June 25, 1935. A. H. MAYNARD 2,006,054

FASTENER APPLYING IMPLEMENT

Filed May 5, 1933 2 Sheets-Sheet 1

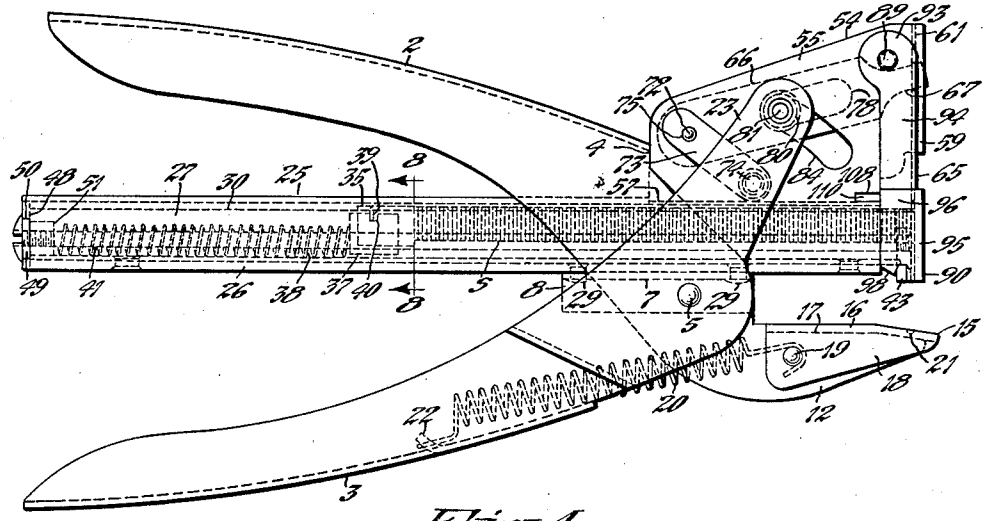


Fig. 1.

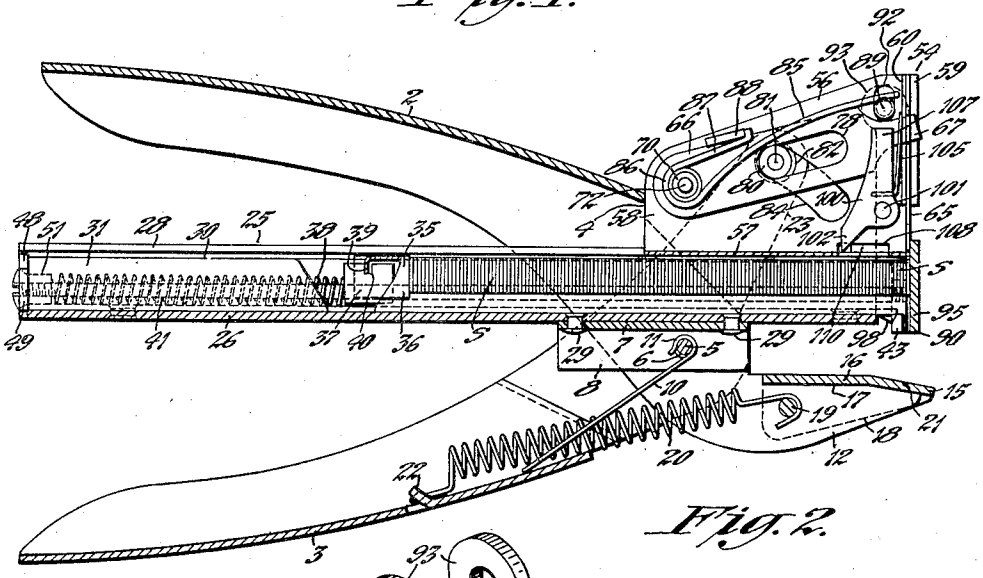


Fig. 2.

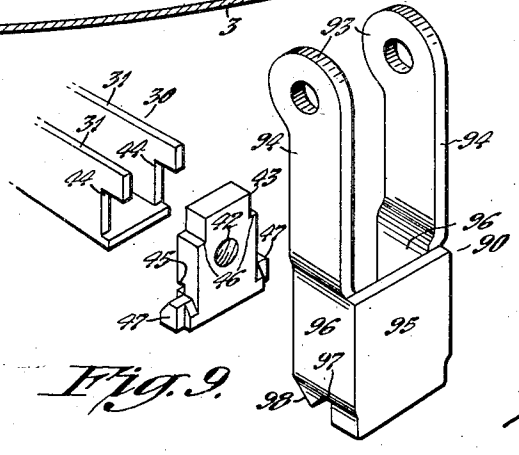


Fig. 9.

