No. 667,816. Patented Feb. 12, 1901.

H. N. BROWN.

HOLDFAST.

(Application filed Sept. 7, 1900.)

(No Model.)

Fig. 13.

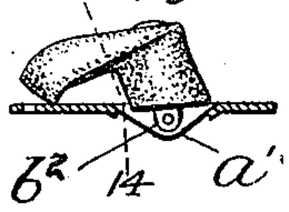


Fig. 14.

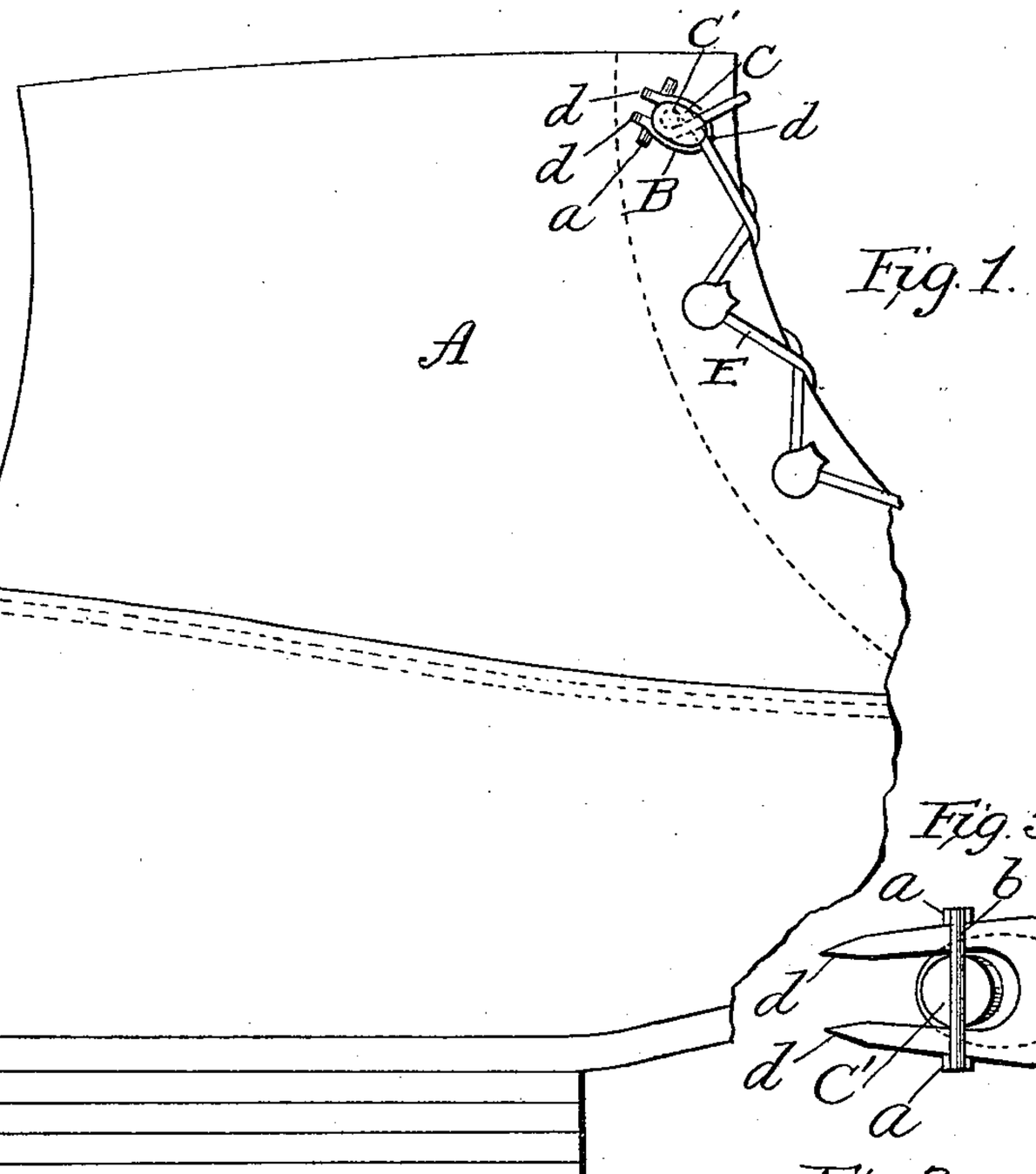


Fig. 1.

