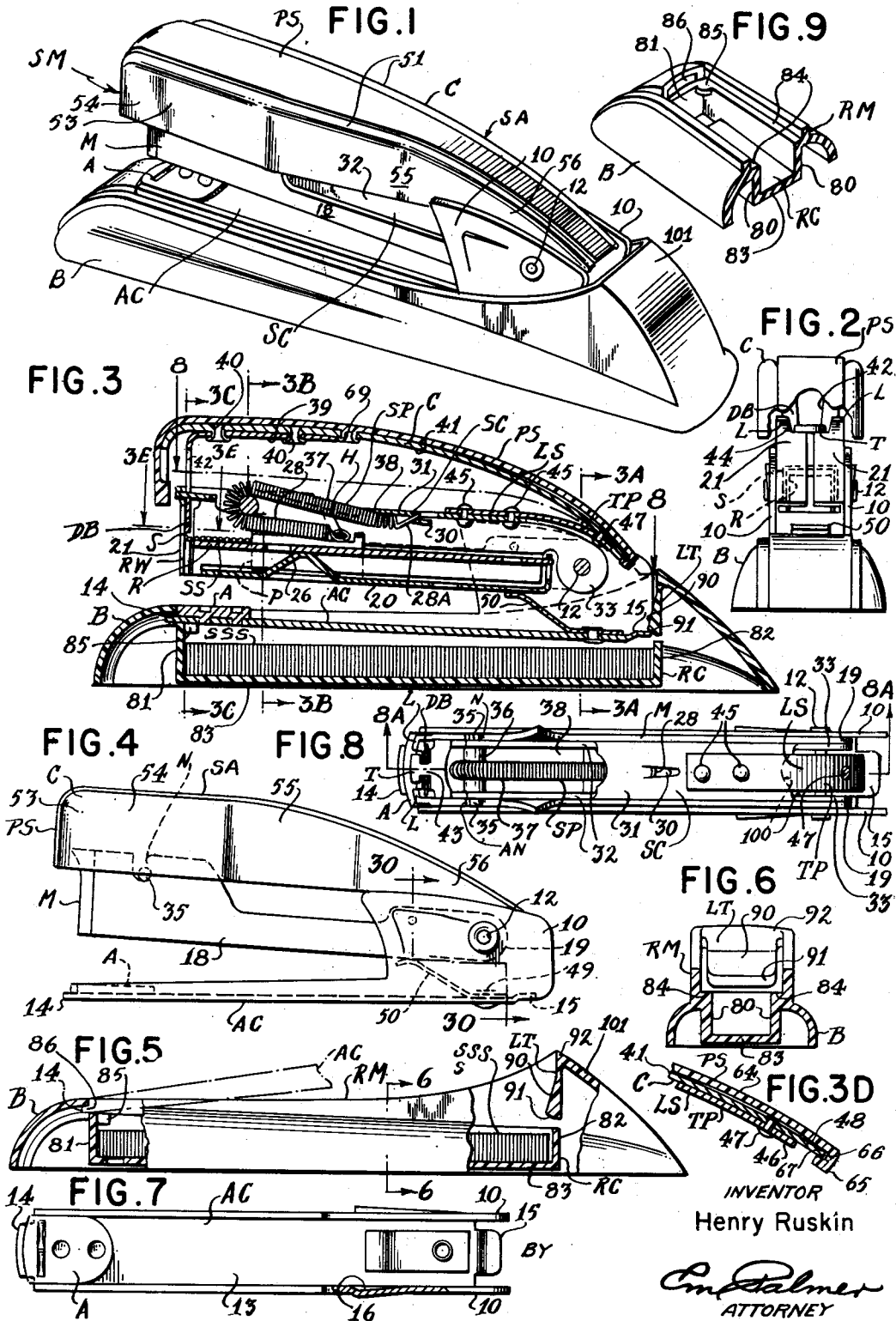


2,717,382

STAPLING MACHINE

Filed Oct. 12, 1953

4 Sheets-Sheet 1



2,717,382

4 Sheets-Sheet 2



Sept. 13, 1955

H. RUSKIN

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STAPLING MACHINE

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FIG. 13A

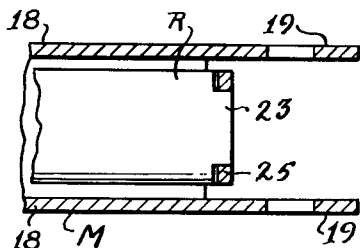


FIG. 14

