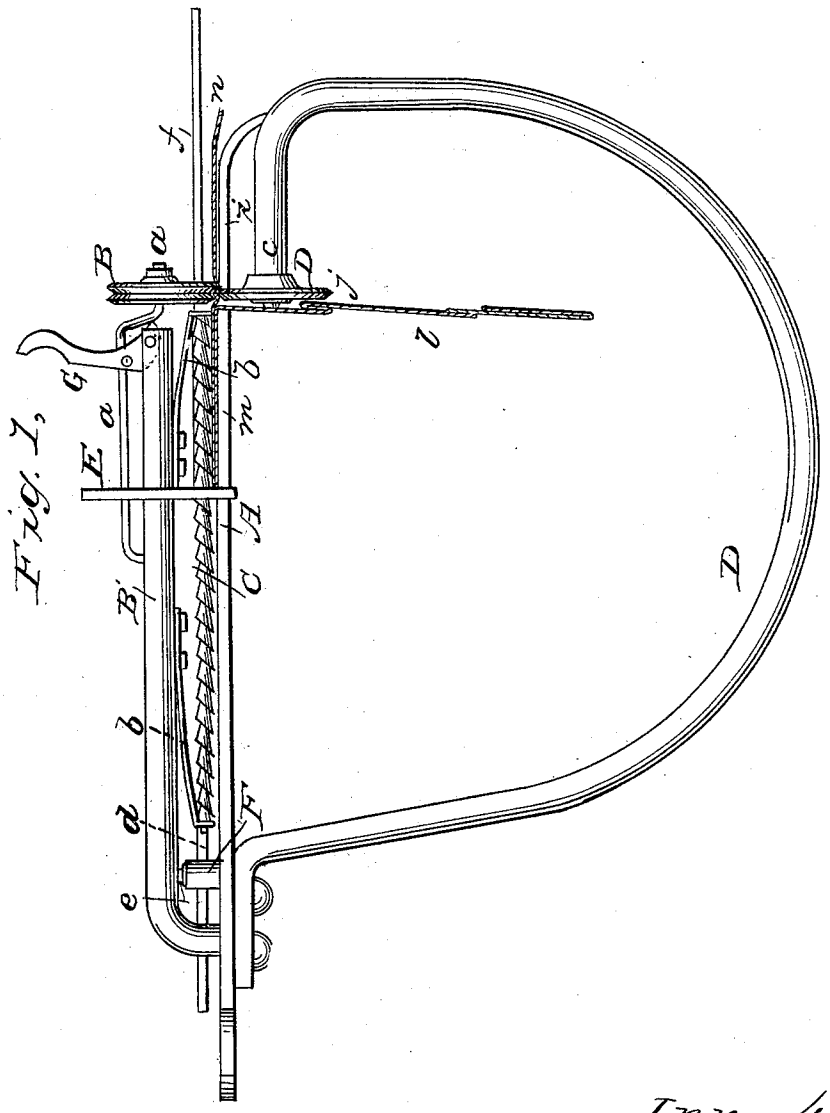
2 Sheets—Sheet 1.

W. L. FISH.

Sewing Machine.

No. 34,357. Patented Feb. 11, 1862.



Witnesses:
Lewcombs
Jamesdaird

Inventor
W. L. Fish
per Munn & Co
attorneys

2 Sheets—Sheet 2.

W. L. FISH.

Sewing Machine.