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FASTENER APPLYING IMPLEMENT

Filed May 5, 1933 2 Sheets-Sheet 2

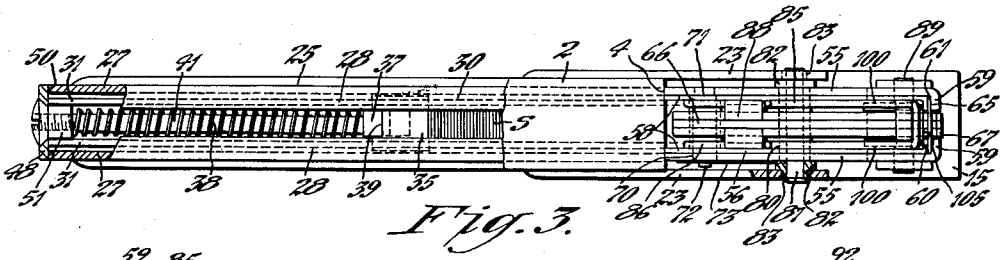


Fig. 3.

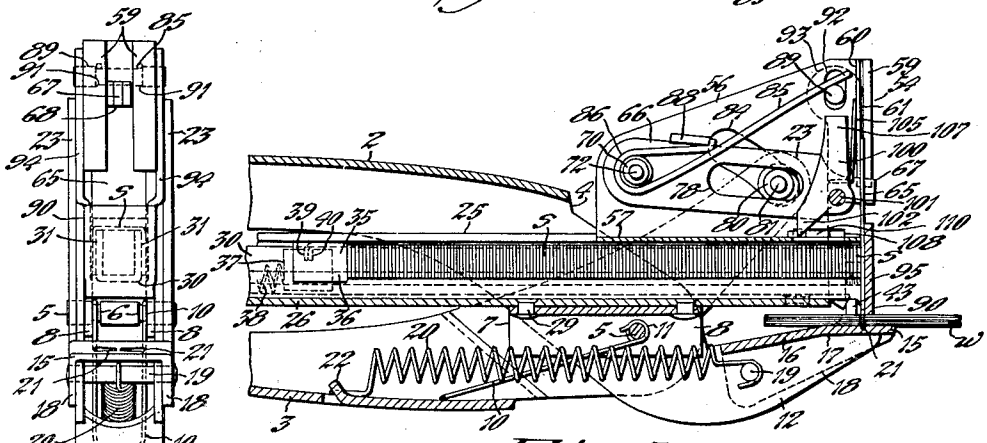


Fig. 5.

Fig. 4.

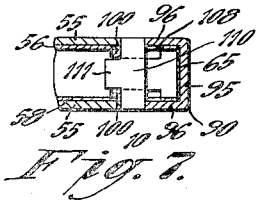


Fig. 7.

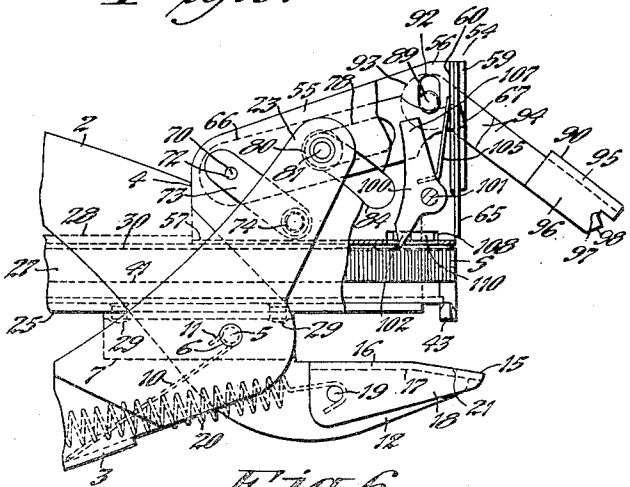


Fig. 6.

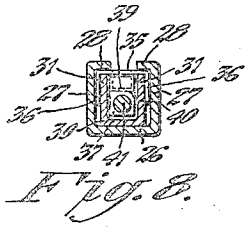


Fig. 8.

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UNITED STATES PATENT OFFICE

2,006,054

FASTENER-APPLYING IMPLEMENT

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Application May 5, 1933, Serial No. 669,485

19 Claims. (Cl. 1—49)

This invention relates to improvements in fastener-applying implements and particularly to a device constituted in the form of pliers adapted for manual operation to seize and hold the work and apply staples or fasteners of other type thereto.

One object of the invention is to provide an implement of the type indicated having a magazine for containing a supply of fasteners, means for holding and clamping the work to be operated upon, and means for driving the fasteners through the work and clinching them on the under side thereof.

Another object of the invention is to provide a portable implement of the type indicated which is compact in size, light in weight and convenient to hold and operate in the hand.

Another object of the invention is to provide an implement of the type indicated which is simple in construction with its parts not liable to derangement or getting out of order and durable in use over long periods.

