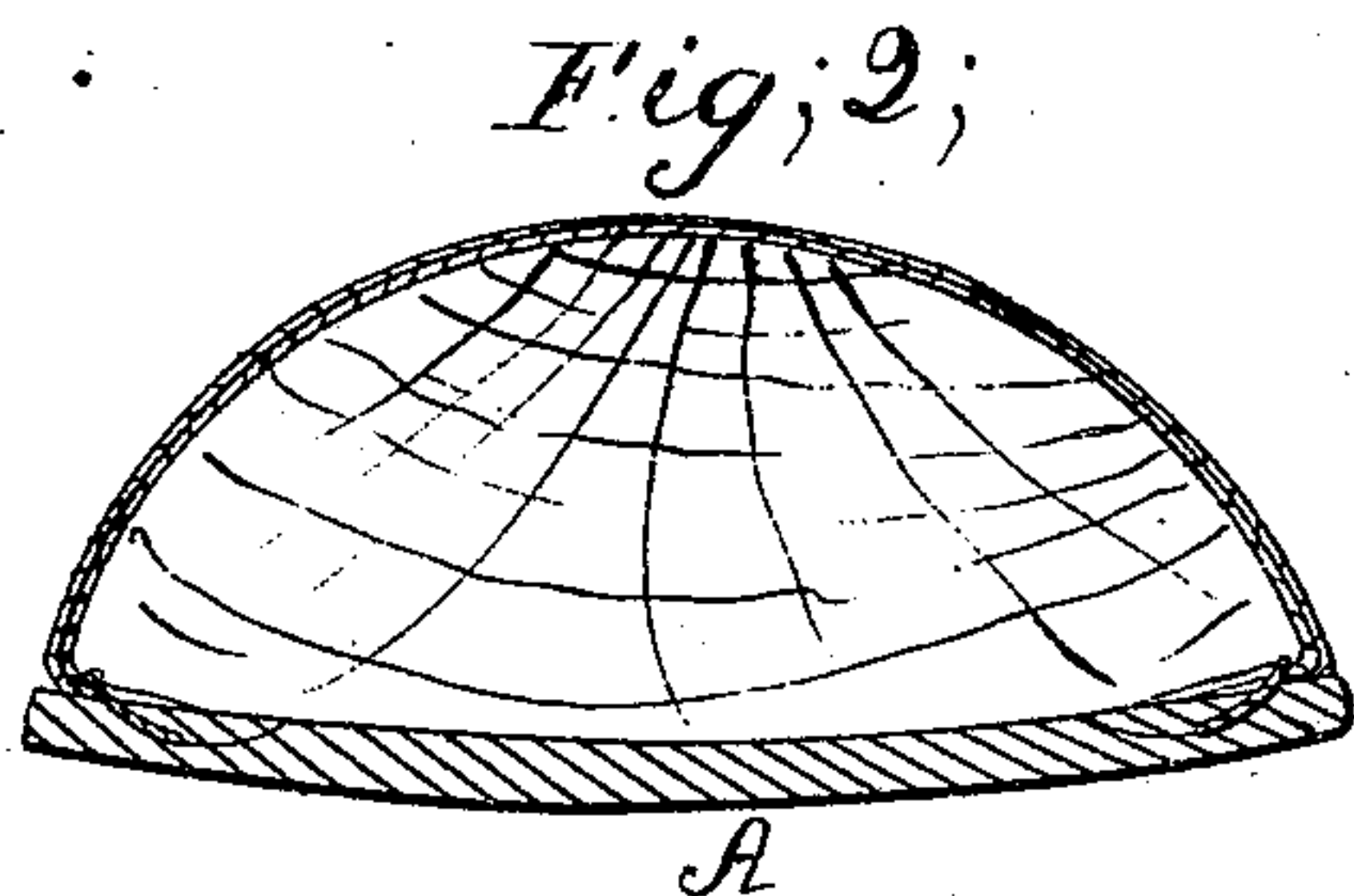
