

(No Model.)

5 Sheets—Sheet 1.

J. CONDELL.
LAST.

No. 405,346.

Patented June 18, 1889.

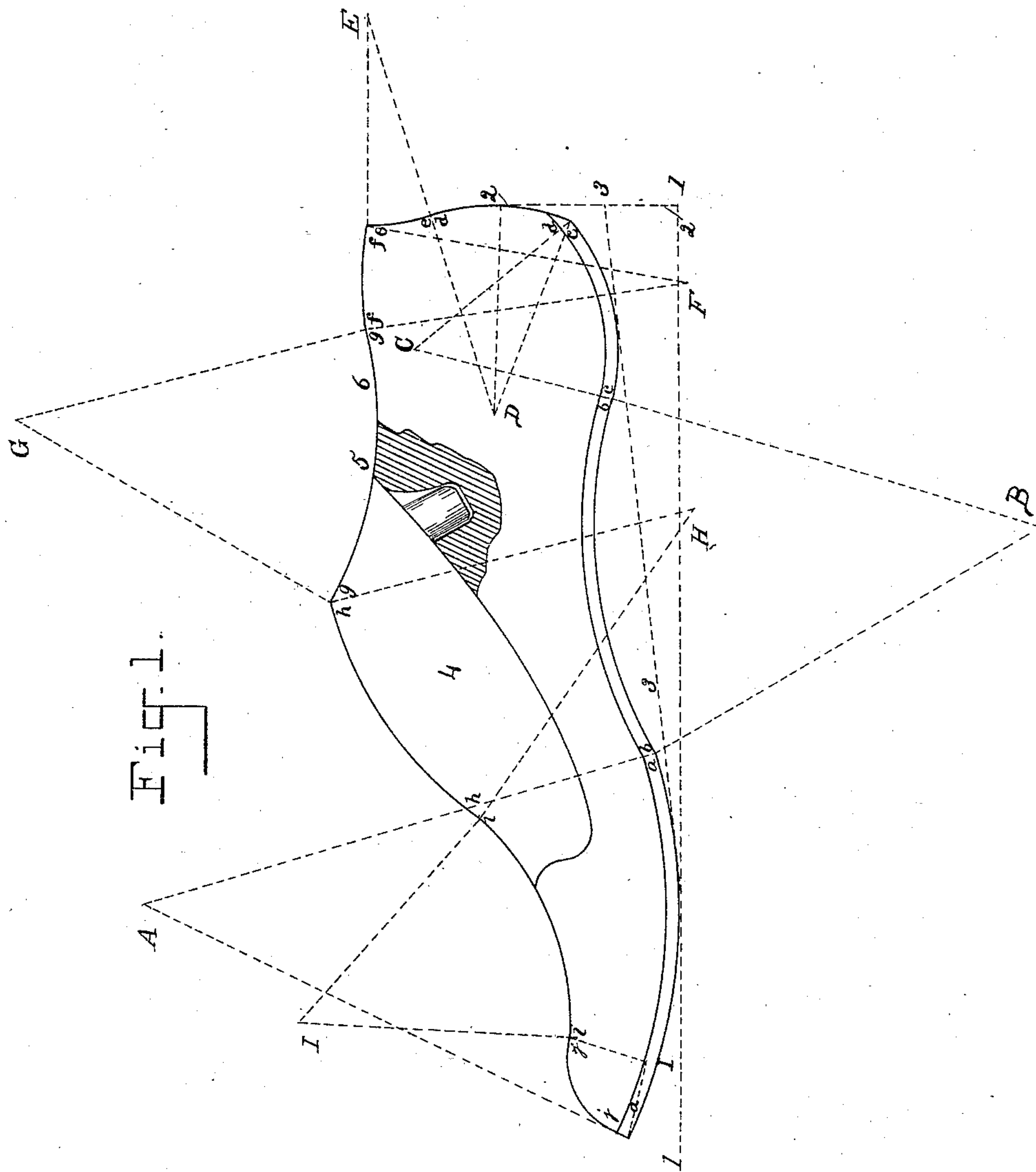


Fig. 1.

Witnesses

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By *Truitt Bros*
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(No Model.)

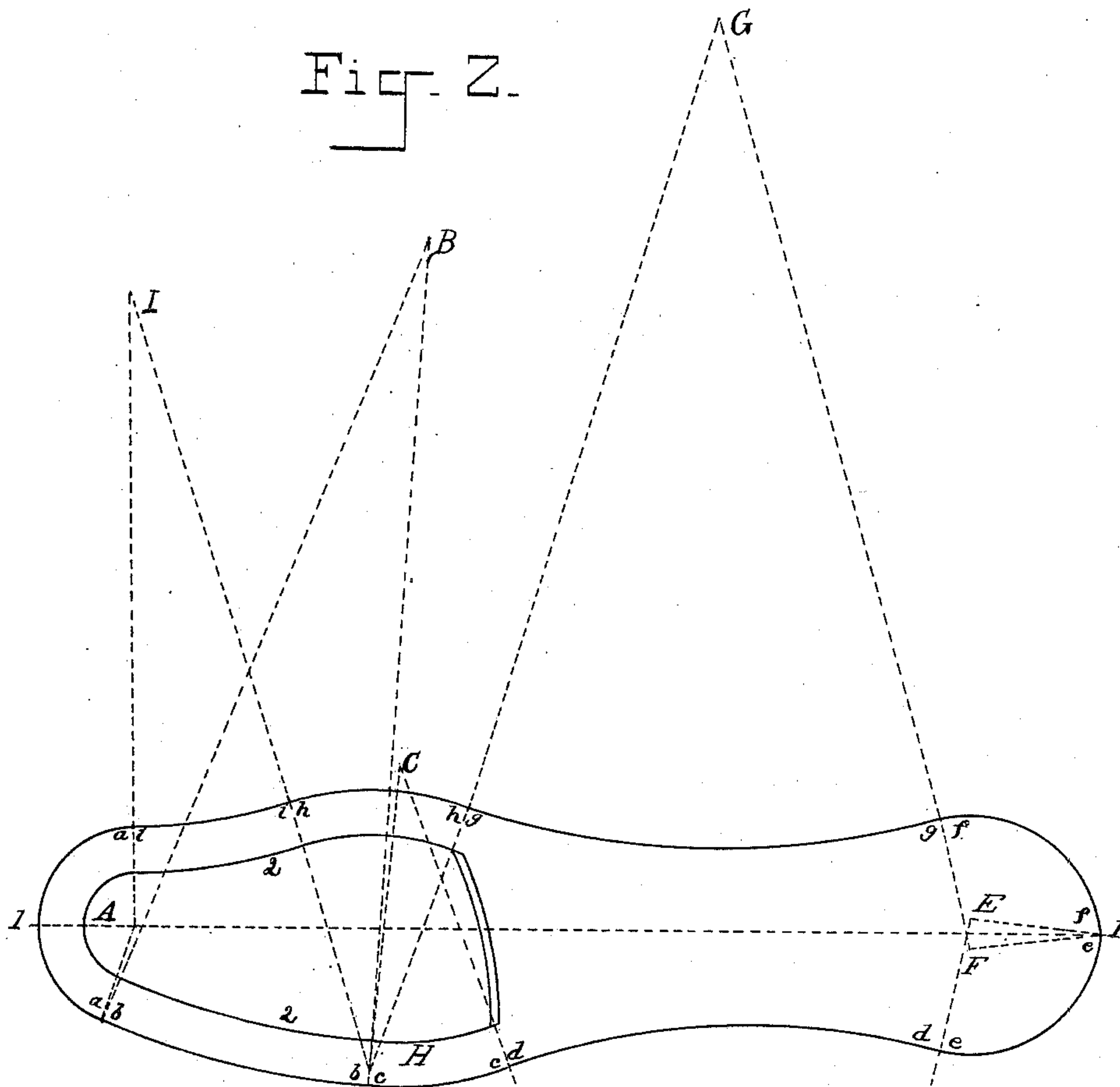
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Fig. 2.



