F. M. KENNEDY.

CORDING ATTACHMENT FOR BUTTONHOLE SEWING MACHINES.

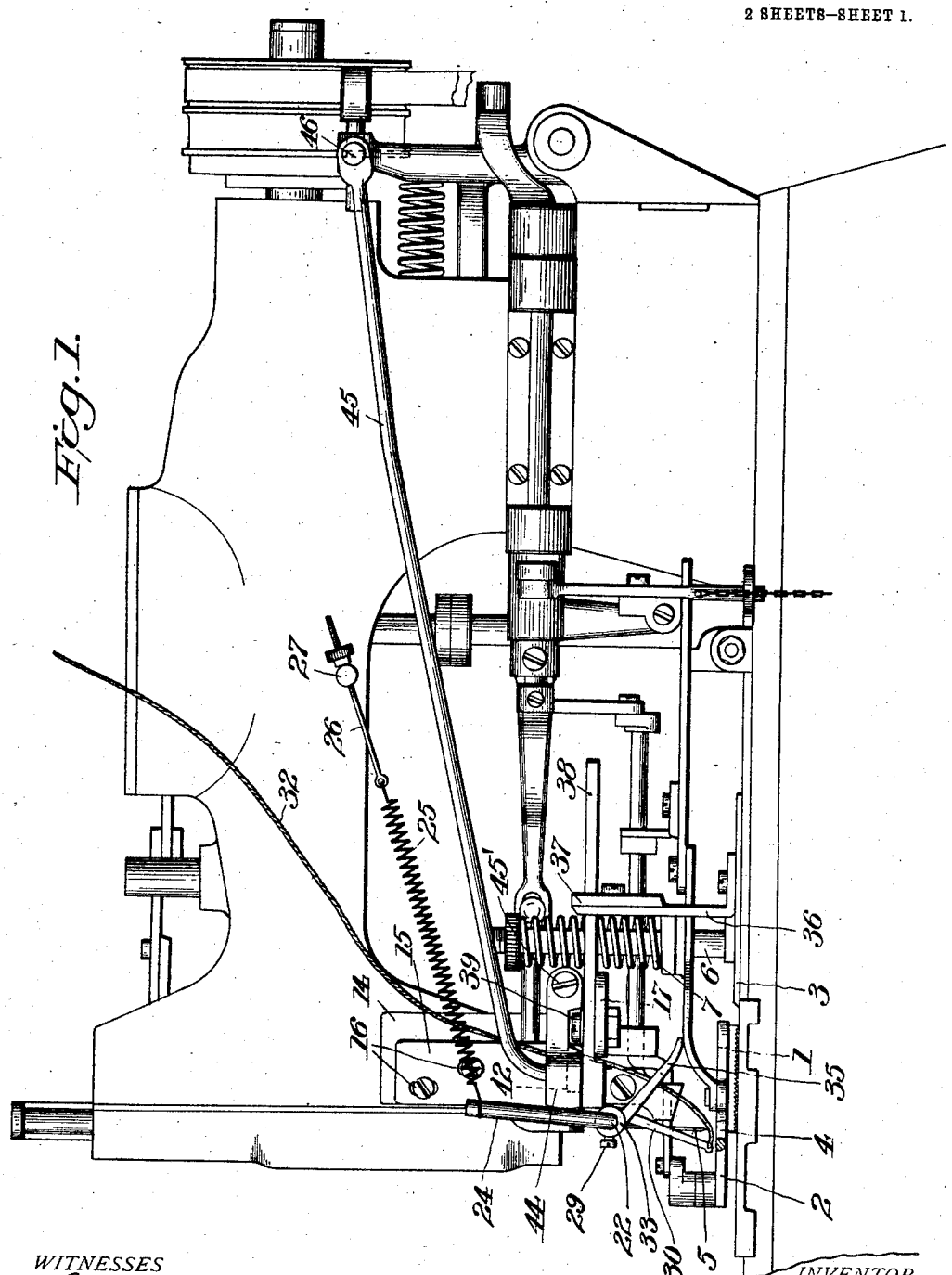
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1,025,574.

