

D'ARCY PORTER.

FEED MECHANISM FOR SEWING MACHINES.

No. 310,081.

Patented Dec. 30, 1884.

FIG. 1.

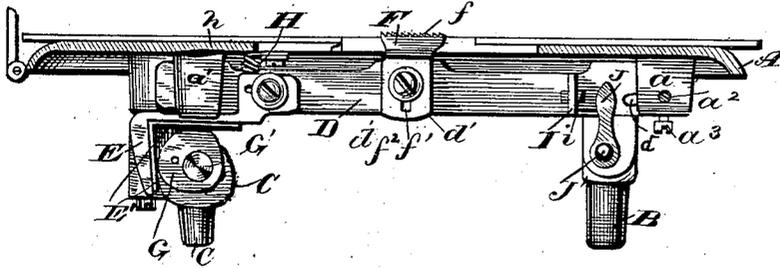


FIG. 2.

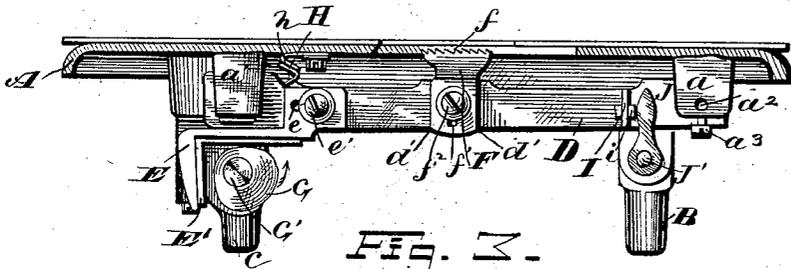
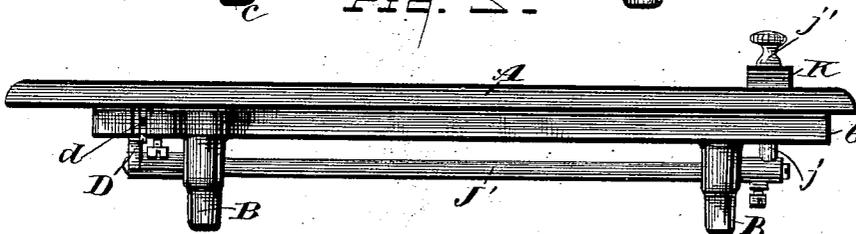


FIG. 3.



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FIG. 4-

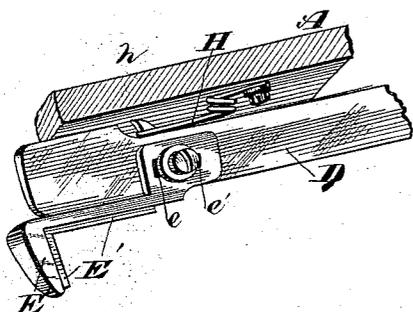
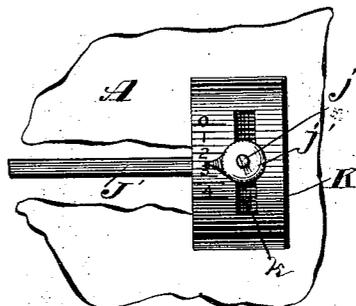


FIG. 5-



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UNITED STATES PATENT OFFICE.

D'ARCY PORTER, OF CLEVELAND, OHIO, ASSIGNOR TO THE WHITE SEWING MACHINE COMPANY, OF SAME PLACE.

FEED MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 310,081, dated December 30, 1884.

Application filed June 11, 1884. (No model.)

To all whom it may concern:

Be it known that I, D'ARCY PORTER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in 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 the same.

My invention relates to improvements in feed mechanism for sewing-machines, the object being to provide an arm attached to a rock-shaft to act as a stop to the back movement of the feed-bar to regulate the amount of feed. A further object is to provide a lever for turning the rock-arm, and provided with a binding-nut and a pointer that passes over a scale, by means of which the device may be adjusted and held in a position to give the required feed.

With these objects in view my invention consists in certain features of construction and in combination of parts, hereinafter described, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a front elevation of the feed-bar and attachments and a section of the cloth-plate with the feed-bar elevated and at the limit of its throw to the left hand. Fig. 2 is the same view with the feed-bar depressed and moved to the right hand. Fig. 3 is a side elevation of the cloth-plate and rock-shaft and attachments and an end view of the feed-bar. Fig. 4 is an enlarged view in perspective of a portion of the feed-bar and attachments. Fig. 5 is a plan view of the adjusting-lever, pointer, and scale.