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Fig. 3.

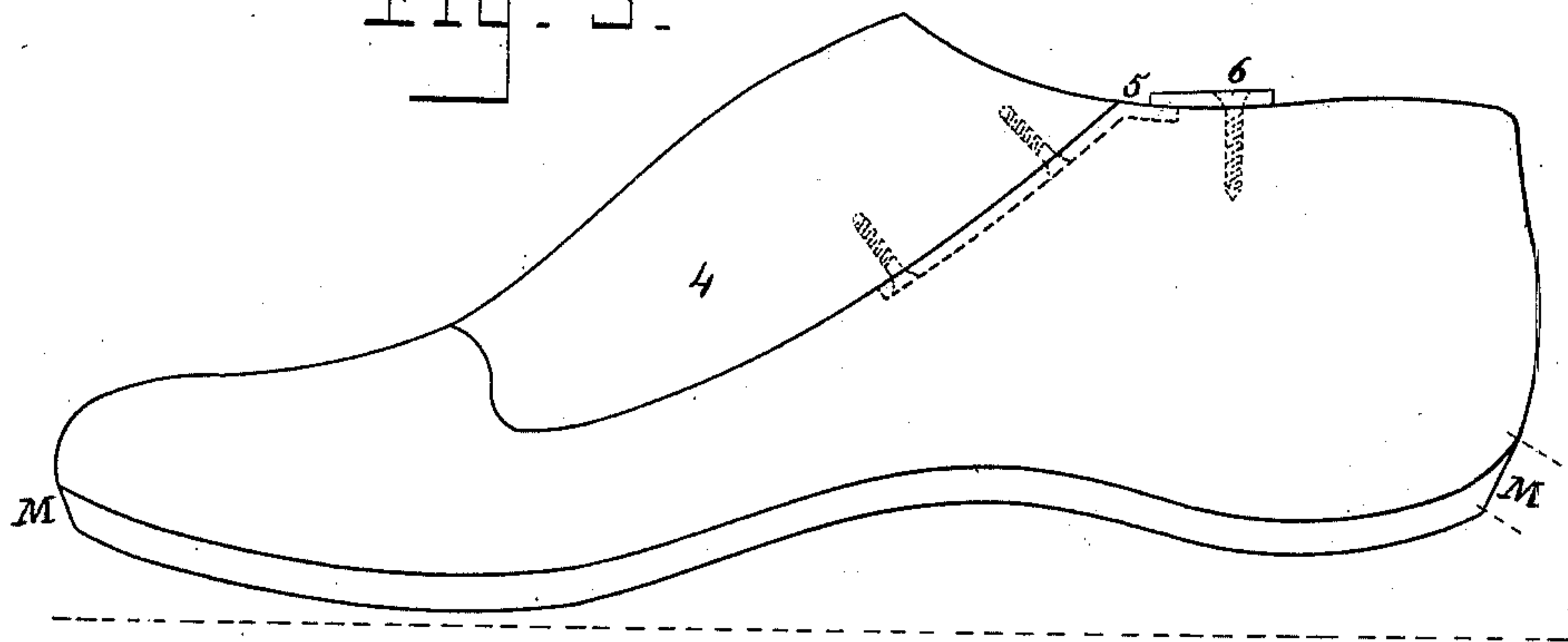


Fig. 4.

