(No Model.)

D. F. WILLIS.

LAST.

No. 432,684. Patented July 22, 1890.

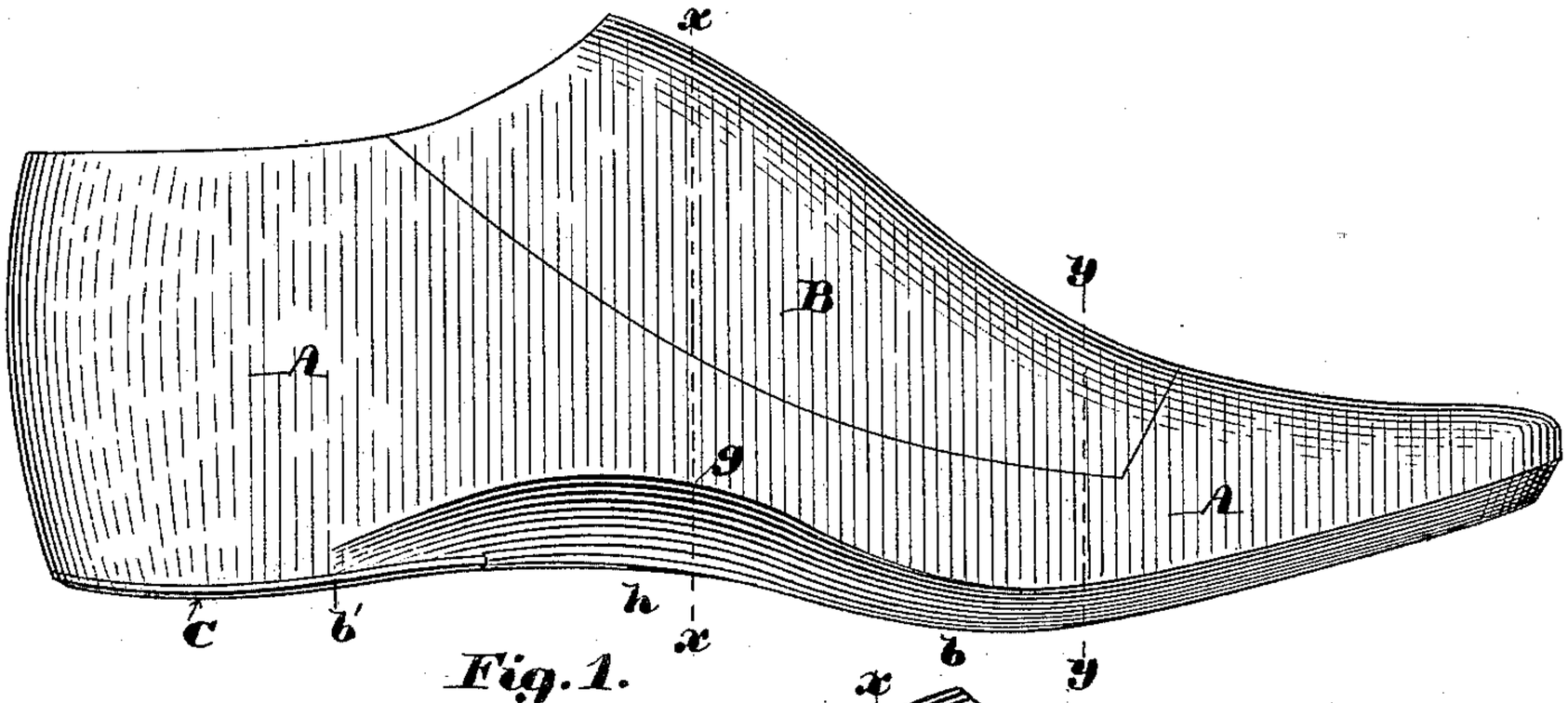

Fig. 1.

