

(No Model.)

G. W. WILLEY.

PROCESS OF MAKING SEWED BOOTS OR SHOES.

No. 354,289.

Patented Dec. 14, 1886.

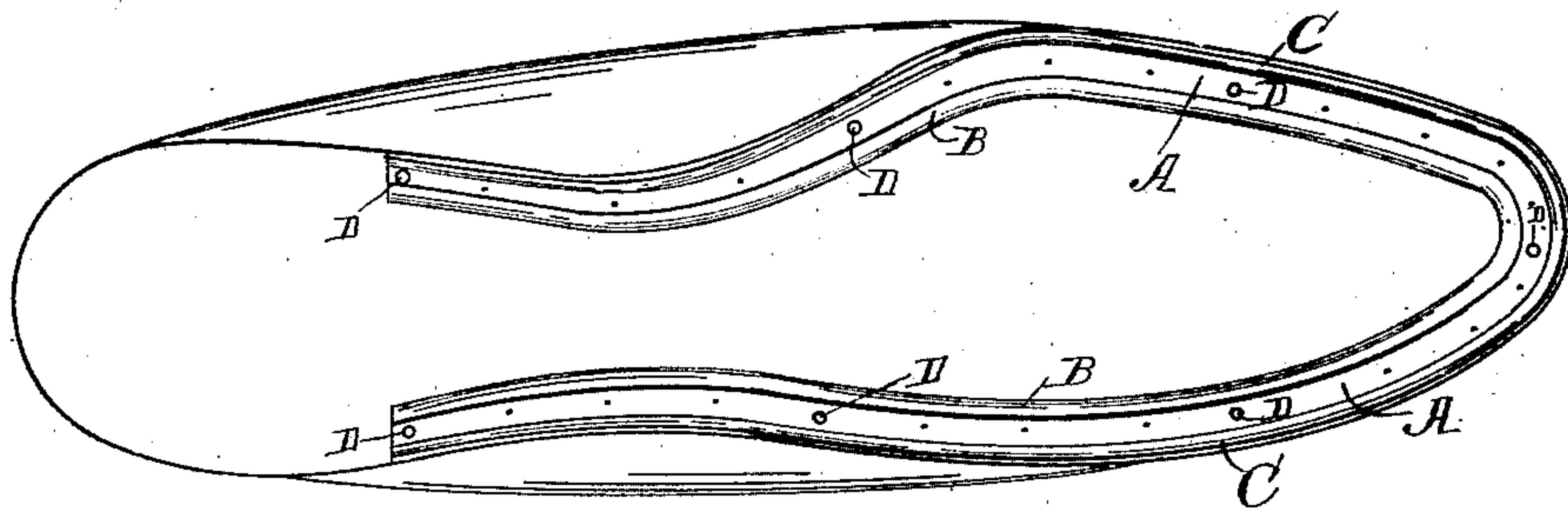


Fig. 1.