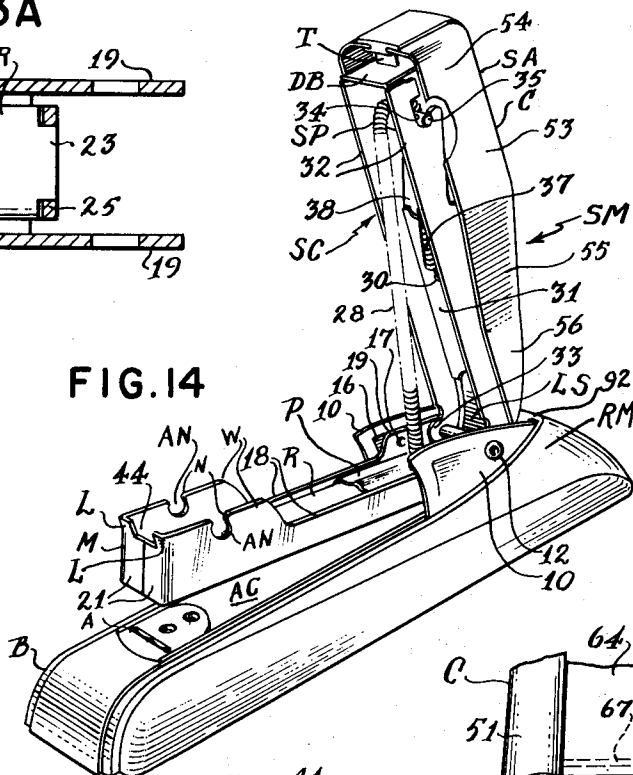


FIG. 26

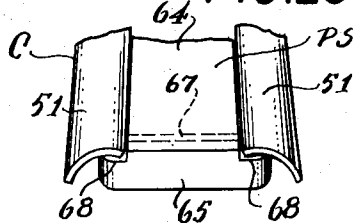


FIG. 30

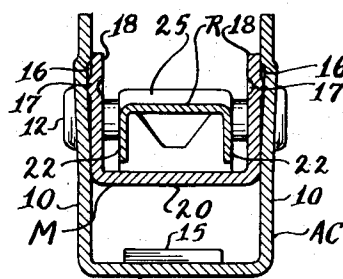


FIG. 15

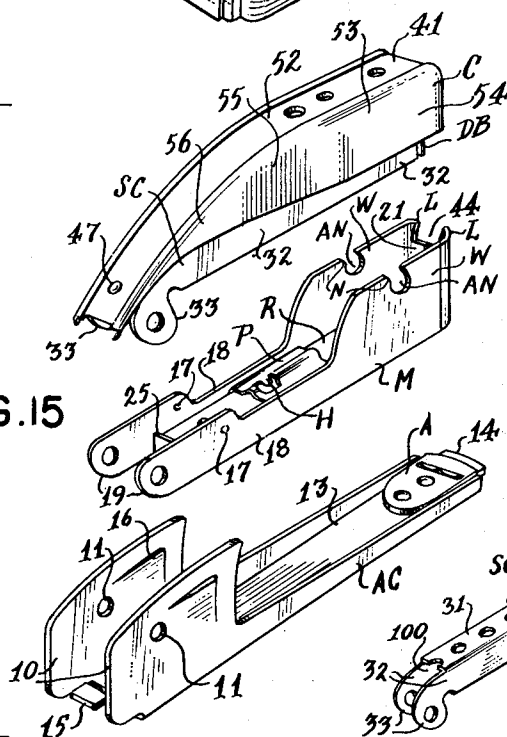


FIG. 31

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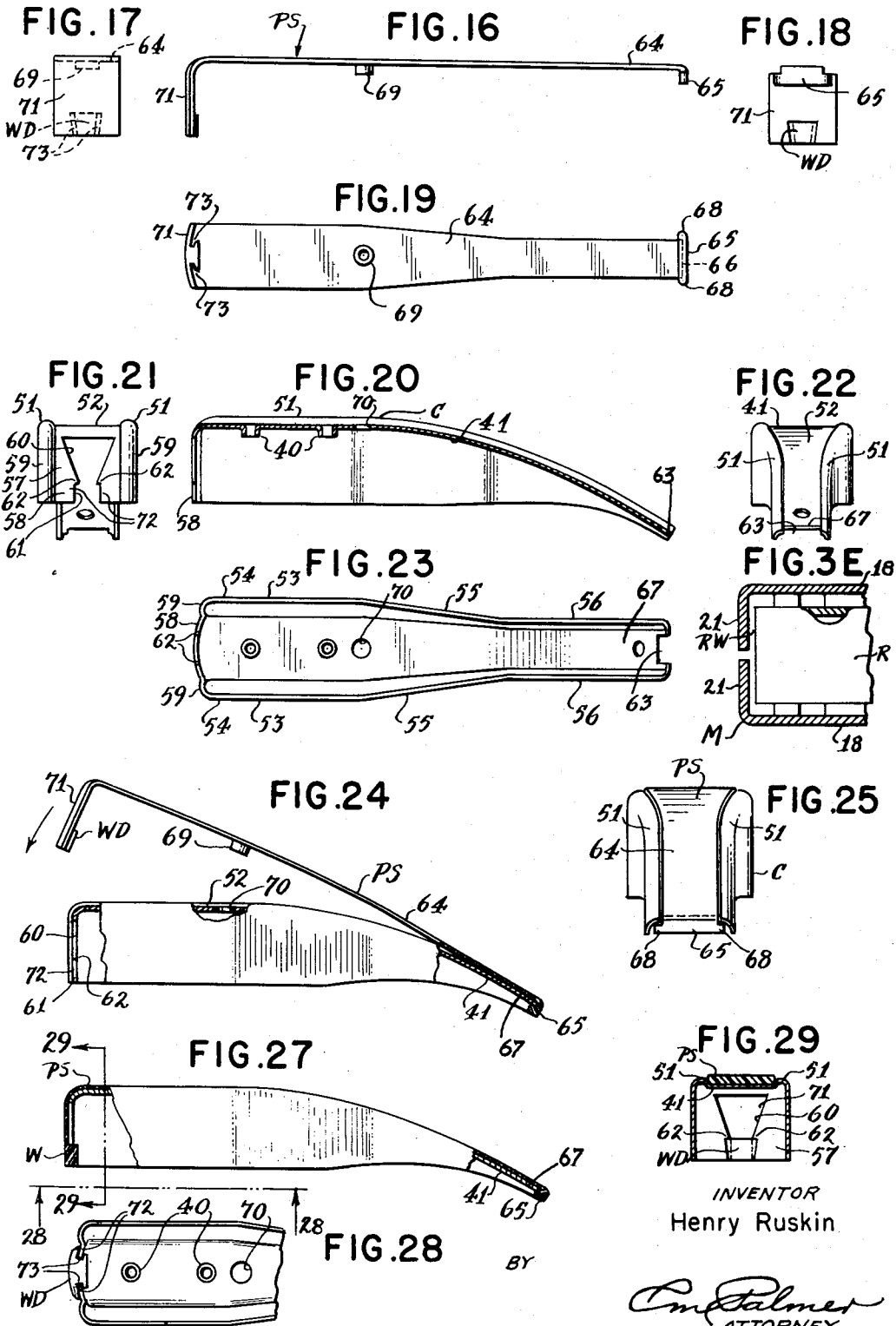
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2,717,382

