

(No Model.)

G. W. DAY.  
MANUFACTURE OF BOOTS OR SHOES.

No. 424,862.

Patented Apr. 1, 1890.

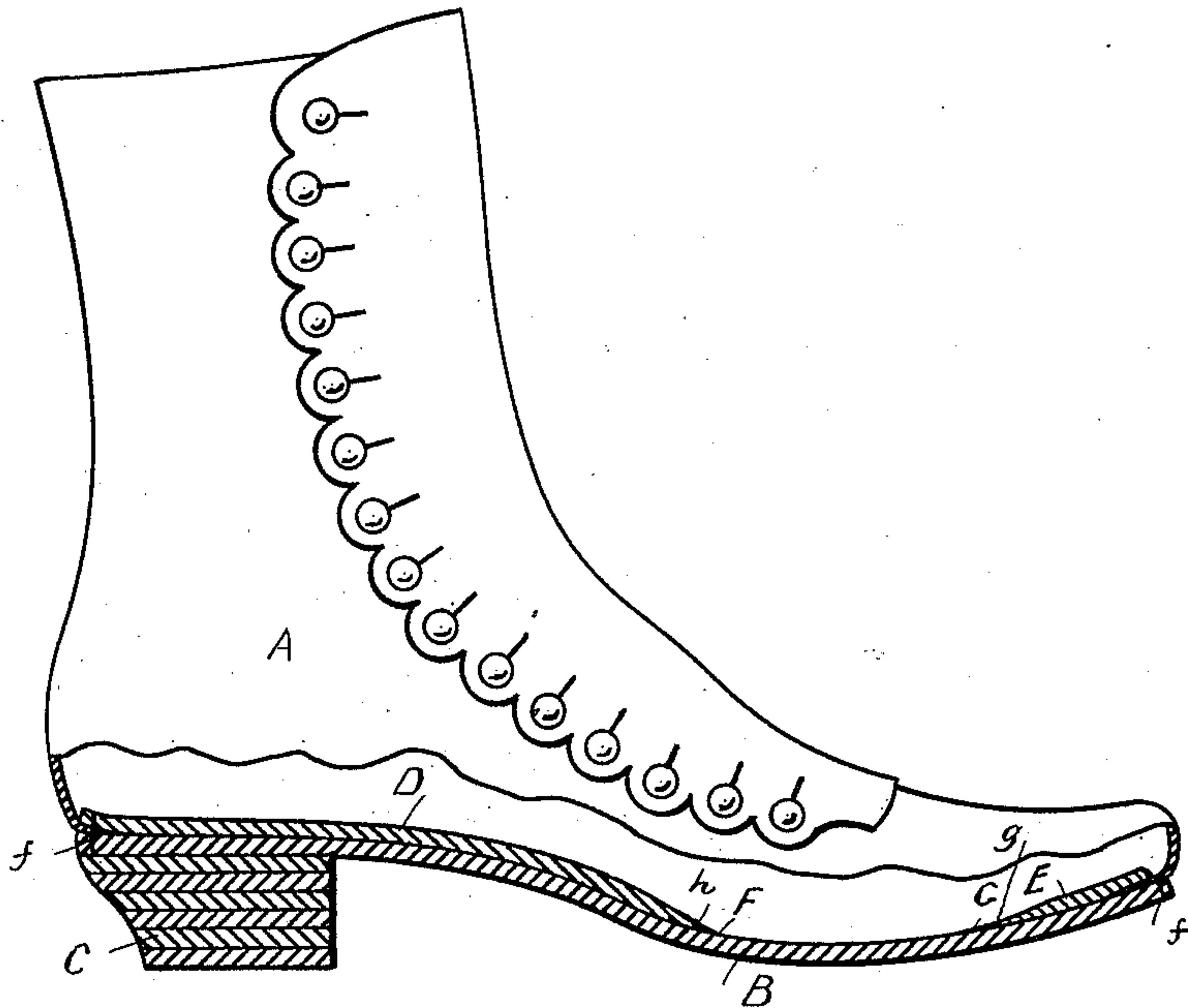


Fig. 1.

