

(No Model.)

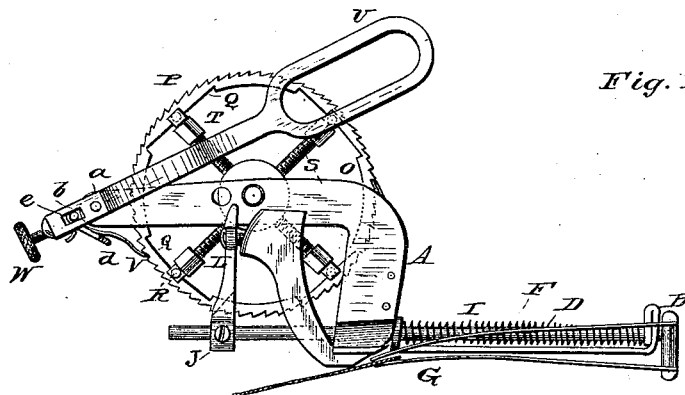
3 Sheets—Sheet 1.

D. L. MASTERS.

## PLAITING ATTACHMENT FOR SEWING MACHINES.

No. 262,601.

Patented Aug. 15, 1882.



*Fig. 1.*

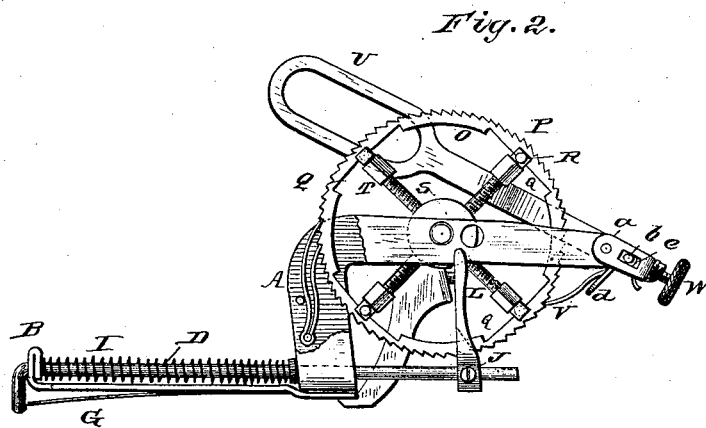


Fig. 2.

**WITNESSES**

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Fig. 3.

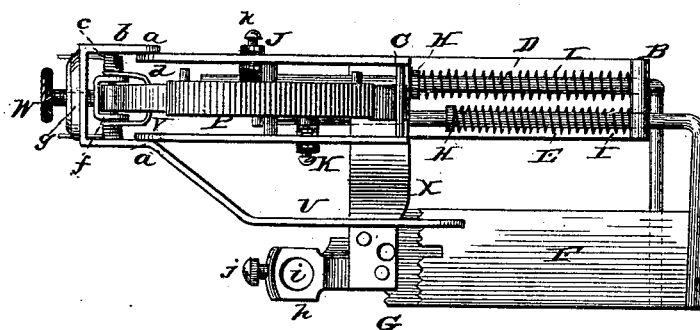


Fig. 4.



Fig. 10.



Fig. 5.

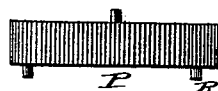


Fig. 11.



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Fig. 6.

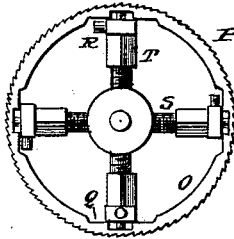


Fig. 12.

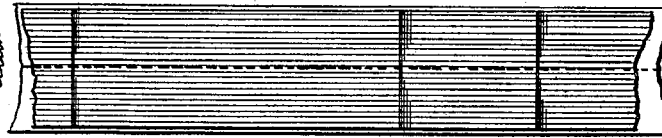


Fig. 7.

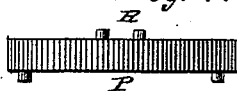


Fig. 13.

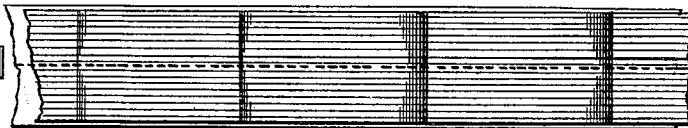


Fig. 8.

