(No Model.)

C. E. TIBBLES.

SEWING MACHINE.

No. 383,419. Patented May 22, 1888.

Fig. 1.

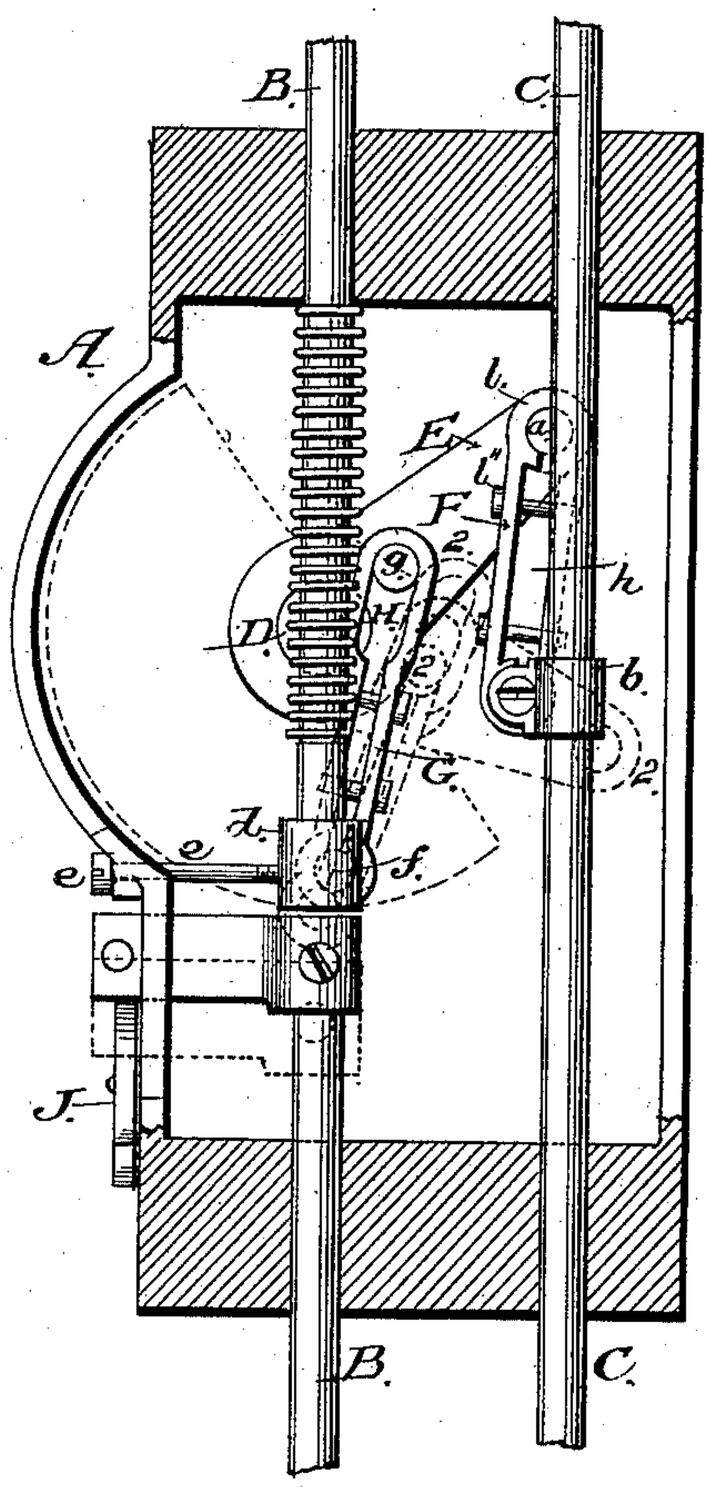


Fig. 2.

