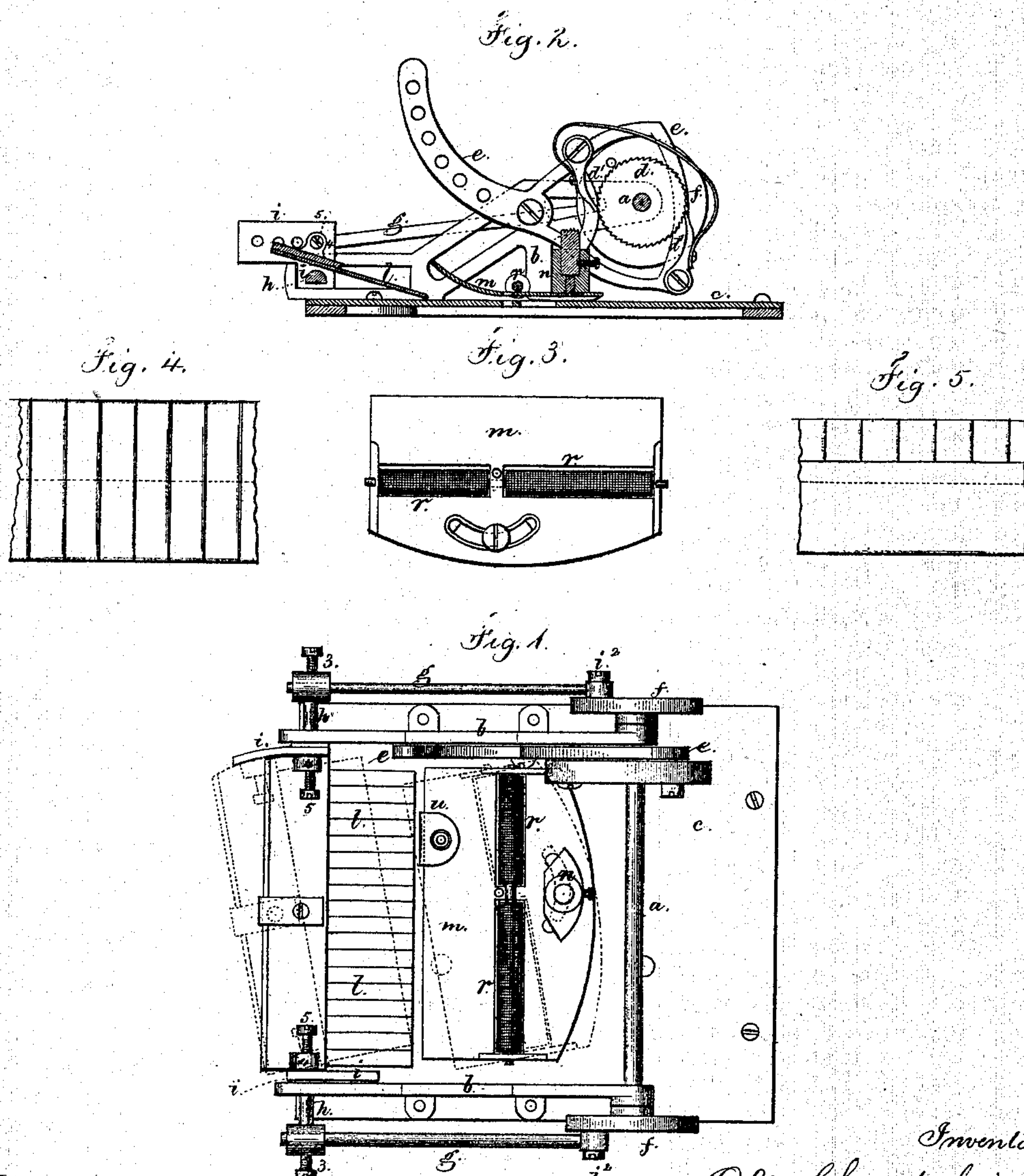


O. M. CHAMBERLAIN.
Plaiters for Sewing-Machines.

No. 139,657.

Patented June 10, 1873.



Witnesses,
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UNITED STATES PATENT OFFICE

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

IMPROVEMENT IN PLAITERS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **139,657**, dated June 10, 1873; application filed
September 13, 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 Improved Plaiting Attachment for Sewing-Machines, of which the following is a specification:

This invention is an improvement upon the device heretofore made by me and set forth in an application for a patent dated June 12, 1872. The peculiarity of this invention consists in a means for varying the angle at which the plaiting-blade is held in the plaiter without varying the position of the entire instrument upon the sewing-machine. Also, in a roughened roller extending across the plaited fabric to insure the uniform movement of all parts thereof under the action of the sewing-machine feed, so that there will not be any tendency to twist or distort the fabric, but the same will be pressed upon to crease it, and the movement will be uniform across the plait so as to make the same very perfect and regular.

