

(No Model.)

3 Sheets—Sheet 1.

H. W. HADLEY & W. L. GROUT.

FEEDING MECHANISM FOR SEWING MACHINES.

No. 345,684.

Patented July 20, 1886.

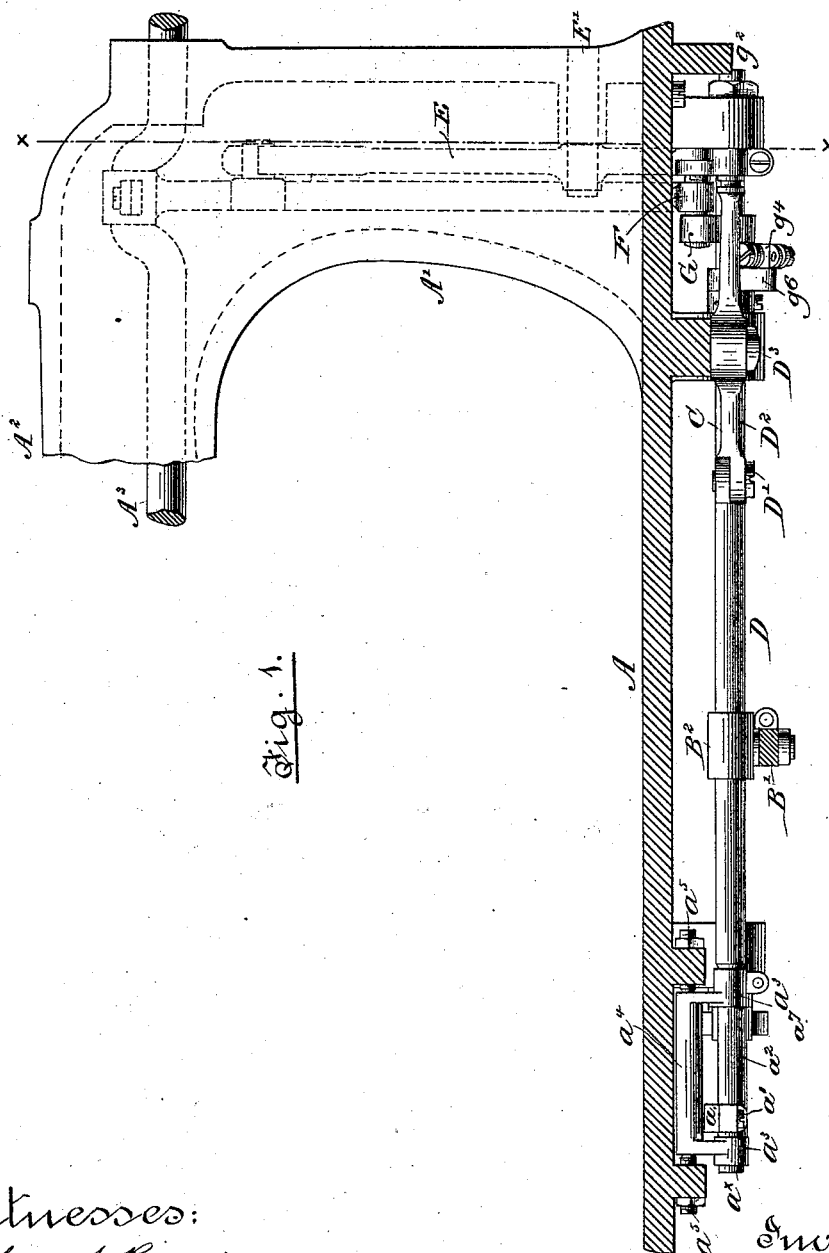


Fig. 1.

Witnesses:

John A. Rennie

John F. C. Brinkley

Inventors

Horace W. Hadley,

William L. Grout.

by Lemuel Gregory atty

(No Model.)

