Feb. 14, 1933. A. W. BELLAVANCE ET AL 1,897,569

SAFETY SHOE HEEL CLAMP

Filed Aug. 14, 1931

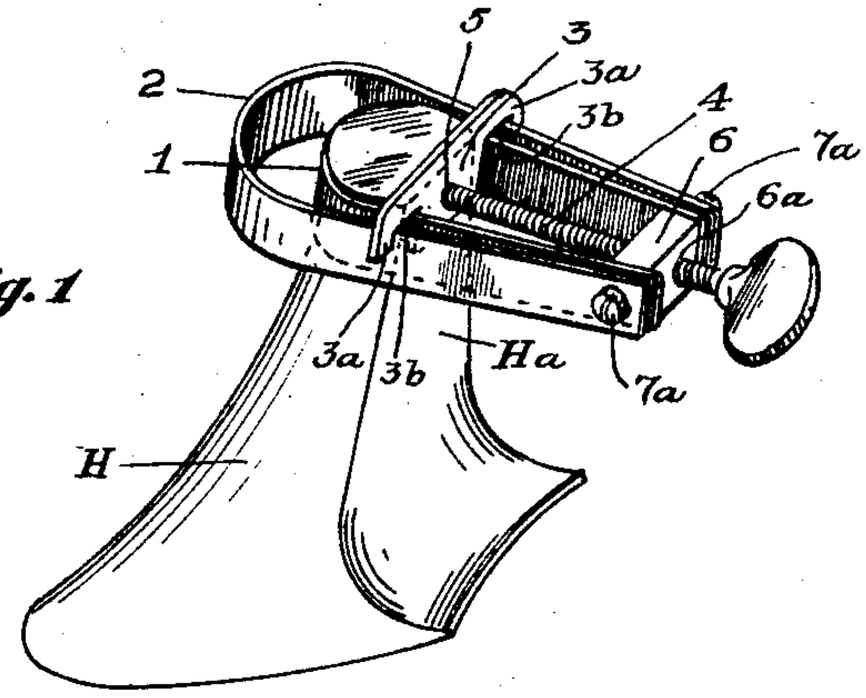

Fig. 1

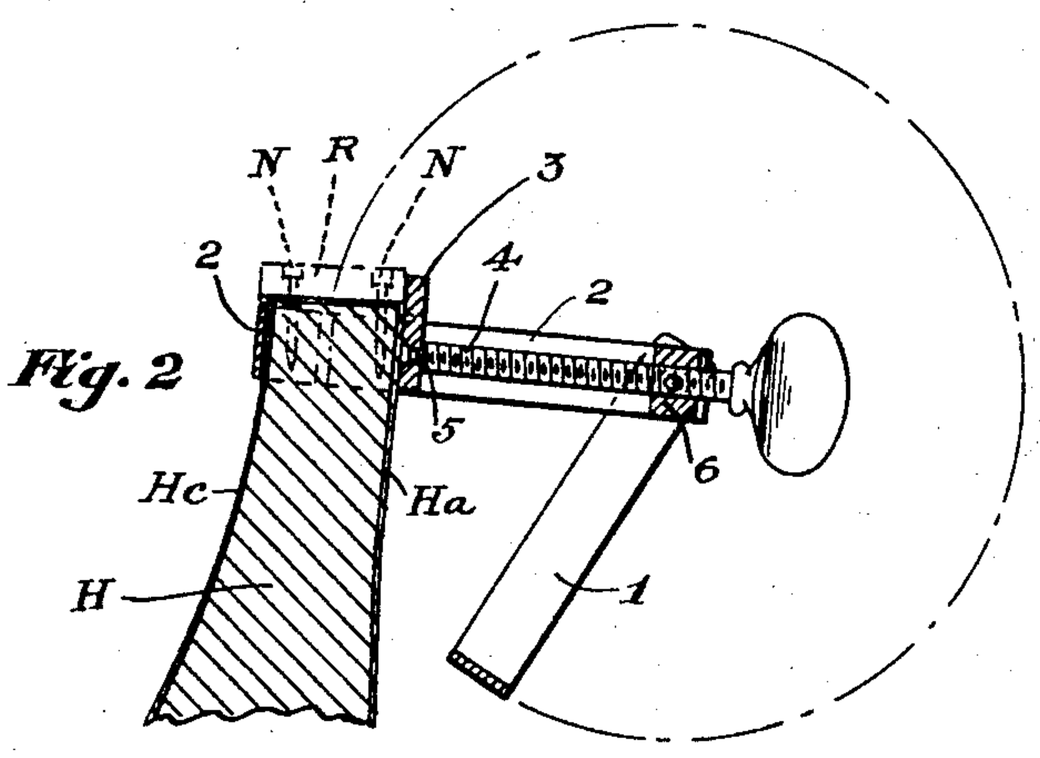

Fig. 2

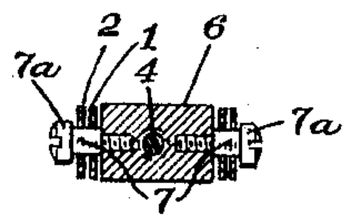

