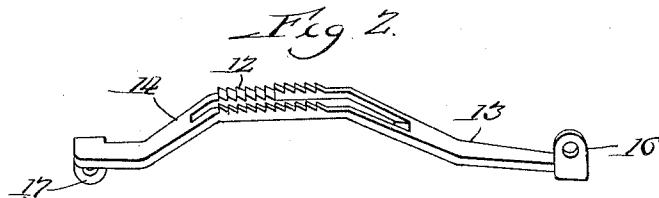
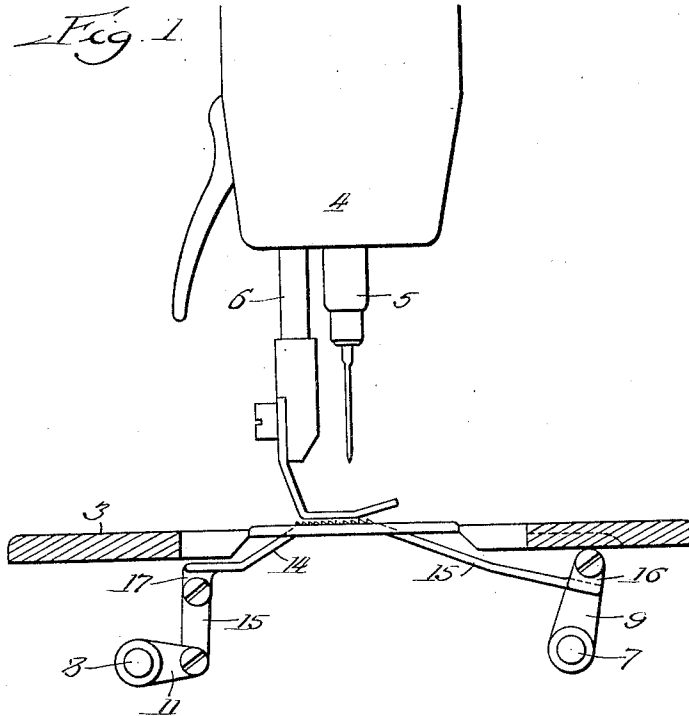


A. D. SMITH.
FEED FOR SEWING MACHINES.
APPLICATION FILED MAR. 25, 1918.

1,329,636.

Patented Feb. 3, 1920.



Inventor:
Albert D. Smith

By *Ira J. Wilson*

Atty.

UNITED STATES PATENT OFFICE.

ALBERT D. SMITH, OF DETROIT, MICHIGAN.

FEED FOR SEWING-MACHINES.

1,329,636.

Specification of Letters Patent.

Patented Feb. 3, 1920.

Original application filed December 27, 1915, Serial No. 63,789. Divided and this application filed March 25, 1918. Serial No. 224,474.

To all whom it may concern:

Be it known that I, ALBERT D. SMITH, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Feed for Sewing-Machines, of which the following is a specification.

This invention is a division of my application for improvements in sewing machines, filed Dec. 27, 1915, Serial No. 63,789, and relates in general to the feed mechanism.

The object of the present invention is to provide an improved feed-bar and mounting therefor, with the view to enabling production of feed-bars at a less cost than has been heretofore possible, and at the same time, to so construct and mount the feed-bar that it will serve practically and satisfactorily under all conditions of usage, the purpose for which it is designed.

With this end in view, my improved feed-bar is so designed that it may be formed preferably from sheet metal by a stamping operation. The feed-bar is supported at each end through the agency of a single lug formed integral with the bar and disposed on opposite sides of the longitudinal axis thereof in a manner to insure equal distribution of the feeding pressure at the point of feeding and to support the bar in a practical and substantial manner, so that it will be free from lateral wearing strain on its bearings.

Referring to the drawing,—

Figure 1 is a vertical cross-sectional view through the work plate of a sewing machine with the head in elevation, showing the application of my improvements; and

Fig. 2 is a perspective view of my improved feed-bar detached from the machine.

The present improvement is exemplified in connection with feed mechanism of the well known four-motion type; but since it pertains simply to the construction of the feed-bar and its mounting, I have illustrated only such parts of a sewing machine as are necessary for a clear understanding of the invention. These parts consist of a work plate 3 provided with suitable feed-bar openings, a machine head 4, needle-bar 5, presser-bar 6 and oscillating shafts 7 and 8 below the work plate at the front and back, respectively, of the machine. These shafts 7 and 8 are adapted to be oscillated by mechanism not shown, for imparting the desired feed motion to the feed-bar. The shaft 7 is equipped with an upwardly directed fixed rocker arm 9 adapted to be oscillated forwardly and backwardly, and the shaft 8 with a fixed arm 11 adapted to be oscillated upwardly and downwardly. By means of these arms 9 and 11, oscillated in proper timed relation, a feed-bar interposed between and carried by the arms is operated in a so called four-motion feed movement, although this invention is not limited to any particular feed movement or mechanism for operating the feed bar.

My improvements are exemplified in the feed-bar illustrated most clearly in Fig. 2, from which it will be evident that the feed-bar is formed of a single piece, which may be a stamping pressed from sheet metal. The feed-bar as herein shown, consists of a tooth serrated portion 12 for engaging the material and oppositely directed and downwardly inclined arms 13 and 14 adapted to be respectively connected at their ends to the oscillating arms 9 and 11. In connecting the feed-bar arm 14 to the oscillating arm 11, an intermediate link 15 is employed. Each end of the feed-bar is formed with an integral attachment portion bent angular to the body portion of the bar and provided with an aperture through which passes a pivot bolt for pivotally securing the feed-bar end to its supporting member. These attachment portions are in the form of lugs 16 and 17 shaped from the stock from which the feed-bar is formed and disposed on opposite sides of the longitudinal axis of the feed-bar, as clearly shown in Fig. 2. It will be noted that the lug 16 is directed upwardly, while the lug 17 is directed downwardly. This permits of compact arrangement of the oscillating shafts 7 and 8 and the feed-bar with respect to the work plate while still obtaining the desired feed movements and substantial support for the feed-bar. By arranging the supporting lugs 16 and 17 in the manner shown, the feeding pressure will be evenly distributed to the serrated feeding surface of the bar so that the feed-bar will not be subjected to uneven and lateral strains, such as might cause imperfect feeding and uneven wear on the pivot bearings supporting the feed-bar.

It will be manifest that this feed-bar by

reason of its simple construction including but a single supporting lug at each end, may be produced at a comparatively low cost, and that by reason of the practical arrangement of the supporting lugs with respect to the roughened feed surface of the bar, the latter is so supported as to operate properly under all conditions and throughout a long period of usage.

10 I claim:

1. In a sewing machine, a feed bar of the character described, pressed from sheet metal to provide a single supporting lug at each end of the bar turned in angular relation thereto, each on a diagonally opposite side of the bar.

2. In a feed for a sewing machine, a for-

wardly and backwardly moving member at the front of the machine, an upwardly and downwardly moving member at the back of the machine, and a feed-bar interposed between and mounted upon said members and constructed to provide a medially disposed roughened feed surface for engaging material, a single upwardly turned lug at its front end pivotally connected to the forwardly and backwardly moving member and a single downwardly turned lug at its rear end pivotally connected to the upwardly and downwardly moving member and at the opposite side of the longitudinal axis of the feed-bar from the first lug.

ALBERT D. SMITH.