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C. M. LINDSTROM

2,429,269

FEED MECHANISM FOR STAPLING MACHINES

Filed June 28, 1944

3 Sheets-Sheet 1

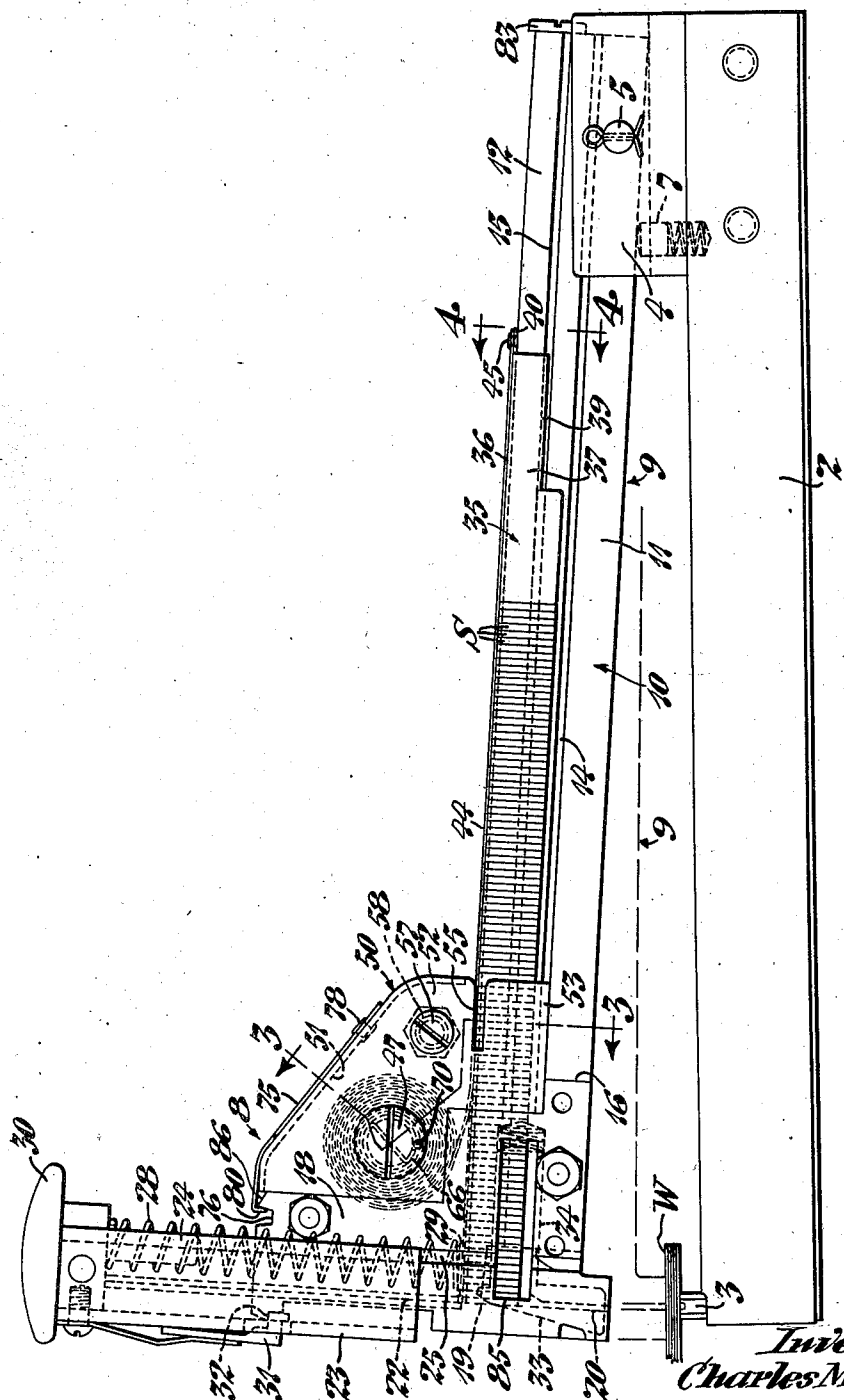


Fig. 1.

Inventor:
Charles M. Lindstrom

By *Prinnington and White*
Attorneys.