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2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

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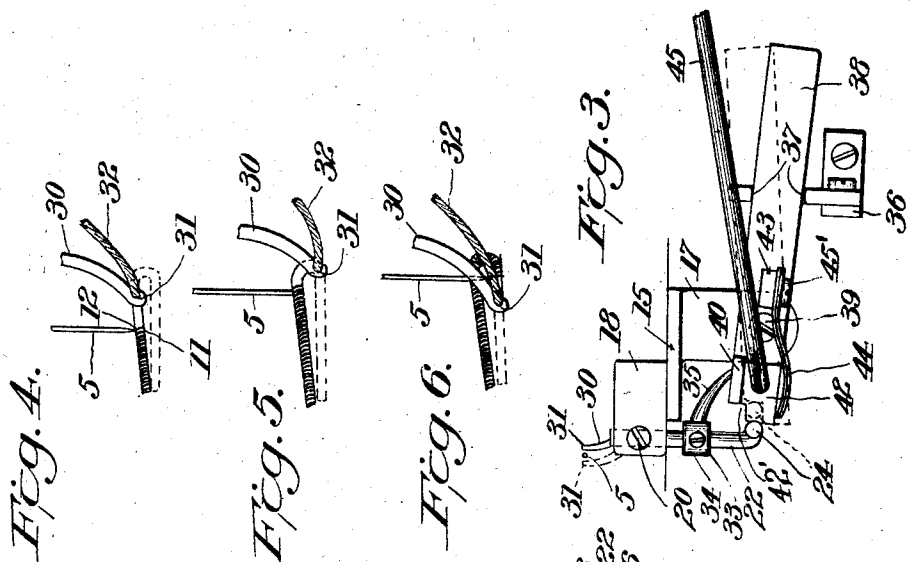


Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

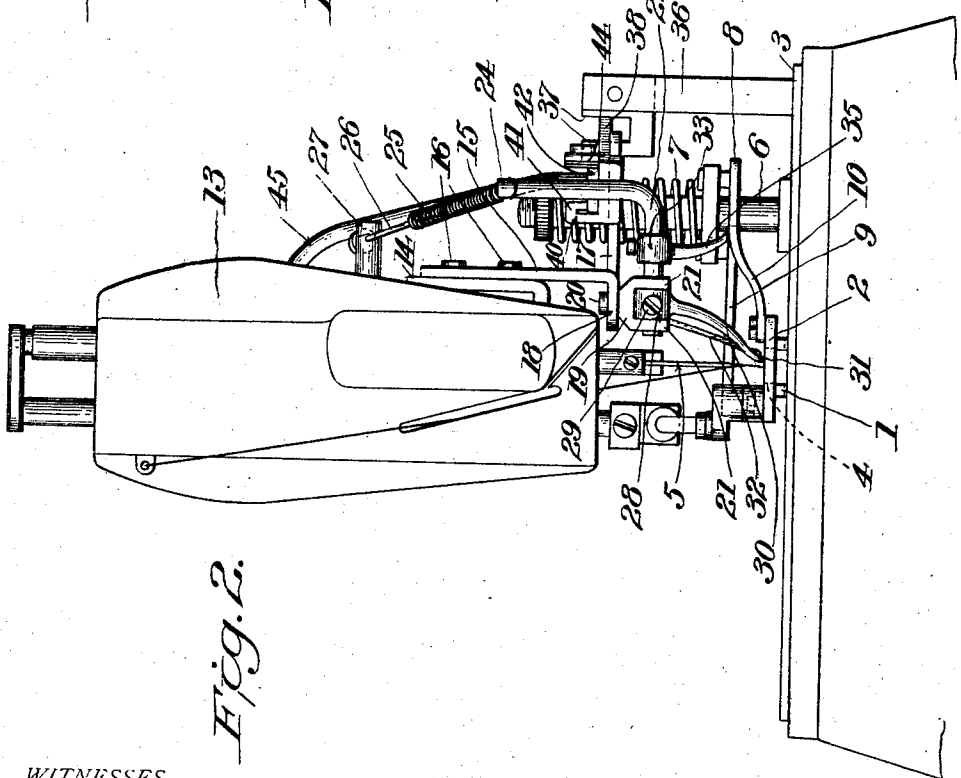


Fig. 2.

WITNESSES

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CORDING ATTACHMENT FOR BUTTONHOLE-SEWING MACHINES.

1,025,574. Specification of Letters Patent. Patented May 7, 1912.

