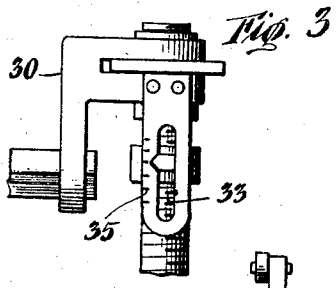
May 29, 1951 S. ADLER 2,554,970

SEWING MACHINE PRESSURE BAR

Filed Aug. 30, 1946

Fig. 3



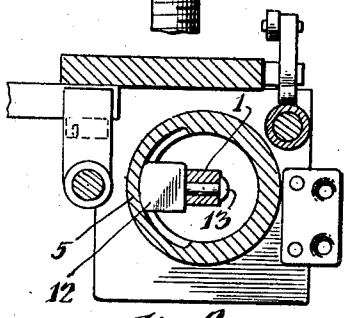
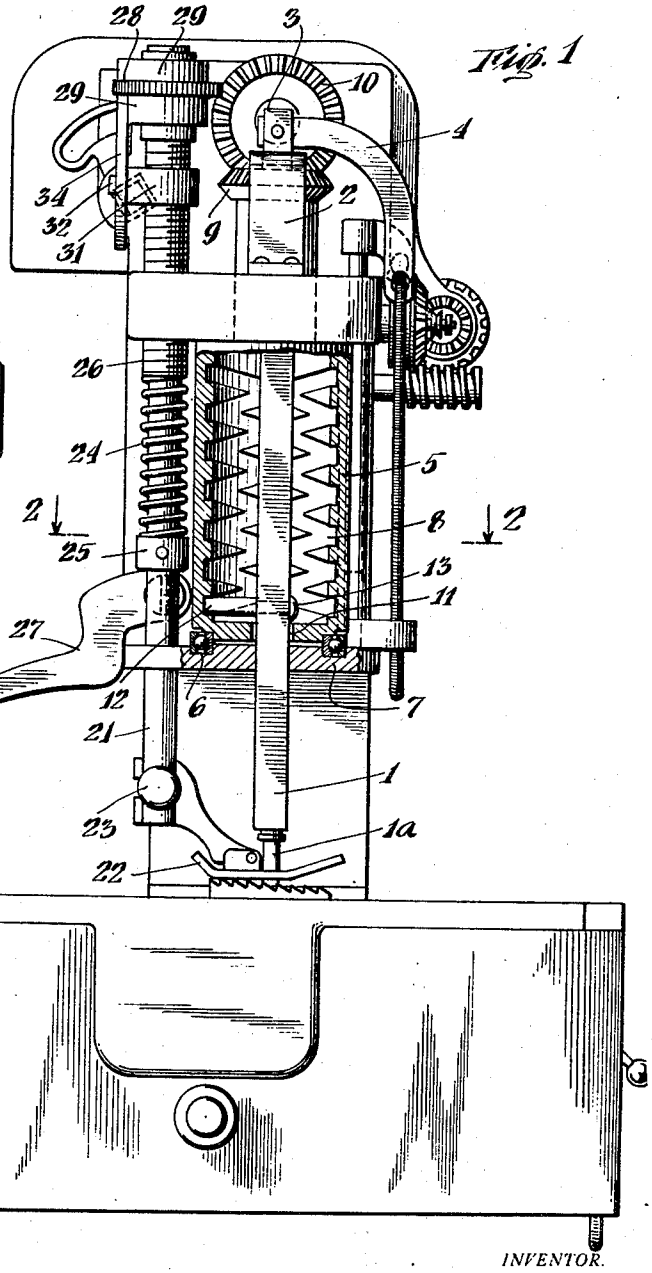


Fig. 2

Fig. 1



INVENTOR.

Solomon Adler

BY Duell and Kane

ATTORNEYS

Patented May 29, 1951 2,554,970

UNITED STATES PATENT OFFICE

2,554,970

SEWING MACHINE PRESSURE BAR

Solomon Adler, Kew Gardens, N. Y.

Application August 30, 1946, Serial No. 693,918

3 Claims. (Cl. 112—235)

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This invention relates to a pressure bar for sewing machines.

It is an object of this invention to provide a pressure bar under an adjustable pressure from a spring means which can be easily varied and the variations of which can be readily observed.

My invention will be described in the following specification with reference to the drawings, of which

Fig. 1 is an elevational view of the needle bar and adjacent pressure foot, partly in section;

Fig. 2 is a horizontal section through Fig. 1 on lines 2—2;

Fig. 3 is a fragmentary elevational view of the pressure foot adjustment and pertaining indicator, seen at right angles to Fig. 1.