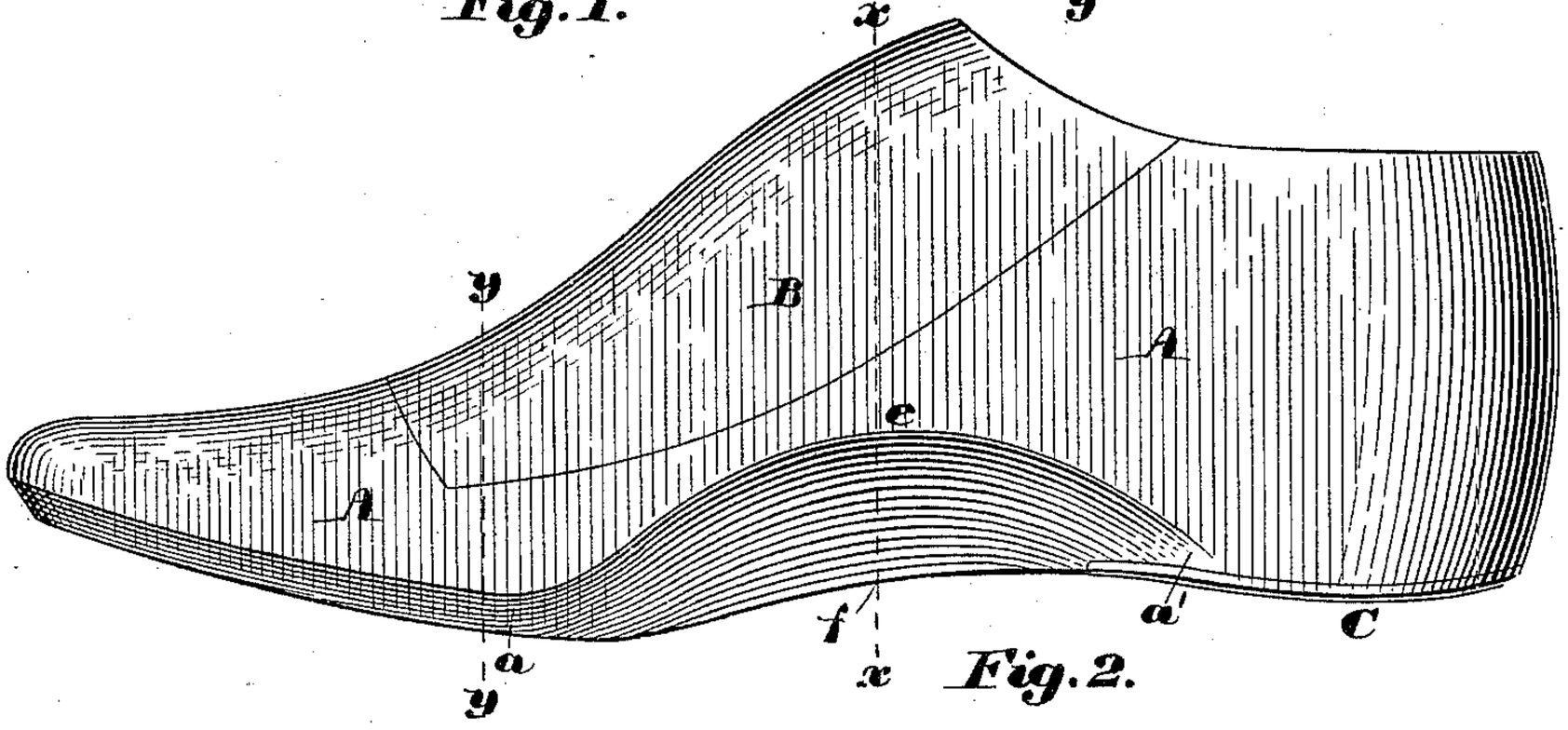

Fig. 2.

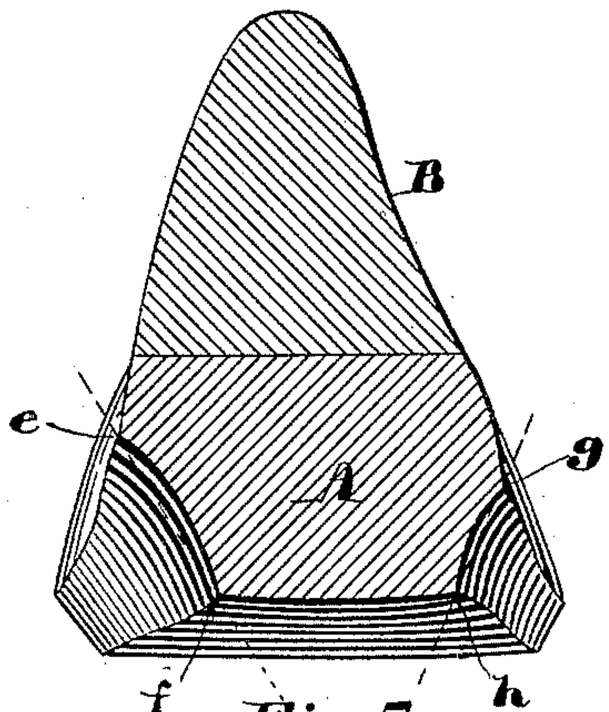

Fig. 3.