Application filed May 20, 1911. Serial No. 628,381.

To all whom it may concern:

Be it known that I, FRANK M. KENNEDY, a citizen of the United States, residing at Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Cording Attachments for Buttonhole-Sewing Machines; 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.

This invention relates to improvements in sewing machines, and more particularly to cording attachments for button-hole machines.

An object in view is the efficient delivery of a stay cord relative to certain movements of the presser foot and feed of a button-hole sewing machine for presenting the cord above the cloth and always in advance and in the relative path of the needle.

The invention is especially designed for application to a well known type of button-hole machine having a presser foot and feed together with a cloth plate which operate in unity and reciprocate for moving the cloth longitudinally of the button-hole, and also shift laterally, transversely of the button-hole, an object of the invention being the production of an attachment for delivering cord which attachment may be easily applied to any machine of the type mentioned without alteration or modification of the machine or in any way varying its functions further than the added function of the effective delivery of a stay cord to the needle while stitching the button-hole in the operation of the machine.

With these and further objects in view, as will in part be hereinafter stated and in part become obvious, the invention comprises certain novel constructions, combinations and arrangements of parts as will be hereinafter specified and claimed.

In the accompanying drawings,—Figure 1 is a view in side elevation of a sewing machine of the type mentioned, to which has been applied an embodiment of the present improved cording attachment. Fig. 2 is a front view thereof. Fig. 3 is a top plan view of the attachment detached, parts being broken away. Figs. 4, 5 and 6 are detail, perspective views, respectively, indicating the delivery finger first in the act of delivering cord to one side of the button-hole, then immediately after the shift to the other side, and then in the act of delivering the cord along the second side of the button-hole.

Referring to the drawing by numerals, 1 indicates the feed portion of the presser foot, 2 the presser foot, and 3 the cloth plate of a button-hole sewing machine. The foot 2 and feed portion 1 are formed with the usual aperture 4 which is of a width and length sufficient for accommodating the relative movements of the parts and allowing free access of the needle 5 to the cloth beneath the presser foot. The post 6 is carried by plate 3 and surrounded by coil spring 7 which presses downwardly upon plate 8, which plate is formed with an arm 9 and an arm 10 extending to the opposite sides of the presser foot 2 for exerting a yielding downward pressure thereon. The mechanism thus far described is of the ordinary and well known type in commercial use, and in the operation of the same, when the presser foot is elevated by mechanism not illustrated in detail, the arms 9 and 10 and plate 8 will be elevated. Also in the ordinary operation of the button-hole machine, the plate 3 is shifted by cam mechanism beneath not illustrated herein, being of the common and well known type for shifting the cloth relative to the needle for enabling the stitching by the needles of the respective opposite sides of the button-hole, the presser foot and feed shifting with the plate 3 for this purpose, and the feed and presser foot being also provided with mechanism for moving the cloth in a direction longitudinally of the button-hole for advancing the same relative to the stitching action of the needle and thus effecting the production of a series of stitches along one side of the button-hole to the rear end thereof, whereupon the shifting action of the plate 3, feed 1 and presser foot 2 brings the other side of the button-hole in position for being stitched and the backward movement of the feed and presser foot in a direction longitudinally of the button-hole effects the requisite movement of the cloth for enabling the needle 5 to make its series of stitches for completing the second side of the button-hole. It is to be understood that the needle 5 is, in addition to its regular reciprocation, oscillated for a dis-

tance equal to the length of the stitches at one side of the button-hole. That is to say, referring to Fig. 4, the needle 5 first penetrates the cloth at a point 11, and then rising from the cloth oscillates to the other side of the line of stitching to a point 12, the length of the stitch being the distance between the points 11 and 12, and such length being governed by the lateral oscillation of the needle in addition to its vertical or stitching reciprocation. The mechanism for effecting this action of the needle is not illustrated as it is no part of the present invention and is of the well known commercial type. Therefore, everything thus far described is already common on the market and is described merely for convenience in more fully setting forth the functions and adaptations of the stay cord feeding mechanism hereinafter described.

