No. 635,267. Patented Oct. 17, 1899.

D. MILLS.

STOP MECHANISM.

(Application filed May 28, 1898.)

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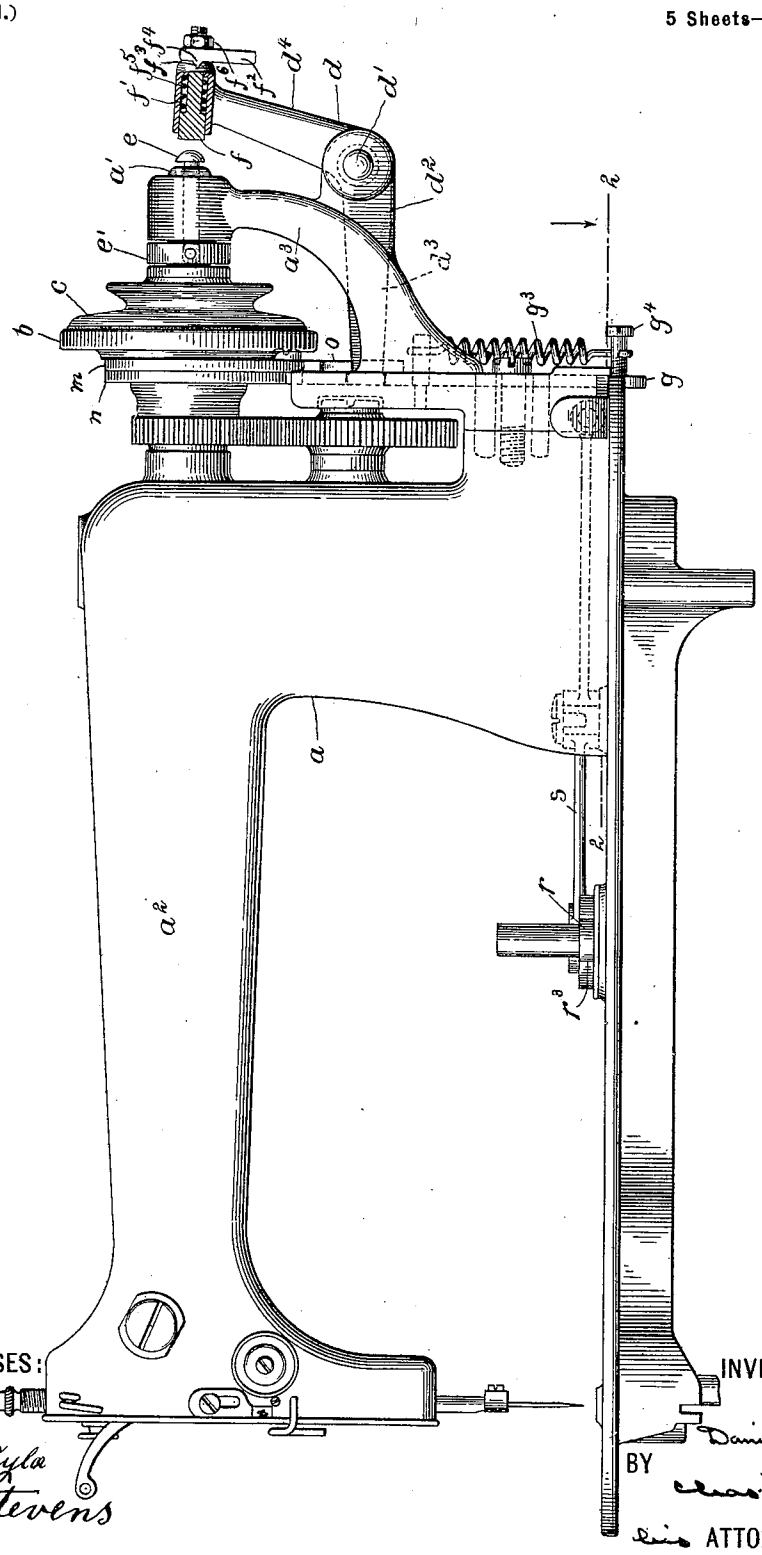


Fig. 1.

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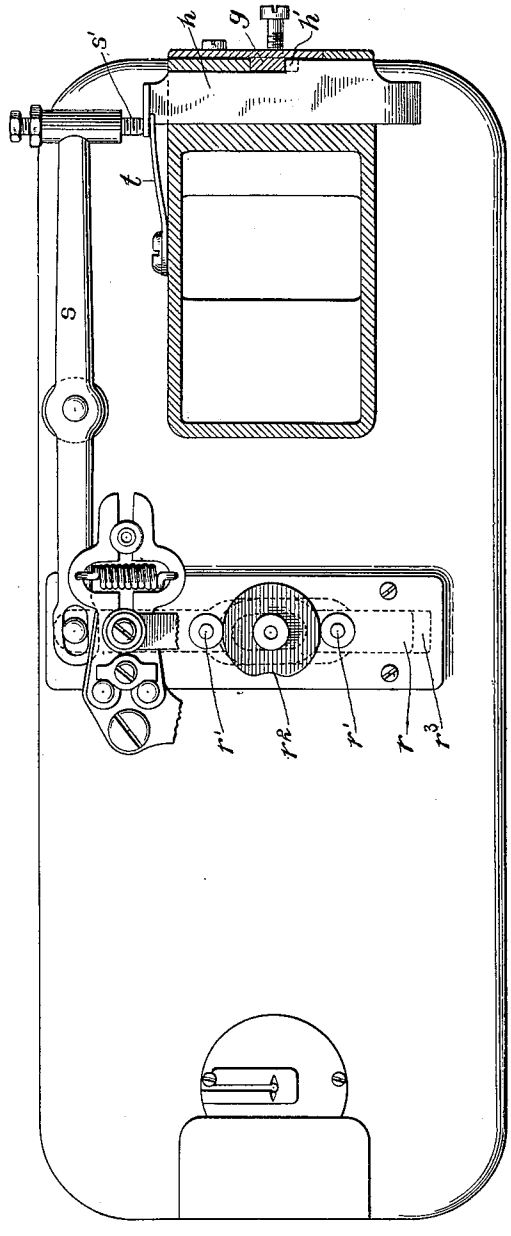


Fig. 2.

