A. DOLL.

OPERATING FEED WHEEL IN SEWING MACHINES.

No. 68,420. Patented Sept. 3, 1867.

Fig. 1.

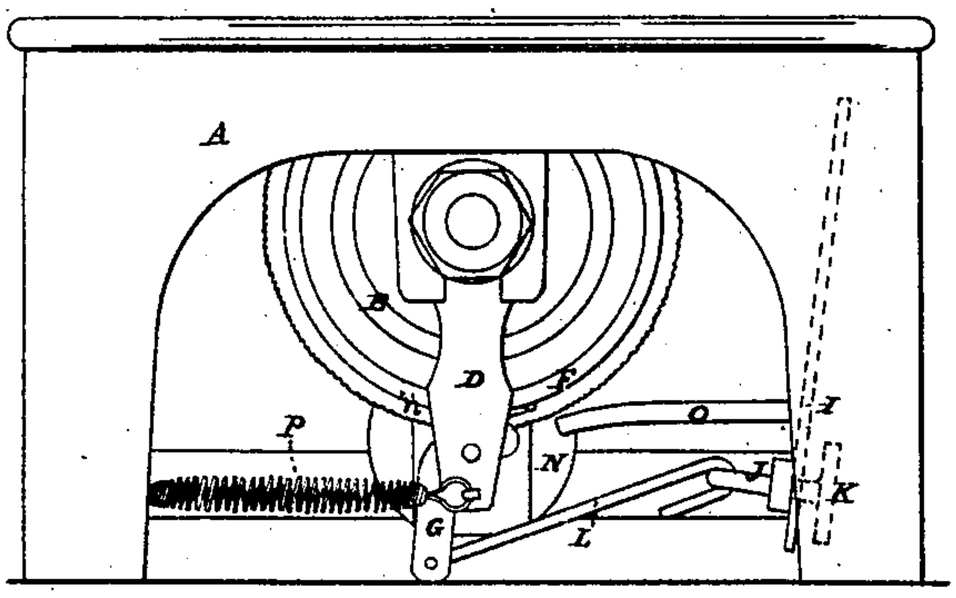


Fig. 2.

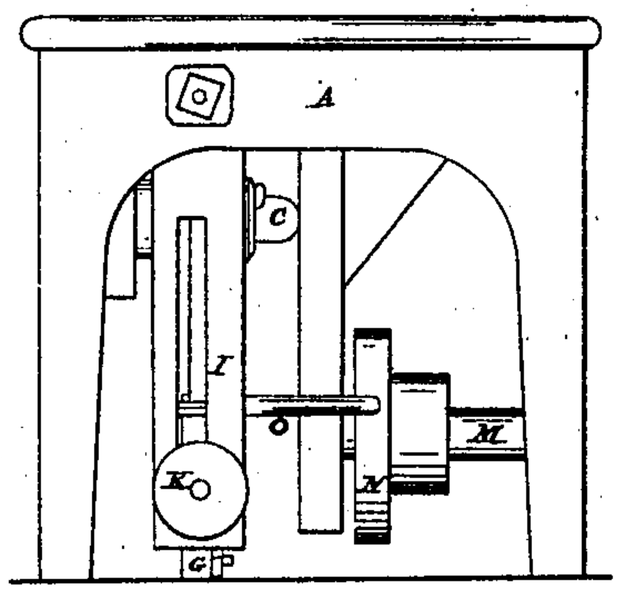


Fig. 3.

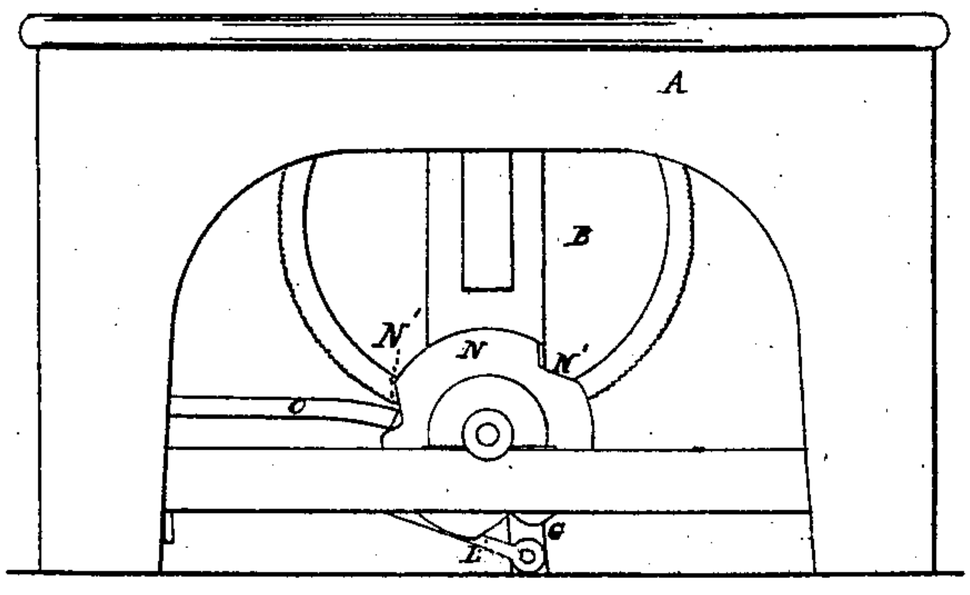
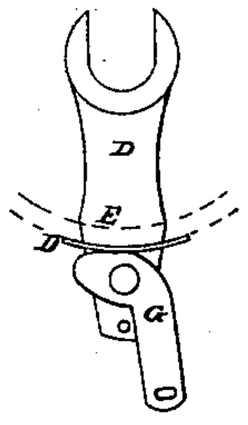