Fixed to one side of the head 13 is a filler block 14, which may or may not be used as found convenient or desirable, and in the absence of which the connection would be made directly to the side plate of the head 13. This filler block 14 may be connected thereto in any preferred manner. A bracket for sustaining the operating parts of the present improved attachment is connected with the filler block 14 and may consist of variously shaped sustaining elements, but, as a convenient form of bracket, I have illustrated the depending plate 15 slotted for receiving retaining screws 16, 16, passed through the slots and threaded into the filler block 14. The lower end of the plate 15 is split or bifurcated and one arm 17 of the bifurcation is bent outwardly substantially to a horizontal position, the other arm 18 being bent inwardly preferably substantially to a horizontal position. Fixed to the arm 18 is a journal bearing block 19 connected, preferably, by a screw 20 to the arm 18, the block being bifurcated and having its arms 21, 21, depending at one side of the needle 5. Journaled in the said depending arms 21 is a rock shaft 22, the outer end of which is bent upwardly to form an operating lever 24. Obviously, the rock shaft and lever may be otherwise constructed when desired. A retractile spring 25 engages the upper end of lever 24 and draws the same rearwardly, the upper end of the spring 25 being preferably connected to a tensioning screw 26 sustained by retaining post 27 outstanding from the side of the arm of the machine. A sleeve 28 surrounds the shaft 22 between the arms 21 and preferably snugly fits between said arms. A set screw 29 connects the sleeve 28 with the shaft 22 for moving therewith in operation, and an arm 30 is preferably formed integral with or suitably connected to the sleeve 28 and depends therefrom. The arm 30 extends downwardly and laterally to a position substantially with its lower end in line with the needle 5, the said lower end being formed with a feeding eye 31 through which is delivered, in operation, the stay cord 32. Between the block 19 and the lever 24 a second sleeve 33 surrounds the shaft and is fixed thereto by a set screw 34. A rocker arm 35 is fixed to or formed integral with the sleeve 33 and extends downwardly and rearwardly therefrom to a point with its rear end resting upon the curved or inclined portion of the arm 10. The lower end portion of the arm 35 is preferably slightly curved or bent so that the upward movement of the arm 10 will cause a corresponding upward movement of the lower end of the arm 35, effecting a rocking oscillation of the sleeve 33, and a corresponding oscillation of the shaft 22 with, of course, a similar movement of the sleeve 28 and arm 30.

It will be observed, particularly from Fig. 1, that when the presser foot is in its rearmost position, the lower end of arm 30 extends over a portion of the imperforate plate of the foot and does not register with the opening 4 therein. As this position of the foot is the final position at the completion of a button-hole, it will be observed, of course, that it is desirable to elevate the presser foot at this point. If no provision were made for shifting the arm 30, the presser foot could not be elevated to any appreciable extent, as it would strike the arm 30 and be stopped thereby, but by virtue of the presence of the arm 35, as the arm 10 is elevated with the upward movement of the presser foot, the said arm 10 swings upwardly the lower end of arm 35, and thus oscillates the parts and swings the arm 30 in the direction for moving its lower end rearwardly to a point above the opening 4, so that the presser foot is free to be elevated to its full height. The presser foot on being lowered of course is accompanied by a lowering movement of the arm 10, and a corresponding movement of the arm 35 and connected parts, the spring 25 effecting the return movement of the parts connected to shaft 22, so that as soon as the presser foot is in its lowered position the arm 30 is in operative relation to the rest of the parts of the machine and ready for having the cord 32 delivered through eye 31.

It will be observed that the needle 5 is stationary so far as movement in a direction longitudinally of the button-hole is concerned, and during operation along one side of the buttonhole, the lever arm 30 is correspondingly stationary so that the relative movement of the presser foot, feed and connected parts, feeding the cloth as it does longitudinally of the button-hole, produces the same effect as if the named parts remained stationary while the needle and delivery arm moved along the button-hole, so

that the expression "relative path of the needle" has been employed as indicating the path apparently traversed by the needle in its effective result on the button-hole.

