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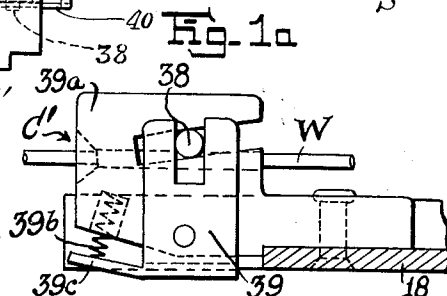
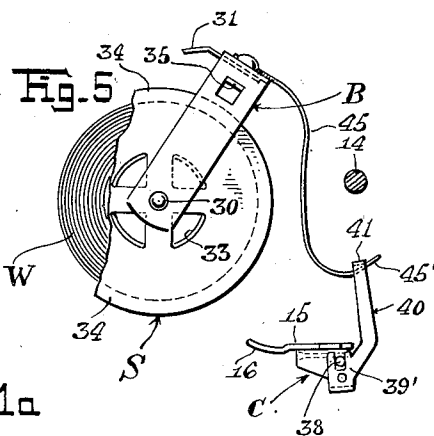
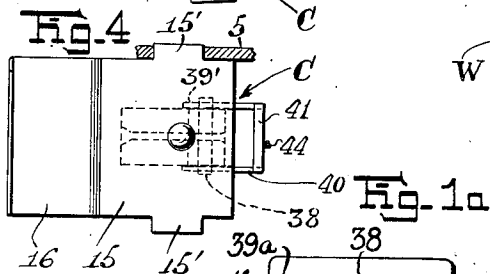
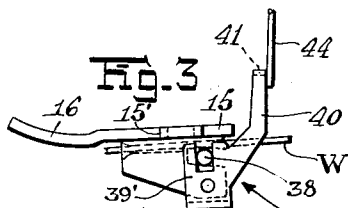
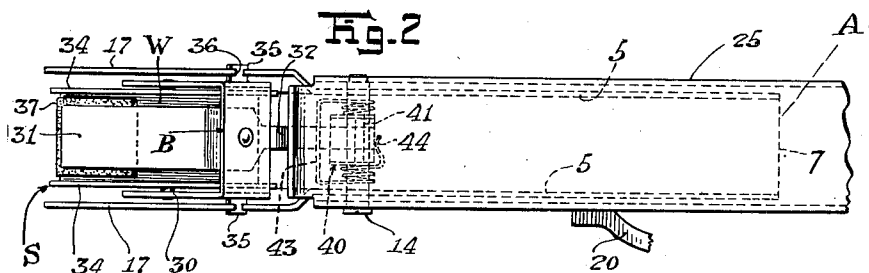
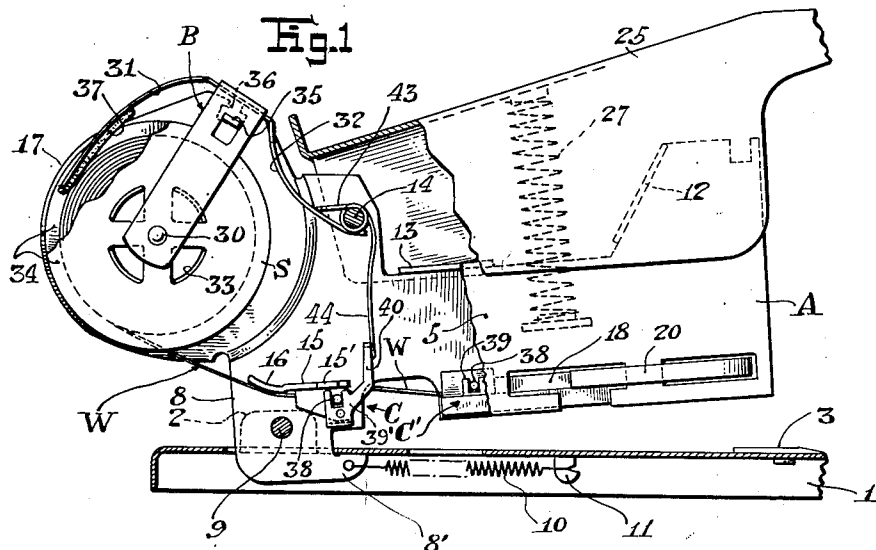
W. FAAS

