

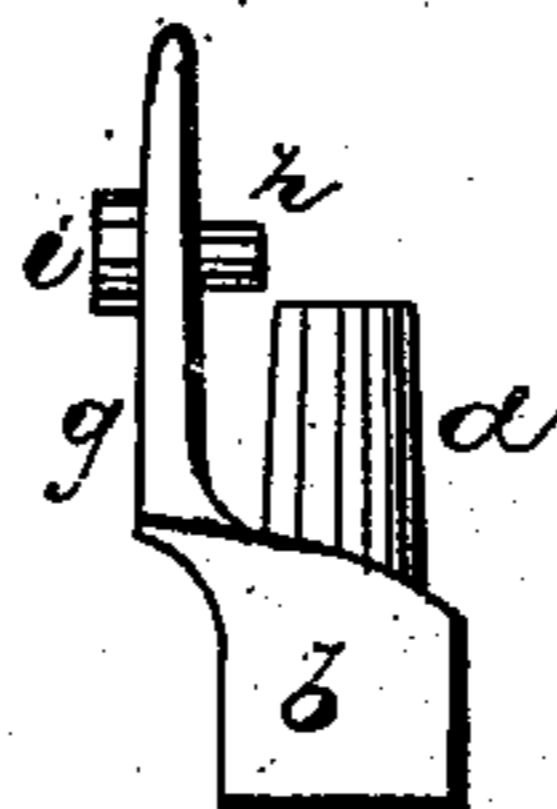