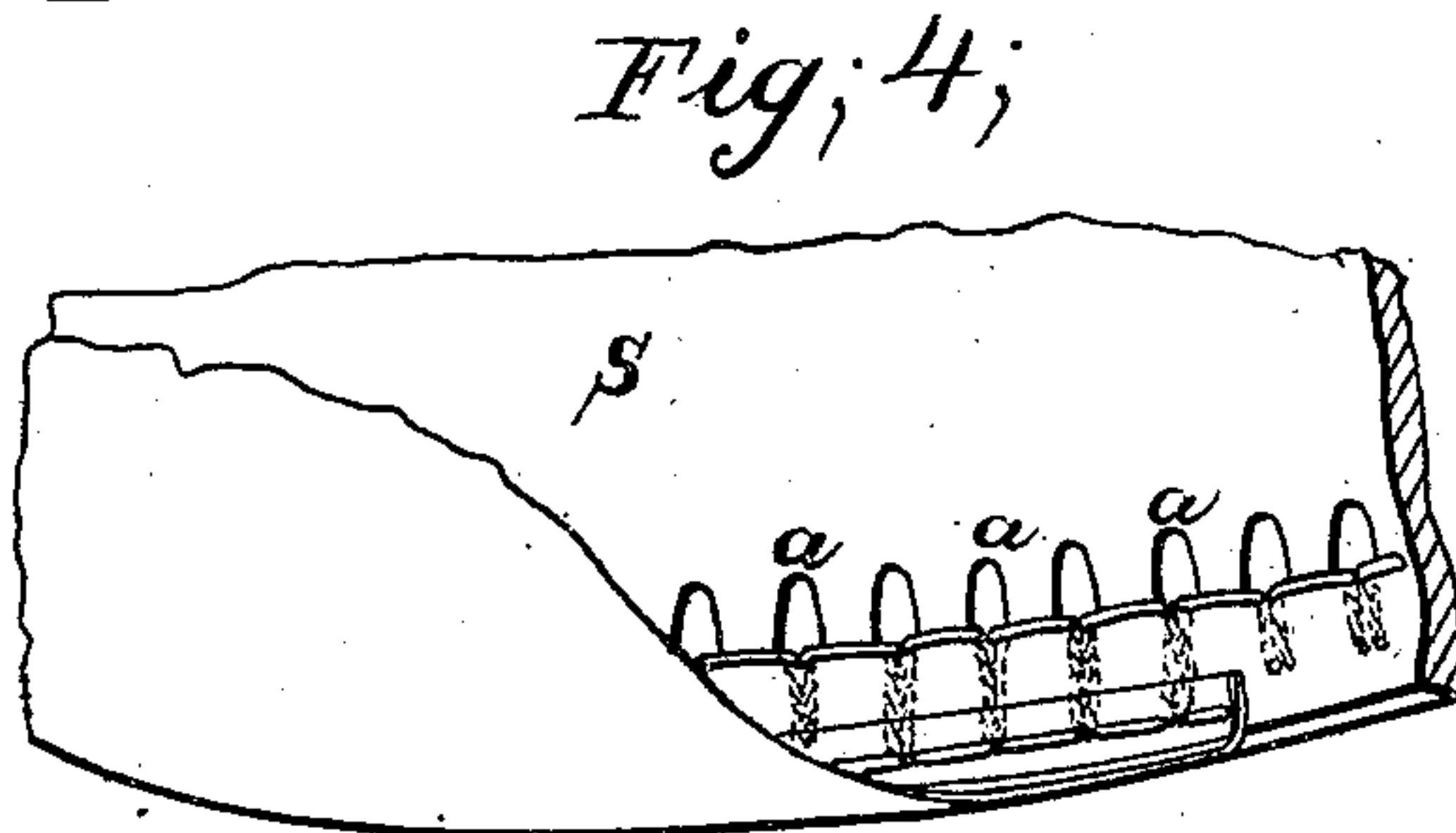
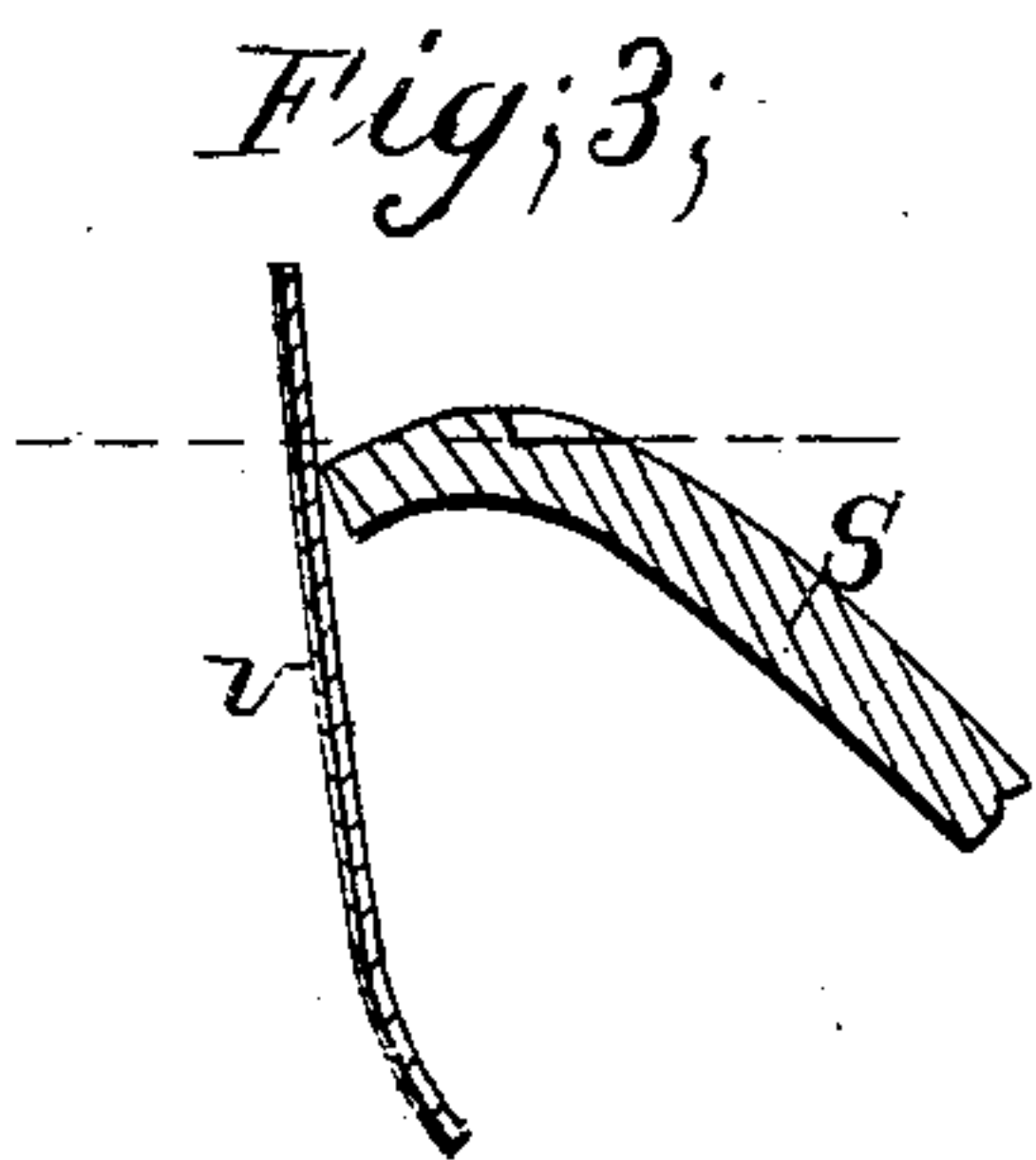
