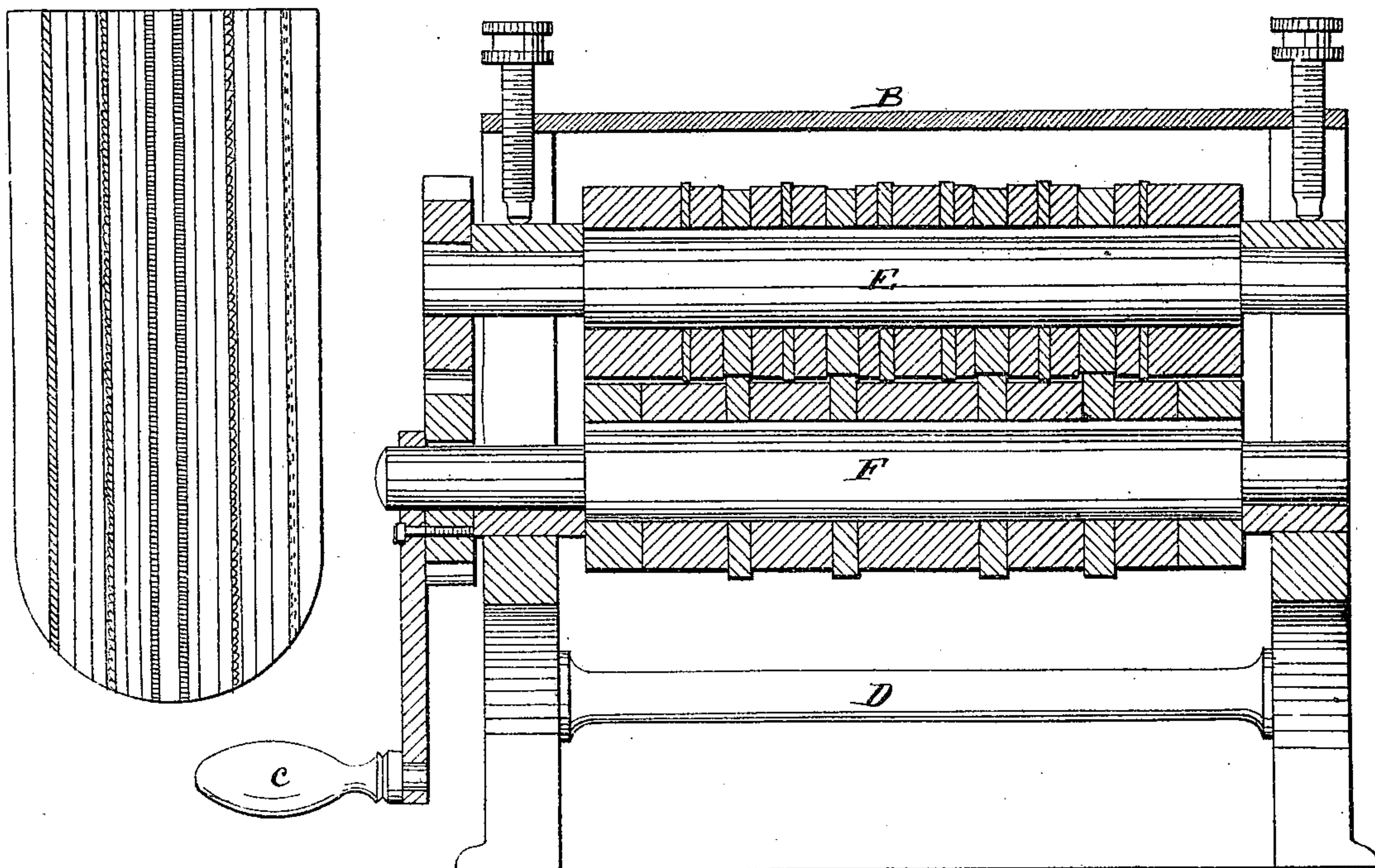
