

(No Model.)

2 Sheets—Sheet 1.

E. C. BOWLING.  
APPARATUS FOR MAKING GARMENT STAYS.

No. 385,996.

Patented July 10, 1888.

Fig. 1.

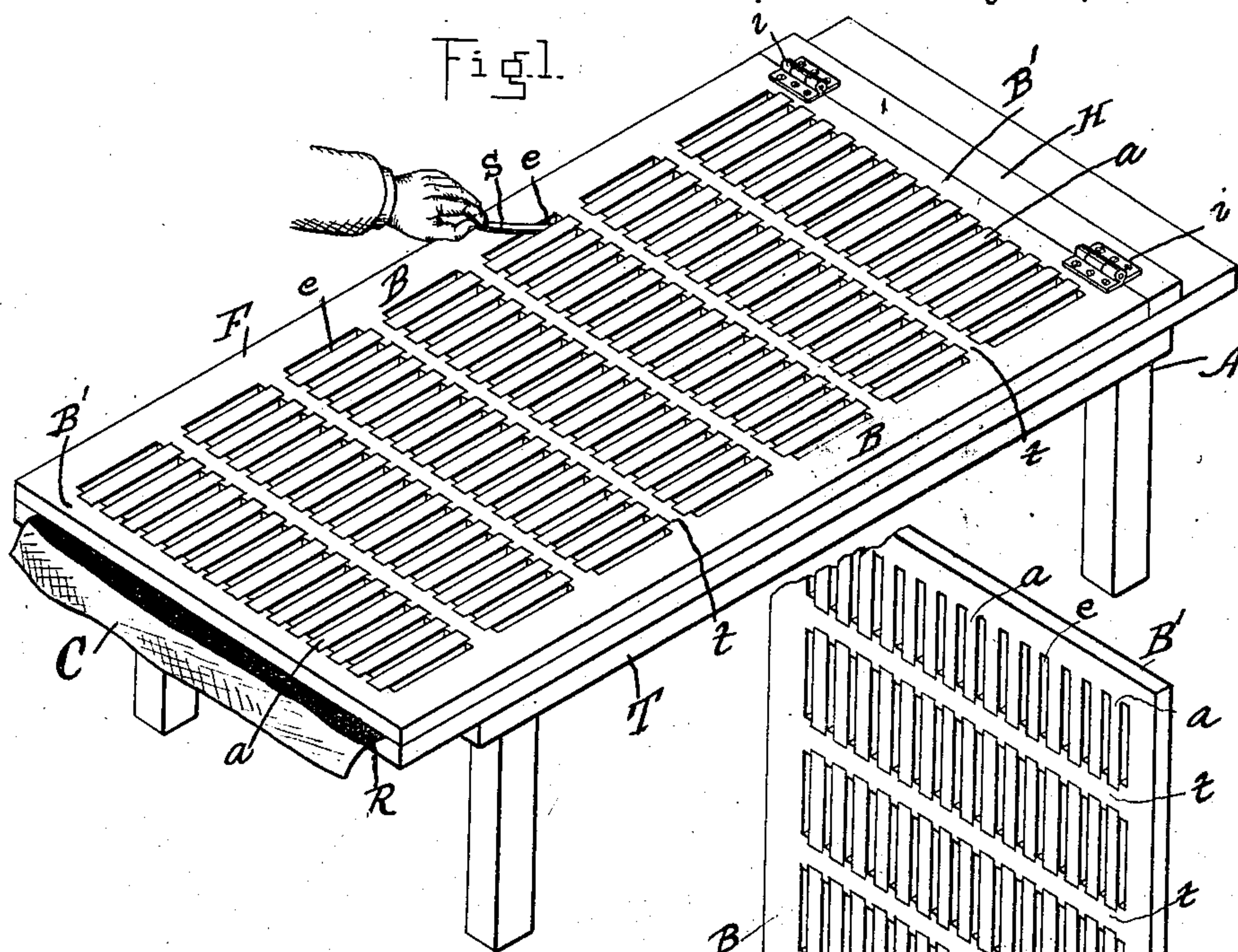
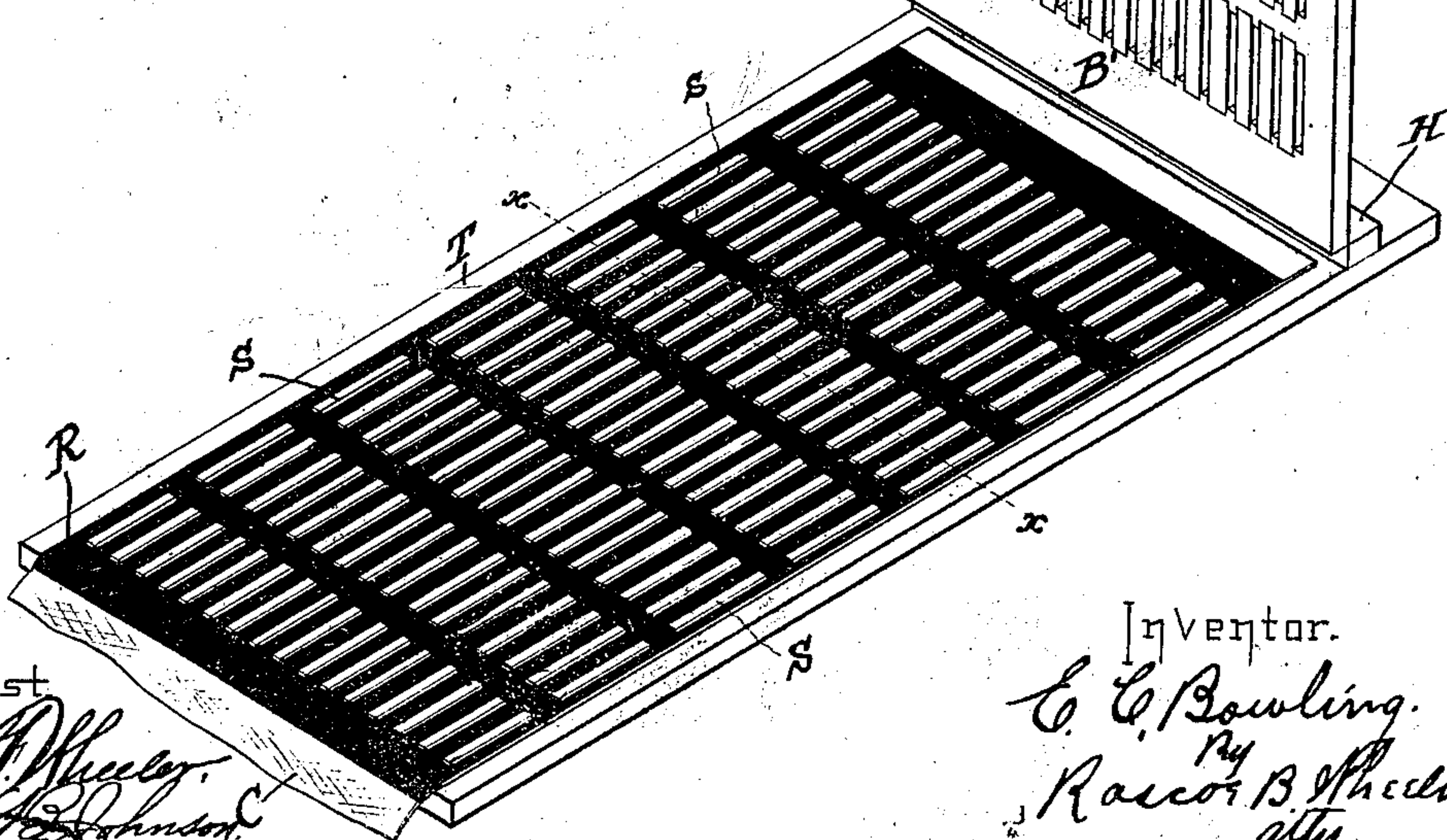


Fig. 2.



