

(No Model.)

E. BOUSCAY, Dec'd.

2 Sheets—Sheet 1.

H. B. BOUSCAY, Administratrix.

SEWING MACHINE.

No. 301,853.

Patented July 15, 1884.

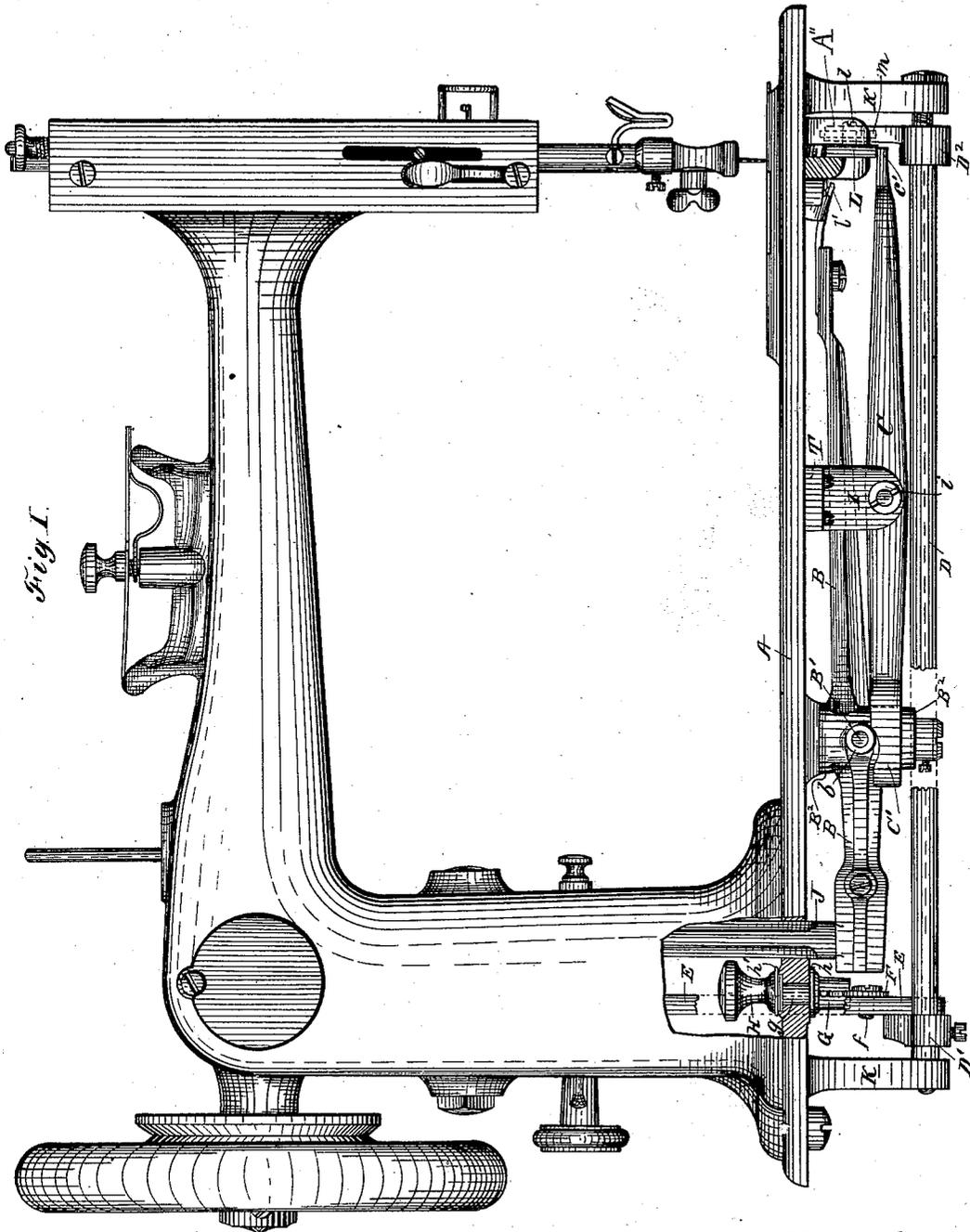


Fig. 1.

Witnesses.

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J. H. Burridge.

