

W. E. TRULL.
MACHINE FOR SEWING BUTTONS TO FABRICS.
APPLICATION FILED JUNE 5, 1909.

952,087.

Patented Mar. 15, 1910.

Fig. 1.

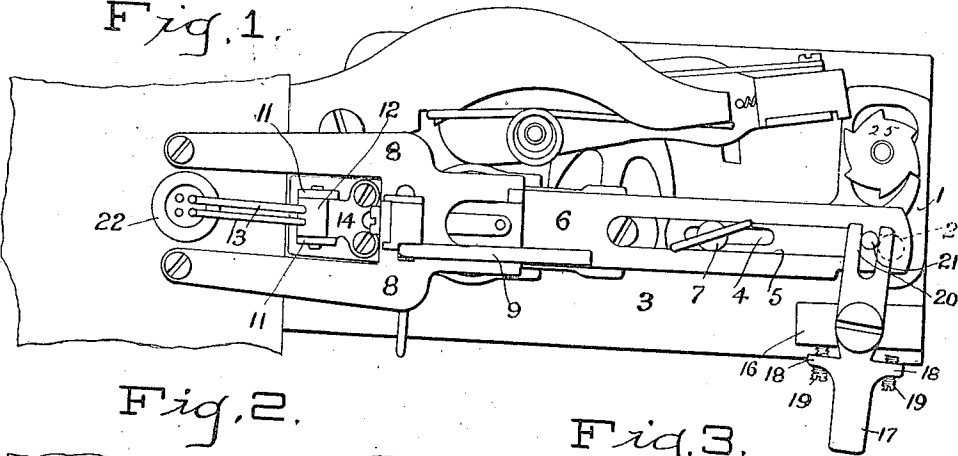


Fig. 2.

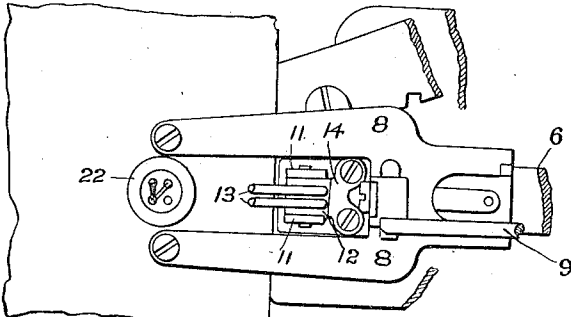


Fig. 3.

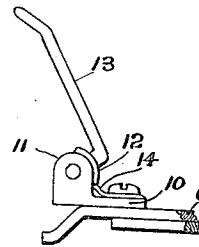


Fig. 4.

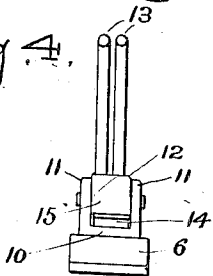


Fig. 5.

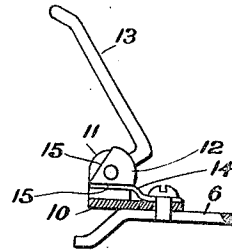
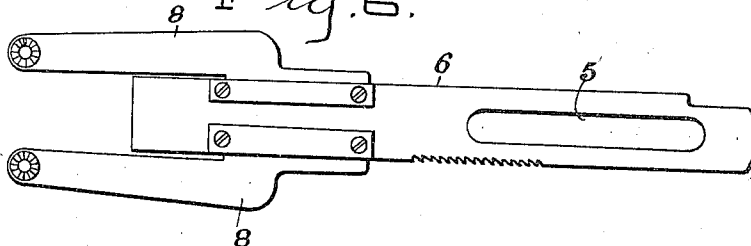


Fig. 6.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM E. TRULL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE SMITH & EGGE MANUFACTURING CO., OF BRIDGEPORT, CONNECTICUT, A CORPORATION OF CONNECTICUT.

MACHINE FOR SEWING BUTTONS TO FABRICS.

952,087.

Specification of Letters Patent.

Patented Mar. 13, 1910.

Application filed June 5, 1909. Serial No. 500,422.

To all whom it may concern:

Be it known that I, WILLIAM E. TRULL, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Sewing Buttons to Fabric; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to machines for sewing buttons to fabric, but more particularly relates to an attachment for button sewing intended to be used in connection with a buttonhole sewing machine such as is shown and described in Letters Patent No. 322,811, issued July 21, 1885, to F. Egge and C. J. A. Sjöberg, and Letters Patent No. 376,297, issued to F. Egge, January 10, 1888.