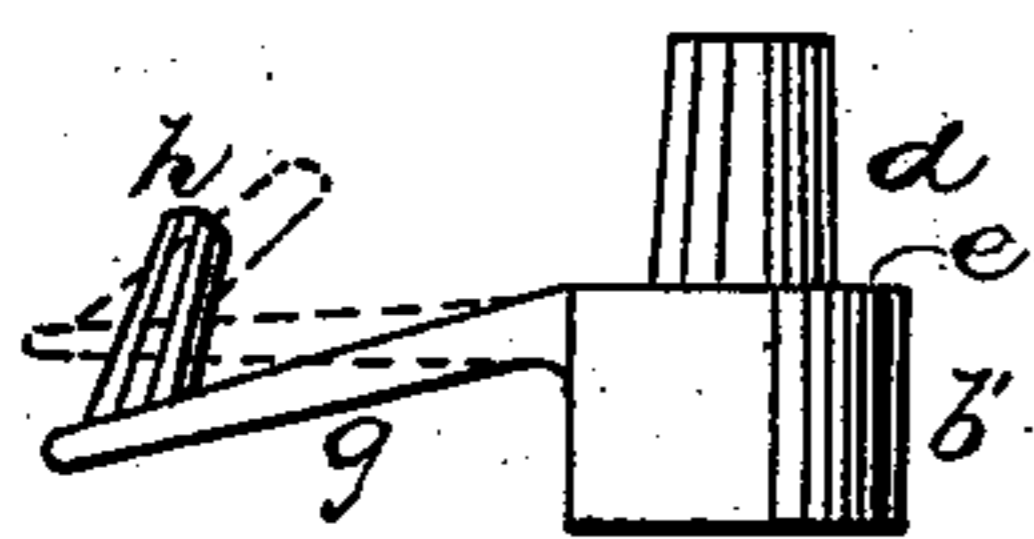
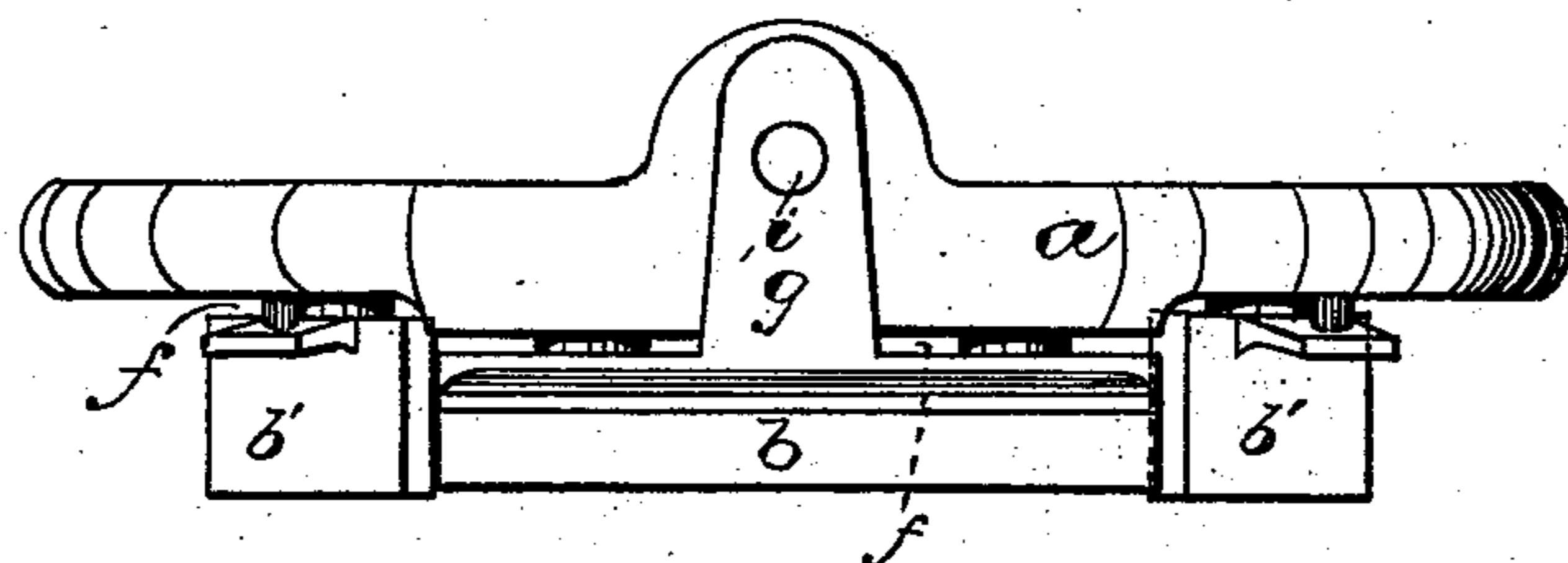