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Fig. 2,

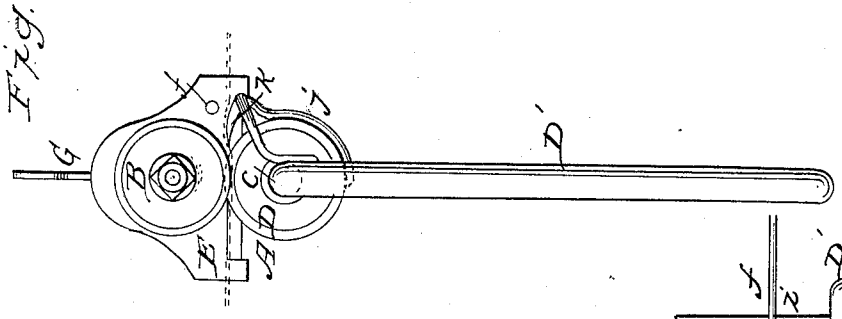


Fig. 4,

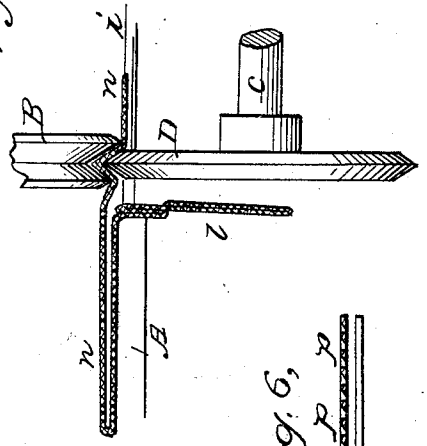


Fig. 5,

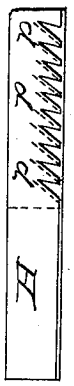
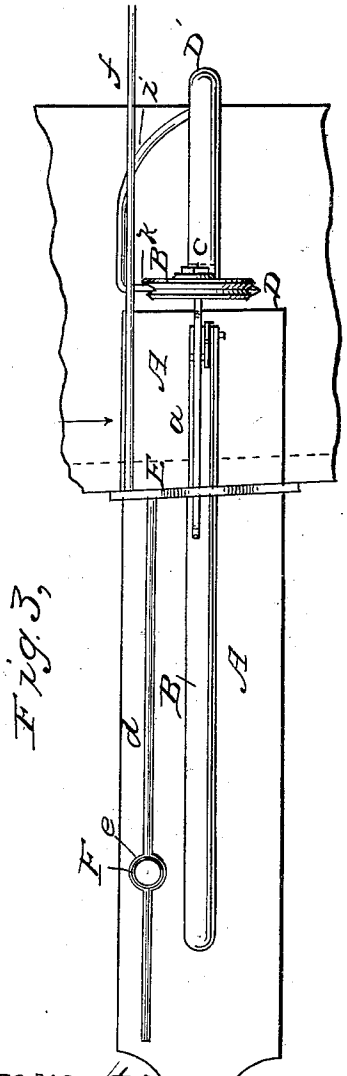


Fig. 6,

Fig. 3,



Witnesses:

J. Wilcombs

James Laird

Inventor

W. L. Fish

per Munn & Co

Attorneys

UNITED STATES PATENT OFFICE.

WARREN L. FISH, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN GUIDES FOR CREASING TUCKS AND PLAITS PREPARATORY TO SEWING.

Specification forming part of Letters Patent No. **34,357**, dated February 11, 1862.

To all whom it may concern:

Be it known that I, WARREN L. FISH, of Newark, in the county of Essex and State of New Jersey, have invented a new Apparatus for Creasing Tucks and Plaits Preparatory to Sewing; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of the apparatus. Fig. 2 is a front view of the same. Fig. 3 is a plan of the same. Fig. 4 exhibits portions of the creasing-rollers and other parts of the apparatus. Fig. 5 is a top view of a modification of part of the apparatus. Fig. 6 is a side view of the same.

Similar letters of reference indicate corresponding parts in the several figures.

This apparatus is designed for creasing cloth in the proper lines for the folding of tucks and plaits either to be sewed by hand or by a sewing-machine, and in either case may be entirely separate from the sewing-machine, though it may be attached thereto when desirable.

To enable others skilled in the art to fully understand and construct my invention, I will proceed to describe it with reference to the drawings.

A is a plate which forms the base of the apparatus, and to which all its working parts are attached, intended to be attached by a clamp or permanently secured to a table or to the stand of a sewing-machine or to any other suitable support.

B′ is a fixed arm secured to the plate A on the top of and near the rear end thereof, and extending over the table nearly to the front thereof. To the top of this arm is firmly secured a spring, *a*, the front portion of which is made to constitute a horizontal or nearly horizontal axle for the grooved creasing-roller B, which is fitted to rotate freely thereon, and to the bottom of the same arm are secured two springs, *b b*, which constitute elastic bearings for the journals of a long roller, C, which is grooved both longitudinally and spirally to produce upon it a spiral system of teeth, said roller and bearings being so arranged that the roller occupies a position parallel, or nearly so, with the axis of the roller B, and will press on any material that is laid upon the plate A.