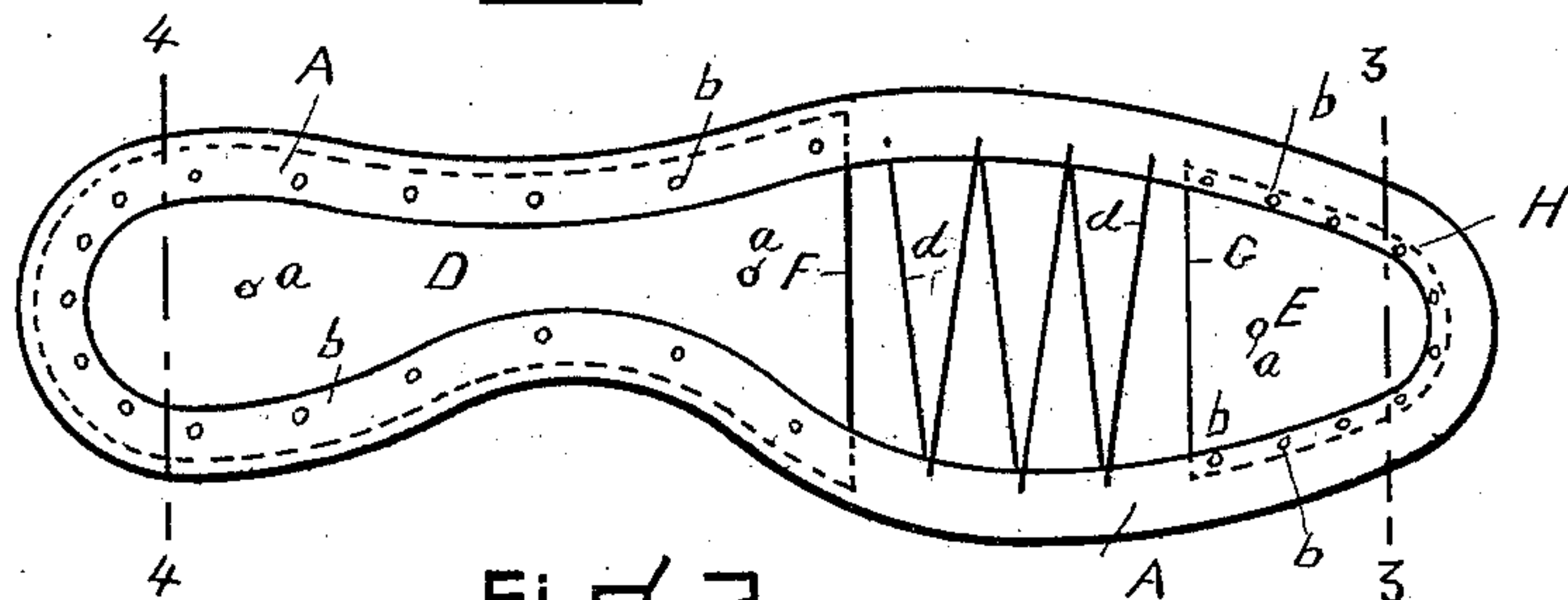


Fig. 2.

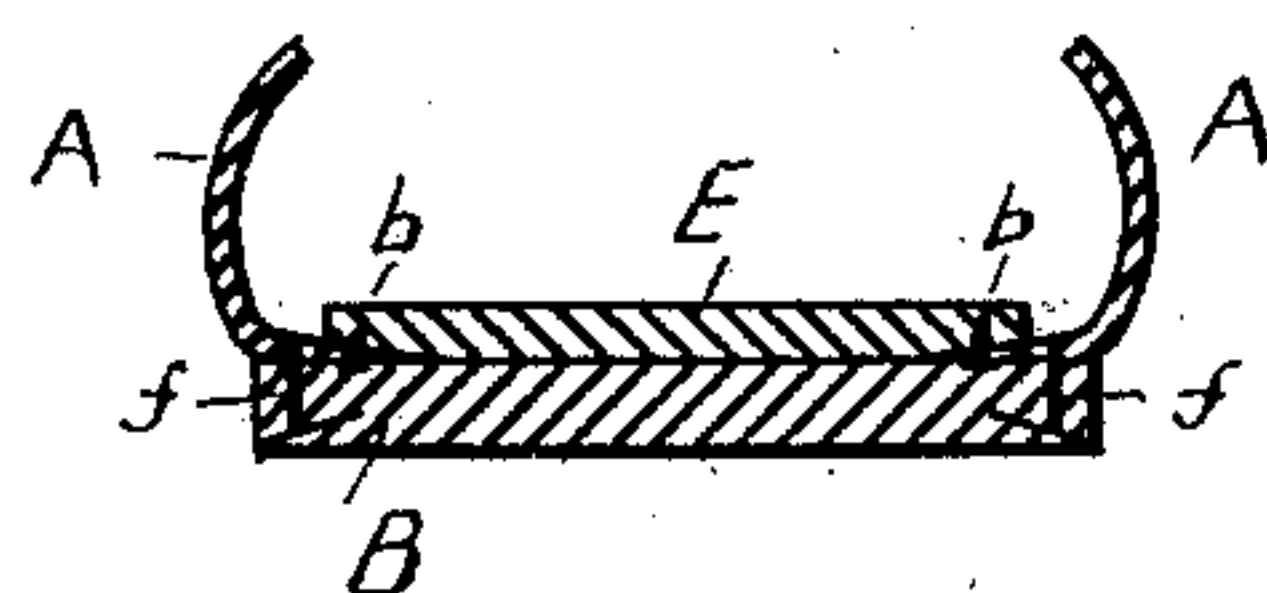


Fig. 3.