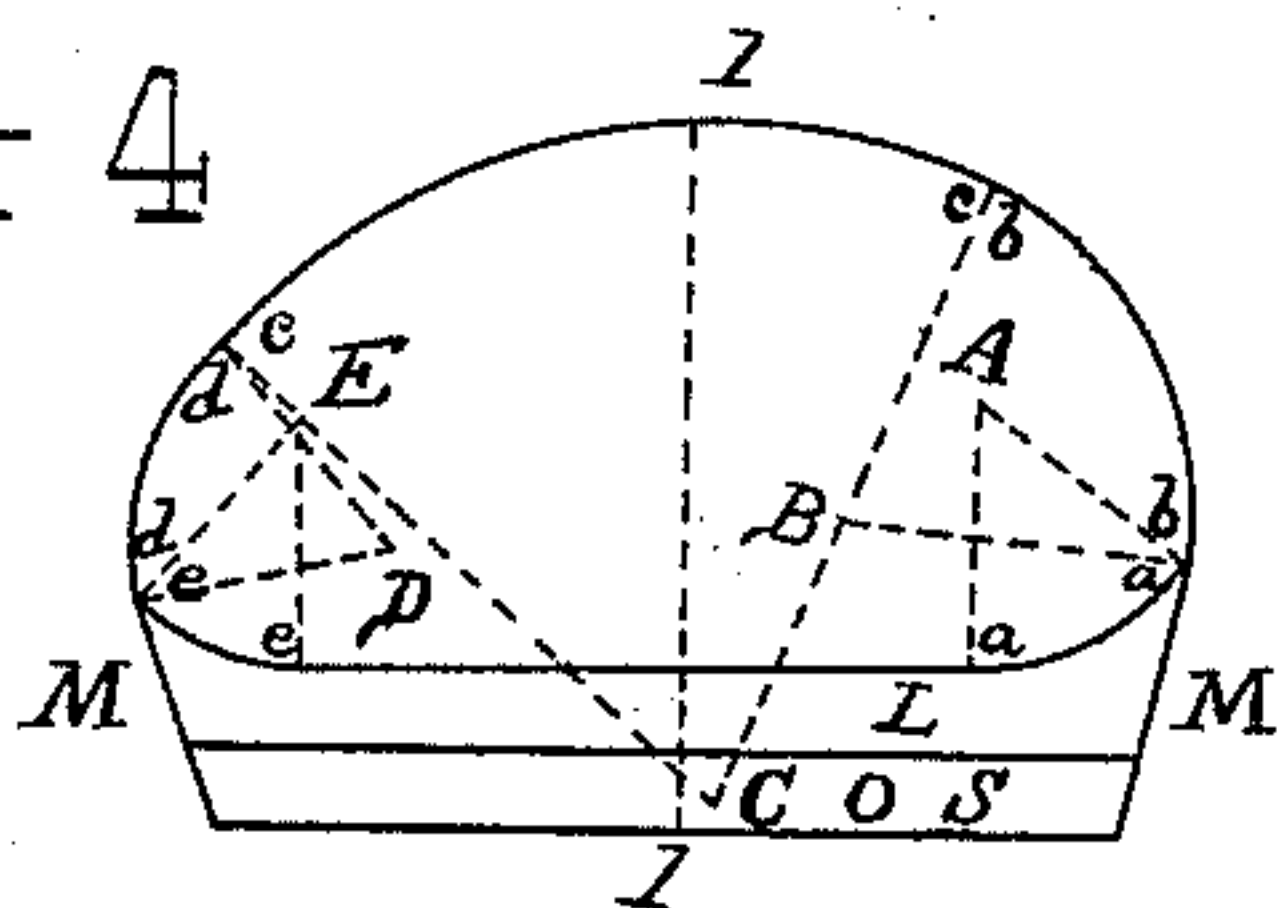


Fig. 7.

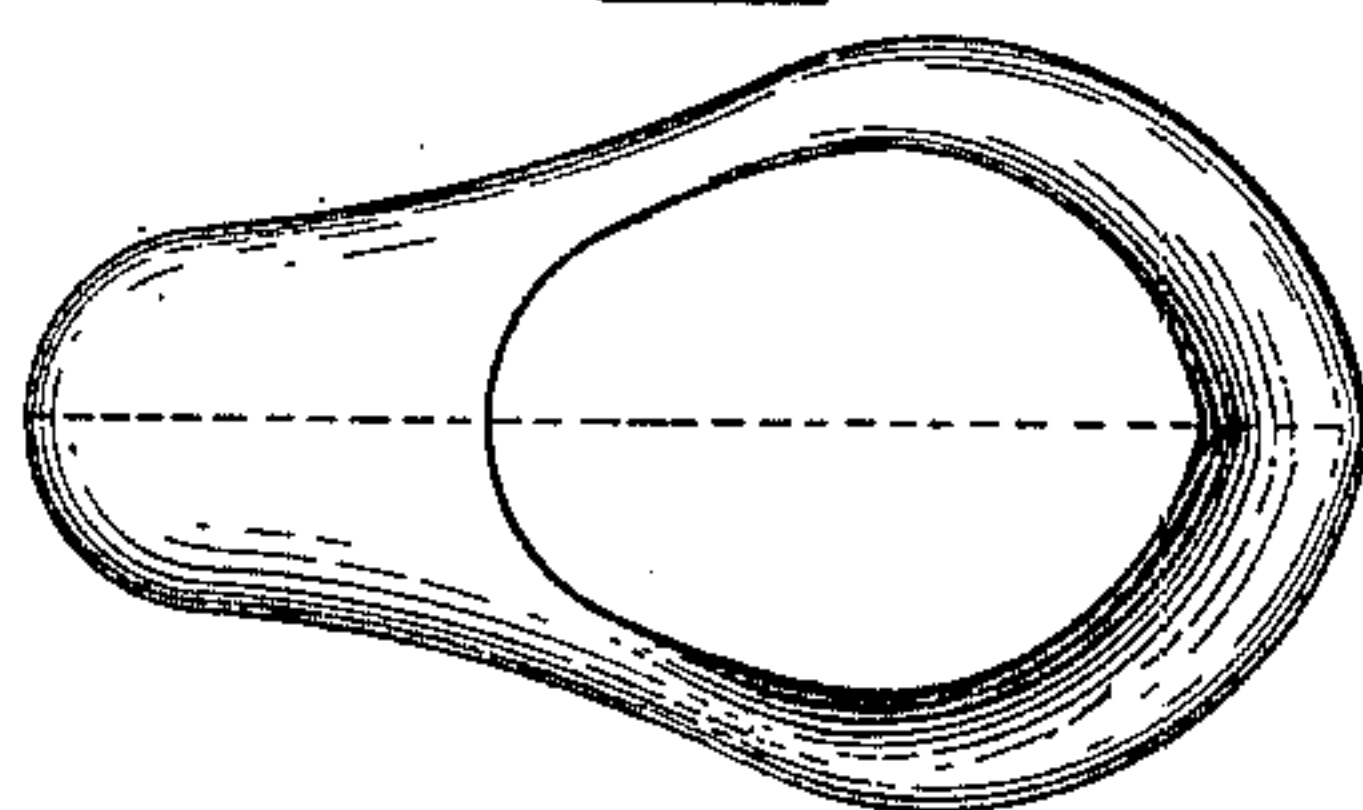


Fig. 5.