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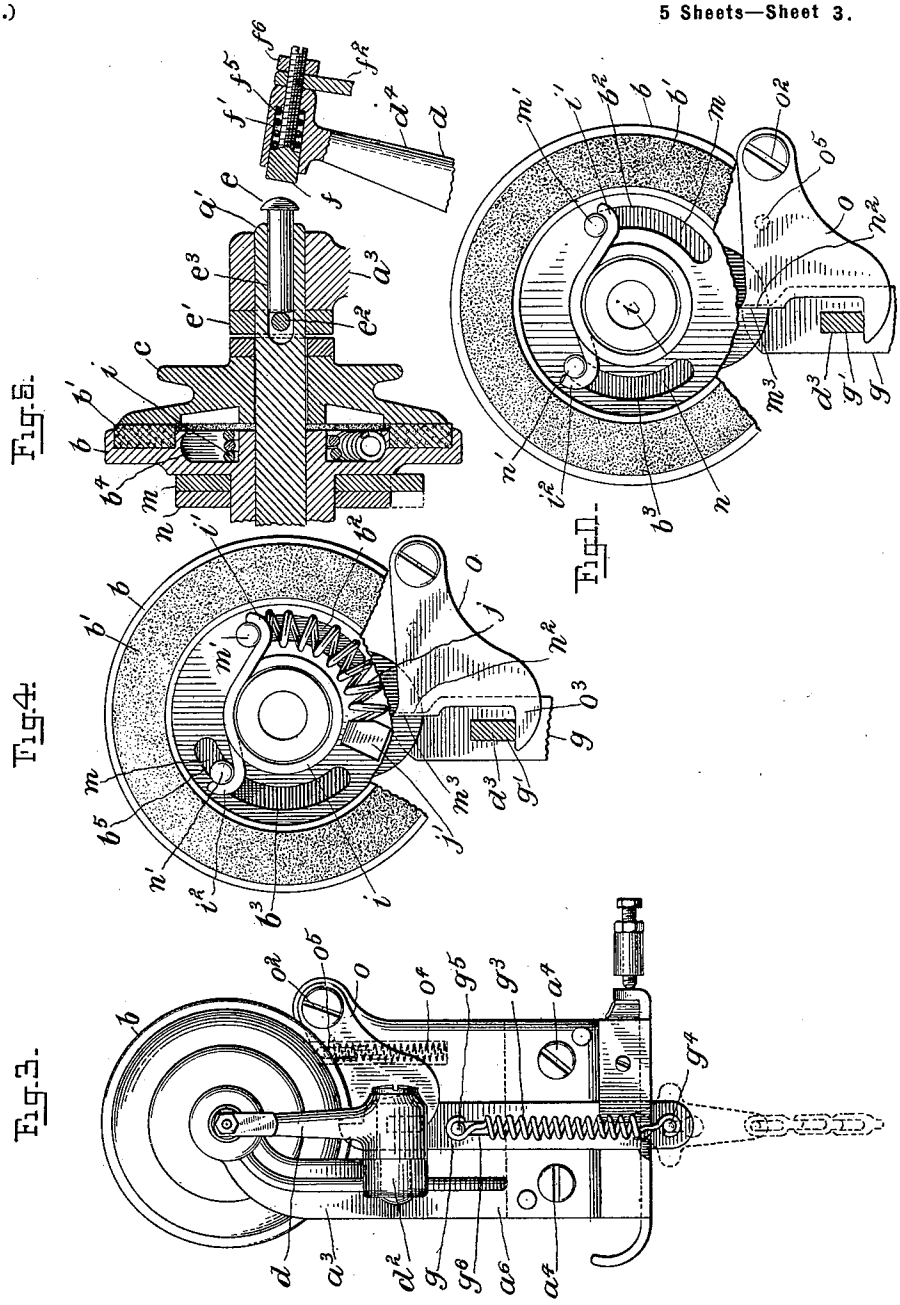


Fig. 3.

Fig. 4.

Fig. 5.

Fig. 1.

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(Application filed May 28, 1898.)

(No Model.) 5 Sheets—Sheet 4.

Fig. 6.

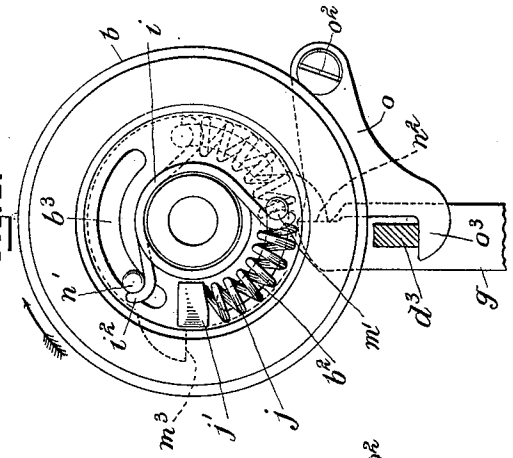


Fig. 7.