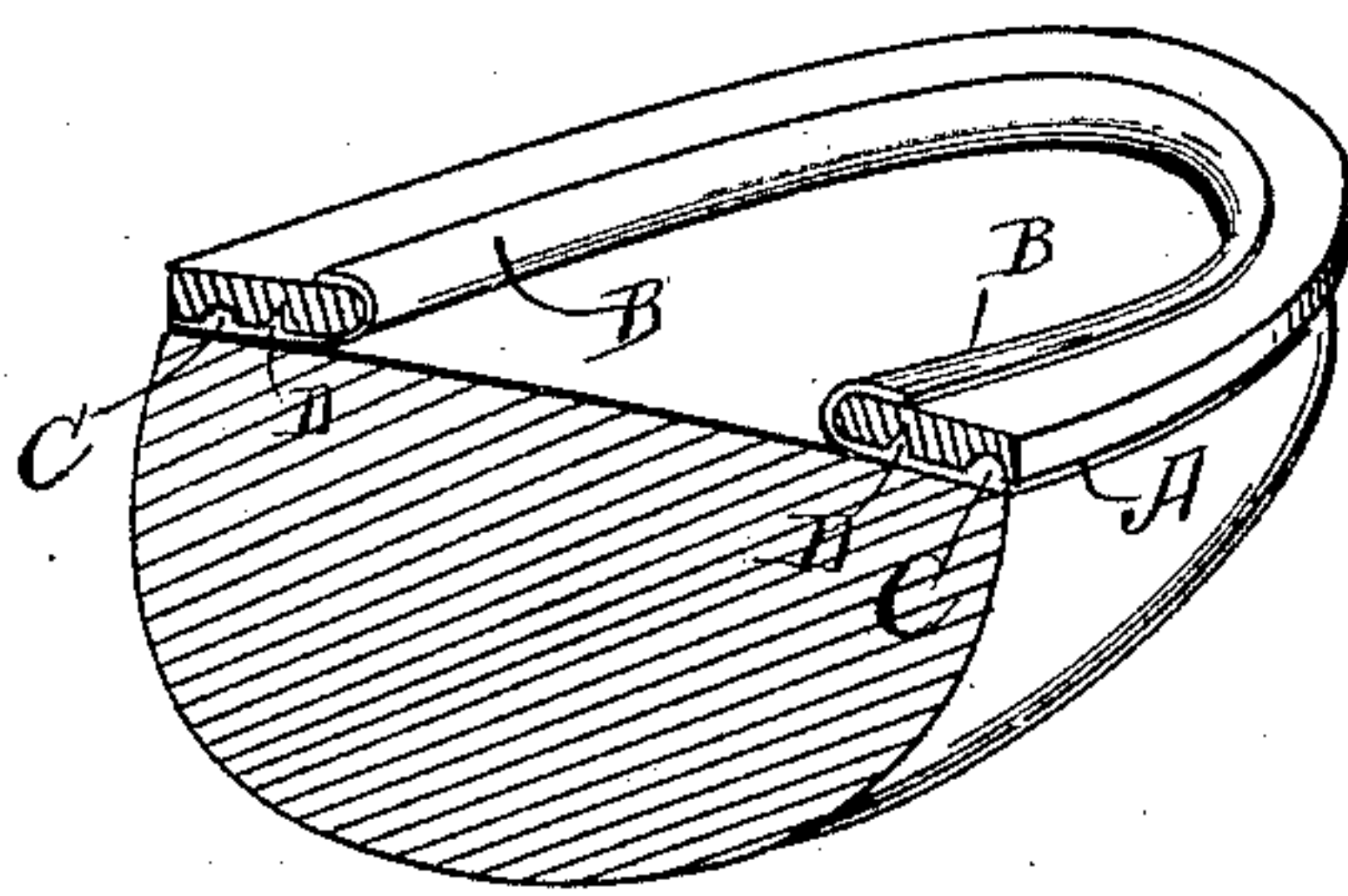


Fig. 2.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

GEORGE W. WILLEY, OF ATHOL, MASSACHUSETTS.

## PROCESS OF MAKING SEWED BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 354,289, dated December 14, 1886.

Application filed February 26, 1886. Serial No. 193,394. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. WILLEY, a citizen of the United States, residing at Athol, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in the Process of Making Sewed Boots or Shoes; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to make a boot or shoe in which the welt can be sewed directly to the upper and independently of the inner sole, and in which the outer sole is sewed only to the welt. My method of sewing the welt to the upper only prevents a seam inside of the shoe, which occurs whenever the sewing is done through the inner sole. It dispenses with the use of an expensive inner sole, which is required in all classes of sewed shoes where the welt and upper are sewed to but not through the inner sole.

My invention produces a more comfortable and elastic shoe, insures accuracy in sewing, and enables the outer and inner seams to be brought nearer each other, which increases the strength and durability of the work and improves its appearance.

The accompanying drawings show a last which is used by me in practicing my invention, and is referred to by me in describing the same in the specification.

Figure 1 is a plan view, and Fig. 2 a sectional view showing the welt attached.

My invention consists, first, in using a last of novel construction, which is my invention, and for which I intend to apply for Letters Patent.