Fig. 4.



Witnesses.

J. H. Burridge.

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Inventor.

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ARNOLD DOLL, OF CLEVELAND, OHIO

Letters Patent No. 68,420, *dated September* 3, 1867.

IMPROVEMENT IN OPERATING FEED-WHEEL IN 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, ARNOLD DOLL, of Cleveland, in the county of Cuyahoga, and State of Ohio, have invented certain new and useful Improvements in Sewing Machines; and I do hereby declare that the following is a full and complete description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view.

Figure 2 is an end view.

Figure 3 the opposite side of fig. 1.

Figure 4 is a detached section.

Like letters of reference refer to like parts in the views.

My invention relates to the feed-works of the machine, and which are constructed as follows, viz:

In fig. 1, A is the table or frame of the machine, beneath which is mounted the feed-wheel B, on a shaft, C. From this shaft depends an arm, D, a detached view of which is shown in fig. 4, and in which figure is shown the opposite side of that seen in fig. 1. The lower end of this arm is offset; forming a deep shoulder, E, which, when the arm is in place, as seen in fig. 1, rests upon the inside of the flange F, projected from the side of the feed-wheel. In the offset referred to is pivoted a cam, G, fig. 4, which is brought to bear on the outside of the flange F, a plate, H, being interposed between the cam and the flange for the purpose of giving a larger surface of contact, also to prevent the cam from wearing the flange irregularly, and thereby cause the feed-wheel to operate in an uncertain and irregular manner. I, fig. 2, is a slotted arm, pivoted to the top of the frame. In the slot is fitted an eye or loop, J, fig. 1, and which is provided with a finger-nut, K, for the purpose of securing the loop in any position in the slot to which it may be adjusted. To this loop the cam G is attached by a link, L, fig. 1, and by which it is operated, as will hereafter be shown. On the shaft M, fig. 2, is a cam-wheel, N, in the periphery of which are cut deep notches N′, fig. 3, by which the feed-wheel is operated, as follows: To the slotted arm I is fixed an arm, O, fig. 2, the free end of which is lodged in a notch of the cam-wheel; the effect will be to push the slotted arm back, thereby drawing the cam G forward in the same direction. The draught on the cam being applied to its major arm, will cause the minor or cam end to press strongly against the plate and flange F of the feed-wheel, thereby causing it to turn more or less as the length of vibration given to the slotted arm by the cam-wheel. On the reverse action of this wheel, the pressure exerted by it on the arm O will be relaxed. The cam G will then be drawn back by the spring P, fig. 1, which will be again drawn forward by the forward movement of the cam-wheel, as before, and so on.

The length of the stitch is governed by the distance that the loop is adjusted in the slot. Thus, the nearer it is to the free end the longer will be the vibration, hence the longer will be the stitch, and so on. The contrary, the nearer it is removed from the end toward the centre of vibration the shorter will be the stitch. It will be observed that the end of the arm D is slotted, thus allowing it to be slipped upward and downward upon the shaft, for the purpose that the shoulder E and cam may the more readily and strongly act upon the wheel, giving to the shoulder of the arm thereby a greater adaptability to the flange F.

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

1. The cam G and arm D, provided with a shoulder, E, the whole constructed and arranged in combination with the wheel B, for the purpose and in the manner substantially as set forth.

2. Cam-wheel N, arm O, slotted arm I, and link L, in combination with the cam G, arm D, and spring P, arranged and operating as and for the purpose substantially as described.

ARNOLD DOLL.

Witnesses:

J. H. BURRIDGE,

J. HOLMES.