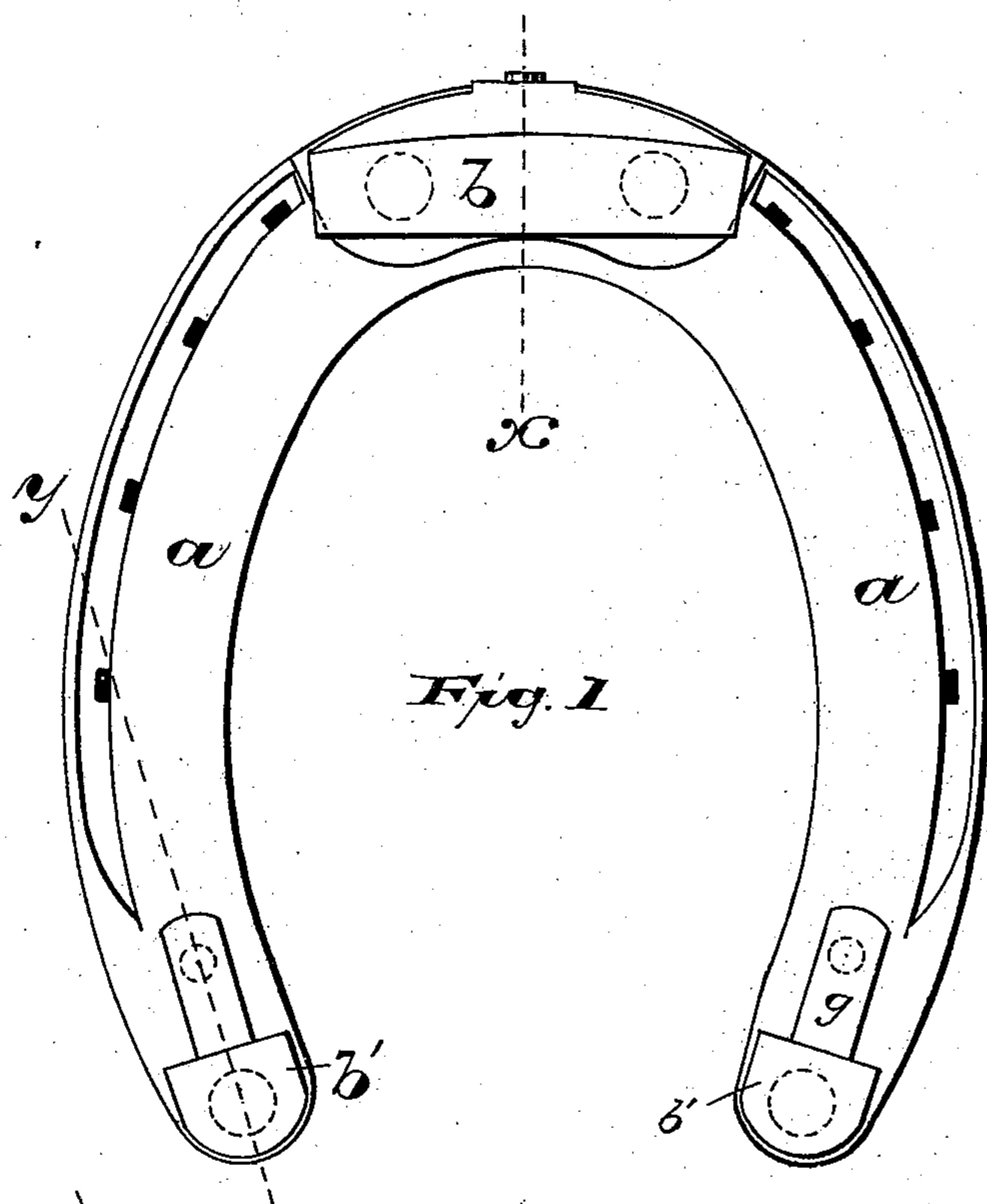
(No Model.)

