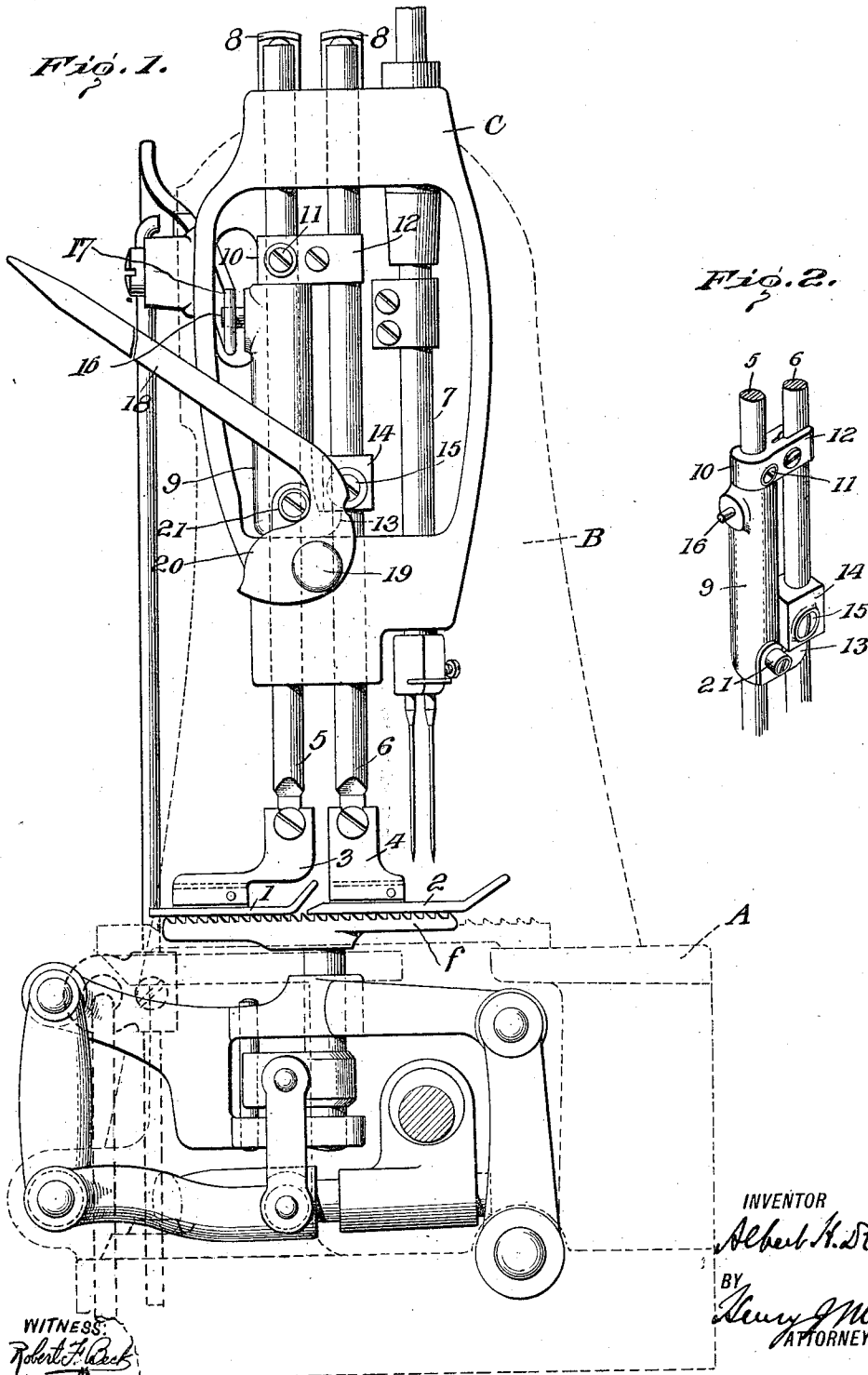


A. H. DE VOE.
 PRESSER FOOT LIFTING MECHANISM FOR SEWING MACHINES.
 APPLICATION FILED NOV. 22, 1916.

1,279,088.

Patented Sept. 17, 1918.



UNITED STATES PATENT OFFICE.

ALBERT H. DE VOE, OF WESTFIELD, NEW JERSEY, ASSIGNOR TO THE SINGER MANUFACTURING COMPANY, A CORPORATION OF NEW JERSEY.

PRESSER-FOOT-LIFTING MECHANISM FOR SEWING-MACHINES.

1,279,088.

Specification of Letters Patent.

Patented Sept. 17, 1918.

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To all whom it may concern:

Be it known that I, ALBERT H. DE VOE, a citizen of the United States, residing at Westfield, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Presser-Foot-Lifting Mechanisms for Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to presser-foot mechanism for sewing machines, more particularly of the type in which the presser-foot is carried by a presser-bar journaled in the machine head, and has for an object to provide a presser-foot lifting mechanism which will not add to the inertia of the presser-foot and render it sluggish in action at high speed, as it rises and falls with the feed-dog, and yet which may be controlled by either a hand or a treadle-operated lever.

