E. A. WINDSOR.

INTERCHANGEABLE HEEL.

APPLICATION FILED FEB. 27, 1920.

1,398,662.

Patented Nov. 29, 1921.

2 SHEETS—SHEET 1.

Fig. 1.

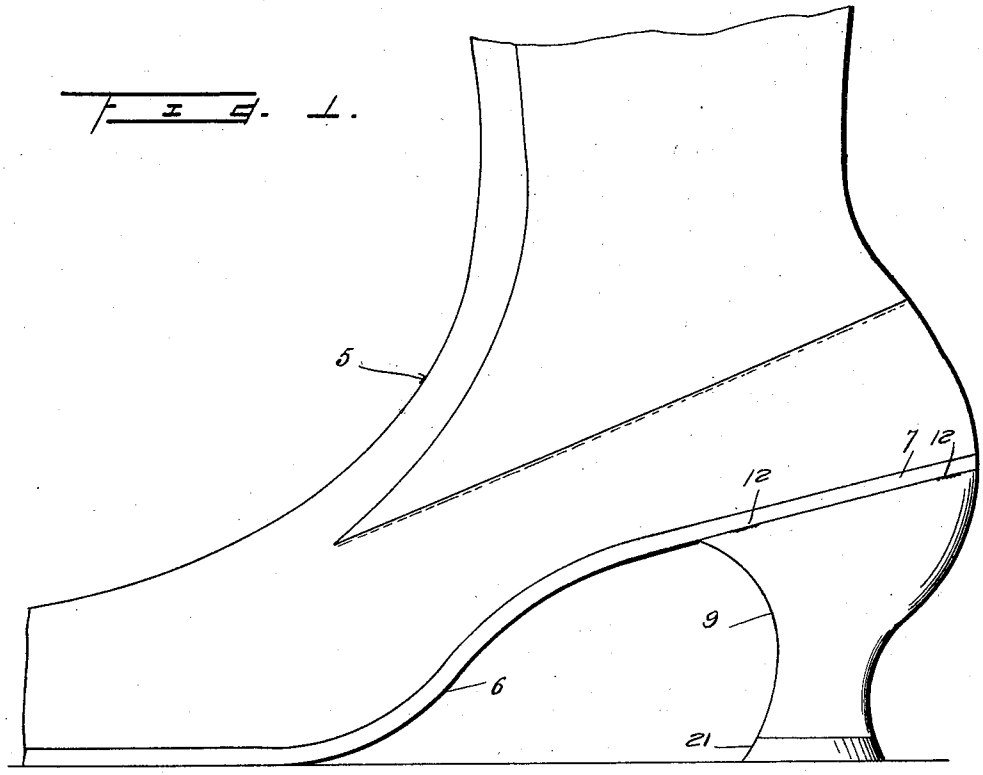
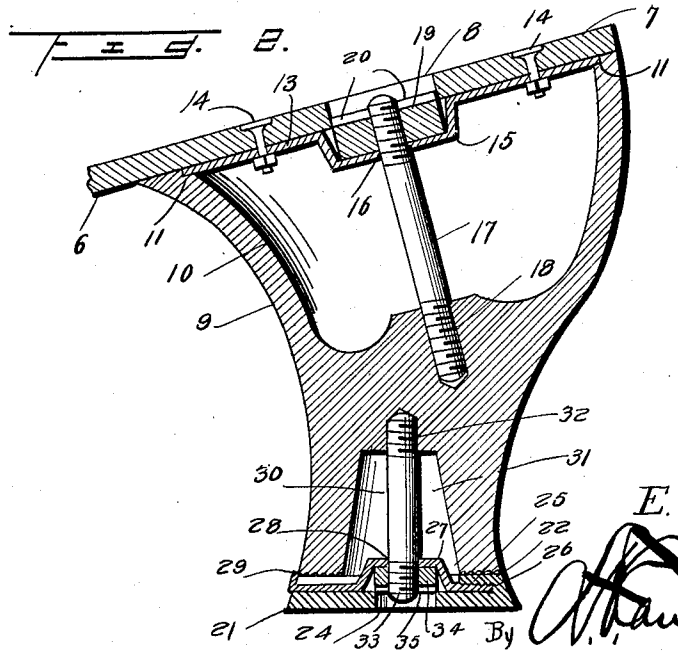


Fig. 2.



