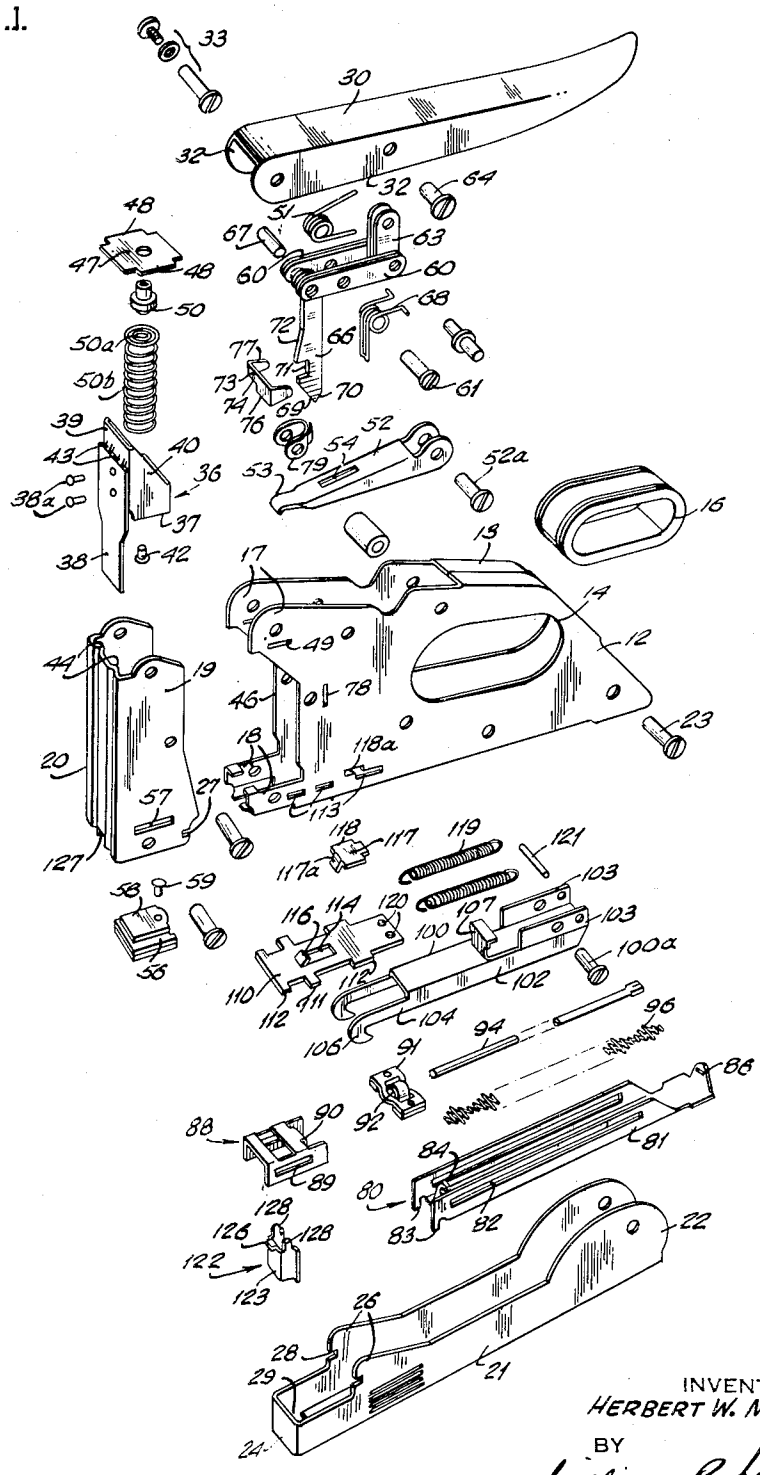
Oct. 4, 1955 H. W. MARANO 2,719,296

MAGAZINE LATCHING MEANS FOR STAPLING MACHINES

Original Filed Feb. 17, 1953 3 Sheets-Sheet 1

Fig. 1.



INVENTOR
HERBERT W. MARANO
BY
William R. Liberman
ATTORNEY

Oct. 4, 1955 H. W. MARANO 2,719,296

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Original Filed Feb. 17, 1953 3 Sheets-Sheet 2

Fig. 7.

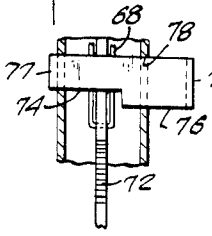


Fig. 8.

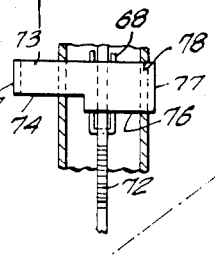


Fig. 2.

Fig. 3.

