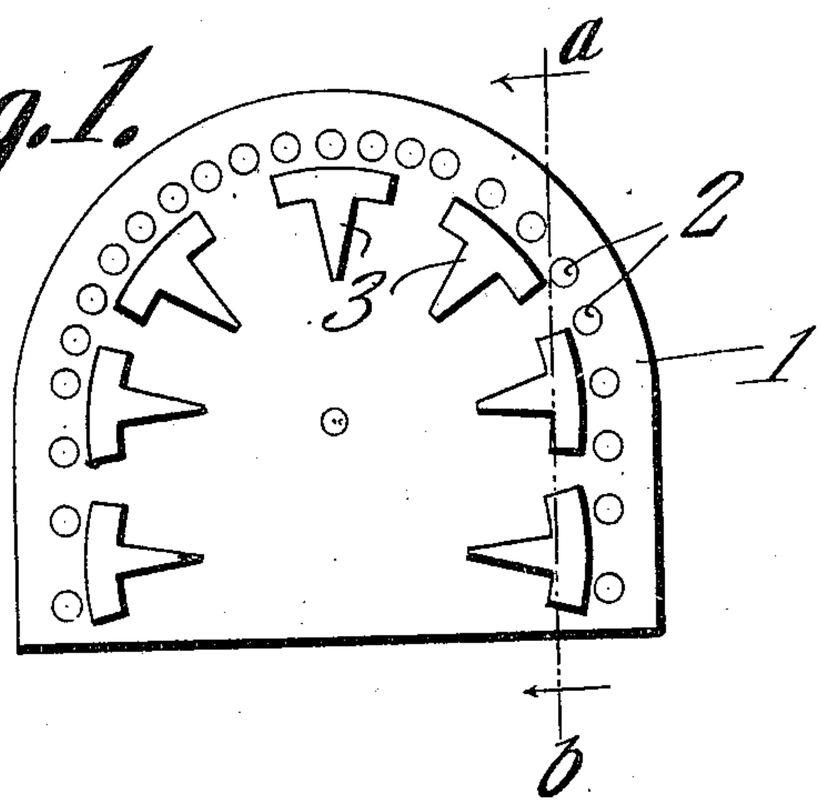
E. W. GRAY.

HEEL PLATE.

APPLICATION FILED AUG. 25, 1909.

975,764. Patented Nov. 15, 1910.

Fig. 1.



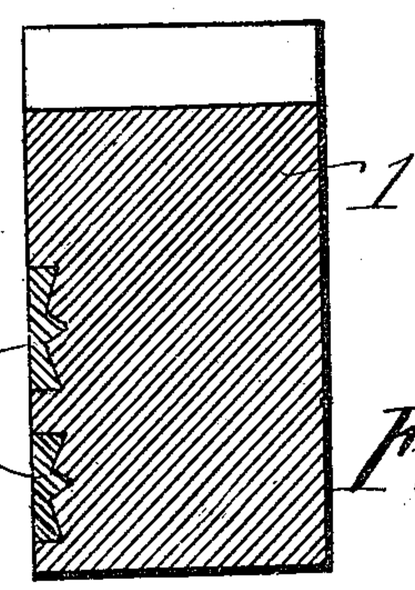


Fig. 2.