STAPLING MACHINE

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Application October 12, 1953, Serial No. 385,310

19 Claims. (Cl. 1—3)

This invention is an improved and simplified stapling machine wherein plunger means in the form of a cap has nested therein a swingable cover for holding a staple strip within a magazine adapted to be removably closed by the cover and wherein the cap carries driving means for expelling the foremost staple of the strip out of the magazine. One object of the invention resides in superimposing the cap over the entire length of the cover and in the provision of a resilient connection between the rear or posterior portions of the cap and cover to permit the cap to rock or pivot relative to the entire length of cover and to normally hold the driving means elevated relative to the sides of the magazine. Another object is realized in the provision of an intermediately arranged bridge on the cover having secured thereto a front or anterior part of a relatively flat spring which comprises the resilient connection and embodies a posterior, downwardly and rearwardly extending arcuate portion overhanging and free of both the bridge and cover but anchored to the posterior or rear end of the cap which also conceals the resilient connection or flat spring. Another object resides in removably mounting swingable anvil carrying means on a novel base having a storage compartment to carry an extra supply of staples. Another object is concerned with keeper means of the base for locating the forward end of the anvil carrying means, and latch means on the base for removably locking the rear end of the anvil carrying means. Another object resides in the provision of a base having means cooperating with the cap when the latter is swung away from the magazine for automatically unlocking the rear end of the anvil carrying means from depending resilient latch means integral with the base. Another object is concerned with the utilization of a one piece cap having a depressed top wall for receiving the shank of a protective strap having posterior means adapted to conveniently interlock with the rear end of the cap and having depending anterior means provided with wedge means receivable in an interrupted front wall of the cap and adapted to be locked thereto for effectively and desirably closing the interrupted wall. Other important objects and advantages will appear from the following detailed specification taken with the accompanying drawings wherein:

Fig. 1 is a perspective view of the stapling machine according to my invention illustrating the magazine closed by the swingable arm and the anvil carrying member retained by the staple carrying base.

Fig. 2 is a front view of Fig. 1 shown partly broken away.

Fig. 3 is a longitudinal sectional elevational view of Fig. 1.

Figs. 3A, 3B and 3C are transverse sectional views on the lines 3A—3A; 3B—3B; and 3C—3C of Fig. 3.

Fig. 3D is a fragmentary and enlarged view of Fig. 3.

Fig. 3E is an enlarged sectional view on the line 3E—3E of Fig. 3 but not showing the driving blade in the staple raceway.

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Fig. 4 is a side elevational view of the stapling machine but detached from the staple carrying base.

Fig. 5 is a longitudinal sectional view of the base illustrating the manner of inserting or removing the anvil carrying member into or from the base.

Fig. 6 is a transverse sectional view of the base taken on the line 6—6 of Fig. 5.

Fig. 7 is a plan view of the swingable anvil carrying member.

Fig. 8 is a plan view on the bent line 8—8 of Fig. 3 but showing the anvil carrying member removed from the base and with the staple driving plunger means detached from the cover to clearly show the unitary resilient connection having its front part secured to the bridge of the cover and its rear part free of the cover for securing to the rear end of the cap.

Fig. 8A is a longitudinal sectional view on the line 8A—8A of Fig. 8, however showing the cover pivotally associated with the magazine.

Fig. 9 is a fragmentary perspective view of the base.

Fig. 10 is a view substantially along the lines of Fig. 3 but illustrating the staple driving plunger means swung towards the cover, magazine and anvil to force the foremost staple out of the raceway and against the anvil.

Fig. 11 is a side elevational view of the stapling machine partly broken away and partly in section, illustrating the swingable arm swung away from the magazine and bearing against the rear abutment of the base just prior to unlocking of the rear tongue of the anvil carrying member from the resilient depending locking lip or latch of the base.

Fig. 11A is a fragmentary view of Fig. 11 but showing the cap of the swingable arm swung further rearwardly to the dash line position of Fig. 11 at which time the anvil carrying member has been tilted upwardly and the rear tongue of the anvil carrying member is completely free of the depending lip or latch of the base.