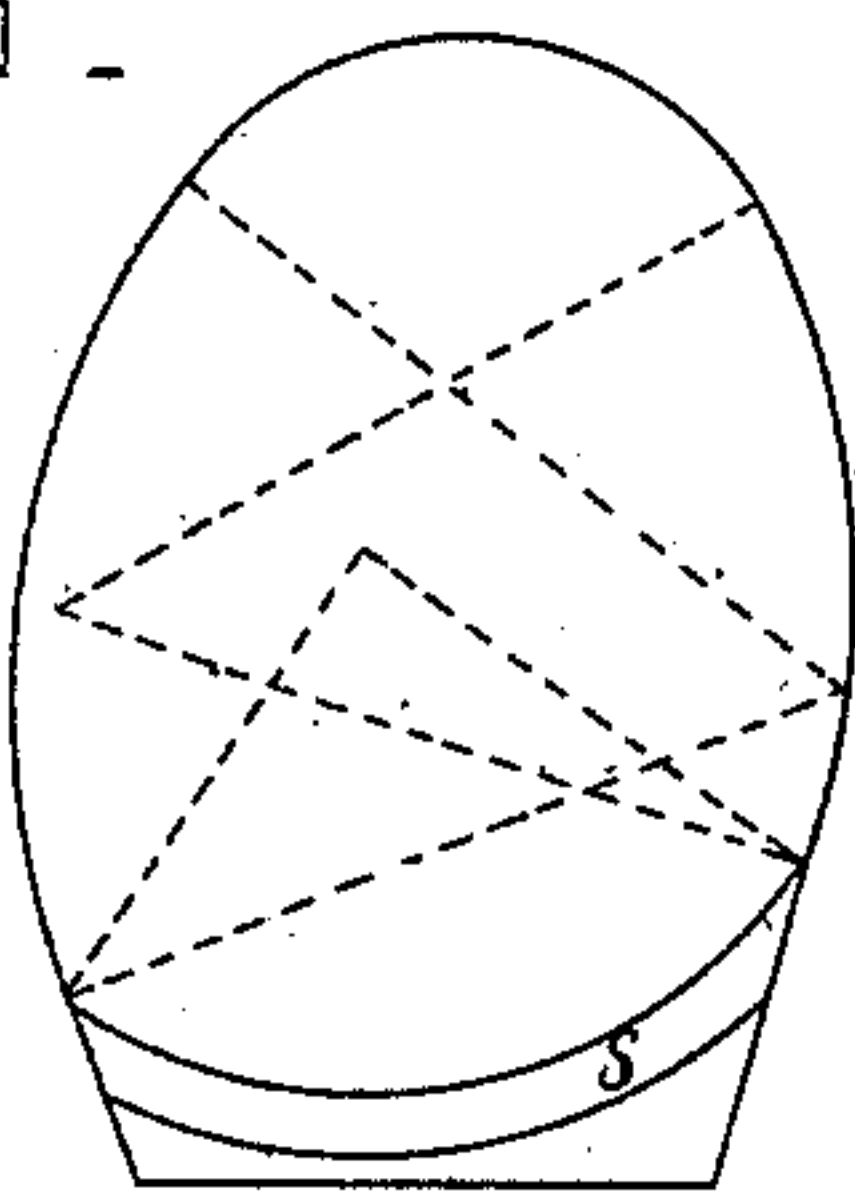
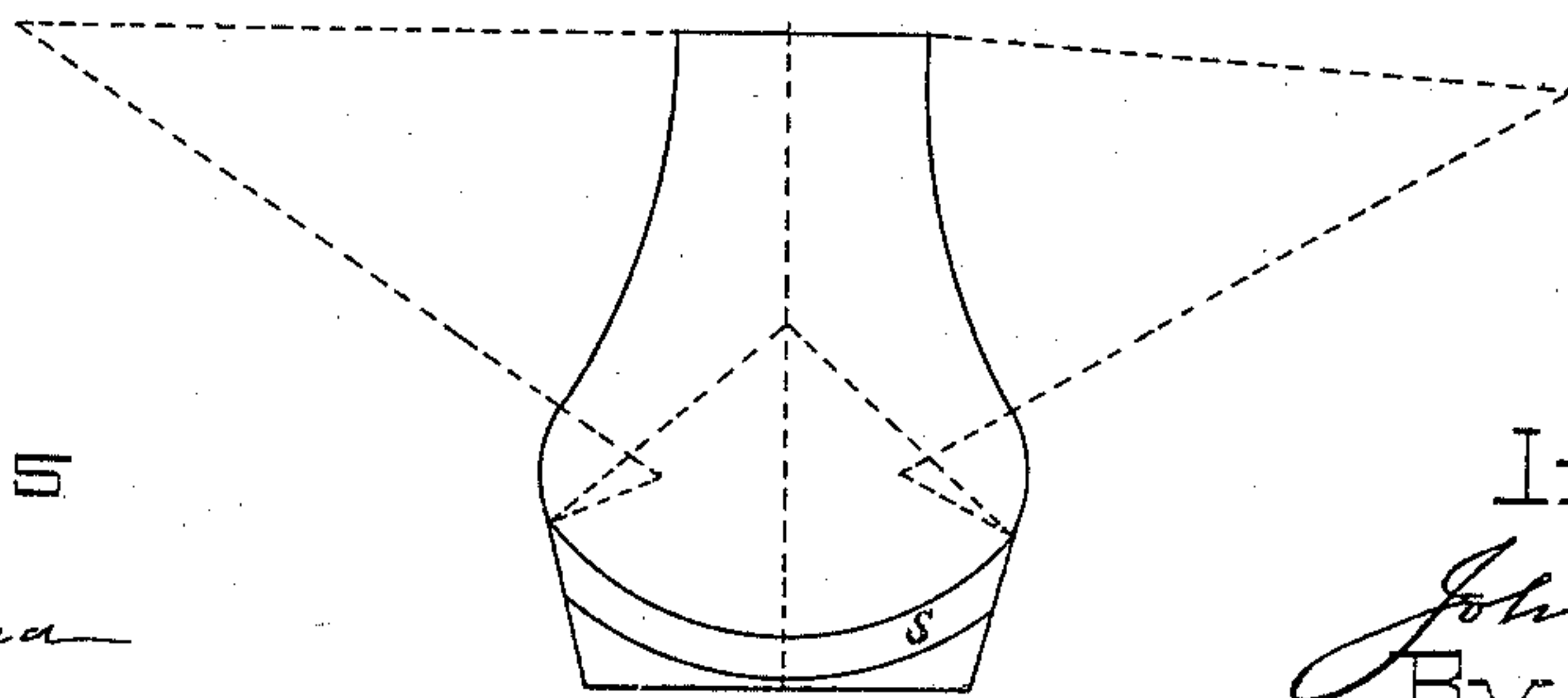