Another object of the invention is to provide a machine having a plurality of independently movable spring-pressed presser-bars with a presser-foot lifting element and independently adjustable connections between said element and the presser-bars so that either of said bars may be lifted higher than the other, or so that they may be lifted to the same height.

Further objects of the invention will appear from the following description and appended claims.

In the accompanying drawings, Figure 1 is a side elevation of the presser-foot lifting mechanism showing the machine frame in end elevation. Fig. 2 is a fragmentary perspective view.

As represented in the drawings, the improvements are shown applied to a sewing machine frame comprising the bed A and standard B supporting the head C. The feed-dog, shown at *f*, is supported and actuated by mechanism fully described in my United States Patent No. 1,250,437, granted December 18, 1917, on an application filed March 5, 1915, of which this application is a division. Cooperating with the feed-dog *f* are two presser-feet 1 and 2 pivotally connected to shank members 3 and 4, respectively, which in turn are secured to the lower ends of the presser-bars 5, 6, journaled to slide in suitable bearing apertures formed in the head C in rear of the needle-bar 7.

Yielding means, such as the usual leaf-springs 8, 8, are provided for urging the presser-bars toward the feed-dog *f*.

The presser-bar 5 is embraced by a sleeve 9 disposed immediately below the collar 10 adjustably secured in position on the presser-bar 5 by a set-screw 11 and having a lateral extension 12 which is forked to embrace the presser-bar 6 and thus prevent turning movements of the bar 5. The sleeve 9 is fitted to slide upon the presser-bar 5 and at its lower end is formed with a short extension 13 which lies immediately below a block 14 adjustably secured to the presser-bar 6 by the set-screw 15. When the stops 10 and 14 are adjusted to the positions illustrated it will be seen that the sleeve 9 in its upward movement will lift the presser-bars simultaneously. If, however, the position of either of the stops is shifted upwardly it is obvious that the sleeve 9 will engage and lift one of the stops and its corresponding bar before said sleeve engages the other stop. As a result, one of the presser-bars will be lifted higher than the other.

Projecting laterally from the upper end-portion of the sleeve 9 is a pin 16 adapted to freely enter an aperture at the forward end of the usual treadle-operated lever 17. In practice the lever 17 is connected by a chain or rod to a treadle to enable the operator to insert or remove work from the machine without the necessity of employing the hands to manipulate the hand-lever 18 which as usual is pivoted to the head C at 19 and is formed with the cam surface 20 adapted to engage and lift the roller-stud 21 which is mounted at the lower end of the sleeve 9. The above described mechanism, exclusive of the stops 10 and 14, adds nothing to the inertia of the presser-bar and yet said bars may be lifted at will by means of the hand or the treadle-operated lever.

Having thus set forth the nature of the invention, what I claim herein is:—

1. Presser-foot lifting mechanism for sewing machines comprising, in combination, a frame, a plurality of presser-bars mounted in said frame and each carrying a presser-foot, a plurality of stops each carried by its respective presser-bar, a sleeve slidingly mounted upon one of said bars and having portions underlying said stops, and means for lifting said sleeve.

2. Presser-foot lifting mechanism for sewing machines comprising, in combination, a frame, a plurality of presser-bars mounted in said frame and each carrying a presser-foot, a plurality of stops each adjustably mounted upon its respective presser-bar, a sleeve slidably mounted upon one of said bars and having portions underlying said stops, and means for lifting said sleeve.
3. Presser-foot lifting mechanism for sewing machines comprising, in combination, a frame, a plurality of presser-bars mounted in said frame and each carrying a presser-foot, a lifting element, and separate, independently adjustable lifting connections between the respective presser-bars and the lifting element, whereby either of said presser-feet may be lifted a greater distance than the other through the action of said lifting element.
4. Presser-foot lifting mechanism for sewing machines comprising, in combination, a frame, a plurality of presser-bars mounted in said frame and each carrying a presser-foot, a sleeve slidably mounted upon one of said presser-bars, independent lifting connections between said sleeve and said bars, and independent hand and treadle-controlled lifting devices connected to said sleeve.
5. Presser-foot lifting mechanism for sewing machines comprising, in combination, a frame, a plurality of presser-bars mounted in said frame and each carrying a presser-foot, a lifting element common to said bars, and independent hand and treadle-controlled lifting devices movable relatively to said element, and adapted to act through said element to lift the presser-bars.
5. Presser-foot lifting mechanism for sewing machines comprising, in combination, a frame, a plurality of presser-bars mounted in said frame and each carrying a presser-foot, a sleeve slidably mounted upon one of said presser-bars, independent lifting connections between said sleeve and said bars, and independent hand and treadle-controlled lifting devices connected to said sleeve.
- In testimony whereof, I have signed my name to this specification.
- ALBERT H. DE VOE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."