2,265,423

STAPLING MACHINE

Filed July 30, 1940

2 Sheets-Sheet 1



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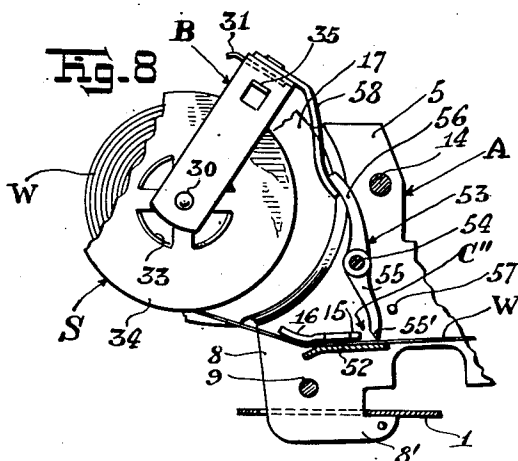
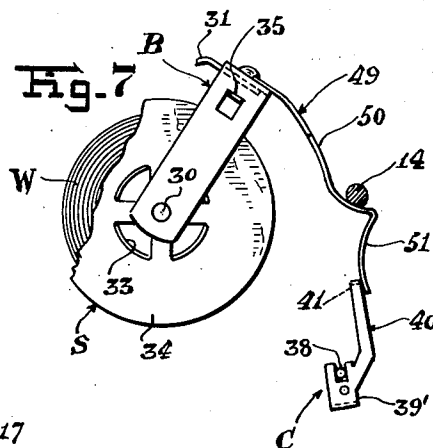
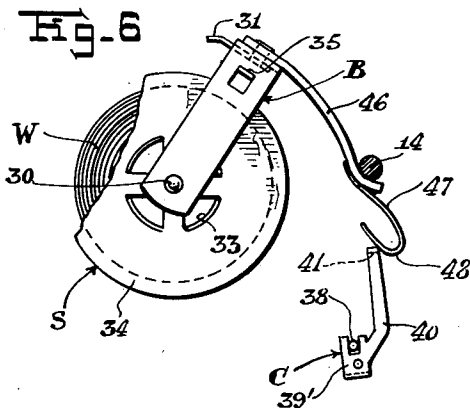
W. FAAS

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STAPLING MACHINE

Filed July 30, 1940

2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,265,423

STAPLING MACHINE

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Application July 30, 1940, Serial No. 348,354

18 Claims. (Cl. 140—130)

My invention relates to stapling machines and particularly to those of the type disclosed in Patent No. 1,934,104 granted November 7, 1933 on an application of Victor A. Svensson; such a machine being adapted to fasten together superposed sheets or layers of paper or other material by staples cut and formed from a long piece or strand of staple stock, such as wire, which in repeated operations of the machine, is automatically fed from a suitable source, such as a spool or reel, in successive and substantially uniform lengths to the proper position for the production of the staples therefrom.

In some aspects my invention is an improvement over that disclosed in a pending application of Frederick C. Houwen, Serial No. 294,597 filed September 13, 1939, and entitled Stapling machines; (which application has matured into Patent No. 2,225,054, dated December 17, 1940) and while adapted to be incorporated in machines of various types and constructions, for illustrative purposes my invention will herein be shown and specifically described as applied to a stapling machine which is generally similar to those disclosed in said application and in said Patent No. 1,934,104.

A machine of the type referred to carries a spool or reel of wire from which the staples are produced, and in each operation of the machine a length of wire sufficient for the production of a single staple is withdrawn from the reel and advanced in the machine by a reciprocable feeding device, preferably including a one-way clutch, designed to grip the wire only during movement of such device in one direction. The machine also comprises a second but relatively stationary one-way wire gripping device or clutch past or through which the wire travels freely as it is advanced in the machine but which acts to grip the wire whenever the latter tends to move with respect thereto in a reverse direction and thereby prevents such reverse or retrograde movement. Each of said clutches usually comprises a movable wire gripping element which is biased to operative position by a small delicate spring that is built into the clutch as a part thereof. Such a spring is liable to break, and under certain conditions, as, for example, when the machine is subjected to the effects of salt or moisture or is used where dirt or dust collects rapidly, the spring is likely to become corroded or gummed up and consequently to be rendered inoperative.

Also in such a machine the spool or reel referred to above, is usually a part of a removable self-contained unit or mounting which is adapted to be quickly and easily applied to the machine and to be readily replaced, when necessary, by a similar unit with a full spool. For the attainment of the objects set forth in the aforesaid Patent No. 1,934,104, the said unit is so designed

and the arrangement for supporting it is such that when this unit is properly and operatively mounted in the machine, the spool in addition to being rotatable about its own axis, is also yieldingly mounted for bodily translatory movement in the general direction of the force exerted by the feeding device in withdrawing wire from the spool and advancing it in the machine. To insure the most effective operation of the machine, it is desirable to provide means, preferably resilient, for opposing said translatory movement of the spool under the action of the wire feeding means and also means for exerting a braking action opposing rotary movement of the spool about its own axis.

