UNITED STATES PATENT OFFICE

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DEVICE FOR USE IN ROUNDING AND CHANNELING SOLES OF BOOTS AND SHOES

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This invention relates to improvements in devices for use in rounding and channeling soles of boots or shoes although it may be useful in connection with the performance of either of these operations separately. Although not necessarily limited thereto the invention is particularly useful in connection with the rounding and channeling of the soles of McKay sewed shoes in process of being repaired.

Rounding and channeling machines as usually constructed are particularly adapted for operation upon welt shoes inasmuch as each machine is provided with work guiding means in the form of a crease guide arranged to enter and ride along a welt crease. In a typical McKay sewed shoe, however, there is not, until the outsole has been permanently attached to the upper, any well-defined or definite crease between the upper and the outsole with which the crease guide of a rounding and channeling machine may cooperate to guide the shoe. As disclosed in United States Letters Patent No. 1,702,670, granted February 19, 1929, upon application of Joseph Slater, there have recently been developed improvements in rounding and channeling machines constructed for the purpose of adapting such machines for use in connection with repair work upon McKay shoes, these improvements comprising the provision of a work guide which is constructed and arranged to perform its function by engagement with the shoe upper.

For the successful operation of a machine provided with a work guide of this character it is necessary that means be provided for supporting the shoe upon against the external pressure exerted by the work guide and for this purpose it has been proposed to mount each shoe upon a last before presenting it to the rounding and channeling machine. Such a plan involves the use of a separate last for each size and style of shoe operated upon and is more or less impractical for the reason that shoe repairers, as a general rule, do not keep on hand such a stock of lasts that they have one for every size and style of shoe which may be brought to them for repair.

In repairing a welt shoe it has not been customary to employ a last or filler, the materials adjacent to the welt crease being relied upon to co-operate satisfactorily with the crease guide of the rounding and channeling machine without being supported otherwise than by the insole and the in seam stitches. In cases, however, where the insole is thin or has been considerably worn, it is liable to turn up at the edge or to buckle under the pressure of the work guide and in such an event the work will not be properly guided and the outsole will not be rounded or channelled accurately.

In view of these conditions, one object of the present invention is to provide means, other than a stock of lasts of the usual run of sizes and styles, which may be sold at a reasonable price and which shall enable a shoe operative or a shoe repairer to deal with any work that may be brought to him.

To the accomplishment of this object, a feature of the invention consists in the provision, for use in connection with a rounding or channeling machine, of a novel device adapted to be inserted within a shoe and constructed to support against external pressure substantially that portion only of the shoe upper which is to coact with the work guide of the machine to guide the shoe. As illustrated the device provided for this purpose comprises a filler plate adapted to rest upon the insole, the thickness of the plate being such that its edge faces will engage and support the upper only along a relatively narrow area immediately adjacent to the insole. Moreover, the illustrated filler is shaped to provide internal support for that portion only of the upper which is forward of the shank portion of the shoe. Such a filler is
particularly adapted for use in repairing shoes where the forepart only of the old outsole has been removed and where, accordingly, only a tap or half sole is to be applied by the repairer. If, however, a full length sole is to be applied a filler extending rearwardly along the shank portion of the shoe would be provided.

The foregoing and other objects and features of the invention will be apparent to those skilled in the art from the following description, in conjunction with the accompanying drawings which illustrate one exemplification of the invention, and will hereinafter be pointed out in the claims.

In the drawings,

Fig. 1 is a plan view of a filler or support constructed in accordance with features of the invention;

Fig. 2 is a view in side elevation of the filler; and

Fig. 3 is a view showing, in elevation, the operating instrumentalities of a rounding and channeling machine of the type disclosed in the above mentioned application, and also showing, in transverse section, a portion of a McKay-sewed shoe being operated upon by said machine, the shoe being provided with a filler such as that shown in Figs. 1 and 2.

Referring to the drawings, the improved device herein illustrated comprises a wooden plate or filler 4 which is adapted to be inserted inside a shoe to expand the base of the forepart of the upper into correct outline and to support that part of the upper against the pressure of the work guiding means of a rounding and channeling machine. In order to avoid the use of a separate plate or filler for each size, width and style of shoe, the plate 4 is so shaped as to go into a shoe of the most pointed type. Such a plate will obviously not support the extreme toe end of an upper of a wider type against the pressure of a work guide but this is unnecessary for, even in the case of women’s shoes of the lighter sort, the toe stiffener retains its shape and will be sufficiently strong to act as a support against the pressure of the work guide. At the toe tip line and from there to the ball, all shoes of a size are of substantially the same width, and consequently the wooden plate 4 is made to correspond to this normal measurement and will therefore coincide with the shape of the insole within reasonable limits. Indeed, it is believed that one plate 4 will be suitable for several sizes of the more common shapes, since for repair work absolute accuracy is unnecessary.