A represents the cloth-plate, supported on one side by the legs B, that are connected by the rib *b*, and supported on the other side by the legs C, that are connected by a rib not shown. The plate, ribs, and leg are integral.

D is the feed-bar, that operates at the ends thereof, respectively, in slots in the pendent lugs *a* and *a'*, that are integral with the cloth-plate. The right-hand end of the feed-bar is slotted at *d*, and embraces and slides on the pin *a²*, that passes laterally through the lug *a*. This pin is held endwise by the set-screw *a³*. By means of the slot *d* and the pin *a²* this end

of the feed-bar is held vertically, but is free to move endwise.

E is a hook attachment provided with the slot *e*, through which passes the screw *e'*, that screws the hook attachment to the feed-bar. By means of this screw and slot the hook may be adjusted longitudinally on the feed-bar. The hook is provided with the lining or friction plate *E'*, that receives the wear of the cam.

F is the feed proper, provided with a serrated upper surface at *f*, the notches of which, as shown, incline to the left hand, which is the direction in which the work is moved. The shank of the feed proper is provided with the slot *f'*, through which passes the screw *f²*, that secures the part F to the feed-bar. This shank is supported in a vertical recess in the feed-bar, the shoulder *d'* of which prevents the feed F from turning on the screw *F²*, and by means of the screw and slot the part F may be adjusted vertically.

G is a cam mounted on the shaft G', that passes through and is journaled in the legs C, and is propelled at the rear from the driving-shaft of the machine by any suitable mechanism. The cam rotates in the direction shown by the arrow, and by means of the hook attachment E raises the left-hand end of the feed-bar and moves the bar to the left hand. The spring H is secured to the cloth-plate, as shown, and the free end of the spring engages a notch, *h*, in the feed-bar, and the spring is so arranged that it presses the feed-bar down upon the cam G and moves the feed-bar back to the right hand as the cam recedes from the hook.

I is a rib projecting forward from the feed-bar, and to which is attached the cushion *i*, preferably of rubber.

J is an arm attached to the rock-shaft J', that passes through and is journaled in the legs B. To the rear end of the rock-shaft is attached the lever *j*, that passes up through the slot *k* in the part K, that is preferably a raised portion of the cloth-plate. The top of the lever *j* is threaded and provided with the thumb-nut *j'*, that may be made to press upon the part K and hold the lever in the desired position. The part K is in form a cylindrical sector whose axis coincides with the axis of the rock-shaft, and the nut *j'*, when loosened a trifle, will

pass over the surface of the sector without binding. By moving the lever *j* forward or back in the slot *k* the shaft is turned so as to make the upper end of the arm *J* approach or recede from the cushion *i*, that is in line with it. The arm *J* acts as a stop to limit the backward movement of the feed-bar. If this arm is turned back to the right hand, the feed-bar, by means of the spring, will be moved back as far as the hook and cam will permit, and will therefore be reciprocated a distance equal to the full throw of the cam. As the arm *J* is moved to the left hand it stops the feed-bar on the back-stroke by coming in contact with the cushion *i*, and thus limits the end movement of the bar. In the position shown in Figs. 1 and 2 the movement of the bar is limited to about half the throw of the cam. The arm *J* may be turned to the left so far that the cam will not move the feed-bar endwise. Between the two extremes the desired feed may be had. A scale is marked on the upper surface of the part *K*, as shown in Fig. 5, and the lever un-

der the thumb-nut is provided with a pointer, *j'*, by means of which the arm *j* may be set to give the required feed. By tightening the nut *j'* the arm may be held in the adjusted position.

What I claim is—

In a feed device for sewing-machines, the combination, with a feed-bar having a depending hook at one end and an outwardly-projecting rib near its opposite end, the said rib being provided with a yielding cushion, and a cam and spring for imparting the necessary movements to the feed-bar, of the devices, substantially as described, for adjusting the stroke of the feed-bar, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 29th day of May, 1884.

D'ARCY PORTER.

Witnesses:

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ALBERT E. LYNCH.