In the drawing, Figure 1 is a plan of the sewing-machine bed with the single plaiting attachment complete. Fig. 2 is a section of the same transversely. Fig. 3 is an inverted plan of the presser-foot and its roller. Figs. 4 and 5 represent the plaited fabric.

The shaft *a* is sustained in the frames *b b* that are connected together and attached to the sewing-machine bed *c* by any convenient means. The ratchet-wheel *d* upon the shaft *a* is moved progressively by the pawls *d'*, that receive motion from a lever, *e*, that is operated by the needle bar or arm, or a connection thereto, and at the ends of the shaft *a* are disks *f*, with the crank-pins or screws *i*². These crank-pins are changeable into different holes, or adjustable, so as to vary the extent of motion given to the plaiter, according to the position in which the crank-pins may be placed. From these crank-pins there are connecting-rods, *g g*, extending to the cross-bar *h*, and slide-bearings *i* in the slides formed in or upon the frames *b*. The connection of the rods *g* to the bar *h* is adjustable at 3, so as to vary the position of the parts and bring the edge of the plaiter as near to the needle as possible at the extreme movement as the fold

is completed. The plaiting-blade *l* is made of a series of springs, and in Figs. 1 and 2 it is set in a metallic head, and this head is provided with lugs 4 4, and attaching-screws 5 5, the points of which enter cavities in the slide-bearings *i i*, and upon these screws 5 the plaiting-blade swings and presses upon the fabric to carry it forward, or the blade draws over the fabric freely at the return motion. There are several cavities upon the inner faces of the side bearings *i i*, so that the plaiter may be positioned with the edge of the blade at right angles to the motion given to the same, or at more or less of an inclination to that line of motion, in which latter instance the plaited fabric will be made with the plaits at an inclination to the line of stitching. The diagonal position of the plaiter is shown in dotted lines in Fig. 1, and the right-angle position is represented by full lines. The presser-foot *m* is sustained by the socket *n* that receives the lower end of the presser-bar or other device upon a sewing-machine that is provided for keeping the cloth toward the bed. The presser-foot *m* is attached to the socket *n* by a screw in a curved slot, so that the presser-foot can be adjusted to the inclination of the plaiting-blade. Upon this presser-foot *m* is the long roller *r* that has a series of fine points upon the surface formed by longitudinal and transverse grooves, so that as said roller turns by the action of the sewing-machine feed where it operates upon the cloth, the entire fabric that is being plaited will be moved with uniformity across its width and the fold of the plait pressed together as it passes beneath said roller. The central portion of this roller *r* is made smaller near the point where the needle vibrates, so that the point of contact between the roller and fabric can be nearly in line with the needle. This device can be positioned so that the plaiter will operate against the under surface of the presser-foot to lay the plait in the opposite direction to that formed by the plaiting-blade when pressing against the bed of the machine. The fabric, in that case, would pass in between the plaiter and the presser-foot.

To secure a heading to the plaited fabric, a

p of cloth can be passed through a guide, hown upon the edge of the presser-foot, the two will be united by the row of ching after the plait is made in the lower ric, the upper strip or heading remaining or plain. Fig. 5 represents the straight ding stitched upon the plaited fabric.

am aware that diagonal plaiting has been de by a blade having a compound move- nt, viz., that of the plaiting-blade toward needle, and also in the direction of its own lth. In my plaiter the fabric is entered ghtly diagonally, and is folded diagonally the blade and passed to the feed, and the e of sewing is at an angle to the line of vement of these parts and the fabric passes at an inclination; thereby the folder itself y requires a simple reciprocation when in her an angular or straight position, and is apted to either right-angled or diagonal ting according to the position in which the iter may be placed.

I claim as my invention—

1. The slide-bearings *i* sustaining the plait- g-blade in an inclined position to the line of

the sewing-machine feed, in combination with the mechanism, substantially as set forth, for reciprocating the said bearings and blade, as set forth.

2. The screws 5, entering cavities in the bearings *i i*, in combination with the plaiting-blade, substantially as set forth, so as to vary the position of that plaiting-blade.

3. The presser-foot *m*, connected to the socket *n* by a slot and screw in combination with the adustable plaiting-blade, so as to vary the position of the presser-foot to suit that of the blade, as set forth.

4. The long roller *r*, having a roughened surface and sustained upon the presser-foot *m*, in combination with the plaiting-blade to compress the fold of the plaited goods and move the same along with uniformity, as set forth.

Signed by me this 7th day of September, A. D. 1872.

O. M. CHAMBERLAIN.

Witnesses:

CHARLES H. SMITH,
HAROLD SERRELL.