Fig. 4

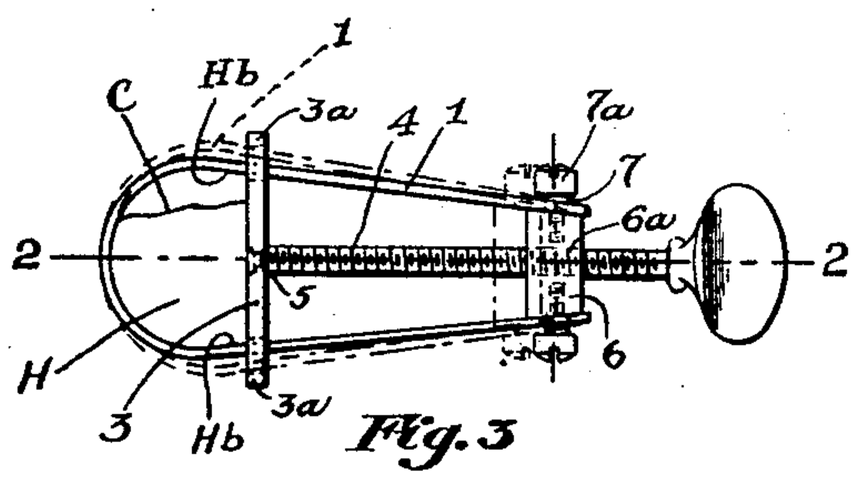

Fig. 3

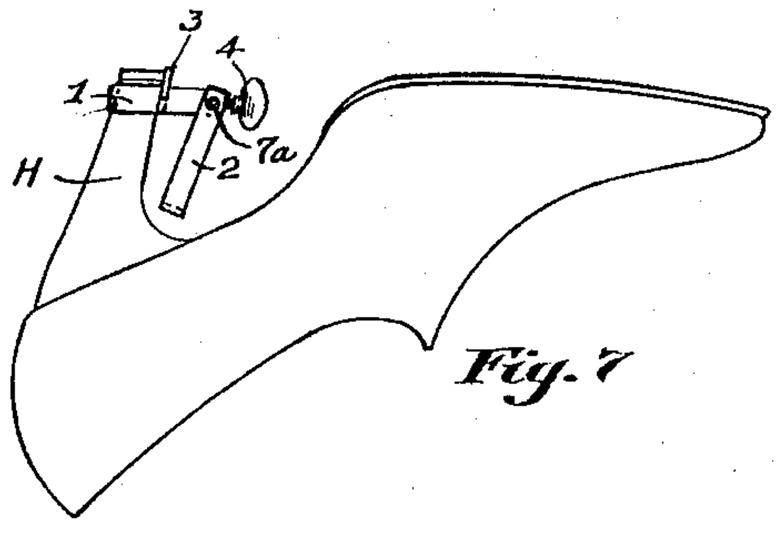

Fig. 7

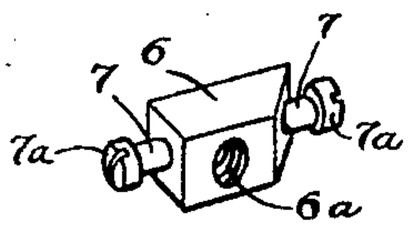

Fig. 5

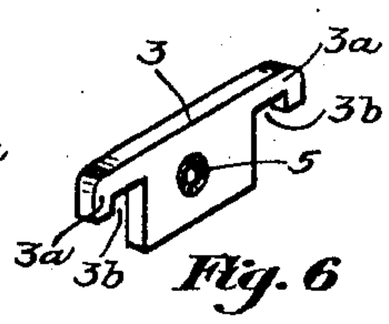

Fig. 6

INVENTORS.