One of the objects of my invention is to provide in a machine of the character described an improved and simple construction and arrangement whereby the machine is operatively and inoperatively conditioned respectively by or incidentally to the mounting therein of the wire carrying device or spool unit and the removal thereof from the machine.

Other objects of my invention are to provide such an improved construction whereby the machine will be operatively conditioned only when a wire mounting or carrier of proper design is correctly positioned in the machine, and preferably whereby various further objects of the invention disclosed in said application Serial No. 294,597 (now Patent No. 2,225,054) will effectively be attained.

Another object is to provide a construction whereby a wire gripping device or clutch of such a machine will be operatively and inoperatively conditioned respectively upon or incidentally to the mounting of the wire carrying device in and the removal thereof from the machine.

Another object is to effect or control the application of a bias to the movable wire gripping element of a clutch or gripping device of the machine by or as an incident to the mounting of the wire carrying or spool unit in the machine.

A further object is to provide a construction whereby the bias for the movable wire gripping element of a gripping or clutch device in such a machine, is furnished by a member, such as a spring, which is separate from or not a built-in part of said gripping or clutch device.

Another object is to provide the machine with a removable wire carrying device or spool unit having means which is adapted to effect or at least control the application of bias to the movable wire gripping element of a gripping or clutch means upon the mounting of such device in the machine and which is also adapted to coact with a part of the machine to oppose bodily translatory movement of the spool or reel in one direction under the action of the wire feeding or withdrawing means.

Still another object is to provide the removable spool unit of such a machine with resilient means which upon the mounting of such unit in the machine, is designed to engage the movable wire gripping element of a gripping or clutch device or a part connected to said element, and which by reason of such engagement, is adapted to effect the spring-biasing of said element to operative condition and also yieldingly to oppose bodily translatory movement of the spool in one direction under the action of the wire feeding means.

Other objects and features of my invention will appear from the following description and the appended claims.

For a clearer understanding of my invention, attention is directed to the drawings which accompany and form part of this specification and in which:

Figure 1 is a view in side elevation, partly in section and partly broken away, of a stapling machine embodying a preferred form of my invention, the parts being shown in the positions they normally occupy at the end of a complete operation of the machine when the latter has a spool of staple wire properly mounted therein;

Fig. 1a is an enlarged detailed elevational view, partly in section, showing the wire-advancing clutch device of the machine illustrated in Fig. 1;

Fig. 2 is a plan view of the machine shown in Fig. 1, the base of the machine being omitted;

Fig. 3 is an enlarged view in side elevation showing the relatively stationary one-way wire clutch device embodied in the machine illustrated in Figs. 1 and 2, and certain parts associated with said device;

Fig. 4 is a plan view of the structure shown in Fig. 3;

Fig. 5 is a fragmental view in side elevation, partly in section, of a stapling machine such as shown in Figs. 1 and 2, illustrating a modified form of my invention; and

Figs. 6, 7 and 8 are views similar to Fig. 5, respectively illustrating three further modifications of my invention.

Referring to the drawings and particularly to Figs. 1 and 2, the stapling machine shown comprises a preferably rectangular flanged base 1 having a pair of spaced lugs 2 (only one of which is shown) struck up therefrom adjacent its rear end and an anvil 3 secured thereto adjacent its forward end. Reference character A designates a support or frame for carrying a reel or spool of wire, the wire feeding or withdrawing means, the staple forming and driving means and various associated parts, said frame comprising a casing having two spaced parallel plates 5 connected at their forward ends by a transverse web 7. At their rear ends plates 5 have similar projections 8 (only one being shown) which extend down through the openings formed in base 1 by striking up the lugs 2 therefrom; and a horizontal pin 9 mounted in said lugs and extending loosely through openings provided in the projections 8, serves to support frame A on the base for pivotal movement. At their lower ends the projections 8 are provided with forwardly extending arms 8', and two tensioned springs 10 are respectively connected at their ends to said arms and to two lugs 11 struck from the base. (Only one each of the arms 8', springs 10 and lugs 11 are shown.) Springs 10 bias frame A about pin 9 to the raised or uppermost position thereof shown in Fig. 1, upward movement of

said frame being limited by engagement of arms 8' with base 1. The plates 5 are held in proper spaced relation by the web 7, web portions 12 and 13, pins or screws 9 and 14 and a flat spacing member 15, said spacing member having reduced portions 15' which closely engage openings formed in said plates.