Further objects of the improvement are set forth in the following specification which describes a preferred form of construction of the device, by way of example, as illustrated by the accompanying drawings. In the drawings:

Fig. 1 is a side view of the fastener-applying implement showing its jaws opened to receive the work;

Fig. 2 is a similar view showing the main parts of the device in section on a median, longitudinal plane;

Fig. 3 is a plan view of the implement showing certain sections of its parts as broken away to disclose the details of construction of the working elements;

Fig. 4 is a front elevation of the implement;

Fig. 5 is a sectional view similar to Fig. 2 showing the fore part of the implement with the jaws closed and the stapling mechanism operative to apply the staple to the work and clinch it on the under side thereof;

Fig. 6 is a side view of the fore part of the implement showing the door or gate for the staple-magazine in open position and illustrating the detent-means for preventing the staples from being ejected from the magazine when the gate is opened;

Fig. 7 is a sectional plan view of the fore part of the staple-magazine showing the means for automatically operating the detent-pawls which retain the staples in the magazine when the gate is opened;

Fig. 8 is a cross sectional view of the staple-magazine and its core, taken on line 8—8 of Fig. 1; and

Fig. 9 is a composite view showing the construction of the parts of the magazine gate and latching means therefor.

In general, the present improved fastener-applying implement comprises a pair of pivoted plier-like handles, between which is mounted a magazine for carrying a supply of staples; a staple-head arranged thereabove, on which is mounted a reciprocable driver; one of said handles carrying a jaw adapted to hold and clamp the work beneath the stapling head and the other handle connected with means for actuating the driver to insert a staple through the work and clinch its legs against the under side thereof.

The present implement is particularly designed to be constructed from sheet-metal parts stamped out or struck up in dies, whereby to render the implement light in weight and economical to manufacture. The two handle-members 2 and 3 may be of concavo-convex form or U-shaped in cross-section with arched or rounded contours for providing a convenient hand hold. The two handles 2 and 3 are pivoted or hinged together on a transverse pin 5 extending through holes in their side walls, see Figs. 3 and 4, and held in place by means as later described. Also mounted on the pivot-pin 5 is a bridge-plate or platform-shaped member 7, the downwardly folded sides 8 of which abut the inner faces of the side walls of the upper handle-member 2.

The side walls of the handle 2 straddle the walls of the lower handle 3 and the pivot-pin 5 is provided with spaced apart circumferential grooves 6, see Figs. 3, 4 and 5. A hairpin-shaped wire spring 10 is formed at one end with shepherd crooks 11 adapted to snap around the pivot-pin 5 to engage in the grooves 6, the bight or loop at the opposite end of the spring being seated against the curved wall of the lower handle-member 3. It will be understood that after the pivot-pin 5 has been inserted through the holes in the side walls of the two handle-members 2 and 3 and the sides 8 of the bridge-plate 7, the hooks or crooks 11 on the spring 10 are snapped into the grooves 6 to abut the sides of the bridge-plate to prevent axial movement of the pin.

The sides of the upper handle-member 2 are extended forwardly beyond the pivot-pin 5 in a jaw 12 which carries a clincher-plate or anvil 15. As shown most clearly in Figs. 1 and 4, the anvil 15 is constituted by an upper plate 16 resting across the recessed upper edges 17 of

the lateral walls of the jaw 12 and having wings 18 folded downwardly therefrom to overlap the sides of the jaw. A pin 19 is riveted through the overlapping wings 18 and the sides of the jaw 12 to secure the parts together. The upper plate 16 of the anvil 15 is inclined downwardly towards its forward end to adapt it to assume a position perpendicular to the path of the staple-driver when the handle-members 2 and 3 are closed together as shown in Fig. 5. The top of the plate 16 is formed at its forward end with clincher-grooves 21 of usual arrangement which receive the legs of the staple to bend them over against the under side of the work.

Referring to Figs. 4 and 5 of the drawings, a helical spring 20 has one end hooked around the pin 19 in the jaw 12 and its opposite end attached to a finger or lug 22 sheared from the bottom wall of the lower jaw member 3 and bent upwardly to provide a hook. The spring 20 is stretched between the pin 19 in the jaw 12 of the handle-member 2 and the lug 22 on the handle-member 3, thereby tending to maintain the handles in open position as illustrated in Fig. 1 of the drawings. The sides of the lower handle-member 3 are continued forwardly and upwardly from the pivot joint in a pair of arms or extensions 23 which are connected to operate the staple-driver to be later described.

The staple-magazine 25 is constructed and arranged in the manner as next described. Referring particularly to Figs. 3, 5 and 8 of the drawings, the magazine comprises a tube or channel-member of substantially rectangular cross-section having a bottom 26, upstanding sides 27 and flanges 28 folded inwardly from the sides to extend partly across the open top of the member. The bottom of the magazine 25 rests across the top of the bridge-plate 7 and is secured fixedly thereto by means of rivets 29 or other suitable means. In this location the center of the magazine is enclosed between the sides of the handle-members 2 and 3 with its ends projecting rearwardly a distance substantially equal to the length of the handles and forwardly to a position above the jaw 12 on the handle 2.