It is to be observed that in the delivering of the cord 32, the eye 31 must always stand relatively in advance of the needle so as to deposit the cord in a position where the stitches produced by oscillation of the needle from point 11 to point 12 will cross the cord and bind in along the edge of the button-hole. Hence, the parts as seen in Fig. 1 are in the condition at the conclusion of the formation of a button-hole just prior to the necessary shifting of the arm 30 for placing it relatively in advance of the needle, that is actually in the rear thereof, for the first side of the button-hole as seen in Fig. 4. The only movement which it is necessary to give to the arm 30 is that necessary for moving it at each end of the button-hole from one side of the needle 5 to the other side thereof. To accomplish this result, I have provided certain mechanism for rocking the shaft 22. For this purpose I provide an upwardly extending standard 36 fixed to the plate 3 at its lower end, and at its upper end being bifurcated, or carrying a bifurcated plate having the spaced arms 37, 37, through which extends an operating stop lever 38, which lever has its forward portion pivoted, as at 39, to the outwardly extending arm 17. Fixed to one side of the forward portion of the lever 38, in front of the pivot 39, is an upstanding guiding flange 40, which is folded outwardly and downwardly upon itself, as at 41, for forming a guide for the slide 42, said slide being slidingly mounted on the forward end portion of the lever 38, and having its inner edge engaging and guided by the flange 40, and its upper face engaged by the free edge of the folded portion 41, whereby the slide 42 is effectively guided in its reciprocal movement. Fixed to and upstanding from the lever 38 is a stud 43 to which is detachably secured, as by screw 45′, the laminated plate spring 44, which extends along the outer edge of the slide 42, and while allowing lateral shifting thereof, as indicated in dotted lines in Fig. 3, serves effectively to prevent the slide from leaving the lever 38 in a lateral direction. The slide 42 is pivotally engaged and adapted to be actuated by a reciprocating rod 45, which rod extends rearwardly and is suitably pivotally connected, as by a ball and socket joint 46, to the belt shipper at the rear of the machine.

It is well understood, of course, that in the operation of button-hole machines of this type, the cloth is positioned for a button-hole and the power applied. The machine will then operate automatically until a button-hole is completed, whereupon the shipper moves automatically for throwing off the power and stopping the machine so as to give the operator an opportunity to elevate the presser foot and shift the cloth to the next point for a button-hole before the machine proceeds with any further operation. Hence, at the completion of a button-hole, the shipper will move rearwardly to the idler and thus pull the rod 45 rearwardly, drawing the slide 42 back to the position indicated in dotted lines in Fig. 1.

When the cloth has been positioned beneath the presser foot at the proper place for the button-hole, the operator throws on the power, in doing which the shipper is moved forwardly giving a forward thrust to the rod 45 and a similar movement to the slide 42. This movement of the slide is sufficient for causing it to strike the lever 24 and swing the same forwardly from the position indicated in Fig. 1 to the position indicated in Fig. 3, which is sufficient for causing the arm 30 to move from its position in Fig. 1 in front of the needle to a position in the rear of the needle, that is in advance of the relative direction of travel of the needle along the side of the button-hole. The parts maintain this relative condition while the cloth is moving outwardly throughout the length of the first side of the button-hole, as seen in Fig. 4, and up to the completion of that side, whereat the plate 3 and connected parts are shifted laterally inwardly or transversely of the button-hole for causing the needle to assume a position above the other side of the button-hole, which lateral shifting, of course, moves the standard 36 and correspondingly moves the lever 38 and connected parts. This movement of the lever 38 swings the forward end of the lever laterally outwardly to the position indicated in dotted lines in Fig. 3, whereat the slide 42 is moved to one side of the lever 24 and the said lever is allowed to drop back to its former position, that is to the position seen in Fig. 1, and in dotted lines in Fig. 3, the slide being preferably notched, as at 42′, for obviating the necessity of reducing the width of the slide and at the same time allowing the movement of the lever 38 to be sufficient for moving the front end of the slide laterally to one side of the lever 24. The parts will remain in this position until the button-hole is completed, whereupon the automatic shifting mechanism throws the shipper rearwardly pulling the rod 45 backwardly, and withdrawing the slide 42 to the dotted position seen in Fig. 1. The presser foot is then elevated, the cloth shifted to the position for the next button-hole, and the presser foot then again lowered. The machine is now ready for the next operation, which is, of course, an exact repetition of the previous.

In the course of the operation, it will thus be seen that the cord delivering arm 30 has

its eye 31 disposed during the stitching of the first side of the button-hole relatively in advance, but actually in the rear of the needle, where it remains until that side is completed, as indicated in Fig. 4, whereupon it shifts as indicated in Fig. 5 to a position again in advance and actually in front of the needle, and maintains this relation to the needle throughout the completion of the other side of the button-hole, as indicated in Fig. 6, and remains thus until the starting of the next operation, whereupon the lever arm is swung by the action of the slide 42 on lever 24 again to the position relative to the needle 5 as indicated in Fig. 4.