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3 Sheets-Sheet 2

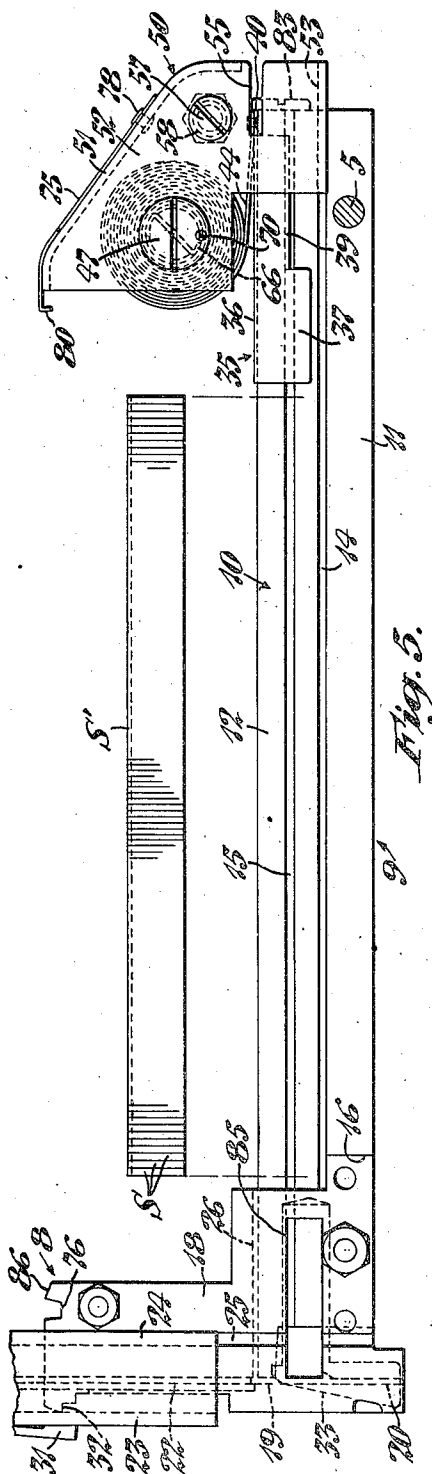


Fig. 1.

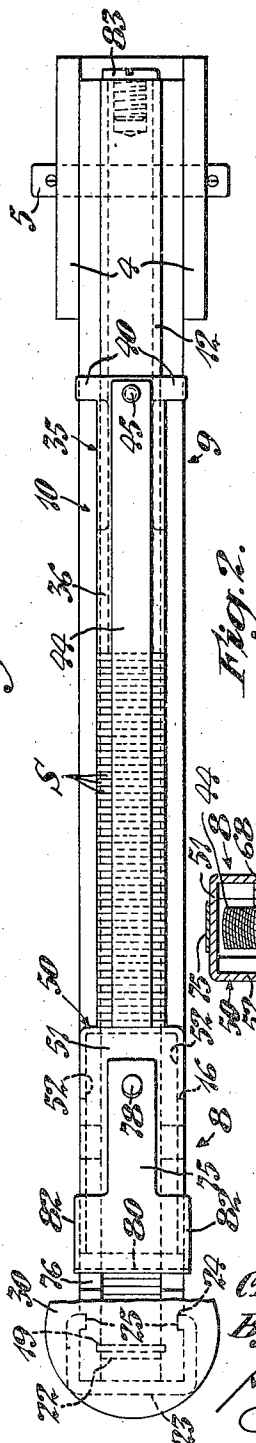


Fig. 2.

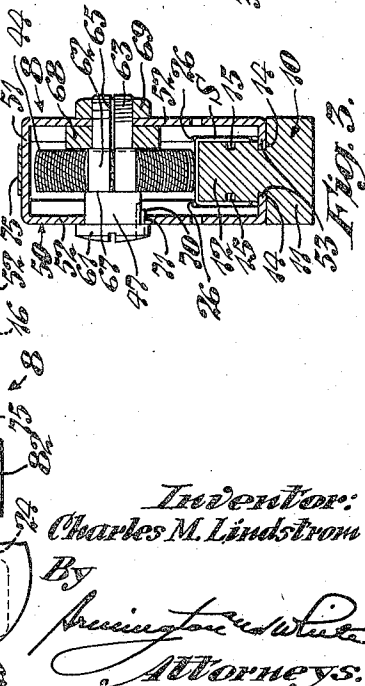


Fig. 3.

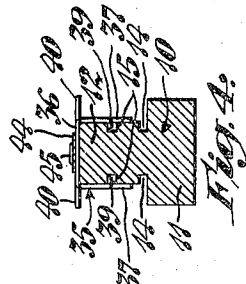


Fig. 4.

Inventor:
Charles M. Lindstrom
By
Frederickson and White
Attorneys.

Oct. 21, 1947.

