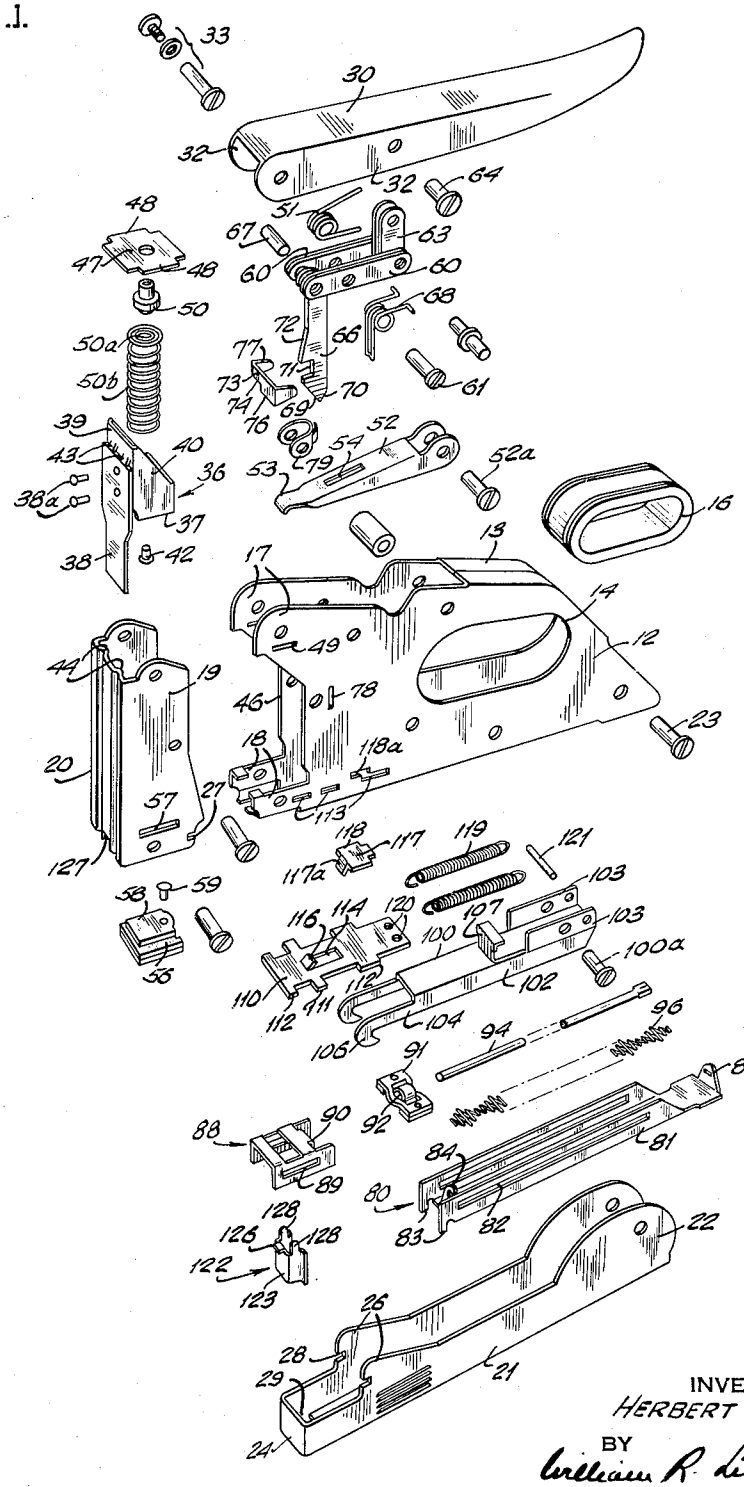
Oct. 4, 1955 H. W. MARANO 2,719,294

STAPLE GUN TACKER

Filed Feb. 17, 1953 3 Sheets-Sheet 1

Fig. 1.



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STAPLE GUN TACKER

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Fig. 7.

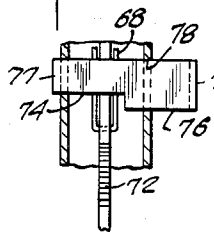


Fig. 8.

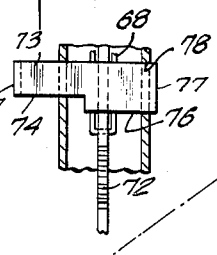


Fig. 2.

Fig. 3.