Attest  
E. C. Bowling.  
R. B. Johnson.

Inventor.  
E. C. Bowling.  
By Racco B. Wheeler.  
att'y.

(No Model.)

2 Sheets—Sheet 2.

E. C. BOWLING.

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Fig. 3.

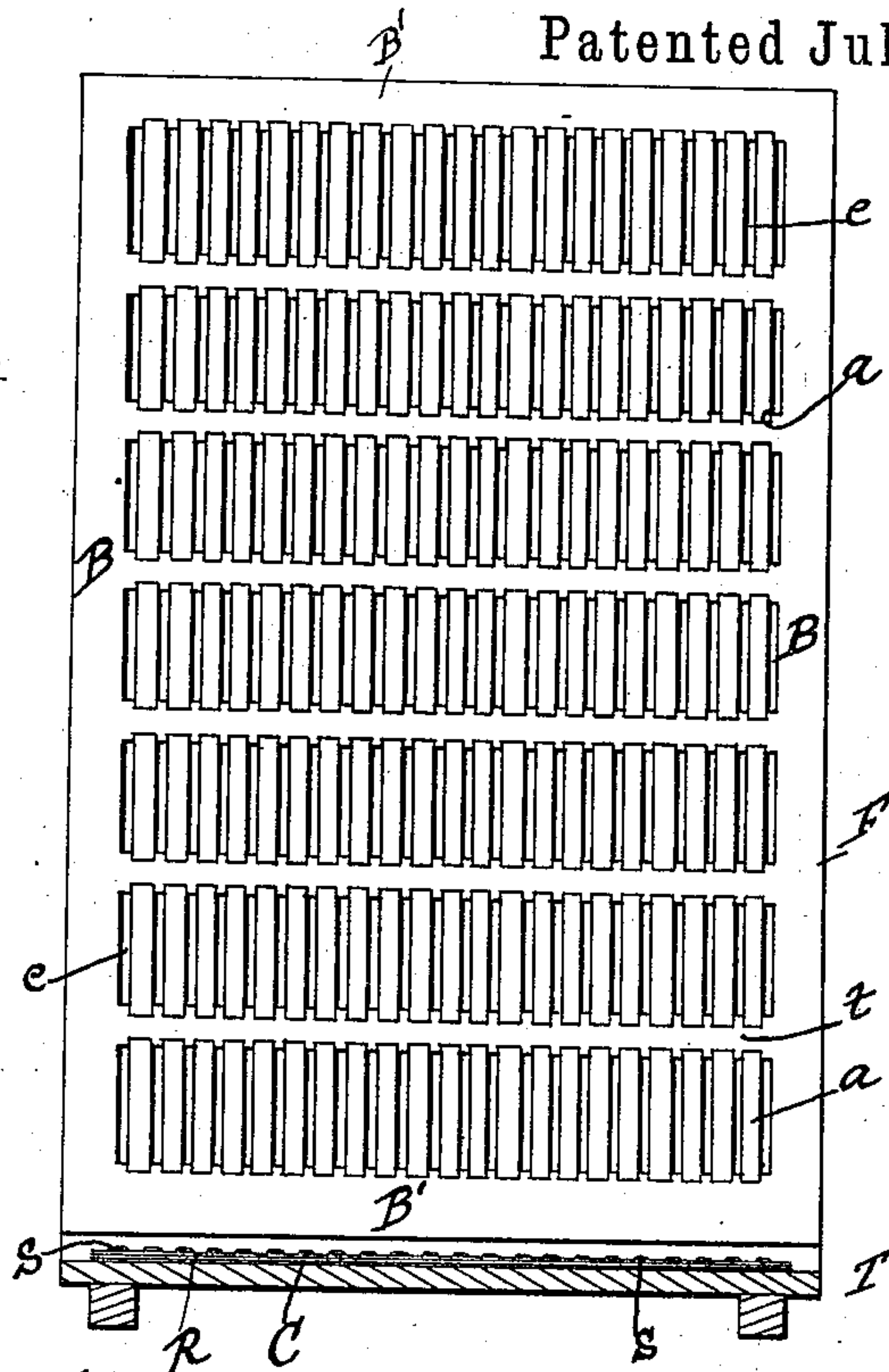


Fig. 4.