3 Sheets—Sheet 2.

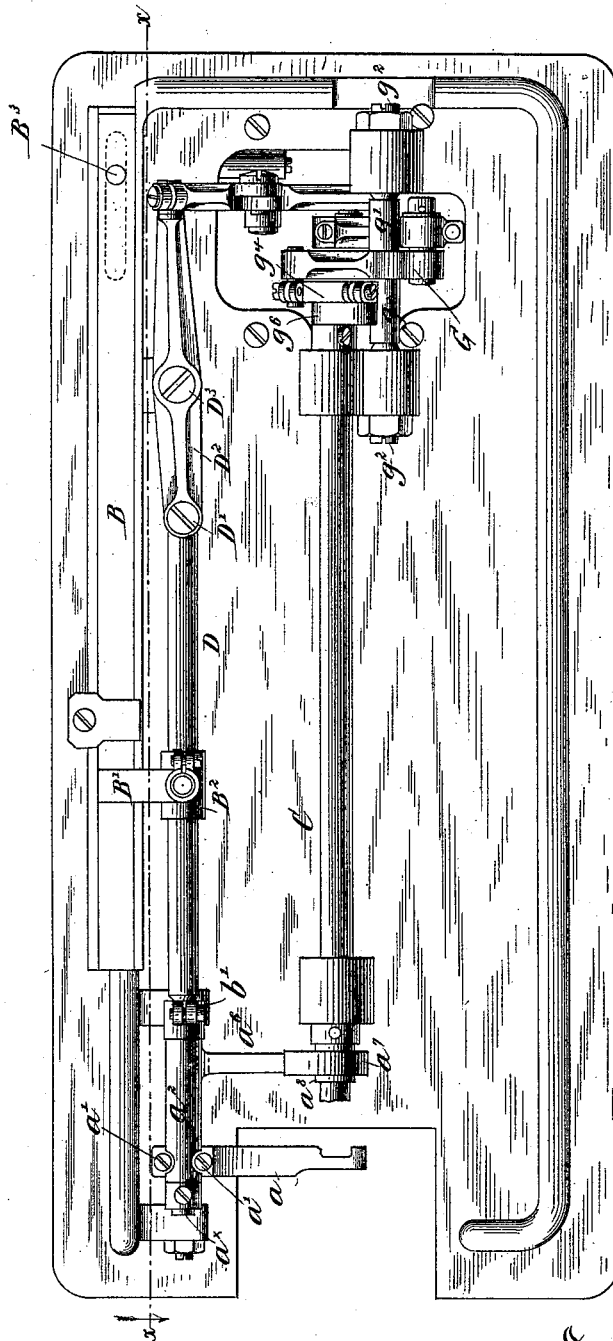
H. W. HADLEY & W. L. GROUT.

FEEDING MECHANISM FOR SEWING MACHINES.

No. 345,684.

Patented July 20, 1886.

Fig. 2.



Witnesses:

John A. Rennie

John F. C. Prinsler

Inventors

Horace W. Hadley.
William L. Grout.

By Crosby & Gregory attys.

(No Model.)

3 Sheets—Sheet 3.

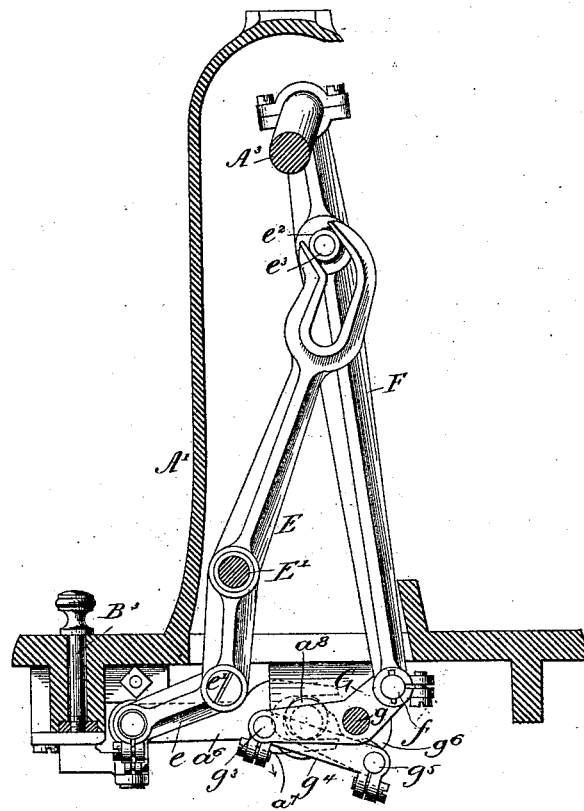
H. W. HADLEY & W. L. GROUT.

FEEDING MECHANISM FOR SEWING MACHINES.

No. 345,684.

Patented July 20, 1886.

Fig. 3.



Witnesses:

John A. Rennie

John F. C. Preinkert

Inventors.

Horace W. Hadley.

William L. Crout.

by Leroy Gregory attys.

UNITED STATES PATENT OFFICE.

HORACE W. HADLEY AND WILLIAM L. GROUT, OF ORANGE, MASS.

FEEDING MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 345,684, dated July 20, 1886.

Application filed September 11, 1885. Serial No. 176,816. (No model.)

To all whom it may concern:

Be it known that we, HORACE W. HADLEY and WILLIAM L. GROUT, both of Orange, county of Franklin, and State of Massachusetts, have invented an Improvement in Feeding Mechanisms for Sewing-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to simplify and improve the devices for operating the feeding-bar.