2 Sheets—Sheet 1.

J. B. FINCH.  
HORSESHOE.

No. 378,046.

Patented Feb. 14, 1888.



WITNESSES:—

INVENTOR:—

Wm S. Corwin,  
Jas C. Farr

James Boon Finch,  
BY Drake & Co., ATT'YS.

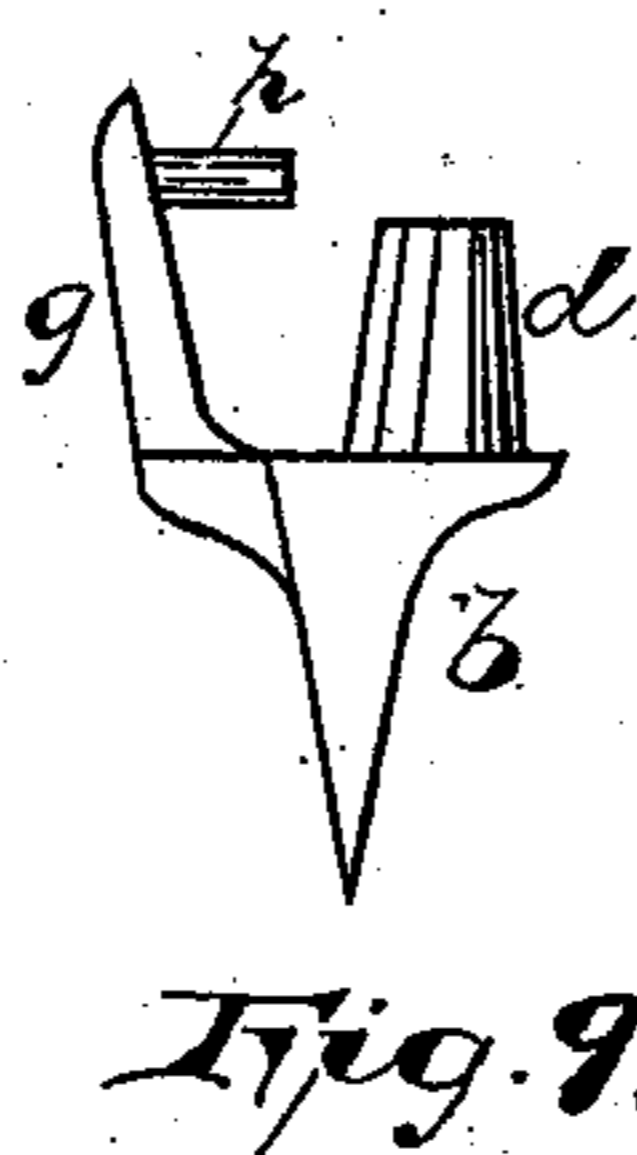
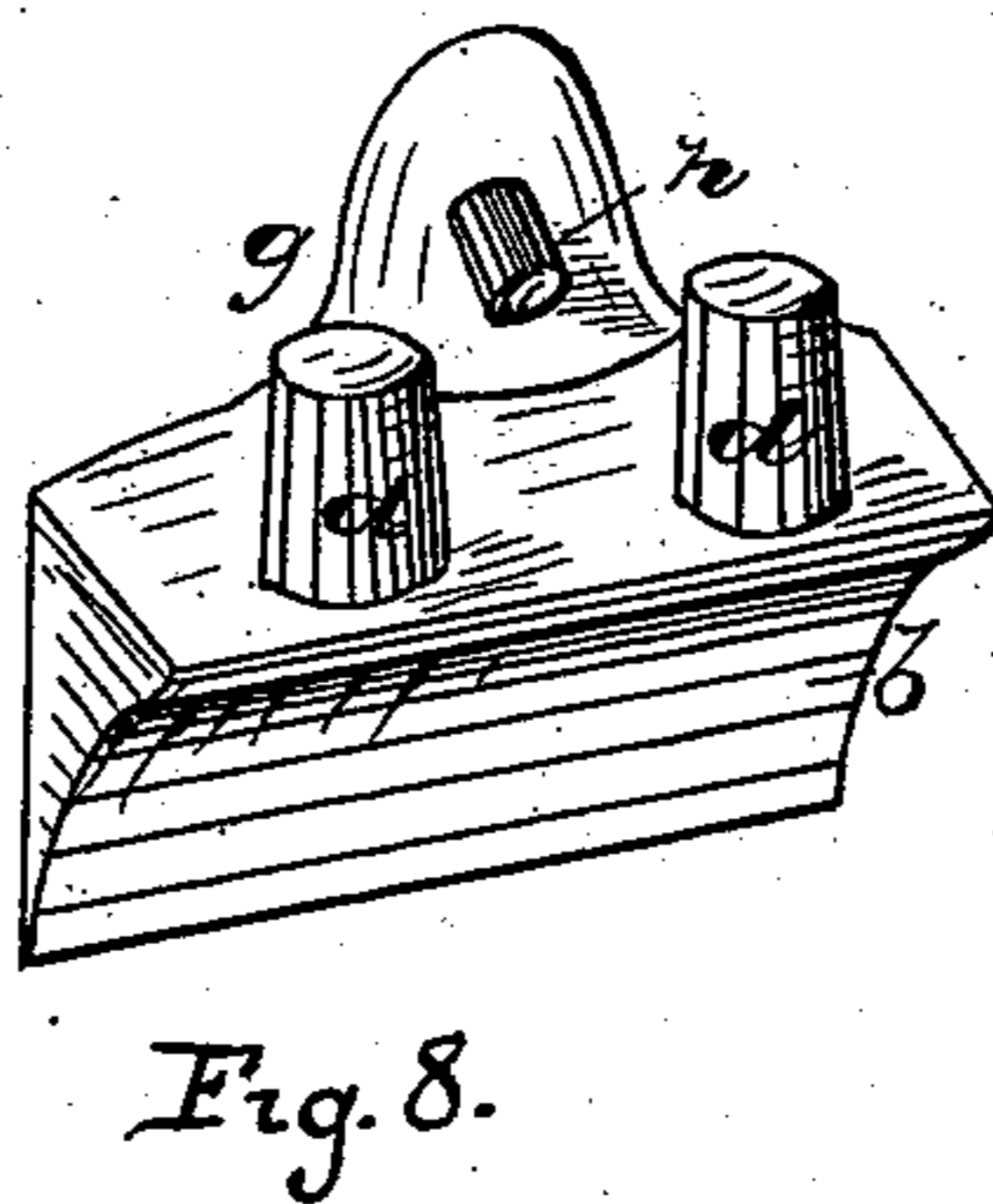