In buttonhole sewing machines of the type above specified, a shifting feed bar, termed "oscillator P" in the first mentioned patent, is employed. This feed bar or "oscillator" can be easily and readily removed by anyone, by simply disconnecting the same from its operating mechanism. To this feed bar or "oscillator" the usual cloth clamp is secured.

The object of my invention is to provide a shifting button bar, carrying suitable button engaging means, and so construct said bar that it may be bodily substituted for the above mentioned "oscillator" or shifting feed bar of the buttonhole sewing machine character specified in the patents mentioned, thereby converting said buttonhole sewing machine into a button sewing device.

With this in view my invention consists in the combination and arrangement of parts hereinafter fully described and particularly pointed out in the claims which conclude this description.

In the accompanying drawing Figure 1 is a plan view showing my improvement applied to the buttonhole sewing attachment—Fig. 2 a detail broken plan showing the position of the parts after the button has been partially sewed to a fabric—Fig. 3 a detail broken elevation of the button clamping and centering device—Fig. 4 a front elevation of the same—Fig. 5 a sectional elevation thereof, and Fig. 6 a detail bottom view of the shifting lever.

Similar characters of reference denote like parts in the several figures of the drawing.

My improved attachment is adapted to be bodily substituted for the "oscillator" or feed bar above referred to whereby said buttonhole attachments of the patented construction may be readily and easily converted into a button sewing attachment. I have not deemed it necessary to illustrate and describe in detail herein all the mechanism disclosed in said patented devices. Only as much of such patented construction is shown as is necessary for a full understanding of my invention. For instance, 1 indicates the usual L-shaped primary oscillating lever pivoted at 2 to the bed plate 3 provided with the elongated slot 4 at its forward end. Said primary oscillating lever receives its necessary movement through the usual wiper and ratchet 25 and other connections such as disclosed in the patents noted. The "oscillator" or feed bar P of the patent above referred to is connected with the L-shaped lever and receives its usual oscillating or shifting movements therefrom. The mechanism in said patents for giving the usual step by step lengthwise feeding movement to said "oscillator" or feed bar has not been shown or described in detail herein since it is not necessary for an understanding of this invention. Said step by step mechanism performs no function whatever when my attachment is substituted for the usual "oscillator" or feed bar, since my attachment is not operatively connected therewith.

I will now proceed to describe my improved attachment and explain its use and application to the button hole sewing mechanism of the patented constructions.

Referring to the drawings, 6 is the shifting button bar, similar to the "oscillator" or feed bar of said patents, except that it is not provided with the oppositely disposed racks shown in such patents. These racks, as the patents disclose, are merely employed for use with the step by step lengthwise feeding mechanism, and since, as above stated, my shifting button bar or attachment is not operatively connected with such step by step mechanism, such racks are unnecessary. This shifting button bar 6 is connected to the usual primary oscillating L-shaped lever 1, in the manner in which the "oscillator" or feed bar is connected in said patents, that is, by a binding nut 7 secured within the elon-

gated slot 4 of said lever and projecting up through a slot 5 in said bar and in contact with the side walls of the latter. Motion is communicated from the primary oscillating lever 1 to button bar 6 through the medium of the binding nut 7, the latter being adjusted throughout the slot 4 so as to increase or decrease, as the case may be, the lateral throw of the forward end of the shifting button bar 6.

8 is the usual cloth clamp carried by the bar 6, and 9 is the lever for operating the same.

To the forward extremity of the bar 6 is secured a bracket 10 which is provided with upstanding ears 11 between which is pivoted a block 12 from which latter extend twin wire fingers 13. Beneath this block is a flat spring 14 which is secured to the base of the bracket, and the block is provided with angularly disposed faces 15 so that when the block is turned on its axis to throw the fingers 13 downwardly or upwardly, the spring 14 will be depressed until the angular point at which the faces 15 meet shall have passed by the spring, whereupon the latter will by its resiliency bring the block in position with one of its faces resting upon the spring itself, and the twin fingers will be elevated or depressed as the case may be. However, this little detail just described with respect to the block and spring is quite immaterial since the provision of means for causing a clamp or other similar device to snap into position after certain portions have been carried beyond a dead center is old.

Pivoted to a block 16 at the rear of the bed plate 3 is a hand lever 17 which is provided with oppositely disposed and laterally extending lugs 18 through which latter are driven screws 19 which act as adjustable stops that abut against the side of the block 16 to limit the swinging movements of the lever 17. The forward extremity of this lever is forked as shown at 20 and embraces a stud 21 that rises from the rear of the shifting bar 6, so that it will be clearly understood that by swinging the hand lever to and fro the shifting bar will be thrown forward and backward in the direction of its length, the purpose of which will be presently explained.