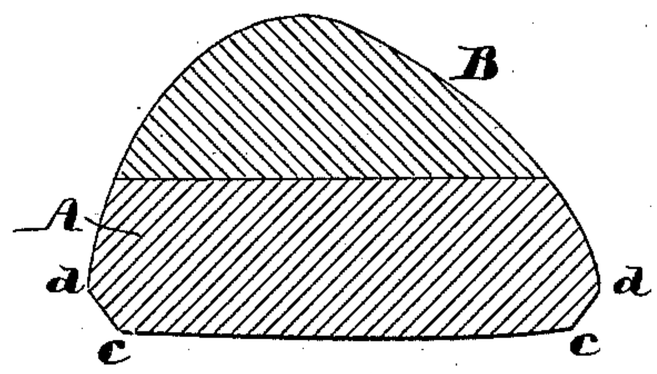

Fig. 4.

Witnesses:
C. A. Wellbure
Walter E. Lombard

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UNITED STATES PATENT OFFICE.

DON F. WILLIS, OF LYNN, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO JAMES M. GRIFFIN AND JOHN S. GRIFFIN, OF SAME PLACE.

LAST.

SPECIFICATION forming part of Letters Patent No. 432,684, dated July 22, 1890.

Application filed December 30, 1889. Serial No. 335,381. (No model.)

To all whom it may concern:

Be it known that I, DON F. WILLIS, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Lasts, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to lasts for shoemakers' use, and has for its object the production of a last especially adapted for use in manufacturing boots and shoes of the class termed in the trade "stitch-downs," and particularly to use in carrying out the improved process of lasting boots and shoes described in the Letters Patent No. 404,455, granted to me June 4, 1889; and it consists in certain novel features of construction and configuration, which will be readily understood by reference to the description of the drawings and to the claim hereinafter given, and in which my invention is clearly pointed out.

Figure 1 is a side elevation of one of a pair of right and left lasts, the one shown being for the right foot. Fig. 2 is an elevation looking at the opposite side of the same last. Fig. 3 is a vertical transverse section on line $x\,x$ on Figs. 1 and 2, and Fig. 4 is a similar section on line $y\,y$ on Figs. 1 and 2.

This invention is an improvement upon the invention described in another application of mine filed February 8, 1889, and serially numbered 299,202, in which the corner of the last around the tread-surface from the heel on one side around the ball and toe to the heel on the other side was cut away to form a bevel of substantially uniform width throughout. The last shown and described in said prior application was a straight last as distinguished from a right and left, and the shank was made extra wide on the bottom; but I have found it desirable to apply my new method of lasting to boots and shoes made on right and left lasts having the ordinary narrow shanks, and hence my present invention.

In the drawings forming a part of this specification, A is the main body of the last, B the removable instep-section, and C the ordinary metal heel-plate for clinching the heel-securing nails.

In order to properly carry out my before-mentioned patented method of lasting boots and shoes, it is necessary that the corner of the last usually formed by the junction of its tread-surface with the sides and toe end of the last should be cut away to form a bevel, as shown and described in said before-cited patent; but in adapting a right and left last to the proper application of said method thereto, I have found it necessary while keeping the bevel around the ball and toe of the last—say from a on one side to b on the other side of substantially a uniform height and a straight line from the tread-surface at c to its junction with the curved sides of the last at d (see Fig. 4)—to make the cut-away in the shank to extend upward to a considerably greater width, as shown in Figs. 1 and 2, and to make said cut-away curved or concaved, instead of a straight line from the tread-surface to its junction with the side of the last, as shown in Fig. 3.

The necessity for concaving the shank portions of the bevel is due to the fact that the feed-arm of the sewing-machine has to work so close to the upper when sewing the shank of the shoe as to often come in contact therewith, and if the upper is fitted closely to the last it is very liable to be marred or injured; but by concaving the beveled surfaces between a and a' on one side and b and b' on the other side, so that the upper will not bear upon said surfaces between the angles e and f on one side and g and h on the other side, (see Fig. 3,) so that it may yield slightly when struck by the feed-arm, it will not be injured.

Without the last beveled or cut away, as above described, the boot or shoe cannot be properly lasted or sewed; but with the last made as herein described a stitch-down shoe can be produced by my new lasting method that is very satisfactory to the trade and that can hardly be distinguished from a shoe made by the old method of turning the upper inward upon the inner sole.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

A last having its ball and toe portions beveled at the junction of its tread-surface with the sides to substantially a uniform width

and its shank portions beveled to an increased and varying width and slightly concaved from the junction of said bevel with the tread-surface to its junction with its sides, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 27th day of December, A. D. 1889.

DON F. WILLIS.

Witnesses:
N. C. LOMBARD,
WALTER E. LOMBARD.