W. WALKER.

PLAITING DEVICE FOR SEWING MACHINES.

No. 110,699. Patented Jan. 3, 1871.

Fig: 1.

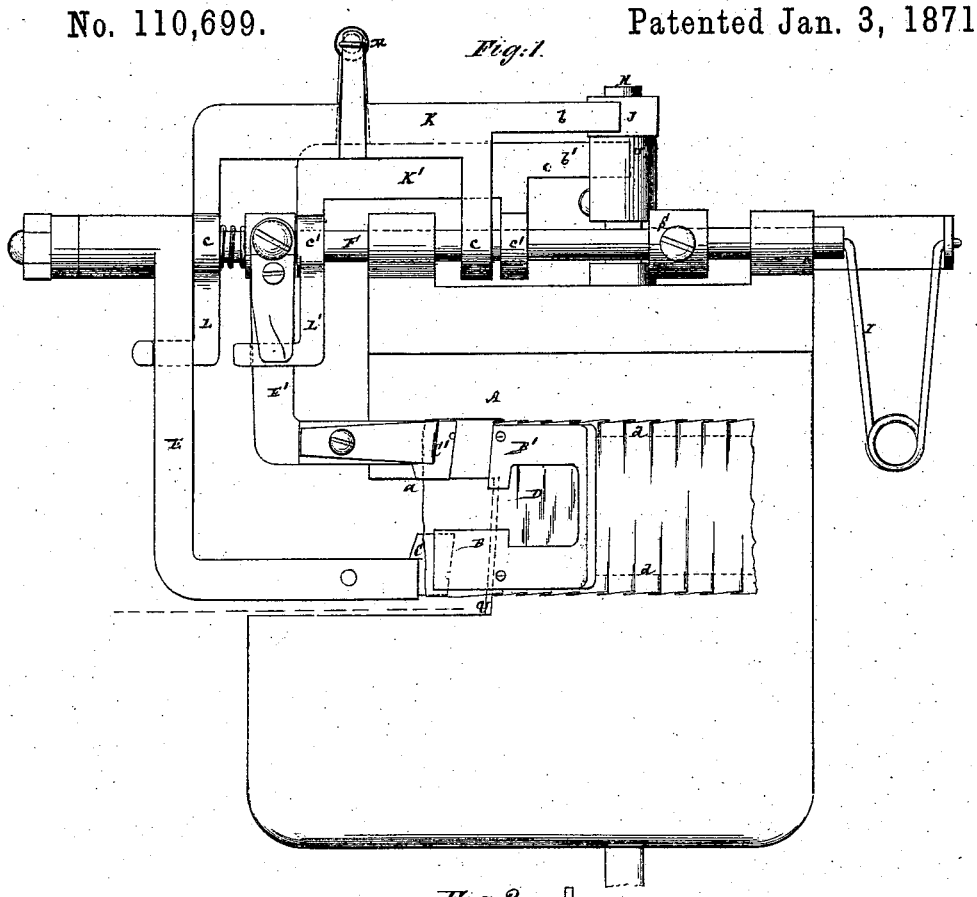
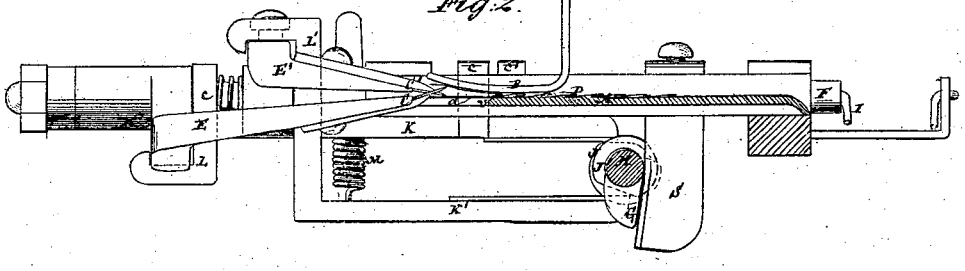


Fig: 2.



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UNITED STATES PATENT OFFICE.

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Letters Patent No. 110,699, dated January 3, 1871.

