in the hoof. These studs serve to prevent the shoe from slipping laterally upon the hoof when held to place by the fastening device above described. Instead of these rigid studs screws *r*, Figs. 7 and 8, may be employed, with countersunk heads, as shown, or both studs and screws may be employed if found desirable. In addition to these holders *p* and *r* the lugs *f h h* (being turned up against the periphery of the hoof) also serve to keep the shoe from slipping out of place.

I prefer to use with these shoes removable calks *t*, Fig. 6, though the matter of applying the calks or manner of fastening them to the shoes is not essential to my invention.

To remove the shoe at any time the nut *o* is loosened by turning it upward, when all the parts, including the shoe, may be quickly removed from the foot.

I form the shoe with lateral depressions *s* at the sides and the toe coincident with the lugs *f h h*, in which to receive the lower ends, respectively, of the parts *a b b*, so the said parts will be partially covered and protected and so be less liable to be struck and injured while worn by the horse.

The device or mechanism for binding the shoe to the foot is wholly above the shoe and mainly in front of the foot, and the parts thereof generally rest closely against the foot, as shown.

What I claim as my invention is—

1. A horseshoe formed with lugs at the sides and the toe, in combination with side straps or holders and a fastening-bolt all connected with said respective lugs, levers *c c* joined to said side straps, a fulcrum-bar joined to the levers, and a connector for the fastening-bolt and levers, substantially as specified.

2. A horseshoe provided with parts adapted to extend into the hoof, and formed with upwardly-extending lugs at the sides and at the toe portion thereof, in combination with side straps and fastening-bolt joined to said respective lugs, a fulcrum-bar across the front of the hoof, tightening-levers joined respectively to said side straps and fulcrum-bar, and a connector for said fastening-bolt and the respective levers, substantially as described.

3. A horseshoe formed with lugs at the sides and at the toe, in combination with side straps or holders and a fastening-bolt connected with said respective lugs, levers *c c* joined to said side holders, a fulcrum-bar joined to the levers, and a connector for the fastening-bolt and levers, the shoe being formed with depressions *s* in which to receive the side straps and the bolt, substantially as and for the purpose specified.

In witness whereof I have hereunto set my hand, this 25th day of April, 1896, in the presence of two subscribing witnesses.

JOHN McGURN.

Witnesses:

E. B. WHITMORE,

M. L. WINSTON.