(No Model.)

S. D. DENSMORE.

HEEL FOR BOOTS OR SHOES.

No. 386,969. Patented July 31, 1888.

Fig. 1,

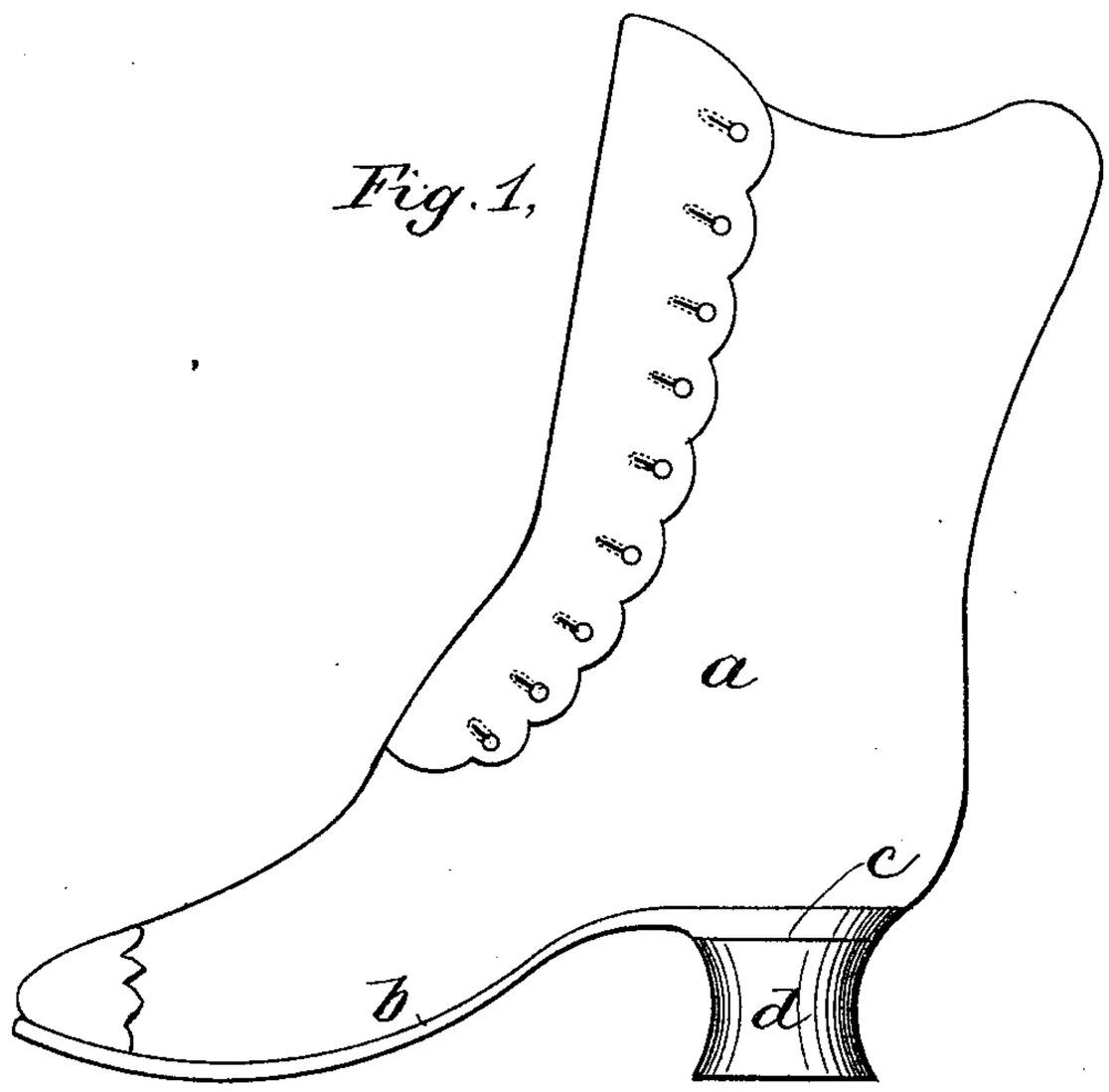


Fig. 2,

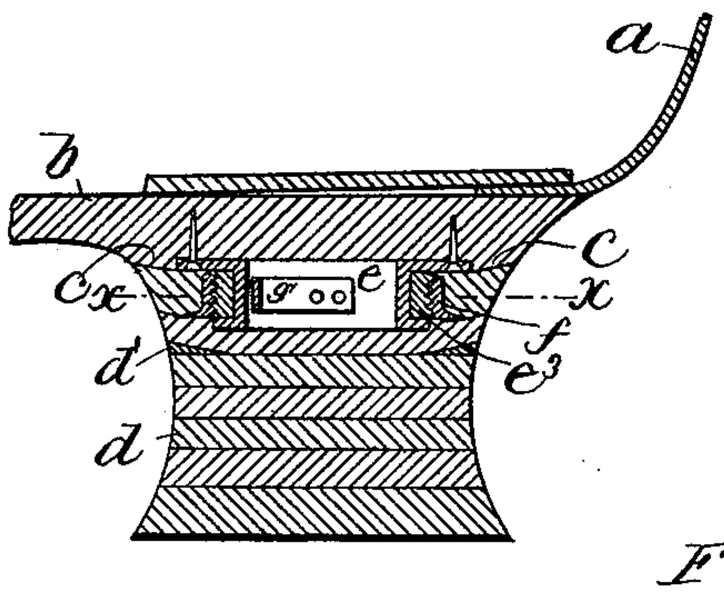


Fig. 3.

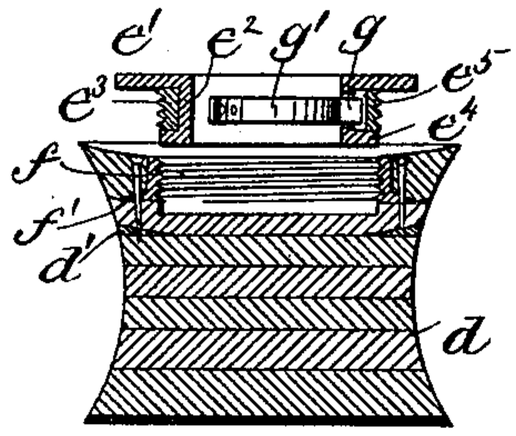
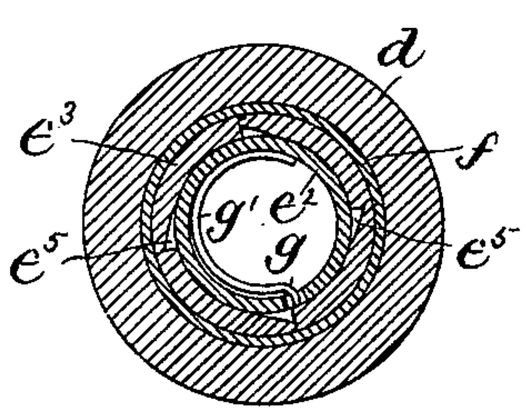


Fig. 4.



Witnesses.
Jas. J. Maloney.
M. E. Hill.

Inventor,
Samuel D. Densmore,
by Jos. P. Livermore
Att'y.

UNITED STATES PATENT OFFICE.

SAMUEL D. DENSMORE, OF BOSTON, MASSACHUSETTS.

HEEL FOR BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 386,969, dated July 31, 1888.

Application filed March 27, 1888. Serial No. 268,625. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL D. DENSMORE, of Boston, county of Suffolk, and State of Massachusetts, have invented an Improvement in Heels for Boots or Shoes, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention relates to a heel for a boot or shoe; and it consists, mainly, in a heel that is substantially circular in a horizontal section from top to bottom, combined with devices, that will be hereinafter described, for pivotally attaching such heel to the sole in such manner that the heel can be turned from time to time in order to expose all portions equally to wear.