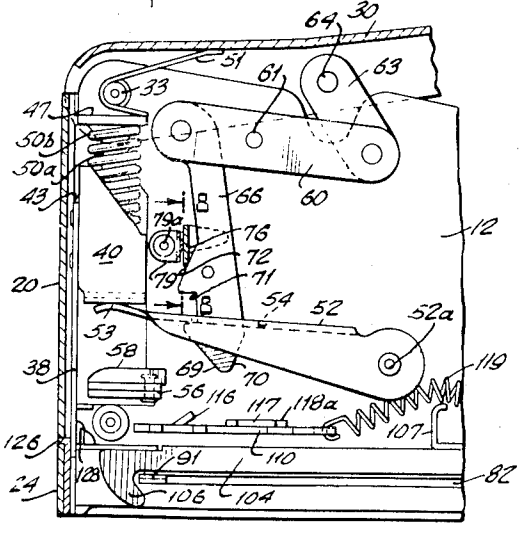
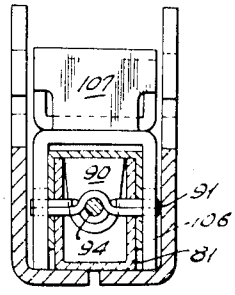


Fig. 9.



INVENTOR
HERBERT W. MARANO

William R. Liberman

ATTORNEY

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Original Filed Feb. 17, 1953 3 Sheets-Sheet 3

Fig. 5.

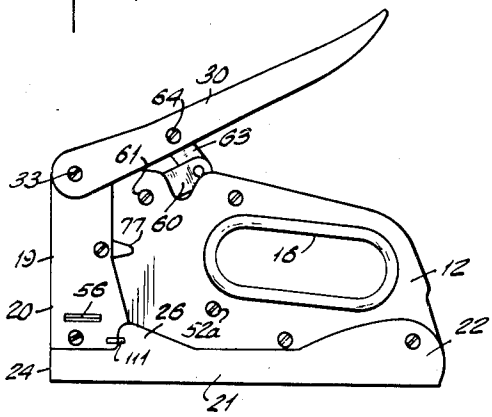


Fig. 6.

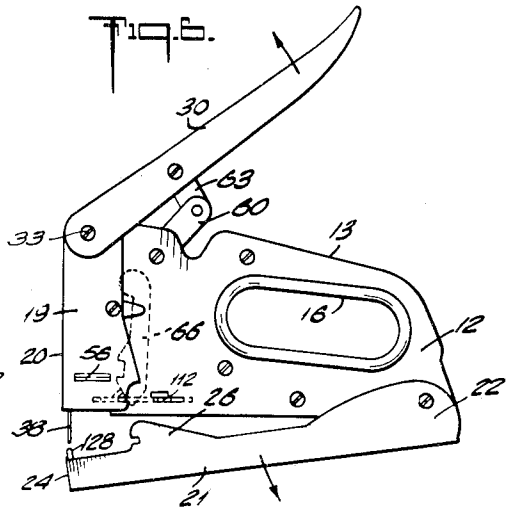


Fig. 4.