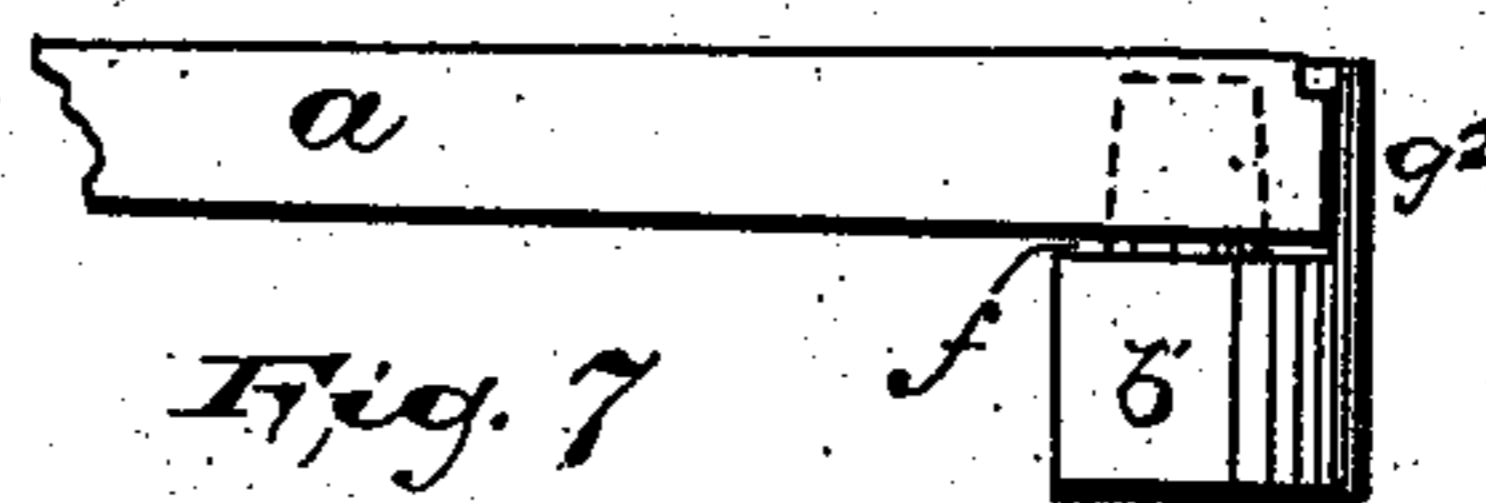
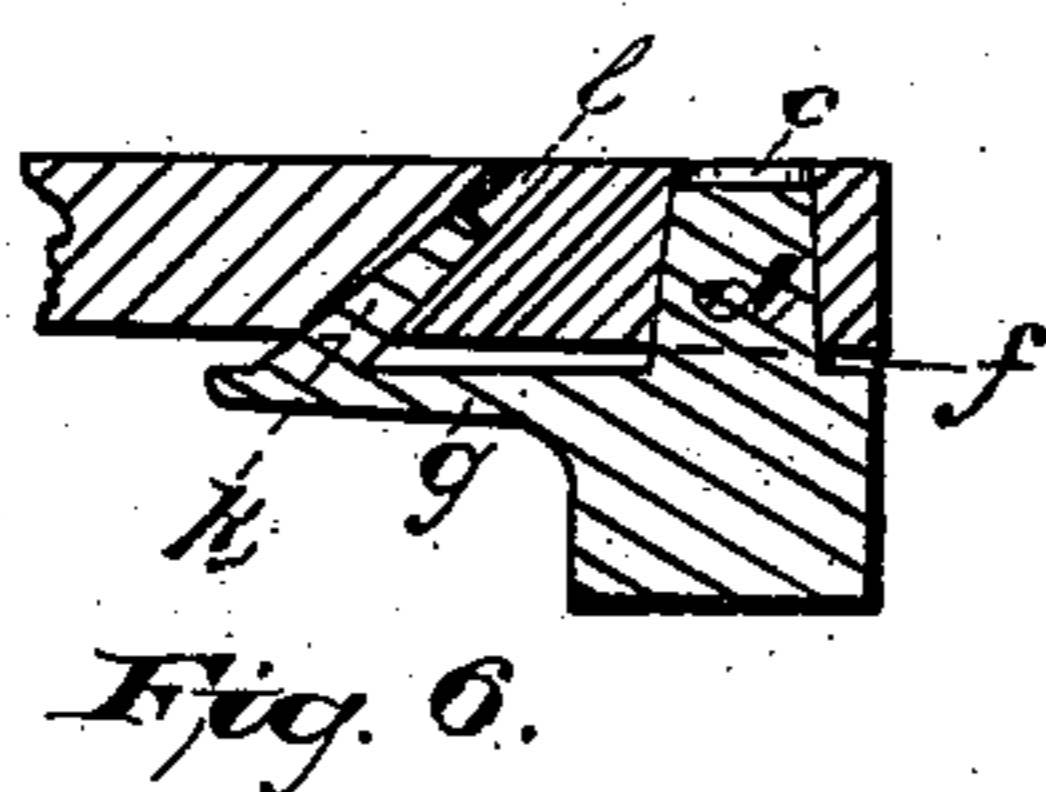
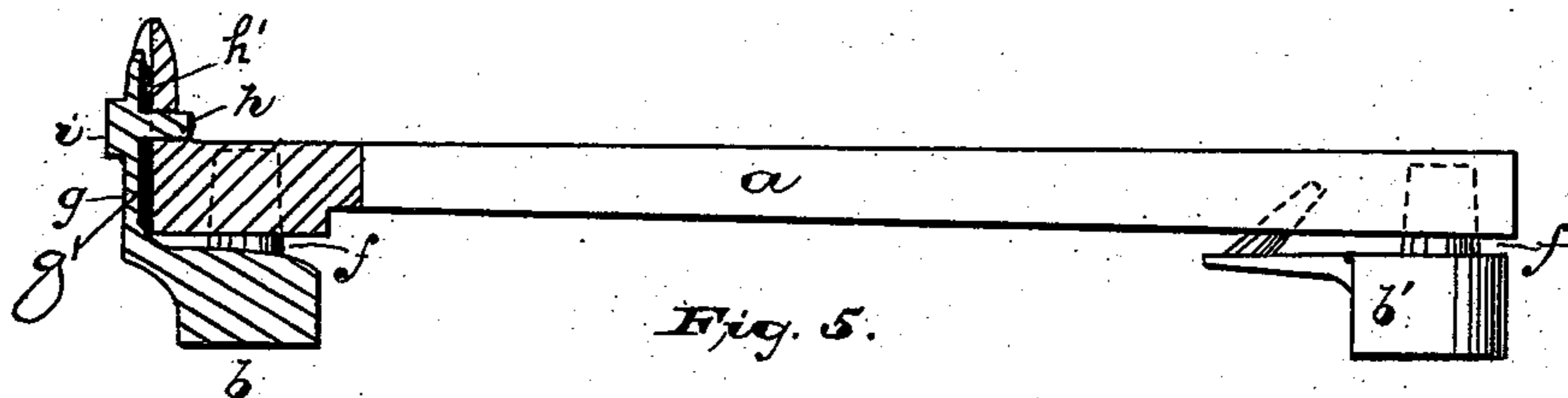
(No Model.)