The plates 5 have similar rearwardly extending and outwardly offset portions 17 from and between which a spool of wire S is normally supported. Spacing member 15 has a rearward upwardly curved extension 16 which acts to guide the wire W as it is withdrawn from spool S for advancement in the machine to proper position for the production of staples therefrom. The feeding means for withdrawing wire from spool S and advancing it in the machine comprises a slide 18 mounted in the lower portion of frame A for horizontal reciprocatory movement. One-way wire gripping devices, preferably in the form of clutches C, C', are respectively secured to the spacing member 15 and to the rear end of slide 18. When the wire is properly threaded in the machine, as shown in Fig. 1, it extends from spool S through both of the clutches C, C' and also through a guide 20 which is carried by slide 18 and from the forward end of which the wire is directed transversely of the front end portion of frame A in position for the production of a staple therefrom and for the driving of such staple upon the actuation of the machine if the latter, including its said clutches, is then in operative condition. Each of the clutches C, C' is of such construction that when the same and the machine are in operative condition it will permit free advancing movement of the wire therethrough but will prevent rearward or retrograde movement of the wire relatively thereto. Accordingly when the machine is operatively conditioned and slide 18 is moved rearwardly from the position shown in Fig. 1, clutch C holds the wire W against rearward movement towards the spool while clutch C' and guide 20 move freely along the wire, with the result that the distance which the wire projects from the forward end of the guide is increased by the amount of such rearward movement; and when slide 18 is thereafter moved forwardly and returned to said position clutch C' grips the wire so that it is moved forwardly with the slide and a length thereof substantially equal to such forward movement is withdrawn from spool S, the wire then passing freely through clutch C.

The mechanism for cutting the wire and for forming and driving the staples produced from the wire in the operation of the machine comprises a plunger device (not shown) mounted for vertical reciprocatory movement within the forward end portion of frame A. This plunger device has a suitable connection, such as a bell crank connection (not shown) with slide 18 whereby the latter is moved rearwardly and forwardly respectively by the downward and upward movements of said device in the frame A.

The means for actuating the machine comprises a long deeply channelled lever 25 which is pivoted adjacent its rear end, as by the pin or screw 14, to the rearward portion of frame A. The lever 25 extends forwardly of and beyond frame A and is provided at its front end with a handle (not shown). At a small distance rearwardly of its handle the lever 25 has a pivoted link connection (not shown) with the above-mentioned plunger device mounted in frame A.

A coiled compression spring 27 of greater strength than the springs 10 combined, is disposed between lever 25 and frame A and constantly tends to maintain said lever and the aforesaid plunger device in their raised or uppermost position.

The spool of wire S is part of a self-contained mount or unit of substantially the same construction as the unitary spool-supporting structure or device shown in the above-mentioned Patent No. 1,934,104. In addition to the spool, this unit comprises a U-shaped bracket B on and between the legs of which the spool is permanently mounted for rotation about its axis by a shaft 30, a spring brake 31 for resisting rotary movement of the spool, and a resilient member or spring 32 adapted to oppose bodily movement of the spool in response to the pull exerted on the wire by the wire-feeding means. The spool S consists of a hub 33 on which the wire is wound and which is secured to shaft 30, and two similar annular flanges or discs 34 respectively secured to the ends of said hub. The legs of bracket B, at points adjacent the base of the latter, have similar struck out angular lugs 35 which are adapted to be disposed, as shown in Figs. 1 and 2, in substantially L-shaped slots 36 provided in the portions 17 of frame A to thereby removably support the bracket and the parts it carries from and between said spaced portions for bodily swinging movement about an axis fairly remote from the axis of spool S. The springs 31 and 32 may be formed as a single member and secured, as by riveting, to the base of bracket B. Adjacent its free end the spring 31 is provided on its inner surface with a yielding facing 37 which is adapted, so long as there is any wire wound on spool S, to be pressed by said spring against the outer convolutions of the wire. Accordingly during operation of the machine, the spring 31 will always act to exert a braking action on the spool opposing its rotation.

When the unitary device comprising bracket B and spool S is properly mounted in the machine as shown in Fig. 1, spring 32 will coact with a part of the machine, such as the pin 14, to bias the spool to a position somewhat to the left or rearwardly of the position (vertically below the pivot lugs 35) it tends to assume under the action of gravity and yieldingly to oppose forward swinging movement of the bracket and spool about said lugs under the pull exerted by the feeding means on the wire in withdrawing the same from the spool.