The extent of movement of the belt shipper is usually greater than the required movement of the slide 42 for effecting the requisite amount of swing of the lever 24, and to take up this excess movement, I merely permit the slide 42 to move rearwardly and along the lever 38 the excess distance, so that the excess forward movement of the slide will occur before the slide arrives in contact with the lever.

While I have illustrated and described in detail certain particular mechanical features constructed as now preferred by me, it is perfectly obvious that variations and modifications in size, shape and detail arrangement may readily and easily be made without in the least deviating from and while falling within the intent and meaning of the terms of the appended claims.

I claim:—

1. In a cord feeding attachment for buttonhole sewing machines, the combination of a cord feeder adapted to be moved from side to side of a needle and to be otherwise stationary, a lever for actuating said feeder, a longitudinally reciprocating slide adapted to contact the lever endwise, said slide being shiftable laterally out of the line of the lever, means for shifting the slide laterally, and means for restoring the lever to its initial position.

2. In a cord feeding attachment for buttonhole sewing machines, the combination with an oscillating, non-rotary needle carrier, and a needle carried thereby, of a cord feeder exposed to view adjacent the needle, a spring pressing the feeder to one side of the needle, means for controlling the actuation of the needle, a slide reciprocated by the controlling means, and means actuated by the slide for moving the feeder to the opposite side of the needle against the tension of the spring.

3. In a button-hole sewing machine, the combination with a needle, driving means therefor adapted to be shifted to and from an operative position, a cloth feeder and presser foot, and means for actuating the same for advancing the cloth relative to the needle, of a cord feeder positioned for delivering cord to the cloth beneath the needle and between the points of reciprocation thereof, means actuated by the shifting of the driving means for moving the cord feeder past the needle, and means for returning the cord feeder to its initial position, said cord feeder being otherwise stationary.

4. In a button-hole sewing machine, the combination with a needle, means for shifting cloth relative thereto longitudinally of the button-hole to be stitched, means for shifting the cloth laterally for disposing a second side of the button-hole in position for receiving the stitches, and shiftable driving means for actuating the needle, of a movable cord feeder arm having a feeder disposed for being moved from side to side of the needle, means actuated by the lateral shifting means for shifting the cord feeder past the needle at one end of the button-hole being formed, and means actuated by the shifting of the driving means for moving the cord feeder past the needle at the other end of the button-hole.

5. In a cording attachment for a button-hole sewing machine, the combination of a cord feeder arm, a rock shaft carrying said arm, a lever for actuating said rock shaft, a spring exerting pressure on the lever in one direction, a stop limiting the movement of the lever in the direction of the spring pressure, a longitudinally reciprocating slide adapted to engage and actuate the lever against the spring pressure for moving the lever away from the stop, and thus oscillate the rock shaft and moving the feeder arm relative to coöperating parts of a button-hole sewing machine, and means for shifting the slide laterally out of the engagement with the lever for allowing the lever to be moved under the action of the spring back to a position in engagement with the stop for effecting a converse movement of the feeder arm.

6. In a cord feeding attachment for button-hole sewing machines, the combination of a cord feeder, a rock shaft carrying the same, a lever arm connected to the rock shaft and adapted to actuate the rock shaft for shifting the feeder relative to coöperating parts of a button-hole sewing machine, a slide adapted to engage the lever arm for shifting the same in one direction, a spring for shifting the lever arm in the other direction, a pivotally mounted lever carrying said slide, and means for shifting the last mentioned lever for moving the slide out of engagement with the lever arm.

7. In a cord feeding attachment for button-hole sewing machines, the combination of a cord feeder, a lever arm connected therewith for shifting the cord feeder relative to coöperating movements of parts of a

button-hole sewing machine, a lever disposed in the path of movement of the lever arm adapted to act as a stop therefor, a spring exerting pressure on the lever arm for maintaining the lever arm in contact with the stop, a slide carried by the stop lever, means for shifting the slide for moving the same against the pressure of the spring, and means for swinging the stop lever for moving the slide out of contact with the lever arm.