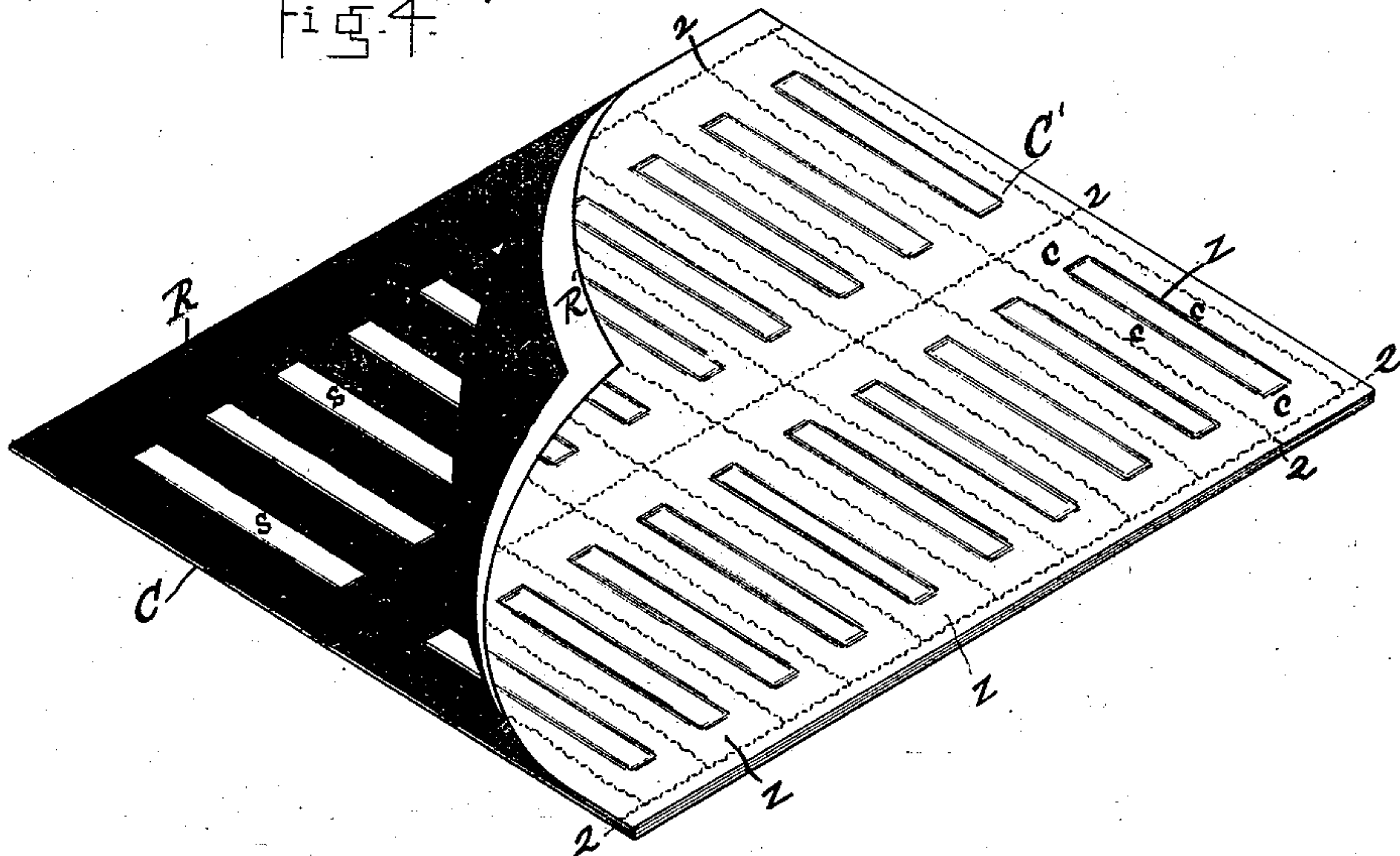
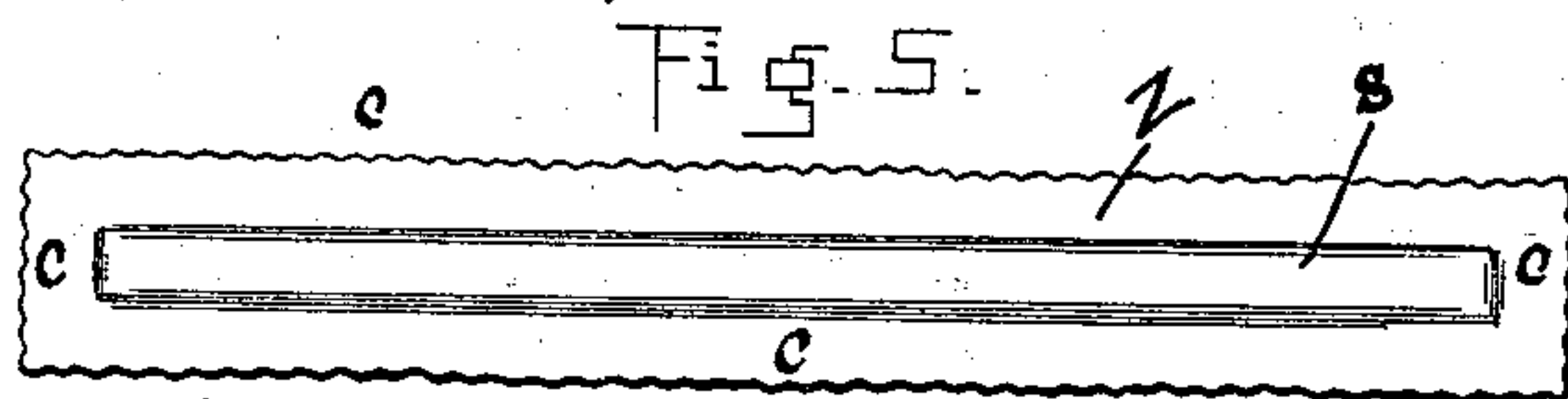


