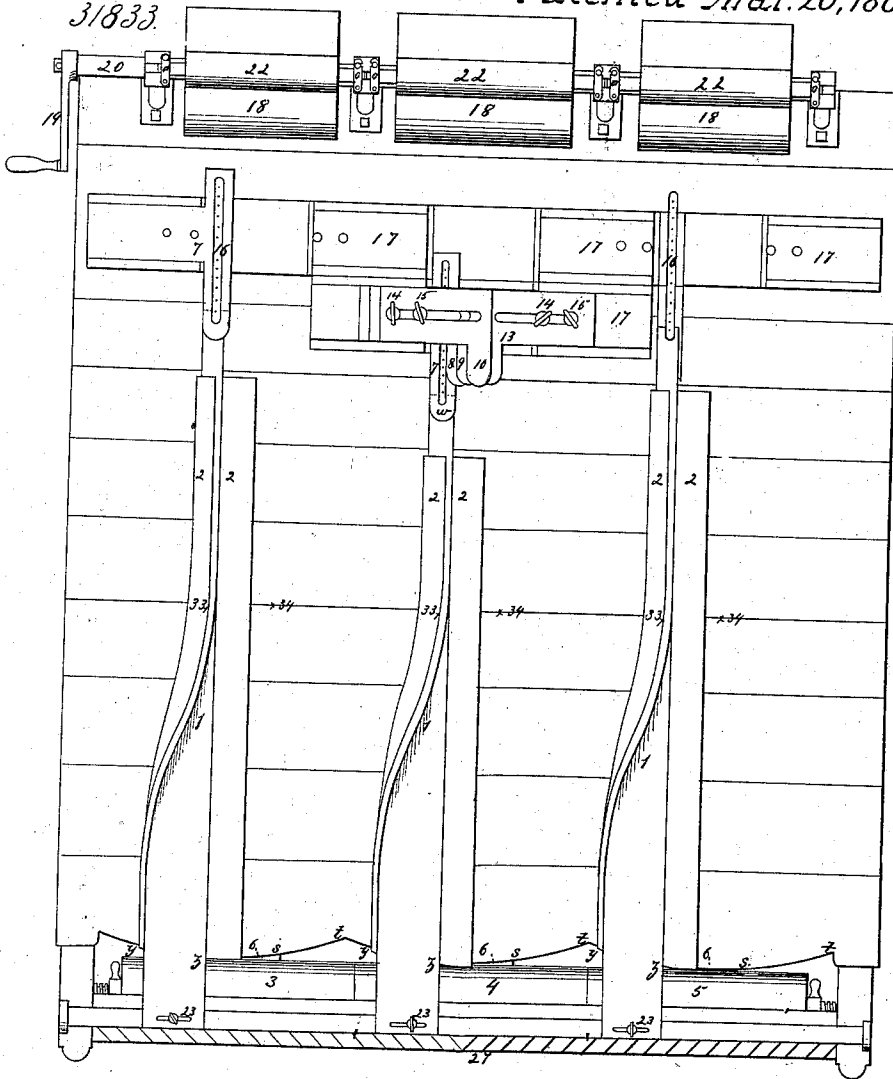


Sheet 1.
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Shirt Bosom Folder.

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Fig. 1. Patented Mar. 26, 1861



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Sheet 2.
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31,833

Fig. 5.

Patented Mar. 26, 1861
Fig. 2.

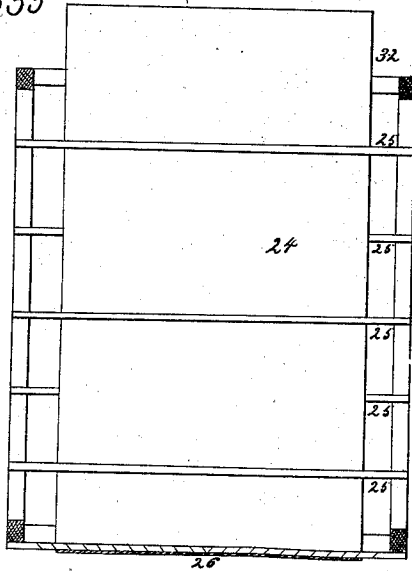
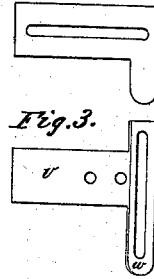


Fig. 3.