Ambrose W. Bellavance,
and
Harry Levy.

BY Henry L. Chenery.

Attorney.

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UNITED STATES PATENT OFFICE

AMBROSE W. BELLAVANCE, OF SOUTH PORTLAND, AND HARRY LEVY, OF PORTLAND, MAINE

SAFETY SHOE HEEL CLAMP

Application filed August 14, 1931. Serial No. 557,118.

The invention hereinafter to be described relates, in general terms, to clamping devices but deals more especially with a clamp particularly adapted for use in binding on all sides the lower portion of a wooden heel while the operation of securing a rubber or leather pad or lift is being performed.

The attaching of the rubber pad is done by nailing it to the wooden heel, and in many styles of ladies shoes these heels are exceedingly long and slender. It is therefore a somewhat delicate matter to accomplish the nailing without splitting the heel and even in using the greatest of care the cobbler frequently will damage the heel beyond repair. This involves not alone the loss of the heel but the consequent delay in procuring another, as very often these heels are of special design not readily procured.

In our present conception we employ as the principal binding agent a flexible band, preferably of spring steel, which surrounds the circular portion of the heel, and in conjunction therewith a clamp plate which bears on its flat, forward face.

A screw, operable in a screw block, engages the clamp plate and acts, when rotated, to draw the band tightly around the rearward portion of the heel while the pressure applied to the clamp plate forces it against the flat, forward portion. The heel is, therefore, completely bound by the band and plate and liability of its being split while the nails are being driven is very slight.

In many instances the split heel is susceptible of being repaired. After glue has been applied to the parts through the crack the clamp serves as an excellent medium for bringing the split portions together and thus the necessity of procuring a new heel is avoided.

A feature of our clamp to which we attach considerable importance is the employment of a plurality of the bands operable from the same pivotal point but of various sizes. Thus, in a unitary structure, we are able to provide a clamp suitable for use on a variety of sizes of heels. The bands being non-detachable are always ready at hand for service as the circumstances require, and the band or bands which are not to be used on any particular size of heel may be swung out of the way in order to avoid obstructing the workman while operating with the one suited for his immediate requirements.

The character of the invention may best be understood by reference to the description found in the following specification when taken in connection with the accompanying drawing in which a preferred embodiment thereof is illustratively disclosed.

In the drawing, in which like reference characters are employed to identify like parts in all the different views thereof,

Fig. 1 is a perspective view of our two-band cobbler's clamp shown mounted on the heel portion of a shoe;

Fig. 2 is a sectional elevation thereof, the section being taken on line 2—2, Fig. 3;

Fig. 3 is a plan view of the device showing a single band clamp;

Fig. 4 is a section on line 4—4, Fig. 3;

Fig. 5 is a perspective view of the screw block;

Fig. 6 is a perspective view of the clamp plate, and

Fig. 7 is a side elevation of a shoe, inverted, with the clamp shown mounted on the heel thereof.

Referring to the drawing, H represents the wooden heel of a shoe, particularly one of the long, slender types of heels. In Fig. 1 a clamp is shown mounted on the heel, and it comprises two bands, an inner one 1 and an outer one 2. The inner band, in this instance, is the operative one and the outer one may be disposed as shown (Fig. 1) or it may be swung under the mechanism as is illustrated in Fig. 2 with respect to the band 1.

The band 1, in Fig. 1, tightly grips the smaller end of the heel on all sides except the flat, forward face H*a*. On this face abuts the clamp plate 3 which is loosely secured on the end of the thumb screw 4 by a ball and socket type joint, as at 5. To prevent rotation in either direction of the clamp plate while pressure is being applied to or released from it by the screw 4, overhanging ears 3*a* are provided. The clamp plate further

serves as a locating gauge for the rubber pad when being placed on the heel.

To restrain the movement of the bands, laterally of the clamp, when they are not in operative position on the heel, the ears 3*a* are undercut, as at 3*b* forming channels in which the bands may be partially housed.