Inventor

E. Bouscay
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AEE's

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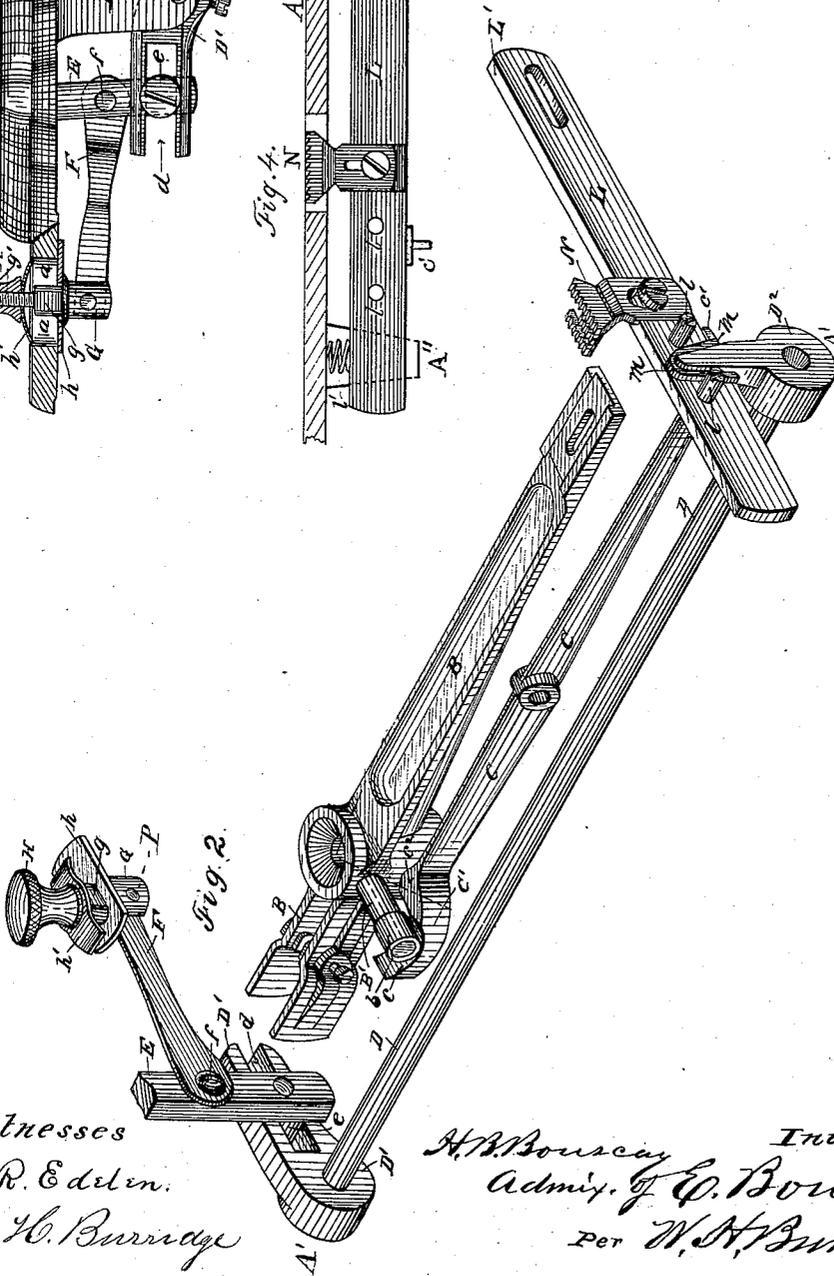
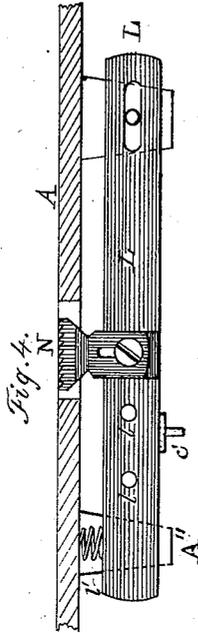
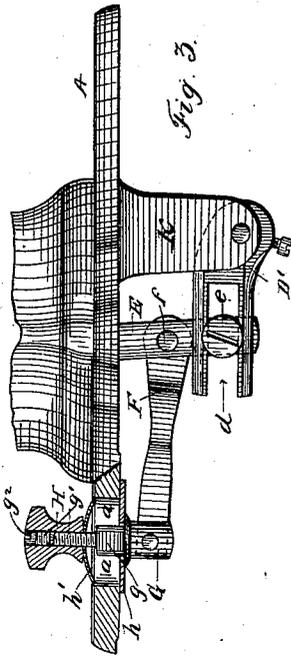
2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

HELEN B. BOUSCAY, OF ERIE, PENNSYLVANIA, ADMINISTRATRIX OF ELOI BOUSCAY, DECEASED.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 301,853, dated July 15, 1884.

Application filed October 31, 1883. (No model.)

To all whom it may concern:

Be it known that ELOI BOUSCAY, late of Erie, in the county of Erie and State of Pennsylvania, did invent certain new and useful
5 Improvements in Stitch-Regulating Devices and Feed Mechanism 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,
10 reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to improvements in the devices for regulating the feed mechanism in sewing-machines, especially in that class which requires sliding devices for the adjustment of the stitch, and which have a regular four-motion under-feed, all of which will be hereinafter more particularly described, and pointed out in the claims.