Welded, riveted or otherwise suitably secured to the bottom of the magazine 25 is a staple-core 30 which extends longitudinally throughout the length thereof. The core 30 is formed with a bottom and upstanding sides 31, across the top of which the staples *s* are alined in straddled relationship with their legs received in the spaces between the sides of the core and the sides of the magazine; the flanges 28 overlapping the heads or crossbar of the staples to hold them from rising up on the core 30. The staples *s* are slid forwardly in the magazine to feed them successively to the staple-driver by means of a pusher 35 slidable on the core 30.

As shown most clearly in Figs. 2 and 8, the staple-pusher 35 consists in a sheet-metal channel-member having a top plate with sides 36 folded downwardly therefrom to straddle the sides of the core 30. The staple-pusher 35 is attached to a block 37 fitted to slide within the upstanding sides 31 of the core 30 and serving to take the propulsive thrust of a spring 38 which slides the pusher forwardly to feed the staples in the magazine. The block 37 is connected to the pusher 35 by means of a finger 39 sheared from the metal in the top portion thereof and bent downwardly to engage a slot 40 in the top of the block. The block 37 is guided in its sliding action by means of a rod 41 extending longitudinally within the sides of the staple-core 30.

Referring to Figs. 2 and 9 of the drawings, the forward end of the rod 41 is screw-threaded into a hole 42 in an end plate 43 which closes the end of the core 30. The forward ends of the sides 31 of the ear 30 are recessed at 44 with the bottom of the core projecting slightly forward therebeyond. The end-member 43 is formed with a transverse slot 45 into which the projecting edge of the bottom of the core 30 fits and the sides of the member are recessed at 46 to receive the overhanging portions of the sides 31 of the core. The end-member 43 projects below the bottom of the core 30 at the front of the magazine to serve as an upper jaw-member for cooperation with the lower jaw 12. The end-member 43 is provided with laterally projecting abutments or latches 47 at its sides, employed as a means for securing the gate, to be later described, which closes the end of the magazine. As illustrated most clearly in Fig. 9 the abutments 47 are beveled off on their rearward sides for a purpose as later explained.

The rearward end of the magazine 25 is closed by a transverse plate 48 which serves as the anchoring means for the rearward end of the rod 41, see Fig. 3. The plate 48 extends across the open end of the magazine 25 and is provided with narrow projections or lugs 49 fitted to slots 50 in the edges of its sides 27, see Fig. 1. A cylindrical nut 51 is inserted through a hole in the plate 48 and screwed onto the threaded end of the rod 41. The under side of the head of the nut 51 is beveled to seat in the countersunk hole in the plate 48 with only the convex portion of the head projecting therefrom, thus providing a substantially smooth finish for the end of the magazine. If desired, the nut 51 may be made integral with the rod 41 or secured fast thereon as a convenience in screwing the forward end of the rod into the hole in the front plate 43. When the rod 41 is screwed tightly into the front plate 43 the two end plates are held firmly in position at the opposite ends of the magazine 25. The helical pusher-spring 38, previously referred to, is coiled around the rod 41 between the nut 51 and the block 37 and maintained under compression to slide the pusher 35 forwardly in the magazine 25 to feed the staples *s* to the applying means.

A head or bonnet 54 for mounting the staple-driver and its operating mechanism is constituted by a pair of vertical side plates 55 formed integral with and rising from the sides of the magazine 25. Fitted within the side plates or wings 55 is a channel-shaped lining-member 56 having its sides formed to substantially the same shape as the wings 55. Referring to Figs. 3 and 5, the lining member 56 has a bottom 57 extending across the top of the staple-magazine 25 slightly above the upper edges of the sides of the core 30 with wings 58 folded upwardly therefrom to abut the inner faces of the side plates 55. The forward ends of the main wings 55 are folded inwardly to provide vertically extending flanges 59 at the front of the head 54 and the inner wings 58 also have similar folded flanges 60 extending parallel with and spaced at a slight distance inwardly from the flanges 59, thus forming opposite grooves or guideways 61 for the staple-driver 65.

