

(No Model.)

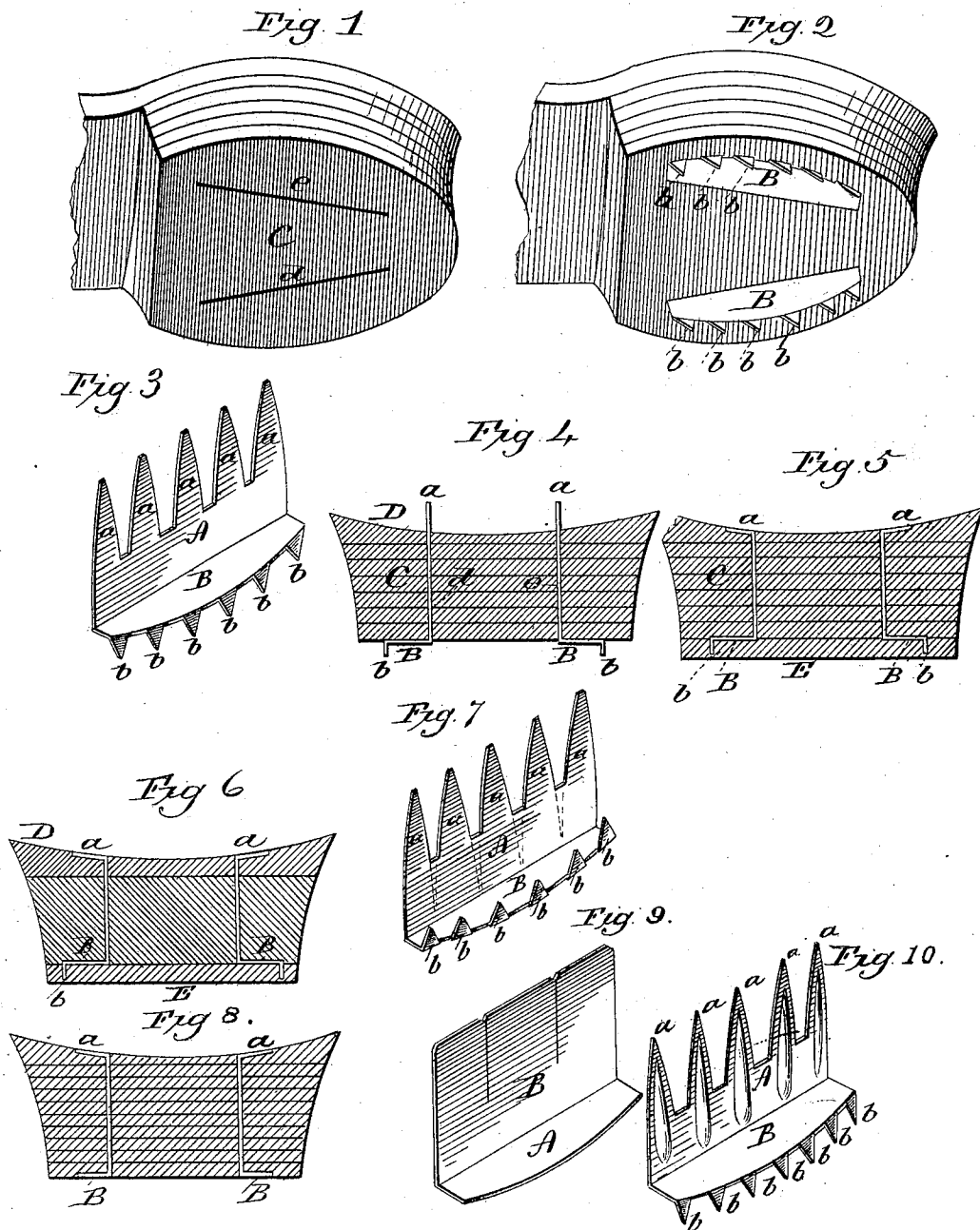
2 Sheets—Sheet 1.

J. L. JOYCE.

HEEL FASTENER FOR BOOTS OR SHOES.

No. 366,844.

Patented July 19, 1887.



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2 Sheets—Sheet 2.

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Fig 11.



Fig. 12.

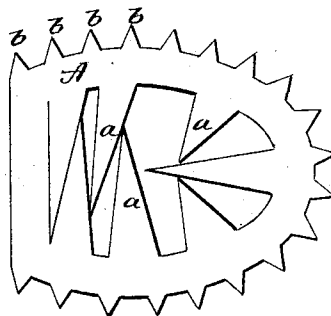
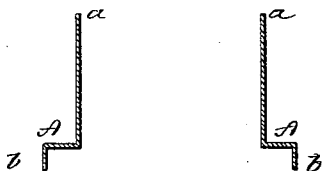


Fig 13.



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JOSEPH L. JOYCE, OF NEW HAVEN, CONNECTICUT.

HEEL-FASTENER FOR BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 366,844, dated July 19, 1887.

Application filed February 21, 1887. Serial No. 228,316. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH L. JOYCE, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Boot or Shoe Heel Fasteners; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a perspective view of a heel as prepared to be secured; Fig. 2, the same heel having the fasteners driven through, showing the flange and spurs upon the outside; Fig. 3, a perspective view of the fastener detached; Fig. 4, a vertical section of the heel, showing the fasteners as introduced. Fig. 5 shows the same heel with the fasteners turned down to form the flange upon the inside of the heel and with the cap applied upon the spurs on the outside; Fig. 6, the fasteners as applied to secure the solid heel; Fig. 7, a perspective view of the fastener, showing the spurs reversed from that seen in Fig. 3; Figs. 8, 9, 10, 11, 12, 13, modifications in the formation of the fastener.