In the drawings accompanying and forming part of this specification, Figure 1 is a side elevation of a sewing-machine, partly in section, showing the invention. Fig. 2 is a perspective view of the parts underneath, detached. Fig. 3 is a detached portion of the plate and standard, showing the clamping device and connections. Fig. 4 is a side view
30 of the feed-bar, showing the manner in which it is sustained.

Like letters of reference denote like parts.

G is a screw-bolt having fitted to its screw-shank the nut H, with milled head. A portion of the shank at *g* is flattened to fit in a slot in the bed-plate A of the sewing-machine.

h is an under plate, and *h'* is a frictional spring, through which the shank of screw G passes, so that when the nut H is screwed down the spring *h'* bears on the plate A, and keeps the device in position by friction, and yet will admit of being moved by the hand of the operator.

F is a link, which is attached to the screw G by a pin, P, and its other end is pivoted to the connecting-rod E by a pin, *f*, which rod E is operated by the shaft in the upper part of the sewing-machine. On connecting-bar E is a friction-roller, *e*, over a stud in the side
50 of rod E, which roller moves in the slot *d* of

the arm D', which is connected to the rocker-shaft D, said shaft D being supported in brackets K K, dependent from the under side of the bed-plate A.

A' A' are the rocker-shaft centers.

C is the feed-elevating lever, pivoted to the bed-plate at T.

C' is that part of C provided with an inclined plane, *c*, which is acted upon by the shuttle-lever B, by the projecting arm B', on which
60 is a friction-roller, *b*.

L is a feed-bar, to which the feed-dog N is attached.

Under the plate A, as seen in Fig. 4, is a double bracket, A', in which is a spring, *l*,
65 which acts upon the feed-bar L, and causes it to descend whenever the lever C is released by the movement of the arm B' over the inclined part *c* of the feed-lever C.

On the end of rocker-shaft D, under the feed-bar L, is the arm D², having around its end and on each side thereof an elastic covering, *m*. Projecting from one side of the feed-bar L are two pins, *l l*—one on each side of the arm D². Feed-bar L is provided with a slot at the end L', through which the pivot-pin passes,
75 which secures it to the bracket, and on which it can slide to and fro. As the arm D² is oscillated by the movement of the rocker-shaft D, it impinges upon one or the other of the pins *l l*, and correspondingly moves feed-bar L to and fro. One end, *e'*, of feed-lever C bears under the feed-bar L, and as the shuttle-lever B is moved to and fro its arm B' passes over the inclined plane *c*, and consequently causes
85 feed lever C to vibrate in a vertical plane. When the inclined plane *c* is carried down, the opposite end, *e'*, of lever C lifts the feed-bar L and dog N into its position above the plate A, the arm D² acts upon one of the pins
90 *l* and feeds the dog N forward, the movement backward of the arm B' releases the inclined plane *c*, and the spring *l* forces the bar L down, as the end *e'* of lever C is free to drop. The arm D² rocks back and carries the other
95 pin *l* and bar L back again. The adjustment of the machinery is such that all of these movements are coincident with the to-and-fro motion of the shuttle and the needle-bar.

The mechanism of the feed-regulator is as
100

follows: The screw G being connected by the link F to the connecting-bar E, the sliding of the screw G in the bed-plate A adjusts the lower end of E in the slot *d* of the arm D', so that it can be placed very near the center of motion of rocker-shaft D, so as to give to it a very long arc of motion, or it can be carried to the extreme end of arm D', when the shaft D will have its shortest arc of motion. As arm D² is moved coincidently with arm D', it will be seen that the screw G can be adjusted simply by sliding it in its slot at any moment during the operation of sewing without turning a screw or any other device.

In the nut H from the top is a threaded hole, *g*², in which is inserted a small screw, *g*', the purpose of which is to act as a lock or set-screw, to prevent the nut H from working loose upon the threaded shank of the bolt G, and to gage the friction of the plates *h h*.

I claim—

1. The combination, with the feed-bar L and rock-shaft D, provided with the arms D' D'', and means to operate said shaft, of the shuttle-lever B, provided with the arm B', and the lever C, having inclined end *c*, adapted to engage with the arm B' and spring *l*, arranged substantially as described, whereby the requisite four motions are imparted to the said feed-bar.

2. The combination of feed-bar L, having the pins *l l*, rock-shaft D, provided with the arms D' D'', connecting-rod E, link F, bolt G, friction-plates *h h*, nut H, and set-screw *g*², with means for producing the vertical movements of the feed-bar, substantially as set forth.

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Witnesses:

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