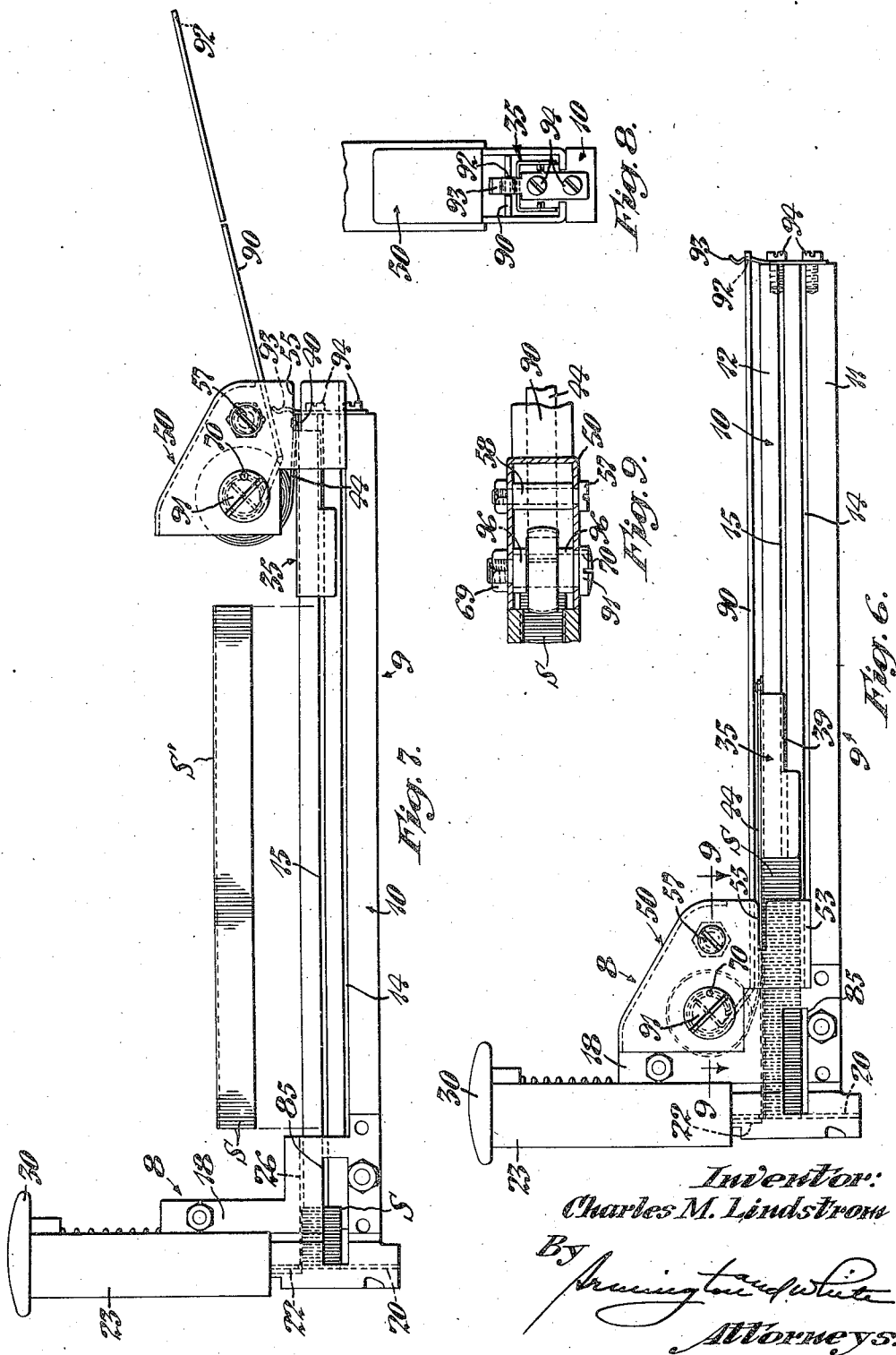
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FEED MECHANISM FOR STAPLING MACHINES

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3 Sheets-Sheet 3



UNITED STATES PATENT OFFICE

2,429,269

FEED MECHANISM FOR STAPLING
MACHINES

Charles M. Lindstrom, East Greenwich, R. I., assignor to Boston Wire Stitcher Company, Warwick, R. I., a corporation of Maine

Application June 28, 1944, Serial No. 542,529

13 Claims. (Cl. 1—3)

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This invention relates to improvements in fastener-applying implements and more particularly to devices having a magazine of the so-called "top-loading" type for holding a supply of fasteners.

One object of the invention is to provide an implement of the type indicated comprising a magazine-arm for supporting a supply of U-shaped fasteners arranged in straddled relation thereon, fastener-applying means at one end of the magazine-arm, a pusher for advancing the fasteners along the arm to feed them to the fastener-applying means, and means slidable on the arm for retracting the pusher to permit loading of the fasteners on the arm.

Another object is to provide an implement of the type indicated having a divided or two-part housing for enclosing the fastener-applying means with one member of the housing constituting a manually-slidable element movable along the magazine-arm and engageable with the pusher to withdraw the latter to inoperative position.

Another object is to provide an implement of the type indicated in which the slidable member mounts a coil-spring for automatically operating the pusher to feed the fasteners along the magazine-arm and adapted to be wound under tension when the slidable member is slid rearwardly during retraction of the pusher to inoperative position.

Another object is to provide an implement of the type indicated in which the pusher-spring normally overlies the top of the fasteners supported on the magazine-arm to prevent their displacement during operation of the implement.

Another object is to provide an implement of the type indicated having manually-releasable means for latching the slidable member in operative position.

Another object is to provide an implement of the type indicated in which no latching means is required for retaining the pusher in retracted position during the loading of the fasteners on the magazine-arm.

Another object is to provide an implement of the type indicated having a detent connected to the slidable member and engageable with latching means at the forward end of the magazine-arm for maintaining the slidable member in forward operative position and the pusher-spring tensioned in position overlying the fasteners on the magazine-arm to prevent their displacement.