The structure so far described is generally similar in construction to and, when properly assembled and in operable condition as shown in Fig. 1, will function in substantially the same manner as the machine disclosed in the aforesaid Svensson Patent No. 1,934,104, reference being made to such patent for a more detailed description.

It will be apparent that when the machine is operatively conditioned both of the clutches C, C' must necessarily be in operative condition, and that if either of said clutches is in inoperative condition the machine will in consequence be inoperatively conditioned, at least in so far as obtaining practicable results thereby is concerned. It is an outstanding feature of my invention to provide a construction whereby one of such clutches, preferably the relatively stationary clutch C, and consequently the machine itself, will be operatively and inoperatively conditioned respectively upon or incidentally to the

mounting of the spool unit in proper position in the machine and the removal thereof from the machine, and preferably also whereby bodily translatory movement of the spool under the action of the wire feeding means in withdrawing wire therefrom will be opposed (and preferably, though not necessarily, yieldingly opposed) when the spool is properly mounted in the machine. I shall now proceed to describe that construction as embodied in the machine shown in Figs. 1 and 2.

The one-way clutch C' (see Fig. 1a) comprises a wire-gripping element or roller 38 that is movably mounted within an inclined slot provided in a block 39a which is secured to the slide 18 and through which the wire W extends. The roller 38 is constantly but yieldingly biased to operative wire-gripping position in said inclined slot by a yoke 39, which coacts with and embraces the ends of the roller and which is pivoted on the block 39a, and a delicate coil spring 39b bearing at one end against said block and at the other end against a tab 39c projecting from the base of the yoke. The spring 39b is disposed for the greater part of its length within a recess provided in block 39a, and is virtually a built-in part of clutch C'. The construction of this clutch C' may be, and preferably is, the same as that of the corresponding one-way wire clutch of the machine shown in said Houwen application Serial No. 294,597 (now Patent No. 2,225,054). The clutch C however, while generally similar to clutch C', differs therefrom in that it has no built-in spring for constantly biasing the wire-gripping roller 38 thereof to gripping position and also in that its pivoted yoke 39' for controlling the position of the gripping roller is of a somewhat different construction than the corresponding yoke 39 of clutch C'. The said yoke 39', as clearly shown in Figs. 1 to 4, is provided at the right side of its pivot with a bifurcated vertically extending portion or fork 40 the two branches of which are joined by a horizontal section or cross bar 41. The design of the yoke 39' is such that it is biased by its own weight about its pivot to a position slightly to the right of that shown in Figs. 1 and 4 and wherein it maintains the roller 38 in non-gripping relation or position with respect to that portion of the wire W which extends past or through clutch C. It is therefore apparent that clutch C is gravity biased to an inoperative condition. As indicated above, whenever this clutch is inoperatively conditioned the machine will also be so conditioned.

In order to effect the adjustment of clutch C to operative condition and maintain the same in that condition when the spool unit is properly mounted in the machine, there is provided a resilient member, preferably in the form of a U-shaped wire spring 43, which is loosely mounted on the pin 14 for pivotal movement by having portions of its legs formed into coils which embrace said pin. One leg of this spring has a long arm or section 44 which normally extends downwardly from pin 14 substantially at right angles to the main U-portion of the spring so that its end is disposed in the path of the cross bar 41 of yoke 39'. Spring 43 is adapted operatively to coact both with the clutch C and the spool unit, the arrangement being such that upon properly mounting the spool unit on the frame A with its spring 32 engaging pin 14 as shown in Fig. 1, so that it will yieldingly oppose bodily swinging movement of the spool unit under the action of the feeding means in withdraw-

ing wire from the spool, the said spring 32 engages beneath the base of the U-portion of spring 43 and thereby maintains the arm 44 of the latter positioned with its end pressing against the bar 41 of the clutch yoke 39'. The spring arm 44 then acts through yoke 39' to bias the roller 38 to wire-gripping position in the inclined recess wherein it is disposed, and thus said clutch and consequently the machine are operatively conditioned. Obviously removal of the spool unit from frame A, results in the return or adjustment of clutch C' and therefore of the machine, to inoperative condition.

It is to be understood that in the modifications illustrated in Figs. 5 to 8, the structure of the stapling machine which is not shown is the same as in the machine shown in Figs. 1 and 2; and also that in the different figures of the drawings, such of the parts shown as are of like construction are respectively designated by the same reference characters.

