

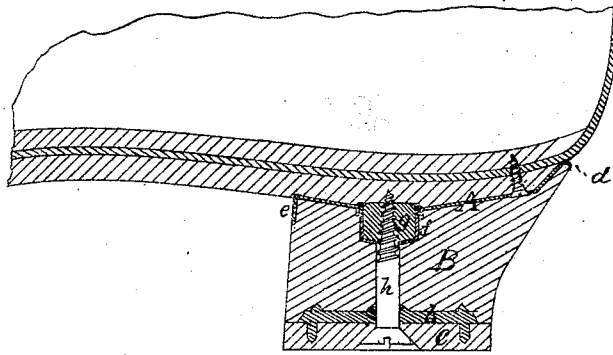


Fig. 1.

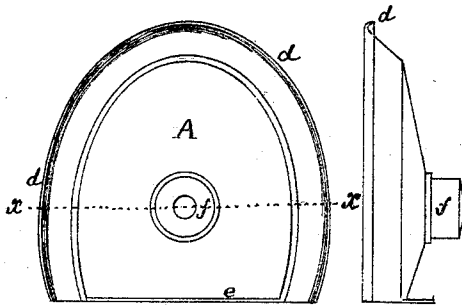


Fig. 2.

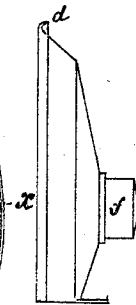


Fig. 3.

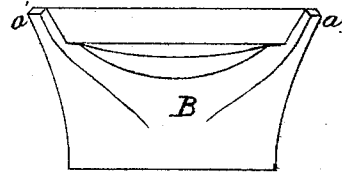


Fig. 5.

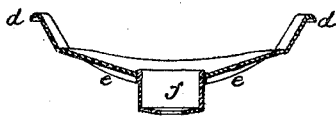


Fig. 4.

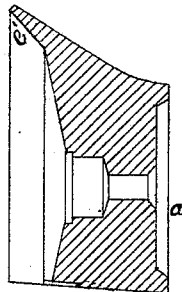


Fig. 7.

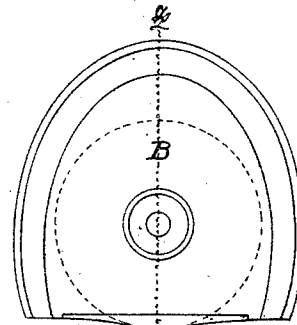


Fig. 6.

Witnesses.

N. B. Lombard
Frank H. Rogers

Inventor.

Mellen Bray

UNITED STATES PATENT OFFICE.

MELLEN BRAY, OF NEWTON, MASSACHUSETTS.

IMPROVEMENT IN BOOT AND SHOE-HEELS.

Specification forming part of Letters Patent No. 118,839, dated September 12, 1871.

To all whom it may concern:

Be it known that I, MELLEN BRAY, of Newton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Boot and Shoe-Heels, of which the following, taken in connection with the accompanying drawing, is a specification:

The object of my invention is the production of a cheap and durable substitute for a leather heel for boots and shoes, and that may be readily removed from the shoe and adjusted to compensate for or correct the wear if it becomes necessary. The first part of my invention relates to the manner of securing the heel to the sole of the boot or shoe; and it consists in the employment of a thin metal base-plate firmly secured to the sole of the boot or shoe by nails or screws, and having on its under side a hollow boss or cup, into which is forced a piece of sole-leather completely filling the same, and serving the purpose of a nut for the holding-screw, by means of which the heel is secured to the sole of the boot or shoe, the leather nut being pierced by a sharp-pointed instrument and a gimlet-pointed screw being used for securing the heel to the sole. The leather nut is prevented from being turned in its socket by indentations made in the sides of the boss. By this arrangement sufficient friction upon the screw is obtained to hold it securely in position and prevent it from unscrewing. The second part of my invention relates to a peculiar formation of the base-plate for the purpose of protecting the edge of the wooden heel and holding it in place; and it consists in the formation, on the side and rear edges of the base-plate, of a curved lip or flange, the outer edge of which is turned downward over the upper edge of the wooden heel in such a manner as to strengthen it and protect it from injury. It also consists in the formation of a flange projecting downward across the front end of said base-plate and fitting into a recess formed for the purpose in the front part of the wooden heel, the purpose of said flange being to stiffen the base-plate and to aid in holding the heel in position, and to remove a portion of the strain from the holding screw.