Fig. 4.

Fig. 8.

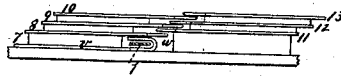


Fig. 6.

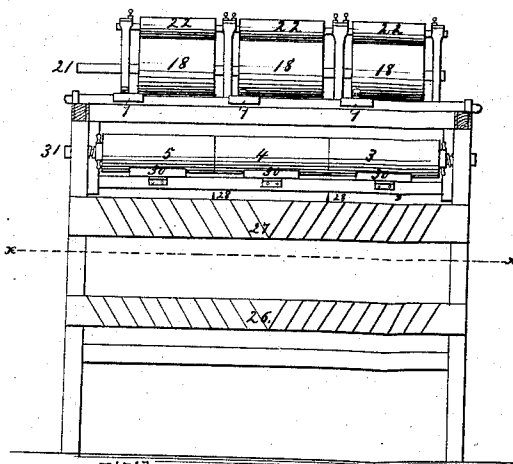
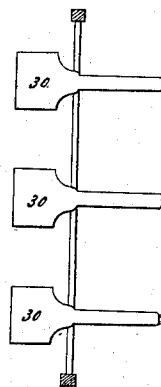


Fig. 7.



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UNITED STATES PATENT OFFICE.

JOHN STEVENS AND FRANCIS STEVENS, OF NEW YORK, N. Y.

IMPROVEMENT IN HEMMERS AND FOLDERS.

Specification forming part of Letters Patent No. 31,833, dated March 26, 1861.

To all whom it may concern:

Be it known that we, JOHN STEVENS and FRANCIS STEVENS, of New York, in the county of New York and State of New York, have invented a new and Improved Machine for Folding Shirt-Bosoms, the construction and operation of which we have described in the following specification and illustrated in its accompanying drawings with sufficient clearness to enable competent and skillful workmen in the arts to which it pertains or is most nearly allied to make and use our invention.

Our invention consists in—

First. The combination of feed-rollers with plaiters or slats for making the plaits, so that the cloth being drawn forward (by means of the revolution of a crank attached to the shaft or axis on which the rollers revolve) and passing through between the plaiters is caused to assume the form proper for plaits.

Second. The combination, with the plaiters, of a hammer or apparatus for turning the hem on the inner edge of the shirt-front. This hemmer is constructed in two parts, each of which is twisted or turned over once, the lower or outside piece turning the cloth over once, and the upper or inner piece or guide, in combination with the motion of the cloth, turning it the second time.

Third. The combination of the spreader, as hereinafter described, with the hemmer and with the plaiters.

Fourth. The construction and arrangement of a set of guides or plaiters, as hereinafter more fully described and set forth.

In the accompanying drawings, Figure 1 is a plan of our machine with the three sets of rollers, hemmers, and plaiters, the middle plaiters being the only ones which are adjusted and in working order. The others have some of the parts removed so as to allow of a better view of those under them. Fig. 2 is a plan of one of the plaiters or guides for making the plaits. Fig. 3 is a plan of the plaiter which folds in the plait on the inner side of the hem. Fig. 4 is an end elevation of the standard which supports the feed-rollers. Fig. 5 is a section of the machine, showing the parts below the line *xx* in Fig. 6. Fig. 6 is an end elevation of the machine, showing the end from which the cloth is drawn when being folded. Fig. 7 is a plan of the brakes shown in connection with the rollers in Fig. 6. Fig.

8 is a side elevation (looking to the side farthest from the hemmer) of the plaiters in the position they occupy when ready for operation, showing also the plaiter which is shown in Fig. 3.

In the various views, 1 is the inside piece or guide of the hemmer, which turns the edge of the cloth the first time.