Fig. 6.



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Fig. 8.

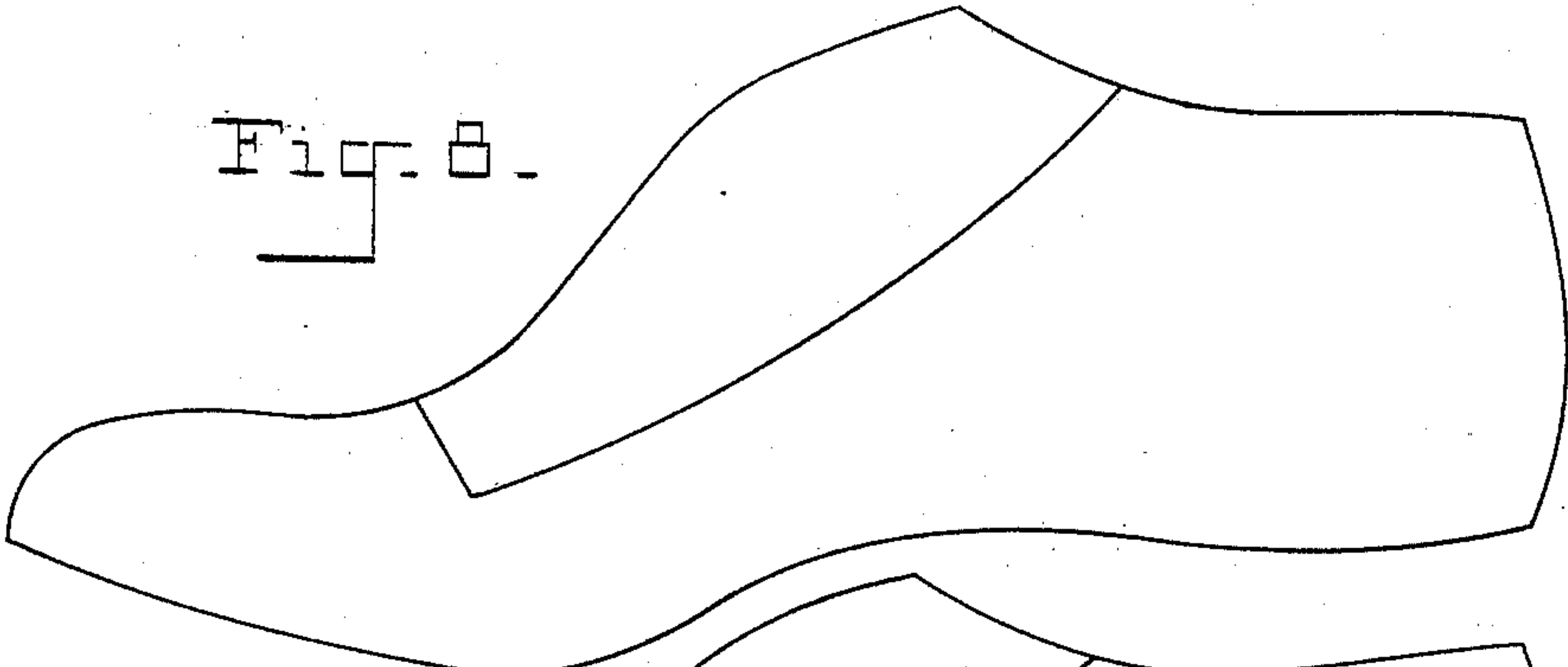


Fig. 9.



Fig. 10.