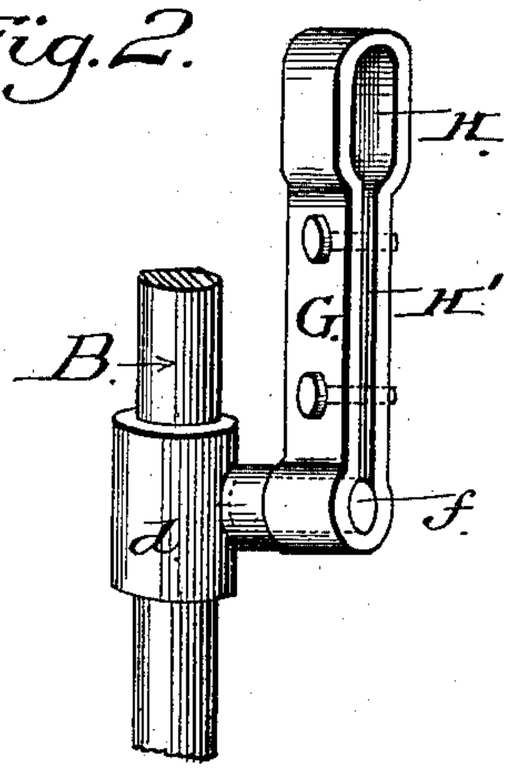
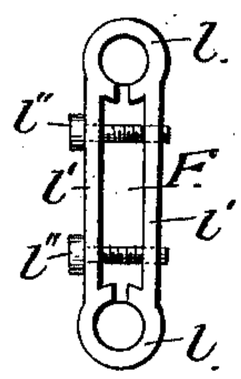


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES E. TIBBLES, OF CHICAGO, ILLINOIS.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 383,419, dated May 22, 1888.

Application filed August 30, 1886. Serial No. 212,174. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. TIBBLES, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation, partly in section, showing the head of a sewing-machine with the face-plate removed. Fig. 2 is a detail view of the link G, which connects the presser-bar with an arm or cam on the rock-shaft. Fig. 3 is a detail view of the link F, which connects the needle-bar with said arm or cam.

My invention relates to sewing-machines; and it consists, essentially, in connecting the presser-bar with an operating arm or cam on the rock-shaft, whereby the presser-foot is elevated while the needle is out of the goods to enable the operator to manipulate said goods, as when embroidering, to cause a variation in the stitch, as I shall hereinafter fully describe and claim.

To enable others skilled in the art to make and use my invention, I will now describe its construction and indicate the manner in which the same is carried out.

In the said drawings, A represents the head of the sewing-machine, in which is suitably mounted the presser-bar B and needle-bar C. The rock-shaft D carries at one end an arm, E, or equivalent device, having a wrist-pin, *a*, which receives one end of a link, F, the lower end of the link being in turn attached to a collar, *b*, on the needle-bar, whereby said needle-bar is reciprocated.

In ordinary sewing it seldom becomes necessary to raise the presser-foot from the goods, except when it is desired to remove said goods; but there are times when it is desired to use the machine for "fancy sewing"—such as embroidering—in which event it would be practically impossible to manipulate the goods to secure the variation of stitch needed to obtain the best results, as the presser-foot and feed-teeth would prevent the goods being quickly shifted. To overcome this difficulty and to add to the ordinary family-machine a connection which intermittently raises the presser-foot above the goods during the period the needle is out of said goods, whereby the latter is readily manipulated to secure any length of stitch, is the essential object of my present invention. To accomplish this important result I place loosely around the presser-bar the sleeve *d*, which may be rigidly secured to said bar, when desired, by means of a set-screw, *e*, extending to the outside of the head, as shown.