2 is the outside or lower piece or guide, which turns the cloth over the second time. The cloth passes up from the rollers 3, 4, and 5, over the stretcher 6, and between the guides 1 and 2, which constitute the hemmer.

7 is the guide which forms the first plait next to the hem.

8, 9, and 10 and 11, 12, and 13 are the plaiters which form the side plaits. 14 and 15 are thumb-screws, which hold them in their places when they have been adjusted.

The dots at 16 represent an endless chain, to which points are attached, and which is easily movable on rollers in a direction parallel to the motion of the cloth. This prevents any lateral motion of the cloth and consequent derangement of the plaits.

17 17 are the bed-plates to which the plaiters are attached.

18 18 are the rollers which communicate motion to the cloth by the revolution of the crank 19 on the shaft 20. This shaft is broken off at 21 in Fig. 6.

22 is a supplementary roller, which holds the linen in close contact with the rollers 18, and thus keeps it from slipping.

23 23 are slots in the guides 1 1, which allow the said guides 1 1 to be secured in any desired position.

In Fig. 5, 24 is the cloth.

26 and 27 in Fig. 6 are corrugated bars, (the corrugations extending in an upward and outward direction from the middle line of each bar.) These effectually stretch the cloth in a lateral direction preparatory to its being cut into strips by the knives 28 and rolled on the rollers 3, 4, and 5. There is still another means for keeping the cloth straight and smooth, which is the brake or friction-pad 30 30, which comes in contact with the cloth upon the rollers 3, 4, and 5. The knives 28 are fixed in the upper edge of the bar 27 where the cloth passes over, for the purpose of cutting the cloth into the required widths.

The plaiters are arranged in the following

manner: The hammer having been adjusted in the proper position, the plaiter shown in Fig. 3 is placed upon the bed-plate in such a manner that the main part *v* is below the level of the inner guide and the portion *w* (which is bent up, making, with the main part, the form of the letter U) above it. This is placed on the left portion or side of the bed-plate. Another plaiter is then put on the right-hand side, and so on alternately on each side till the proper number and arrangement are obtained. The different plaiters are kept in the proper relative positions by means of strips of pasteboard or other suitable material, and the thumb-screws 14 and 15 are screwed down, holding them firmly in position.

The mode of operation of our machine is as follows: The cloth being placed (as it is usually folded up) on a shelf or board made to receive it at 32, the end is passed thence over the corrugated bars 26 and 27, and is wound upon the rollers 3, 4, and 5 by means of a crank or driving-pulley attached to the shaft. As it is drawn over the corrugated spreading bars 26 and 27 the knives 28 cut it into three strips, each of which is wound on one of the divisions of the roller 3, 4, and 5. After all the piece has been cut and wound the last ends are taken from the roller, passed up through the hemmer, and, after they have been adjusted in the plaiters, they are wound partly around the large rollers, passing under the said large rollers upon the opposite side and between the large and small rollers. From thence they are passed

over the small roller and to an apparatus for cutting into the required lengths. The spreading-edge 6 is made up of three lines—two arcs of circles, and a straight line. The first arc—that from *y* to *z*—is struck from 33 as a center; that from *s* to *t* is struck from 34 as a center, and these two arcs are connected by the straight lines *z s*.

Having thus fully described our invention, we claim as original and desire to secure by Letters Patent—

1. The combination, with the plaiters 8 9 10 and 11, 12, and 13, of the feed-rollers 18 and 22, by which the cloth is drawn forward and plaited, as herein set forth.
2. The combination, with the plaiters 8 9 10 and 11, 12, and 13, of a hemmer, 1 2, constructed and operating substantially as set forth.
3. The combination of a stretching, smoothing, or straightening edge, 6, with the hemmer 1 2, as herein set forth.
4. The combination of a stretching, smoothing, or straightening edge, 6, with the plaiters 8 9 10 and 11, 12, and 13, as described.
5. The construction, arrangement, and operation of the plaiters 8 9 10 and 11, 12, and 13, as herein set forth.

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Witnesses:

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