In this invention the feeding-bar is attached to a rocker, and the latter is vibrated about its pivots by means of an oscillating rod supported in a bearing pivoted upon a projecting arm of a feed-regulating slide, one end of the said rod being jointed to a pivoted lever mounted on a vertical stud, the rear end of the said lever being connected by a link with the lower end of a lever mounted on a horizontal pivot in the upright arm of the machine, the upper end of the said lever having a cam-slot, which is entered by a roll on a stud extended from a connecting-rod attached at its upper end to a crank of the needle-bar-actuating shaft, the lower end of the said connecting-rod, by a system of links, to be described, imparting motion to a rock-shaft below the bed-plate, the said rock-shaft in practice moving a shuttle-carrier, (not shown,) and being provided with a cam or eccentric, which, co operating with an arm attached to the feed-bar, effects the raising and lowering of the latter to engage and release the cloth or material being sewed.

Our invention consists, essentially, in a system of levers, substantially as will be described and pointed out in the claims, whereby is obtained a reliable and simple feeding mechanism.

Figure 1, in side elevation, represents a sufficient portion of a sewing-machine to enable our invention to be understood; Fig. 2, an under side view thereof, the shuttle and race being omitted; and Fig. 3 is a section of Fig. 1 in the dotted line *x x*, looking toward the left.

The bed-plate A, upright arm A', overhanging arm A², main rotating needle-bar-actuating shaft A³, feed-adjusting slide B, provided

with a lug, B', the bearing B², pivoted thereon, and the screw-stud B³, rising from the slide B through a slot in the bed-plate, are all substantially as usual.

The feed-bar *a* is attached by suitable screws, *a'*, to a short sleeve, *a*², supported upon a pin, *a*^x, having its ends sustained in sockets *a*³ of arms depending from a rocker, *a*⁴, supported upon pointed pivot screws *a*⁵. The short sleeve *a*² has an arm, *a*⁶, which is forked at *a*⁷, (see, also, dotted lines, Fig. 3,) to embrace a cam or eccentric, *a*⁸, on the oscillating shaft C, which, as stated, in practice will actuate the shuttle. (Not shown.) The cam or eccentric *a*⁸, acting upon the arm *a*⁶, turns the sleeve to place the acting end of the feeding-bar against the material, and then to lower it away from the said material.

The oscillating bearing B² receives in it a rod, D, the front end of which in practice is made ball-shaped and enters a ball-shaped recess in the socket *a*³, the latter being split, (see Fig. 2,) its ears receiving an adjusting-screw, *b*⁷. The rear end of the rod D is loosely joined by a screw, D', with a lever, D², having as its fulcrum the vertical screw D³, the rear end of the said lever being in practice made ball-shaped, and being embraced by the open socketted end of the link *e*, jointed by a screw, *e*¹, to the lower end of the lever E, having its fulcrum on the horizontally-placed stud E', inserted into the upright arm A'. The upper end of the lever E is provided with a cam-shaped slot, as shown in Fig. 3, which receives the roller *e*² on the stud *e*³, extended laterally from the connecting-rod F, which at its upper end is made to embrace the crank of the shaft A³, the lower end of the said connecting-rod having a pin, *f*, with which is connected a short arm of a rocking lever, G, the journals *g* of which are supported upon pointed screws *g*², a longer arm of the said rocking lever being provided with a pin, *g*³, over which is placed one end of a link, *g*⁴, that embraces at its opposite end a stud, *g*⁵, carried by the crank *g*⁶, secured to the shaft C.

The connecting-rod F vibrates the elbow-lever G, and it, by the links described, oscillates the shaft C.

The length of feed-stroke will be varied, when

desired, by moving the slide B and the pivoted fulcrum B², thus altering the effective stroke of the front end of the rod D, or that end thereof connected with the socket a³.

5 We claim—

1. The rotating shaft A³, the connecting-rod F, its roller-stud, and the lever E, provided with the cam-slot and the link e, combined with the lever D², pivoted at D³, the rod D,
10 and the movable fulcrum B², and with the feed-rocker to move the feeding-bar, substantially as described.

2. The bed-plate, the feed-rocker a⁴, pivoted upon and depending from the under side of the said bed and provided with the sockets
15 a³, the sleeve a², supported by the said rocker, tended therefrom, and the rod D, combined and the feeding-bar a and forked arm a⁵, ex-

with the oscillating shaft C and cam or eccentric a⁸ thereon, substantially as described. 20

3. The rotating shaft A³, the connecting-rod F, its roller-stud, and the lever E, provided with the cam-slot and the link e, combined with the lever D², pivoted at D³, the rod D, the movable fulcrum B² therefor, and means, substan- 25 tially as described, to move the fulcrum, as and for the purpose set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

HORACE W. HADLEY.
WILLIAM L. GROUT.

Witnesses:

H. S. DAWLEY,
F. T. EWING.