Fig. 12 is an enlarged rear view of the magazine before it is pivotally assembled with the swingable cover and the anvil carrying member.

Fig. 13 is a longitudinal sectional view on the line 13—13 of Fig. 12.

Fig. 13A is a sectional view on the line 13A—13A of Fig. 13.

Fig. 14 is a perspective view illustrating the swingable closure arm raised to open the magazine of the stapling machine.

Fig. 15 is an exploded perspective view illustrating depressible plunger means assembled with the swingable cover, the swingable magazine detached from the cover and the swingable anvil carrying member detached from the magazine.

Fig. 16 is a side elevational view of the protective plastic band or strap adapted to be attached to the cap of the depressible plunger means.

Figs. 17, 18 and 19 are front, rear and underneath views of Fig. 16.

Fig. 20 is a longitudinal sectional view of the sheet metal cap.

Figs. 21, 22 and 23 are front, rear and underneath views of Fig. 20.

Fig. 24 is a schematic view illustrating the manner of initially positioning the rear end of the protective band or strap to the rear part of the cap.

Fig. 25 is an enlarged rear end view of the cap, showing the strap completely located thereon.

Fig. 26 is a fragmentary enlarged view of Fig. 25.

Fig. 27 is a view to teach primarily the relation of the strap and cap when the strap is fully positioned and locked thereon.

Fig. 28 is a fragmentary underneath view taken on the line 28—28 of Fig. 27 primarily to illustrate the inter-

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locking relation of the wedge of the strap and the interrupted front wall of the cap.

Fig. 29 is a view taken on the line 29—29 of Fig. 27.

Fig. 30 is an enlarged transverse sectional view taken substantially on the line 30—30 of Fig. 4, and

Fig. 31 is a perspective view of the cover, on a smaller scale.

Illustrative of the embodiment disclosed, the stapling machine generally designated SM comprises magazine M, the swingable arm SA, the anvil carrying support AC, and base B.

Support AC embodies spaced and upwardly extending wings or ears 10 having alined perforations 11 (Fig. 15) for swingably carrying fulcrum pin 12 appropriately retained against ears 10.

Anvil A is effectively fixed to bottom wall 13 of the channel shaped anvil carrier AC which embodies front lug or tongue 14 and the rear lug or tongue 15. Wings 10 are also indented to provide with shallow recesses 16 for removably receiving and interlocking with spaced projections 17 of the spaced sides 18 of magazine M having spaced perforated ears 19.

Concerning the magazine M, the latter embodies bottom wall 20 and inwardly turned flanges 21 constituting the front wall (Fig. 3E). As shown, sides 18 are integral with the front and bottom walls of the magazine. Appropriately fastened within the magazine is the inverted U-shaped rail R having its front end spaced from the flanges 21 to constitute the staple raceway RW (Fig. 3E) and having its depending sides 22 spaced from spaced sides 18 and bottom wall 20 of the magazine M (Fig. 30).

Rail R is suitably located in any well known manner within the magazine. However it may be stated that the rear end of rail R is provided with a reduced part 23 (Figs. 12, 13 and 13A) receivable within the upper part of the truncated opening 24 in the rear lug or stop 25 bent upwardly from the rear end of the bottom wall 20 of the magazine. It will be observed that the bottom wall 20 of the magazine M is indented to provide the dome shaped portion 26 (Figs. 3 and 10) having its flattened top appropriately welded to rail R.

Slidably mounted on rail R within the magazine is the inverted U-shaped follower staple pusher P (Figs. 3B, 3C and 14) having the inwardly turned flanges 27 adapted to cooperate with the lower parts of sides 22 of rail R to prevent accidental removal of the pusher P upwardly away from the rail.

Pusher P is provided with hook H for retaining the end loop 28A of the lower leg 28 of the extendible and contractible spring SP having upper leg 37 which has a similar end loop 29 retained on lug 30 struck out and downwardly from bridge 31 of the swingable case or cover SC having depending sides 32 provided with perforated ears 33 at the rear ends thereof.

Spaced ears 10 of anvil carrier AC straddle spaced ears 19 of magazine M and the spaced ears 19 straddle spaced ears 33 of the swingable cover SC, and all these ears are pivotally mounted on fulcrum pin 12 retained by spaced ears 10 of the anvil carrying member or support AC.

Spaced sides 32 which integrally depend from bridge 31 of closure case or cover SC embody alined slots 34 (Fig. 31) slidably guiding reduced ends 35 of locking pin 36 (Figs. 3B, 11 and 14) also slidably guided between the spaced sides 32.

Spring SP is looped about slidable pin 36 and has its upper leg 37 projecting through relief opening 38 interrupting top wall or bridge 31 of case SC. Top wall 31 includes at its forward end the T-shaped lug T projecting forwardly beyond the spring driving blade DB having its upper offset end 39 anchored by spaced rivets 40 to upper wall 41 of sheet metal cap C from which they are struck out and depend.

Blade DB is provided with the slightly tapered guide slot 42 movably receiving shank 43 (Fig. 8) of the T-shaped lug T which is adapted to be received in recess 44 defined by the forwardly and upwardly inclined lips L

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at the upper part of the inwardly turned flanges 21 of the magazine.

Lips L serve to guide the lower part of the driver blade DB into the raceway RW while lug T cooperates with the lower horizontal wall of the recess 44 to limit downward swingable displacement of the swingable cover or case SC into the magazine M.