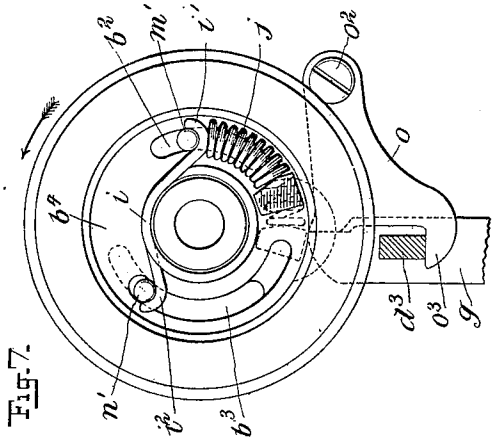


Fig. 8.

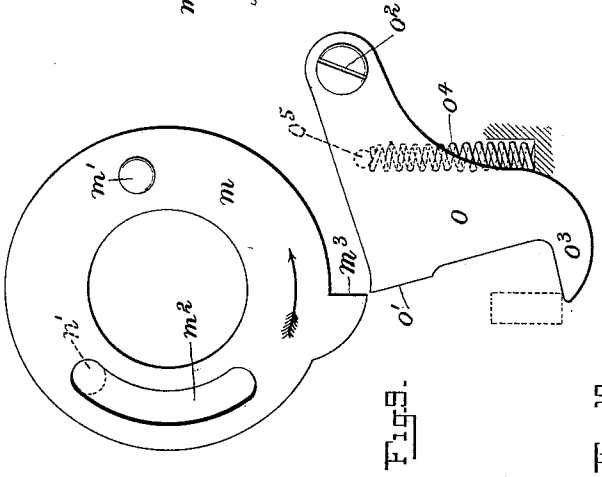


Fig. 10.

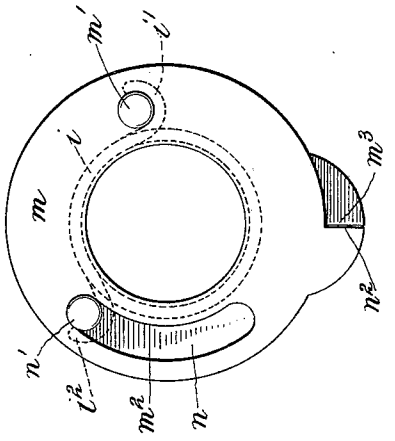
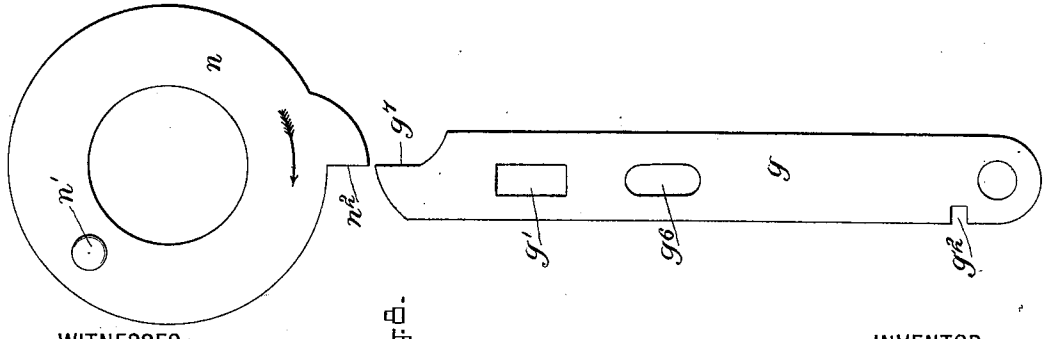


Fig. 9.



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No. 635,267. Patented Oct. 17, 1899.

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STOP MECHANISM.

(Application filed May 28, 1898.)

(No Model.) 5 Sheets—Sheet 5.

Fig. 1a.

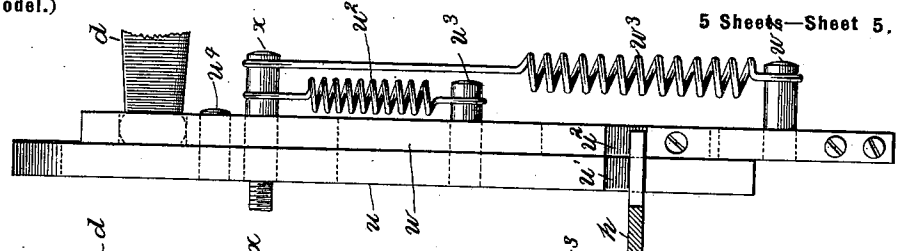


Fig. 1d.

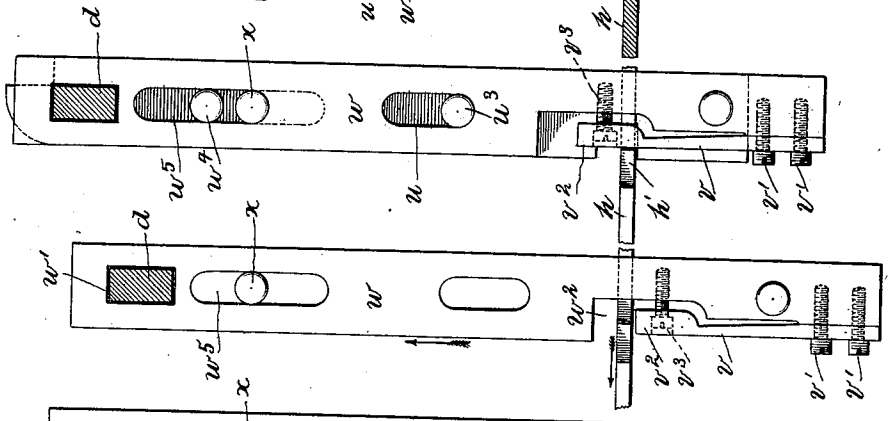


Fig. 1a.

