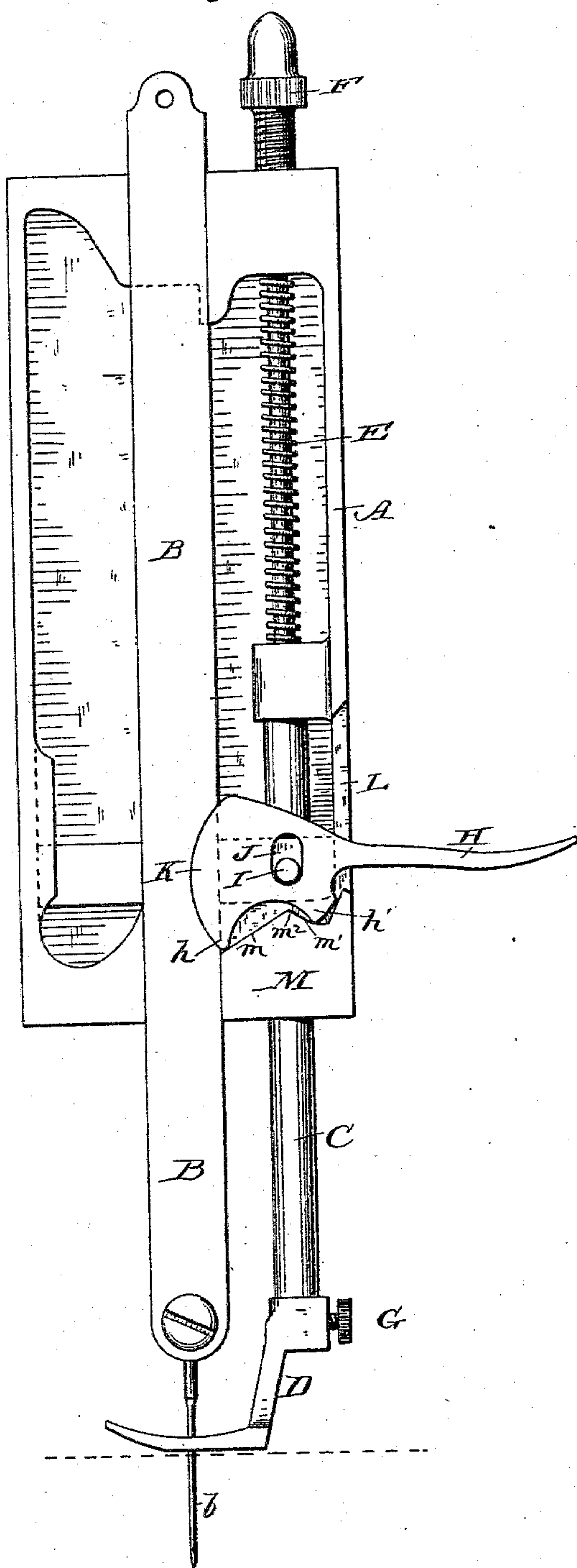


W. WENDELL.
SEWING MACHINE.

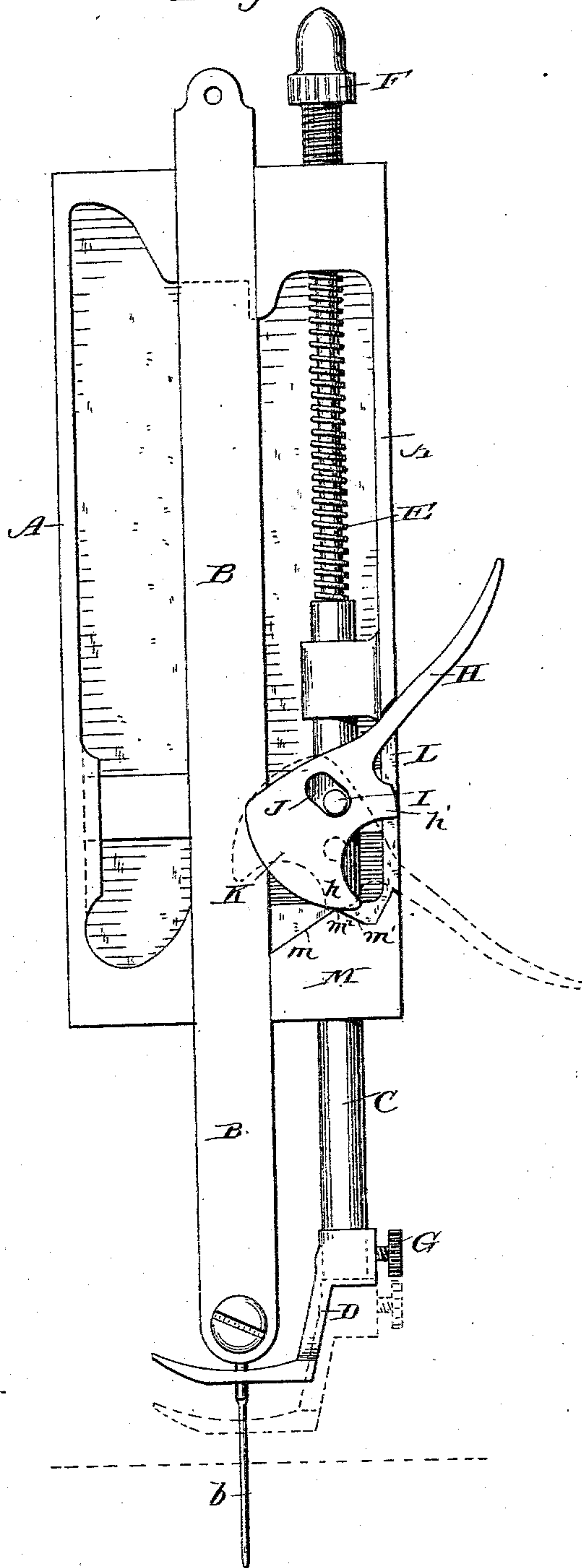
Patented Oct. 16, 1883.

Fig. 1.



Witnesses:
H. A. Low.
A. J. Houghton

Fig. 2



Inventor:
W. Wendell,
by Henry Colver, Atty.

UNITED STATES PATENT OFFICE.

WASHINGTON WENDELL, OF ORANGE, MASSACHUSETTS.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 288,662, dated October 16, 1883.

Application filed July 16, 1883. (No model.)

To all whom it may concern:

Be it known that I, WASHINGTON WENDELL, a citizen of the United States, residing at Orange, in the county of Franklin and State of Massachusetts, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The object of my invention is to provide the presser-bar of a sewing-machine with simple and efficient means by which said presser-bar and its attached foot may be raised when required; also means whereby the presser bar and foot may be raised to different heights by moving the handle of the lifting-lever in different directions, and to provide a lifting-lever of such construction that, although it is pivoted on the presser-bar, the latter may have a limited vertical movement without affecting the former.

15 In the accompanying drawings, Figure 1 is an inside view of the cap or face plate of a sewing-machine having my invention applied thereto, the presser-bar and presser-foot being represented in their lowest position. Fig. 2 is a view similar to Fig. 1, representing the presser-bar and presser-foot in their highest position in full lines and in a lower raised position in dotted lines, the positions of the lifting-lever being indicated by full and dotted lines to correspond to the different elevated positions of the presser-bar and presser-foot.

20 A indicates the cap or face plate of a sewing-machine; B, the needle-bar, carrying the usual eye-pointed needle, *b*, and C the presser-bar. A presser-foot, D, of any suitable construction, is secured to the lower end of the presser-bar by a set-screw, G, or in any other proper manner, the presser-foot being yieldingly held upon the work by a spiral spring, E, the stress of which is regulated by a thumb-nut, F, all as usual.