Further objects of the improvement are set

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forth in the following specification which describes two forms of construction of the invention, by way of example, as illustrated by the accompanying drawings. In the drawings:

Fig. 1 is a side elevational view of an implement incorporating the novel features of the present invention and showing the pusher as operative to advance the fasteners along the magazine-arm to feed them to the fastener-applying means;

Fig. 2 is a plan view of the same;

Fig. 3 is a transverse sectional view on line 3—3 of Fig. 1 showing the means for mounting the coil-spring for the pusher within the slidable member;

Fig. 4 is a transverse sectional view of the magazine-arm taken on line 4—4 of Fig. 1;

Fig. 5 is a side elevational view of the magazine-arm showing the slidable member as released and slid rearwardly to retract the pusher to inoperative position whereof to permit loading of the fasteners onto the arm;

Fig. 6 is a side elevational view of a magazine-arm shown in reduced scale and illustrating a modified form of the means for retaining the slidable member in its operative position and also indicating the manner in which the detent-element overlies the fasteners on the arm to prevent their displacement;

Fig. 7 is a view similar to Fig. 6 showing the detent-means as released and the slidable element and pusher retracted to inoperative position to permit loading of the fasteners on the magazine-arm;

Fig. 8 is an elevational view of the rearward end of the magazine-arm shown in Fig. 6; and

Fig. 9 is a plan view of the slidable member and associated parts shown part-sectional on line 9—9 of Fig. 6.

Various types of stapling implements and similar devices comprise a magazine-arm for containing a supply of staples with staple-applying means carried at one end thereof and a spring-actuated staple-pusher for automatically feeding the staples thereto. In certain devices of this character, the staple-supporting core is enclosed within a tubular magazine or sheath and the staples loaded therein by inserting them either through the rearward or forward end of the magazine and sliding them onto the core. Where the staples are loaded through the front end of the device they must be forced rearwardly onto the core against the action of the spring-actuated pusher and in other forms of construction where they are inserted through the rearward end of

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the magazine the pusher must first be either raised above the core or bodily removed therefrom to enable the staples to be slid into place. Still another type of stapling device employs a magazine comprising a so-called "top-loading" core onto which the staples are loaded vertically and a hollow cover member partly enclosing the core and arranged for sliding or pivotal movement to uncover the core for the reception of the staples. When devices of the last-noted type are employed it is customary to first open the magazine and thereafter manually displace the pusher against the action of its propelling spring so that a fresh supply of staples may be placed on the core; after which the pusher is released to engage the staples and feed them along the core to the staple-applying means. When the pusher is retracted rearwardly manually, latching means are usually provided for retaining it in inoperative position against the action of its spring and it sometimes happens that the latching means becomes accidentally released to cause the pusher to be propelled forwardly at a rapid rate to disarrange the staples.

The present invention relates more particularly to stapling devices of the top-loading type and comprises, in general, a magazine-arm or core upon which the staples are supported to adapt them to be fed forwardly to the staple-applying means at the forward end of the arm by means of a staple-pusher. The staple-pusher comprises means engageable with the staple-core to prevent it from rising thereon and is adapted to be propelled forwardly by means of a coil-spring mounted in a member likewise arranged for sliding movement on the core. The slidable member forms a complementary part of a housing for enclosing the staple-applying mechanism and normally it is held in forward position by a manually-releasable latch. When the latch is released and the slidable member is withdrawn rearwardly it will engage with means on the pusher to retract the latter so as to permit a supply of staples to be loaded onto the core. As the slidable member is slid rearwardly the coil-spring will be wound under tension, so that due to its inherent resiliency, as the member engages the pusher the tension of the spring will maintain these parts in engagement as a unit which may be retracted longitudinally of the staple-core. By this form of construction and cooperative relation of the parts it is unnecessary to provide detent-means for retaining the pusher in retracted position. The length of spring extending between the slidable member and pusher normally overlies the staples mounted on the core to prevent them from being displaced therefrom.

In another embodiment of the invention, staple-retaining means are provided in the form of a latch-bar, which may be pivotally mounted on the slidable member and adapted to engage means at the rearward end of the staple-core to maintain the member in operative position. The latch-bar is arranged to overlie the core and is especially adapted for use in hammer-tackers or other implements subject to severe impacts and rough usage liable to cause the staples to be jarred out of place.

Referring first to Figs. 1 to 5 of the drawings, a conventional type of stapling machine is illustrated therein as comprising a base 2 provided with a clinching anvil 3 at its forward end and having upstanding ears or flanges 4 at its rearward end. Pivoted between the spaced ears 4 by a transverse pin 5 is a stapling-arm, indicated

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generally by the reference character 9. The arm 9 comprises a magazine-core 10 for supporting a series of staples S with a housing 8 at its forward end for enclosing the staple-driving mechanism, to be described hereinafter. The stapling-arm 9 normally is held in raised position by means of a spring-actuated plunger 7 slidable in the base 2 and engaging the under side of the arm.

Referring particularly to Figs. 3 and 4, the staple-core 10 may be in the form of a bar of substantially rectangular cross-section having a relatively wide lower portion 11 bored transversely to receive the pivot pin 5 and a narrower upper portion 12 for supporting the staples S in straddled relation thereon. Between the lower and upper portions 11 and 12 of the bar the sides of the core 10 are provided with longitudinally-extending grooves or guideways 14 and spaced above the guideways 14 are similar guideways 15; the two guideways 14 and 15 being employed for a purpose to be explained later.