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2 SHEETS—SHEET 2.

FIG. 3.

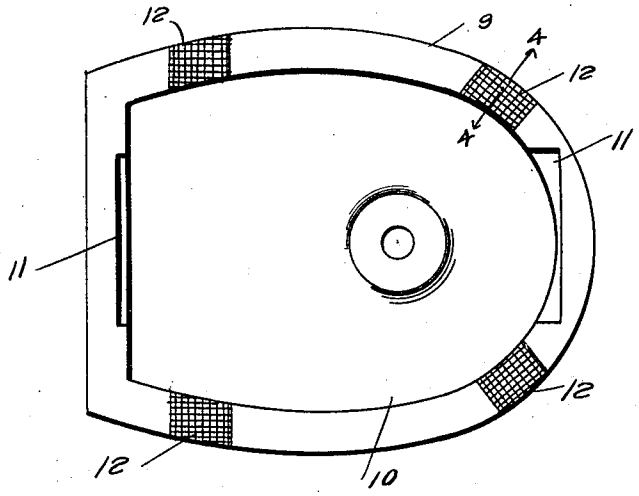


FIG. 4.

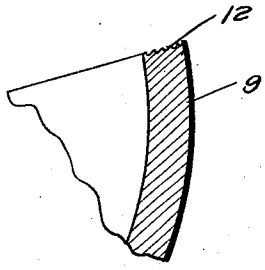


FIG. 5.

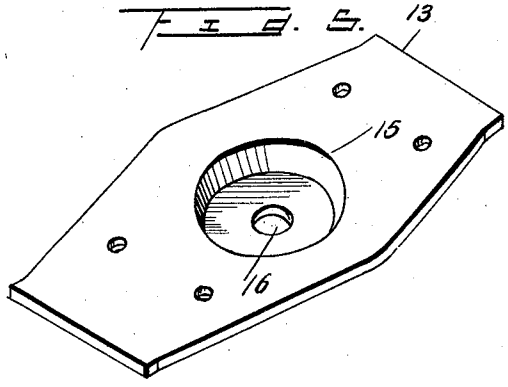


FIG. 6.

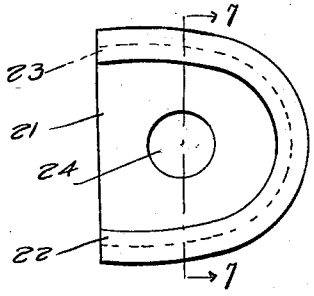


FIG. 7.



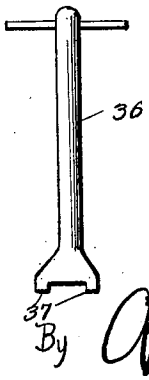
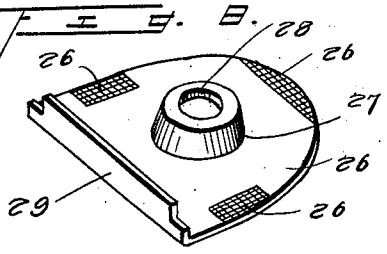


FIG. 8.



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UNITED STATES PATENT OFFICE.

ERNEST A. WINDSOR, OF PORT HURON, MICHIGAN.

INTERCHANGEABLE HEEL.

1,398,662. Specification of Letters Patent. Patented Nov. 29, 1921.

Application filed February 27, 1920. Serial No. 361,894.

