(No Model.)

J. HOWLAND.

SHOE HEEL.

No. 314,130. Patented Mar. 17, 1885.

Fig. 1.

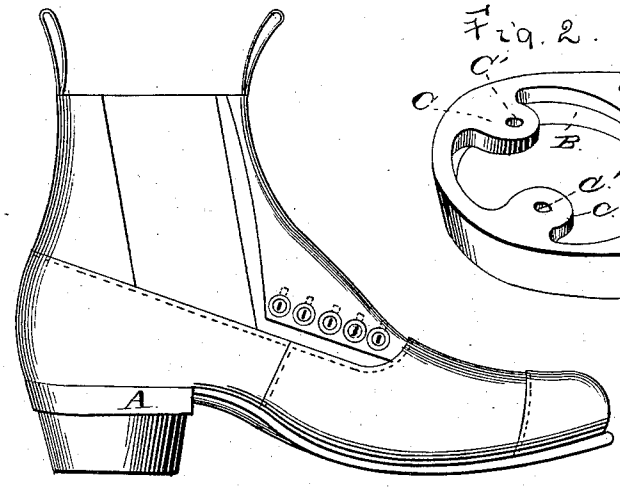


Fig. 2.

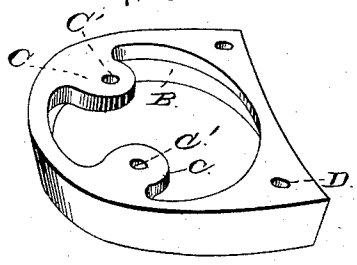


Fig. 3.

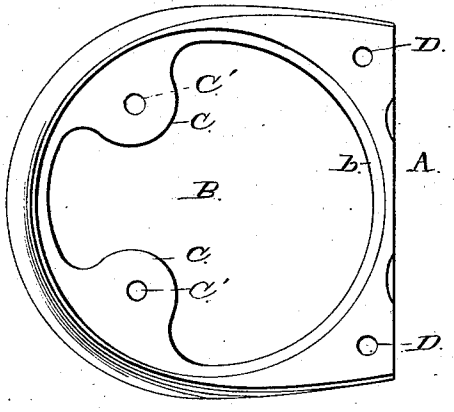


Fig 4

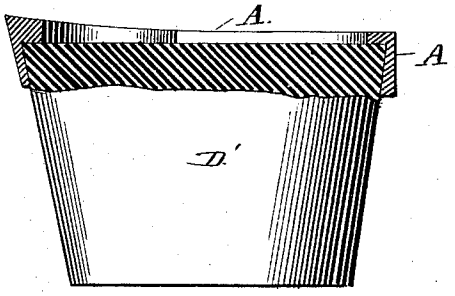
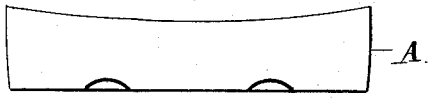


Fig 5.



WITNESSES

Norris A. Clark.

R. B. Impin.

INVENTOR

Joshua Howland.

By R. S. & A. Lacey

Attorneys

UNITED STATES PATENT OFFICE.

JOSHUA HOWLAND, OF UNION SPRINGS, NEW YORK.

SHOE-HEEL.

SPECIFICATION forming part of Letters Patent No. 314,130, dated March 17, 1885.

Application filed September 18, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA HOWLAND, a citizen of the United States, residing at Union Springs, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Shoe-Heels; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to boots and shoes, and has for its object to provide a heel case or support so constructed that the heel may be changed by reversion or inversion to secure the even wear thereof, and by which the height of the heel may be regulated or adjusted.

To these ends and others which will be described the invention consists in certain details of construction and combination of parts, as will be hereinafter specified and claimed.

In the drawings, Figure 1 is a side view of a portion of a shoe provided with my improvements. Fig. 2 is a perspective view of the upper side of the heel-case. Fig. 3 is a bottom view. Fig. 4 is a transverse section of same with the heel in place. Fig. 5 is a detail front view of the heel-case.