8. In a cord feeding attachment for button-hole sewing machines, the combination of a cord feeder, a lever arm connected therewith for shifting the cord feeder relative to coöperating movements of parts of a button-hole sewing machine, a lever disposed in the path of movement of the lever arm adapted to act as a stop therefor, a spring exerting pressure on the lever arm for maintaining the lever arm in contact with the stop, a slide carried by the stop lever, means for shifting the slide for moving the same against the pressure of the spring, and a spring guide for the slide allowing lateral displacements thereof relative to its normal position on the stop lever.

9. In a cord feeding attachment for button-hole sewing machines, the combination of a cord feeder, a lever connected therewith for shifting the feeder relative to movements of coöperating parts of a button-hole sewing machine, means for moving the lever in one direction, a slide disposed to engage the lever with an endwise longitudinal thrust for moving the lever in the opposite direction, and means for shifting the slide laterally out of operative contact with the lever.

10. In a cording attachment for button-hole sewing machines, the combination of a cord feeder, a lever connected therewith for moving the cord feeder relative to coöperating parts of a button-hole sewing machine, means for moving the said lever in one direction, a slide adapted to engage the lever for moving it in the other direction, a relatively rigid guide at one side of the slide, a resilient guide at the other side of the slide and means for shifting the slide laterally out of engagement with the lever.

11. In a cording attachment for button-hole sewing machines, the combination of a cord feeder, a lever arm connected therewith for shifting the cord feeder relative to coöperating parts of a button-hole sewing machine, a slide adapted to engage and move the lever arm, a stop lever carrying said slide and having its end disposed in a path of movement of the lever arm for limiting such movement in one direction, means for moving the lever arm toward the stop lever, a flange upstanding from the stop lever along one side of the slide, a spring fixed to the stop lever and extending along the other side of the slide, means for moving the slide for causing the end thereof which engages the lever arm to move beyond the end of the stop lever, means for moving the stop lever laterally with respect to the lever arm for moving the slide laterally out of engagement with the lever arm.

12. In a cording attachment for button-hole sewing machines, the combination of a cord feeder, a lever arm connected therewith for shifting the cord feeder relative to cooperating parts of a button hole sewing machine, a slide adapted to engage and move the lever arm, a stop lever pivotally mounted to swing transversely of the lever arm, a spring engaging the lever arm and exerting spring pressure thereon for moving the lever arm toward the stop lever, one end of the stop lever being disposed in the path of the lever arm and serving as a stop therefor, a slide mounted on the stop lever and movable longitudinally thereof toward and away from the lever arm, means for moving said slide to an extent projecting the end of the slide beyond the end of the stop lever for engaging and moving the lever arm out of contact with the stop lever, and means for swinging the stop lever laterally with respect to the lever arm for moving the slide laterally out of engagement with the lever arm.

13. In a button-hole sewing machine, the combination with a needle, driving means for the needle, and means for shifting the driving means into and out of operative relation, of a cord feeder disposed for delivering cord for being engaged by the stitches of the needle, a lever arm connected to said cord feeder and adapted to be moved for shifting the cord feeder relative to the needle, a spring engaging the lever arm for normally maintaining the same in one position, a slide adapted to engage and actuate the arm against the pressure of the spring, means engaging the slide and connected with the drive shifting means for projecting the slide in operative contact with the lever arm, and means for shifting the slide, while projected, to a position out of operative engagement with the lever arm.

14. In a button-hole sewing machine, the combination with a needle, driving means therefor, and means for shifting the driving means into and out of operative relation, of a cord feeder disposed for delivering cord to be engaged by the stitches of said needle, a lever arm connected with said cord feeder, a stop lever disposed in the path of movement of the lever arm, a spring engaging the lever arm and exerting spring pressure thereon in a direction toward the stop lever, a slide carried by the stop lever and adapted to engage and press the lever arm away from the stop lever, means connecting the slide with the drive shifting

means for actuating the slide, and means for swinging the stop lever for moving the slide laterally out of operative engagement with the lever arm.

