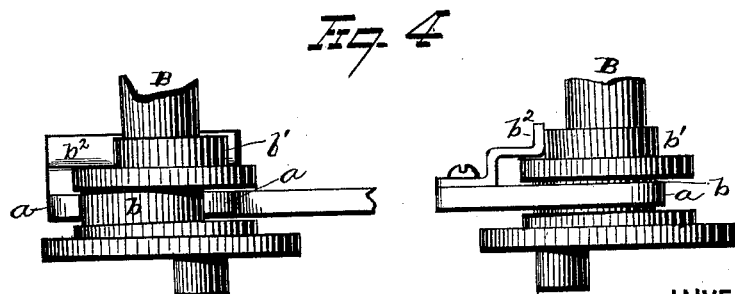
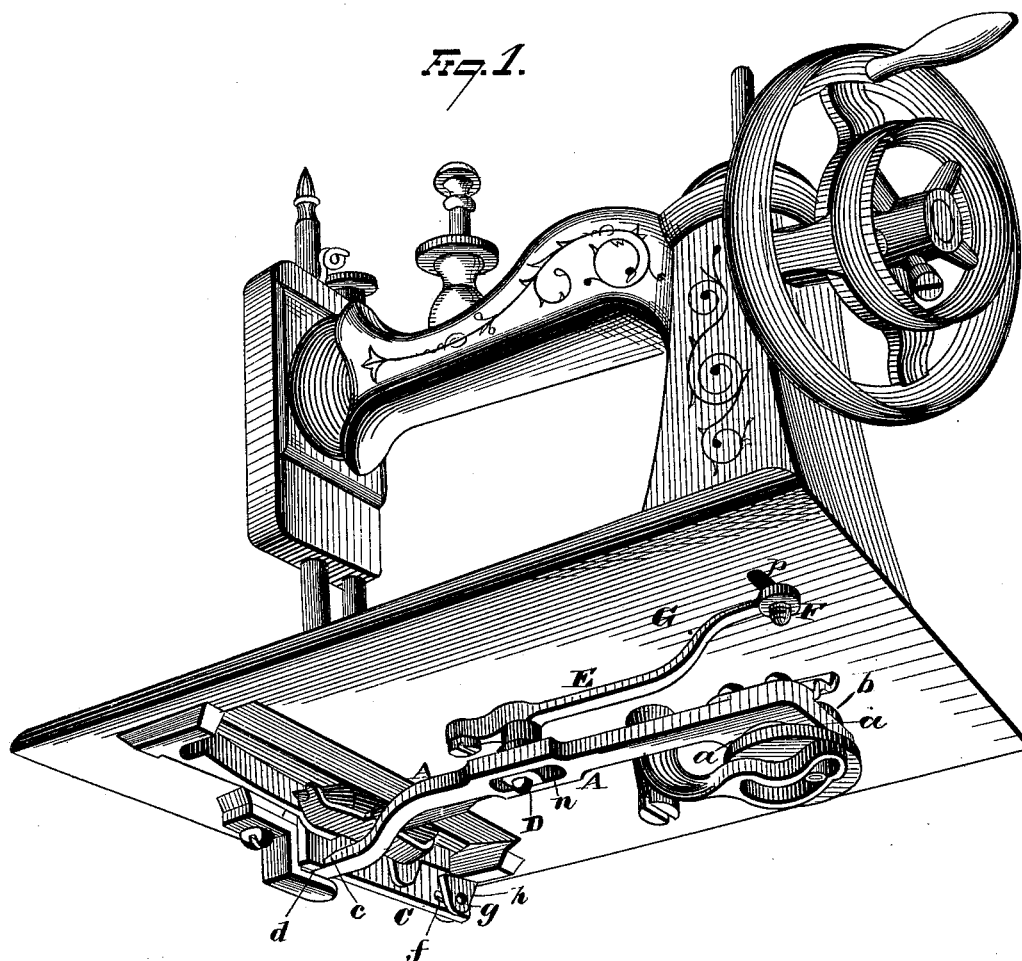


E. BOUSCAY.

Feed Mechanism for Sewing-Machines.

No. 220,052.

Patented Sept. 30, 1879.