The sleeve *d* is provided with a projecting pin, *f*, and the arm E is likewise provided with a pin, *g*, the said pins receiving the lower and upper ends of the link G, whereby when screwed tight upon the presser-bar the latter is connected with and partakes of the movements of the arm E. The links F and G, which connect the arm E with the needle and presser bars, are of peculiar construction, and are arranged so that the wear between the contacting parts may be readily taken up. To this end the hubs *l* of the link F are split at their inner surfaces, as shown in Fig. 3, and the side portions, *l'*, of said link are separated from each other, and are engaged by the screws *l''*, which are tightened to take up the wear in the hubs. The link G, as well as the link F, is formed in a continuous piece, and is provided with an elongated slot or opening, H, within which plays the pin *g*, and a contracted opening, H', thus permitting the side portions of the link to be separated from each other, and is provided with screws for taking up the wear of the contracting parts.

From this description it is manifest that when the needle and presser bars and their connections are in the position shown in full lines in Fig. 1 the presser-bar has been elevated to its highest point and is being held by the ordinary lifting-cam, J, in which position the arm E is permitted to describe its several movements to operate the needle-bar without interfering with the presser-bar or its connections, as the pin *g* simply plays within the slot H, being at or near the top of said slot when at its highest point and at or near the lowest point in the slot when at the completion of its downward stroke, as shown in Fig. 1 by dotted lines *z z*.

Now it will be observed that if the lifting-cam J is released and the presser-bar permitted to drop, say, one-fourth of an inch, it car-

ries with it the link G and causes the pin to assume a position in the opening H similar to that shown by dotted lines in Fig. 1. When in the position just mentioned and the machine started, the upward movement of the arm E carries with it the pin *g*, which, just before the completion of the upward stroke, travels to the top of the slot H, after which the continued movement of the arm E causes the link G to lift the presser-bar and elevate the presser-foot a sufficient distance above the goods to enable the operator to readily manipulate said goods, the distance which the presser bar and foot is lifted being determined by the set-screw *e*. In other words, the set-screw is released and the collar *d* adjusted on the presser-bar to permit the pin to engage the upper end of the slot in the link, whereby the distance which the pin *g* travels after engaging the top of the link and the subsequent elevation of the presser-foot are determined. Thus I am enabled to elevate the presser-foot automatically while the needle is out of the goods, and may shift the goods to vary the length of stitch before the needle begins its return-stroke, the presser-foot being caused to automatically drop to securely hold the goods during the passage of the needle through the same.

When it is desired to use the machine for plain sewing, the set-screw *e* is released, while the collar *d*, by being loosely placed around the presser-bar, permits the said bar to reciprocate through it, the collar and its link-connection with the arm E in no way interfering with the movement of said presser-bar.

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

1. In a sewing-machine, a rock-shaft and an arm, E, on said shaft and in the head of the machine, in combination with the needle-bar connected with the arm, a slotted link-connection between the presser-bar and arm, said link being formed in a continuous piece, a collar loosely mounted on the presser-bar, and a set-screw adjustably securing said collar to determine the movement of the presser-bar or to disconnect said collar from the presser-bar, substantially as described.

2. In a sewing-machine, the rock-shaft and an operating-arm having projecting pins *a* and *g*, in combination with the needle and presser bars, a link, F, connecting the needle-bar with the operating-arm, a collar, *d*, loosely mounted on the presser-bar and having the pin *f*, a link, G, having an elongated slot, H, within which the pin *g* travels, and an adjusting-screw, *e*, substantially as herein described.

3. In a sewing-machine, the combination, with the rock-shaft having an arm, E, as described, of the presser-bar and a link, G, connecting the presser-bar with the arm on the shaft, said link having the elongated slot H, and the screws passing through the sides to compensate for wear, substantially as herein described.

4. In a sewing-machine, the combination, with the needle-bar and its actuating mechanism, of the link F, formed in a continuous piece, having the inner portions of its hubs split or slotted, its side portions separated from each other, and the screws engaging the sides to take up the wear in the hubs, substantially as herein described.

5. The combination, with the presser-bar, the rock-shaft, and the arm E on said shaft, of the link G, formed in a continuous piece and having an elongated opening or slot engaging a pin on said arm, substantially as described.

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