Figure 1 is a side elevation of a boot or shoe provided with a heel and means for attaching the same to the sole embodying this invention; Fig. 2, a longitudinal section of the heel and its attaching devices; Fig. 3, a section showing the parts by which the heel is attached to the sole separated; and Fig. 4, a transverse section on line *x x*, Fig. 2, showing the construction of the heel-attaching device.

The upper *a* and sole *b* of the boot or shoe may be of any suitable or usual construction, the heel portion of said sole being properly shaped to make a seat, *c*, for the heel *d*, which may be made of lifts or layers of leather fastened together in the usual manner. The said heel is, however, made circular in horizontal section and has its entire side portion burnished, so that it will have the same appearance in any positon with relation to an axis passing through the middle of the lifts, and the two bottom lifts that come next the sole are concaved, as shown in Figs. 2 and 3, and retained in concave shape by a beveled strip, *d'*, inserted between them and the remaining lifts of the heel. This construction causes the heel to come closely against the seat at the outside and prevents any break or gap between the heel-seat and heel.

The heel-seat *c* has rigidly fastened upon it a metallic ring, *e*, (best shown in Fig. 3,) said ring having a flange, *e'*, to receive the fastenings by which it is securely attached to the heel-seat, and a tubular portion, e^2, upon the outside of which is a threaded ring, e^3, capable of rotation on the part *e*, and being prevented from moving longitudinally thereon by a flange or projecting lip, e^4, or equivalent device, said parts constituting one member of the pivoted heel-fastening device.

The heel *d* has connected with it an internally-threaded tube, *f*, which may have an outwardly-projecting flange, *f'*, which is fastened between the lifts that come next the heel-seat when the heel is applied to the shoe, said threaded tube constituting the other member of the heel-fastening device.

The heel is recessed within the threaded tube *f*, the thread of which is fitted to engage that of the ring e^3.

The collar *e* is provided with a dog or pawl, *g*, (best shown in Fig. 4,) consisting of a projecting finger passing through an opening in the side of the part e^2, the said finger being made at the end of a spring, *g'*, fastened in the portion *e*, as shown in Figs. 3 and 4, and tending to press the finger outward.

The ring e^3 is provided with a number of internal notches, e^5, (see Fig. 4,) which are inclined on one side and steep on the other, so as to co-operate with the dog or pawl *g* like the teeth of a ratchet, the said dog permitting the ring e^3 to turn freely on the part e^2 in one direction, but stopping its rotation in the other direction—namely, the direction in which the heel is rotated when turning the screw *f* upon the screw e^3. The screw or ring e^3 is thus held securely, so that the heel *d* can be fastened tightly upon it by turning the said heel and its threaded ring *f*, so that the latter screws onto the ring e^3 until the heel is brought up tightly against the heel-seat, as shown in Figs. 1 and 2. When, however, the heel is turned in the opposite direction, the ring e^3 accompanies it, movement of said ring in this direction being permitted by the dog *g*, so that the heel cannot be unscrewed, but can be rotated with relation to its heel-seat when required. Thus, when the heel begins to wear at one part of its tread more than another, it may be turned quarter or half around without tendency to separate it at all from the heel-seat; but if at any time it should be slightly separated from the heel-seat it can be turned up tightly to place by rotating it in the other

direction, the dog *g* then preventing the threaded ring e^3 from turning with the heel.

In practice, by turning the heel, together with the ring e^3, in the direction permitted by the dog *g* from time to time, all parts of the heel will wear evenly, thus keeping the sole and upper in proper shape and greatly increasing the durability of the heel.

I claim—

1. The combination of the heel and heel-seat with a projection provided with a threaded ring loosely connected with said projection and a pawl or dog that prevents rotation of the said ring in one direction, and a correspondingly-threaded fastening on the heel cooperating with said threaded ring, substantially as described.

2. The combination of the heel-seat stationary with relation to the shoe and provided with one member of a rotating screw-fastening, with the movable heel having the other member of said fastening connected with it, the said heel having its bottom lift that is in contact with the heel-seat concave, and having a beveled strip, *d'*, between its lifts, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL D. DENSMORE.

Witnesses:
JOS. P. LIVERMORE,
JAS. J. MALONEY.