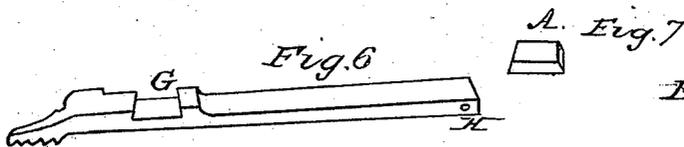
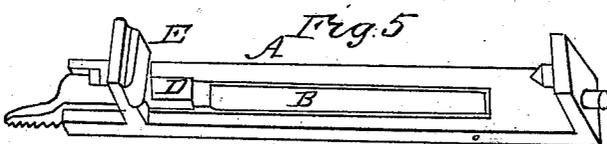
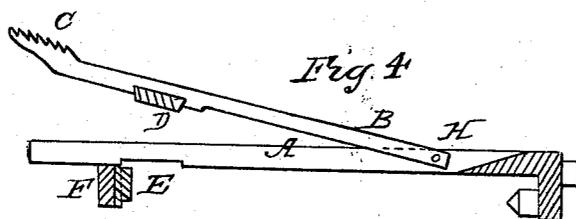
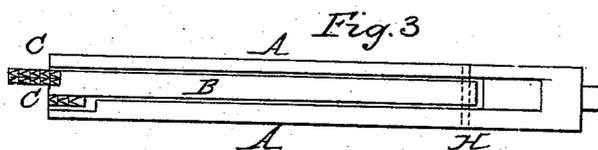
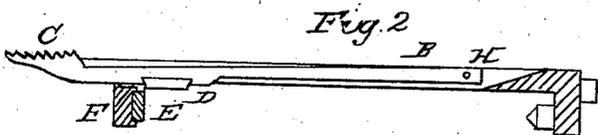
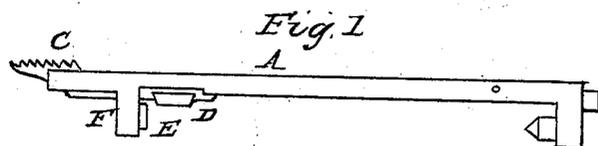


S. LITTLEFIELD.  
Feed Bar for Sewing Machines.

No. 66,505.

Patented July 9, 1867.



Witnesses  
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# United States Patent Office.

SANFORD LITTLEFIELD, OF GRAFTON, NEW YORK, ASSIGNOR TO CHARLES S. SMITH AND PELATIAH J. MARSH, OF TROY, NEW YORK.

*Letters Patent No. 66,505, dated July 9, 1867.*

## IMPROVEMENT IN FEED-BARS FOR SEWING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, SANFORD LITTLEFIELD, of the town of Grafton, in the county of Rensselaer, and State of New York, have invented certain new and useful improvements in sewing machines, and known as improvements in "Feed-Bar of Sewing Machines;" and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, which form a part of this specification.

Like letters represent and refer to like or corresponding parts of the said invention and improvements.

Figure 1 is a front view.

Figure 2 is a sectional view on a vertical line through the centre of the feed-bar.

Figure 3 is a top or face view.

Figure 4 is a sectional view on a vertical line through the centre of the feed-bar, and showing such feed-bar in an elevated position.

Figure 5 is a perspective view, showing the under side of the frame which contains the feed-bar, together with my improvements therein thereto attached, in the manner and for the purposes substantially as herein described and set forth.

Figure 6 represents the feed-bar of a sewing machine, and showing the way or manner of attaching or combining my improvement therewith, substantially as hereinafter described and set forth.

Figures 7 and 8 show the adjustable parts or pieces attached to and combined with the feed-bar and the frame holding the same, and each more fully described and set forth hereinafter.

Figure 9 represents the frame, constructed so as to contain the feed-bar, substantially as herein described and set forth.

The nature of my said invention and improvements consists in constructing the feed-bar of a sewing machine with a recess or slot, of a dove-tailed form, at or near the front end of such bar, into which dove-tailed recess is inserted or placed a movable or adjustable piece of vulcanized rubber or other suitable material corresponding in size, form, or shape to and with said recess or slot, so as to prevent undue wear upon the feed-bar by that part of the machine, which, during the ordinary operation of the machine, raises up such feed-bar for the purpose of taking a better or more firm hold upon the cloth, being worked in the machine, substantially as herein described and set forth.

It also consists in so constructing the downward projection of the front end of the frame, which contains the feed-bar aforesaid, with a dove-tailed recess or slot across the same upon the inner side, and inserting therein a movable and adjustable part or piece of vulcanized rubber or other suitable material of corresponding size, form, or shape, so that by the action of that part of the machine which moves forward, the said feed-bar frame and feed-bar therein, and the cloth being sewed or worked, there shall be no undue wear of machinery, in the manner substantially as herein described and set forth.

The aforesaid parts or pieces of vulcanized rubber have a dove-tail form across the same when in a horizontal position, and also a dove-tail form when in a vertical position, so that each will thus contain two dove-tails forms, in the manner shown in the accompanying drawings, and substantially for the purposes hereinafter described and set forth.

Each is made adjustable and removable, so as to be replaced when for any cause it may be desirable so to do. I much prefer to make them each of vulcanized rubber, as a machine will operate with much less noise and with much less friction, and, consequently, with more ease and much less wear of machinery. And the said feed-bar and said frame which holds and contains the same will move or operate in much better, more reliable, and certain manner during a long and continued use and operation of the sewing machine, and the same can be kept in good order or repair for a much greater length of time, and at much less expense in time and in money, than the ordinary machines, where my said invention and improvements are not used. And the said pieces are so arranged with their respective dove-tailed parts aforesaid, and in their respective places, as to be continually pressed therein and within their corresponding recesses or slots, by the action and continuous operation of the machinery, so that such parts or pieces cannot come out from such recesses or slots while the machine is in operation, and they can only be removed therefrom by an effort of the mechanic to repair or to replace the same, whenever it may become necessary so to do.