The screw block 6 has a centrally located screw-threaded hole 6*a* in and through which operates the thumb screw 4, and extending outwardly from each side of the block are trunnions 7 preferably made in the form of shoulder screws the heads 7*a* of which act to prevent displacement of the ends of the bands from off the trunnions on which they are pivotally mounted.

Fig. 2 illustrates the device mounted on a heel requiring the use of the larger of the two bands. In this instance the inner or smaller band is previously swung under the mechanism, as shown, or it may be left in any position on the dot and dash line circle where it will not interfere with the cobbler's work.

In the position of the clamp shown in either Figs. 1, 2 or 3, the work of nailing on the rubber pad R with nails N may be undertaken.

If reference to Fig. 3 be had it will be observed that the screw block 6, as viewed in plan, has tapering sides, and that it is quite considerably narrower than the width of the face H*a* of the heel. It will further be noticed that when the band is first being located over the heel it bulges out or expands laterally to the limit of the channels 3*b*, as indicated by the dot and dash lines representing the band, in Fig. 3.

The object in making the screw block of less width than that of the face H*a* of the heel is that when the block recedes from the heel it will cause the band to draw inwardly on to the flaring sides of the heel and more tightly and forcibly impinge thereon. This is clearly seen in the plan view shown in Fig. 3, in which the flaring sides H*b* are closely bound by the band.

Occasionally a heel is split, either by carelessness on the part of the workman when nailing on the rubber pad, or by inferior or cross-grained material of which the heel is made. A crack C (see Fig. 3) may generally be treated successfully by first gluing the split portions and then appyling the clamp in the ordinary manner.

And here it might be well to state that the clamp has application in numerous other situations, for instance in mending chair rails, balusters, dowel structures and articles generally having a circular or partially circular form. After the separated surfaces have been properly covered by adhesive material the clamp provides a very handy and effective implement to apply and for a time maintain a binding strain on the parts, such as would be the case were they placed between the jaws of a vise.

Another very important function exercised by the band of our clamping device is that, after the rubber pad is nailed to the heel, the band protects the thin decorative material H*c* with which the heel is covered while the margins of the rubber pad are being trimmed. In other words, the band serves as a trimming gauge.

Our invention has been described more particularly as to its application to shoe-repairing work, but we wish it to be understood that this disclosure is simply illustrative and that deviations from the exact mechanical details of construction as have been herein set forth are permissible provided, always, that any such changes as are thought to be desirable shall conform to and be in accord with the spirit and intent of the invention and fall within the scope of the subjoined claims.

What we claim is:

1. A safety shoe heel clamp adapted to operate on the wooden heel of a shoe, comprising a screw block, a screw-threaded hole therein, a headed trunnion on each side of said screw block, a plurality of flexible bands, their ends being pivotally mounted, respectively, on the two said trunnions, said bands adapted, singly, to encompass three sides of a wooden heel suited to its individual size, a clamp plate adapted to impinge on the fourth side of said heel, a screw having threaded engagement with the hole in said screw block, the inner end of said screw having connection, by means of a ball and socket joint, with said clamp plate, and means to prevent rotation of said clamp plate incident to the rotation of said screw therein when drawing one of said bands into binding engagement with said heel.

2. In a device of the character described adapted to completely bind for a predetermined distance upwardly from its bottom end the vertical surfaces of a wooden heel having a circular rearward part, inwardly flaring sides and a flat, forward face, comprising a screw block the dimension of which, transversely of said device, is less than the width of the flat, forward face of said heel, a screw-threaded hole in said screw block, a trunnion on each side of said screw block, a head on each of said trunnions, a plurality of flat, flexible spring steel bands pivotally mounted, respectively, at their ends on said trunnions, the opposite end portions of said bands being arcuate in form and adapted to fit, respectively, the rearward portions of various sizes of heels, a thumb screw having threaded engagement with the hole in said screw block, a clamp plate loosely but non-detachably mounted on the inner end of said screw and adaptable of engagement with the flat, forward face of said heel, an upward extension on said clamp plate providing

a stop for the rubber pad while being nailed on to said heel, an outward extension on each side of said clamp plate, overhanging said bands, transversely of said device and providing means to limit the lateral expansive movement of said bands, and prevent rotation of said clamp plate during the rotation of said screw.

In testimony whereof we affix our signatures.

AMBROSE W. BELLAVANCE.
HARRY LEVY.