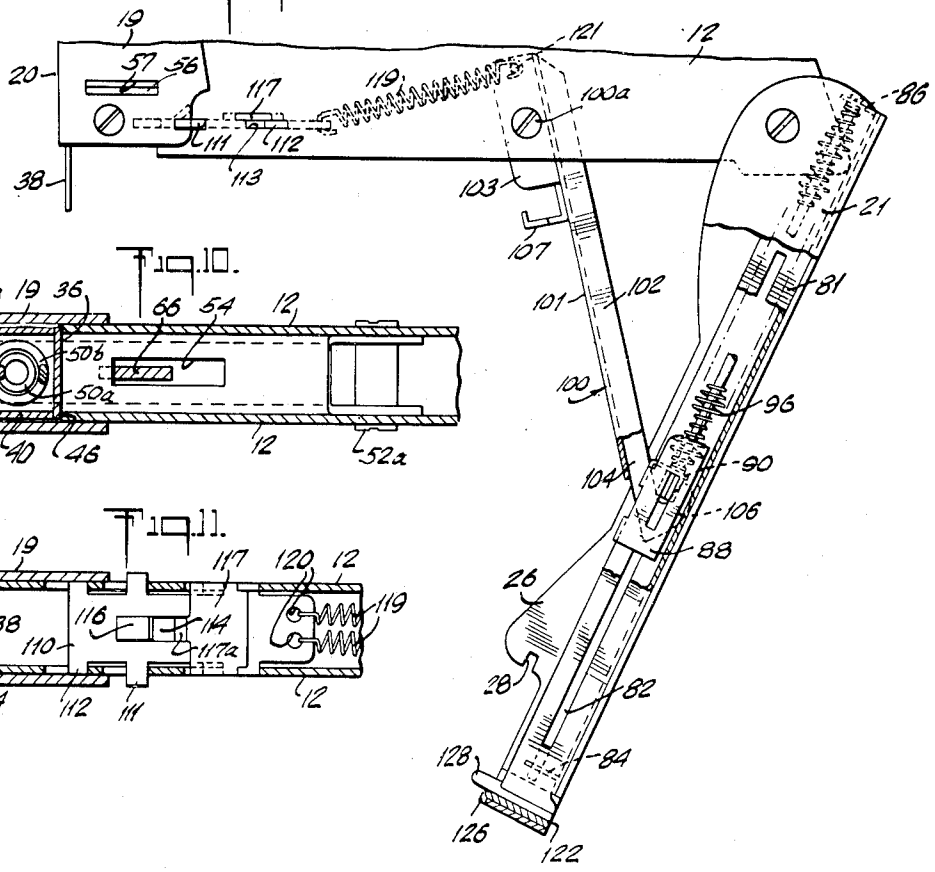


Fig. 10.

Fig. 11.

INVENTOR
HERBERT W. MARANO
BY
William R. Liberman
ATTORNEY

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MAGAZINE LATCHING MEANS FOR STAPLING MACHINES

Herbert W. Marano, Summit, N. J., assignor to Wilson Jones Company, Chicago, Ill., a corporation of Massachusetts

Original application February 17, 1953, Serial No. 337,328. Divided and this application December 9, 1953, Serial No. 397,125

11 Claims. (Cl. 1—49)

The present invention relates generally to an improved fastener driving device, and it relates in particular to an improved portable, hand-operated device which will drive a single fastener such as a staple, or the like, from a pre-formed cohered strip of such fasteners into wood, cardboard, plastic or other materials. The word "staple" as herein used will indicate fasteners of that general type.

This application is a division of application Serial No. 337,328, filed February 17, 1953.

Hand-operated stapling machines of the general type with which the present invention is concerned are widely used, and consist generally of a spring-loaded plunger or ram having a depending staple-driving blade movable along a predetermined path, a magazine for holding a strip of staples with the foremost staple in the path of the driving blade, and a hand-operated mechanism for retracting and releasing the spring-loaded plunger whereby to effect the staple driving stroke.

The conventional heavy duty stapling gun of the aforementioned type is a highly inefficient machine, inflexible, expensive to fabricate, subject to excessive wear, and difficult to operate and service. The inefficiency of the conventional gun tacker has been found to be directly attributable to the eccentricity existing between the line of force of the energy storing plunger driving spring and the line of force exerted by the plunger retracting and spring loading element. The torque imparted to the plunger as a result of this eccentricity accounts for a major part of the energy expended in loading the driving spring and is dissipated in frictional losses, which in turn greatly contribute to the excessive wear of the stapling device and demands an expenditure of much more energy on the part of the operator than should be necessary in employing the stapling gun.

Another disadvantage encountered in the conventional gun tacker is its limitation to use with only one size staple, or its limitation within an extremely small range of sizes. The spring loading and actuating mechanism is such that the energy stored in the spring during each driving stroke is normally fixed and unalterable. The gun tacker requires a major conversion in order to readjust or change the amount of energy stored in the driving spring during the stapling cycle. The drawbacks of this construction are readily apparent in view of the fact that it is often desirable to switch from one size staple to another and to apply the staples to different types of materials. Moreover, the optimum drive applied to the staples varies with the staple size and the material to which they are applied, and conventional devices make no provision for varying readily the driving force. Another undesirable characteristic of the conventional gun tacker is the tendency of the staples in the magazine to jam. The guide which accommodates the strip of staples has upper confronting walls which are, of necessity, spaced a distance at least as large as the greatest diameter of the wire forming the staples. Since the diameter of this wire varies, it often happens that the staple strip pusher causes staples of lesser diameter wire to mount

each other and jam the guideway. Increasing the strength of the pusher spring is of no help since it merely further aggravates the jamming.

Typical of the difficulties met in the manufacture of the conventional gun tacker is the fabrication of the staple exit guide. This guide, being subject to the maximum wear and abrasion, must be heat treated for reasonable service. However, since this guide is generally formed integral with the lower channel member of the gun tacker, its proper hardening without disturbing the channel member is a major problem and difficult of proper attainment without a large percentage of rejects. There are many other drawbacks and disadvantages encountered in the conventional staple gun tacker in spite of the fact that this device is universally and widely employed, and much effort has been expended in its development.

It is, therefore, a principal object of the present invention to provide an improved fastener driving device.

Another object of the present invention is to provide an improved portable hand-operated staple gun tacker.

Still another object of the present invention is to provide an improved staple gun tacker requiring a minimum of manual effort in its operation.

