G. M. EAMES & J. S. FINCH.

CLOTH PRESSER LIFTING MECHANISM FOR SEWING MACHINES.

APPLICATION FILED APR. 29, 1909.

945,153. Patented Jan. 4, 1910.

2 SHEETS—SHEET 1.

Fig. 2.

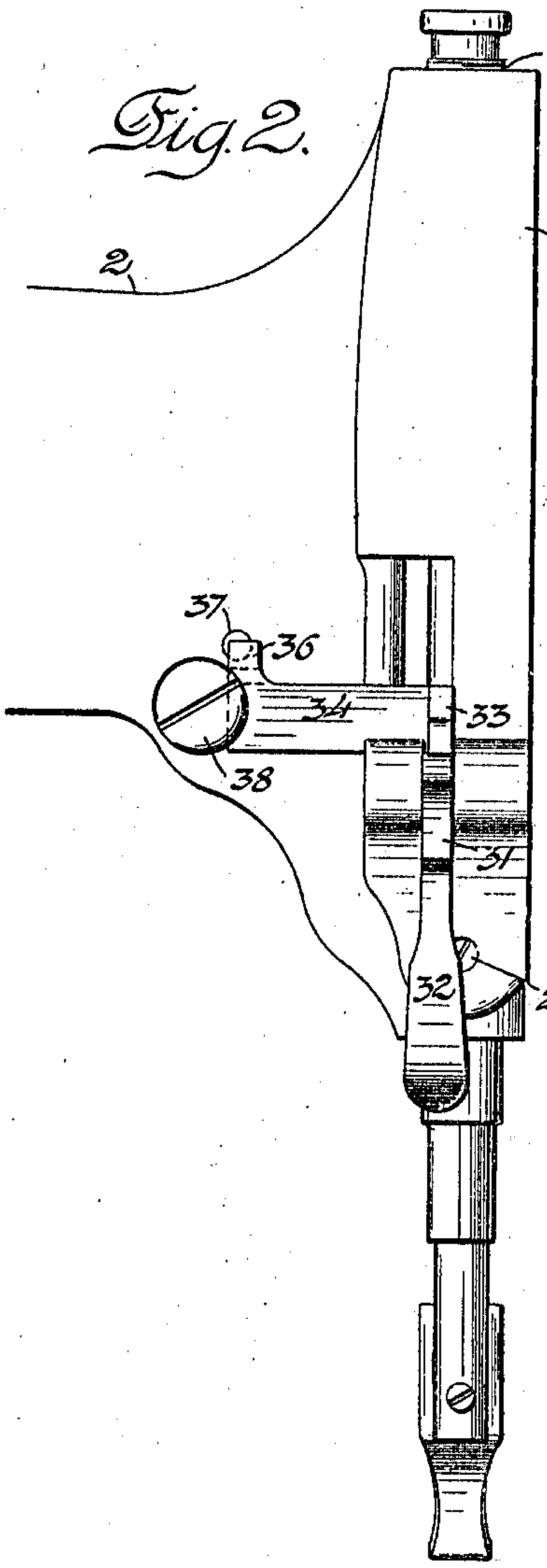

Fig. 1.