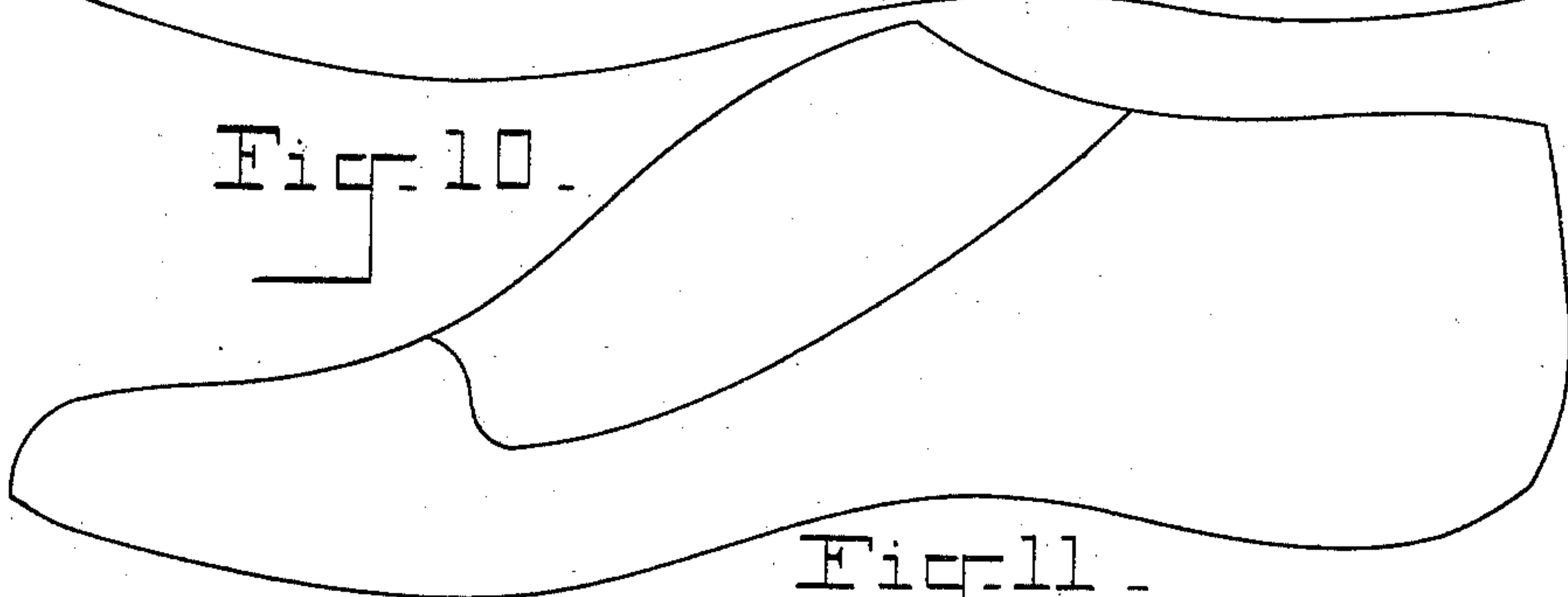


Fig. 11.

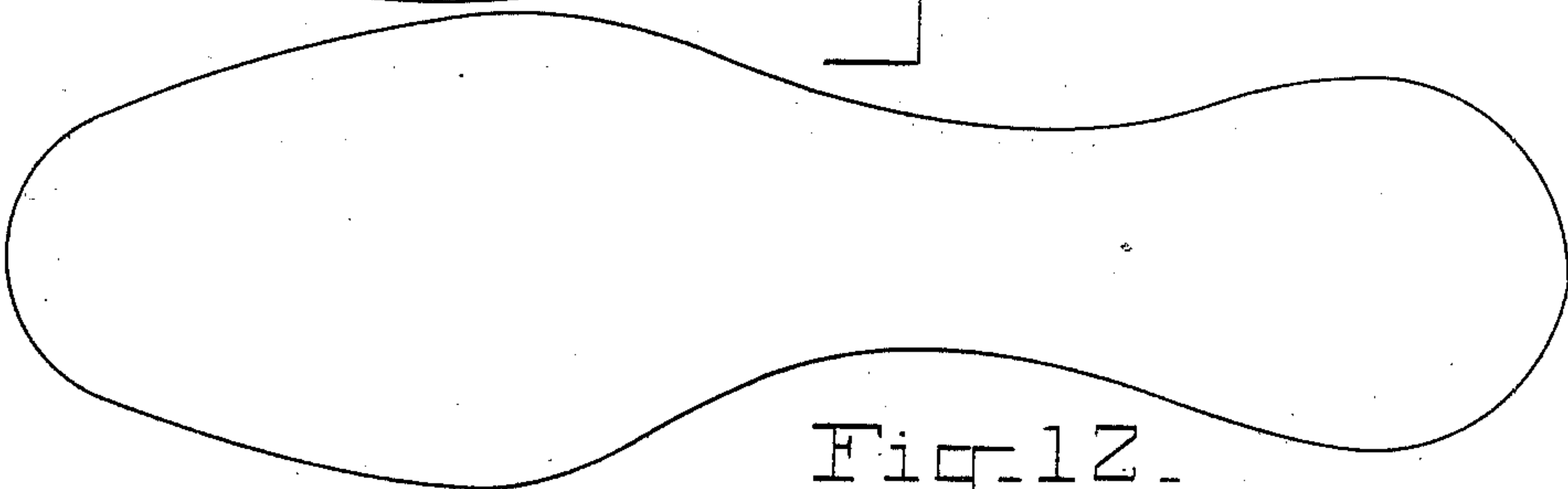
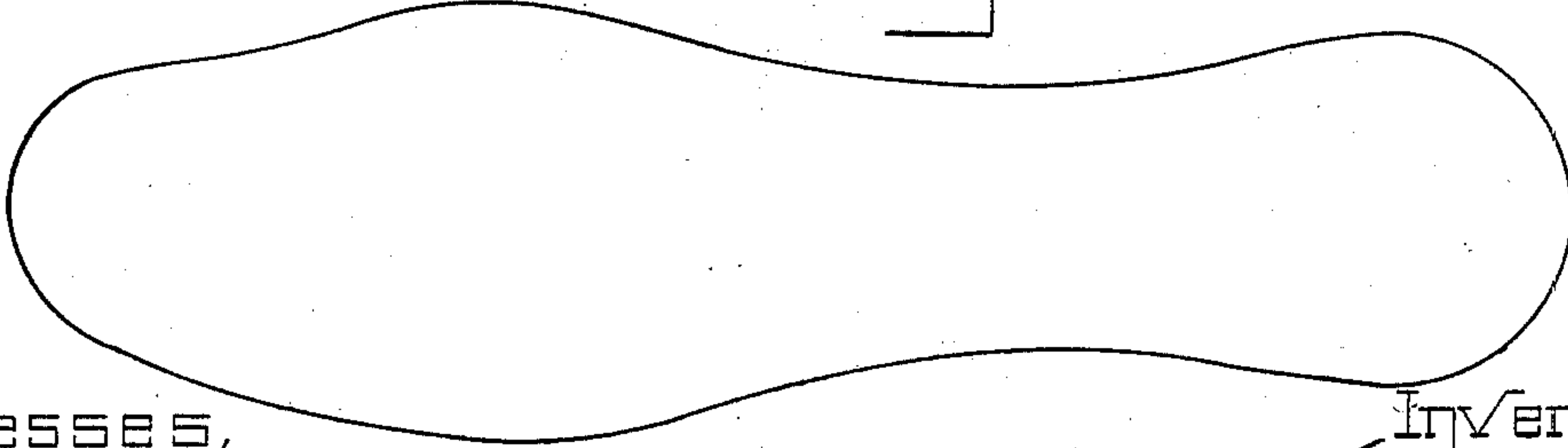


Fig. 12.