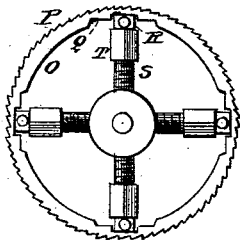
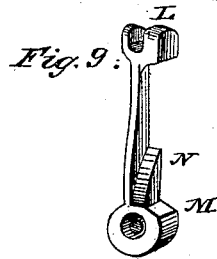
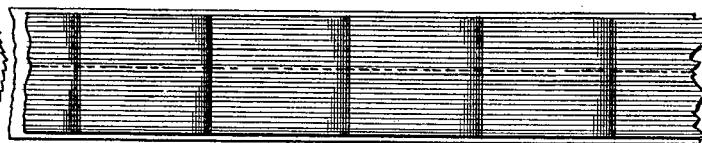


Fig. 14.



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## PLAITING ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 262,601, dated August 15, 1882.

Application filed February 25, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID L. MASTERS, of Braddock, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Plaiting Attachments for Sewing-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in plaiting attachments for sewing-machines; and it consists of a frame and two plaiting-blades, the latter operated through the medium of a ratchet-wheel having a series of adjustable pins, said wheel being operated through the medium of a lever attached to the needle-bar of a sewing-machine, the pins projecting from the side of said ratchet-wheel acting upon adjustable levers arranged on the arms of the plaiting-blade, thereby imparting to said blades a reciprocating motion in accordance with the arrangement of said pins and the form or forms, kind or kinds, of plait desired, all of which will hereinafter more fully and at large appear.

To enable others skilled in the art with which my invention is most nearly connected to make and use it, I will proceed to describe its construction and operation.

In the accompanying drawings, which form part of my specification, Figures 1 and 2 are side elevations of my improvement in plaiting attachments for sewing-machines. Fig. 3 is a top view or plan of the same. Fig. 4 is a front elevation of the ratchet-wheel, representing the arrangement of two pins, one on each side of the wheel. Fig. 5 is a top view of the same, representing the arrangement of three pins, two on one side and one on the other side. Fig. 6 is a side elevation of the same, representing all the pins under the rim of the ratchet-wheel. Fig. 7 is a top view of the ratchet-wheel with two pins arranged on each side of it. Fig. 8 is a side elevation of the wheel with all the pins arranged on one side of it. Fig. 9 is a perspective view of the adjustable lever, which is placed on the arms of the plaiting-blades. Figs. 10, 11, 12, 13, 14 represent different forms and kinds of plaiting. Each figure of said plaiting is placed opposite to the several figures representing the ratchet-wheel, showing the ar-

range ment of the pins for forming the kind of plaiting represented in the opposite figure.

Reference being had to the accompanying drawings, A represents the frame of the machine, having guides B and C for the arms D and E of the plaiting-blades F and G. On the arms D and E are collars H and spiral springs I, arranged on said arms between said collars and the guide B. On the arm D is placed an adjustable lever, J, and on the arm E is placed a similar lever, K, the form of which is clearly shown in Figs. 3 and 9, which levers are attached to said arms by means of set-screws, the upper end of said levers having a recess, L, fitted to the under edge of the side bars of the frame A for guiding and holding in a vertical position said levers. On the hub M of the levers J and K is a cam, N, against which the pins of the ratchet-wheel act for imparting a reciprocating motion to the arms D and E and plaiting-blades F and G.

In the frame A is pivoted a ratchet-wheel, O, furnished with ratchet-teeth P. On the inner side of the rim of the ratchet-wheel O are recesses Q for the pins R, which are pivoted on the arms S of the wheel O, which arms are furnished with screw-threads and clamping-nuts T, for clamping the pins R in the desired position with relation to the rim of the wheel O.