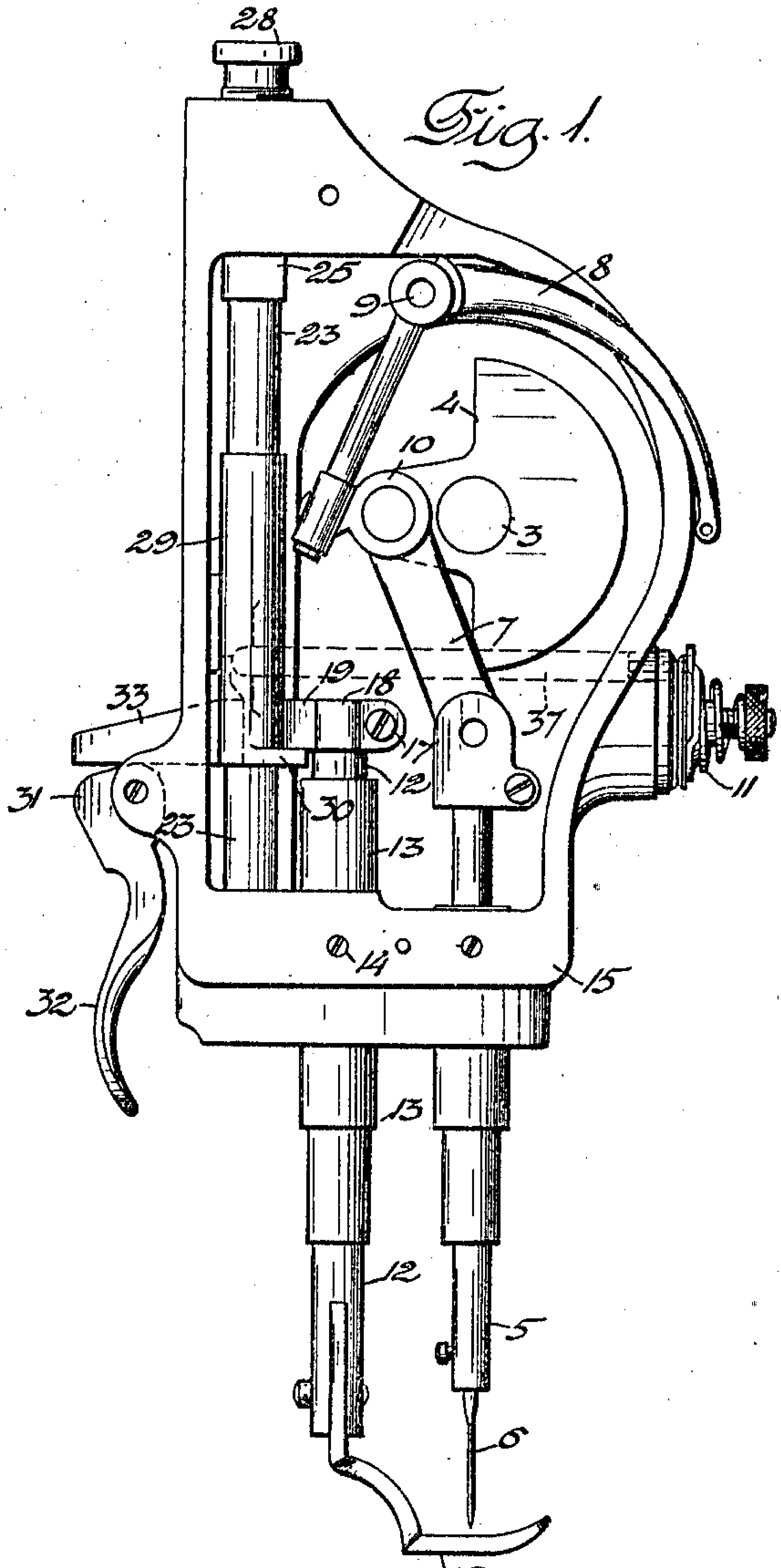

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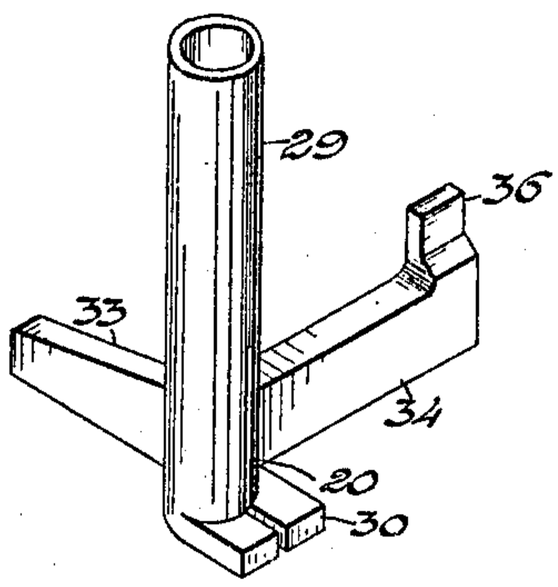
Fig. 3.