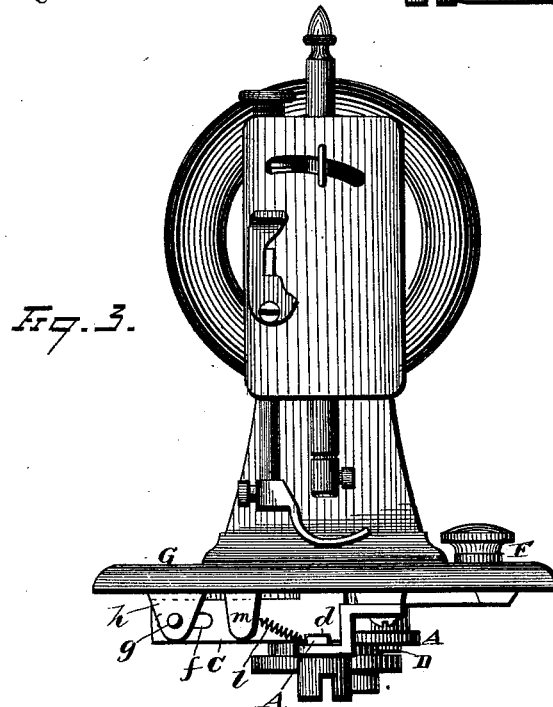
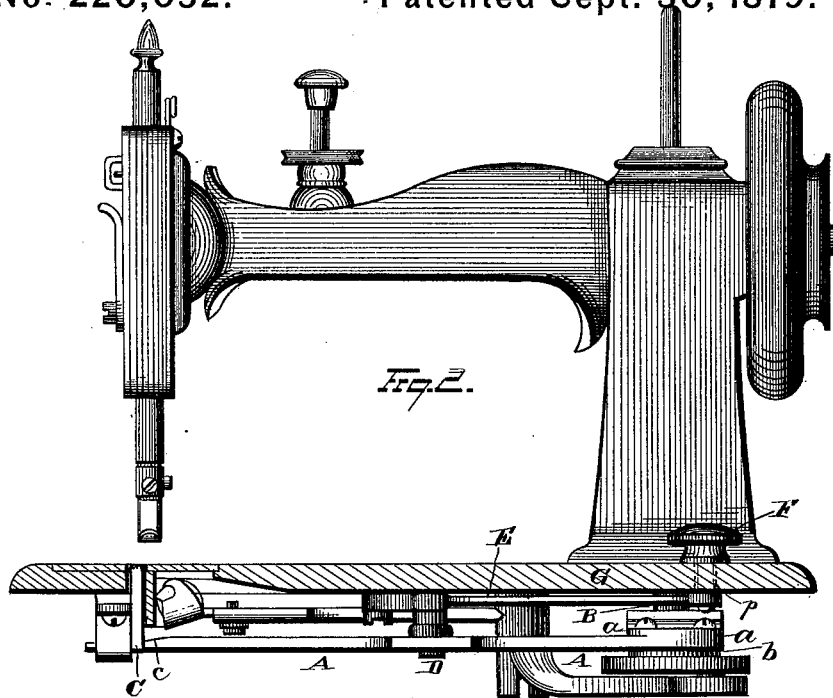
WITNESSES

E. J. Nottingham.
A. W. Bright.

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UNITED STATES PATENT OFFICE.

ELOI BOUSCAY, OF NORWALK, OHIO, ASSIGNOR TO HIMSELF, M. D. WILLIAMS,
AND N. S. C. PERKINS, OF SAME PLACE.

IMPROVEMENT IN FEED MECHANISMS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **220,052**, dated September 30, 1879; application filed
May 28, 1879.

To all whom it may concern:

Be it known that I, ELOI BOUSCAY, of Norwalk, in the county of Huron and State of Ohio, have invented certain new and useful Improvements in Feed Mechanisms for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to sewing-machine feed mechanisms; and consists in the construction hereinafter described and claimed.

Referring to the drawings, Figure 1 is a reverse perspective view of the bed-plate of a sewing-machine embodying my improvements. Fig. 2 is a view in side elevation of the same, with the bed-plate in section. Fig. 3 is an end elevation, showing the feed-bar and connections. Fig. 4 represents in two detail views the formation of the lower extremity of the main upright shaft and the engagement therewith of the rear extremity of the feed-operating lever.