To the frame A is pivoted, at *a*, a lever, U, having an adjustable axis, *b*, for the pawl V, on which axis *b* is a spiral spring, *c*, forming a spring-arm, *d*, which straddles the pawl V, with a portion of it pressing against the under side of said pawl. The ends of the axis *b* of the pawl V have their bearings in slots *e* of the lever U for adjusting said axis through the medium of an adjusting-screw, W, which is connected to said axis *b* by means of a yoke, *f*. The nut *g* of said screw is attached to the outer end of the lever U. This arrangement of pawl V, screw W, spring *c*, axis *b*, and slot *e* is for adjusting the throw of the pawl for regulating the amount of travel of the ratchet-wheel O at each movement of the lever U. From the side of the frame A projects an arm, *x*, the vertical hub *h* of which has an opening, *i*, and a set-screw, *j*, for attaching the plaiting attachment to the presser-foot of the sewing-machine, the lever U being attached to the needle-bar.

Before proceeding to describe the operation

of the machine I will describe the arrangement of the pins R with relation to the rim of the ratchet-wheel in making the several kinds and forms of plaiting represented in Figs. 10, 11, 12, 13, and 14.

Fig. 10 represents a face view of "single box-plaiting," which is formed by placing one of the pins R to the left and the other to the right side of the rim of the ratchet-wheel O, as shown in Fig. 4.

Fig. 11 represents a face view of "combination box-plaiting," which is formed by placing one of the pins R on one side of the ratchet-wheel and two pins on the other side, as shown in Fig. 5.

Fig. 12 represents a face view of "combination-plaiting," which is a narrow and long plait combined, which is accomplished by having one of the pins R on one side of the wheel O, with the other pins R turned under the rim of the wheel, as shown in Fig. 6.

Fig. 13 is a face view of "double box-plaiting," which is accomplished by having two of the pins R to the right and two to the left of the ratchet-wheel, as shown in Fig. 7.

Fig. 14 is a face view of "side plaiting," which is done by having all of the pins R on one side of the ratchet-wheel O, as shown in Fig. 12.

Other and innumerable varieties of plaiting may be made by increasing the number of the arms S and pins R in the ratchet-wheel O. The number of plaits is determined by the number of pins and their arrangement with relation to operating the levers J and K.

The fabric to be operated upon is placed between the plaiting-blades F and G, as shown in Fig. 1. The needle-bar of the sewing-machine being put in motion imparts a reciprocating motion to the lever U, which operates the pawl V, which, acting upon the teeth P of the wheel O, imparts an intermediate revolving motion to the wheel O, which brings the pins R against the cam N of the levers J and K, which will gradually move back the arms D and E and their blades F and G in accordance with the arrangement of the pins R, which, passing the cam or cams N, the spiral spring or springs I will throw forward said cam or cams and blade or blades, and thereby form the plaits.

The plaiting attachment for sewing-machines hereinbefore described may be constructed with a single plaiting-blade and single arm for carrying it.

Having thus described by improvement, what I claim is—

1. In a plaiting attachment for sewing-machines, the combination of the ratchet-wheel O, adjustable pins R, and clamping-nuts T for operating a plaiting mechanism, substantially as herein described.

2. In a plaiting attachment for sewing-machines, the combination of the lever U, having adjustable axis for the pawl V, ratchet-wheel O, adjustable pins R, clamping-nuts T, and a plaiting mechanism, substantially as herein described, and for the purpose set forth.

3. In a plaiting attachment for sewing-machines, the combination of the frame A, having an attaching-arm, h, ratchet-wheel O, having pin or pins R projecting from the side of said wheel, adjustable pawl V, lever U, adjustable lever K, having cam N, arm D, having spiral spring, and blade F, arranged and operating as herein described, and for the purpose set forth.

4. In a plaiting attachment for sewing-machines, the combination of the frame A, having an attaching-arm, h, pawl V, wheel O, having a pin or pins, R, projecting from the side of said wheel, lever U, levers J and K, each having a cam, N, arms D and E, each having a spiral spring, and blades F and G, arranged and operating with relation to each other, substantially as and for the purpose described.

5. In a plaiting attachment for sewing-machines, the combination of the frame A, having an attaching-arm, h, ratchet-wheel O, having pin or pins projecting from the side of said wheel, adjustable pawl V, lever U, adjustable levers J and K, each having a cam, N, arms D and E, each having a spiral spring, and blades F and G, arranged and operating as and for the purpose set forth.

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Witnesses:

J. D. SIMONS,  
W. W. MYERS.