Fig. 5.



Attest  
*B. A. Wheeler*  
*H. J. Johnson*

Inventor.

*E. C. Bowling*  
By  
*Rocco B. Wheeler*  
att.



# UNITED STATES PATENT OFFICE.

ENOCH C. BOWLING, OF YPSILANTI, MICHIGAN.

## APPARATUS FOR MAKING GARMENT-STAYS.

SPECIFICATION forming part of Letters Patent No. 385,996, dated July 10, 1888.

Application filed December 16, 1887. Serial No. 258,131. (No model.)

*To all whom it may concern:*

Be it known that I, ENOCH C. BOWLING, a citizen of the United States, residing at Ypsilanti, in the county of Washtenaw and State of Michigan, have invented certain new and useful Improvements in Apparatus for Making Garment-Stays; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to a machine for producing cloth-covered metallic blades or stiffeners, more particularly known as "stays" for garments, relating directly to the stay for which I obtained Letters Patent of the United States on May 10, 1887.

The stay produced by this machine, as will be hereinafter more fully set forth, consists of a metallic blade having a textile-fabric covering with an interposed impervious covering or coating of gutta-percha tissue. The fabric covering being wider and longer than the flexible blade provides said blade with a fabric stitching-edge surrounding the blade, whereby the article produced can be readily attached to a garment by stitching through the fabric projection or marginal edge.

The essential features of this invention will be hereinafter fully set forth, and pointed out particularly in the claims.