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Attorneys

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Fig. 13.

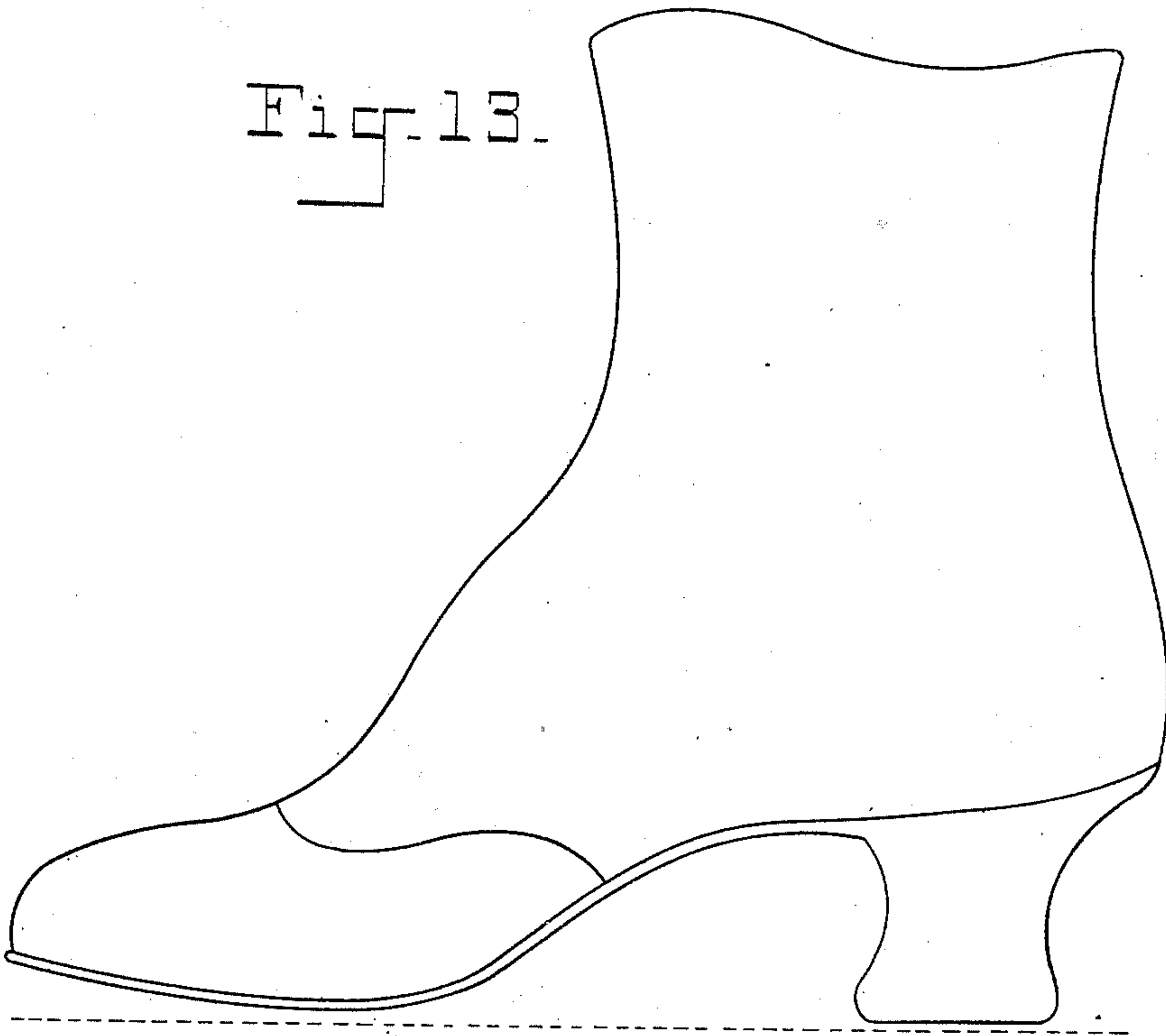
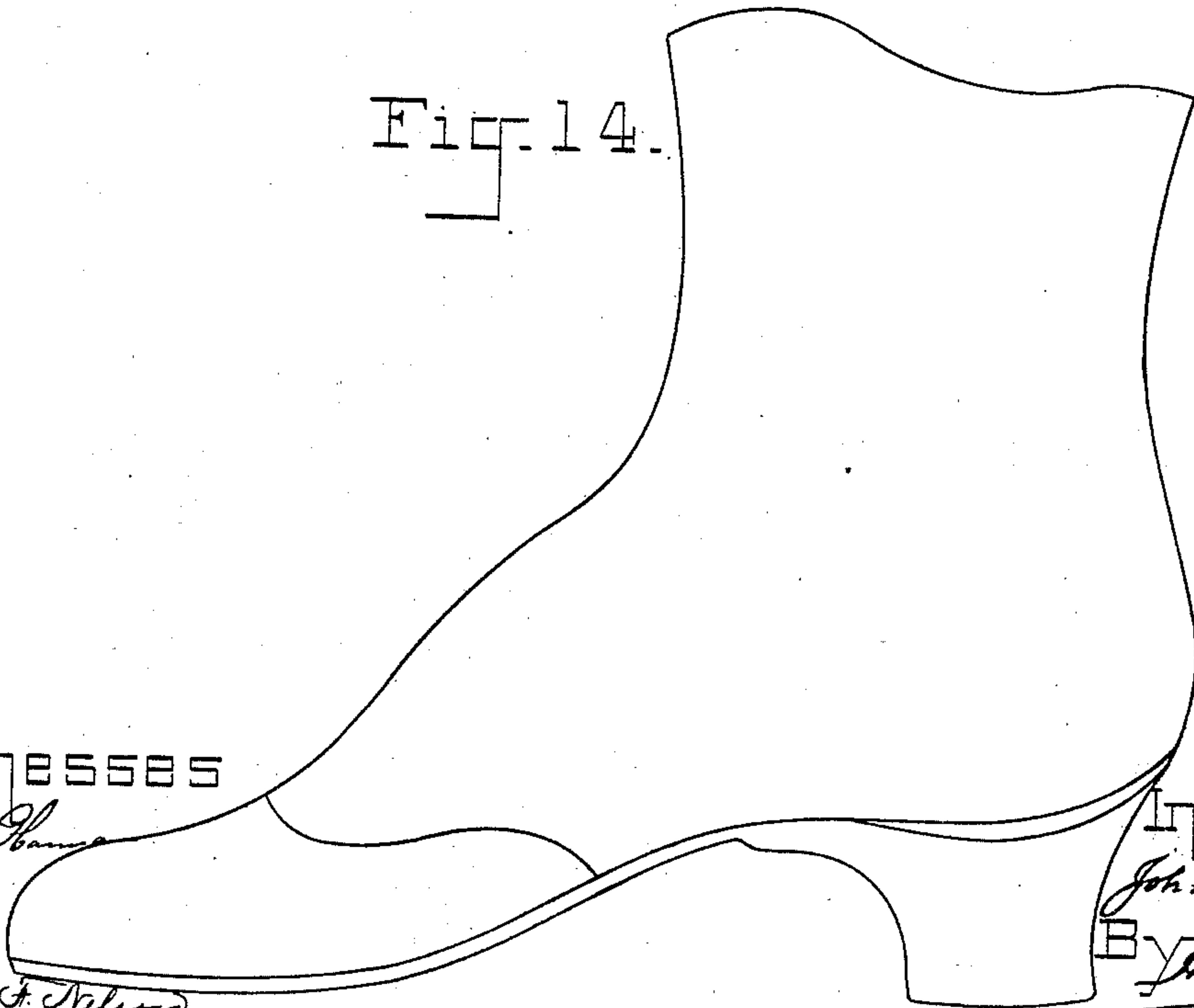


