W. L. FISH.

Sewing Machine Guide.

No. 31,379. Patented Feb. 12, 1861.

Fig. 1.

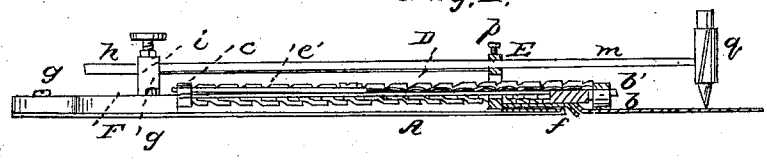


Fig. 2.

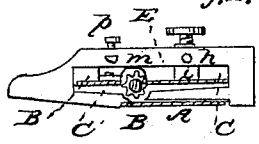


Fig. 3.

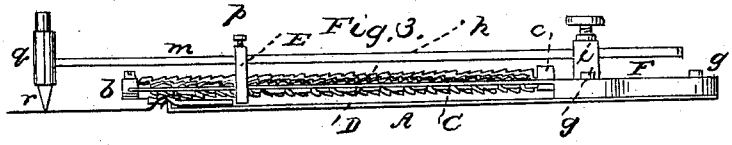
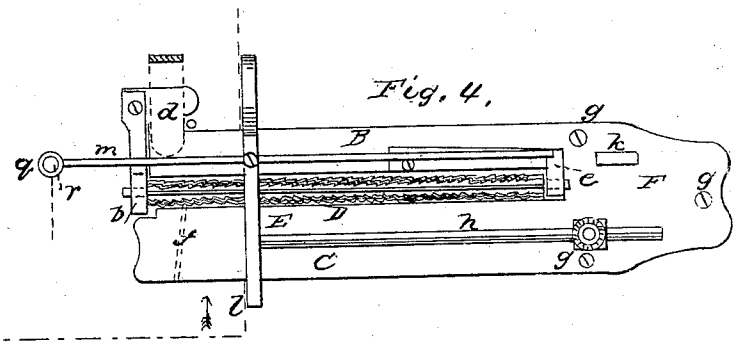


Fig. 4.



Witnesses:

Inventor:

Warren L. Fish

UNITED STATES PATENT OFFICE.

WARREN L. FISH, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN GUIDES FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **31,379**, dated February 12, 1861.

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 certain new and useful Improvements in Tucking and Plaiting Guides for Sewing-Machines; 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 back view of a gage with my improvement partly in section. Fig. 2 is a section of the same at right angles to Fig. 1 and parallel with the lines in which the folds of the tucks or plaits are made. Fig. 3 is a front view of the same. Fig. 4 is a top view of the same.

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

This invention consists in an improvement in tucking and plaiting guides for sewing-machines, whereby the edge of the fold of the tuck or plait is kept infallibly at a uniform distance from the needle.

It also consists in a certain arrangement, in combination with the guide, of a pencil or marker, by which, as one tuck or plait is being stitched, the proper line in which to fold the next one is marked upon the cloth.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is a thin flat plate of metal, intended to lie upon the bed of the sewing-machine.

B C F is a plate of metal wider than A and a little longer, having a portion, F, at one end so much thicker than the greater portion of the plate that when the said portion F is secured firmly on the top of A by screws *g g*, or their equivalents, the greater and thinner portion of the plate is at a little distance above the plate A. The thinner portion of the said plate B C F is slotted longitudinally for the reception of a roller, D, thus forming two separate and independent limbs, B and C, one on each side of the roller D, each of such limbs being flexible and elastic in a vertical direction. The length of these flexible and elastic limbs and the length of the roller D between them should be a little greater than the greatest width of tucks or plaits for which the guide is to be used. The roller is fluted longitudinally, and has a groove running spirally round it, the groove and flutes cutting up its surface into a spirally-arranged series of teeth. The journals at the ends of the said roller are fitted to boxes *b* and *c*, the latter attached to a spring, *c'*, secured to the limb B, and the former attached to a spring, *b'*, secured to the said limb. The end of the limb B which projects beyond the plate A is thickened in order that it may rest upon the cloth while the latter is passing under the limbs B C and roller D and over the plate A, and the thicker part of the said limb B is turned in the form of a letter, L, away from the limb C and roller, as shown at *d* in Fig. 4; and in the said L-like portion there is a recess, *e*, in which the needle *n* of the sewing-machine works. The extremity of the limb C has a lip, *f*, turned up to enter the spiral groove of the roller D.

E is the gage, consisting of a rigid straight plate set up edgewise, extending entirely across the two limbs B C of the plate B C F at right angles to the said limbs and to the axis of the roller D, and fitting between the said plate and the plate A, upon which and upon the bed-plate of the sewing-machine it is intended to rest. This gage is attached to a rod, *h*, which fits to a hole in a binding-screw socket, *i*, secured to the rigid thick part of the plate B C F. By slackening the binding-screw the gage can be shifted along the plates B C F, and by tightening the said screw the said gage can be secured in any position upon the said plate.

The guide is used in the following manner: It is secured to the bed of the sewing-machine by a screw passing through a slot, *k*, cut through the rigid portion F of the plate B C F, and through the plate A, the gage E being parallel with the direction of the feed, and set with its face *l* at a distance from the line of motion of the needle equal to the intended width of the tuck or plait. The tuck or plait is folded by hand or otherwise previously to its being introduced into the guide, and is placed between the plate F and the limbs B C of the plate B C F under the roller D, as shown in section in red color in Figs. 1 and 3. The presser-foot bears upon the limb B, as shown in Fig. 4, where the said foot is represented in red outline, and so presses the thick portion at the end of said limb and the roller D down upon the cloth. The lip *f* is arranged obliquely to the face of the gage E, so that the end which is in advance in the direction of the feed is nearest the face *l* of the gage, as shown in

Fig. 4, where the direction of the feed is indicated by an arrow. The direction of the spiral system of teeth on the roller D is such that by the rotary motion derived by the roller D from the friction of the cloth as the latter is drawn under it by the feeding device the teeth of the said roller will be caused to draw the cloth toward the gage. The said roller, pressing on the whole width of the tuck or plait, is enabled, by the elasticity of the limb B and of its bearing-springs b' c', to yield to any inequalities in the thickness of the cloth, and acts equally on all parts and keeps it pressed down flat, and prevents it from being forced in puckers toward the gage, and the cloth, being so fed toward the needle, is stitched through the two thicknesses of the tuck or plait.

m is a rod arranged at right angles to the face of the gage E, in which position it is fitted to slide longitudinally through a hole in the gage. This rod has at the end which projects beyond the extremities of the limbs B C of the plate B C F an elastic socket, *q*, to which is fitted a pencil, *r*.

p is a set-screw fitted to the gage E to secure the rod *m* in any position to hold the pencil *r* at any required distance from the face *l* of the gage, that it may mark upon the cloth the line in which the fold is to be made for the next tuck or plait, and so enable the said fold to be made infallibly parallel with the edge of the previously stitched tuck or plait, and with the line of stitching thereof.

I do not claim broadly the use of a yielding pressure-roller, D; nor do I claim the obliquely-arranged lip *f* on the lower plate, A; but

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

1. The combination of the pressure-roller D, having a spirally-arranged system of teeth, and the oblique lip *f* on the lower plate, substantially as and for the purpose herein described.

2. The employment, applied substantially as described, in combination with the gage E of a tucking or plaiting guide, of a pencil, *r*, or other marker for marking the proper line in which to make the fold for the next tuck or plait while one is being stitched.

WARREN L. FISH.

Witnesses:
M. M. LIVINGSTON,
C. W. COWTAN.