

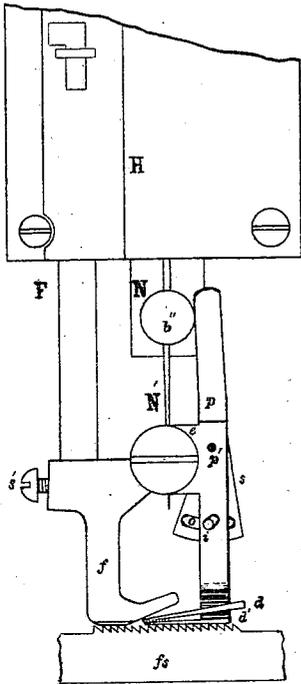
WILLIAM A. MACK.

Gathering Attachment for Sewing Machines.

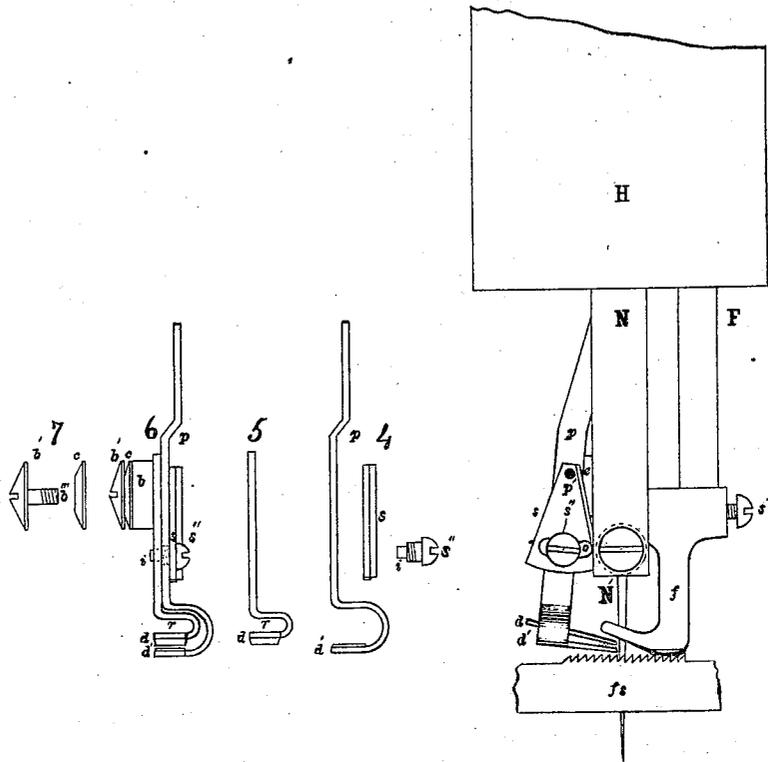
No. 123,494.

Patented Feb. 6, 1872.

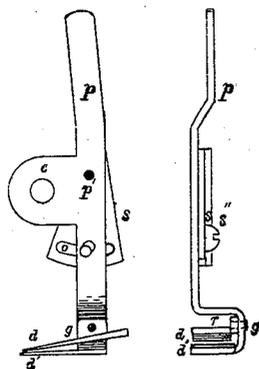
FIG= 1.



FIG= 2.



FIG= 3.



Witnesses
F. A. Bregg,
Chas. E. Hulcup

William A. Mack Inventor
by his attorney in fact
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UNITED STATES PATENT OFFICE.

WILLIAM A. MACK, OF NORWALK, OHIO.

IMPROVEMENT IN GATHERING ATTACHMENTS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 123,494, dated February 6, 1872; antedated January 22, 1872.

I, WILLIAM A. MACK, of the town of Norwalk, in the county of Huron and State of Ohio, have invented certain Improvements in Sewing-Machine Gathering Attachments, of which the following is a specification:

Nature and Object of the Invention.

This invention relates to an improvement of a previous invention in gathering attachments, for which patent No. 111,130, dated January 24, 1871, was duly issued to me, and has more special reference to providing an alternative device in place of the nippers, as therein shown and described and claimed. This device is of the nature of jaws opening and shutting, instead of the fixed spring-nippers, as above set forth, in such a way as to secure a firm hold of the material, whatever the kind or character, when the plait is being made, and an entire relaxation of that hold when the instrument moves backward on the material in measurement of the next plait.

Description of the Accompanying Drawing.

Figure 1 is a front elevation of the attachment properly applied to the head of a sewing-machine. Fig. 2 is a rear elevation of the same. Fig. 3 comprises a front and an end elevation of one form of the device. Figs. 4, 5, 6, and 7 are the detail parts of the form of the device, in which the point of suspension of the plait-bar and the movable jaw correspond.

General Description.

F is the foot-bar of the sewing-machine. H is the head of the same. N is the needle-bar of the same. N' is the needle of the sewing-machine. *b* is a boss continuous with the foot-piece. *b'* is a binding and stay-screw. *b''* is a boss on the needle-bar. *c* is a conical spring. *d* and *d'* are the jaw-plates. *f* is the foot-piece. *f s* is the feed-bar. *g* is the pin on which the movable jaw *d* is suspended. *i* is the point of the screw *s''*, playing freely in the slot made in the bar of the jaw *d*. *o* is the slot in the cam-plate *s*. *p* is the gatherer or plait-bar. *p'* is the plait-bar or lever to which the jaw *d* is attached. *r* is a recess for the piece or pieces of cloth above the gatherer. *s* is a slotted adjustable plate-cam. *s'* is a screw

for securing the attachment to the foot. *s''* is the adjustable screw of the cam-plate *s*.

It is unnecessary to describe the operation of the whole machine on account of the similarity of some of the parts in this to my previous invention. As represented, the jaws converge; but it is intended that sufficient space on the hither portions of each jaw will be made parallel to cause a secure grip of the material. In all the figures except Fig. 3 the bar of the jaw *d* is hung on the screw *b'* next adjoining the boss *b*. The terminal point *i* of the adjusting-screw *s''* may assist the co-operating motion of the plait-bar *p* and bar of *d*. In the backward movement of the jaws over the material in either case—*i. e.*, in the form represented in Figs. 1 and 2, or in that represented in Fig. 3—the jaws are relaxed and slightly separated, and the upper one lightly trails over the material, while the under one drops slightly away from the same. In the forward movement, with the plait or gather in charge, the incipient state of action of the boss *b''* upon the upper part of the bar *p*, having closely approximated the jaws *d* and *d'* until they securely hold the material, the continued action of the boss *b''* upon the top of the upper part of the bar *p* will cause the jaws *d d'* to advance under the inclined part of the presser-foot, where the presently-descending needle secures the plait or gather prepared therefor. In addition to roughened surfaces on the approaching parts of the jaws *d d'* the end of the same may be provided with sharp serrations to assist in securing the hold on the material by their tendency to resist any slipping or backward thrust of the same at the time when the gather is being folded forward.

The device herein described is so arranged as to perform all the different varieties of work provided for in the previous invention, of which this is an improvement.

It is understood that the repetition of the backward and forward motions of the attachment and jaws above described, co-operating with the corresponding action of the sewing-machine, will cause continuous plaiting to be executed.

Claims.

I claim as my invention—

1. The jaws d and d' , converging toward each other at the ends nearest the presser-foot, and shaped and operated to positively retain and carry the material lying between them during their forward movement, and in their backward movement slip over the same, as described.

2. The plait-bars p p' provided with jaws d d' , operated as and for the purpose described.
W. A. MACK.

Witnesses:

C. W. FLINN,
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