

O. M. CHAMBERLAIN.

Plaiting Attachment for Sewing-Machines.

No. 130,189.

Patented Aug. 6, 1872.

Fig. 1.

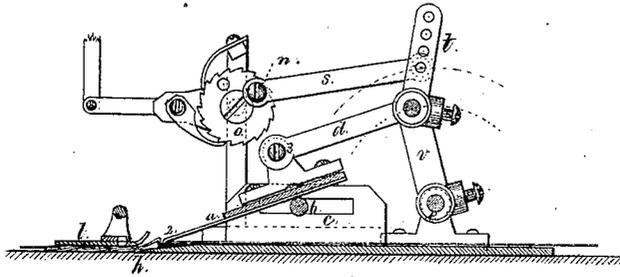
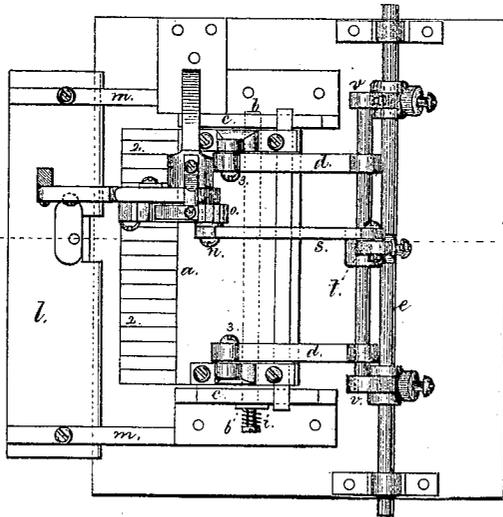


Fig. 2.



*Chas. Smith*  
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Witnesses.

INVENTOR

*C. M. Chamberlain,*

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ATTY.

# UNITED STATES PATENT OFFICE.

ORANGE M. CHAMBERLAIN, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF  
AND WILLIAM B. CARRINGTON, OF SAME PLACE.

## IMPROVEMENT IN PLAITING ATTACHMENTS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 130,189, dated August 6, 1872.

*To all whom it may concern:*

Be it known that I, ORANGE M. CHAMBERLAIN, of the city and State of New York, have invented an Improvement in Plaiting Attachments for Sewing-Machines; and the following is declared to be a correct description thereof.

This machine is for folding the cloth or fabric into plaits in its passage to the sewing mechanism. Reciprocating plaiters have been used for folding cloth in its passage to the pressing-rollers that crease the fabric; but with woolen goods these plaiting-machines are valueless, because the material does not remain in a folded condition for subsequent sewing. My machine folds the fabric and presents it to the sewing-machine feed in such a manner that the plaits are held until secured by the stitching; and the mechanism is such that a fold or seam can be passed over without interfering with the correctness of the fold or plait. A reciprocating and rocking plaiter is employed having an edge composed of a range of springs that press upon the cloth and carry it forward to make the fold or plait, and this plaiter is reciprocated by connecting-rods from a rocking-shaft, attached by joints on the upper side of the plaiter, and the ends of the plaiter slide in guides; hence, as the rocking-shaft acts to move the plaiter forward, it first presses down upon the fabric the edge formed of the range of springs, and these accommodate themselves to the thickness of the fabric or the various portions thereof; and the further movement produces a fold in the fabric that is carried forward to the point where the ordinary sewing and feeding mechanism act to draw the fabric along and stitch the same, either at right angles to the plait or diagonal thereto. Upon the return movement the connecting-rods tend to lift the feeding-edge off the cloth as well as to draw back the plaiter. The rock-shaft receives a movement every given number of stitches through the agency of a ratchet-wheel, crank, and connection with the needle-bar, and these are variable, so as to produce different widths of folds or plaits.

In the drawing, Figure 1 is a vertical section, and Fig. 2 is a plan of the said plaiting mechanism.

The plaiter *a* is made with a row of springs, 2, at the feeding-edge; these accommodate in-

equalities in the thickness of the material being plaited; they may also have teeth upon their ends. These springs are placed close together, so as to act with uniformity and produce a straight fold at their ends. The plaiter rocks upon gudgeons *b* that also slide in the guides *c*, and *d* are the connecting-rods to the levers *v* of the shaft *e*. These rods are attached to the plaiter *a* by joints 3, that are sufficiently above the plaiter to produce a rocking movement of the latter as the connecting-rods draw the plaiter back and forth, as aforesaid; and a spring friction device, *i*, applied at one of the gudgeons *b*, will insure this rocking motion, and there may be stops to limit the extent thereof. The fabric passes beneath this plaiter *a*, between that and the bed *h* of the machine, or between the plaiter and a bed that carries the mechanism of the apparatus, and is removable from the sewing-machine. A fold-holder, *l*, is attached to the bed by springs *m*, and upon this the ordinary presser-foot of the sewing-machine rests, and holds the same down with the necessary force, and the plaiter delivers the edge of the fold beneath this holder *l*, where the sewing-machine feed will act upon the same, and the stitching is effected by the needle in the ordinary manner. This fold-holder may be omitted in sewing-machines where the presser-foot answers the purpose. A crank-pin, *n*, is revolved by a ratchet-wheel, *o*, and this is moved by a pawl or click, that derives motion from the needle bar or arm, in any convenient manner; and from *n* a connecting-rod, *s*, passes to the lever *t* of the rock-shaft. The parts are either changeable or adjustable, so that the crank *n* will be revolved while the desired number of stitches are being taken, and each complete rotation a fold or plait is presented to the needle, and by varying the length of leverage a wider or narrower plait may be made. In this way a great variety of plaits can be made, and if the folding is at right angles to the direction of feed the plaits will run square across the fabric; but, by placing the apparatus diagonally to the feed, and supplying the cloth accordingly, the folds will be at an inclination to the edge of the goods and to the line of sewing. The lever *t* is shown as an arm fastened to a bar extending from one lever, *v*, of the rock-shaft

*e* to the other; but one of the levers *v* may be connected directly with the rod *s*, and the adjustment may be made by slots and clamps, or by changing the screws of the joints from one hole to the other.

I do not claim a reciprocating plaiter having spring fingers or prongs, as such has been employed in the device shown in Letters Patent No. 123,788.

I claim as my invention—

1. A reciprocating plaiter, mounted on gudgeons in slides, in combination with connecting-rods *d*, jointed above the gudgeons, so as to

raise and depress the feeding-edge of the folder in the act of reciprocating the same, substantially as set forth.

2. The rocking-shaft *e*, cranks *v*, ratchet-wheel *o*, and connections *s d*, arranged substantially as shown, in combination with the plaiter, substantially as set forth.

Signed by me this 12th day of June, A. D. 1872.

O. M. CHAMBERLAIN.

Witnesses:

GEO. T. PINCKNEY,  
CHAS. H. SMITH.