The staple-driver 65 consists in a flat plate of hardened metal arranged with its lateral edges slidable in the guideways 61 of the head 54, see

Figs. 3 and 5. The staple-driver 65 is reciprocated in its guideways by a lever 66 having a reduced or narrowed forward end 67 projecting through a hole 68 in the driver, see Fig. 4. The lever 66 is preferably of laminated structure, consisting of three overlying plates as shown most clearly in Fig. 3. The lever 66 is pivoted on a stud 70 extending through holes in the side plates or wings 55 of the stapling head and through alining holes in the wings 58 of the lining member 56. One end of the pin 70 is reduced in diameter to form a shoulder 71 which abuts the inner face of one of the side plates 55 and its opposite end has a still further reduced portion 72 projecting beyond the end which fits the hole in the opposite side plate 55. The locking means for the pin 70 consists in a flat strip or spring-arm 73 pivoted on a rivet 74 secured in one of the main side plates 55. The opposite end of the arm 73 is formed with a hole 75 adapted to snap over the reduced end 72 of the pin 70 to hold the latter in position; it being noted that by prying the arm 73 outwardly from the side of the plate 55 and swinging it to one side the end of the pin 70 may be released to permit of its withdrawal.

Extending longitudinally of the forward end of the lever 66 is a slot 78 the sides of which are engaged by a roller 80 journalled on a pin 81 extending transversely between the sides of the arms or projections 23 on the lower handle-member 3. The pin 81 is riveted through axial bores in a pair of washers 82 having reduced portions 83 fitted to holes in the extension arms 23 of the handle-member 3. The roller 80 on the pin 81 is adapted to traverse arcuate slots 84 in the sides 55 of the head 54 and corresponding slots in the wings 58 of the lining member 56. The slots 84 are concentric with the axis of the pin 5 on which the handle-members 2 and 3 pivot and it will be observed that as the handles are drawn together the roller 80 will be traveled in the slot 78 of the lever 66 to rock the latter downwardly to effect the descent of the driver 65 in the manner as later more fully explained.

The lever 66 is normally held in raised position, as shown in Fig. 2 of the drawings, under the tension of a spring 85. The spring 85 is of substantially hairpin-shape having its opposite legs bent into loops 86 which encircle the pivot-pin 70 and extend in reverse direction in the portions 87 engaging under ears 88 on the lever 66. The ears 88 are formed integral with the outer plate laminations of the lever 66, being bent outwardly therefrom to overhang the opposite sides of the lever. The ends of the portions 87 of the spring 85 are bent upwardly to engage around the forward edges of the ears 88. The forward loop-portion of the spring 85 rests against a pin 89 which serves as a pivot for the swinging gate 90 arranged to close the forward end of the magazine 25. It should be mentioned that the spring 85 is of greater tension than the helical spring 20 which functions to maintain the handle-members 2 and 3 in open or separated relationship. Through this provision the initial pressure on the handles will cause the upper handle 2 to move with respect to the lower handle 3 to swing the jaw 12 upwardly toward the head 54 of the implement to clamp the work against the under side of the end-member 43 on the magazine 25. Immediately the jaw 12 reaches this position, continued pressure on the handles will cause the lower handle 3 to move relatively of the upper handle 2 and thereby its arms 23 will be rocked downwardly to actuate the lever 66 to carry the driver 65 down in the head 54; this method of operation being more fully explained hereinafter. It is further noted that the opening movement of the jaw 12 is limited by the engagement of the shoulders 4 at the forward end of the handle 2 with the rearward edges of the sides of the head 54.

The pivot-pin 89 extends transversely through vertical slots 92 in the side plates 55 and 58 of the head 54 with its ends engaging in alining holes in ears 93 at the ends of upright arms 94 carrying the gate 90. It will be noted by reference to Figs. 3 and 4 of the drawings, that the central portion of the pin 89 is reduced in diameter, thus providing shoulders 91 which are engaged by the legs of the hairpin-shaped spring 85, previously mentioned, to prevent axial movement of the pin. The pin 89 may be withdrawn from its hole by simply lifting the end of the spring 85 to release it from the shoulders 91.

Referring to Fig. 9 of the drawings, the gate 90 is of substantially box-shape having a front plate 95 and sides 96 forming a continuation of the arms 94. The sides 96 of the gate 90 are arranged to straddle the sides of the staple-core 30 with their rearward edges abutting the forward edges of the sides 27 of the magazine 25 when the gate is in closed position as shown in Figs. 1 and 2. The gate 90 is locked in closed position by means of notches 97 in the lower edges of its sides 96 which engage over the beveled projections or abutments 47 on the end-member 43 at the end of the magazine 25. The rearward under faces of the sides 96 of the gate 90 are beveled at 98 to adapt them to slide easily across the beveled latches or abutments 47 when the gate is swung down into closed position, it being understood that to provide for this latching action the gate moves bodily upward with its pivot-pin 89 sliding in the slots 92 in the sides of the head 54. The gate 90 is retained in latched position under the pressure of the loop-portion of the spring 85 bearing against the pivot-pin 89.

It will be understood that the gate 90 is maintained closed against the forward end of the magazine 25 to prevent the staples *s* from feeding beyond the lower edge of the driver 65 when the latter is in raised position as shown in Fig. 2. With the gate in closed position its front wall or plate 95 is spaced at a distance from the forward face of the end-member 43 on the core 30 to provide a narrow throat through which the staple-driver slides downwardly across the front of the core. It will be noted by reference to Fig. 9 of the drawings that the gate 90 is narrowed slightly at its bottom to provide that is sides will exert a slight constrictive action on the staples to prevent them from dropping out of the machine when they are carried down below the top of the staple-core.