To all whom it may concern:

Be it known that I, ERNEST A. WINDSOR, a subject of the King of Great Britain, residing at Port Huron, in the county of St. Clair and State of Michigan, have invented certain new and useful Improvements in Interchangeable Heels; 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 appertains to make and use the same.

My invention relates to improvements in heels for boots and shoes.

An important object of the invention is to provide means whereby a heel may be secured to the shoe in a positive manner to prevent accidental displacement, and at the same time permit of the easy and convenient removal of the heel, when desired, whereby a plurality of different style heels may be used in connection with one shoe.

A further object of the invention is to provide simple and reliable means for detachably securing a cap or tip to the lower end of the heel.

In the accompanying drawings forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a side elevation of a heel embodying my invention, showing the same attached to a shoe,

Fig. 2 is a vertical longitudinal section through the same,

Fig. 3 is a plan view of the heel,

Fig. 4 is a detail section taken on line 4—4 of Fig. 1,

Fig. 5 is a perspective view of an attaching plate of a heel,

Fig. 6 is a plan view of the cap or tip for the heel,

Fig. 7 is a transverse section taken on line 7—7 of Fig. 6, and

Fig. 8 is a perspective view of the cap attaching plate.

In the drawings, the numeral 5 designates a shoe, having a sole 6 extending rearwardly into a heel portion 7. This heel portion has an opening 8.

The numeral 9 designates a detachable heel, of any suitable shape or height. The same is shown as a French or high heel, but it may be any other form of heel, such as a Cuban heel.

The heel 9 is preferably formed of aluminum, and its upper portion is cored out, providing a chamber 10, having recesses or notches 11, in the opposite ends thereof, as shown more clearly in Fig. 3. The upper end of this heel is serrated or milled, forming teeth or grips 12, to frictionally engage with the heel portion 7.

The notches 11 are adapted to receive the ends of a heel attaching plate 13, which may be formed of steel, brass or the like, and prevent the turning movement of the heel. The attaching plate 13 is secured to the lower surface of the heel portion 7 by flat-headed bolts 14, as shown. The attaching plate 13 is provided with a recess or chamber 15, depending therefrom, in registration with the opening 8, and apertured at 16.

The numeral 17 designates a connecting pin, the lower end of which is screw-threaded for connection within a screw-threaded recess 18, while its upper end projects through the aperture 16 to enter the recess 15, and engages a nut 19, having grooves 20. This nut is disposed within the recess 15 and does not project above the heel portion 7.

The numeral 21 designates a cap or tip for the heel, formed of leather or rubber, and having upon its upper side, a flange 22, provided with a groove 23, and this cap has a central opening 24, as shown.

The numeral 25 designates a cap attaching plate, adapted for insertion within the groove 23, and having portions 26 which are milled or serrated, and a central upwardly bulged chamber 27, with an aperture 28. The forward end of the plate 25 is bent upwardly in a flange 29, to prevent dirt passing inwardly between the cap and heel.

The numeral 30 designates a connecting pin, extending through a cored portion or chamber 31, with its upper end screw-threaded into an opening 32. The lower end 33 is screw-threaded and extends through an aperture 28, to engage nut 34, having grooves 35.

The numeral 36 designates a wrench, having projections 37, to enter the grooves of the nuts 19 and 34, whereby either the heel may be removed from the shoe, or the cap from the heel.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same, and that various changes in the shape, size, and arrangement of parts may be re-

sorted to without departing from the spirit of my invention, or the scope of the subjoined claim.

Having thus described my invention, I claim:

A molded shoe heel cored in its top and bottom to provide outwardly opening chambers, oppositely disposed pins secured in the intermediate portion of the heel separating the top and bottom chambers and extending through the latter and threaded at their outer ends, plates extending over the respective chambers and having inwardly depressed centrally apertured portions to receive the outer threaded ends of the respective pins, and nuts threaded on the outer ends of the pins and disposed in the depressed portions of the respective plates.

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

ERNEST A. WINDSOR.

Witnesses:

HEELY BAIRD,

GRACE JOHNSON.