25 My improved lifting-lever H is connected with the presser-bar by a pin, I, secured to said presser-bar and entering an inclosed slot, J, in the said lever, said slot, when the lifting-lever is in the position indicated by Fig. 1, permitting the presser-bar and its attached pin I to move vertically to a limited extent without disturbing the lever, the latter being provided with a counterbalancing part, K, to

keep it at rest. As is well known, the feed, working in opposition to the presser-foot, causes the latter and the presser-bar to rise slightly at each stitch as the feed rises, prior to moving forward to advance the goods, and this upward movement of the presser-bar causes the lifters of ordinary construction, when pivoted to the presser-bars, to vibrate. This constant vibrating movement of the lifters, which is deemed to be objectionable, is obviated by the construction just above described. The side of the face-plate A is cut away to form a recess, L, through which the handle of the lifting-lever projects, the walls or ends of said recess serving as stops to limit the movements of the said handle. The face-plate is also provided with a block or fixed portion, M, which may be formed integral with said face-plate, as shown, or may be a separate piece secured to said face-plate by screws or otherwise. This block or fixed portion M is preferably formed with two inclined surfaces, *m* and *m'*, preferably of different dimensions, converging to a point, *m*², which may be slightly rounded. These inclined surfaces may be either straight, as shown, or they may be formed convex or curved. The lifting-lever is provided on opposite sides of its point of connection with the presser-bar, and at unequal distances therefrom, with lugs or projections *h* and *h'*, which are adapted to bear against the inclined surfaces *m* and *m'*, respectively. The projections *h* and *h'* serve as fulcrums for the lifting-lever in raising the presser-bar, the weight to be raised being sustained by the projection *h* or the projection *h'*, accordingly as the handle of the lifting-lever is elevated or depressed. Thus, if the handle of the lifting-lever be depressed, the weight of the presser-bar will be thrown on the lug *h'*, bearing on the inclined surface *m'*, and a continued depression of said handle will cause said lug to travel up said inclined surface until the handle strikes the lower wall of the recess L and the lug *h'* has reached the point *m*², when the presser-foot will be raised to the position shown by dotted lines in Fig. 2. In thus operating, the lifting-lever will act as a lever of the first order, the fulcrum being between the power and the weight. If, however, the handle of the lifting-lever be raised, the weight of the presser-bar will be thrown on the lug *h*,

and said lug will be caused to travel up the inclined surface m to the point m^2 , as indicated in full lines, Fig. 2, raising the presser-foot to its highest position, the lifting-lever being during this operation a lever of the second order, the weight being between the fulcrum and the power. Thus it will be seen that by providing the lifting-lever with two fulera, one on each side of its point of attachment to the presser-bar, and at unequal distances therefrom, and by providing suitable fixed bearing-surfaces on which said fulera can travel when the lifting-lever is elevated or depressed, the presser bar and foot may be raised to different heights by moving the handle of the lever in one direction or the other, thus obviating the necessity of too great a sweep of the handle in securing a variable double lift of the presser-foot.

If it is not deemed desirable to use the construction which admits of the double lift of the presser-bar, a lifting-lever having but one fulcrum and a fixed bearing-surface having but a single incline may be employed.

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

1. The combination, with the presser-bar of a sewing-machine, of a lifting-lever pivoted to said bar, and provided with a fulcrum on each side of its point of attachment to said bar, and a fixed block having inclined bearing-surfaces for the fulera of said lever, substantially as set forth.

2. The combination, with the presser-bar of a sewing-machine, of a lifting-lever pivoted to said bar, and provided with two fulera,

one on each side of its point of attachment to said bar, and at unequal distances therefrom, and a fixed block having inclined bearing-surfaces for said fulera, substantially as set forth.

3. The combination, with the presser-bar of a sewing-machine, of a lifting-lever pivoted to said bar, and provided with two fulera, one on each side of the point of attachment to said bar, and at unequal distances therefrom, and a fixed block having two inclined bearing-surfaces of different dimensions, substantially as set forth.

4. The combination, with the presser-bar of a sewing-machine, of a lifting-lever pivoted to said bar, and provided with two fulera, one on each side of its pivotal point, a fixed block having inclined bearing-surfaces for the said fulera, and stops or means for limiting the movement of said lever when the same is turned in either direction, substantially as set forth.

5. The combination, with a presser-bar having a lifting-pin secured thereto, of a lifting-lever having a slot in which said pin is arranged, said lever also having two fulera, one on each side of said slot, and a counterbalanced portion to hold it at rest during slight vertical movements of the said bar and pin, and a fixed block having inclined bearing-surfaces for said fulera, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WASHINGTON WENDELL.

Witnesses:

A. M. LYMAN,
T. W. BRIDGE.