The forward end of the core 10 is narrowed in width to provide opposite recesses 16 for receiving upstanding flanges or side-plates 18 suitably fastened to the core to constitute part of the head or housing 8. Vertical grooves 19 on the inner face of each plate 18 provide a guideway or throat 20 through which the staples S are driven into the work. Mounted for reciprocation in the guideway 20 is a staple-driver 22 operatively connected to a plunger 23. The plunger 23 is of substantially U-shape in cross-section, see Fig. 2, and provided with inturned runners 24 adapted to slide in vertical slots 25 in the outer faces of the side plates 18. The plunger 23 normally is held in raised position with the lower end of the driver 22 spaced slightly above the forward end of the core 10 by means of a helical spring 28 having its lower end seated upon a ledge 29 within the housing 5 and its upper end abutting a knob 30 fastened to the upper end of the plunger. The upward movement of the plunger 23 and driver 22 is limited by the engagement of a latching member 31 carried by the plunger with a shoulder 32 on the housing 5. A staple-supporter 33 of usual construction and actuated by a spring-pressed plunger 34 slidable in a bore in the forward end of the core 10 is adapted to engage the cross-bars of the staples S to support the latter as they are driven through the throat 20 and into the work.

The staples S are arranged with their cross-bars resting upon the top of the core 10 and their legs straddling the sides thereof as shown in Fig. 3. The staples S are fed forwardly along the core 10 to position the foremost staple in the throat 20 beneath the driver 22 by means of a pusher 35. As shown in Figs. 1 and 4, the pusher 35 consists in an inverted U-shaped element arranged with its upper portion 36 resting upon the top of the core 10 and its sides 37 straddling the sides thereof. The rearward end of the pusher 35 has portions of its sides 37 bent inwardly to provide runners 39 which engage in the longitudinal guideways 15 in the sides of the core 10 to adapt the pusher to slide along the core while preventing it from upward displacement. The rearward end of the top 36 of the pusher 35 is provided with ears 40, see Figs. 2 and 4, which extend laterally beyond the sides of the core 10 for a purpose hereinafter explained.

The staple-pusher 35 is adapted to be slid forwardly along the core 10 by means of a ribbon-like spring 44 having one end fastened to its rearward end by a rivet 45, see Figs. 1, 2 and 4.

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As shown in Fig. 3, the spring 44 may be formed of slightly arcuate shape in cross-section to increase its strength and rigidity. The forward end of the spring 44 is coiled around a stud 47 extending between the sides of a bonnet-like member 50. The member 50 is constructed from sheet-metal to provide a sloping top wall 51, see Fig. 1, with side walls 52 folded downwardly therefrom. The lower ends of the side walls 52 are bent inwardly to provide runners 53 adapted to slide in the guideways 14 in the staple-core 10. The side walls 52 are further provided with horizontal slots 55 in their rearward edges for a purpose hereinafter explained. To provide a rigid structure the side walls 52 may be connected by a transverse screw 57 passing through a spacer-sleeve 58 interposed between the side walls. The stud 47, previously mentioned as constituting a support for the coils of the pusher-spring 44, also forms a cross-strut between the walls 52 of the slidable element 50.

As shown in detail in Fig. 3, the stud 47 has a slotted head 61 abutting the outer surface of one of the side walls 52, a reduced central portion 62 and a further reduced shank 63 projecting through a hole in the opposite side wall. The reduced portions 62 and 63 of the stud 47 are formed with a diametrical slot 65 extending longitudinally thereof, see Fig. 3, for holding the bent end of the inner coil of the spring 44 which is inserted therein with its terminal portion 66 swaged over against the periphery of the stud as shown by dotted lines in Fig. 1. The coil-spring 44 is held axially in place abutting a shoulder 67 on the stud 47 by means of a washer 68 on the reduced shank 63, see Fig. 3. The outer projecting end of the shank 63 is screw-threaded to receive a nut 69 set up against the side wall of the member 50. The stud 47 is held from turning in the member 50 by means of a key 70 constituted by a relatively small pin inserted through its head and engageable in a slot or keyway 71 in the side wall 52 of the member. To assemble the stud 47 and spring 44 in place in the slidable member 50 the stud is inserted through the aligned holes in the element and during this insertion the inner hooked end of the spring placed in the slot 65 of the stud, the washer 68 being applied simultaneously to the shank 63. With the hooked end of the spring 44 held in the slot 65 of the stud 47 and its opposite end attached to the staple-pusher 35 the stud may be turned in clockwise direction, as viewed in Fig. 1, to wind or coil the spring about the stud in a manner similar to that of winding a clock spring. After the spring has been wound into a volute coil of sufficient tension to properly actuate the pusher 35 the key 70 is aligned with and engaged in the slot or keyway 71 in the member 50. With the spring 44 thus held under tension the nut 69 is screwed onto the shank 63 of the stud 47 and set up against the side of the member 50 to secure the parts in adjusted relationship.