Fig. 4.

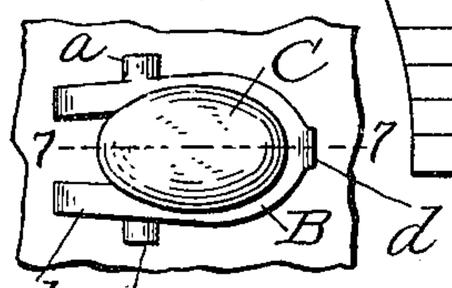


Fig. 3.

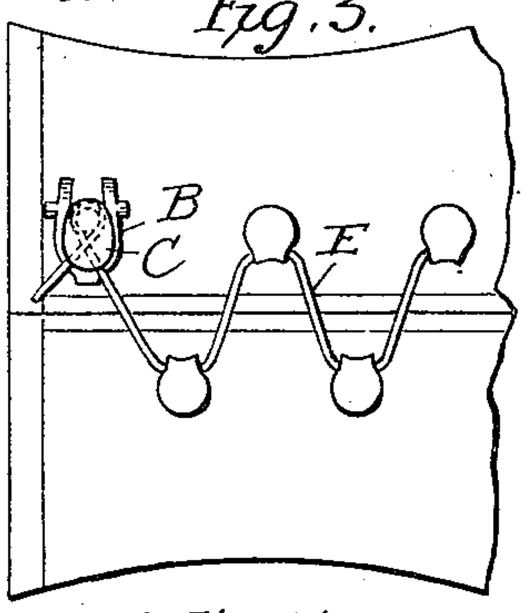


Fig. 8.

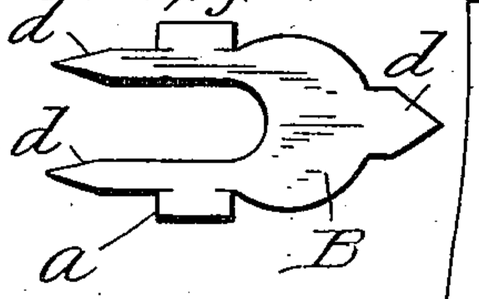


Fig. 9.

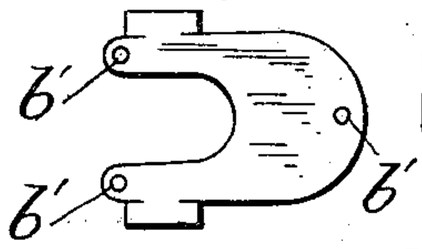


Fig. 5

Fig. 2.

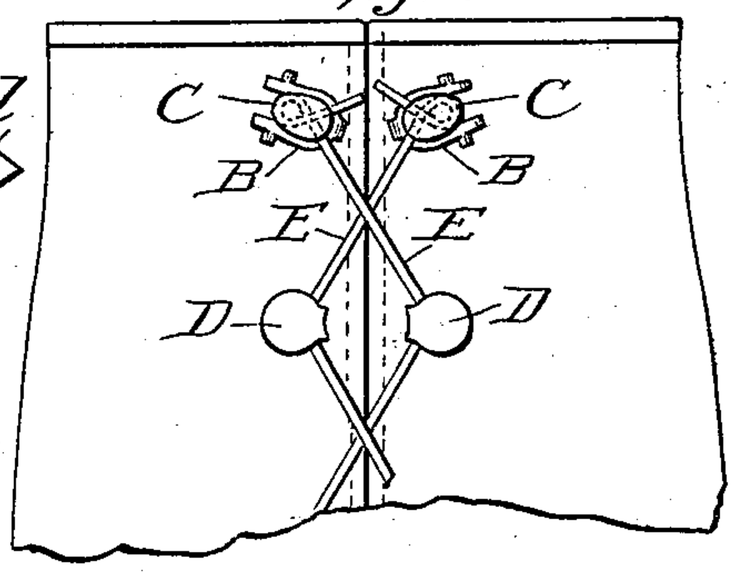


Fig. 6.

