

W. WALKER.

Plaiting Attachments for Sewing-Machines.

No. 141,407.

Patented July 29, 1873.

Fig. 1.

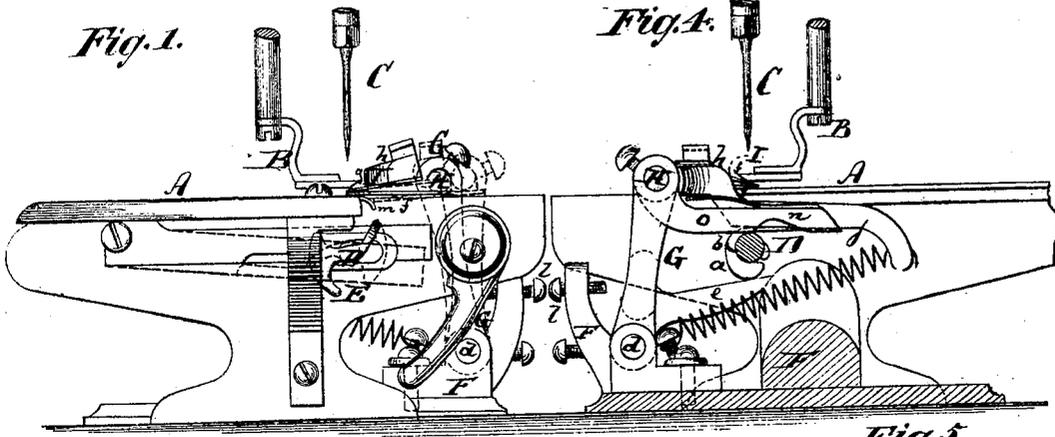


Fig. 4.

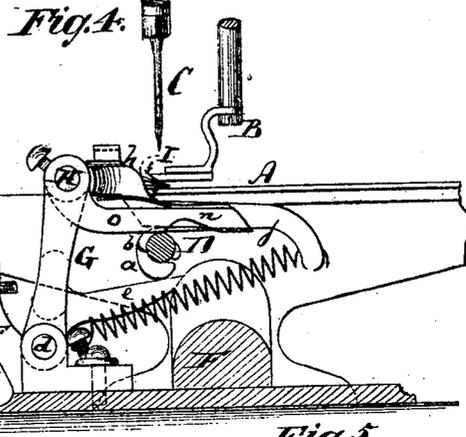


Fig. 2.

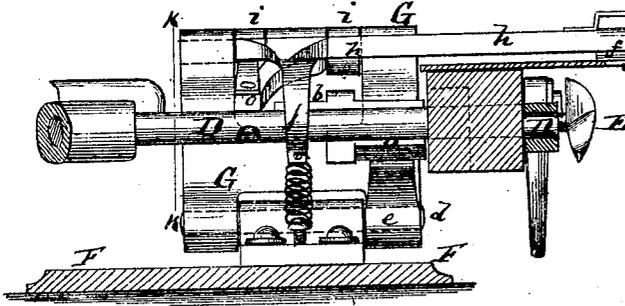


Fig. 5.

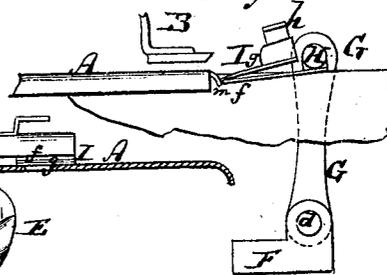


Fig. 6.

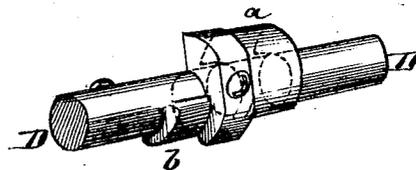
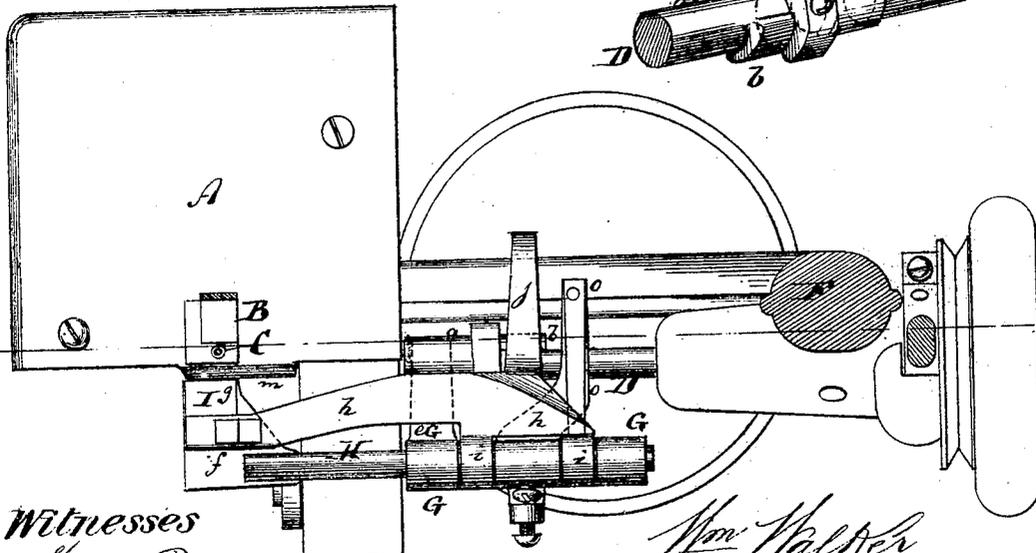


Fig. 3.