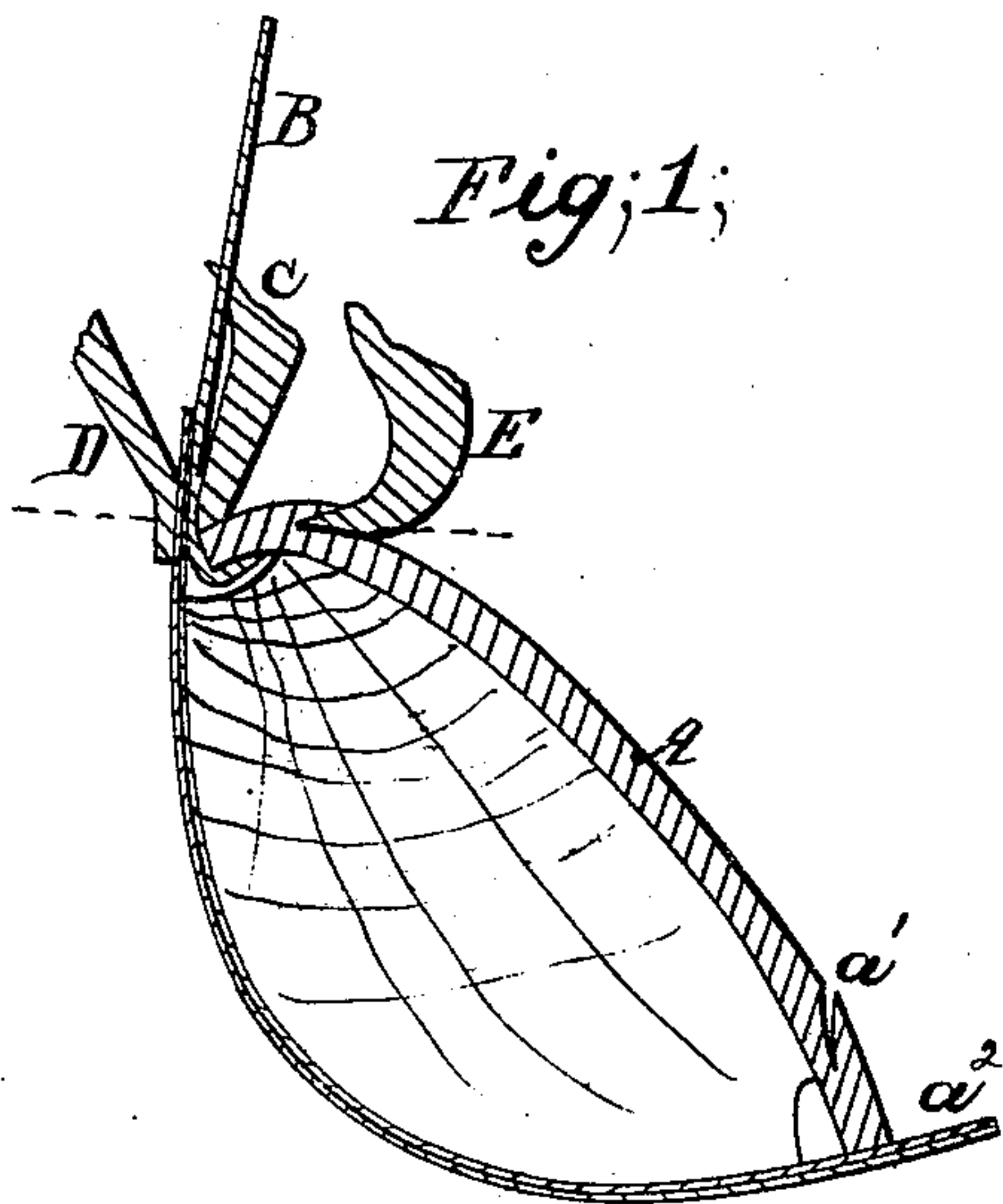