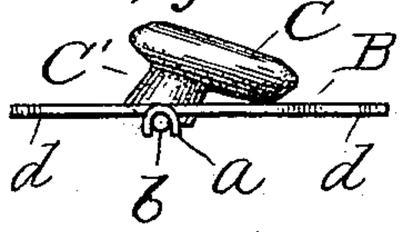


Fig. 7.

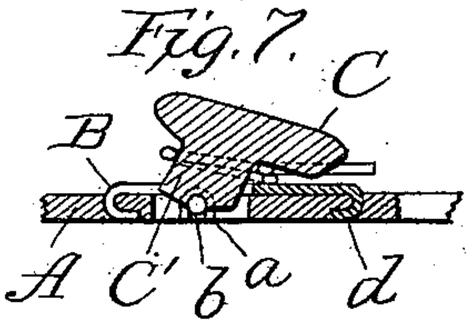


Fig. 11.

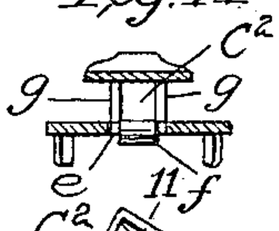


Fig. 10.

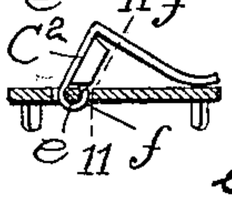
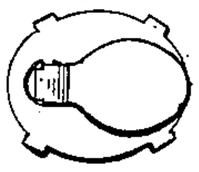


Fig. 12.



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UNITED STATES PATENT OFFICE.

HOWARD N. BROWN, OF BOSTON, MASSACHUSETTS.

HOLDFAST.

SPECIFICATION forming part of Letters Patent No. 667,816, dated February 12, 1901.

Application filed September 7, 1900. Serial No. 29,335. (No model.)

To all whom it may concern:

Be it known that I, HOWARD N. BROWN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Holdfasts, of which the following is a specification.

My invention consists mainly in a lever of any appropriate contour, preferably like that of an elongated button or bean with a flattened under side, having at or near one end of its under surface a neck, which at its lower extremity is hinged or hung by a pintle in the slot of a bed-plate or disk prepared to receive it in such manner that the end of the lever opposite to that to which the neck is attached will fall forward upon the bed-plate or disk by its own weight. This bed-plate is designed to be firmly fastened by screws in any desired place or to have prongs which may be bent over and clenched below the surface of any flexible material, as that of a shoe or a glove. In the operation of my holdfast it is to be thus firmly attached to any surface, flexible or otherwise, for the purpose of holding securely a cord, lacing, or rope upon which some strain is being constantly or intermittently exerted. The free end of this cord, lacing, or rope is passed under the lever and around the neck and is then drawn again under the lever in such wise that it encircles the neck and is crossed once upon itself. This crossing forms a bight under the lever, and when a direct pull or strain is brought to bear upon the cord, lacing, or rope the lever is firmly clamped down upon this bight, so that it is securely held and resists any tendency to loosen until released by a single pull, which instantly draws the free end away from this crossing and out from under the lever by which it is held.

In one of the forms of my holdfast what I have called "ears" may be turned or cast on the under side of the plate and the lever and neck secured by a pintle attached to the bottom of the neck and engaging the ears. Another form includes a plate having a cross-bar in the slot thereof and the back of the neck of the lever elongated and bent, so as to turn loosely around the cross-bar and allow the lever to perform its function of securing the bight. In any of these various forms of levers the under surface in front of the neck may be made concave to a point at or near the front end of the top part.

My invention includes other forms and features hereinafter described.

In the accompanying drawings, Figure 1 is a side view of a part of a shoe having my invention attached. Fig. 2 is a front view of part of a shoe-upper with my invention attached, one of the devices being employed for each lace. Fig. 3 represents my invention in connection with a glove. Fig. 4 is a view of my invention on an enlarged scale. Fig. 5 is a view of the under side of my holdfast on an enlarged scale and before it is attached to the shoe or other article upon which it is to be used. Fig. 6 is a side view of the invention. Fig. 7 is a sectional view on line 7 7 of Fig. 4 with the lever in position to grip the lace. Fig. 8 is a view of the blank from which the plate of Figs. 4 and 7 is formed. Fig. 9 is a view of a blank for a plate which is adapted to be attached to an inflexible or hard surface. Fig. 10 is a sectional view, similar to Fig. 7, of a modified form of the holdfast. Fig. 11 is a sectional view on line 11 of Fig. 10. Fig. 12 is a plan view. Fig. 13 is a sectional view, similar to Fig. 7, of another modification. Fig. 14 is a sectional view of Fig. 13 on line 13 13.

