

C. GOODYEAR, Jr. & J. DA SILVA.
BOOT AND SHOE SOLE.

No. 113,420.

Patented Apr. 4, 1871.

FIG. 1.



FIG. 2.

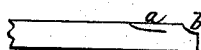


FIG. 3.



FIG. 4.

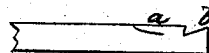


FIG. 5.

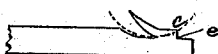


FIG. 6.

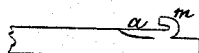


FIG. 7.

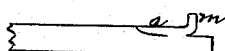


FIG. 8.

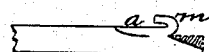


FIG. 9.

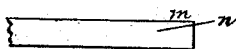


FIG. 10.

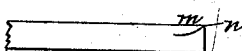


FIG. 11.

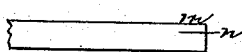


FIG. 12.

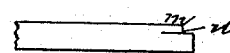


FIG. 13.

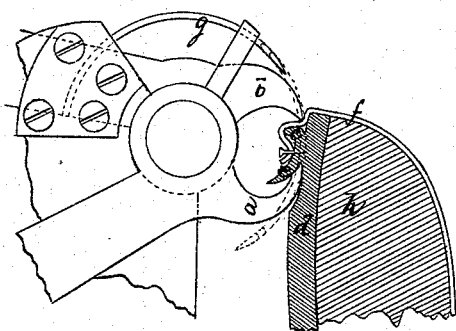
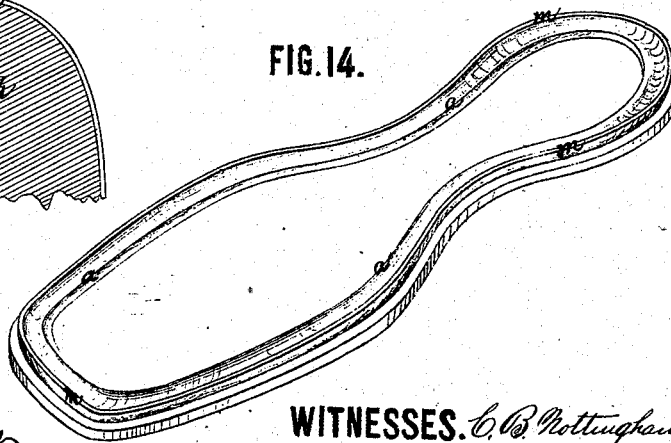


FIG. 14.



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UNITED STATES PATENT OFFICE.

CHARLES GOODYEAR, JR., OF NEW ROCHELLE, AND JOZE DA SILVA, OF WILLIAMSBURG, NEW YORK, ASSIGNORS TO CHARLES GOODYEAR, JR.

IMPROVEMENT IN BOOT AND SHOE SOLES.

Specification forming part of Letters Patent No. 113,420, dated April 4, 1871.

To all whom it may concern:

Be it known that we, CHARLES GOODYEAR, Jr., of New Rochelle, in the county of Westchester and State of New York, and JOZE DA SILVA, of Williamsburg, in the county of Queens and State of New York, have invented certain new and useful Improvements in Boot and Shoe Soles, of which the following is a specification:

In the accompanying drawing, Figure 14 is a perspective view of a boot or shoe sole made in accordance with our invention. The remaining figures represent diagrams of portions of soles intended to more fully illustrate the nature and advantages of our invention, and the points in which the sole we produce differs from others heretofore made.

Hitherto, in preparing soles to be sewed by machinery, whether for welts or turned work, it has been customary to channel the sole, as indicated in Figs. 1, 2, 3 4, *a* representing the flap cut for the inner channel, and *b* representing the outer channel; the soles cut as shown in Figs. 1, 2, and 4 being designed for what are termed "mock-welts" or turned shoes, having a thick edge to the sole when finished, and the sole represented by Fig. 3 being similar to those used either for welted work or "French edge" turned work.