A further object of the present invention is to provide an improved staple gun tacker having a staple driving mechanism which is highly efficient in the transmission of the energy expended by the operator in relation to the driving of the staple.

Still a further object of the present invention is to provide an improved staple gun tacker which is capable of handling staples of a large range of sizes.

Another object of the present invention is to provide an improved staple gun tacker in which the force imparted to the staples may be easily and simply manually adjusted.

Still another object of the present invention is to provide an improved magazine for the strip of cohered staples in which the jamming of the staples is eliminated.

A further object of the present invention is to provide an improved staple gun tacker having a staple loading mechanism which permits the rapid and simple insertion of a strip of staples.

Still a further object of the present invention is to provide an improved staple gun tacker having a novel staple exit channel which greatly facilitates the fabrication thereof.

The above and other objects of the present invention will become apparent from a reading of the following description taken in conjunction with the accompanying drawings, wherein

Figure 1 is an exploded view illustrating in perspective the various components entering into the assembly of an improved staple gun tacker in accordance with the present invention;

Figure 2 is a side transverse sectional view of the staple gun tacker in uncocked condition;

Figure 3 is a side transverse sectional view of the forward portion of the staple gun tacker in fully cocked condition immediately preceding the release of the staple driving plunger;

Figure 4 is a side detail view, partially in section and partially broken away, of the staple magazine and opening and loading mechanism illustrated in open position;

Figure 5 is a side elevational view of the improved staple gun tacker in normal uncocked operative position;

Figure 6 is a side elevational view of the tacker showing the handle in the magazine opening position;

Figure 7 is a sectional view taken along line 7—7 of Figure 2 showing the driving force adjusting element in the high energy position;

Figure 8 is a sectional view taken along line **8—8** of Figure 3 showing the driving force adjusting element in the low energy position;

Figure 9 is a sectional view taken along line **9—9** of Figure 2;

Figure 10 is a sectional view taken along line **10—10** of Figure 2; and

Figure 11 is a sectional view taken along line **11—11** of Figure 2.

A staple gun tacker embodying features of the present invention includes a main body or frame member having an actuating handle hinged to its upper front edge, a staple magazine housing hinged to its lower rear edge and a channel shaped member secured to its front and defining a housing and guide for the staple driving plunger and spring. Slidably supported in the front channel is a plunger or ram having a horizontal shoulder and a depending driving blade which rides along the inner front face of the channel. An energy storing compression spring is confined between the upper face of the ram shoulder and a vertically spaced shelf and urges the plunger to its lowermost or advanced position. The plunger cocking and releasing mechanism comprises a horizontally hinged lifting lever whose free end engages the bottom face of the ram shoulder at a point colinear with the line of force of the ram driving spring, the lever having a longitudinal slot formed therein. A fulcrum is pivotally mounted in the upper part of the frame member and supports at its front end a depending cocking member terminating in a pointed end topped at its forward edge by a recessed portion defining a hook above which the edge inclines rearwardly defining a cam surface. The cocking member registers with the lifting lever slot, the hook normally engaging the front edge of said slot. The rear end of the fulcrum is link-connected to the actuating handle.

A vertically stepped triggering element is slidably supported by the frame in confronting relation to the front edge of the cocking member so that different portions of the trigger may be brought into alignment with the cocking element whereby to trigger the cocking mechanism at preselected points in its stroke and hence impart varying driving forces to the plunger as will be described in detail. A channel shaped staple guide is disposed on the base of the magazine housing and engages a slidable staple pusher which is urged forward by spring means. An elongated staple retaining element is hinged at its rear to the lower portion of the frame at point intermediate the ends of the frame and terminates at its front end in depending rearwardly facing hooks which slide along the base of the magazine housing and may engage tabs projecting laterally from the staple pusher. Spring means urge the staple retainer downwardly whereby to confine the staples stored on the staple guide. The forward side walls of the magazine housing are provided with elevated portions having forwardly directed recesses formed therein which, when the housing is in closed position, are engaged by a latch member consisting of an apertured plate slidably supported in the frame and having laterally projecting locking tabs extending through corresponding slots in the frame side walls. The latch member is spring-urged to the locked position, and the aperture therein registers with the pointed end of the cocking member which, when depressed by the raising of the actuating handle, travels between the front edge of the aperture and a rearwardly disposed stop, urging the latch member to its forward open position and releasing the magazine housing. The magazine housing swings downwardly as does the staple retaining member, the hooked ends of which engage the staple pusher carrying it to its retracted position and facilitating the loading of a strip of staples. Upon closing of the magazine housing, the staples are urged forward so that the foremost staple is brought against the driving blade and into its path upon the cocking of the plunger. An aperture is formed in the front bottom wall of the magazine housing and defines a staple exit opening. A hardened staple exit channel is positioned above this opening and receives the brunt of the driving cycle.