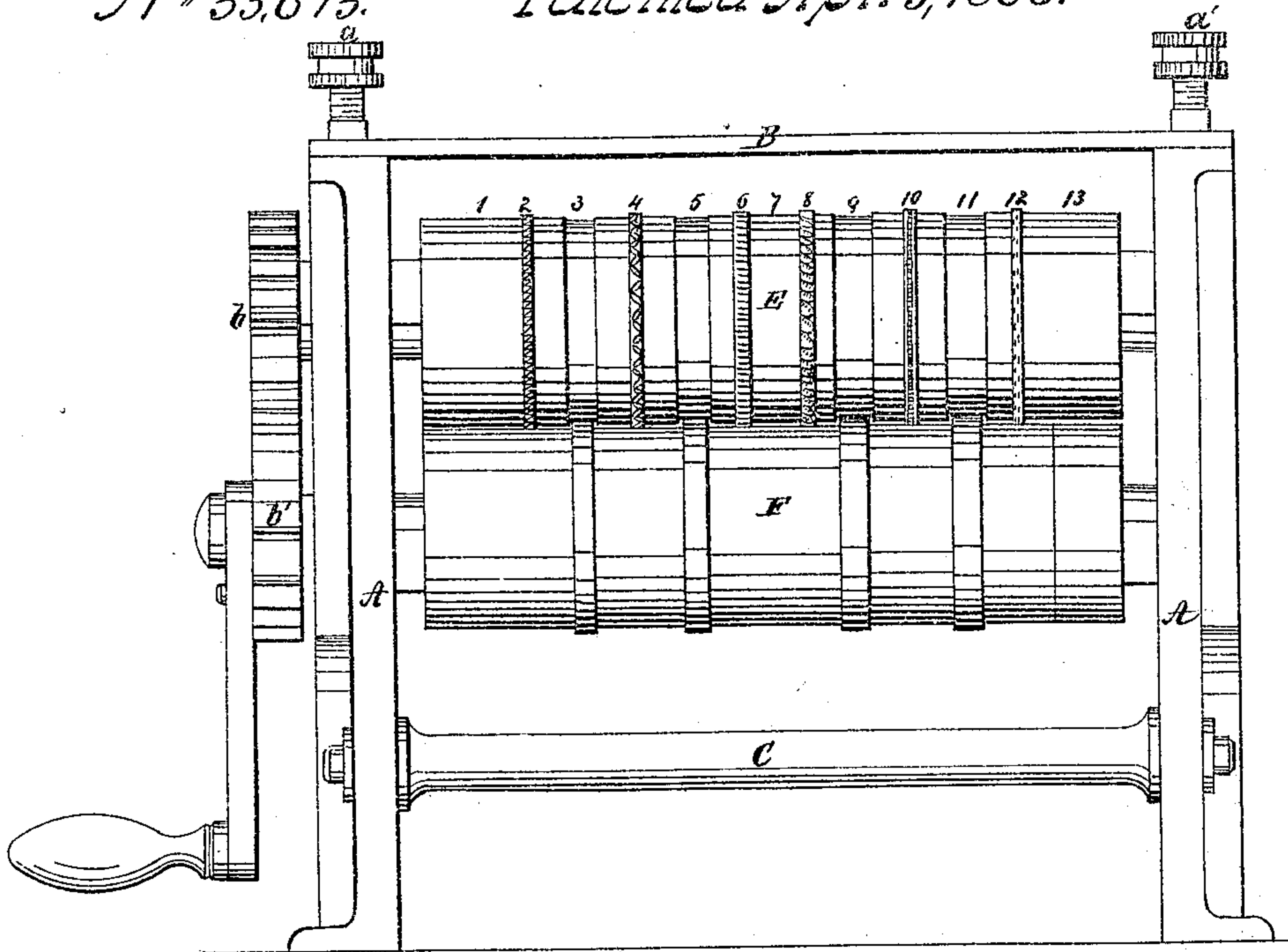