The ordinary last might be used for accomplishing the object of my invention; but it would be awkward and the results very inferior.

My last is constructed as follows: A metallic plate, A, which is equal in width to the welt to be used in the shoe, is secured to the bottom of an ordinary wooden last, entirely around the edge of the same. The inner edge of this plate A is turned over slightly to form a curved flange, B, as shown in the drawings. The plate A has a bead, C, parallel with its outer edge, designed to make an impression

upon the welt, which is driven down upon it, and forms the line upon which the welt is to be sewed to the upper. This bead may be of any form which would make an impression upon the leather; or it may be a slight groove or depression in the plate. Its only office is to mark the line of the stitches in sewing the welt to the upper. Upon the plate A at short intervals are the upright pointed studs D D, upon which the welt is driven, and which serve to hold the same in position while the upper is being lasted to the welt.

The operation of lasting my boot or shoe is as follows: The welt is first laid upon the bottom of my last and around its edge, with the inner edge of the welt pressed against the curved flange B. The curve of the flange prevents the edge of the welt from working up from the plate. The welt is driven down firmly upon the studs D D and the bead C. It is then securely held in position, being prevented from lateral motion by the studs D D, and from rising up by the curved flange B. The upper, as ordinarily made, is then reversed or turned inside out, placed upon the last in the ordinary way, (except that the outside of the upper is against the last,) and then lasted to the welt in the same manner as ordinarily lasted to an inner sole. The upper is then taken from the last with the welt fastened to it. The upper is then turned with the right side out, and the welt is stitched down upon it by any sewing machine adapted to shoe-sewing. The stitching is made through and through the welt and upper, and follows the impression upon the welt made by the bead C. The upper and welt are then lasted to the inner sole, which is fitted to an ordinary last in the usual way. The last upon which the upper and welt are first lasted should be slightly smaller than the ordinary one, so that when the upper is lasted the second time the increased size of the last will take up more of the upper and force the welt to stand out beyond the face of the upper, so that the outer sole may be more easily attached to the welt. The outer sole is then tacked onto the shoe in the ordinary way preparatory to sewing. The shoe is then taken from the last and the outer sole sewed to the welt through and through upon any machine suitable for shoe-sewing. The seam by which the outer sole is sewed to



the welt can be made very closely to the seam which sewed the welt to the upper, because the inner seam is perfectly regular and confined to the positive line or impression made by the bead, and can be placed at the desired relative distance from the outer seam.

I am not aware that before my invention a sewed boot or shoe having no seam inside has ever been made in which the stitching of the welt to the upper was perfectly regular and enabled the outer to be sewed by a perfectly-regular seam so closely to the inner seam. Neither am I aware that any sewed welted boot or shoe has been made before my invention which did not have a seam in or through the inner sole. When sewed through, it leaves an objectionable ridge inside, and if sewed into and not through the inner a much more expensive inner sole is required to be used. I believe that I am the first to discover a method of laying the welt next to the last and lasting the upper to it independently of the inner sole; that I am the first to discover a practical method of sewing the welt to the upper without sewing into or through the inner sole, and to discover a practical method of producing a perfectly-regular inner and outer seam closely together and insuring perfect regularity in sewing the welt to the upper.

What I claim as my invention is—

1. The process of making a sewed welt boot or shoe, which consists, first, in lasting the reversed upper to the welt, then sewing the welt to the upper independently of the inner sole, then lasting the shoe and completing it in any of the well-known ways, all substantially as described.

2. The process of making a sewed welt boot or shoe, which consists, first, in impressing upon the welt a line to guide the stitching to the upper, then lasting the reversed upper to the welt, then sewing the upper to the welt and finishing the shoe in any of the well-known ways, substantially as described.

3. The process of making a sewed welt boot or shoe, which consists of lasting the upper to the welt, substantially as described, sewing the welt to the upper independently of the inner sole, then lasting the shoe upon a larger last for the purpose of forcing the inner seam nearer the line where the outer is to be stitched, and then stitching the outer sole to the welt, all substantially as and for the purpose above described.

GEORGE W. WILLEY.

Witnesses:

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