Fig. 1.

Fig. 1b.

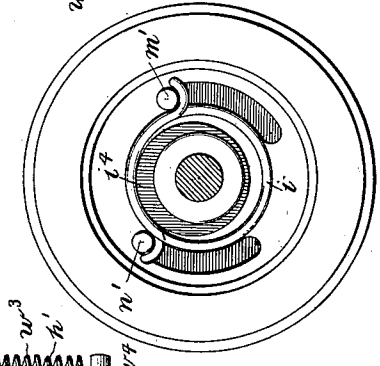
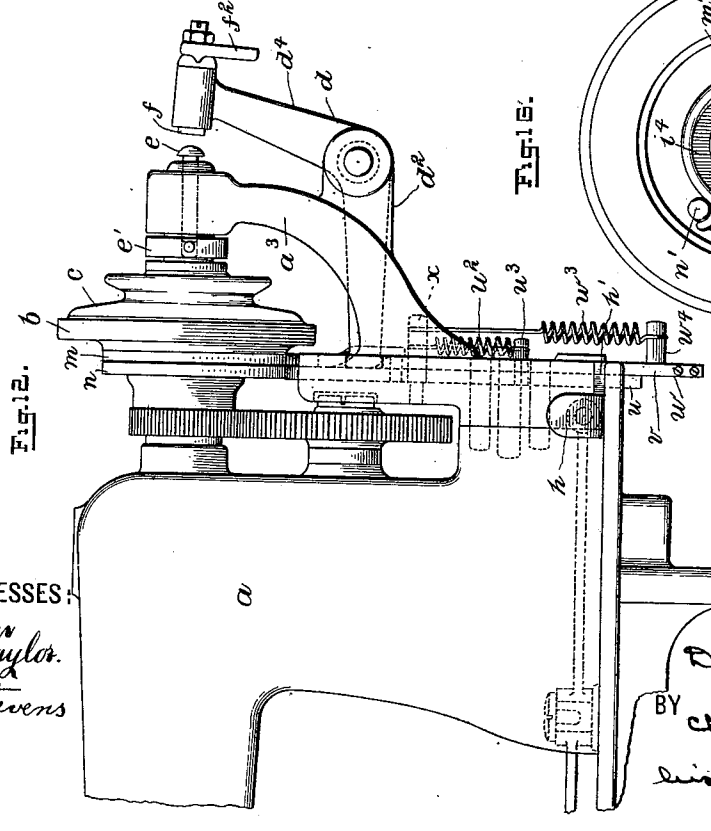


Fig. 1c.



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UNITED STATES PATENT OFFICE.

DANIEL MILLS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE STANDARD SEWING MACHINE COMPANY, OF CLEVELAND, OHIO.

STOP MECHANISM.

SPECIFICATION forming part of Letters Patent No. 635,267, dated October 17, 1899.

Application filed May 28, 1898. Serial No. 681,991. (No model.)

To all whom it may concern:

Be it known that I, DANIEL MILLS, a citizen of the United States, and a resident of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Stop Mechanism for Sewing-Machines, of which the following description, taken in connection with the drawings herewith accompanying, is a specification.

In certain classes of sewing-machines, such as buttonhole-stitching and button-sewing machines, it is desirable that the machines shall be automatically stopped after a certain predetermined number of stitches have been taken, and it is also desirable that the machines should be thus stopped with the needle above the work and the take-up in a position at or adjacent to its upward limit of movement; and my present invention has for its principal object to provide a stopping mechanism which will operate to automatically stop a machine at the time and in the position referred to without possibility of undue jar or shock to the same. This object I secure by means of the construction and arrangement of parts, as hereinafter set forth in detail and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is a side view of a sewing-machine embodying my invention. Fig. 2 is a plan view of the sewing-machine bed-plate with the arm in section through line 2 2 of Fig. 1, showing part of a buttonhole-stitching mechanism and the connection between the same and the stopping mechanism. Fig. 3 is a rear end view of the machine. Fig. 4 is an enlarged end view of the fast pulley or fly-wheel and its two connected stop-rings removed from the driving-shaft of the machine, also the stop-ring-engaging parts, the said pulley being partly broken away and showing the relative position of the parts when the machine has been brought to a stop. Fig. 5 is a central cross-section through the fast and loose pulleys and their adjacent parts upon the end of the driving-shaft, also showing the end of the loose pulley-operating lever partly in section. Figs. 6 and 7 are end views of the fast pulley and the connected stop-rings, showing the relative position assumed by the parts at different times during the stopping of the machine after the stop-rings have been engaged and rendered stationary. Figs. 8, 9, and 10 are detail views to be hereinafter referred to, and Fig. 11 illustrates a slight modification of my invention.

To explain in detail, a represents a sewing-machine head, which may be of any ordinary construction, and a' the driving-shaft, which is supported in bearings in the arm a^2 of the machine in the usual manner. This driving-shaft, as herein shown, is extended at its rear end beyond the arm of the machine and has a bearing in the upper end of a bracket-arm a^3, which latter is secured to the lower part of the sewing-machine arm by means of two screws a^4 a^4.