15. In a button-hole sewing machine, the combination with a needle, driving means therefor, means for shifting the driving means into and out of operative position, and means for shifting cloth beneath the needle, of a cord feeder for delivering cord to be engaged by the stitches of said needle, a lever arm connected with and to operate said cord feeder, a stop lever in the path of movement of the lever arm, a spring engaging the lever arm for exerting spring pressure thereon in the direction of the stop lever, a slide carried by the stop lever and adapted to engage the lever arm, means connecting the slide to the drive shifting means for moving a portion of the slide beyond the end of the stop lever for swinging the lever arm against the pressure of the spring, and means carried by the cloth shifting means for swinging the stop lever laterally with respect to the lever arm for moving the slide out of operative engagement with the lever arm.

16. In a button-hole sewing machine, the combination with a needle, means for driving the same, and means for shifting cloth beneath the needle, of a cord feeder adapted for delivering cord in position for being engaged by the stitches of the needle, a lever arm for actuating the said cord feeder, a stop lever in the path of movement of the lever arm, a spring engaging the lever arm and exerting pressure thereon directing the lever arm toward the stop lever, a slide carried by the stop lever adapted to be shifted into engagement with the lever arm for pressing the lever arm away from the stop lever against the pressure of the spring, and means carried by the cloth shifting means for moving the stop lever for shifting the slide out of operative engagement with the lever arm.

17. In a button-hole sewing machine, the combination with a needle, means for driving the same, and means for shifting the cloth beneath the needle, of a cord feeder adapted for delivering cord in position for being engaged by the stitches of the needle, a lever arm for actuating the said cord feeder, a stop lever in the path of movement of the lever arm, a spring engaging the lever arm and exerting pressure thereon directing the lever arm toward the stop lever, a slide carried by the stop lever adapted to be shifted into engagement with the lever arm for pressing the lever arm away from the stop lever against the pressure of the spring, and a standard connected to and outstanding from the cloth shifting means in position for striking and shifting the stop lever laterally for moving the slide out of operative engagement with the lever arm.

18. In a button-hole sewing machine, the combination with a needle, means for driving the same, and means for shifting cloth beneath the needle, of a cord feeder adapted for delivering cord in position for being engaged by the stitches of the needle, a lever arm for actuating the said cord feeder, a stop lever in the path of movement of the lever arm, a spring engaging the lever arm and exerting pressure thereon directing the lever arm toward the stop lever, a slide carried by the stop lever adapted to be shifted into engagement with the lever arm for pressing the lever arm away from the stop lever against the pressure of the spring, and a bifurcated standard connected to the cloth shifting means and adapted to be moved thereby, the arms of the bifurcation of the standard extending on opposite sides of the stop lever for effecting movement of the stop lever relative to movement of the cloth for shifting the slide laterally out of operative engagement with the lever arm.

19. In a button-hole sewing machine, the combination with a needle, operating means therefor, and cloth engaging and shifting means, of a cord feeder adapted to deliver cord in position for being engaged by the stitches of the needle, means for shifting the cord feeder to opposite sides of the needle, and an arm additional to said feeder shifting means connected with the feeder and extending at an incline to the path of movement of a part of the cloth engaging and shifting means and adapted at times to contact with said part for being shifted thereby for shifting the feeder when the cloth engaging and shifting means is elevated.

20. In a button-hole sewing machine, the combination with a needle, means for actuating the same, a presser foot coöperating therewith, and means for operating the presser foot, of a cord feeding arm disposed for overhanging an imperforate portion of the presser foot when the presser foot is in a position for being elevated, a rock shaft carrying said feeder arm and a lever arm fixed to the rock shaft and extending to a point in engagement with a portion of the presser foot operating means for being actuated when the presser foot is elevated for oscillating the rock shaft and swinging the lower end of the feeder arm from a position above the imperforated portion of the presser foot to a position out of the path thereof.

21. In a button-hole sewing machine, the combination with a needle, means for actuating the same, a presser foot coöperating therewith, and means for operating the presser foot, the presser foot having an aperture through which the needle operates, of a cord feeding arm disposed for overhanging

an imperforated portion of the presser foot when the presser foot is in a position for being elevated, a rock shaft carrying said feeder arm, and a lever arm fixed to the rock shaft and extending to a point in engagement with a portion of the presser foot operating means for being actuated when the presser foot is elevated for oscillating the rock shaft and swinging the feeder arm from a position above the imperforated portion of the presser foot to a position above the aperture of the presser foot.

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

FRANK M. KENNEDY.

Witnesses:
JACOB AYRE,
EDWARD FUESS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."