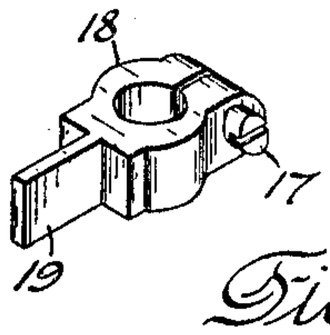
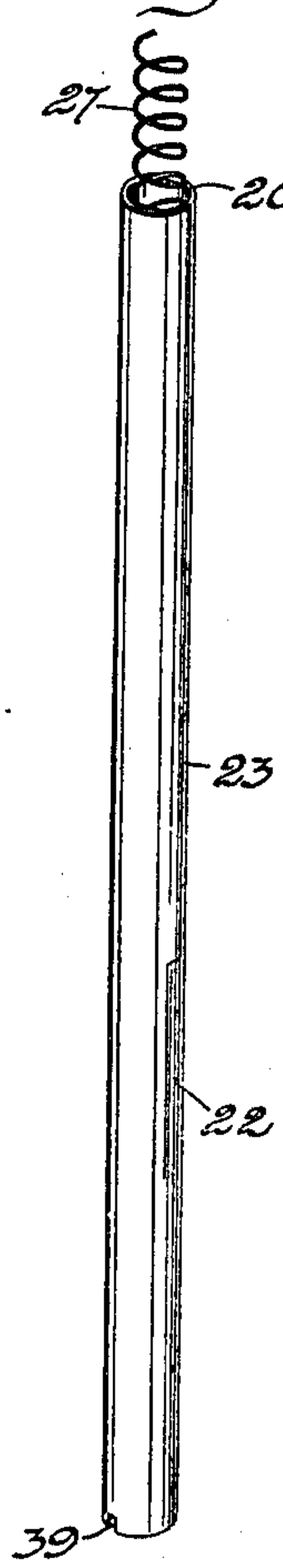


Fig. 5.

Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE M. EAMES AND JOHN S. FINCH, OF BRIDGEPORT, CONNECTICUT, ASSIGNORS TO THE SINGER MANUFACTURING COMPANY, A CORPORATION OF NEW JERSEY.

CLOTH-PRESSER-LIFTING MECHANISM FOR SEWING-MACHINES.

945,153. Specification of Letters Patent. Patented Jan. 4, 1910.

Application filed April 29, 1909. Serial No. 492,977.

To all whom it may concern:

Be it known that we, GEORGE M. EAMES and JOHN S. FINCH, citizens of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Cloth-Presser-Lifting Mechanism for Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to cloth-presser lifting mechanism for sewing machines, and has for its object to provide additional space in the head of the overhanging arm to better accommodate the action of the commonly termed "link take-up."

Further objects of the invention are to provide adjusting means for controlling the movements of the presser-bar and to provide a stationary member upon which the presser-lifter bracket may be mounted to move vertically.

Referring to the accompanying drawings, in the several figures of which like parts are similarly designated, Figure 1 is a front end elevation of the head of the overhanging arm of a sewing machine equipped with the improved mechanism. Fig. 2 is a rear side elevation of Fig. 1, together with a portion of the overhanging arm. Fig. 3 is a view in perspective of the presser-lifter bracket. Fig. 4 is a view in perspective of the stationary guide-rod upon which the presser-lifter bracket is mounted to move vertically. Fig. 5 is a view in perspective of the pinch-collar secured to the upper end of the presser-bar and upon which the presser-bar spring acts to resiliently hold the cloth-presser down upon the material.

1 represents the head of the overhanging arm of the sewing machine, 2 the arm, 3 the main or needle-bar driving shaft, 4 a flange carried by said shaft, 5 the needle-bar carrying an eye-pointed needle 6, and 7 the needle-bar actuating link which is secured at one end to the needle-bar, its opposite end being operatively connected with the shaft flange 4. The needle-thread take-up 8 is pivoted at 9 to the head 1 and at its inner end is operatively connected, through the link 10, with the flange 4.