The slidable member 50 normally is maintained in forward position on the core 10 where it serves as a closure for the rearward end of the housing 8 containing the staple-driving mechanism as illustrated in Fig. 1. The member 50 is held releasably in this position by means of a spring-latch 75 carried by the member and formed with a detent-ear 80 engageable in aligned notches 76 in the upper edge of the side plates 18 of the housing or head 8. At the rearward side of the notches 76 the side plates 18 are formed with beveled or inclined edges 86 adapted to raise the end of the

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latch 75 to cause its detent-ear 80 to snap into the notches. The latch 75 consists in a leaf-spring attached to the sloping top 51 of the member 50 by a rivet 78 and provided at its forward end with a downwardly bent ear constituting the detent 80 engageable with the rearward edges of the notches 76. As shown in Figs. 1 and 5, the rearward edges of the notches 76 slope forwardly toward the front end of the device so that the engagement of the detent-ear 80 of the latch 75 therewith tends to draw the slidable member 50 forwardly to maintain it in closely abutting relation to the side-plates 18 of the housing 8. At its forward end the latch 75 may be extended laterally to provide finger-holds 82, see Fig. 2, for facilitating the unlatching of the parts. When the latching means is disengaged the member 50 may be slid rearwardly to retract the pusher 35 in the manner as explained later, and to prevent complete withdrawal of the pusher from the core 10 an abutment 83 is provided. As shown in Figs. 1 and 2, the abutment 83 may be constituted by a screw threaded into a tapped hole in the rearward end of the core 10 and provided with a head, the periphery of which extends above the top of the core to form a stop for engaging the rearward end of the pusher to limit its rearward movement, see also Fig. 5. The complete stapling implement having been described in detail, its method of operation is as next explained.

Assuming that the parts of the stapling machine are in the relationship shown in Fig. 1 of the drawings, that is, with the slidable member 50 latched in its forward position and a supply of staples S supported on the core 10, the machine is ready for a stapling operation. With the lower end of the staple-driver 22 held above the forward end of the core 10 the staple-pusher 35 will have advanced the strip of staples forwardly along the core under the action of the spring 44 to position the foremost staple of the series in the throat 20. To apply a staple S to the work W, the latter is first placed upon the clincher-anvil 3 and the stapling arm 9 swung downwardly against the action of the spring-operated plunger 7 to cause its head to bear against the work in the manner indicated by dash-lines in Fig. 1. Pressure applied to the knob 30 will cause the plunger 23 to descend on the head 8, thereby actuating the driver 22 to shear the foremost staple S from the remaining staples in the strip and force it downwardly through the throat 20 to drive its legs through the work and clinch them against the underside thereof by means of the clincher 3.

When pressure on the knob 30 is released the stapling arm 9 will swing upwardly and the plunger 23 and driver 22 will ascend to the position shown in Fig. 1. Then, as the lower end of the driver 22 is raised above the core 10 the staple-pusher 35 will be advanced by the spring 44 to feed the next succeeding staple S into the throat 20 in readiness to be driven into the work when the staple-driving mechanism is again manipulated. The operation of applying staples to the work may be repeated as long as a supply of staples remains in the magazine and during the driving operations the remaining staples will be held down on the core 10 by the pusher-spring 44 which, as shown in Fig. 1, overlies the staples in closely adjacent relation thereto; it being noted that the staples on the core within the head 8 are held in place by overlying ledges 26 as usually provided in machines of this type.

After the last staple S of the series has been

positioned within the throat 20 the pusher 35 will have moved forwardly sufficiently to cause its laterally-projecting ears 40 to enter the slots 55 in the side walls 52 of the slidable member 50 and engage the inner ends of the slots whereby to prevent the forward end of the pusher from underlying the driver 22, thus guarding against its being struck by the driver during unwarranted actuation thereof. The staples S are usually replenished before the entire supply is exhausted and to enable the operator to determine the number of staples remaining on the core 8 openings 85 may be provided in the side plates 18 of the head 8 through which the staples are visible.

When it is desired to reload the core 10 with a fresh supply of staples the spring latch 75 is pried upwardly to disengage its detent-ear 80 from the notches 76 in the upper edge of the side-plates 18 of the head 8. With the slidable member 50 thus released, it may be slid rearwardly along the core 10 with its runners 53 riding in the guideways 14. As explained above, as the last staple S is fed beneath the staple-driver 22 the ears 40 on the pusher 35 will enter the slots 55 of the element 50 and engage the ends thereof so that as the element is retracted in this manner it will slide the pusher rearwardly. Regardless of the position of the pusher 35 on the core 10, however, as the member 50 is retracted it will be moved across the staple-pusher to cause the laterally-projecting ears 40 on the latter to enter the slots 55 and engage the inner ends thereof, see Fig. 5. During the movement of the member 50 toward the pusher 35 the spring 44 will wind around the stud 47 so that the tension of the spring will maintain the ears 40 of the pusher 35 seated against the inner ends of the slots 55. Stated another way, the length of spring 44 extending between the member 50 and the pusher 35 will be maintained under tension to yieldingly connect these parts for unitary sliding movement in either direction along the core 10.