That modification of the invention shown in Fig. 5 differs structurally from the machine shown in Figs. 1 and 2, only in that the spring 43 is omitted and the spring 32 of the spool unit is replaced by a long spring 45 which is secured to the bracket B and has a curved upwardly extending free end portion 45'. When the spool unit of this form of the invention is properly mounted in the machine, the spring 45 does not engage or coact with pin 14, but the end portion 45' of said spring engages beneath and exerts a rearward pressure against the bar 41 of the yoke extension 40. Accordingly the spring 45 then coacts with the pivoted yoke not only to effect the operative conditioning of clutch C and therefore of the machine, but also yieldingly to oppose bodily swinging movement of the spool under the action of the wire feeding means. The manner in which this form of the invention functions is otherwise the same as the machine shown in Figs. 1 and 2.

That form of the invention illustrated in Fig. 6, employs in place of the springs 32 and 43 of the machine shown in Figs. 1 and 2, a fairly stiff arm 46 and a spring or spring section 47 carried by said arm. The arm 46 is secured at one end to bracket B and curves upwardly at its free end, while the spring 47 is secured to the curved end of arm 46 and has a rearwardly and upwardly extending free end portion 48. In this case the construction and arrangement are such that when the spool unit is properly mounted in the machine, the curved free end of the arm 46 engages beneath the pin 14 and coacts therewith to oppose forward swinging movement of the spool under the action of the feeding means, while the spring section 47 engages and presses rearwardly against the bar 41 of yoke 40 thereby biasing the roller 38 to wire-gripping position and operatively conditioning clutch C and consequently the machine.

The modified form illustrated in Fig. 7 differs from that shown in Fig. 6 only in that it embodies a single long spring 49 in place of the stiff arm 46 and the spring section 47 carried by said arm. The spring 49 is of the form shown and comprises two resilient portions or sections 50 and 51 the ends of which, when the spool unit is properly mounted in the machine, respectively engage the pin 14 and the bar 41 of yoke extension 40. The spring section 50 then coacts with pin 14 yieldingly to oppose swinging movement of the spool unit under the action of the wire feeding means, and spring section 51 co-

acts with the pivoted yoke 39' in the same manner as the arm 44 of the spring 43 of the structure shown in Figs. 1 and 2 and as the spring section 47 of the construction shown in Fig. 6.

Fig. 8 illustrates a modification of the invention embodying in place of the relatively stationary one-way clutch C of the structure shown in Figs. 1, 2, 5, 6 and 7, a one-way wire-gripping device C' of somewhat different construction. This device C' comprises the spacing plate 15, a plate 52 secured to the frame A and spaced slightly below the plate 15 to form therewith a guiding channel for the wire W as it is withdrawn from spool S and advanced in the machine, and a wire-gripping lever 53 pivoted intermediate its ends on a horizontal pin 54 which is mounted above the plate 15 in the walls 5 of frame A. The lever 53 comprises a lower arm 55 having a pointed end 55' and a somewhat longer and heavier upper arm 56, the arrangement being such that this lever is biased by its own weight about pin 54 in a leftward direction to a non-gripping position in which its arm 55 engages a stop-pin 57 carried by frame A and the pointed end 55' of said arm does not engage the wire W. When the lever 53 is in this position it is apparent that the gripping device C' and therefore the machine are inoperatively conditioned. This modification also embodies in place of the spring 32 of the machine shown in Figs. 1 and 2, a relatively stiff arm 58 which is secured to the bracket B. The construction and arrangement are such that when the spool unit is properly mounted on frame A, the free end of arm 58 does not engage the pin 14, but instead, directly engages the upper end of the arm 56 of lever 53 and coacts with this lever to oppose bodily swinging movement of the spool under the action of the feeding means and also acts yieldingly to bias such lever to gripping position, as shown, in which the pointed end 55' of its arm 55 engages the wire W and coacts with the plate 52 to grip the wire and prevent rearward or retrograde movement thereof. Therefore upon so mounting the spool unit the gripping device C' and consequently the machine are operatively conditioned. Except as shown and above described, the construction and operation of this form of the invention are the same as those of the other modifications herein shown and described.

I claim:

1. In a stapling machine having a removably mounted carrier for staple stock from which such stock is adapted to be withdrawn and advanced in the machine upon operation of the latter; the combination of a device capable of being operatively and inoperatively conditioned and past which the staple stock travels as it is so withdrawn and advanced, said device being normally operatively conditioned and when so conditioned being adapted to prevent retrograde movement of said stock, said device being biased to inoperative condition, and means cooperative with said carrier to effect the operative conditioning of said device as an incident to the mounting of the carrier in the machine.