2 Sheets—Sheet 2.

J. B. FINCH.  
HORSESHOE.

No. 378,046.

Patented Feb. 14, 1888.



WITNESSES:

INVENTOR:

*Wm. S. Corwin,*  
*Joe C. Farr*

*James Boon Finch,*

BY *Drake & Co.*, ATT'YS.

# UNITED STATES PATENT OFFICE.

JAMES BOON FINCH, OF NEWARK, NEW JERSEY.

## HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 378,046, dated February 14, 1888.

Application filed November 5, 1886. Serial No. 218,035. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES BOON FINCH, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Horseshoes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-  
10 pertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a  
15 horseshoe having adjustable calks, which latter are more firmly, securely, and durably seated or adjusted on or in suitable sockets in said shoe, whereby when in use they cannot  
20 become loose because of the jar or impact caused in walking; to reduce the cost of construction, and to provide a device in which the calks may be adjusted and arranged in or upon the shoe or removed therefrom with greater facility and ease and without mate-  
25 rially damaging the shoe or the said calk.

The invention consists in the improved horseshoe and in the arrangements and combinations of parts, substantially as will be hereinafter set forth, and finally embodied in  
30 the clauses of the claim.

Referring to the accompanying drawings, embraced in two sheets, in which like letters of reference indicate corresponding parts in each of the several figures, Figure 1, Sheet 1,  
35 is a plan of the improved shoe. Fig. 2 is a front elevation of the same. Figs. 3 and 4 are side elevations of the heel and toe calks, respectively. Fig. 5, Sheet 2, is a sectional view taken through line *x*, Fig. 1. Fig. 6 is a sectional view taken through line *y*, Fig. 1; and  
40 Figs. 7, 8, and 9 are details illustrating certain modifications of construction, which will be hereinafter duly explained.

In said drawings, *a* indicates the body of a  
45 horseshoe, which may be, and preferably is, constructed of wrought-iron, although it may be made from malleable iron partially decar- bonized at its exposed portions to secure greater durability; or it may be of other suitable ma-  
50 terial.

*b b'* are respectively adjustable or separable toe and heel calks of peculiar construction,

adapted to be secured upon the shoe without the intervention of independent securing-pieces, such as screws, rivets, or pins. Within the  
55 heel and toe portion of the shoe, extending approximately at right angles to the under face thereof, are formed tapering or funnel-shaped holes *c*, (shown more clearly in Fig. 6,) the smaller ends of which are toward the upper  
60 side of the shoe.