Rearwardly overhanging the bridge 31 but anchored thereto and to the rear or posterior portion thereof by spaced rivets 45 is the relatively flat leaf spring LS having a rearwardly and downwardly curved tail portion TP (Figs. 3, 3D and 10) having its rear end 46 anchored by rivet 47 to the downwardly and rearwardly arcuate rear end 48 of top wall 41 of cap C. Leaf spring LS normally holds cap C raised relative to the cover SC. Cap C actually receives the entire length of the upper part of cover SC which may be said to be nested within the cap and the unitary means solely interconnecting the rear ends of the cap and cover, characterizing a resilient connection due to leaf spring LS, thus permitting the cap to be rocked or pivoted relative to the cover on downward application of manual pressure on cap C whereby the front part moves downwardly while the rear part thereof rises away from the rear portion of the cover, which action tensions and flexes the rear part of leaf spring LS upwardly away from ears 33 (Fig. 10).

Effectively secured by rivet 49 to the anvil carrying member or support AC is the leaf spring 50 desirably cooperating with bottom wall 20 of magazine M to normally hold the latter spaced from the anvil carrying member AC.

As shown in Fig. 14 the swingable arm SA has been swung away from the magazine to permit loading therein a stack or strip of staples SS (Fig. 3). By such displacement of arm SA, pusher P has been slidably moved rearwardly. On closing of magazine M by cover SC when arm SA is swung downwardly, reduced ends 35 of sliding pin 36 meet alined cams or noses N of the wings W of sides 18 of the magazine, but slightly after the lower part of blade DB meets inclined lips L. Towards the end of the closing stroke of arm SA, reduced ends 35 snap under cams N to interlock therewith and to be received in alined notches AN in wings W due to the action of spring SP and at the same time tongue T meets the lower horizontal wall of recess 44, hence limiting further downward swingable displacement of cover SC relative to magazine M at which time spaced sides 32 of the cover are just slightly above staple strip SS to prevent upward displacement of the latter away from the rail. When the magazine is fully closed by the cover, pusher P, due to action of spring SP has advanced the foremost staple S of staple strip SS into raceway RW as illustrated in Fig. 3. In other words, the foremost staple S is also underneath blade DB awaiting application of a downwardly directed manual stroke on the depressible plunger constituted in part by cap C, driving blade DB and its offset portion 39 fixed to the cap, as shown in Fig. 3 wherein the tail portion TP of the resilient connector LS is also in its neutral position awaiting to be flexed upward upon a downward stroke of cap C in which case at the conclusion of this down stroke, the foremost staple has been driven through raceway RW and against anvil A and at which time the upper wall of slot 42 coacts with tongue T to limit further displacement of blade DB. Thus, as previously stated, when the forward end of the cap C is depressed the rear end thereof is elevated by reason of the arcuate tail portion TP which flexes upwardly away from ears 33 of the cover. It follows that tail portion TP is stressed on each downward stroke of blade DB. Upon removal of hand pressure on cap C, the energy stored up in tail piece TP releases, causing the latter to retract to its normal position shown in Fig. 3, thus automatically elevating the cap C as is well appreciated.

Cap C is preferably of sheet metal and a one piece

member for economy in manufacture and as previously stated its top wall 41 is depressed to define with spaced ribs 51 the channel 52. Cap C in fact is a casing embodying depending spaced side walls 53 having their front parts 54 widely spaced from side walls 32 of cover SC (Fig. 3C), having their intermediate portions 55 (Fig. 14) tapering and converging rearwardly, and their rear parts 56 (Fig. 3A) closely straddling side walls 32 of cover or closure SC. As illustrated, the posterior part of top wall 41 of cap C is curved downwardly and rearwardly. Cover SC has its top part nested within cap C. Consequently, cap C may be said to be superimposed over the entire length of the cover which has its front wall 57 likewise indented to form a vertical channel 58 (Fig. 21) which is a continuation of channel 52, and to form ribs 59 which are continuations of ribs 51.

Interrupting front wall 57 is the downwardly tapered opening 60 communicating with the vertical slot 61. The sides of opening 60 and slot 61 characterize spaced and aligned teeth 62. As a further observation, the rear part of cap C is provided with recess 63 for receiving shank 64 of the flexible and resilient protective strap PS, preferably of a suitable plastic and adapted to fit between the spaced ribs 51 and in channel 52 and in channel 58 and between ribs 59.

Integral with the rear end of shank 64 and extending laterally thereof is the depending block 65 having the groove 66 (Fig. 3D) for receiving rear terminal 67 of the cap. Laterally extending ends 68 of block 65 (Figs. 19 and 26) constitute shoulders adapted to be arranged under and interlock with the spaced ribs 51. By this arrangement the protective strap PS is properly positioned and held to the rear part of cap C after which the shank 64 thereof can be easily positioned on the entire length of the cap in channel 52 between the spaced ribs 51. Also at this time, hollow stud 69 depending from the strap is located in opening 70. Subsequently the front depending part 71 of strap PS may then be locked to the front wall 57 of the cap C. To this end it will be observed that part 71 has a downwardly tapered member or wedge WD interrupted by grooves 73. After stud 69 is received in opening 70, depending part 71 is flexed slightly inwardly whereby wedge or dove tail WD is received in tapered opening 60 thereby permitting spaced margins 72 which constitute slot 61 to be threaded into grooves 73. Thereafter front part 71 is forced downwardly until wedge WD comes under the teeth 62 (Fig. 29) to interlock therewith against upward displacement. Subsequently heat is applied to upset plastic depending rivet 69 against the inside surface of top wall 41 of cap C. Thus strap or band PS is tightly wrapped and held against the top wall 41 of the cap and its locked front part 71 serves as closure means for the interrupted front wall 57.