On the shaft a', between its bearings in the machine-arm a^2 and the bracket-arm a^3, respectively, is mounted the fly-wheel or pulley b, which is made fast thereon, and the driving-pulley c, which is loose on the shaft to rotate and have a longitudinal movement thereon. The driving-pulley is thus supported to have a longitudinal movement on the shaft, whereby it may be moved to and from a position to engage the fast pulley b and communicate motion to the machine. Any suitable form of clutch connection may be had between the pulleys, the connection, as herein shown, being secured by means of a leather ring b', seated in the end of the fast pulley b, which serves when the driving-pulley is forced against the same to frictionally lock or unite the pulleys, whereby they will operate together.

As a means for moving the driving-pulley into operative engagement with the fast pulley b, I have provided an elbow-lever d, which is pivotally supported at d' upon a projection d^2 of the bracket-arm a^3, with one arm d^3 extending into a position to engage with an operating slide-bar, to be hereinafter described, and with its other arm d^4 extending into a position to engage with one end of a loose pin e in the end of the driving-shaft for the purpose of forcing the driving-pulley c into operative engagement with the fast pulley b. A collar e' is loosely mounted on the shaft a' between the pulley c and the bracket-arm a^3 and is connected with a pin e^2, which passes transversely through the opening e^3 in the

shaft a', within which the said pin e is loosely supported. In this manner when the lever d is forced against the outer projecting end of the pin e to force the same inwardly the inner end of the pin acts against the transverse pin e^2 of the collar e', and thereby moves the latter longitudinally upon the shaft a' to force the pulley c into frictional contact with the pulley b, as described.

As herein shown, the lever d is provided with a spring-cushioned plunger f, supported within an opening f' in its upper end for engaging with the pin e. This plunger is provided with a reduced threaded portion extending through the rear wall of the opening f' and provided with a lever-arm f^2 on its outer end. On the inner side of this lever is a V-shaped projection f^3, which is normally seated within a counterpart seat f^4 in the lever d. When it is desired to render the plunger f, and thereby the lever d, inoperative, so that when automatically thrown forward to engage with the pin e the latter will not be operated, the said lever-arm f^2 may be turned to withdraw the V-shaped projection thereon from its seat in the lever, and thereby draw the plunger backward into the opening f' against the pressure of the spring f^5, which is seated therein. The plunger may be adjusted to be drawn a greater or less distance into the opening f' by adjusting the position of the lever-arm f^2 upon the screw-threaded portion of the plunger. After the said lever-arm has been thus properly adjusted it is locked from undue movement by a jam-nut f^6.

The elbow-lever d is connected with a vertically-movable slide-bar g, to be operated thereby by having the end of its lower arm d^3 extended loosely into an opening g' in said slide-bar. This slide-bar is supported in a guideway in the base a^6 of the bracket-arm a^3 and is provided with a notch g^2 in one side thereof adjacent to the lower end, into which one edge h' of a horizontally-movable slide-latch h is adapted to extend when the machine is in operation, so as to hold the vertical slide g in a lowered position with the connected lever d pressing against the end of the pin e and thereby forcing the driving-pulley c into operative engagement with the fast pulley b.

The slide-latch h, which is supported on the bed-plate of the machine, may be operated and controlled by any suitable mechanism to release the vertical slide g after a certain predetermined number of stitches have been taken, and thereby allow the said slide g to be elevated and move the connected lever d to a position, as shown in Fig. 1, to release the driving-pulley c from the pulley b, and so allow the machine to be brought to a stop. Such movement of the slide g and lever d to release the pulleys from operative engagement is secured by means of a spring g^3, which exerts a normal upward pressure upon the slide g to cause its automatic upward movement when released by its slide-latch h. The spring g^3, as herein shown, connects at one end with a pin g^4 on the slide g and at its opposite end connects with a pin g^5, which is secured upon the bracket a^6 and projects through an elongated slot g^6 in the said slide to limit the upward movement of the latter under the action of the spring g^3.

To secure the immediate stopping of the machine with its parts in a definite desired position as the driving-pulley c is released from engagement with the fast pulley b, as above set forth, I have located two stop-rings m n upon the hub of the pulley b, the ring m, which is nearest to said pulley, being provided with a fixed pin m', which projects through an elongated slot b^2 in the latter, and the other ring n being also provided with a fixed pin n', which projects through an elongated slot m^2 in the ring m and a second elongated slot b^3 in the pulley b. On that side of the pulley opposite the rings m n and within a recess b^4 therein a coiled spring i is supported with its opposite ends i' and i^2 bearing against the projecting ends of the said stop-ring pins m' and n', respectively, and exerting a pressure upon the same to yieldingly hold the pin n' in a normal position against the end wall of the slot m^2 in the ring m, as shown in Fig. 10, which figure illustrates a detail view of the rings m and n, with the spring i in dotted lines. A second coiled spring j is also supported in the recess b^4 in the pulley b with one end bearing against a fixed stud j' on said pulley and with its opposite end bearing against the stop-ring pin m' and yieldingly holding the latter and the said pulley in a normal position relative to each other with the pin m' at one end of the slot b^2 in the pulley b, as shown in Fig. 4, whereby the said stop-rings will rotate with the pulley.