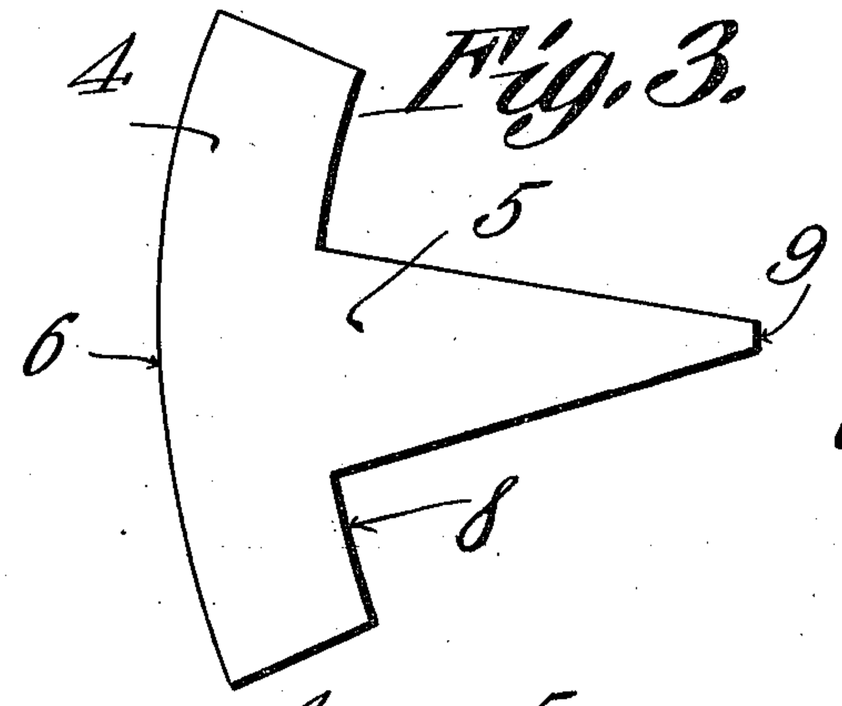
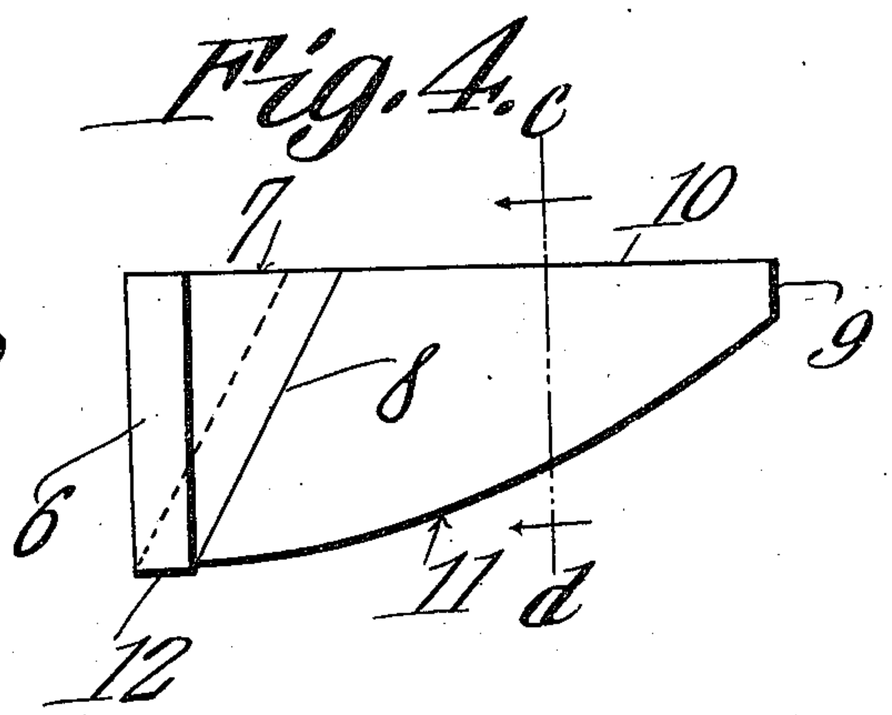


Fig. 3.

Fig. 4.



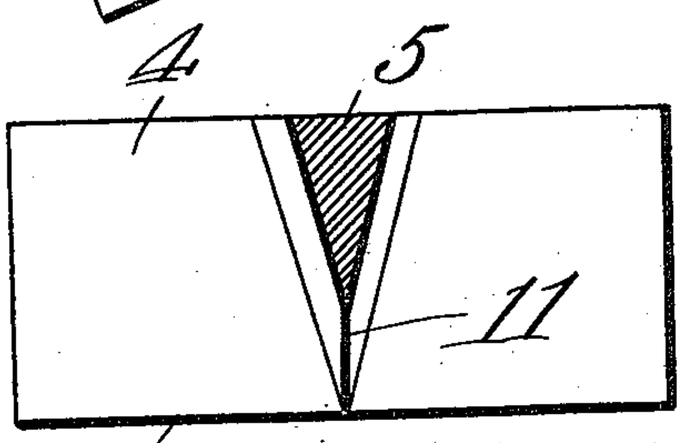


Fig. 5.

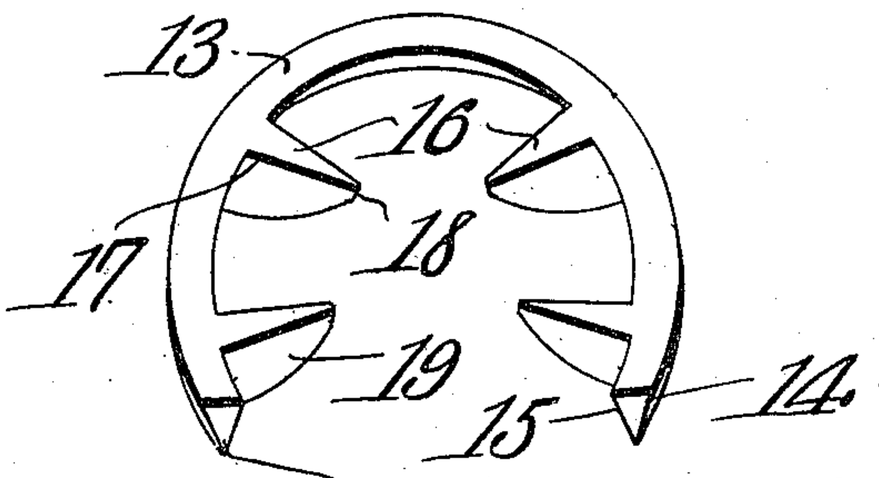


Fig. 6.

Witnesses

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UNITED STATES PATENT OFFICE.

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HEEL-PLATE.

975,764. Specification of Letters Patent. Patented Nov. 15, 1910.

