

UNITED STATES PATENT OFFICE.

JOSEPH W. LYON, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN GATHERING ATTACHMENTS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 123,115, dated January 30, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, JOSEPH W. LYON, of the city of Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Sewing-Machine Pleater, of which the following is a specification:

Nature of the Invention.

My invention has reference to attachments to sewing-machines intended for making pleats or ruffles; and consists of a presser-foot formed in a peculiar manner, upon the bottom of which slides a flat metal blade, which is provided with notches or teeth for holding the cloth, and is actuated by a lever which connects with the needle-bar, the whole arranged and operating as hereinafter described.

General Description.

In the drawing, Figure I is a perspective view of my device attached to the needle-bar and presser-foot of a sewing-machine. Fig. II is a plan of the aforesaid device; Fig. III, a side elevation of the same; Fig. IV, a similar view of the presser-foot.

A is a socket piece, which attaches to the presser-foot bar by means of the set-screw *a*. To the right-hand side of the socket piece is secured a frame-plate, B, which extends back of said piece, and is also bent at right angles beneath it and turned up on the left-hand side so as to form a guide-way, *b*. The backward extension of the plate B forms a bearing for a pivot, *c*, upon which plays a lever, C, the opposite end of said lever having an elongated eye for attachment to the needle-bar by the screw *c'*. To this lever, at the end first referred to, is pivoted a connecting-arm or link, C², which imparts motion to a vibrating lever, D, the upper end of which is hung by a pivot, *d*, to a suitable projection on the frame-plate B. The latter lever, in turn, acts upon the pleater-arm or plate E moving within a slot, *e*, in said plate, the extent of motion imparted to the plate being regulated by the circular toothed stop F, which is attached to the pleater-arm E by and swings upon the pivot *f*, the latter being placed eccentric with the semicircle of teeth. The end of the plate E furthest from the needle or back of the presser-foot, being flat in form and of

some length, fits and slides in the guide-way *b*. To prevent it from slipping out of the guide-way by accident a screw, *b'*, having a head with flat under surface, is inserted in the middle of the guide-way, and a slot, *e'*, cut in the plate E to correspond with the small or shank part of the screw, the latter being inserted far enough so that the head bears lightly upon the plate E. The front part of the pleater-arm *e*², which forms the cloth into pleats, is bent up slightly toward the foot G on the end nearest the needle, and has a serrated or toothed edge, and also a slot, *e*³, to permit the passage of the needle. The front and rear parts of the pleater-arm or plate E are connected by the bowed arm *e*⁴, which takes an upward turn at a point on line with the end of the presser-foot, so as to be clear of the cloth passing between the foot G and plate *e*². The presser-foot G is made movable by means of the slot *g*, and is secured to a downwardly-projecting portion of the plate B by a set-screw, *g*¹. The bottom of the foot G is formed with two steps or ledges, *g*² and *g*³. H is the presser-foot bar, and I the needle-bar of the machine.

The operation of the device is as follows: The socket piece A, to which are attached the operating devices, is first secured to the presser-foot bar H by turning up the screw *a*. The lever C is next connected with the needle-bar I by inserting the screw *c'* into said bar through the slot or link in the end of the lever. On starting the machine the lever C is moved up and down with the needle-bar I, the link or elongated eye in the end of the lever permitting the necessary lateral movement of the screw *c'*. The motion of this lever is imparted to the vibrating lever D through the arm C². The lower end of the last-mentioned lever, working in the slot *e* in the pleater-arm or plate E, moves the said plate backward and forward, the extent of each movement depending on the length of play which the lever D has in the slot *e*. If it is desired to increase the limit of motion in the pleater-arm E, the toothed stop F is turned across the slot *e* just in proportion as the said movement is to be increased, the stop serving to take up the ineffective play of the lever D. The front part of the lever-arm *e*², which bears upon the foot G, being slightly turned up toward said foot, and being furnished with

teeth, readily catches upon the cloth to be pleated, and carries one part over the other in the required manner. To give the utmost certainty to the action of the plate e^2 , two steps, $g^2 g^3$, are formed on the foot G. Thus the plate e^2 is sure to catch and hold the cloth when it comes to the step g^3 , the other step serving to press the ruffle into the most perfect form. As the foot G can be set either back or forward by means of the slot g and set-screw g^1 , it can be made to correspond to any change in the length of movement of the pleater-arm E, and so allow for whatever variation may be required in the breadth of the pleat. By means of the bowed pleater-arm e^4 the pleat or ruffle can be formed on either side or through the center of the material used while being attached to the garment. The device can be regulated to

produce any desired width or fullness of pleat or ruffle.

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

1. The combination, with the frame-plate B, socket piece A, and presser G, of the laterally-extended reciprocating pleater-arm E and the lever C, connected with and operating the arm E, substantially as described.

2. In combination with the above, the adjusting-stop F.

3. The adjustable presser-foot G, having stops $g^2 g^3$, for the object specified.

In witness whereof I have signed my name in the presence of two subscribing witnesses.

Witnesses: JOSEPH W. LYON.

C. C. PECK,

GEO. W. MIATT.

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