In Fig. 1 of the drawings, A is the side of a shoe having my holdfast attached thereto. B is the plate, with prongs *d d d* clenched upon its under surface. C is a lever or clamping-head having a neck C′ held by a pintle *b*, journaled in ears *a a*, attached to the bed-plate B. E E represent the lacing or cord, which is shown as having been passed under the lever or clamping-head, then around the neck C′, and then drawn under the forward end of the lever C to form the bight or loop, with the lever bearing on the point of crossing. When the lacing is thus placed about the neck of the lever, the strain on the neck of the lever or clamping-head will cause it to tilt over to engage and clamp the loop or bight, and the greater the strain or pressure the greater will be the pressure of the clamping-head on the loop and the tighter the holdfast will clamp the lace.

In Fig. 2 I show two holdfasts, one for each end of the lacing E, the letter D representing the ordinary lacing-stud; but I do not

limit myself to the use of two such devices, as one may be employed, and the two ends of the lacing may be taken together and looped about the neck of a single holdfast and clamped in the manner described above.

Fig. 3 represents the use of a single holdfast in connection with a glove. In both this form and that shown in Figs. 1 and 2 the base-plate for the pivoted lever is adapted to be attached to the flexible material of the shoe or glove by means of the prongs *d*, which are thrust through the material and clenched upon the inner side. This plate is shown in Fig. 8. In case, however, it is desired to use the holdfast on inflexible or hard material on which the prongs could not act the form of plate shown in Fig. 9 could be used, in which holes *b'* are provided to receive screws or other attaching means.

Referring to Fig. 7, which shows the device attached to the flexible material of the shoe or glove, it will be seen that the ears *a a* open downwardly and the pintle *b* slips into them from below.

Where the strain is or may be intermittent, the cord or rope may be liable to slip. To prevent this and to keep the cord or rope in place around the neck, I make the lever or clamping-head so as to project over it.

Figs. 10 and 11 show a modification of my invention in which the base-plate is provided with a bar *e*, integral therewith and extending across its slot, and upon this bar the holdfast lever or head is pivoted by an extension *f* of the neck C^2, which extension partly encircles the bar. The lever and neck are formed of sheet metal in this form, and wings *g* are formed on the edges of the neck to afford strength. This form may be struck up from sheet metal.

In Figs. 13 and 14 a still further modification is illustrated, in which ears *a'* are struck down from the edges of the slot in the base-plate, and in holes in these ears the pintle of the clamping-head bears, this pintle being attached by an eye b^2 to the bottom of the neck. The neck has preferably concaved sides. The head in all the forms projects upon one side of the neck more than upon the other.

I claim—

1. A lace-fastener comprising a base-plate, a clamping-head and a neck portion pivoted at its lower end in the plate and extending above the face of the same, a distance sufficient to form a holding-post around which the lacing may be wrapped, said head being adapted to press upon the lacing when strain is placed upon said neck, substantially as described.

2. A lace-fastener comprising a base-plate, a head and a neck extending from one end thereof at an obtuse angle pivoted in the plate and extending above the face of the same a sufficient distance to provide a post around which the lacing may be wrapped, the front edge of said head being adapted to be pressed against the plate when a strain is placed on said neck, substantially as described.

3. The combination with a base-plate slotted to provide prongs, the ends of which form fastening-tangs, of a stud portion pivoted within said slot, substantially as described.

4. The combination with a base-plate slotted to provide prongs the ends of which form fastening-tangs and ears integral with said prongs, of a stud portion comprising a head and neck, said neck occupying said slot, and pintles projecting from said neck beneath said ears, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

HOWARD N. BROWN.

Witnesses:
C. A. NICHOLSON,
CHARLES G. IRISH.