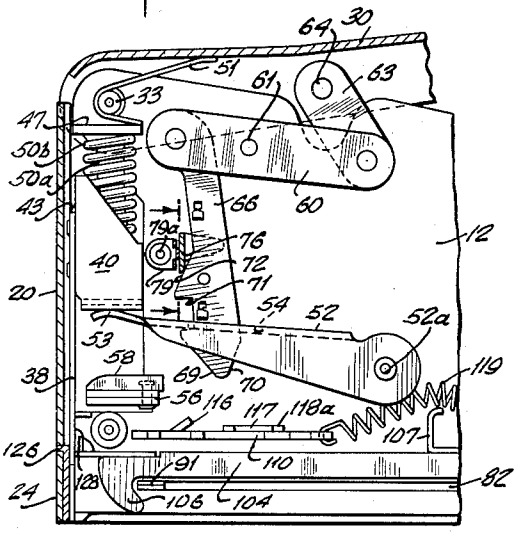
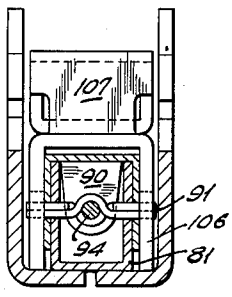


Fig. 9.



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STAPLE GUN TACKER

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Fig. 5.

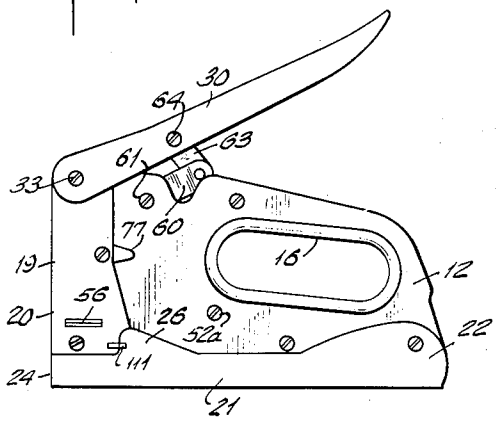


Fig. 6.

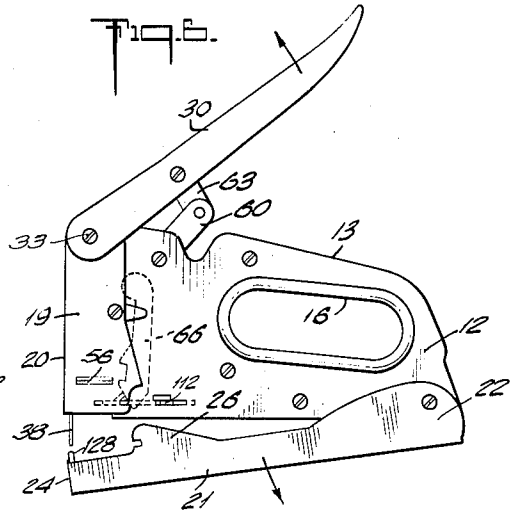


Fig. 4.