This invention relates to an improvement in the attachment of heels to boots or shoes, the object being to dispense with the usual nailing, and yet secure the heel to the boot or shoe more strongly than can be done by nails.

The device is capable of various modifications to produce the same result. I will first describe probably the best construction for that class of heels in which the last lift is put on as a cap or finish to the heel, and so that the fastening devices shall not appear upon the face of the heel. In this case the fastening devices consist of a plate cut from sheet-steel or other suitable metal. This plate is in width less than the length of the heel, in depth considerably greater than the depth of the heel. At one end the plate A (see Fig. 3) is constructed with several points, *a*, more or less in number, these points being produced by cutting deep notches in the end of the plate, but preferably so as to leave the plate solid below the notches to a depth considerably less than the thickness of the heel. At the lower end the plate is bent at right angles to form a

flange, B. In this case the plate is flat. The edge of the flange is curved corresponding to the curvature of the side of the heel, and around the edge of the flange is a series of projecting spurs, *b*, less in depth than the thickness of the cap to be applied to finish the heel. This fastener may be produced by machinery, employing suitable dies for the purpose.

In the heel C, Fig. 1, to which the fastener is to be applied, preferably two slots, *d e*, are cut, beginning near the rear of the heel and diverging forward. These slots should extend inward from the outside of the heel at least as far as the solid portion of the body A, and pierced beyond for the points *a* to pass through. The heel C is laid upon the sole D of the boot, as seen in Fig. 4. Then the points *a* are introduced through the slots *d* and driven through the heel, until the flange B comes flush upon its outer surface. At this time the points *a* extend through the sole, as seen in Fig. 4. The spurs *b* project beyond the surface of the heel, but to a less extent than the thickness of the cap which is to be applied. The points *a* are now closed down hard upon the inside of the sole, as seen in Fig. 5, so that the heel is clamped to the sole between the flange B and the turned-down points *a*. One such fastener is driven through each of the two slots in the heel. As before described, the curve of the flange B should correspond to the outline of the heel, as seen in Fig. 2. After the fastenings have thus been applied to secure the heel proper to the sole, the finishing-cap E is applied and driven onto the spurs *b* in the usual manner of driving the cap onto the pointed heads of nails, the spurs not being of sufficient length to extend through to the outside; and, as seen in Fig. 5, the spurs serve to hold the cap in like manner as do the pointed heads of nails in the usual construction of heel-nails.

Owing to the fact that the plate which secures the heel is of so great extent, and completely clamps the heel upon the sole, the accidental separation of the heel from the sole is impossible.

I have represented the heel as made from lifts; but it may be a solid heel, as seen in Fig. 6, having slits through it to receive the fasteners, as before described, this fastener being adapted to all constructions of heel. The slits through the heel to receive the fasteners

are readily made by a tool prepared for the purpose.

In some cases it may be desirable to leave the flange B exposed upon the surface of the heel as a protection against the wear of the heel. In such cases I find it advantageous to turn the spurs *b* in the opposite direction, as seen in Fig. 7, so that as the fastener is driven through the heel the spurs *b* will enter the heel and aid in securing the flange upon the surface of the heel, so that the flange will be presented as a protection against wear upon the heel.

The slits in the heel are cut entirely through, and then the plate driven through from the inside and the outer end of the fastener turned down upon the outside of the heel, as seen in Fig. 9, so as to securely clamp the heel and sole between the outer and inner flanges.

Where the fastener is to be driven from the outside inward, it is desirable, if not necessary, to divide the inner end of the fastener in the form of teeth; but these need not of necessity be points, as heretofore described. The body of the plate may be simply divided, as seen in Fig. 10, so that the divisions may be readily turned down into the curved surface of the inside of the sole at the heel.

The fastener may be strengthened by vertical corrugations running from the body onto the points, as seen in Fig. 11, which will give greater firmness to the points in driving.

The points *a a*, instead of starting from the body above the flange, may continue down to the flange, as indicated by broken lines, Fig. 7.

It will be evident that the fastener may be of any desirable extent, and so that but one fastener will be required for a single heel; but they may be made of less extent, say as seen in Fig. 12, which represents the fastener as composed of a short body with a single point, and the flange with a single spur, and so that several such fasteners driven into the heel in like manner as I have described for driving the extended fastener will amply secure the heel; or the fastener may be made of so great extent as to embrace the entire heel. This is done by cutting

a blank, as seen in Fig. 13, somewhat less in size than the size of the heel, and cutting tongues *a a* through the plate of sufficient length to extend through the heel, and with spurs *b* upon its outer edge. These tongues are turned downward, as shown, and the spurs upward, so that the tongues will be driven through the heel, the edge or flange B lie upon the surface of the heel, and the points turned down upon the inside to clamp the heel, as before described, while the points *b* will permit of the application of the cap.

The fasteners are produced as an article of manufacture and in sizes corresponding to the various sizes of heels to be secured.

From the foregoing it will be understood that I do not desire to limit my invention to any precise shape, it only being essential that the fastener shall present a flange with spurs at its edge upon the outside of the heel, with projections therefrom through the heel and through the inner sole, to be turned down upon the inside of the sole and form substantially a flange upon the inside, while the flange will rest upon the outside, and so that the turned-down point and flange will clamp the heel to the boot or shoe.

I claim—

1. A boot or shoe heel fastener consisting of the body A, terminating at one end in one or more points to pass through the heel, and with a flange, B, at the opposite end, turned at substantially right angles to the body, the said flange constructed with one or more spurs, *b*, upon its edges, substantially as described.

2. A fastener for boot-heels, made from sheet metal and consisting of a body terminating at one end in one or more points adapted to pass through the heel, and at the other end with a flange, B, turned at right angles thereto, the said points corrugated vertically, substantially as described.

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