*E. P. Richardson.*

*Boot & Shoe Soles.*

*N<sup>o</sup> 89,504.*

*Patented Apr. 27, 1869.*



*Witnesses;*  
*Octavius Knight.*  
*William B. Denning*

*Inventor;*  
*Everett P. Richardson*



# United States Patent Office.

EVERETT P. RICHARDSON, OF LAWRENCE, ASSIGNOR TO HIMSELF AND FRANCIS W. CARRUTH, OF BOSTON, MASSACHUSETTS.

*Letters Patent No. 89,504, dated April 27, 1869.*

## IMPROVEMENT IN THE MANUFACTURE OF BOOTS AND SHOES.

The Schedule referred to in these Letters Patent and making part of the same.

### *To all whom it may concern :*

Be it known that I, EVERETT P. RICHARDSON, of Lawrence, in the county of Essex, and State of Massachusetts, have invented a new and useful Improvement in the Manufacture of Boots and Shoes; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, which are made part of this specification.

My invention relates to the preparation of the soles of boots and shoes to be sewed to their uppers either by hand or by machinery, and, further, to the guiding, bending, or holding of the sole in proper position while being sewed.

Shoes which are made with single thin soles, channelled near their edges, to determine the point of entrance of the awl or needle, or to conceal or receive the stitches, are subject to rapid destruction, by reason of the wear extending through the channel, and causing the separation of the outer edge from the central part of the sole long before the latter is worn out.