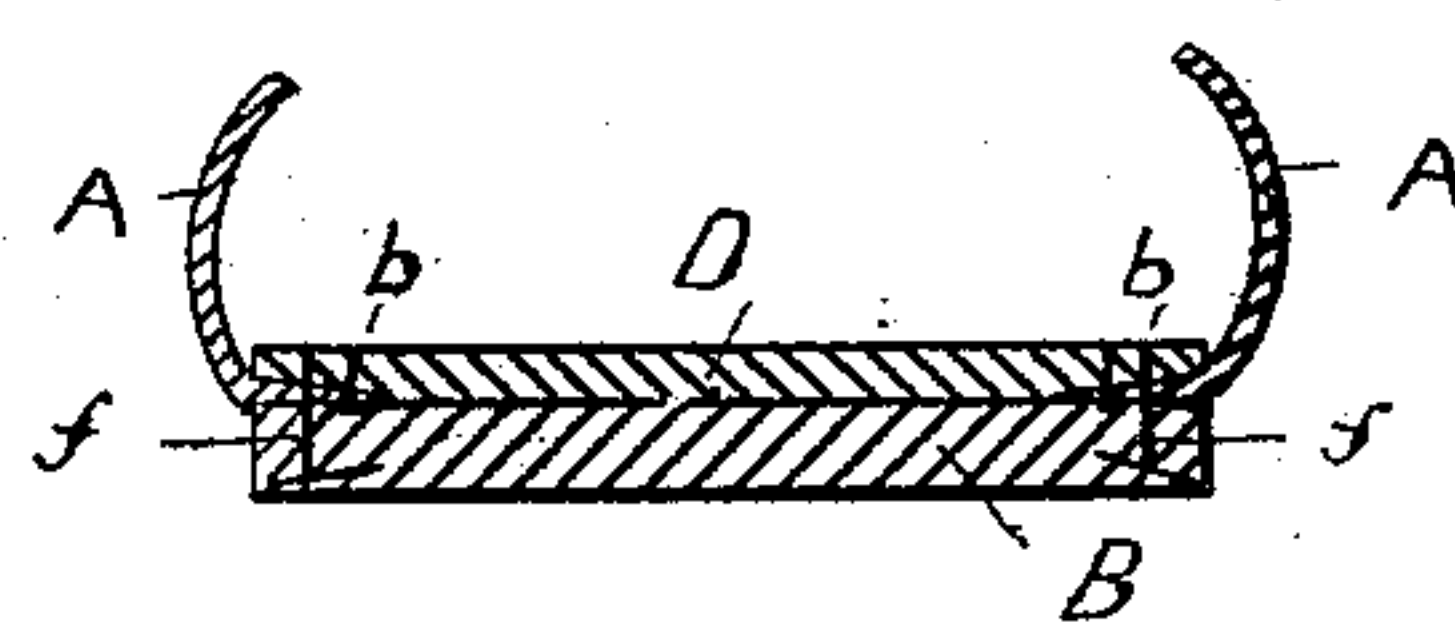


Fig. 4.

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## MANUFACTURE OF BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 424,862, dated April 1, 1890.

Application filed July 22, 1889. Serial No. 318,258. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. DAY, of Haverhill, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in the Manufacture of Boots or Shoes, of which the following is a full, clear, and exact description.

In a shoe having an outer sole and inner sole sewed to the upper by through-and-through stitches the channel in the outer sole for the stitches is cut on a line inside of the edge of the inner sole, to have the stitches pass through the inner sole, the upper being held along the edge and the shoe given its proper width inside by the width of the inner sole. In a shoe having its inner-sole edge cut away along its ball portion the upper is held in its proper place and the width of the shoe maintained by the edge of the inner sole only where it extends beyond the stitching, or where the stitches pass through the inner sole, but along the cut-away part it narrows the inside measurements across the shoe, according as the rows of stitching are nearer together. The inner sole where not cut away causes a disproportion of inside measurements and irregularity along the edge of the shoe at the points where the inner sole juts out, more especially between the ball and toe. Should, to obviate this, the channel in the outer sole be cut on a line with the edge of the inner sole, the stitches would run on and off its edge as the operator stitches the shoe, as it is a practical impossibility to so "lay" the outer sole that its channel will always come directly over the inner-sole edge; also, the least inclining of the shoe from a horizontal line while being sewed, (which is practically impossible not to do,) causes the stitches inside the shoe to run off and on the inner-sole edge, spoiling the shoe. In lasting an upper the toe portion is folded or plaited upon itself, making an uneven bunch at the toe, which hurts the toes of the wearer of the shoes unless covered by a smooth surface, as an inner sole.