2. In a stapling machine having a removably mounted carrier for staple stock from which such stock is adapted to be withdrawn and advanced in the machine upon operation of the latter; the combination of a device capable of being operatively and inoperatively conditioned and past which the staple stock travels as it is so with-

drawn and advanced, said device when operatively conditioned being adapted to prevent retrograde movement of said stock, and means controllable by said carrier whereby the inoperative conditioning of said device is dependent on and effected as an incident to the removal of the carrier from the machine.

3. In a stapling machine having a removably mounted carrier for staple stock from which such stock is adapted to be withdrawn and advanced in the machine upon operation of the latter; the combination of a device capable of being operatively and inoperatively conditioned and past which the staple stock travels as it is so withdrawn and advanced, said device when operatively conditioned being adapted to prevent retrograde movement of said stock, and means comprising a member supported by said carrier and coactable with a part of said device for effecting the operative conditioning of such device as an incident to the mounting of the carrier in the machine.

4. In a stapling machine having a removably mounted carrier for staple stock; the combination of a one-way clutch device capable of being operatively and inoperatively conditioned and through which staple stock is adapted to extend as it is withdrawn from said carrier, and means associated with said carrier for effecting the operative conditioning of said clutch device as an incident to the mounting of said carrier in the machine.

5. In a stapling machine having a removably mounted carrier for staple stock; the combination of a one-way clutch device capable of being operatively and inoperatively conditioned and through which staple stock is adapted to extend as it is withdrawn from said carrier, said clutch device being normally operatively conditioned, and means controllable by said carrier for effecting the inoperative conditioning of said clutch device upon and as an incident to the removal of the carrier from the machine.

6. In a stapling machine having a support and a staple wire carrier removably mounted on said support; the combination of a wire-gripping device past which the wire travels as it is withdrawn from said carrier and advanced in the machine, said device being capable of being operatively and inoperatively conditioned and when operatively conditioned being adapted to grip said wire upon retrograde movement of the latter relative thereto to thereby prevent such retrograde movement, and means comprising an element applied to said carrier and effective to operatively condition said device upon the mounting of the carrier on said support.

7. In a stapling machine having a support and a staple wire carrier removably mounted on said support; the combination of a one-way wire-gripping device past which the wire is adapted to travel as it is withdrawn from said carrier and advanced in the machine, said device being capable of being operatively and inoperatively conditioned and including a movable member which when the device is in operative condition is biased in a given direction, and means controllable by said carrier for effecting the application of such bias to said member and thereby the operative conditioning of said device upon and as an incident to the mounting of the carrier on said support.

8. In a stapling machine having a support and a staple wire carrier removably mounted on said support; the combination of a one-way clutch

device through which the wire is adapted to pass at it is withdrawn from said carrier and advanced in the machine, said device being capable of being operatively and inoperatively conditioned and including a movable member which when the device is in operative condition is spring-biased in a given direction, and means associated with said carrier and comprising a resilient element for effecting the application of such spring bias to said member and thereby the operative conditioning of said device as an incident to the mounting of the carrier on said support.

9. In a stapling machine having a support and a staple wire carrier removably mounted on said support; the combination of a one-way clutch device through which the wire is adapted to pass as it is withdrawn from said carrier and advanced in the machine, said device being capable of being operatively and inoperatively conditioned and including a movable member which when the device is in operative condition is spring-biased in a given direction, and means for effecting the application of such spring bias to said member and thereby the operative conditioning of said device as an incident to the mounting of the wire carrier on said support, said means comprising cooperative portions respectively supported by said carrier and associated with said member, one of such portions being resilient.

10. In a stapling machine having a support and a staple wire carrier removably mounted on said support; the combination of a one-way clutch device through which the wire is adapted to pass as it is withdrawn from said carrier and advanced in the machine, said device being capable of being operatively and inoperatively conditioned and including a movable member which when the device is in operative condition is spring-biased in a given direction, and means for effecting the application of such spring bias to said member and thereby the operative conditioning of said device as an incident to the mounting of the wire carrier on said support, said means comprising an element connected to said carrier and a second element controllable by the first element, mounted independently of the carrier and operatively associated with said member, said second element having a resilient portion.

11. In a stapling machine having a support and a staple wire carrier removably mounted on said support; the combination of a one-way clutch device through which the wire is adapted to pass as it is withdrawn from said carrier and advanced in the machine, said device being capable of being operatively and inoperatively conditioned and including a movable element which when the device is in operative condition is spring-biased in a given direction, and means for effecting the application of such spring bias to said element and thereby the operative conditioning of said device as an incident to the mounting of the wire carrier on said support, said means comprising a member supported by said carrier, said member being adapted to coact with said movable element and having a resilient portion.