*S.B. Hill*  
*Paper Collar Mach.*  
*Nº 53,615. Patented Apr. 3, 1866.*



*Witnesses*

*Thomas Long*  
*J. B. Peyton.*

*Inventor*

*S. B. Hill*  
*by his atty*  
*Baldwin & Son*



# UNITED STATES PATENT OFFICE.

SYLVESTER B. HILL, OF CHICOPEE, MASSACHUSETTS.

## IMPROVEMENT IN PAPER-BOSOM MACHINES.

Specification forming part of Letters Patent No. 53,615, dated April 3, 1866.

*To all whom it may concern:*

Be it known that I, SYLVESTER B. HILL, of Chicopee, in the county of Hampden and State of Massachusetts, have invented a new and useful Machine for the Manufacture of Paper Shirt-Bosoms; and I do hereby declare that the following is a full, clear, and accurate description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a view, in elevation, of my machine, and Fig. 2 is a vertical longitudinal central section through the same.

It is the object of my invention to form plaits, emboss, or ornament paper shirt-bosoms by passing the prepared paper through rollers; and to this end my invention consists, first, in forming shirt-bosoms of paper by passing the prepared paper between rollers that will give the bosom raised or depressed plaits or emboss or ornament them with imitation stitching or other ornaments by passing the paper once between the rollers; second, in forming the rollers in sections, so that the change of the position of the sections on the rollers will vary the pattern or the style of finish of the shirt-bosom; and, third, in the production of a new article of manufacture of plaited, embossed, and ornamented paper shirt-bosoms formed and ornamented between rollers.

I construct a metallic frame with end pieces, A, connected by a top plate, B, and braces C and D, of the proper width and height to receive the rollers E and F and support them in proper bearings, the bearings of the lower roller being stationary, while those of the upper roller are movable, and thus the distance of the rollers apart can be readily adjusted by set-screws *a* and *a'*, which will limit the upward movement of the upper roller with precision and keep the rollers truly parallel when in operation. The journals of the rollers pass at one end far enough beyond the bearings to receive cog-gearing *b* and *b'* to couple the rollers, so that when rotary motion is imparted to one roller by a crank-handle, *c*, or a pulley, both will move in opposite directions, and thus draw the material that is placed between them. These rollers may be furnished, the one with grooves and the other with corresponding projections,

so as to form plaits on the paper shirt-bosom, while figures of various ornaments may be engraved on one of the rollers, so as to impress upon the shirt-bosom imitation stitching, milling, vines, wreaths, or any other ornamental design.

In the use of ornamented solid rollers it sometimes happens that parts of the raised ornaments become worn, and then an entire new roller will be necessary; but to obviate this I make my rollers in section-rings 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, and 13, or any other number, and secure them in place by a feather or other known methods, and this enables me, when one section becomes worn, to replace it with a new section without losing the use of the others; and this is not the only benefit of using sectional rings on my rollers, for, by changing their position on the roller, the style of the ornaments of the bosom may be greatly varied. For example, the ring 12, being the imitation of a double row of stitches, may be placed between the rollers 4 and 8, imitating a vine and sprig of flowers, and the ring 6, representing concave milling, may take the present place of ring 12, when it will be manifest that a new design of ornament would be produced.

By this mode of manufacturing paper shirt-bosoms I am enabled to raise or depress the plaits or ornament the bosom in any way desired from a single pair of rollers and with a most marked economy.

The operation of my invention is as follows: The paper being enameled or having its surface prepared in any desired manner and properly dampened when necessary to dampen it, and cut in the form of outline for a shirt-bosom, is taken sheet by sheet and passed between the rollers with the pressure required to give a sharp impression of the plaits and ornaments, and when dry the shirt-bosom will be found to have a polished surface and to retain a perfect type of the ornamental design given by the rollers.

It is obvious that when the section-rollers are used the design may be varied to such a number as the rings having ornamented surfaces multiplied into each other will produce.

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

1. Forming ornamented paper shirt-bosoms

by passing the prepared paper through or between rollers constructed substantially as and for the purpose set forth.

2. Forming paper shirt-bosoms between section-rollers so arranged that the change of the relative positions of the sections will vary the ornamental design of the shirt-bosom, substantially as set forth.

3. The combination of an ornamented sectional roller with a solid roller, and thus forming ornamental paper shirt-bosoms and vary-

ing their designs, substantially in the manner described.

4. The new article of manufacture, constituting an embossed paper shirt-bosom, made substantially in the manner described.

In testimony whereof I have hereunto subscribed my name.

S. B. HILL.

Witnesses:

GEO. ARMS,  
E. O. CARTER.