Reference is now made to the drawings which illustrate a preferred embodiment of the present invention wherein the numerals **12, 12** generally designate a pair of laterally spaced, symmertical side walls having abutting upper and rear inwardly directed flanges **13**, and opposing oval shaped openings **14**, in which is positioned a finger grip **16** formed of rubber or other suitable material. The side walls **12**, which define a supporting frame, have upper and lower projecting portions **17** and **18** respectively, which extend into and between side walls **19** of a front channel member **20** abutting said side walls and are secured thereto by means of the suitable screw and spacer assemblies illustrated, which pass through and are located between corresponding aligned holes formed in the channel side walls **19**, and the frame member projections **17** and **18**. Hinged to the lower rear corner of the frame member is a bottom magazine housing channel **21**, having a pair of rear upwardly directed tabs **22**, which embrace the lower rear corners of the side walls **12**, and have holes formed therein aligned with corresponding holes formed in the side walls **12**, said holes being secured by a suitable post fastener **23**. The forward end of channel **21** has a front wall **24**, the upper edge of which abuts the front lower edge of the front channel member **20** when the magazine channel is in closed position, and also has a pair of upwardly directed front tabs **26**, whose forward edges fit into the confronting lower corner edges of channel **20** when the magazine channel **21** is closed. Also formed in the matching portions of the channel walls **19** and tabs **26**, are recesses **27** and **28** respectively which define a continuous slot. A rectangular opening **29** is formed in the front of the bottom wall of the magazine channel **21**. An actuating handle **30**, having depending laterally spaced side walls **32**, is hinged to the frame **12** by means of a post screw assembly **33** passing through holes formed in the front portion of the handle side walls **32** and corresponding openings formed in the frame projections **17** and front channel side walls **19**, the front portion of the handle side walls embracing the upper portion of the front channel side walls **19**.

A plunger **26** is vertically slidably disposed in the front channel **20**, and includes a ram **37** and a depending driving blade **38**. The ram **37** is formed of a sheet of metal and has a front wall **39**, side walls or gussets **40**, a bottom wall **41** formed of the inwardly directed tabs of the front wall **39** and gussets **40**, and a rear wall formed of a further extension of the front wall tab. The tabs forming the ram bottom wall **41** are secured by a centrally located rivet **42**. Projecting forwardly from the upper portion of the ram front wall **39** are a pair of horizontally spaced detents **43** which bear against the upper edge of the depending driving blade **38** secured to the ram front wall **39** by suitable rivets **38***a*. It should be noted that the plunger is guided by a pair of inwardly directed ribs **44** formed in the front wall of channel **20** and the forward vertical edges **46** of the frame wall **12**.

Located in the upper end of the channel **20** is a shelf **47** having lateral extensions **48** registering with corresponding slots **49** formed in the upper projecting portions **17, 17** of frame walls **12**. Depending centrally from the shelf **47** is a spring-engaging stud having a stepped cylindrical head **50**. A pair of concentric helical compression drive springs **50***a*, **50***b* are entrapped between the underside of shelf **47** and the upper face of the ram bottom wall **41**, urging the plunger **36** to its lowermost or advanced position. The upper ends of the springs **50***a*, **50***b* engage the stud stepped head **50**, the springs **50***a*, **50***b*, the head **50** and the rivet **42** being coaxially disposed. A torsion spring **51**, whose arms bear against the cross wall of handle **30** and the upper face of shelf **47**, is mounted on the bolt **33** and urges the handle **30** to its normal intermediate position, see Figure 2.

The plunger actuating mechanism includes a lifting lever

52 of channel shaped cross-section having rearwardly extending vertical tabs provided with aligned openings engaging a bolt 52*a* which is supported by the frame walls 12 and, in turn, rotatably supports the lifting lever 52. The front end of the lifting lever 52 has a forwardly projecting arm 53 having a convex upper face which engages substantially the center of the head of the rivet 42. The horizontal wall of the lever 52 has a longitudinal slot 54 formed therein. Positioned directly below the lifting lever arm 53 is a cushion assembly consisting of a pair of superimposed plates 56, the lateral ends of which engage and extend into corresponding horizontal slots 57 formed in the front channel side walls 19 flush with the outer margins thereof, and a rubber pad 58 mounted atop the plates 56, the assembly being secured by a rivet 59. It should be noted that the lifting lever, cushion assembly, driving blade and plunger, and the driving spring mechanism are so dimensioned and disposed that the lower edge of the blade 38 is at the level of the lower edge of the magazine channel front wall 24 when the mechanism is in its normal at rest position.