Witnesses
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Fred Hayes

Wm Walker
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UNITED STATES PATENT OFFICE.

WILLIAM WALKER, OF BROOKLYN, ASSIGNOR TO GEORGE H. WOOSTER,
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IMPROVEMENT IN PLAITING ATTACHMENTS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 141,407, dated July 29, 1873; application filed
May 15, 1873.

CASE B.

To all whom it may concern:

Be it known that I, WILLIAM WALKER, of Brooklyn, in the county of Kings and State of New York, have invented an Improved Plaiting Attachment for Sewing-Machines, of which the following is a specification:

This invention relates to a new means for producing ruffles or plaits on sewing-machines, with the chief object of avoiding friction and intricate mechanism; and the invention consists in the arrangement, near the sewing plate of the machine, of a pair of vibrating and reciprocating nippers, which have an up and down and a backward and forward motion, besides their opening and closing motion, and which serve to gripe the fabric between them, to ruffle it as they carry it toward the presser-foot of the machine, and to plait it up as they move upward near the beveled edge of the work-plate of the sewing-machine without touching said edge. By this means I produce the ruffles or plaits without creating any friction whatsoever on the sewing-plate—in fact, by holding the fabric suspended between the tongs and the plate. To carry this invention into effect I prefer to use a series of cams on the main spindle of the machine for giving the requisite movement to the several parts of the attachment.

In the accompanying drawing, Figure 1 represents a side elevation of my apparatus, showing it applied to the sewing-machine. Fig. 2 is a front elevation, partly in section, of the same, the line C C, Fig. 3, indicating the plane of section. Fig. 3 is a plan or top view of the same; Fig. 4, a vertical transverse section on the line *k k*, Fig. 2; Fig. 5, a detail side view of the nippers, showing the same in a position different from that in which they are shown in Fig. 1; and Fig. 6 is a detail perspective view of the spindle and cams.

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

The letter A represents the work-plate of a sewing-machine; B, the presser-foot; C, the needle-bar and needle—all of which parts are of suitable construction and arrangement. D is the main spindle or shaft of the sewing-ma-

chine, carrying at its end the rotary hook E, for taking the sewing-thread beneath the fabric or actuating the shuttle or other device or means for producing the stitch beneath the fabric. Upon this spindle are mounted two cams, *a b*. To the supporting-frame F is pivoted, at *d*, a vibrating frame, G, which in its upper portion carries a rock-shaft, H. A projecting arm, *e*, of the frame G fits under and against the cam *a* of the spindle D, so that while the spindle is rotated, the frame G will be vibrated on its pivot *d*, a suitable spring being provided for holding the arm *e* in contact with the cam *a*. To the end of the rock-shaft H is secured the lower blade *f* of the nippers I. The upper blade *g* of these nippers is attached to a bar, *h*, which is hinged, at *i*, to the rock-shaft H, to have an independent play thereon. A lateral projecting arm, *j*, of the bar *h* rests upon the spindle D, and is actuated by the cam *b* thereof to open and shut the nippers alternately. By means of a screw, *l*, in the frame F the vibrating motion of the frame G is regulated, so that the nippers may be carried more or less far away from the edge of the plate A, opposite to which they are placed. *o* is a laterally-projecting arm of the shaft H, resting on the shaft D, and cut out, as at *n*, in Fig. 4, to give to said shaft H a rocking motion during the vibration of the frame G. Instead of cutting out the arm *o*, the shaft D may have a cam for vibrating the rock-shaft in equivalent manner.

For operation, the fabric to be ruffled or plaited is passed under the presser-foot B and between the blades of the nippers, and is held down on the plate A by means of said presser-foot. Upon moving away from the plate A the nippers open, and at the end of their outward motion they close upon the fabric, and are at the same time in their lowermost position, said position being indicated in Fig. 5. When subsequently the nippers, griping the fabric, move toward the plate A they also swing upward and near the beveled edge or lip *m* formed on the plate A, as shown in Figs. 1 and 5, and in so moving upward the nippers cause the fabric to be plaited upwardly in the desired

manner, and carry, finally, said plait upon the plate A and under the presser-foot B, arriving in position shown by Fig. 1. When the nippers move back the presser-foot is carried down to hold the plait in position, and the needle then descends to sew it fast.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The tongs I arranged to vibrate horizontally and also vertically with reference to the stationary plate A, having a pendent or beveled edge, *m*, to produce the plaits or ruffles

by their motion toward and along such edge *m*, substantially as described.

2. The blade *f* attached to the rock-shaft H, which turns in the vibrating frame G, in combination with the blade *g* attached to the bar *h*, and operated substantially as herein shown and described.

WM. WALKER.

Witnesses:

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MICHAEL RYAN.