When the slide-bar g is raised under the action of the spring g^3 to operate the lever d, and thereby release the driving-pulley c from engagement with the pulley b, the upper end g^7 of said slide-bar is moved into a position, as shown in Fig. 4, to engage with a lip or projection n^2 on the periphery of the ring n and so bring the latter to a positive stop. After the ring n has thus been brought to a stop the pulley b and the second ring m continue their rotation under the momentum of the machine, as shown in Fig. 6; but such further rotation is against the pressure of the connecting end i' of the spring i, whose opposite end i^2 has been made stationary with the ring n, and after the momentum has been overcome by said spring the reaction of the latter then causes a backward or return rotation of the pulley and the ring m to the position assumed at the time the ring n is first brought to a stop by the engagement of the slide-bar g, in which position of the pulley the machine is in a definite desired position with the needle above the work and the take-up at or adjacent to its upward limit of move-

ment, as shown in Fig. 1. When the pulley b makes a backward or rebound movement, however, toward its normal stopping position under the reaction of the spring, as described, it is desirable to cushion such rebound movement, whereby the pulley may be brought to a stop without sudden jar or shock. I provide for this as follows: The ring m' is provided with a lip or projection m^3 on its periphery, which is adapted to be held in a position opposite and in line with the lip n^2 on the ring n when both rings are in their normal stationary position relative to the pulley b, as shown in Fig. 4. When the pulley b continues its forward rotation under momentum after the ring n has been stopped by the slide g, the ring m is carried with the same by reason of its pin m' being engaged by the end wall of the slot b^2 in the pulley, as shown in Fig. 6. Upon the rebound movement of the pulley with the ring m under the reaction of the spring i, as above set forth, the said lip m^3, after it has reached a position in line with the lip on the ring n, is engaged by the end o' of the stop-lever o, whereby the ring m is also brought to a stop. After both of the stop-rings have been thus stopped from rotation in one direction a continued backward or rebound rotation of the pulley is permitted, as shown in Fig. 7, by reason of that end of the slot b^3 in the pulley b adjacent to the ring-pin m' being extended beyond the adjacent end of the slot m^2, as at b^5 in Fig. 4. Such continued backward rotation of the pulley, however, now that the ring-pin m' is stationary, is against the pressure of the spring j, which is caused to be compressed between the moving stud j' and the now stationary pin m', as shown in Fig. 7. This spring j is made sufficiently heavy or stiff to so limit such backward movement of the pulley as to prevent the end wall of the slot b^3 in the pulley from coming into contact with the pin n' and in expanding return the pulley to its normal stopping position with the end wall of its slot b^2 in contact with the stationary pin m', as shown in Fig. 4. In this manner the stopping of the machine is so cushioned that it is brought to a definite stop with its parts in a desired position without possibility of any undue jar or shock to the same.

The stop-lever is pivotally secured at o^2 upon the bracket a^6 and provided with an arm o^3 at its forward end, which extends beneath the lower arm of the elbow-lever d adjacent to its point of connection with the side bar g, against which it is held to be upwardly movable therewith by means of a coiled spring o^4, which is seated in a pocket in the bracket a^6, with its upper end pressing upwardly against a fixed pin o^5 on the lever which projects through a slot in the bracket to a position to be engaged by said spring, as shown by dotted lines in Fig. 3. By this means it will be understood that when the slide-bar g is moved upward into position to engage with the lip n^2 on the ring n the lever o is also moved upward therewith, under the action of the spring o^4, into position to engage with the lip m^3 on the ring n, and when the said slide-bar is moved downward to release the ring n and operate the lever d to throw the driving-pulley in frictional contact with the fast pulley b the lever o is also thereby lowered from engagement with the lip on the ring m to release the latter. The stop-ring-engaging devices are thus moved into operative position simultaneously with the releasing of the driving-pulley from contact with the fast pulley and moved from their said operative position simultaneously with the moving of the driving-pulley into engagement with the fast pulley b.

The horizontally-acting slide-latch h, which is operated to release the vertically-acting slide g at a certain predetermined time for the purpose of causing the machine to be stopped, may be operated from any suitable automatic mechanism, the same, as herein shown, being a part of the buttonhole-stitching mechanism illustrated and described in another application of mine now pending, filed November 9, 1896, and bearing Serial No. 611,486, which in part is as follows: A slide-plate r, which connects with the work-clamp in my said buttonhole-stitching machine to give the same its longitudinal movement, is supported in a suitable guideway r^3 on the bed-plate of the machine and is provided with two pins r' r', having antifriction-rollers thereon, between which a rotating heart-cam r^2 operates to communicate a longitudinal forward and backward movement thereto. A lever s, centrally pivoted on the bed-plate of the machine, is operatively connected at one end with the plate r, to be moved thereby, and at its opposite end is provided with an adjusting-screw s', which is adapted to engage with one end of the slide-latch h. By this means as the plate r is moved forward during the stitching of one side of a buttonhole the lever s is operated thereby to move the screw s' in a direction away from engagement with the latch h, and as said plate r is moved backward or in the opposite direction during the stitching of the other side of the buttonhole the lever s is operated to move the screw s' into engagement with the end of the said latch h and move the latter longitudinally, so that when the plate r has been moved the proper distance to complete the buttonhole the latch h will also have been moved the necessary distance to withdraw from the notch in the vertical slide g to release the latter and thereby allow the stop mechanism to stop the machine in the manner described. By turning the adjusting-screw s' in the proper direction, so that its end will project more or less forward of the lever s, the timing of the latch h may be regulated to release the vertical slide g sooner or later, according to the number of stitches it may be desired to have the machine make

before being stopped. The machine may also be stopped at any time independent of the automatic mechanism by operating the latch h by hand, the forward end of which is turned up to enable the same to be grasped by the operator for such purpose.

A chain or other suitable connection extending beneath the machine may be attached to the slide g as a means for lowering the same with its connected parts when it is desired to start the machine, and a spring t, acting upon the latch h to press its edge h' against the slide-bar g, causes said edge to enter the notch g^2 in the latter when lowered to a position opposite the same.