In order to effect the staple driving stroke, there is provided a pair of horizontally spaced parallel fulcrum arms 60 which are rotatably supported between the upper parts of the frame walls 12 by means of a screw post 61 passing through aligned holes formed between the ends of arms 60 and in the frame walls 12. The rear ends of the arms 60 are connected through a suitable pivot and spacer and by links 63 to a screw post 64 supported by the side walls of the actuating handle 30. Hinged to and depending from the forward ends of the arms 60 is a cocking member 66, which is positioned intermediate the arms 60 by means of suitable spacers engaging a pin 67 which registers with holes formed in the upper part of cocking member 66 and the forward part of the arms 60. A torsion spring 68, mounted about the post 61, has its arms confined between the lower edges of arms 60 and the rear edge of cocking member 66 to swing the lower end of the member 66 forwardly. The cocking member 66 terminates at its lower free end in a point defined by a front inclined cam edge 69 and a back inclined cam edge 70. Above the front cam edge 69 and separated therefrom by a recessed portion 71 defining a hook, is an upwardly, rearwardly inclined cam edge 72.

In normal inoperative position, the lower end of the cocking member 66 passes through the slot 54 in the lifting lever 52, the hook 71 engaging the front edge of the slot 54. An adjustable triggering element 73 is provided, having a transverse arm provided with upper and lower stepped bottom edges 74 and 76 respectively, and rearwardly extending finger tabs 77, and is transversely slidably supported by rectangular vertically extending recesses 78 formed in the frame face forward edges 46. A spring member 79, supported on the front channel walls 19 by a suitable post 79*a*, resiliently retains the member 73 in the recesses 78. While the lower edge of triggering element 73 is illustrated as having but two steps, this edge may have a larger number of steps or be inclined, as will be readily understood from the foregoing.

Disposed in and secured to the bottom wall of the magazine channel 21 is a channel-shaped staple guide 80, whose upwardly directed side walls 81 have parallel longitudinal slots 82 formed therein. The forward ends of the guide side walls 81 have depending legs 83 which overhang the rear wall of the opening 29 and extend to the lower edge thereof. An apertured upright tab 84 is positioned at the front end of the staple guide bottom wall, the other end of which is provided with a rearwardly extending portion terminating in an upright tab 86 having a horizontal slot formed therein. A pusher member 88, having depending side walls provided with longitudinal slots 89, slidably straddles the guide 80, the slots 89 being aligned with the guide slots 82. The pusher member 88 is also provided with horizontal cross walls, the rear one of which has a depending apertured tab 90. A cross bar 91, having a longitudinal tubular guide opening 92, is positioned in the guide 80 and pusher 88, projecting laterally through and beyond the aligned slots 82 and 89. A guide rod 94 passes through the openings in tabs 84, 86 and 90, and the pusher tubular opening 92, and has its flattened rear end upset at tab 86 to complete the assembly. Mounted on, and coaxial with, the guide rod 94 is a helical compression spring 96 confined between the confronting faces of guide tab 86 and pusher tab 90 to urge the pusher 88 to its advanced position.

A staple-confining and pusher-retracting member 100 of inverted channel shape is provided, and has an upper wall 101 and depending side walls 102 adapted to straddle the pusher member 88 and nest in the magazine channel 21. The confining member 100 is hinged to and between the lower portions of frame walls 12 by means of a screw post 100*a* passing through aligned openings formed in upward extensions 103 to the rear portions of side walls 102 and corresponding openings formed in the frame walls 12. The front ends of side walls 102 are provided with forwardly projecting shanks 104 terminating in depending rearwardly open hooks 106 which ride along the inner longitudinal bottom edges of the channel 21 and are adapted to engage the portions of the pusher bar 91 projecting beyond the pusher slots 89. Furthermore, a rearwardly flanged upright tab 107 is positioned towards the back edge of the confining member upper wall 101.

A latch or locking member 110 of horizontal plate-like configuration is slidably supported at the level of the recess 27 formed in the front channel side walls 19 by means of a plurality of laterally projecting tabs 112, 111, 112 slidably engaging a similar number of slots 113 of longer extent formed in the frame side walls 12. The centermost tabs 111 project through their associated slots 113 beyond the outer faces of side walls 12, whereas the front and rear tabs 112 only extend to the plane of these faces. Formed in the latch member 110, in vertical alignment with the cocking member 66, is a longitudinal rectangular aperture 114, the forward edge of which is provided with an upwardly rearwardly inclined tab 116. A stop member 117 is disposed directly above the locking member 110 and is supported in fixed position by means of a pair of laterally extending ears 118 engaging corresponding openings 118*a* in the frame side walls 12. The forward edge of the stop member 117 is provided with a forwardly inclined depending tab 117*a* projecting into the locking member aperture 114 at a point intermediate the ends thereof in locked position. A pair of helical tension springs 119 engage at one end openings 120 formed in the rear portion of locking member 110 and at the other end a pin 121 supported by holes formed in the upper corners of retaining member side wall extensions 103. The springs 119 are normally upwardly deflected from their straight line path by the retaining member upright 107 and serve the multiple purpose of urging the locking member 117 to its close position and the confining member 100 downwardly and counterclockwise, as seen in Figure 4.