When the sole is prepared in either of the modes above described it is difficult in machine-sewing to avoid imperfections, for the reason that the needle is apt to "point out" too high, or, in other words, to penetrate the sole above the bottom of the outer channel, as illustrated in Fig. 5, where the dotted line indicates the path of the needle. If the needle, as is very often the case, points out at the upper edge or corner *c* of the outer channel, the thread cannot take a sufficient hold upon the leather to keep the upper from pulling up and causing the work to have a bad appearance, or, in the language of shoe-makers, to "grin at you." It is always desirable to point out as near as possible to the point *e*—that is to say, the bottom of the edge groove or channel; but, owing to variations in the quality of the stock, and to other causes, this result is not, as before stated, always arrived at; and, even when it is attained, the sewing, if the sole be thin and soft and the edge groove proportionately shallow, will still,

at times, present the objectionable appearance above alluded to.

To remedy these and other difficulties is the object of our invention, which consists of a boot or shoe sole in which there is combined with the usual inner channel an outer or edge channel, formed, not by cutting out a portion of the stock along the edge, but by making an incision in the edge of the sole of such depth that a lip or flange is produced, which may be turned back so that it will stand nearly at right angles with the path of the needle, and form a support to the upper when the latter is sewed to the sole.

The manner in which our invention is or may be carried into effect is represented in Figs. 6, 7, 8, 9, 10, 11, 12, 13, and 14. The incision *n*, shown, for instance, in Fig. 11, is made in the edge of the sole at the desired distance below the surface of the sole, and of such depth as required in order to produce a flange of any particular dimensions. A lip or flange, *m*, is thus formed, which can be lapped or turned up, as indicated in Figs. 6, 7, and 14, to afford a firm support to the upper, and to enable a strong and durable seam to be made; for even if the needle should point out as high as represented in Fig. 5, the stitch will, when the channel is formed as described, take a firm hold upon the leather. In other words, the flange or lip thus formed has the effect to deepen the channel, or to make that side of it which is subjected to the thrust of the needle much higher than has heretofore been practiced.

In preparing soles for welts, or to be finished with a French edge, a portion of the sole from the bottom of the channel should be removed to form the beveled edge required for this kind of work, as represented in Fig. 8, the shaded portion of the sole in that figure representing the part which should be cut away.

It is obvious that the incision *n* may be made obliquely or parallel with reference to the plane of the sole, as represented in Figs. 9 and 11, and that it may be either straight or curved, as shown in Fig. 10; and that, if desired, a portion of the lip or flange may be cut away, as indicated in Fig. 12, still leaving a flange of sufficient length to be turned up.

As hereinbefore specified, the sole is, of course, provided with an inner channel or groove, *a*,

the general direction of which is parallel with that of the outer or edge channel, and formed by making an incision in the sole, or in any other suitable manner.

Shoes with soles prepared in accordance with our invention are lasted in the usual manner, care being taken, in driving the tacks, not to turn down the flange *m*. After the sole is sewed, the raised portion of the flange is cut away and trimmed off as close as can be with safety to the sole, in order to have a smooth finish when it is hammered on the last.

Shoes thus finished are stronger and more durable than those prepared in the manner heretofore practiced, as the turned-up flange "bracksets" the stitch and forms a much stronger edge.

Another material advantage resulting from this mode of preparing the sole, is that the turned-up edge flange, together with the lip or flange of the inside channel, give such a formation to the sole that the two jaws or gages of the sewing-machine can take firm hold of the outer edge as well as the inside channel, as represented in Fig. 13, in which *a* and *b* represent the two jaws; *c*, the flange of the edge channel; *d*, the sole; *e*, the lip cov-

ering the inner channel; *f*, the upper; *g*, the needle; and *h*, a portion of the last.

Another result of this construction of the channels is that the shoe may be sewed upon any last, without reference to its being more or less rounded or beveled, owing to the manner in which the channels, on account of their peculiar formation, allow the two jaws *a b* to take hold of the leather.

Having now described our invention, and the manner in which the same is or may be carried into effect, what we claim, and desire to secure by Letters Patent, is—

A boot or shoe sole provided with an edge lip or flange, formed substantially in the manner described, and an inner channel or groove, the two following lines parallel with the edge of the sole, substantially as shown and set forth.

In testimony whereof we have signed our names to this specification before two subscribing witnesses.

CHAS. GOODYEAR, JR.
JOZE DA SILVA.

Witnesses:

A. A. ALVORD,
R. A. PIPER.