To prevent the staples from being forcibly ejected from the magazine by the action of the pusher 35 when the gate or door 90 is swung into open position, as shown in Fig. 6, automatically-operated detent-means are arranged to engage with the staples at the forward end of the core 30. As herein shown the present detent-means comprises a pair of pawls 100 pivoted on a transverse pin 101 riveted through the sides of the lining-member 56 in the head 54. The pawls 100 are actuated by a hairpin-shaped spring 105 to engage their pointed toes 102 with the heads or crossbars of the staples as shown in Fig. 6. The upper looped end of the spring 105 is seated

against the inwardly bent flanges 60 of the lining-member 56 and the lower ends of the legs of the spring are bent around to engage in holes drilled into the edges of the pawls. The pawls 100 have upstanding arms 107 which are located in the spaces between the sides of the lever 66 and the walls of the inner lining-member 56. The spring 105 acts to normally rock the pawls 100 to engage their pointed toes 102 with the heads of the staples *s* as shown in Fig. 6 when the gate is opened; and upon the closing of the gate the pawls are released from the staples by means as next described.

The side plates 55 of the head 54 and sides 58 of the lining-member 56 are formed with horizontally-extending slots 108 through which the ends of a T-shaped slide 110 project, see Fig. 7 of the drawings. The slide 110 is adapted to slide in the slots 108 with its right-angle portion 111 projecting between the sides of the two pawls 100. The slide 110 is slid forwardly in its slots 108 under the rocking action of the pawls 100, but when the gate 90 is closed down against the front of the magazine, as shown in Fig. 1 of the drawings, the rearward edges of the sides 96 of the gate engage against the two ends of the slide 110 to force the latter rearwardly, whereby to rock the pawls 100 to disengage their toes from the staples *s*. In this way the closing of the gate acts to free the staples to allow them to be fed forwardly under the propulsive action of the pusher 35. The construction and arrangement of the parts of the implement having been described in detail its method of operation will next be explained.

The magazine of the implement is loaded with staples by opening the door or gate 90 and sliding a stick or refill along the core 30. To open the gate 90 it is only necessary to slide it upwardly to release the notches 97 in its lower edges from the projection or abutments 47 on the member 43 at the end of the core 30. As the gate is opened the slide 110 is released to allow the pawls 100 to be rocked by the spring 105 to carry their toes 102 downwardly against the top of the core 30. The staple stick or refill, comprising a plurality of the staples *s* cemented together by a frangible adhesive, is slid onto the core 30 to force the pusher 35 rearwardly against the tension of its spring 38. As the staples are slid along the core 30 the pawls 100 act in ratchet fashion to engage successively with their heads to resist the pressure of the spring 38 tending to force the pusher 35 forwardly. After the refill has been inserted into the implement with the foremost staple in the stick beneath the staple-driver 65 the gate 90 is closed down against the front of the magazine 25. As the gate swings downwardly its beveled edges 98 slide across the latches 47 whereby to lift the gate to allow the latches to engage in its notches 97. As the gate is closed and latched in this manner the edges of its side walls 96 engage against the slide 110 to slide the latter rearwardly into the position shown in Fig. 7 of the drawings. As the slide 110 is moved rearwardly it acts to rock the pawls 100 to release their pointed toes 102 from engagement with the staples *s*. The machine is then ready for operation in the manner as next explained.

The handles 2 and 3 are grasped in the manner of pliers and pressure applied thereto to rock the jaw 12 upwardly whereby to seize the work, indicated at *w* in Fig. 5, to clamp it against the under side of the end-member 43. Continued pressure on the handles causes the extension arms 23 on the lower handle 3 to be rocked downwardly to traverse the roller 80, carried thereby, along the arcuate slots 84 in the sides of the head 54. The roller 80 is thus traversed along the slot 78 in the lever 66 to rock the latter downwardly. Actuation of the lever 66 causes the driver 65 to be slid downwardly in the head 54 and as the lower edge of the driver impinges against the top of the foremost staple in the series this staple is separated from the stick to be carried down through the throat in the gate 90 and driven into the work held on the anvil 15. As the legs of the staple protrude through the work they enter the clincher-grooves 21 in the anvil 15 and are thereby bent over and clinched against the under side of the work.