Coming now to the base B, which may be of a suitable plastic, a receptacle RC (Figs. 3, 3B, 5 and 9) is formed by depending walls 80 merging with front and rear transverse walls 81 and 82 and both of the latter merge with the bottom wall 83, thus providing a compartment for storing an extra strip or stack of staples SSS (Figs. 3 and 5). The upper rim RM of the base is open and rabbeted to form shoulders 84 (Fig. 3). Corner ears as 81 (Fig. 9) merge the side walls 80 to front wall 85. Shoulders 84 constitute means for removably supporting the anvil carrying member AC on the base, which includes a slot 86 for closely keeping and interlocking with the front tongue 14 of the anvil carrying member AC to permit locating the latter within rim RM whereby rear tongue 15 may be dropped onto the rearwardly and upwardly sloping face 90 of latch or lip LT depending from and integral with rim RM. This latch is slightly flexible and resilient and consequently is urged rearwardly when tongue 15 moves downwardly against it; that is, against the sloping face 90. Ultimately however, tongue 15 meets and passes under the lower upwardly and forwardly sloping face 91 and due to its own resiliency latch LT now re-

tracts, namely, moves automatically forwardly to interlock with tongue 15 (Fig. 8) to prevent accidental upward displacement of the anvil carrying member AC. Of course, the anvil carrying member may be locked to the base irrespective of whether the magazine is either in an opened or closed relation.

To unlock and remove the anvil carrying member AC, swingable arm SA may be swung rearwardly until the protective strap PS (Fig. 11) fixed to cap C strikes the apex 92 which serves as an abutment for the swingable arm. Upon further rearwardly swingable displacement of arm SA, tongue 15 slips out from under sloping face 91 and clears the latter, thus not only unlocking the anvil carrying member AC from latch LT but causing the anvil carrying member to be cammed upwardly to be tilted to the position illustrated in Fig. 11A after which the stapling machine may be moved rearwardly, causing front tongue 14 to be withdrawn from the retaining slot 86 of the base. By this action the stapling machine may be effectively removed from the base and access is had to the extra supply of staples SSS within receptacle RC. Latch LT is above the rear end of receptacle RC and merges with the downwardly and rearwardly sloping rear wall 101 of base B. Apex 92 is at the confluence of latch LT and wall 101 (Figs. 5 and 11A). As a further commentary concerning latch LT, it will be observed that in Fig. 11 that tongue 15 acting on sloping wall or face 91 cams latch LT rearwardly as arm SA is swung rearwardly. In Fig. 11 tongue 15 is just about ready to clear latch LT and when free of the latter automatically retracts forwardly due to its own resiliency, that is, to its normal forward position.

In Figs. 1 and 2 the stapling machine is closed. To open the magazine, the operator merely grasps and lifts cap C upwardly causing the latter to swing rearwardly at which time reduced terminal parts 35 of slidable pin 36 slip over noses N to unlock the cover SC from the magazine M. This action also automatically moves the pusher P rearwardly, which on closing of the swingable arm automatically moves forward against the staple strip SS.

The front part of base B may be considered as a keeper for removably locking tongue 14 of the anvil carrying member AC. Cover or case SC also defines the relief slot 100 (Fig. 31) in which the flexible and resilient tail portion TP (Fig. 8) of leaf spring LS is initially in part received before the latter is fastened by rivet 47 (Fig. 3) to the rear end 48 of the cap C. Strap or band PS apart from rendering the sharp edges and teeth 62 in the front wall 57 of cap C inaccessible, may also carry an appropriate imprint, trade mark or monogram (not shown) to identify either the manufacturer, retailer or even the user.

When tail piece TP of leaf spring LS is anchored to rear end 48 of cap C (Figs. 3 and 3D), this tail portion is stressed and remains in that relation until it is further stressed and also lifted when the plunger means is actuated to drive a staple out of the magazine.

Projections 17 (Figs. 14 and 30) on the sides 18 of magazine M cooperates with walls of recesses 16 in the anvil carrier AC to prevent involuntary rearward swingable displacement of the magazine M relative to the anvil carrier AC even when the swingable arm SA is swung away from the magazine on opening the latter.

Various changes may be made in details of construction and arrangement of parts without departing from the spirit of the invention or sacrificing any of the advantages thereof inherent therein.

I claim:

1. In a stapling machine, a magazine for supporting a strip of staples and embodying a raceway, a cover having transversely spaced sides and a bridge disposed intermediate said sides, a manipulatable cap for receiving upper corresponding parts of said sides and said bridge, a blade carried by said cap and slidably and removably guided in said raceway for driving the foremost staple of said strip out of said raceway, a resilient connection secured

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to the rear part of said bridge and having a rear portion free of said cover and secured to the rear part of said cap to permit said cap to be tilted relative to said cover and to normally hold said cap raised relative to said cover, and means movably holding said cover relative to said magazine.

