

W. N. SPRAGUE.

MANUFACTURE OF STIFFENERS FOR BOOTS AND SHOES.

No. 174,164.

Patented Feb. 29, 1876.

Fig. 1.

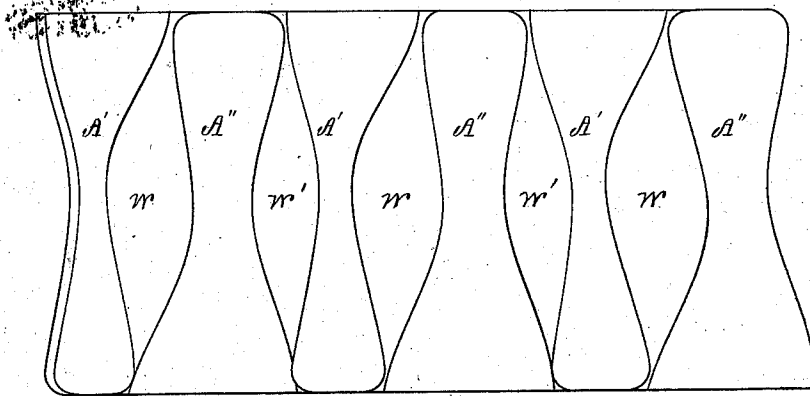


Fig. 2.

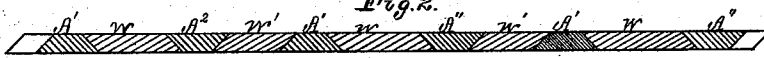


Fig. 3.



Fig. 6.



Fig. 4.

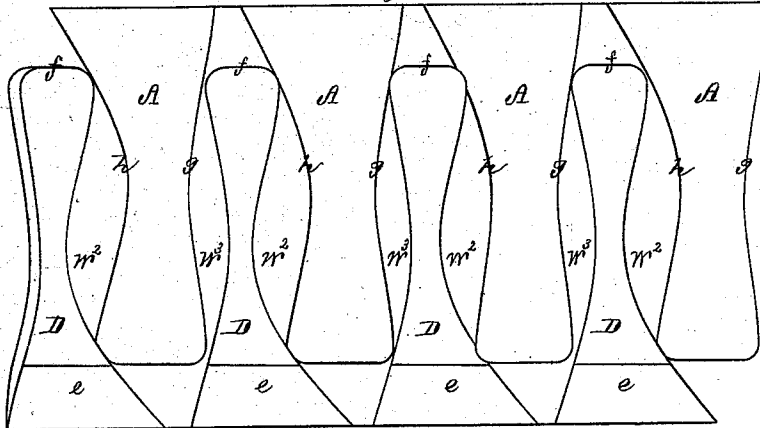
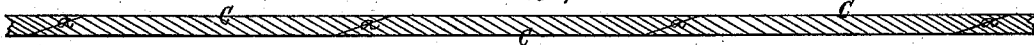


Fig. 5.



Fig. 7.

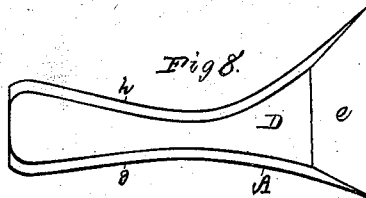


Witnesses.

S. W. Piper

L. W. Miller

Fig. 8.



Watson N. Sprague

by his attorney

R. H. Eddy

UNITED STATES PATENT OFFICE.

WATSON N. SPRAGUE, OF SOUTH FRAMINGHAM, ASSIGNOR TO HIMSELF
AND WILLIAM W. POTTER, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN THE MANUFACTURE OF STIFFENERS FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. **174,164**, dated February 29, 1876; application filed
January 12, 1876.

To all whom it may concern:

Be it known that I, WATSON N. SPRAGUE, of South Framingham, of the county of Middlesex and State of Massachusetts, have made a new and useful invention having reference to the manufacturing of shank-pieces or stiffeners for the soles of boots or shoes; and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 denotes a top view, Fig. 2 a longitudinal section, and Fig. 3 a transverse section, of a strip of leather-board, or other suitable material, as cut in the way heretofore practiced for conversion of it into shank-stiffeners. Fig. 4 is a top view, Fig. 5 a longitudinal section, and Fig. 6 a transverse section, of a sheet of like size of leather-board, or other suitable material, as cut in accordance with my improvement or new method of separating it into shank stiffeners.

By my invention I am enabled to obtain from a strip of material of any given size about thirty-three per cent. more of the stiffeners than by the old method shown in Fig. 1—that is, with my mode of cutting the sheet, as represented in Fig. 4, I get eight of the stiffeners, whereas, by that exhibited in Fig. 1, six only can be obtained from a sheet. The two sheets represented in Figs. 1 and 4 are to be supposed to be equal in length, but although the Sheet Fig. 4 is wider than that of Fig. 1 by the width of a toe-scarf of a stiffener, each sheet has the same area in transverse section, one section being a rectangle and the other a parallelogram of like base and altitude.

In the old plan of cutting, as shown in Fig. 1, the toe of each of the stiffeners A' A'' has to be subsequently scarfed, the part cut off being waste. With my improved mode of cutting there is not such waste in making the strips for being cut into stiffeners. I so separate them from a sheet that each shall be beveled at its opposite edges, the bevels being on opposite sides of the strip.

Fig. 7 illustrates a transverse section of a

sheet so cut into strips for conversion into stiffeners, they being shown at C C C, the lines of cut being represented at *a a a* as inclined to the opposite surfaces of the sheet.

In Fig. 4 the waste pieces between the stiffeners A' A'' are represented at W W', each piece W' being less in size than each piece W, on account of the stiffeners A'' being "rights" and the pieces A' being "lefts." In Fig. 4 the waste pieces shown at W' W'' are very much smaller than those shown in Fig. 1, the stiffeners in the latter figure being shown at A D.

In carrying out my invention, I first cut the strip scarfed at its opposite edges in manner as shown in Fig. 7, or at *e e'* in Figs. 4 and 6; and I next cut it into stiffeners in manner so that each at its toe shall project beyond the heel of the next one the width or about the width of the scarf, the heel end of each "right" and each "left" stiffener being made by a cut directly square down through the sheet, as shown at *f*. The transverse cuts of the strip, represented by the curved lines *g h*, are made slanting through the strip, in manner as shown in Fig. 5, so as to have each shank-stiffener beveled on its two opposite longer edges, as represented in Figs. 8 and 9, the first of which figures is an under-side view, and the other a transverse section, of a shank-stiffener.

I claim as my invention—

The improved mode, substantially as herein described, of separating a strip of stock into shank-stiffeners for boots or shoes, consisting in beveling the strip on its opposite sides and at its edges, as represented, cutting through it transversely by curved lines *g h*, and lengthwise by lines *f*, so as to form in it a series of stiffeners, each of which is beveled on its opposite edges and at its toe, and projects at its toe beyond the heel of the next adjacent one, all being essentially as shown and specified.

WATSON N. SPRAGUE.

Witnesses:

R. H. EDDY,
J. R. SNOW.