When the slidable member 50 has been retracted to a position adjacent the rearward end of the core 10, as illustrated in Fig. 5, the end of the pusher 35 will engage the screw-head or abutment 83 to prevent complete withdrawal of these parts from the core. The core 10 thus will be uncovered throughout substantially its entire length to adapt a fresh strip of staples S, represented at S' in Fig. 5, to be placed thereon in the manner indicated by dash lines in this latter view. After a fresh supply of staples has been placed on the core 10 the member 50 is slid forwardly and eventually the pusher 35 will engage the rearward end of the staple strip and move it forwardly until the foremost staple is positioned within the throat 20. At this juncture the forward movement of the pusher 35 will be arrested and continued movement of the member 50 will cause a length of the tensioned spring 44 to be drawn from the coil surrounding the stud 47. As the member 50 approaches the limit of its forward movement the detent-ear 80 on the latch 75 will ride up the inclined surfaces 86 on the side-plates 18, see Figs. 1 and 5, and finally snap into the slot 76 to maintain the element in abutting engagement with the edges of the side-plates of the head 8 in the manner previously explained. With the pusher-spring 44 thus tensioned it will act to advance the pusher 35 following each stapling operation

whereby to feed the foremost staple of the series into the throat 20.

Figs. 6 to 9 of the drawings illustrate a modified form of construction of the staple-feeding and pusher-retracting means. Since the main elements of the device are of substantially the same construction as those previously described in connection with the machine illustrated in Figs. 1 to 5, like reference characters are used to indicate like parts.

The modified form of device shown in Figs. 6 to 9 includes a different construction of the latching means for retaining the slidable member 50 in its forward position. This latching means consists in a bar 90 pivotally mounted within the slidable member 50 on a stud 91 and extending rearwardly therefrom to adapt it to overlie the pusher-spring 44 whereby to further guard against displacement of the staples on the core 10. The rearward end of the latch-bar 90 is notched as indicated at 92, see Fig. 8, to adapt it to straddle the sides of a spring-detent 93 attached to the end of the core 10 by screws 94. The resilient detent 93 tends to force the latch-bar 90 forwardly to maintain the member 50 in operative position abutting the edges of the side-plates 18 of the head 8. The forward end of the latch-bar 90 is bifurcated, see Fig. 9, to form bearing ears 96 for pivotally mounting it on the stud 91. As shown in Fig. 9, the bearing ears 96 straddle the sides of the coil spring 44 to hold it in central position on the stud 91. As in the construction previously described, the stud 91 may be keyed to the member 50, after the spring 44 has been wound under tension, by means of a pin or key 70 and the stud secured in place by a nut 69.

When it is desired to retract the pusher 35 to permit reloading of the core 10 with a stick of staples the rearward end of the latch-bar 90 is pried upwardly to disengage it from the spring detent 93, whereupon it may be grasped in the fingers and withdrawn rearwardly to retract the member 50 and pusher 35 to the position shown in Fig. 7, the end of the pusher finally bringing up against the detent 93 to arrest movement of the parts in this direction. After a strip S' of staples S has been placed on the core 10 the member 50 is slid forwardly and the latch-bar 90 engaged with the resilient detent 93 to lock the elements in operative relationship. It will be apparent from the above description that the latch-bar 90, in addition to serving as the means for maintaining the elements in cooperative relationship, also functions as a guard to prevent displacement of the staples on the core 10. This feature of improvement is especially desirable for use in stapling implements of the hammer-tacker and other types which are subjected to severe impacts and rough usage.

It will be observed from the foregoing specification that the present invention provides a stapling implement in which the staples may be applied vertically to the top of the staple-core for loading the device and further contemplates improved means for retracting the staple-feeding mechanism to permit such loading. Due to the fact that the pusher-spring is slidable with the staple-pusher to inoperative or retracted position, the usual detent-means for retaining the pusher in retracted position against the action of a pusher-spring are not required and consequently the danger of accidental release of the pusher and its unwarranted actuation is eliminated.

As a particular feature of improvement, the present invention provides in combination with a top-loading magazine, means for automatically winding up the pusher-spring at a point directly above the pusher when the latter is retracted whereby to expose an extensive length of the staple-core for supporting a maximum number of staples. This results in improvement over similar devices of previous types in which the pusher-spring is compressed rearwardly of the pusher when the latter is withdrawn to inoperative position and thus occupies space which might otherwise be employed for containing the staples. Furthermore, in the present improved machine, the pusher-spring serves an added purpose, that of overlying the top of the staples to prevent their displacement on the magazine-core and thereby eliminating the need for a separate cover, slide or other closure as usually provided in top-loading staplers.

While two forms of construction of the invention are herein illustrated and described, it is to be understood that other modifications may be made in the structure and arrangement of the parts of the device without departing from the spirit or scope of the invention. Therefore, without limiting myself in this respect, I claim:

1. A fastener-applying implement comprising a top-loading magazine-arm for supporting a supply of fasteners, a housing at the forward end of the arm, means for feeding the fasteners along the arm, and means mounted on the housing and retractible by sliding the housing longitudinally of the arm, said retractible means normally extending from the housing in overlying relation to the fasteners on the magazine-arm for preventing upward displacement of the fasteners.

2. A fastener-applying implement comprising a top-loading magazine-arm for supporting a supply of fasteners, a housing at one end of the arm, and means for covering the top of the magazine-arm to prevent upward displacement of the fasteners comprising a resiliently-retractible element extending longitudinally from the housing in overlying relation to the fasteners on the arm, said element being retractible into the housing to uncover the magazine-arm for supplying fasteners thereto.