Pre-supposing a buttonhole sewing machine, such as is shown and described in the patents aforesaid, to be in position upon a sewing machine, and that the operator desires to sew a button of the flat type and with four eyes to a fabric, it is merely necessary to remove the shifting feed bar of the buttonhole sewing machine and to substitute therefor the shifting bar shown and described herein and which has no feed racks, as above explained, and which is provided with the stud 21 at its rear end that is embraced by the fork 20. The button, which

is denoted by the numeral 22, is placed upon the fabric, which is held by the cloth clamp 8, and the twin fingers 13 are swung downwardly to engage with the rearmost pair of eyes in the button as shown at Fig. 1. When the attachment is operated the bar 6 will shift to and fro laterally and will bring the forward pair of eyes in the button successively beneath the sewing machine needle whereby the button will be sewed to the fabric through these forward eyes. After a sufficient number of stitches have been taken the fingers 13 are thrown upwardly and the hand lever 17 operated to move the bar 6 forward whereby the rearmost pair of eyes will be successively brought in line with the needle during the subsequent operation of the attachment, as shown at Fig. 2.

The twin fingers serve to hold the button firmly to the fabric and to center the same until such button has been sewed to the fabric through its forward eyes, and thereafter these fingers are thrown back since the stitches already taken will hold the button in proper position during the subsequent sewing through the rearmost eyes.

The screws 19 are adjustable so as to regulate the lengthwise throw of the bar 6 according to the distance between the pairs of eyes in the button, and when the button is primarily sewed to the fabric the lever 17 is operated to force the bar 6 rearward so as to leave the front pair of eyes in proper position with respect to the needle, and, after the primary sewing of the button to the fabric the lever 17 is operated to force the bar 6 forward to bring the unsewed eyes of the button beneath the needle during the continued lateral shifting movements of said bar.

It will thus be readily understood that I have provided a shifting bar precisely like the shifting bar of the buttonhole sewing attachment except that my present bar has no lengthwise step by step feeding means and is equipped with a button holding and centering device, and therefore it will be clear that button or buttonhole sewing may be accomplished by merely substituting the proper shifting bar.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:—

1. In a button sewing attachment for buttonhole sewing machines of the character stated, the combination with the primary oscillating lever, of a button bar operatively connected to said lever, said bar provided with a cloth clamp and a button holding and centering device carried by the forward end of such bar, and means for manually shifting said bar lengthwise between predetermined limits.

2. In a button sewing attachment adapted to be substituted for the usual feed bar or

- oscillator of a buttonhole sewing machine of the character described, the combination with the primary oscillating lever, of a button bar connected to one end of such lever
- 5 whereby lateral shifting movements will be communicated from said lever to said bar, button holding and centering means carried by the forward extremity of said button bar, a stud carried by the rear of said button bar, and a lever having movements between prescribed limits and loosely engaging said stud whereby the button bar may be manually moved forward and backward throughout a predetermined space.
- 15 3. In a button sewing attachment for the purpose described, the combination with an L-shaped oscillating lever, of a button bar adjustably connected to the free end of said lever and carrying at its forward end a cloth clamp, a spring controlled block pivotally supported at the front end of said button bar and carrying twin fingers, a stud rising from the rear face of said bar, a lever embracing said stud, and means for limiting
- 20 the swinging movements of said lever.
- 25 4. In a button sewing attachment for the purpose specified, the combination with a button bar provided near one end with an elongated slot whereby it may be connected
- 30 to suitable oscillating means, of means carried by the front of said bar whereby the eyes of a flat button may be centered, and means for manually moving the button bar forward and backward when desired.
- 35 5. In a button sewing attachment for a buttonhole sewing machine of the class described, the combination with a button bar

provided at one end with an elongated slot and a pin, of button holding and centering means pivotally mounted at the forward end of said button bar. 40

6. In a button sewing attachment of the character described, the combination with a button bar, of suitable oscillating means adjustably connected to said bar for operating the same, manually operated means for shifting said bar lengthwise within predetermined limits, and suitable button holding and centering devices carried by said bar. 45

7. In a button sewing attachment, the combination with a button bar provided with an elongated slot, suitable operating means for oscillating the bar through said slot, a cloth clamp and button holding and centering means carried by said bar, and means under the control of the operator for shifting the bar lengthwise when desired. 50

8. The combination with a button shifting bar for a button sewing machine, of means under the control of the operator for shifting the bar forward and backward when desired, suitable oscillating means for operating the bar adjustably connected thereto whereby the lateral throw of the forward end of the bar may be varied, cloth clamping means, and button holding and centering means carried by said bar. 60 65

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM E. TRULL.

Witnesses:

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C. A. COUNTISS.