2. In a stapling machine, a magazine for supporting a strip of staples and embodying a raceway, a cover having transversely spaced sides and a bridge disposed intermediate said sides, a manipulatable cap for receiving substantially the entire length of upper corresponding parts of said sides and said bridge, a blade secured to and carried by said cap and slidably and removably guided in said raceway, a leaf spring having a front part secured to the rear part of said bridge and having a rear portion free of said cover and secured to the rear part of said cap to permit said cap to be tilted relative to said cover and to normally hold said cap raised relative to said cover, and means movably holding said cover relative to said magazine.

3. In a stapling machine, a magazine for supporting a strip of staples and embodying a raceway, a cover having transversely spaced sides and a bridge disposed intermediate said sides, a manipulatable cap for receiving substantially the entire length of upper corresponding parts of said sides and said bridge, a blade carried by said cap and slidably and removably guided in said raceway for driving the foremost staple of said strip out of said raceway, a leaf spring having a front part secured to the rear part of said bridge and having a downwardly and rearwardly curved rear portion free of said cover and anchored to the rear part of said cap to permit said cap to be tilted relative to said cover and to normally hold said cap raised relative to said cover, and means movably holding said cover relative to said magazine.

4. In a stapling machine, a magazine for supporting a strip of staples and embodying a raceway, a cover having transversely spaced sides and a bridge disposed between said sides and intermediate the lengths thereof, a manipulatable cap substantially coextensive with the length of said cover for receiving substantially the entire length of upper corresponding parts of said sides and said bridge, a blade carried by said cap and slidably and removably guided in said raceway for driving the foremost staple of said strip out of said raceway, a leaf spring having a front part secured to the rear part of said bridge and having a rearwardly and downwardly curved rear portion free of said cover and anchored to the rear part of said cap to permit said cap to be tilted relative to said cover and to normally hold said cap raised relative to said cover, and means movably holding said cover to said magazine.

5. In a stapling machine, a magazine for supporting a strip of staples and embodying a raceway, a cover having transversely spaced sides and a bridge disposed between said sides and between the ends of said sides, a manipulatable and depressible hollow cap for receiving substantially the entire length of upper corresponding parts of said sides and said bridge and comprising a downwardly and rearwardly sloping upper wall, a blade carried by said cap and slidably and removably guided in said raceway for driving the foremost staple of said strip out of said raceway, a relatively flat leaf spring having a front part secured to the rear part of said bridge and having an arcuate downwardly and rearwardly sloping portion free of said cover and anchored to the rear part of said upper wall to permit said cap to be tilted relative to said cover and to normally hold said cap raised relative to said cover, and means swingably holding said cover to said magazine.

6. In combination, a base having a rim, keeper means integral with said rim, a movable latch secured to said rim and spaced from said keeper means, a staple receiving receptacle disposed below said rim, keeper means and latch, anvil carrying means having anterior means removably receivable in said keeper means and having

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posterior means for actuating said latch and to removably interlock therewith, and staple holding and driving means movably carried by said anvil carrying means and cooperating with said base for unlocking said posterior means from said latch prior to withdrawing said anterior means from said keeper means.

7. In combination, a base having a rim, keeper means integral with said rim, a resilient latch merged with said rim and spaced from said keeper means, a staple receiving receptacle disposed below said rim, keeper means and latch; anvil carrying means having a front tongue removably receivable in said keeper means and having a rear tongue for actuating said latch and to removably interlock therewith, and staple driving and holding means movably carried by said anvil carrying means and cooperating with said base for unlocking said rear tongue from said latch prior to withdrawing said front tongue from said keeper means.

8. In combination, a base having a rim and including a slot, a resilient and depending latch integral with said rim and spaced from and to the rear of said slot and having a lower cam portion, a staple receiving receptacle disposed below said rim, slot and latch; anvil carrying means having a front tongue removably receivable in said slots and having a rear tongue for actuating said cam portion and to removably interlock therewith, and staple driving and holding means movably carried by said anvil carrying means and cooperating with said base for unlocking said rear tongue from said latch prior to withdrawing said front tongue from said slot.

9. In a stapling machine, a cap having a top wall and a front wall depending from said top wall, said front wall having spaced teeth and having an opening and a slot communicating with said opening, said top wall having locating means, a protective flexible and resilient strap comprising a shank receivable in said locating means and disposed against said top wall and having a block including laterally extending means receivable under said top wall, said strap having a depending front portion including a wedge receivable in said opening and defining with said front portion spaced grooves to receive parts of said front wall adjacent said slot for interlocking therewith, and said teeth cooperating with said wedge to prevent displacement of the latter out of said slot.

10. In a stapling machine, a cap having a top wall and a front wall depending from said top wall, said front wall having spaced teeth and having an opening and a slot communicating with said opening, said top wall having a recess at its rear end, a protective flexible strap comprising a shank receivable in said recess and disposed against said top wall and having a block including laterally extending means receivable under the rear end of said top wall and laterally of said recess, said strap having a depending front portion including a wedge receivable in said opening and defining with said front portion spaced grooves to receive parts of said front wall adjacent said slot for interlocking therewith, said teeth cooperating with said wedge to prevent displacement of the latter out of said slot, and rivet means depending from said shank and secured against said top wall.