Referring to Fig. 11, I have illustrated a slight modification in the construction and arrangement of the parts embodying my invention. In this instance I have shortened the slot b^3 in the pulley b so that its end wall will be in contact with the stop-ring pin n' when the rings are held in their normal stationary position relative to the pulley b, as shown. This will cause the said end wall of the slot b^3 during the rebound movement of the pulley under the reaction of the spring-arm i^2 to engage directly with the pin n' when the pulley has reached its normal stopping position during such return rotation, and said pin being movable in such direction—*i. e.*, the direction of the rebound of the pulley—will yield against the pressure of the spring-arm i when the pulley strikes against the same and then be again moved forward by the spring to return the pulley to its proper stopping position. When the pin n', with the engaging spring-arm i^2, is thus employed to cushion the rebound of the pulley, the spring j is dispensed with.

Referring to Fig. 16, I have shown the hub in the fast pulley, around which the spring i is supported, provided with an eccentric portion i^4, over which the ends of the spring draw and are supported when being acted upon by the stop-rings during the stopping of the machine, as before described. It has been found in practice that the spring i, when loosely supported on a concentric hub, becomes unduly strained and weakened after much use, and this is avoided by forming the hub with the eccentric portion, as shown.

Referring to Figs. 12, 13, 13^a, 14, and 15, I have illustrated a means for coöperating with the stop mechanism hereinbefore described for further reducing possibility of undue jar or shock to the machine when being stopped. At one side of the stop-bar u, corresponding to the bar g before referred to, is supported a second vertically-movable stop-bar w, which I term the "power" stop-bar. This stop-bar w connects with the elbow-lever d by receiving one end of the latter within an opening w' therein, and adjacent to its lower end is provided with a notch or cut-away portion w^2, which is adapted to receive the projection h' on the horizontally-acting slide-latch h when the same is engaging with the stop-bar u within its latch-receiving notch u', as more clearly shown in Fig. 15.

According to my invention the power stop-bar w is adapted to be released by the latch h in advance of the stop-bar u, whereby the power may be thrown off and the momentum of the machine thereby partially reduced prior to the action of the stop-rings. To effect this, I have provided a spring-plate v, which is secured at its lower end to the bar w by means of screws v' v', with its upper end v^2 forming the lower wall of the notch w^2 and having a normal tendency to spring outwardly from the face or edge of the bar. An adjusting-screw v^3 passes loosely through an opening in the upper end of said plate v, with its enlarged head engaging with the latter and its threaded end connecting with the bar w, within a screw-threaded opening therein. By turning this screw v^3 in the proper direction the upper end of the plate v may be adjusted back and forth relative to the outer edge of the notch u' in the stop-bar u. By this construction it will be understood that the slide-latch h may be caused to release the power stop-bar w prior to the release of the bar u, and, further, that the difference in the time between the release of said bars may be regulated as desired simply by turning the screw v^3 to adjust the position of the engaging end of the plate v.

In operation the two bars u and w are held in their lowered position by the engaging latch, as shown in Fig. 15, so as to release the stop-rings and hold the driving-pulley in engagement with the fast pulley. As the buttonhole or other particular work being operated upon is nearing completion, however, the automatically-moving latch h first releases the bar w and allows it to be thrown up, as shown in Fig. 14, so as to operate the lever d, and thereby throw off the power, and the momentum of the machine then causes a continued operation of the same under a greatly-reduced speed, so that when the further movement of the latch releases the stop-bar u the machine may be stopped by the action of the stop-rings, as hereinbefore described, without undue jar. It will thus be obvious from the foregoing that the machine may be easily brought to a stop without shock irrespective of the speed at which it may be running.

A spring w^3, connecting at its lower end with a pin w^4 on the bar w and at its upper end with a pin x on the bracket a^3, serves to automatically throw the said bar w upward after being released by the latch h, as before described, and a spring u^2, connecting at its lower end with a pin u^3 on the bar u and at its upper end with the said fixed pin x, serves to automatically throw the bar u upward when it is released by the latch h. When the bar w is lowered for the purpose of starting the machine, the bar u is lowered therewith from engagement with the stop-ring by means of a pin u^4 on the bar u extending through an elongated

slot w^5 in the bar w to be engaged by the end wall of said slot when the bar w is lowered. The slot w^5 being elongated permits the bar w to have its described upward movement independent of the bar u, as shown in Fig. 14.

Having thus set forth my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a sewing-machine, the combination with the driving-shaft having a fast pulley thereon, of two stop-rings supported to rotate with said pulley, means connecting said rings with the pulley and yieldingly holding the same in a normal stationary position relative thereto, and means for engaging with each of said rings and stopping rotation of one ring in one direction and the other ring in the opposite direction, substantially as and for the purpose set forth.

2. In a sewing-machine, the combination with the driving-shaft having a fast pulley thereon, of two stop-rings supported to rotate with said pulley, means connecting said rings with the pulley and yieldingly holding the same in a normal stationary position relative thereto, devices for engaging with said rings and stopping rotation of one ring in one direction and the other ring in the opposite direction, both of said devices being normally held in a position away from engagement with said rings when the machine is in operation, and means for moving said devices into position to engage with the stop-rings.

3. In a sewing-machine, the combination with the driving-shaft having a fast pulley thereon, of two stop-rings supported to rotate with said pulley, means connecting said rings with the pulley and yieldingly holding the same in a normal stationary position relative thereto, devices for engaging with said rings and stopping rotation of one ring in one direction and the other ring in the opposite direction, a latch device holding said stop devices away from engagement with the rings when the machine is in operation, mechanism for automatically releasing said stop devices at a certain predetermined time, and means for automatically moving the stop devices, when released by said latch, into position for engaging with the rings.