The case A is made in the contour of a heel having the rear curved portion and the forward straight portion, and its sides and rear curved portions are preferably tapered downward, as shown. The upper side of the case is conformed to the heel part of the sole of the shoe, preferably by making it dished or slightly concaved, so as to properly fit the common form of the under side of the heel portion of the sole, against which it is fitted and secured in the manner presently described. The lower side of the heel-case is inclined or sloped upward at its rear edge to reduce the liability of said edge coming in contact with the ground when the heel has been slightly worn off. In the under side of the case, I form a round mortise, B, the walls of which are tapered upward and outward, forming the mortise in the shape of an inverted truncated cone. A narrow annular ledge, *b*, is preferably projected horizontally into the mortise especially for the purpose of increasing the breadth of bearing against the sole of the shoe without materially adding to the weight of the heel-case. I extend this horizontal ledge at the rear of the mortise thereinto to form the lug or lugs C, perforated at C', to permit the passage of the retaining-screws which secure the rear side of the case to the sole. The lugs C are projected inward toward the center of the round mortise B, so as to bring the openings C' well under the sole of shoe or boot, so that the fastening-nails may be driven through and be easily clinched or otherwise fastened by the purchaser. These lugs also serve to support the outer parts of the heel, where the greatest pressure is usually exerted. This is particularly necessary where heels of soft rubber are used. The distance intervening between the inner ends of the lugs and the front side of the mortise B provides an open space which will permit a yielding upward of the rubber heel along its central longitudinal line and of the front portion thereof. The portion under the broad lugs will be compressed and rendered more solid and proof against wear. This same result will follow with thin leather heels.

The device is particularly serviceable in that class of foot-wear used by miners and others, where the wear is greatest on those portions under the lugs C. Through the forward opposite corners of the case I form holes D D, through which are passed the screws which secure the forward edge of the case to the sole. Thus I conveniently secure the case to the shoe and so arrange the securing devices that they are not exposed to view or in danger of coming in contact with carpet and injuring same. The heel D' is made circular in cross-section, and preferably of india-rubber or other suitable elastic material. It is fitted to be sprung into the mortise B, with its lower side extending below same to receive the tread on the ground. By reason of the taper given the mortise it will be seen the heel will be held from displacement from the case, and yet may be conveniently removed or rotated for the purpose of adjusting fresh surfaces into the position to receive the wear. I prefer to form the mortise tapering, but it will be understood, where desired, its walls might be made parallel and the heel secured therein by screws,

nails, or other expedients driven through the side of the case into the heel.

In use when one edge of one end of the heel becomes worn the heel may be removed and partially rotated to bring a fresh surface into the wearing position, or the heel may be so rotated at short intervals that the wear may be even on all portions and not excessive on any particular one. The heel may be kept of the desired height by inserting filling-pieces between its upper end and the ledge *b* on the sole of the shoe. Furthermore, when the entire edge of one end of the heel is worn round, leaving a central projection, the heel may be turned end for end, bringing a fresh surface into play. Thus one heel may be worn much longer than the usual fixed variety because of the number of wearing-surfaces which may be consecutively utilized.

My case is simple and may be easily applied to the shoe or boot, and being subjected to no wearing action is practically unlimited as to time of service, and may be taken from boots or shoes when such articles are worn out and be applied to new ones, as will be understood. It will be seen that the heel-case is so formed that the rear part of the heel is more firmly compressed against upward pressure than the front part, the latter part being open, so that the front edge of the heel may yield freely upward. By this construction the front part of the heel is subjected to but slight pressure in use, and consequently but little wear is had thereon, so that when the heel is reversed the part at the rear is substantially unworn and will give results equal to a new heel. The openings C′ and D being arranged so as to fall well under the shoe, the device can be easily attached by any ordinary person after he has removed the original heel which had been nailed to the sole. The inner ends of the nails pass through the insole far enough away from the upper so that they can be readily clinched. I am aware that it is not new to have the heel of a shoe supported in a round mortise so that it may be rotated, nor to have a heel supported in a mortise in a casing having its walls tapered. I do not claim such construction, broadly.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination of the boot or shoe, the metallic heel-case having its upper side conformed to the bottom of the heel part of the shoe, provided in its under side with a round mortise to receive the heel having lugs C, provided with openings C′, and projected from opposite sides inward over the upper or inner end of the rear part of the heel-mortise, and having nail-openings D in its opposite forward corners outside of the heel-mortise, and the heel fitted into the circular mortise in the heel-case, all substantially as and for the purposes specified.

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

JOSHUA HOWLAND.

Witnesses:
JULIUS LUTZ,
JOHN FOLEY.