11. The stapling machine according to claim 1 wherein said cap is a one piece member having a top wall and a front wall depending from said top wall, said top wall having spaced ribs defining with the body of said top wall a channel, said front wall having spaced ribs defining with the body of said front wall a channel, said front wall having spaced teeth and having an opening and a slot communicating with said opening, said top wall having a recess at its rear end, a protective strap comprising a shank receivable in said channel between said ribs of said top wall and having a rear part receivable in said recess and having a block including laterally extending means receivable under the rear ends of said ribs on said top wall, said strap having a depending front portion receivable in said channel between said ribs of said front wall

and including a wedge receivable in said opening and defining with said front portion spaced grooves to receive parts of said front wall adjacent said slot for interlocking therewith, and said teeth cooperating with said wedge to prevent displacement of the latter out of said slot.

12. In a stapling machine, a cap having a top wall and a front wall, a strap having a shank disposed against said top wall and embodying a front depending portion, means locking the rear part of said strap to the rear part of said cap, and means locking said depending portion to said front wall to maintain said shank tightly against said top wall.

13. In a stapling machine, a magazine for supporting a strip of staples and embodying a raceway, a cover having transversely spaced sides and a bridge interconnecting said sides between the ends thereof, a manipulatable and depressible hollow cap for receiving substantially the entire length of upper corresponding parts of said sides and comprising a downwardly and rearwardly sloping upper wall, a blade carried by said cap and slidably and removably guided in said raceway for driving the foremost staple of said strip out of said raceway, a relatively flat leaf spring having a front part free of said cap but secured to the rear of said bridge and having an arcuate downwardly and rearwardly sloping portion free of said cap, bridge and cover and having a rear part free of said bridge and cover but anchored to the rear part of said upper wall to permit said cap to be tilted relative to said cover and to normally hold said cap raised relative to said cover, and means hingedly connecting the rear ends of the sides of said cover to the rear ends of the sides of said magazine.

14. In a stapling machine, a magazine for supporting a strip of staples and embodying a raceway, a cover having transversely spaced sides and a bridge interconnecting upper parts of said sides between the ends thereof and defining in part therewith a rearwardly arranged gap, a manipulatable and depressible hollow cap for receiving said bridge and substantially the entire length of upper corresponding parts of said sides and comprising a downwardly and rearwardly sloping upper wall, a blade carried by said cap and slidably and removably guided in said raceway for driving the foremost staple of said strip out of said raceway, a relatively flat leaf spring having a front part free of said cap but secured to the rear of said bridge and having an arcuate downwardly and rearwardly sloping portion free of said cap, bridge and cover and movable relative to said gap and having a rear part free of said bridge and cover but anchored to the rear part of said upper wall to permit said cap to be tilted relative to said cover and normally hold said cap raised relative to said cover, and means hingedly connecting the rear ends of the sides of said cover to the rear ends of the sides of said magazine.

15. In combination, a base having a rim and including a slot, said rim having a rear wall constituting an abutment, a resilient latch depending from said rear wall and spaced from and to the rear of said slot and having a lower cam portion, a staple receiving receptacle disposed within said base and below said rim, slot, and latch; anvil carrying means having a front tongue removably receivable in said slot and having a rear tongue for actu-

ating said cam portion and to removably interlock therewith, and staple driving and holding means pivotally carried by said anvil carrying means and cooperating with said abutment for unlocking said rear tongue from said latch prior to withdrawing said front tongue from said slot.

16. In combination, a base having a rim and including a forwardly arranged slot, said rim having a rear wall including an abutment face at an elevation higher than the elevation of said slot, a resilient latch depending from said rear wall and spaced from and to the rear of said slot and having a lower cam portion, a staple receiving receptacle carried by and within said base below said rim, slot and latch; anvil carrying means having a front tongue removably receivable in said slot and having a rear tongue for actuating said cam portion and to removably interlock therewith, and staple driving end holding means pivotally carried at the rear part of said anvil carrying means and cooperating with said face for unlocking said rear tongue from said latch prior to withdrawing said front tongue from said slot.

17. In a stapling machine, a cap having a top wall and a front wall, a strap having a shank disposed against said top wall and embodying a front depending portion, said cap and strap having means locking the rear part of said strap to the rear part of said cap, and said cap and strap having means locking said depending portion to said front wall to maintain said shank tightly against said top wall.

18. In a stapling machine, a cap having a top wall and a front wall, a strap having a shank disposed against said top wall and embodying a front depending portion, said cap and strap at the rear ends thereof having means locking the rear part of said strap to the rear part of said cap, and said front wall and depending portion having means locking said depending portion to said front wall to maintain said shank tightly against said top wall.

19. In a stapling machine, a cap having a top wall and a front wall depending from said top wall, said front wall having spaced teeth and having an opening and a slot below said opening and communicating therewith, said top wall having a recess at its rear end, a protective flexible strap comprising a shank receivable in said recess and disposed against said top wall and having at its rear end a block including laterally extending means receivable under the rear end of said top wall and laterally of said recess, said strap having a depending front portion including a tapered wedge receivable in said opening and defining with said front portion spaced grooves to receive parts of said front wall adjacent said slot for interlocking therewith, said teeth cooperating with said wedge to prevent displacement of the latter out of said slot, and rivet means depending from said shank and secured against said top wall.

References Cited in the file of this patent

UNITED STATES PATENTS

2,603,781 Ruskins ----- July 22, 1952