It has been explained that the spring 85 is of greater tension than the spring 20 so that the jaw 12 moves towards the bottom of the staple-magazine before the lever 66 is actuated. For the same reason, as soon as pressure on the handles 2 and 3 is relieved the lever 66 will be rocked upwardly under the action of the spring 85 to raise the staple-driver 65 in the head 54, the pin 89 serving as a stop to limit the movement of the lever 66 in this direction. The raising of the driver 65 permits the staple-stick to be slid forward under the action of the pusher 35 to feed another staple into position abutting the forward wall of the gate 90 and underlying the bottom edge of the driver. As the pressure on the handles 2 and 3 is further relieved the jaw 12 will be swung downwardly under the action of the spring 20 to release the work so that it may be removed from the implement. The device is then ready for another operation and may be used repeatedly in the same manner to apply the staples or fasteners to the work until the supply in the magazine is exhausted.

When the gate 90 is opened to replenish the supply of staples in the magazine 25 it releases the slide 110, thereby permitting the pawls 100 to be rocked downwardly so that should a few staples remain in the magazine their forcible ejection will be prevented.

It will be observed from the foregoing that the invention provides a particularly compact implement embodying fastener-setting or staple-applying means of the utmost simplicity and practically proof against derangement or getting out of order. The implement is convenient to load with staples, easy to operate, and efficient in action for the purposes specified.

While the device is herein described and illustrated as embodied in a preferred form of construction, various modifications may be made in the structure and arrangement of the parts thereof without departing from the spirit or scope of the invention. Therefore, without limitation in this respect, I claim:

1. In a fastener-applying implement, the combination of a pair of pivoted plier-handles, a reciprocable driver for driving the fasteners into the work, a lever pivoted at one end and connected at its opposite end to the driver, and means on one of the handles engaging the lever at a point intermediate its ends and slidable longitudinally thereon to rock the lever to reciprocate the driver.

2. In a fastener-applying implement, the combination of pivoted plier-handles, one of said handles carrying a jaw, a reciprocable driver for inserting the fasteners through the work, a lever pivoted at one end with its opposite end connected to the driver, said lever formed with a

slot intermediate its ends, and means on the other handle slidable in the slot in the lever to rock the latter to reciprocate the driver.

3. In a fastener-applying implement, the combination of a pair of pivoted plier-handles, one of said handles having a jaw, a magazine for the fasteners located opposite said jaw, a driver reciprocable with respect to the magazine, means for feeding the fasteners in the magazine to deliver them successively to the driver, a lever pivoted at one end with its opposite end connected to the driver, and means carried by the other handle engaging the lever at a point intermediate its ends and slidable longitudinally thereon to rock the lever to reciprocate the driver when the handles are closed together.

4. In a fastener-applying implement, the combination of a pair of pivoted handles, one of said handles having a jaw, a magazine for the fasteners arranged opposite said jaw, a head fast on the magazine, a driver reciprocable on said head, means for feeding the fasteners in the magazine to deliver them successively to the driver, a lever pivoted on the head and connected with the driver, and a roller on the other handle engaging the lever intermediate its ends and slidable longitudinally thereon to rock the latter to reciprocate the driver.

5. In a fastener-applying implement, the combination of a pair of pivoted plier-handles, one of said handles being extended forwardly in a jaw and the other handle having a forwardly extended arm arranged opposite the jaw, a reciprocable driver, a lever pivoted at one end with its opposite end connected to the driver, and means on the forward arm of the second handle engaging the lever at a point intermediate its ends and slidable longitudinally thereon to rock the lever to reciprocate the driver.

6. In a fastener-applying implement, the combination of a pair of pivoted handles, one of said handles carrying a jaw and the opposite handle provided with a forward extension, a magazine for the fasteners extending between the handles and above the jaw on one of them, a head fast on said magazine, a driver reciprocable on said head, a lever pivoted to the head and provided with a portion engaging an opening in the driver, and means on the forward extension of the second handle engaging the lever intermediate its ends and slidable longitudinally thereon to rock the latter to reciprocate the driver.

7. In a fastener-applying implement, the combination of a pair of pivoted handles, one of said handles formed with a jaw and the opposite handle having a forward extension, a magazine for the fasteners extending between the handles in opposite relation to the jaw on one of them, a head fast on the magazine, a driver reciprocable on the head, means to feed the fasteners in the magazine to deliver them successively to the driver, a lever pivoted to the head and connected to reciprocate the driver, said lever formed with a slot, and a roller carried by the extension on the second handle and engaging the slot in the lever to rock the latter to reciprocate the driver.

8. In a fastener-applying implement, the combination of a pair of pivoted handles, one of said handles extended forwardly in a jaw and the other handle extended forwardly in an arm, a magazine for the fasteners supported on the pivot for the handles, a head on the magazine comprising opposite side plates formed by extensions of the sides of the magazine, a driver reciprocable on said head, a lever pivoted between the side plates of the head and having a portion projecting through an opening in the driver, said lever formed with a slot, and a roller carried by the arm on the second handle and engaging the slot in the lever to actuate the latter to reciprocate the driver.