The feed-operating lever A is provided at its rear extremity with the two lateral arms *a*, which embrace the eccentric *b*, formed on the main upright shaft B. The lower extremity of this shaft is further provided with a feed-cam, *b*¹, which is adapted to engage a projection, *b*², with which the rear extremity of the feed-operating lever is provided. The lateral arms of this lever are in constant and unvarying engagement with their operating-eccentric, and thereby the lever is actuated in its reciprocating longitudinal movement. The feed-cam engages the projection with which this lever is provided, and thereby said lever is actuated in its lateral vibration. As the rear extremity of said lever is adjusted laterally to or from the upright shaft, this projection is adapted to engage with a greater or less portion of said feed-cam, and the lateral vibrations of the lever are correspondingly varied. The forward extremity of this lever A is made with the incline *c* on its upper surface, which engages transversely with the feed-bar C as said lever works in the cross-groove *d*, formed in the lower for-

ward portion of said feed-bar. The lower rear portion of this feed-bar is made with a longitudinal slot, *f*, which allows the bar to play on the horizontal pivot *g*. Lugs or ears *h*, depending from the bed-plate, embrace the rear end of the feed-bar, and provide bearing for said transverse pivot.

A spring, *l*, is connected with the feed-bar, and the guideways *m* are also provided. The action or function of the several parts is such as to cause the feed-bar to be actuated longitudinally in a combined horizontal and vertical movement under the operation of lever A. This lever is provided at or near its middle portion with a longitudinal slot, *n*, into which projects a pin, stud, or its equivalent, D. This pin or stud serves as a fulcrum on which said lever has pivotal movement in a horizontal plane. The adjusting device which moves this fulcrum or pivot in a general line transverse to the feed-operating lever consists of the feed-adjusting lever E, whose forward extremity is pivoted to the bed-plate, so that said adjusting-lever may be moved parallel with the latter.

Its rear extremity engages with the screw-clamp F, which works in a vertical transverse slot, *p*, formed in the bed-plate G. By means of this clamp the free end of the feed-adjusting lever may be secured at different points, so as to move the fulcrum D in a general line across the bed-plate, or at right angles to the length of the feed-operating lever A.

When a long stitch is to be sewed the clamp-screw is thrown in toward the main upright shaft. This causes the fulcrum D to be moved in a general direction toward the longitudinal central portion of the bed-plate. The rear end of the feed-operating lever is thus adjusted nearer to the feed-cam, and the latter is thereby caused to actuate said lever in a more extended movement. The throw of the feed-bar is correspondingly increased, and the desired length of stitch is made. When a short stitch, however, is desired to be made, the screw-clamp is moved outwardly, and a result or operation the reverse of that just described takes place. It is apparent that by this means the stitch may be quickly and easily regulated, as desired.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with an upright rotary shaft whose lower extremity is provided with a feed-cam and also with an independent eccentric, of a feed-operating lever whose rear extremity is provided with lateral arms which embrace said eccentric, and is further provided with a projection which engages with said feed-cam, together with mechanism which is adapted to adjust the rear extremity of said feed-operating lever to and from the upright shaft, substantially as set forth.

2. The combination, with an upright rotary shaft whose lower extremity is provided with a feed-cam and an independent eccentric, of a feed-operating lever whose rear extremity is provided with lateral arms which embrace said eccentric, and is also provided with a projection which engages with said feed-cam, together with a feed-adjusting lever connected to said feed-operating lever, and adapted to move the rear extremity of the latter to and from said upright shaft, substantially as set forth.

3. The combination, with an upright rotary shaft whose lower extremity has a feed-cam and an independent eccentric, of a feed-operating lever whose rear extremity has lateral

arms which embrace said eccentric, and is also provided with a projection which engages with said feed-cam, together with a feed-adjusting lever pivoted to the bed-plate and a clamp which secures it thereto in position, said two levers being connected to one another and adapted to be moved so that said projection on the feed-operating lever engages with a greater or less portion of said feed-cam, substantially as set forth.

4. The combination, with an upright rotary shaft whose lower extremity has a feed-cam and an independent eccentric, of a feed-operating lever whose rear extremity has lateral arms which embrace said eccentric, and is also provided with a projection which engages with said feed-cam, together with a feed-adjusting lever connected to the feed-operating lever and adapted to move the rear extremity of the same to or from the upright shaft, the forward extremity of said feed-operating lever having an inclined upper surface which engages with the feed bar, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of May, 1879.

ELOI BOUSCAY.

Witnesses:

P. J. MAHON,

S. N. PERKINS.