To obviate this difficulty, I prefer to form, instead of a channel extending continuously around, near the edge of the sole, a series of notches or indentations, one for each stitch.

These indentations serve as effectually as the customary channel, to determine and facilitate the entrance of the awl or needle at the proper distance from the edge of the sole; but, as they have no continuity, they do not weaken the sole, or endanger the giving way of its edge in the manner referred to.

My invention further consists in an improved mode or process to facilitate the proper sewing of the soles of boots and shoes to their uppers.

In some classes of shoe manufacture, the sole has been prepared for sewing by imparting to it a permanent bend, extending around the same near its edge, so that a flap is caused to stand out, through which flap stitches can be taken, instead of through the body of the sole.

This method of imparting to the entire edge of the sole a bend, which can be retained during the operation of sewing, is objectionable on several accounts:

First, it is difficult or impracticable to accomplish it with entire success.

Second, the rolling or other pressure employed in thus bending the sole reduces the thickness of the edges to an injurious extent.

Third, in finishing the boot or shoe, it is impossible to permanently remove such bend, or to completely efface the unsightly crease which the bending-operation produces on the bottom of the sole.

In carrying out this part of my invention, I take a sole, without preliminary bending, and, either with or

without the notching or indentation referred to under the first part of my invention, or the customary channelling, and by means of suitable appliances, I so bend or gripe the sole near its edge, at the time and place of taking each stitch, that the piercing-instrument may be made to pass in and out with great ease and accuracy; and, if the character of the work renders the bending desirable, the straightening of the sole, as soon as it is released by the griping-devices, may be made to impart a curvature, within the leather, to stitches taken with a straight awl or needle.

The griping of the sole, even without bending, is of great value, especially with soft or thin soles, which are liable to kink or pucker at the time and place of sewing, but, by my griping-devices, are pressed and held in proper shape, so that the awl or needle may pass through with ease and accuracy.

The drawings illustrate the application of my invention to the sewing of the class known as "turned" shoes, which are wrong side out when the sewing together of the soles and uppers is performed, and are afterwards turned for finishing.

Figure 1 represents a transverse section of a channelled sole, and the upper in position on the last, showing one edge of the sole bent at the place of sewing. The dotted line indicates the course of the awl or needle.

Figure 2 represents a transverse section of a similar shoe after it has been sewed, and turned, and applied to the finishing-last.

Figure 3 represents a transverse section of adjacent portions of a notched or indented sole, and the upper in position for sewing.

Figure 4 is a plan or top view of a part of a finished shoe, with a portion of the upper removed, to show the notches or indentations in the sole.

S represents the sole;

U, the upper; and

L, the last.

*a a a* are notches or indentations, which may be produced in the sole either by heavy pressure, with an instrument of suitable form, or by cutting out portions of the leather.

These notches or indentations determine accurately the proper points at which the awl or needle is to enter, facilitate its entrance without glancing, and afford an efficient hold for the thread, but do not injure the sole by partially severing or separating its edge, as in the case of a channel, such as is represented at *a'* in fig. 1.

In sewing channelled soles, a guide or channel-opener may be employed, as shown in fig. 1.

B represents a bearing, formed as a hook, to pass around the edge of the sole, and

C, a reciprocating bar, acting, in connection with the hook B, to gripe the edge of the sole each time



that it is pierced, and, if desired, to bend it into the form shown in figs. 1 and 3, so that a straight or slightly-curved awl or needle may be made to pass into and out of the same surface of the sole.

The retraction of the bar C after every stitch permits the sole to resume its former straight position.

D represents a presser-foot, employed to hold the edge of the upper against the thrust of the awl or needle.

When my invention is used in connection with machine-sewing, the feed may be performed by suitable appliances engaging in the indentations *a a*, or by any method employed in sewing-machines.

Having thus described my invention,

What I claim, and desire to secure by Letters Patent, is—

1. The notches or indentations *a*, applied to or produced in an unchannelled sole before piercing the same, substantially as set forth.

2. Bending or gripping the sole at the time and place of sewing, substantially as and for the purpose set forth.

EVERETT P. RICHARDSON.

Witnesses:

JOHN GRINNELL,  
OCTAVIUS KNIGHT.