Referring to the drawings, it will be seen that the needle bar 1 is of conventional form and at its lower end carries the needle holder 1*a*. The upper end of the bar extends into a flattened shank 3 which is engaged by a bracket 2 secured to the frame 7 in order to prevent the needle bar from rotating. Pivotally connected to the shank 3 is a lever 4 of the thread take-up. All this is well-known in the art and forms no part of this invention.

According to my invention, a drum 5 is rotatably seated in bearings 6 of the frame 7. The drum completely encompasses the needle bar and is provided at its interior face with an endless left and right hand thread, generally indicated at 8. A bevel gear 9 is carried at the upper end of the drum for engagement by a mating gear 10, which latter gear is disposed on the drive shaft (not shown) by which motion is transmitted to the device. For the vertical movement of the needle bar, the drum is apertured, as shown at 11.

Secured to the needle bar is a follower member 12 which is adapted to ride in the groove of the left and right hand thread of the drum. The follower is rotatably seated on a spindle 13 which extends perpendicular to the longitudinal axis of the bar. Its contact face should be large enough to bridge the point of intersection of two grooves. This rotatable seating of the follower and the comparatively wide contact face will permit a smooth sliding fit in the groove and will prevent wedging at an intersection.

It will be manifest from this description that, when the drum is rotated by means of the drive shaft and intermediate bevel gears, a vertical reciprocating motion will be imparted to the needle bar through the follower member. Adjacent to the needle bar is the pressure foot 22 which, as such, is of conventional design. It comprises a

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pressure bar 21 to which the foot is detachably secured, as indicated at 23, and a spring 24 for adjustably exerting the necessary thrust. To this end, the spring is placed between an abutment collar 25 of the pressure bar and a threaded sleeve 26 which slides on the bar. The lifting lever 27 permits raising of the foot against the action of the spring.

For the purpose of the pressure adjustment, internally threaded thumb screw 28 is provided between arms 29 of a bracket 30. A collar 31, secured to the threaded sleeve 26 by a set screw, prevents rotation of the sleeve by means of a projection 32 which is constrained in a slot 33 of a lower extension of the bracket arms 29.

In order to permit a selective adjustment of the pressure in accordance with a graduated scale, the projection 32 is formed as a pointed indicator and a corresponding calibration 35 is provided on the extension 34. A cut-out in the cover plates of the machine will permit reading of the scale from the outside.

The device operates so that by rotating the adjustment screw, the threaded sleeve will be moved upwards or downwards, the rotary movement of the nut being converted into a reciprocating movement of the sleeve. This will also lower or raise the collar on which the pointer is disposed and this will enable the operator of the machine to adjust the pressure to a pre-determined amount.

It will be appreciated, that this kind of device permits to prescribe definite amounts of pressure for specific materials which will expedite and facilitate the work, particularly, of unskilled operators.

Obviously, many modifications are possible without departing from the spirit of the invention. I, therefore, do not wish to be limited otherwise than by the language of the appended claims.

What I claim is:

1. A pressure bar, a spring bearing against said bar, a movable sleeve abutment for said spring, an adjustment nut screwed onto said sleeve, means rigidly secured to said sleeve for restricting the latter to a vertical movement upon rotation of said adjustment nut, and a set of graduations, the said sleeve restricting means co-operating with the said graduations to indicate the relative position of the sleeve and thus the amount of pressure exerted by said spring upon said pressure bar.

2. A pressure bar, a spring bearing against said bar, an externally threaded vertically movable

sleeve abutment for said spring, an adjustment nut screwed onto said sleeve, a collar rigidly secured to said sleeve, a slotted stationary member, a projection provided on said collar and extending into said slot for preventing rotation of the sleeve, and a stationary set of graduations for indicating the relative position of said projection and thus the amount of pressure exerted by said spring upon said pressure bar.

3. In a sewing machine, a pressure bar, spring means bearing against said bar under spring compression, a spring compression rod threaded for adjustability having a surface abutting and bearing against said spring means, a plate threaded to receive said screw-threaded rod and movable with relation thereto to cause adjustment of said spring compression, a collar movably mounted on said rod movable with relation to said spring abutting surface, a projection extending from said collar, a graduated scale having a calibrated marking in juxtaposition with said projection to indicate the position of said threaded rod with relation to said threaded plate, whereby the amount of pressure exerted by the spring means on the pressure bar can be observed.

SOLOMON ADLER.

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