A channel shaped staple exit member 122 is formed of a hardened steel and is disposed at the forward end of the magazine channel 21, registering with the exit aperture 29. The forward wall 123 of the exit member abuts the inner face of the magazine channel front wall 24 and is provided at its upper edge with a forwardly projecting lug 126 which abuts the upper edge of channel front wall 24 and registers with a recess 127 formed in the lower edge of the front wall of front channel member 20. The rear portion of the side walls of the staple exit member is directed laterally arcuately outwardly and forcibly engages the confronting rear edge of magazine channel aperture 29. Projecting vertically from the side walls of the exit channel are tabs 128 which extend above the corresponding edges of the magazine channel side

walls. The staple exit member **122** is hardened prior to assembly and, due to its configuration, distortion will be outward which is favorable since a preloaded condition is set up when it is assembled into forward end of magazine channel **21**. The curved end faces of the member **122** abutting the rear edge of aperture **29** secures it therein, correcting an inward distortion that might manifest itself after the heat treating process. In the exceptional case, where the distortion of the side walls of member **122** is laterally outward, then the side walls of the magazine channel **21** will forcibly engage the exit member side walls suitably, preloading the same. Moreover, the abutting faces of the walls **24** and **123** are secured by a tack weld. It should be noted that the forward vertical edges of the staple guide **81** are spaced from the inner face of the wall **123** of exit member **122** a distance sufficient to permit easy passage of the driving blade **38**.

Considering now the operation of the improved stapling gun; in order to load the gun, the actuating handle **30** is raised in the direction of the arrow, Figure 6, causing the fulcrum arm **60** to rotate counterclockwise. The point of the depending cocking member **66** is thereby forced downwardly into the aperture **114** of the locking member **110**. The locking member lower forward cam edge **69** engages the tab **116** and the rear cam edge **70** engages the stop tab **117** urging the locking member **110** forward and the locking tabs **111** from the close position in the recesses **28** to their open position out of these recesses and into the adjacent recesses **27**. The springs **119**, acting through the retaining member **100**, swing the magazine channel **21** to its fully open position as seen in Figure 4, the lower edges of hooks **106** riding along the bottom wall of the magazine channel **21**. As the magazine channel **21** is swung outwardly, the hooks **106** engage the laterally projecting portions of the pusher bar **91** withdrawing the staple pusher member **88** to its retracted position and compressing the feed spring **96**. A strip of staples may then be placed on the staple guide **80**, and the magazine channel thereafter swung to its closed position, the locking tabs engaging the locking recesses **28**. The hooked ends **106** of the retaining member **100** are thus returned to the forward end of the magazine channel **21**, allowing the pusher member **88** to slide forward, engaging the rear staple of the strip and, by virtue of the spring **96**, urging the strip of staples forward and the foremost staple against the inner face of the driving blade **38**. The springs **119**, acting on the upright **107**, urge the confining member **100** downwardly, which maintains a pressure on the top side or bridge of the staples when loaded on the staple guide and thereby greatly inhibits the jamming of the staples.

In performing the stapling operation, the actuating handle **30** is pressed downwardly toward the frame member **12**, thereby rotating the fulcrum arms **60** clockwise, as seen in Figure 3, and raising the cocking member **66**. The hooked portion **71** of the cocking member **66** passing through lifting lever slot **54**, engages the lower face of the lifting lever **52** and rotates the lifting lever **52** clockwise about pin **52***a*. The forward edge **53** of the lifting lever **52**, acting on the rivet head **42**, raises the plunger **37** and, as the lower edge of the driving blade **38** is elevated above the level of the strip of staples, the foremost staple is advanced into the vertical path of the driving blade **38** under the urging of spring **96**. In the raising of the plunger **36**, the energy storing springs **51** are compressed and loaded. As the fulcrum arm **60** is rotated clockwise and the cocking member **66** thereby raised, the forward upper cam edge **72** of the cocking member comes into contact with and engages the lower edge **74** or **76**, as the case may be, of the triggering element **73**. The triggering element lower edge, acting on the cam edge **72** (see Figure 3), swings the cocking lever **66** rearwardly as it is raised until the forward edge of the hook portion thereof is retracted beyond the forward edge of the slot **54** in the lifting lever **52**, releasing the lifting lever **52** and the plunger **36**. The loaded spring is thus permitted to expand and send the plunger forcibly downwardly, the blade **38** engaging the bridge of the staple in its path, shearing it from the cohered strip and driving it home. The shock of the descending plunger and lifting lever is cushioned by the rubber pad **58**.