Application filed August 25, 1909. Serial No. 514,616.

To all whom it may concern:

Be it known that I, EDWARD W. GRAY, a citizen of the United States, residing at Jacksonville, in the county of Duval and State of Florida, have invented a new and useful Heel-Plate, of which the following is a specification.

My invention relates to heel plates and has for some of its objects to provide a simple and durable device of this character which may be readily embedded in the heel of a shoe and will not drop out from the heel, and to provide a heel plate having a wide tread and having its penetrating portions arranged in the most advantageous manner for penetrating without unduly weakening the leather.

With the above advantages and other objects in view my invention embraces the structure illustrated in the accompanying drawing, described in the following specification and set forth in the appended claims.

In the accompanying drawing, Figure 1 is a plan view of a heel with my improved heel plate applied thereto. Fig. 2 is a cross sectional view through the line *a*—*b* of Fig. 1. Fig. 3 is a plan view of one of my improved heel plates. Fig. 4 is a side elevation of the same. Fig. 5 is a cross sectional view, taken on the line *c*—*d* of Fig. 4. Fig. 6 is a perspective view of a modified form of the heel clamp.

Like characters of reference designate similar parts in the views shown.

Referring now to the drawings 1 designates a leather heel built up of a plurality of leather lifts secured together by nails 2 in the usual and well known manner. In order to prevent the tread of a heel of this kind from being worn down unevenly at any portion of its periphery I embed in the tread a plurality of heel plates 3 arranging the same preferably within the line of nails as shown.

Each heel plate comprises a wedge head 4 the wedge faces of which are arcuate and a wedge shaped shank 5 projecting laterally from the head. The outer wedge face 6 of the head is perpendicular to the tread or driving face 7 of the head, the advantage of this being to provide a vertical surface adjacent the periphery of the heel so that as the heel and head are worn away a greater surface of the head is exposed to the wear than would be possible were the faces 7 and 6 acutely disposed.

The shank 5 is formed integral with the wedge head 4 and projects radially from the inclined wedge face 8 thereof. The shank is tapering in contour, being thickest at its root 5 where it joins the head and tapers from thence to its free end 9, the object of this being to give a wide tread surface at the junction of the head and shank where the wear will be greatest and also to give great strength and rigidity to the connection which will be subjected to great strain at the time of application to the heel and during the gradual wearing away of the head. The free end 9 of the shank is preferably formed blunt, as shown, as any addition to this end of the shank would be detrimental in manipulating the device when applying it to a heel.

The tread or driving face 10 of the shank is flush with the driving face 7 of the head 4 and the working edge 11 of the shank is rounded upwardly from the working edge 12 of the head toward the free end 9 of the shank. The advantage of this structure is to permit the penetrating portions of the heel plate to be embedded sufficiently in the heel to prevent the device from being jarred loose from the heel, while at the same time to reduce to a minimum the amount of metal performing a securing function in order not to unduly weaken the leather. It will be noted that the heel plate penetrates to its greatest extent at the working edge of the head and at the junction of the latter with the shank, which it is evident are the points of greatest strain.

A modification of my device is shown in Fig. 6 in which the heel clamp is shown having a curved wedge shaped body portion 13 designed to conform to the outline of the heel. The outer wedge face 14 of the body portion is perpendicular to its tread or driving face for a similar reason, as heretofore described, the opposite wedge face 15 being inclined, as shown, to provide a wide tread or bearing surface for the heel. Formed integral with the body portion 13 is a plurality of radial arms 16 each of which is wedge shaped in contour being thickest at its root 17 or secured end and tapering from thence to its point 18. The working edge 19 of each arm is rounded upwardly from the working edge 20 of the body portion to the blunt point 18 of the shank similar to and for a similar reason as the working edge of the above described heel plate.

From the foregoing description, taken in connection with the accompanying drawing, it is thought that the construction and operation of my invention will be easily understood without a more extended explanation, it being understood that various changes in the form, proportion and minor details of construction may be made without sacrificing any of the advantages or departing from the spirit of the invention.

By reason of the fact that the face 6 is at right angles to the driving face 7, the face 8 being disposed at an acute angle to the face 7, the face 6 will be crowded tightly against the material, when the heel plate is driven to a seat, thus enhancing the hold of the plate upon the material. This crowding of the face 6 against the material, will be promoted by the fact that the edge 11 is curved, as shown. Moreover, should it be desired to remove the plate, a tool may readily be inserted beneath the upper end of the edge 11, without digging to a great depth into the heel of the boot. Although the plate may thus be removed, the blunting end 9 prevents the shank from wearing away rapidly.

What is claimed is:

A heel plate consisting of a curved head, wedge shaped in cross section and having its outer wedge face disposed at right angles to the driving face of the head, there being a blunted triangular shank projecting from the inner wedge face of the head, toward the center of curvature of the head, and in a common plane with the head, the shank being triangular in cross section and having its lower edge curved from the lower edge of the head toward the free end of the shank.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

EDWARD W. GRAY.

Witnesses:

LYNCH T. WOOD,

HARRY S. WINTERS.