The plate 4, at its rear portion, is recessed at 6 and has a transverse pin 8 to which is pivotally connected one end of a leaf spring 10 the other end of which carries an abutment in the form of a wooden ball 12 for insertion within the heel end or counter portion of a shoe, the arrangement being such that the spring 10 forces the plate 4 downwardly to keep it in contact with the insole and the position of the pin 8 being for this purpose located, in operation, below a straight line joining the points at the toe and heel which take the thrust due to the spring. To prevent the plate 4 from shifting laterally under the pressure of a work guide, such as that shown at 14 in Fig. 3, and longitudinally under pressure of its spring 10, the plate 4 is provided on its under face with three metal spikes 16 adapted to be inserted in the insole of the shoe. Owing to the presence of these spikes it is desirable to have different plates for right and left shoes. If desired, various wooden plates may be interchangeably carried upon a single spring, as for instance by providing the end of the spring 10 with a spring fork 18 adapted to slip over the pin 8, as shown in Fig. 2.

In use, the plate 4 is thrust into the shoe which, if being repaired, has first had the worn outsole removed and replaced by a new outsole or tap, and then the operator looks inside the shoe to see if the plate 4 is located centrally in relation to the insole 20 and, having made any adjustment that may be necessary, he presses upon the top of the upper 22 to force the plate downwardly and so to press the metal spikes 16 into the insole, in this way fixing the position of the plate. The ball 12 is then forced into position inside the heel or counter portion of the shoe, the spring 10 being bent to keep the plate 4 from rising. The shoe, with the upper supported by the plate 4, is then presented to the machine where it is guided by the work guide 14 and acted upon by rounding and channeling knives, such as indicated, respectively, at 26 and 28 in Fig. 3. During the rounding and channeling operation, the tap or new outsole 24, which, prior to the insertion of the plate 4, has been nailed at its rear end to the scarf at the waist of the shoe and has been attached to the insole by several temporary tacks, is then properly positioned and supported with respect to the rounding and channeling instrumentalities, the plate 4 acting as an inside support for the upper between the ball and the tip line, and the toe stiffener acting as a support for said instrumentalities around the toe. The remaining part of the original sole overlaps the new sole or tap at the scarf, and the upper at this locality is more or less positioned by the overlapping portion of the old sole; this, together with the fact that the work guide 14 is comparatively wide, will permit rounding and channeling somewhat beyond the end of the plate 4 and thus bridge any gap such as may occur especially on the larger sizes between the end of the plate 4 and the remainder of the old sole.

Having thus described the invention, what is claimed as new and desired to secure by Letters Patent of the United States is:
1. For use with a rounding or channeling machine, a filler adapted to be inserted within a shoe and shaped to engage the upper only along a narrow margin immediately adjacent to the insole to support against external pressure substantially only that portion of the shoe upper which is to be coated with the work guide of the machine to guide the shoe, and yielding means carried by said filler and constructed and arranged to press it against the insole.

2. For use with a rounding or channeling machine, a device comprising a flat plate adapted to be inserted within a shoe and shaped to engage the insole only forward of the Shank portion thereof and to engage the upper only along a narrow margin immediately adjacent to the insole to support against pressure only that portion of the shoe which is to be coated with the work guide of the machine, said plate being constructed to be secured to the insole of the shoe so that it cannot move laterally of the shoe during the operation performed by the machine.

3. For use with a rounding or channeling machine, a filler for the forepart of a shoe shaped to engage the insole and that portion only of the forepart of the upper which is located in the immediate vicinity of the junction of the upper with the insole, yielding means for pressing the filler downwardly against the insole, and other means for holding the filler against movement laterally of the shoe.

4. For use with a rounding or channeling machine, a device comprising a support partially filling the forepart of a shoe and adapted to lie upon the insole inside of the shoe to support against pressure that part of the upper which coats with the work guide of the machine, means for positively holding said support against movement laterally of the shoe while the support lies upon the insole, and yielding means detachably connected with the support for engaging the inside of the counter portion of a shoe to press the support downwardly against the insole.

5. For use in repairing shoes, a device in the nature of a filler comprising a supporting plate adapted to rest upon the insole inside of a shoe and having a recessed rear portion, a pin extending across the recess in the supporting plate, and spikes on the supporting plate to prevent movement of the plate edgewise relatively to the insole.

6. For use in repairing shoes, a device in the nature of a filler comprising a supporting plate simulating the outline of an insole and provided with spikes to prevent movement of the device relatively to the insole, and means for pressing said device against the insole.

In testimony whereof I, the said FRED RICKS, have signed my name to this specification.

VINCENT EDWARD WILSON.

In testimony whereof I, the said VINCENT EDWARD WILSON, have signed my name to this specification.

VINCENT EDWARD WILSON.
CERTIFICATE OF CORRECTION.

Patent No. 1,733,205. Granted October 29, 1929, to

FRED RICKS ET AL.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 1, line 38, for the word "upon" read upper; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 9th day of December, A. D. 1930.

M. J. Moore,
Acting Commissioner of Patents.