Having thus described the nature of my said invention and improvements, and to enable others skilled in the art to make and put the same into public and successful use and operation, I will now here proceed to describe the construction and operation of the said improvements, which are as follows, to wit:

A is a feed-bar frame of a sewing machine, and so constructed and arranged in a sewing machine as to be moved backward and forward in a horizontal plane, and it may be made of steel or other suitable material, and of any size required, and this frame operates also the feed-bar B backwards and forwards, for the purpose of feeding the cloth to and for the proper and desired stitch. The said feed-bar B is made of cast steel or other suitable material, and to correspond to a slot in the said feed-bar frame A, which may be seen at fig. 9 of the drawings aforesaid. The back end of said feed-bar is pivoted or hinged to the said frame A, substantially as seen at H, figs. 2, 3, and 4. At G, fig. 6, I construct in and upon the feed-bar B a recess or slot, which extends entirely across the said bar in a horizontal direction, and which is in a dove-tail form as it passes across said bar, which is for the purpose of receiving and preventing the corresponding dove-tail part or piece D from coming out while the machine is in operation, and also to keep said piece D properly adjusted and in its required place during the action of the wheel or cylinder of the machine upon the said piece D. The said part or piece D has also another dove-tail, which is across the thickness thereof, and upon each side of the width of the same, and it is for the purpose of holding it into and with the said feed-bar B, substantially as shown at D, figs. 1, 2, 4, and 5, and when pressed into the said recess or horizontal slot G, fig. 6, it will there remain in a firm condition during the operation of the machine, as by such operation the said part or piece is being continuously pressed into said recess. The said part or piece D I make of vulcanized rubber, and with dove-tails corresponding to and with the said dove-tailed recess or slot G, fig. 6, as aforesaid. It may be of any suitable material, yet I much prefer to make it from vulcanized rubber as aforesaid. In all cases it will be constructed and combined with and applied to the said feed-bar B, substantially as shown in and by the accompanying drawings, and as hereinbefore described and set forth. The said part or piece D is for the purpose of preventing any undue wear and friction upon that part of said feed-bar when it is operated up and down for the purpose of proper feeding of material to be worked, by the action of an eccentric, which now strikes against said piece D instead of the under side of said feed-bar, as was the case prior to my said invention, and thus said piece D prevents wear and friction upon said bar, and enables the same to be repaired by the removing of the old part and the inserting of a new piece, thereby saving expenses in repairs and keeping the machine in much better running order for a greater length of time, as aforesaid.

A feed-bar constructed in the ordinary manner, of one piece of solid metal or material, will soon become worn out at the point of contact between the same and the eccentric or wheel which operates the same up and down for the purpose aforesaid, and consequently an entirely new bar will have to be constructed to take the place of the one worn out, which is always attended with much trouble and expense, and all of which is saved and obviated by my said invention and improvement. It is believed that the said vulcanized rubber part or piece will endure wear for a much greater length of time, and produce much less friction than if said part were made of other material, and hence I much prefer it as aforesaid.

F, figs. 1, 2, 4, and 9, is a piece projecting out and down from the under side of the said feed-bar frame A, and it may be made of any size deemed best for use, and it will be so constructed as to allow the said feed-bar to work therein. Into the projecting piece F I construct upon the inside next to the dove-tail part D a recess of the same kind and character as G aforesaid described in the feed-bar B, and it is for the purpose of receiving the dove-tail shaped piece E, figs. 1, 2, 4, 5, and 9, and which in shape and dove-tail form corresponds to and with the said dove-tail piece D, and will be of any size required, and this part or piece is for the purpose of receiving that part of the machine which operates horizontally forward and back the said frame A, containing the said bar B during the operation of feeding the cloth to the machine for sewing purposes as aforesaid. This part of piece E is also for the purpose of preventing any undue wear or friction upon that part of the machine operating the said frame A with its attached feed-bar B, combined therewith substantially as aforesaid. It is so arranged within said projection F as to be constantly pressed into the said recess or slot by the continued action of the eccentric or wheel acting and operating against it so as to move forward the said frame A as aforesaid, and therefore the said piece E cannot come out therefrom while and during the operation of the machine as aforesaid. This piece E is also made of vulcanized rubber, but it may be made of any suitable material. Yet, however, I much prefer to make it of vulcanized rubber, as it will wear to a much greater length of time, with less noise, and much less friction than if made of other material, and when worn out or otherwise injured it may be replaced with a new one in the same way and manner as described hereinbefore in relation to the said part or piece D. In either case it is not necessary to use any other method or device for holding and securing in their respective and proper places the said parts or pieces D and E, than the several dove-tail forms hereinbefore described and set forth, as they are entirely sufficient for any and all purposes.

Having thus described the nature, construction, and operation of my said invention and improvements, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The employment of an adjustable and removable part or piece, E, of vulcanized rubber or other suitable material, in combination with the feed-bar of a sewing machine; and at or near the feed-point or part which carries the feeding surface so as to receive the wear from the action of that part of the machine which moves it forward, in the manner and for the purposes substantially as herein described and set forth.

2. The employment and combination with the feed-bar B of a sewing machine of an adjustable and removable vulcanized rubber piece D, or its equivalent, in the manner and for the purposes substantially as herein described and set forth.

In testimony whereof I have on this 27th day of March, 1866, hereunto set my hand.

SANFORD LITTLEFIELD.

Witnesses:

CHARLES D. KELLUM,  
R. H. REILLY.