(No Model.)

H. HOLLAND.

HORSESHOE.

No. 349,044. Patented Sept. 14, 1886.

Fig. 1.

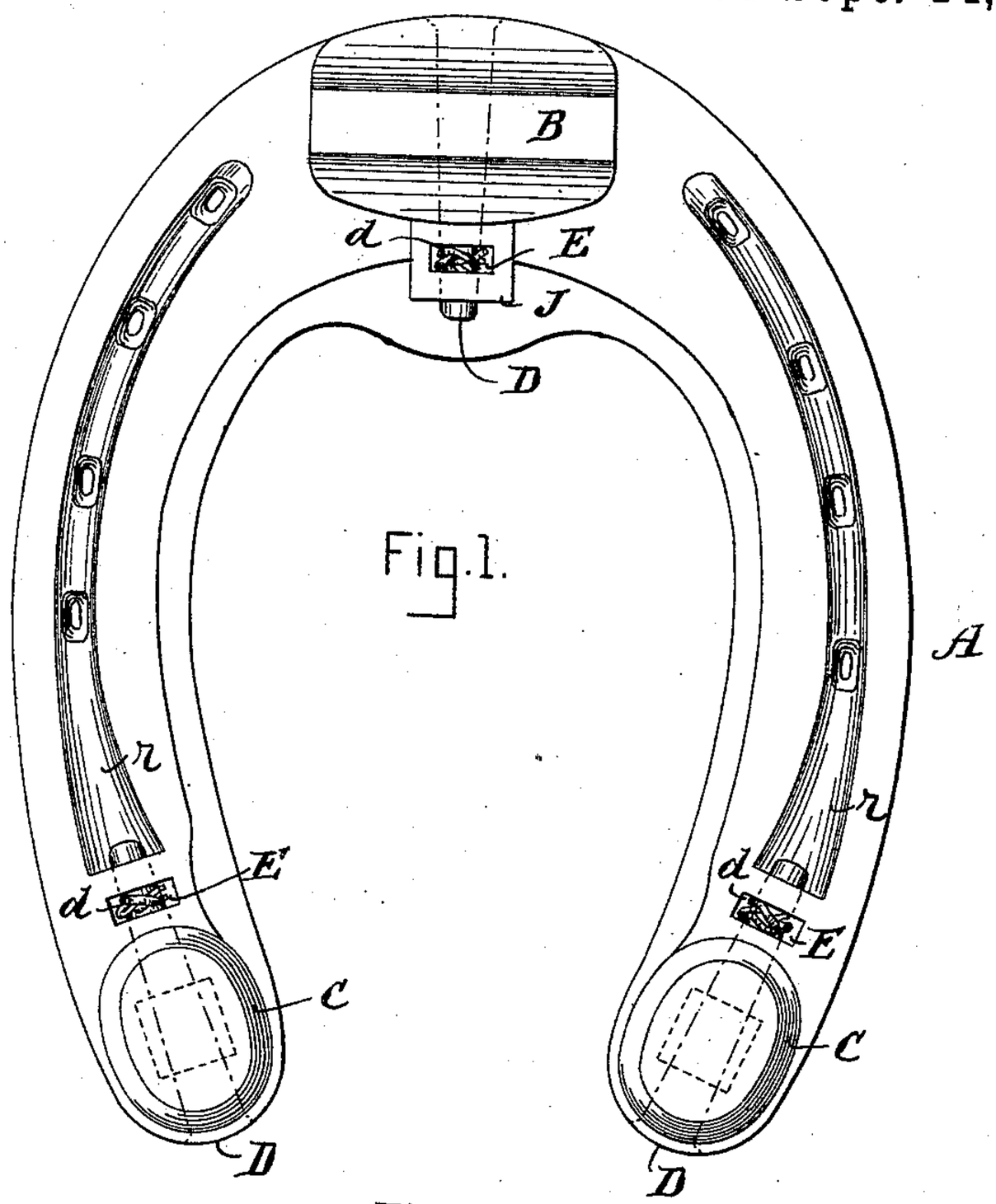

Fig. 2.