12. In a stapling machine having a support and a staple wire carrier removably mounted on said support; the combination of a one-way clutch device through which the wire is adapted to pass as it is withdrawn from said carrier and advanced in the machine, said device being capa-

ble of being operatively and inoperatively conditioned and including a movable element which when the device is in operative condition is spring-biased in a given direction, and means for effecting the application of such spring bias to said element and thereby the operative conditioning of said device as an incident to the mounting of the wire carrier on said support, said means comprising a member connected at one end to said carrier, the other end portion of said member being resilient and being adapted to engage and coact with said movable element.

13. In a stapling machine having a support and a reel for carrying wire removably mounted on said support for rotary movement about its axis and for bodily translatable movement with respect to said support; the combination of a one-way wire-gripping device past which the wire is adapted to travel as it is withdrawn from said reel and advanced in the machine, said device being capable of being operatively and inoperatively conditioned and including a movable member which when the device is in operative condition is biased in a given direction, and means associated with said reel and rendered effective as an incident to the mounting of the reel on said support, to apply such bias to said member and to oppose bodily translatable movement of the reel in one direction relatively to the support.

14. In a stapling machine having a support and a reel for carrying wire removably mounted on said support for rotary movement about its axis and for bodily translatable movement with respect to said support; the combination of a one-way wire-gripping device past which the wire is adapted to travel as it is withdrawn from said reel and advanced in the machine, said device being capable of being operatively and inoperatively conditioned, and when operatively conditioned being adapted to prevent retrograde movement of the wire in the machine, and means associated with said reel and rendered effective as an incident to the mounting of the reel on said support to operatively condition said device and to oppose bodily translatable movement of the reel in one direction relatively to the support.

15. In a stapling machine having a support and a reel for carrying wire removably mounted on said support for rotary movement about its axis and for bodily swinging movement about another axis; the combination of a one-way wire gripping device past which the wire is adapted to travel as it is withdrawn from said reel and advanced in the machine, said device being capable of being operatively and inoperatively conditioned and including a movable element which when the device is in operative condition is spring-biased in a given direction, and means whereby such spring bias will be imposed on said element to thereby effect the operative conditioning of said device and whereby said bodily swinging movement of the reel in one direction will be opposed upon mounting the reel on said support, said means comprising a member associated with said reel and having a resilient section.

16. In a stapling machine including a frame having a stop, and a supporting device on which a reel for carrying staple wire is mounted for rotary movement about its axis, said supporting

device and thereby said reel being removably mounted on said frame for bodily translatable movement with respect to the frame; the combination of a one-way wire-gripping device past which the wire is adapted to travel as it is withdrawn from said reel and advanced in the machine, said gripping device being capable of being operatively and inoperatively conditioned and including a movable element which when the gripping device is in operative condition is biased in a given direction, and means rendered effective as an incident to the mounting of said supporting device on said frame to apply such bias to said element and to oppose bodily translatable movement of said supporting device and reel in one direction relatively to the frame, said means comprising a member carried by said supporting device and adapted to engage and coact with said stop, said member having a resilient portion adapted to engage and coact with said movable element.

17. In a stapling machine including a frame having a stop, and a supporting device on which a reel for carrying staple wire is mounted for rotary movement about its axis, said supporting device and thereby said reel being removably mounted on said frame for bodily translatable movement with respect to the frame; the combination of a one-way wire-gripping device past which the wire is adapted to travel as it is withdrawn from said reel and advanced in the machine, said gripping device being capable of being operatively and inoperatively conditioned and including a movable element which when the gripping device is in operative condition is spring-biased in a given direction, and means rendered effective as an incident to the mounting of said supporting device on said frame to apply such bias to said element and yieldingly to oppose bodily translatable movement of said supporting device and reel in one direction relatively to the frame, said means comprising a member carried by said supporting device and having resilient portions which are respectively adapted to engage and coact with said stop and said movable element.

18. In a stapling machine including a frame, and a supporting device on which a reel for carrying staple wire is mounted for rotary movement about its axis, said supporting device and thereby said reel being removably mounted on said frame for bodily translatable movement with respect to the frame; the combination of a one-way wire-gripping device past which the wire is adapted to travel as it is withdrawn from said reel and advanced in the machine, said gripping device being capable of being operatively and inoperatively conditioned and including a movable element which when the gripping device is in operative condition is spring-biased in a given direction, and a resilient member carried by said supporting device and brought into engagement with said movable element as an incident to the mounting of such device on said frame, said member then imposing such spring bias on said movable element and also coacting therewith yieldingly to oppose bodily translatable movement of said supporting device and reel in one direction relatively to said frame.

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