To overcome the objections to shoes made in the manner described is the object of the present invention, and a toe inner sole is used smaller or narrower than the toe of the last and a shank inner sole of the usual size, leav-

ing the ball of the shoe entirely without an inner sole. The upper is then lasted to the shank and toe inner sole by means of tacks or cement, and at the ball by a string or cemented strips of suitable material stretched from side to side or in any suitable manner. The outer sole has its channel cut on a line with the bottom of the last, and it is "laid" by cementing it to the shank and toe inner sole and to the upper along the ball, and the shoe stitched on any horn sewing-machine; and it is obvious that with an inner sole at the toe of the shoe smaller than the bottom of the last, and consequently inside of the line of stitching, uniform and correct measurements of the shoe inside across from side to side will be preserved, and also a complete uniformity and parallelism of the edge of the upper with the edge of the outer sole will be maintained all around the ball and toe of the shoe, and the toe inner sole will also provide a smooth surface for the toes of the wearer to rest upon.

In the accompanying drawings is illustrated a boot constructed in accordance with this invention.

Figure 1 is a side view of such boot and partial longitudinal section; Fig. 2, a plan view of the bottom of the boot after the upper has been lasted to the inner sole; Figs. 3 and 4, detail cross-sections on lines 3 3 and 4 4, respectively, of Fig. 2.

In the drawings, A represents the upper, B the outer sole, and C the heel of the boot, all constructed as usual, and needing no particular description herein.

D is the inner sole at the shank and heel, and E the portion of the inner sole at the toe.

The portion D of the inner sole is made of the usual width of an inner sole and extends from the heel to and along the shank to the point marked F in Figs. 1 and 2.

The toe portion E of the inner sole only extends as far as the line G, Figs. 1 and 2, and in outline on the sides and at the end of the toe it is smaller than the usual inner sole at the toe, all as shown by the dotted line H, Fig. 2, more particularly.

In the manufacture of this boot the shank portion of the inner sole is placed on the last and secured by temporary tacks *a*, as usual, and the toe portion of the inner sole secured



in the same manner, a space being left around the sides and outer end of the toe portion. The upper is then lasted to the two portions of the inner sole in the usual manner by the tacks *b*, or by cement, or in any suitable manner, and at the portion of the upper at the ball of the boot, between the shank and toe portion of the inner sole, it is lasted by the cord or string *d*, and when all lasted the temporary tacks *a* are removed and the outer sole permanently secured to the upper by the stitches *f*, which stitches pass through the outer sole, upper, and shank portion of the inner sole, but do not pass through the toe portion of the inner sole, but outside of its edge, as shown in section in Fig. 3. The boot is then otherwise finished as usual. The end *G* of the toe inner sole is champered off on its side, as shown at *g*, and also the end of the shank portion of the inner sole at *h* to make a smoother and more even and regular surface in the shoe. The upper can be lasted at the ball by the string or cord, or in any suitable manner, or a separate piece can be between the two portions *D E* narrower than the shank portion, to which the upper can be lasted, but to which the outer sole is not stitched, the stitches being outside of its edge, and which piece, with the edge of the upper outside of the line of securing-stitches, can be cut away and removed from the boot. The outer sole can be secured by stitches or nails as desired.

By this method of making shoes the many objections heretofore encountered are overcome and the desired firmness through the

shank obtained by stitching the inner sole with the outer sole, not secured in shoes made by the "turn" process. Also, all the ease and flexibility of a turn or single sole shoe are secured along the ball or bend of the shoe where there is no inner sole and a smooth surface for the toes inside, without any abrupt abutting edge or edges to strike the toes of the wearer, as is the case when the plaited upper of several thicknesses is cut off at right angles, or nearly so, to the inner face of the sole, and finally correct and uniform measurements inside the shoe and a perfect uniform parallelism of upper with finished edge of the sole all around the shoe.

Having thus described my invention, what I claim is—

1. A sewed boot or shoe having an inner sole at the shank stitched to the upper and outer sole, and an inner sole at the toe of narrower width and secured to the upper only, for the purpose specified.

2. A sewed boot or shoe having an inner sole at the shank stitched to the upper and outer sole and having its inner end chamfered, and an inner sole at the toe of narrower width secured to the upper only and having its inner end chamfered, for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GEORGE W. DAY.

Witnesses:

EDWIN W. BROWN,  
CARRIE E. NICHOLS.