Fig. 14.



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UNITED STATES PATENT OFFICE.

JOHN CONDELL, OF NEW YORK, N. Y.

LAST.

SPECIFICATION forming part of Letters Patent No. 405,346, dated June 18, 1889.

Application filed August 2, 1888. Serial No. 281,730. (No model.)

To all whom it may concern:

Be it known that I, JOHN CONDELL, a citizen of the United States, residing in the city, county, and State of New York, have invented
5 certain new and useful Improvements in Lasts, of which the following is a specification.

The object of my invention is the production of a last which shall conform exactly to
10 the shape of the human foot, so that a shoe made upon it will fit closely the foot of the wearer, leaving no unoccupied space and requiring no "breaking in."

My invention will first be fully described
15 with reference to the accompanying drawings, and then be pointed out in the claims.

In said drawings, Figure 1 is a side elevation, partly in section, exhibiting my improved last, and showing also an insole applied to
20 the bottom of the same. Fig. 2 is an under side view of said last. Fig. 3 is a side elevation similar to Fig. 1, but exhibiting a somewhat different form of fastening device. Fig. 4 is a vertical sectional view through the ball
25 of the foot, showing both an inner and outer sole in position. Fig. 5 is a similar view through the arch of the foot. Fig. 6 is a similar view through the heel. Fig. 7 is an under side view of my improved heel adapted
30 for use on a shoe made on my improved last. Figs. 8 and 9 are side views of lasts ordinarily used, and Fig. 10 is a similar view of my improved last, the several lasts being placed
35 thus together so that their differences may readily be seen at a glance. Figs. 11 and 12 are plan views of a last ordinarily in use and of my last. Figs. 13 and 14 are side elevations of a shoe made on an ordinary last and on my improved last, respectively.

40 By inspection of the various figures it will be seen that my last is drawn on geometrical lines. The data given are for a shoe of medium size, and the shape is such that for larger or smaller lasts or shoes the several
45 curves indicated have simply to be struck from farther or nearer centers.

The several curves which make up the outlines of the last are struck from the points A B C D E F G H &c., so that for larger or
50 smaller sizes the several points of projection need only be removed or approached toward the centers of the respective curves. These curves also for the most part are caused to pass into the adjacent curves to avoid abrupt
55 angles, the result being a slender and shapely

form having no unsightly projections and adapted to form a shoe the pressure of which will be distributed over the whole foot.

In comparing the shoes shown in Figs. 13 and 14 made upon an ordinary last and upon
60 my improved last it will be seen that the shoe made upon my last is much more nearly like in shape to the human foot than the ordinary one, and at the same time it is more slender and shapely. The convexity of the
65 heel of the last forms a corresponding concavity in the sole of the shoe, so that there is in the improved shoe no tendency of the foot to slip forward to the toe. To more perfectly retain the shoe in this position, the improved
70 heel shown in Fig. 7 in under side view is employed by me, having a portion projecting forward under the arch of the foot.

The improvements herein shown, described, and claimed particularly relate to the shoe
75 made upon my improved last, and are more fully shown, described, and claimed in an application for patent filed by me of even date herewith.

The last is preferably made in two parts—
80 the last proper 3 and the last-block 4. The lower end of the block 4 has an ogee surface to engage the corresponding surface on the last proper, while at its upper end the block 4 has a pin 5, as shown in Fig. 1, for holding
85 in position; or, as shown in Fig. 3, the part 5 may be a strip of metal to set into a proper groove at the top of the last proper, and having a tongue to be engaged by a button 6 on the last proper.

90 Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent—

1. A last for boots and shoes formed of two parts consisting of a last proper and a
95 last-block, the two being united by a vertical ogee joint at the forward end, and a suitable fastening device which locks the last and last-block together, substantially as described.

2. A last for boots and shoes consisting of
100 a last proper and a last-block, the two united by a vertical ogee joint at the forward end, and an inclined pin on the block entering an opening in the last, substantially as described.

JOHN CONDELL.

Witnesses:

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GEORGE S. BELL.