11 represents the commonly-employed needle-thread tension.

The presser-bar 12 is mounted in a bearing 13, secured by screw 14 in the lower portion 15 of the head 1, and is provided at its lower end with the usual presser-foot 16. To the upper end of the presser-bar is secured, by screw 17, a pinch-collar 18 provided with a lug 19 which passes through a slot 20, formed in the presser-lifter bracket, and also through a second slot 22 formed in the stationary guide-rod 23. Said guide-rod at its lower end is mounted in a suitable seat, formed in the lower portion 15 of the head 1, and is held in adjusted position by a screw 24, the upper end of said rod extending into the adjustably mounted cupped bushing 25 which is of common construction.

The rod 23 is provided with a tubular portion 26 in which is mounted the presser-bar spring 27, said tubular portion extending downwardly to the lower end of the slot 22. The lower end of the spring 27 rests upon the lug 19 of the collar 18 and its upper end abuts against the inner wall of the head 28 of the bushing 25, thereby effecting an adjustment of said spring which, through the connections previously pointed out, gives to the presser-foot 16 the required pressure.

The presser-lifter bracket is constructed with a main tubular portion 29 and is mounted to move vertically upon the guide-rod 23, the lower end of said tubular portion being provided with a step 30 which contacts with the underside of the collar 18 to lift the presser-bar 12 whenever the cam portion 31 of the presser-lifter 32 is caused to act upon the lug 33 formed integral with said tubular portion.

Extending out from the tubular portion 29 is an arm 34 provided with a lug 36 which, when moved upwardly, acts upon a plunger 37 to release the tension 11 in a manner common to earlier devices, the head of the screw 38 assisting to guide said arm in its vertical movements.

As previously stated, the lug 19 passes through both of the slots 20 and 22, and it will be readily understood that if the rod 23 is adjusted axially the opposite walls of said slots will act to take up any lost motion that may exist between said slots and said lug, the rod 23 being provided with a screw slot 39 for the purpose of such adjustment.

Claims:—

1. In a presser-lifting mechanism for sewing machines, a cloth-presser; a presser-bar

mounted to move vertically in a suitable bearing located in the lower portion of the head of the overhanging arm, said presser-bar being located below the median horizontal plane of said arm; an adjustably secured guide-rod provided with a spring-pocket and a guide-slot; a presser-lifter bracket provided with a guide-slot mounted to move vertically on said rod; a spring mounted in said pocket and held depressed therein; and a lug carried by said presser-bar and extending through said guide-slots, the inner end of said lug comprising a seat for said spring, substantially as described.

2. In a presser-lifting mechanism for sewing machines, a cloth-presser; a presser-bar mounted to move vertically in a suitable bearing located in the lower portion of the head of the overhanging arm, said presser-bar being located below the median horizontal plane of said arm; an adjustably secured guide-rod provided with a spring-pocket and a guide-slot; a presser-lifter bracket provided with a guide-slot mounted to move vertically on said rod; a tension releasing arm; a spring mounted in said pocket and held depressed therein; and a lug carried by said presser-bar and extending through said guide-slots, the inner end of said lug comprising a seat for said spring, substantially as described.

3. In a presser-lifting mechanism for sewing machines, a cloth-presser; a presser-bar mounted to move vertically in a suitable bearing located in the overhanging arm; an adjustably secured guide-rod provided with a spring-pocket and a guide-slot; a presser-lifter bracket provided with a guide-slot mounted to move vertically on said rod; a spring mounted in said pocket and held depressed therein; and a lug carried by said presser-bar and extending through said guide-slots, the inner end of said lug comprising a seat for said spring, substantially as described.

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

GEORGE M. EAMES.
JOHN S. FINCH.

Witnesses:
STANLEY N. SMITH,
ABBIE M. DONIHEE.