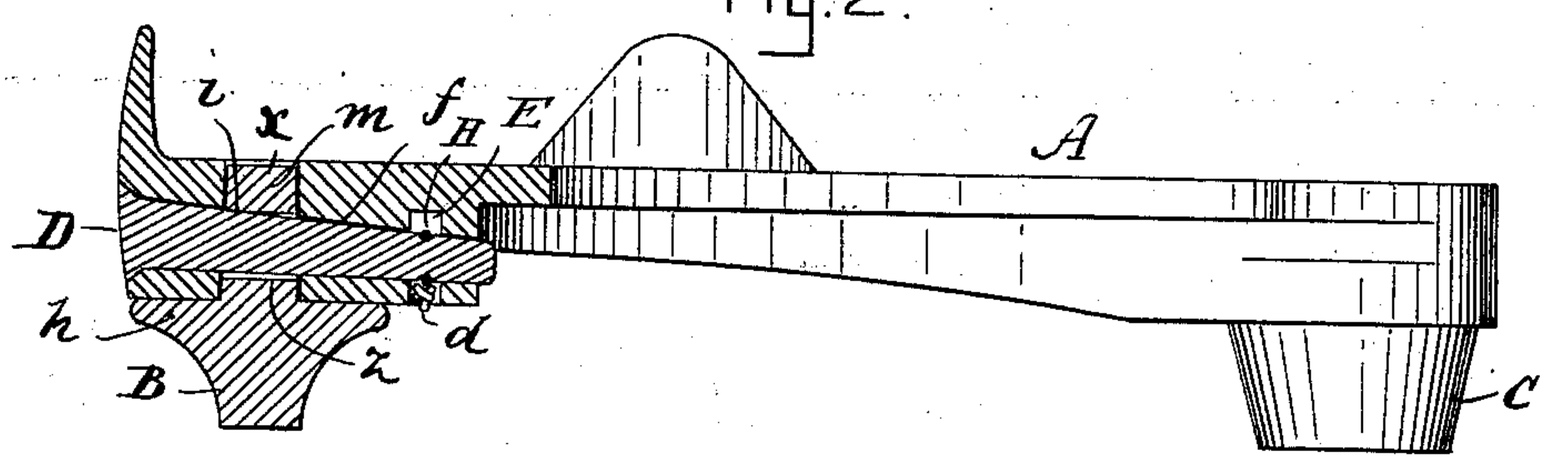

Fig. 3.

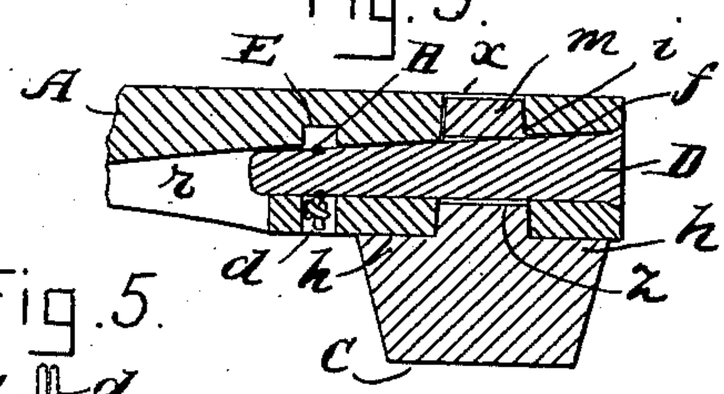

Fig. 5.

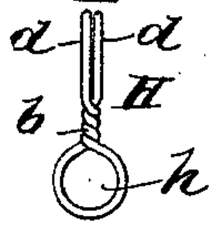

Fig. 4.

Witnesses.

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HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 349,044, dated September 14, 1886.

Application filed May 27, 1886. Serial No. 203,360. (No model.)

To all whom it may concern:

Be it known that I, HAROLD HOLLAND, of Lynn, in the county of Essex, State of Massachusetts, have invented a certain new and useful Improvement in Horseshoes, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a bottom plan view of my improved horseshoe; Fig. 2, a vertical longitudinal section taken through the center of the toe-calk, a portion of the shoe being shown in side elevation; Fig. 3, a diagram showing the method of securing the heel-calks; and Figs. 4 and 5, respectively, views of the pin and locking wire or loop detached.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

My invention relates to that class of horseshoes which are provided with detachable calks, being designed as an improvement on the shoe shown and described in Letters Patent of the United States No. 278,015, issued May 22, 1883. In said patented shoe the pins which secure the calks in positions are locked by means of cross pins or wires, which are inserted transversely in holes formed in their inner ends, the wires being left exposed in such a manner that when the shoe is used they are readily worn out or broken by being brought into contact with the ground, thereby permitting the pins to escape and the calks to become accidentally detached.