The heel and toe calks are provided with correspondingly-tapered pins or projections  
65 *d*, preferably integral therewith, but of a slightly larger size, so that when the said pins or projections are driven home in said holes or sockets the upper face, *e*, of the calk will  
70 not engage the under face of the shoe, but will allow an aperture or space, *f*, Figs. 2, 5, and 7, between the two said faces, so that as the sur- faces of the pins or projections wear or are  
75 forced against the walls of the holes or apertures *c* in the shoe the face *e* will not act to prevent the parts from wedging together to take up the space caused by wear. To hold the pin or pro-  
80 jection within the said holes or recesses *c*, I prefer to provide the calk with a holding-arm, *g*, which in the case of the toe-calk preferably extends upward in front of the shoe, as shown in  
85 Figs. 2, 4, and 5, and is at the upper end provided with a bend, teat, or inward projec- tion, *h*, adapted to be forced into a suitable  
90 hole or recess, *h'*, formed in the shoe, as in Fig. 5. At the outer face of said upwardly- extending arm may be formed a holding lug  
95 or projection, *i*, upon which pliers or nippers may catch in the process of withdrawing the lug, bend, or teat *h* from its receptacle in  
100 loosening or removing the calk. The arm *g* of the toe-calk preferably fits into a receptacle or recess, *g'*, (shown in Fig. 5,) formed in the outer face of the shoe, to protect the arm and cause it to lie flush with the said face of the shoe.

The heel-calk may be provided with a hold-  
95 ing-arm similar to the one described in connection with the toe-calk, although I prefer a construction such as is shown in Figs. 3, 4, 5, 6, 8, in which the said arm extends from the calk in a direction parallel or approximately  
100 parallel to the plane of the shoe, the said arm at or near its extremity being provided with a holding lug or teat, *k*, inclined upward toward the pin *d*, said teat being adapted to

be forced into an inclined hole or recess, *l*, formed in the body of the shoe at a little distance from the hole *c* at an angle to said hole, and thus locked, so that the calk cannot fall from the socket. By inclining the teat of the heel calk, as shown, the calk is prevented from being forced from the shoe should the said calk strike an obstruction in a forward movement of the shoe, and from dropping from the shoe should the parts ever wear so as to become loose.

The arm *g* in the casting, when the calk is formed of cast metal or when otherwise formed, is bent, as indicated in Figs. 3, 8, and 9, so that when the projection *d* is at home in the socket or hole *c* the extremity of the lug or teat *k* is brought to the mouth of the hole *l*. When in that position, by hammering on the under side of the arm *g* the parts are all brought into firm relation, although by means of nippers or pliers the arm may be bent back and the calk released without any great effort.

I do not wish to limit myself to any peculiar construction of calk, as various shapes may be used, such as are illustrated on Sheet 2, either dull, as in Figs. 5, 6, and 7, or sharp, as in Figs. 8 and 9, without departing from the scope of my invention.

I am aware that tapering lugs or projections adapted to fit into correspondingly formed holes in the shoe are old in connection with calks, and that adjustable or separable calks have been secured by screws and similar fasteners to the shoe-body, and, further, that an arm of a calk has been bent around the shoe to hold said calk in position; and these features, broadly, I do not claim herein.

Having thus fully described my invention, what I claim as new is—

1. The improved horseshoe herein described, combining therein a shoe-body, *a*, having recesses to receive the projections of the calk, and a calk having a tapering projection, *d*, an arm, *g*, extending from the body of the calk and adapted to be bent by a blow of a hammer, and a lug, teat, or projection formed on said arm and adapted to engage the shoe at an angle to said tapering projection and hold or lock the parts together, substantially as set forth.

2. The improved horseshoe, combining a shoe-body having recesses *c* and *h'*, a recess, *g'*, and a toe-calk, *b*, having a tapering projection lying in the recess *c*, an arm, *g*, extending upward in front of said shoe-body and lying in said recess *g'*, and provided with an inwardly-extending teat or projection, *h*, a space, *f*, being provided between the body of the calk and that of the shoe, substantially as and for the purposes set forth.

3. In a horseshoe, the combination, with the body thereof, of a toe-calk provided with a projection, *d*, and arm *g*, teat *h*, and holding lug or projection *i*, to receive the pliers and allow the teat *h* to be drawn from its perforation or recess to release the calk from the body, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 27th day of October, 1886.

JAMES BOON FINCH.

Witnesses:

CHARLES H. PELL,

FRED. GOTTLIEB ULRICH.