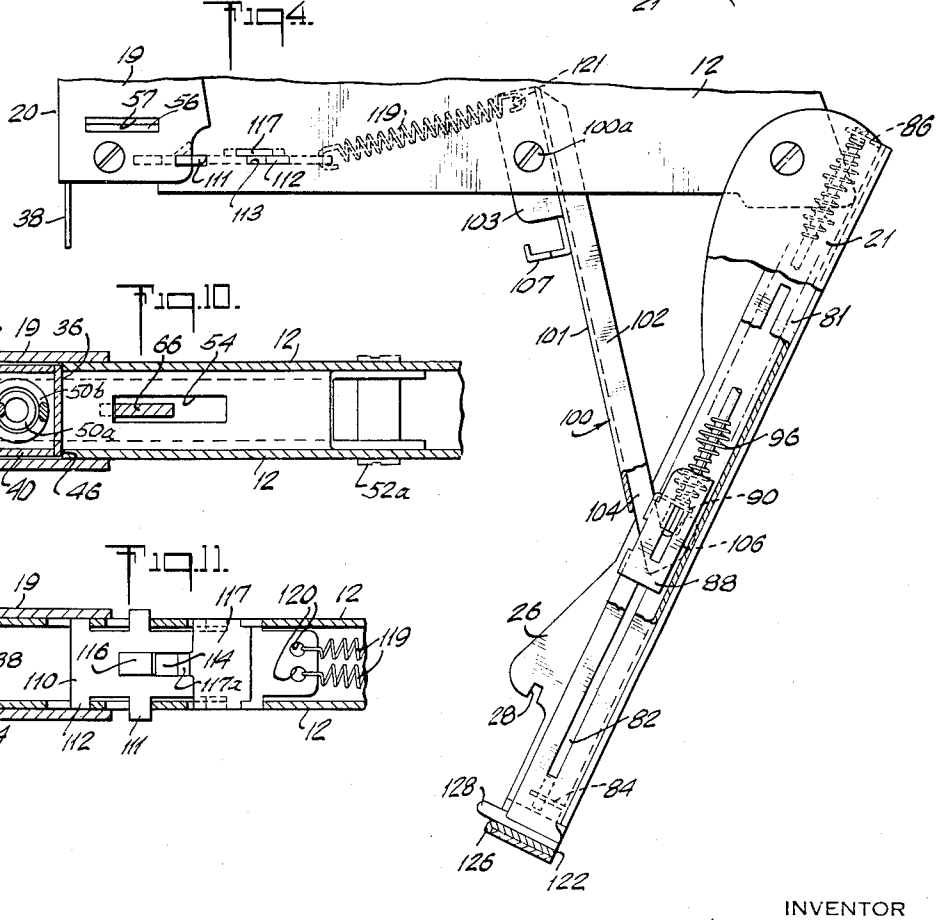


Fig. 10.

Fig. 11.

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2,719,294

STAPLE GUN TACKER

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

Application February 17, 1953, Serial No. 337,328

8 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.

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 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, partly 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, symmetrical 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 **36** 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 tab of the front wall **39** and the inwardly directed tabs **40***a* of the 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 spaced 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 vertical 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 arm **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** extending through openings **89** in the pusher member **88** 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 **111** 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 staple driving device comprising a body member, a plunger slidably supported in said body member and movable between advanced and retracted positions, said plunger having a depending staple driving blade, spring means urging said plunger to its advanced position, a staple magazine adapted to feed a staple into the path of said driving blade, an actuating handle hinged to said body member, a first lever rotatably supported in said body member at a point between the ends of said first lever, said actuating handle being linked to one end of said first lever, a second lever hinged to said body member and having a free end engaging said plunger, a movable hook shaped cocking member rotatably depending from the other end of said first lever and releasably engaging said second lever, and a triggering element adapted to engage said cocking member and urge it out of engagement with said lifting lever upon said cocking element being raised to a predetermined position whereby to release said lifting lever.

2. A staple driving device as claimed in claim 1, wherein said cocking element has a lower hook portion and a rearwardly inclined upper cam edge disposed above said hoook portion, and said triggering element has a triggering edge adapted to bear against said cam edge as said cocking element is raised to urge said cocking element rearwardly and to release said lifting lever upon said cocking member being raised to a predetermined point.

3. A staple driving device as claimed in claim 2, wherein said triggering element is movably supported and the level of said triggering edge varies along its length whereby to effect the release of said lifting lever at various preselected points.

4. A staple driving device as claimed in claim 1, wherein a resilient cushion is mounted in said body member below the free end of said lifting lever.

5. A staple driving device comprising a body member, a plunger slidably supported in said body member and movable between vertically spaced advanced and re-

tracted positions, said plunger being provided with a substantially horizontal wall having an upwardly directed face and a downwardly directed face, a helical compression spring bearing against said upwardly directed face to urge said plunger to its advanced position, a driving blade secured to and depending from said plunger and movable therewith along a path between advanced and retracted positions, a staple magazine supported on said body member and adapted to feed staples into the path of said driving blade and actuating means engaging said downwardly directed face at a point substantially in alignment with the longitudinal axis of said helical compression spring whereby to permit the raising of said plunger and the loading of said spring with a minimum of torque.

6. A staple driving device in accordance with claim 5, wherein said driving blade is secured to and depends from the forward portion of said plunger.

7. A staple driving device in accordance with claim 5, wherein said actuating means includes a pivoted lifting lever having a free end engaging said downwardly directed face at the point substantially in alignment with the longitudinal axis of said helical compression spring.

8. A staple driving device in accordance with claim 7, including an actuating handle hinged to said body member, means releasably linking said actuating handle to said lifting lever and means for opening the linkage between said actuating handle and said lifting lever upon said lever being elevated to a predetermined level.

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