My present invention is designed to obviate this difficulty or objection, and also to produce a more effective and otherwise desirable article of this character than is now in ordinary use; and to that end I employ means which will be readily understood by all conversant with such matters from the following explanation:

In the drawings, A represents the body, B the toe-calk, and C C the heel-calks.

As the calks are all constructed and secured in the body of the shoe in substantially the same manner, it is deemed unnecessary to describe each one separately.

The calk C is provided on its upper side with a slightly-tapering shank, *m*, which is adapted to enter a corresponding vertical hole, *x*, formed in the body of the shoe. A tapering hole, *f*, is also formed horizontally in the body of the shoe, said last-named hole intersecting the vertical hole *x* and opening into the nail-groove *r*. The shank *m* of the calk is provided with a hole, *z*, which passes transversely through its center, and is adapted to register with the hole *f* when the calk is in position in the shoe. The hole *z* in the shank is, however, so disposed that when the shank is inserted in the hole *x* it will be slightly below the plane of the hole *f*. A tapering pin, D, adapted to fit the hole *f* in the body A and pass through the hole *z* in the shank *m*, is employed for securing the calk in the shoe. This pin is provided near its inner end with an annular groove, *t*, and at its outer end with a head, *v*, the hole *f* being countersunk at its outer end to receive said head, which, however, may be omitted, if desired.

A socket, E, is formed in the lower face of the shoe, between the hole *x* and rear end of the groove *r*, said socket being also intersected by the hole *f*, and so disposed that when the pin D is inserted its groove *t* will be in said socket. A loop or fastener, H, preferably composed of copper wire, is employed for locking the pin D. In constructing the loop a straight piece of wire of suitable length is bent to form the eye or loop proper, *h*, for receiving the pin D, the wire being then centrally twisted, as shown at *b*, and its ends left untwisted, as shown at *d d*.

In the use of my improvement the shank *m* of the calk is inserted in the hole *x* and the loop H in the socket E, its eye *h* resting on the bottom of said socket and the ends *d* protruding therefrom. The pin D is then passed into the holes *f z* and through the eye *h* of the loop H, after which the protruding ends *d* of the loop are grasped by pliers, or any other suitable implement, and twisted together until the loop proper, *h*, is caused to hug the pin in the groove *t*, thereby locking it in position and securing the calk in a manner which will be readily obvious without a more explicit description. When the ends *d d* have been sufficiently twisted to attach the loop to the pin

in the groove *t*, the ends *d d* are bent down into the socket, as shown in Figs. 1, 2, and 3, thereby preventing the loop from being broken or worn out by coming in contact with the ground when the shoe is in use. It will be obvious that by untwisting the ends *d* of the loop H and driving out the pin D the calk may be readily removed when worn out and a new one substituted. By disposing the hole *z* in the shank *m* slightly below the hole *f* in the shoe the pin D is brought to bear against the upper side of the hole *z*, as shown at *i*, thereby causing it to "draw" or a strain to be exerted on the calk as the pin is driven in, whereby its shoulders *n* are kept in close and forcible contact with the lower side of the shoe and the calk firmly secured.

The socket E at the forward end of the shoe is formed in a downwardly-projecting hub, J, through which the pin D projects, said hub being integral with the body of the shoe.

I do not confine myself to the employment of the projection J, as the socket E at the toe of the shoe may be formed in the body of the shoe without using said projection. The socket E may also, both at the toe and heel of the shoe, be extended entirely through it, if desired.

Having thus explained my invention, what I claim is—

In a horseshoe, the body A, provided with the holes *x f* and socket E, the calk C, provided with the shank *m*, having the hole *z*, the pin D, provided with the groove *t*, and the loop H, combined and arranged to operate substantially as described.

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