D′ is a fixed arm secured to the plate A at the bottom, near the rear end thereof, and extending forward in the form of an inverted bow to a point some distance in front of the plate A, from whence it turns back in a horizontal direction to constitute an axle, *c*, for the edged creasing-roller D, the upper part of whose edge or periphery is slightly above the upper surface of the plate A, the said axle *c* being parallel with the axle *a* and roller C.

The grooved roller B is situated directly over the roller D, so that its groove matches with the edge of D, and it is held down upon or toward D by the elasticity of its axle *a*.

E is the guide fitted to the sides of the plate A, and standing up above and perpendicular to the said plate, but having its face oblique to the axis of the rollers B, C, and D, as shown in Fig. 3, in such a direction that the material to be creased by the rollers B D, moving at right angles to the axis of B, C, and D in the proper direction, would move slightly toward the said face. The direction in which the material moves to be creased is indicated in Fig. 3 by an arrow.

The said guide E has an opening for the passage of the roller C, arm B′, and axle *a′*. It is attached to a rod, *d*, which is fitted to slide through an upright stud, F, secured to the plate A, for the purpose of adjusting the guide at various distances from the creasing-rollers B D, according to the depth or width or distance apart required for the tucks or plaits, and the said stud F is fitted with a binding-screw, *e*, to secure the guide in the required position.

Near that side of the guide on which the material enters the apparatus there is attached a straight rod, *f*, which stands out in a forward direction parallel with the rollers C and axles B D, to smooth the material as it passes to the creasing-rollers.

G is a lever attached to the arm B′, for raising the axle *a* and roller B.

i j k is the guard, consisting of a light arm, *i*, attached to the arm B on the side from whence the material passes between the creasing-rollers, and carrying at its ends two prongs, which partly encircle the roller D, and the upper one, *k*, of which is so arranged as to support the material entering between the two creasing-rollers.

The operation of the apparatus is as follows: The guide E having been adjusted to the

proper distance from the creasing-rollers, the material to be creased is introduced between the guide *i j k* and the bar *f*, and passed over the plate A, under the roller C, and between the creasing-rollers B D, with its edge against the guide E, and is then drawn by hand or otherwise in the direction of the arrow shown in Fig. 1, the part entering between *f* and *i j k* being in the meantime held up against *f* to be smoothed out. As the material is drawn between the rollers B D the roller C keeps the cloth flat upon the plate A, and by means of its spirally-arranged teeth exerts a constant tendency to keep the edge against the guide, so that the creasing-rollers will crease the material in a line parallel with the edge. After folding the cloth in the crease produced, the folded edge is placed against the guide E to do the next creasing, thus gaging the tucks or plaits one from another. The stitching of the tucks or plaits may be performed after every folding, or all of the tucks or plaits required in a piece of material may be folded before any of them are stitched. The creased and folded portion of the material passes down between the roller D and the front end of the plate A and within the arm D′, the reversed position of the axle *c* relatively to the plate A and axle *a* preventing the said axle *c* from interfering with the passage of that portion of the material, and allowing the said portion to pass away without interfering with the portion on the plate A by which the gaging is performed, or the portion which has not yet been creased, as will be understood by reference to Figs. 1 and 4, where *l* represents the material which has been creased, *m* the folded portion by which the gaging is effected, and *n* the uncreased portion.

Though I prefer to use rollers B D for creasing, fixed surfaces presenting a similar groove and edge may be used successfully as the equivalent of such rollers.

A flat plate, H, serrated, as shown in Figs. 5 and 6, may be used as the equivalent of the roller C. This plate is arranged above the plate A to press upon the cloth in a similar manner to the roller C.

The teeth *p p* are on the opposite edge of the plate to that on which the cloth enters beneath it, and the said teeth have their points inclined slightly toward the guide E and beveled on their under sides, as shown in Fig. 6 and by the dotted lines in Fig. 5.

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

The combination of the rollers B D with the adjustable guide E and roller C, as and for the purpose herein shown and described.

WARREN L. FISH.

Witnesses:

ISAAC NEUNING,

ROBERT WYMAN.