Figure 1 is a longitudinal section through a heel embodying my invention, and a portion of a shoe to which it is secured. Fig. 2 is a plan view of the under side of the base or holding-plate. Fig. 3 is a side elevation of the same, and Fig. 4

is a transverse section on line *xx* on Fig. 2, looking toward the toe of the shoe. Fig. 5 is an elevation of the front end of the wooden portion of the heel. Fig. 6 is a plan of the same, and Fig. 7 is a longitudinal section on line *zz*, Fig. 6.

A is the base-plate, made of such a form as to fit nicely across the sole at the front end and inclose the rear portion of the outer sole, the upper portion of the inclined sides thereof rising to the upper leather, the upper edge being turned outward and downward in the form of a curved flange or guard, *d*, to fit over and around the upper edge of the lip formed on the upper side of the wooden heel to protect and strengthen the same. A rib or flange, *e*, is formed on the under side of the front end of the base-plate and projecting downward therefrom, which serves as a stiffener for said plate, and also to locate and hold in place the wooden heel. The plate A has a hollow boss or cup, *f*, formed on or secured to its center, the upper side of said cup being open and the underside closed, leaving but a small hole in its center for the insertion of the holding-screw. A piece of sole-leather, *g*, is fitted into the cup or boss *f* and subjected to a pressure sufficient to expand it so as to fill the cavity, and it is secured therein and held from turning around by indentations formed in the sides of said boss. The boss *f* may be made in one piece with the base-plate A, or it may be made in a separate piece and be secured thereto by forming a collar thereon below the plate and turning over the upper edge of the metal of which the boss is formed, upon the upper side of said plate, as shown in Figs. 1 and 4. The leather filling *g* inserted in the cup or boss *f* serves the purpose of a nut for the holding-screw *h*, and effectually prevents the unscrewing of the same and the consequent loosening of the heel. The screw *h* is provided with a gimlet-point, and is forced into the leather nut *g* without removing any of the stock from said nut, and, owing to the confined state of the leather nut *g* and the consequent resistance to separation, sufficient friction upon the screw is obtained to prevent it from unscrewing. B is the body of the heel, made of wood, and having a recess, *a*, formed on its lower side to receive and hold in position the metal-tip plate *b*, to which is secured the leather "lift" *c*. A large portion of the upper side of the wooden heel is cut away, leaving a thin lip of wood, *a'*, projecting upward on the

side and rear portion of the heel to fit around and inclose the inclined sides of the base-plate A, and also has a smaller recess formed in the center of the upper side to receive the boss *f* on the under side of the base-plate A, which completely fills the same and aids in locating and holding in place the heel. The holding-screw *h* passes through the leather lift *c*, the tip-plate *b*, the wooden heel B, and the leather nut *g*, the point of the screw also entering the outer sole, as shown in Fig. 1.

Having thus described my invention, what I desire to secure by Letters Patent of the United States is embodied in the following:

1. The leather nut *g*, arranged and confined in a recess or cup formed in or secured to the base-plate B to receive the holding-screw *h*, substantially as and for the purpose described.

2. The strengthening-rib *e*, formed on the under side of the plate A and extending across the same, substantially as described, for the purpose specified.

3. A boot or shoe-heel provided with a base-plate, A, having curved flange or guard *d* formed on the outer edge of its side and rear portions for the purpose of protecting the upper portion of the body of the heel, substantially as described.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

MELLEN BRAY.

Witnesses:

N. C. LOMBARD,
FRANK K. ROGERS.

(13.)