IMPROVEMENT IN PLAITING DEVICES FOR SEWING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

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 a new and useful Improvement in Plaiting Devices, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a plan of a sewing-machine in part, with a plaiting device constructed in accordance with my invention applied thereto; and

Figure 2, a vertical section taken as indicated by the line *x x*, in fig. 1.

Similar letters of reference indicate corresponding parts.

My invention relates to a plaiting device mainly designed to be applied to a sewing-machine, and consists, firstly, in a plaiting-knife arranged to operate through an opening in the bed-plate or work-plate of the machine, against the sole or face of the ordinary presser-foot, and between the said sole or foot and an edge of said opening, for the purpose of producing a plaiting operation.

The invention also includes a combination of two knives, arranged so that the one works above the material in connection with the bed-plate of the machine, and the other one works below the material in connection with the presser-foot, and whereby I am enabled to produce automatically a reversed plaited trimming.

Referring to the accompanying drawing—

A represents the bed-plate, and

B B′ the presser-foot of a sewing-machine.

This presser-foot, or the one portion B of it and the portion of the bed-plate lying under it, are so shaped that a plaiting-knife, C, is free, in its folding action on the material D, for the production of the plait, to work or have a sliding action against the under surface of the presser-foot and against an edge provided on the plate.

To this end an opening, *a*, is provided in the plate, and the presser-foot is made to project over the edge *v* of said opening, which presents itself toward and parallel, or nearly so, with the edge of the plaiting-knife C, and in such position that the said knife, in advancing, while sliding along the sole of the presser-foot in contact with the under side of a piece of muslin or other fabric laid on the bed-plate A, will pass over the said edge *v*, and between the said edge and the said sole, and so gather the fabric between the said edge and sole in the form of a plait, which it tucks in between the presser-foot and the portion of the bed-plate beyond the said edge *v*.

During the last-described action of the knife C the feeding device of the machine operates, raising the foot and moving in concert with the knife. The knife recedes after the feeding movement of the cloth ceases, and in the meantime the feeding device allows the foot to come down and hold the plait which has been formed.

In the drawing two knives, C C′, are shown operating in concert with each other on the material D, but on opposite sides of the latter, said knives being arranged side by side at suitable distances apart, and so that, while the one knife, C, works below the material against or under the presser-foot or portion B thereof, as hereinbefore described, the other knife C′ works above the material over or against and in connection with the bed-plate A, a presser-foot or portion, B′, thereof holding down the material or side of it over which the knife C′ works during the forward movement of the latter.

In this way I am enabled to produce a reversed plaited trimming, the plaits being formed from the under side of the material along its one edge, and from the upper side of said material along its opposite edge.

Different combinations of devices may be used to give to the knives C C′ their specified respective actions. Thus they may be secured, in a separately adjustable manner, by crooked arms E E′, to a rocking and sliding shaft, F, arranged parallel with the feed, and actuated, to communicate to the knives their forward stroke, by a cam, G, on a revolving shaft, H, operating against a toe, S, on the shaft F, a spring, I, on the one end of the shaft F, serving to subsequently work the knives back.

On the shaft H are also two cams, J J′, which act on legs *b b′* of rocking-frames K K′, having their bearings, as at *c c′*, on the shaft F, and provided with crooked arms L L′, that, when the cams J J′ bear on the legs *b b′* of the frames K K′ to rock the latter, act upon the arms E E′ to close the knives C C′ against the material, but when the cams J J′ cease to operate the rocking frames K K′, then said frames are released from bearing on the arms E E′ by means of a spring, M, arranged to connect said rocking frames. In this way the knives C C′ are made to advance under hold or pressure on the material, and to retire free from such pressure.

A double row of stitching, *d d*, as produced by two needles, may be made to secure the trimming through or in line of its reversed plaits.

I do not claim, broadly, a plaiting-knife working within or through a recess in the bed-plate and in contact with the bottom of the presser.

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

1. The plaiting-knife C and presser-foot B, in such combination with each other, and with the edge *v* of an opening in the bed-plate, as herein specified, that the said knife plaits over the said edge, and between it and the sole of the presser-foot, as herein described.

2. The combination of the two knives, C C′, the one of which is arranged to work above the material in connection with the bed-plate A, while the other is arranged to operate below the material in connection with the presser-foot of the machine, essentially as specified.

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Witnesses:
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