In the accompanying drawings, forming a part of the specification, Figure 1 is an isometrical view of my improved device. Fig. 2 is a like view showing the distributing frame elevated or swung upward at its free end. Fig. 3 is a section taken on the dotted line  $x x$  of Fig. 2, the parts being in the same relative position. Fig. 4 shows a sheet of the manufactured article as removed from the machine, excepting that one corner shows the parts separated to better illustrate the construction. Fig. 5 shows the complete stay.

In the several views, A represents a platform or table, and T the top. Crossing one end of the table is a rail, H, made fast to the top. To said rail is hinged, as shown at  $i i$  of Fig. 1, a swinging distributing-frame con-

sisting of the side rails, B, and end rails, B'. To the side rails is secured a series of parallel transverse bars,  $t$ . Joining the bars  $t$  at right angles is a series of dividers or parallel strips,  $a$ . Between said last-mentioned strips is a series of openings or pockets,  $e$ , which pockets extend through the swinging frame for the purposes hereinafter fully set forth.

The operations of the machine are as follows: The frame F being swung up, as shown in Fig. 2, the operator places over the top of the table the layer of fabric C; then on said fabric the sheet of gutta-percha tissue R. The frame F is then swung down onto the gutta-percha tissue R, as shown in Fig. 1. The operator then drops into each opening or pocket  $e$  a metal blade, S, the blades being previously heated or warmed sufficiently to cause the gutta-percha tissue to soften or melt and retain said blades in the position dropped, as shown by the hand in Fig. 1. When each pocket  $e$  of the frame F has received a metallic blade, the frame F is swung up, as shown in Figs. 2 and 3. The metallic blades by the heat having become cemented to the sheet of gutta-percha tissue C remain in their respective positions, as clearly shown by the white lines of Fig. 2, wherein the black shows the sheet of gutta-percha tissue. It will be observed that the parallel strips  $a$  of the frame locate the blades S on the gutta-percha tissue at a uniform distance from each other, and that the transverse strips  $t$  of said frame form spaces, whereby the ends of the blades S of the various rows are located on said sheet at a uniform distance from each other. The object of locating the blades at such distance from each other will be hereinafter explained. The frame F being elevated, as in Fig. 2, and the metal blades S located on the sheet of gutta-percha tissue, as shown in said view, the operator places a sheet of gutta-percha tissue, R', over said blades; then on said sheet of gutta-percha tissue a sheet of textile fabric, C'. Then by passing over the upper layer of fabric a heated iron the sheets R R' of gutta-percha tissue will become melted or softened, whereby they readily enter the meshes of the fabrics, thus uniting the parts together in sheet form. The parts united are then removed from the machine and appear, as shown in Fig.



4, excepting that in said view the parts are shown as separated at one corner to show the interposed blades 8.

The sheet produced and shown in Fig. 4 is cut by means of a knife or pinking-wheel (not shown) along the dotted lines 2, whereby the garment-stay of Fig. 5 is produced.

The object of locating the steel or metal blades at some distance from each other between the covering fabrics is to provide said blades with a textile-fabric border, *c*, which shall surround each blade, as shown in Fig. 5, and to also provide a fabric body through which to cut, so as to separate each blade, thus producing the described article, as shown in Fig. 5.

It will be observed from the foregoing that metallic or stiffening blades may be more rapidly covered and cheaply produced, the old method of wrapping the fabrics around each blade being expensive and a slow way of producing such goods.

Having thus fully set forth my invention,

what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the platform, the distributing-frame consisting of the side and end rails, the series of transverse bars *t*, the series of parallel strips *a*, said strips joining the bars *t* at right angles, and the open pockets *e*, extending through the distributing-frame formed within the angles of said bars, as and for the purposes specified.

2. In combination with the platform or table, the frame hinged at one end thereto, said frame consisting of the side rails, *B*, the end rails, *B'*, the transverse bars *t*, the interposed bars *a*, and the open pockets *e*, extending through the frame, as and for the purposes specified.

In testimony whereof I affix my signature in presence of two witnesses.

ENOCH C. BOWLING.

Witnesses:

Mrs. C. L. BOWLING,  
MINNIE H. WHEELER.