4. In a sewing-machine, the combination with the driving-shaft having fast and loose pulleys thereon, of two stop-rings supported to rotate with said fast pulley and each having connection with the same, two operatively-connected devices for engaging with said rings and stopping rotation of one ring in one direction and the other ring in the opposite direction, a pivoted lever having one arm for holding the said loose pulley in operative engagement with the fast pulley and its other arm connecting with said stop device to be operated therewith, means for holding said lever in a position with the loose pulley in operative engagement with the fast pulley and the stop devices away from engagement with the stop-rings, and means for automatically moving said stop devices into engagement with the stop-rings and operating said lever to release the loose pulley from engagement with the fast pulley, when such lever and stop devices have been released by said holding means.

5. In a sewing-machine, the combination with the driving-shaft having a fast pulley thereon, of two stop-rings supported to rotate with said pulley, means for limiting the rotary movement of said rings relative to the pulley in one direction, and a spring yieldingly holding said rings against movement relative to the pulley in the opposite direction, and means for engaging with said rings and stopping rotation of one ring in one direction and the other ring in the opposite direction, whereby the connected pulley will be brought to a stop without undue jar or shock.

6. In a sewing-machine, the combination with a driving-shaft having a fast pulley thereon, of two stop-rings supported to rotate with said pulley and each being provided with a fixed pin thereon, one of said rings being provided with an elongated slot through which the pin on the other ring extends, a spring pressing against the pin on one ring and yieldingly holding the same in a normal position against the end wall of the slot in the other ring, means yieldingly holding said rings in a normal stationary position relative to the pulley, and means for engaging with said rings and stopping rotation of one ring in one direction and the other ring in the opposite direction.

7. In a sewing-machine, the combination with the driving-shaft provided with a fast pulley having a slot therein, of a stop-ring having a fixed pin projecting through said slot in the pulley, a spring acting upon said pulley and the pin on the ring to movably hold said pin against the end wall of the slot in the pulley, a second stop-ring yieldingly held in a normal stationary position relative to the pulley, and means for engaging with said stop-rings and stopping rotation of one ring in one direction and the other ring in the opposite direction.

8. In a sewing-machine, the combination, with the driving-shaft provided with a fast pulley having two slots therein, of a stop-ring having a fixed pin projecting through one of said slots in the pulley and also having an elongated slot, a second stop-ring having a fixed pin projecting through said slot in the first-mentioned ring and through the second slot in the pulley, a spring acting against each of said pins and yieldingly holding the same with the connected rings in a normal stationary position relative to each other and to the pulley, and means for engaging with said stop-rings and stopping rotation of one ring in one direction and the other ring in the opposite direction.

9. In a sewing-machine, the combination with the driving-shaft provided with a fast

pulley, of a stop-ring provided with an elongated slot and with a fixed pin, a second stop-ring having a fixed pin projecting through the slot in the first ring, means for yieldingly holding the pin on the said second ring against the end wall of the slot in the first-mentioned ring and the pin on the latter against a fixed wall or part of the pulley, and means for engaging with said stop-rings and stopping rotation of one ring in one direction and the other ring in the opposite direction, substantially as and for the purpose set forth.

10. In a sewing-machine, the combination, with the driving-shaft, of a pulley provided with an eccentric hub or projection secured upon said shaft, a stop-ring supported to rotate with said pulley and be movable independent thereof, a spring loosely supported upon said eccentric hub with one end connecting with the stop-ring, and means for engaging with the clutch-ring to stop rotation of the same.

11. In a sewing-machine, the combination, with the driving-shaft, of a pulley provided with an eccentric hub or projection secured upon said shaft, two stop-rings supported to rotate with said pulley and be movable independent thereof, a spring loosely supported upon said eccentric hub with its opposite ends connecting with said stop-rings, and means for engaging with the stop-rings.

12. In a sewing-machine, the combination, with the driving-shaft having a fast pulley thereon, a loose driving-pulley, and a stop mechanism, of means, embodying a slide-bar, for moving the driving-pulley into contact with the fast pulley or releasing the same from such contact, a stop-bar, a latch device engaging with both said stop-bar and slide-bar to hold the same in position whereby the stop mechanism is released and the driving-pulley held in contact with the fast pulley, means for securing the release of the slide-bar in advance of the stop-bar when released by the latch, and means for operating said bars when released, for the purpose set forth.

13. In a sewing-machine, the combination, with the driving-shaft having a fast pulley thereon, a loose driving-pulley, and a stop mechanism, of means, embodying a slide-bar, for moving the driving-pulley into contact with the fast pulley or releasing the same from such contact, a stop-bar, a latch device engaging with both said stop-bar and slide-bar to hold the same in position whereby the stop mechanism is released and the driving-pulley held in contact with the fast pulley, a device adjustably supported upon the slide-bar for engaging with the latch whereby said slide-bar may be released in advance of the stop-bar upon the disengagement therewith of the latch, and means for operating said bars when released.

14. In a sewing-machine, the combination, with the driving-shaft having a fast pulley thereon, a loose driving-pulley, and a stop mechanism, of means, embodying a slide-bar, for moving the driving-pulley into contact with the fast pulley or releasing the same from such contact, a stop-bar, an automatically-movable latch engaging with both said stop-bar and slide-bar to hold the same in position whereby the stop mechanism is released and the driving-pulley held in contact with the fast pulley, a spring-plate secured upon said slide-bar with its free end engaging the said latch, means for adjusting the position of the free end of said plate relative to the latch-engaging portion of the stop-bar, and means for operating said bars when released, substantially as and for the purpose set forth.

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Witnesses:
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