9. In a fastener-applying implement, the combination of a pair of pivoted handles, a magazine for the fasteners extending between the handles, a head at the forward end of the magazine, a driver reciprocable on the head to operate on the fasteners fed thereto from the magazine, a lever pivoted to the head and connected to reciprocate the driver, one of the handles being provided with arms straddling the sides of the head, and means connecting said arms and slidably engaging the lever to rock the latter to reciprocate the driver.

10. In a fastener-applying implement, the combination of a pair of pivoted handles, a head, a driver reciprocable on the head, a lever pivoted to the head and connected with the driver, said lever formed with a slot, one of the handles being provided with arms extending forwardly from its pivot and straddling the sides of the head, a pin connecting said arms, and a roller on the pin engaging the slot in the lever to rock the latter to reciprocate the driver when the handles are moved relatively of each other.

11. In a fastener-applying implement, the combination of a pair of pivoted handles, a head, a driver reciprocable on the head, a lever pivoted to the head and engaging the driver, means connecting one of the handles to actuate the lever to reciprocate the driver, a spring for maintaining the handles in open position, and a second spring acting on the lever to return it to initial position as the handles are returned to open position by the first-named spring.

12. In an implement of the type indicated, the combination of a head, a driver reciprocable on said head, a lever pivoted to the head and connected to reciprocate the driver, manually-operable means for rocking the lever, a spring looped around the pivot of the lever with one end anchored to means on the head and its opposite end engaging the lever to rock the latter, and means for limiting the rocking action of the lever under the tension of the spring.

13. In an implement of the type indicated, the combination of a head comprising opposite side members, a driver reciprocable on said head, a pivot-pin extending between the sides of the head, a lever pivoted on said pin and connected to reciprocate the driver, manually-operable means for rocking the lever, a second pin extending between the sides of the head in position to limit the rocking motion of the lever in one direction, and a spring looped around the pivot-pin for the lever with one end held against the second pin and its opposite end engaging the lever to rock the latter.

14. In an implement of the type indicated, the combination of a magazine for containing a supply of fasteners, means for applying the fasteners to the work, means for feeding the fasteners in the magazine to deliver them successively to the applying means, a hinged gate for closing the end of the magazine, said gate formed with detent-notches, latches on the magazine engageable with the notches in the gate to retain the latter in closed position, a pin-and-slot connection for pivoting the gate to adapt its pivot to be displaced by moving the gate to release its notches from the latches on the magazine, and resilient means

acting against the gate to normally maintain its notches in engagement with the latches.

15. In an implement of the type indicated, the combination of a magazine for containing a supply of fasteners, means for feeding the fasteners in the magazine, means for operating on the fasteners as they are fed from the magazine to apply them to the work, a gate for closing the end of the magazine, said gate formed with a detent-notch, a beveled latch engageable with the notch in the gate to retain the latter in closed position, and a pin-and-slot connection for pivoting the gate to adapt its pivot to be displaced by moving the gate to release the notch from the latch to permit the gate to swing outwardly to open the magazine.

16. In an implement of the type indicated, the combination of a magazine for containing a supply of fasteners, a head arranged above the magazine, said head being formed with vertical slots in its sides, fastener-applying means reciprocable on said head, means to feed the fasteners in the magazine to deliver them to the applying means, a pivot-pin extending through the slots in the head, a gate pivoted on said pin and formed with a notch in its lower edge, a latch on the magazine engageable with the notch in the gate, and a spring acting against the pivot-pin for the gate to retain its notch in engagement with the latch on the magazine.

17. In an implement of the type indicated, the combination of fastener-applying means, a magazine for containing a supply of fasteners, means for feeding the fasteners in the magazine to deliver them successively to the applying means, a gate for closing the end of the magazine, a pawl pivoted to adapt it to engage the fasteners in the magazine, means for operating the pawl to engage it with the fasteners to prevent their feeding movement when the gate is opened, and a slide engageable with the pawl to release it from the fasteners, said slide adapted to be moved by the gate when the latter is closed against the magazine.

18. In an implement of the type indicated, the combination of a magazine for containing a supply of fasteners, a head at one end of the magazine, fastener-applying means reciprocable on the head, means for feeding the fasteners in the magazine to deliver them successively to the applying means, a pawl pivoted on the head and adapted to engage the fasteners to prevent them from feeding when the gate is opened, and a slide slidable in the head and adapted to be moved by the gate when the latter is closed against the magazine, said slide acting to release the pawl from the fasteners.

19. In an implement of the type indicated, the combination of a head, fastener-applying means on said head, a magazine for containing a supply of fasteners, means for feeding the fasteners in the magazine to deliver them to the applying means on the head, said head formed with slots in its opposite sides, a slide extending through the slots in the head, detent-means in the head adapted to engage the fasteners to prevent them from feeding in the magazine, and a gate adapted to close against the end of the magazine and to engage the slide to move the latter to release the detent-means from the fasteners.

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