After the completion of the staple driving stroke, the handle **30** is released and the entire mechanism returned to the starting position, as shown in Figure 2, being urged thereto by the springs **51** and **68**.

It should be pointed out that when the triggering element is in the position shown in Figure 7, the higher stepped edge **74** engages the cocking member cam surface **72** and releases the plunger when it has been raised to a greater height than when the triggering element is in the position shown in Figure 8 and the lower edge **76** engages the cam surface **72**. Since, in the former case, more compression is imparted to the springs **51** and hence more energy, a heavier driving stroke is effected when the triggering element is in the position illustrated in Figure 7, and a lighter stroke is effected when the triggering element is in the position shown in Figure 8. It is also important to observe that since the lifting lever **52** engages the ram **37** at a point and in a direction colinear with the axis of the compression springs **51**, there is a minimum of torque and hence an increase in energy efficiency and a decrease in the frictional wear due to the wasted energy dissipated as a result of this torque.

While there has been described and illustrated a preferred embodiment of the present invention, it is apparent that numerous alterations and omissions may be made without departing from the spirit thereof.

I claim:

1. A stapling device comprising a body member, a staple magazine mounted on the lower portion of said body member and movable relative thereto between a closed position and an open position permitting access to the interior of said magazine, a latch element movable between lock and unlock positions and normally engaging said body member and said staple magazine and releasably locking said staple magazine in closed position, a staple driving mechanism disposed in said body member, a handle mounted on said body member and adapted to actuate said staple driving mechanism when moved between first and second predetermined positions and a lost motion mechanism providing engagement between said handle and said latch member and urging said latch member to unlock position when said handle is moved to a third predetermined position outside the path between said first and second predetermined positions.

2. A stapling device in accordance with claim 1, wherein said staple magazine is hinged to said body member and is provided with a latching recess and said latch element is slidably supported in said body member and movable into and out of engagement with said latching recess to define lock and unlock positions respectively.

3. A stapling device in accordance with claim 2, including spring means urging said latching element into lock position.

4. A stapling device in accordance with claim 2, wherein said handle is hinged to said body member and is rotatable between said predetermined positions, said third predetermined position being above said first and second predetermined positions.

5. A stapling device comprising a body member, a staple magazine hinged to said body member and having a recess formed therein and being movable between open and closed positions, a latching element slidably supported on said body member and movable into and out of engagement with said recess when said staple magazine is in closed position to define lock and unlock positions, spring means urging said latch element into lock position, a staple driving mechanism mounted in said body mem-

ber, a handle hinged to said body member and adapted to actuate said staple driving mechanism and unlocking means adapted to move said latching element into unlock position when said handle is raised above a predetermined point relative to said body member.

6. A stapling device in accordance with claim 5, wherein said latching element comprises a horizontal plate having an opening formed therein which has front and rear edges, and there is provided a stop member mounted in said body member adjacent said opening, and said unlocking means includes a lever pivoted at a point between its ends to said body member, one end of said lever being linked to said actuating handle and an arm depending from the other end of said lever and terminating in a tapered end adapted to register with said latch element opening and engage an edge thereof and said stop member.

7. A staple driving gun comprising a body member, a staple drive actuating handle hinged to the upper portion of said body member, a staple magazine hinged to the lower portion of said body member and provided with a catch element, a latch member disposed in the lower portion of said body member and movable into and out of engagement with said catch element, and a lost motion mechanism providing engagement between said latch member and said actuating handle and urging said latch member out of engagement with said catch element when said actuating handle is moved to a predetermined position.

8. A staple driving gun in accordance with claim 7,

wherein there is provided spring means urging said magazine to its open position.

9. A staple driving gun in accordance with claim 7, wherein said actuating handle is movable from a normal intermediate position downwardly to effect a staple driving stroke and upwardly from said intermediate position to urge said latch member to its unlocked position, and spring means are provided to normally urge said latch member to its lock position.

10. A staple driving gun in accordance with claim 7, wherein there are provided a stop member horizontally spaced from a confronting edge of said latch member and a depending arm movable by said handle and in vertical alignment with the space between said confronting edge and said stop member and terminating at its lower end in a wedge-shaped portion adapted to register with said space upon the raising of said handle to urge said latch member to its unlock position.

11. A staple driving gun in accordance with claim 10, wherein there are provided a staple driving means, spring means urging said driving means to its advanced position, said depending arm being in releasable engagement with said driving means and adapted to raise said driving means upon depression of said actuating handle, and a triggering element urging said arm out of engagement with said driving means upon said driving means being raised to a predetermined level.

No references cited.