3. A fastener-applying implement comprising a top-loading magazine-arm for supporting a supply of fasteners, a member movable longitudinally of the arm, and means carried by said member and extending therefrom in overlying relation to the fasteners on the magazine-arm, said means being retractible on the member to uncover the magazine-arm for supplying the fasteners thereto.

4. A fastener-applying implement comprising a top-loading magazine-arm for supporting a supply of fasteners, a pusher for feeding the fasteners along the arm, a member movable longitudinally of the arm, and resilient means extending from said member in overlying relation to the fasteners on the arm with its end connected to the pusher, said resilient means being retractible on the slidable member when the latter is moved longitudinally of the arm whereby to uncover the magazine-arm for receiving a supply of fasteners.

5. A fastener-applying implement comprising a top-loading magazine-arm for supporting a supply of fasteners, a member movable along the magazine-arm, means for normally maintaining said member in position adjacent one end of the arm, and means carried by the movable member and normally extending therefrom in overlying

relation to the fasteners on the arm to prevent their displacement, said last-named means being retractible on the slidable member as the latter is slid along the arm whereby to uncover the magazine-arm to permit application of the fasteners thereto.

6. A fastener-applying implement comprising a top-loading magazine-arm for supporting a supply of fasteners, a member slidable on the arm and normally positioned adjacent its end, a pusher for feeding fasteners along the arm, and retractible means extending between the slidable member and the pusher for operating the latter, said slidable member being engageable with the pusher during its sliding movement to withdraw the pusher from operative position.

7. A fastener-applying implement comprising a top-loading magazine-arm for supporting a supply of fasteners, a pusher slidable on the arm for feeding the fasteners therealong, means normally positioned adjacent one end of the magazine-arm and slidable longitudinally thereon, and resiliently-operated retractible means carried by the slidable means and connected to advance the pusher, said slidable means being engageable with the pusher to retract the latter from operative position during movement of the slidable means on the arm.

8. A fastener-applying implement comprising a top-loading magazine-arm for supporting a supply of fasteners, a pusher slidable on the arm for feeding the fasteners therealong, a member slidable on the arm, manually-releasable means for normally maintaining said member in position adjacent one end of the arm, retractible means carried by the slidable member and connected to slide the pusher, and means on the pusher engageable by the slidable member as the latter is slid on the arm to withdraw the pusher from operative position whereby to permit loading of a supply of fasteners on the magazine-arm.

9. A fastener-applying implement comprising a top-loading magazine-arm for supporting a supply of fasteners, a pusher slidable on the arm for feeding the fasteners therealong, a member slidable longitudinally of the arm, latching means for normally maintaining said member in position adjacent one end of the arm, a spring coiled on the slidable member and extending therefrom to overlie the fasteners on the arm with its terminal portion connected to the pusher, and means on the pusher engageable by the slidable member when the latter is slid on the arm whereby to withdraw the pusher from operative position.

10. A fastener-applying implement comprising a top-loading magazine-arm for supporting a supply of fasteners, a pusher slidable on the arm for feeding the fasteners therealong, guideways extending longitudinally of the arm, a member provided with means engageable with the guideways to slidably mount it thereon, latching means for normally maintaining said member in position adjacent one end of the arm, and a volute spring coiled on the slidable member with its end connected to operate the pusher, said slidable member being adapted to engage the pusher and withdraw it from operative position when said member is slid rearwardly on the arm.

11. A fastener-applying implement comprising a top-loading magazine-arm for supporting a supply of fasteners, said arm provided with two sets of longitudinally-extending guideways on its sides, a slidable member provided with runners engageable with one set of guideways on the arm to adapt it to slide longitudinally thereof, latch-

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ing means for retaining said slidable member in position adjacent one end of the arm, a pusher having runners engageable with the second set of guideways to adapt it to slide longitudinally of the magazine-arm, and retractible means connected between the slidable member and the pusher for operating the latter, said slidable member operating to withdraw the pusher from operative position when the member is slid rearwardly on the arm to permit a supply of fasteners to be applied to the magazine-arm.

12. A fastener-applying implement comprising a top-loading magazine-arm for supporting a supply of fasteners, detent-means at one end of the arm, a member slidable longitudinally of the magazine-arm, latching means carried by the slidable member and engageable with the detent-means for maintaining said member in adjacent relation to the end of the arm, a pusher slidable on the magazine-arm, and a spring coiled on the slidable member with its opposite end connected to the pusher for advancing the latter along the magazine-arm to feed the fasteners therealong, said member being engageable with the pusher to withdraw it from operative position when said member is slid rearwardly on the arm.

13. A fastener-applying implement comprising a top-loading magazine-arm for supporting a supply of fasteners, a hollow member slidable longitudinally of the arm, a pusher slidable on the arm for feeding the fasteners therealong, resilient

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means held under tension on the slidable member and connected to the pusher for operating the latter, means for maintaining the slidable member in adjacent relation to one end of the arm comprising a latch-bar pivoted to said member, a retractible member extending longitudinally from the slidable member in overlying relation to the fasteners on the arm, and detent-means on the arm engageable by the latch-bar, said bar being releasable from the detent-means to permit the slidable member to be slid on the arm and said member being engageable with the pusher for withdrawing the latter from operative position to permit loading of the magazine-arm with a supply of fasteners.

CHARLES M. LINDSTROM.

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