July 27, 1937. H. T. McCLURE 2,088,428

WIRE STITCHING MACHINE

Filed Dec. 27, 1934 4 Sheets-Sheet 1

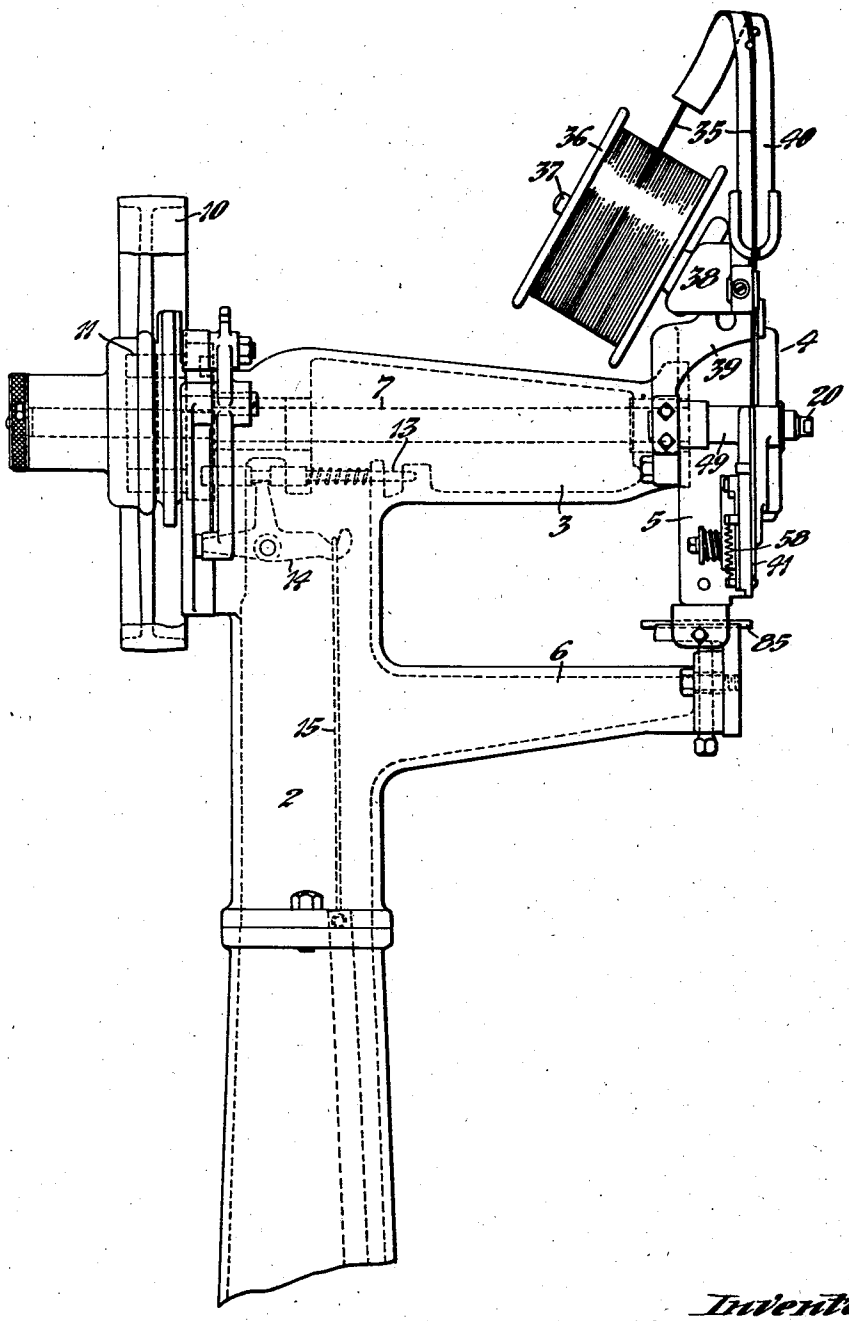

Fig. 1.

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WIRE STITCHING MACHINE

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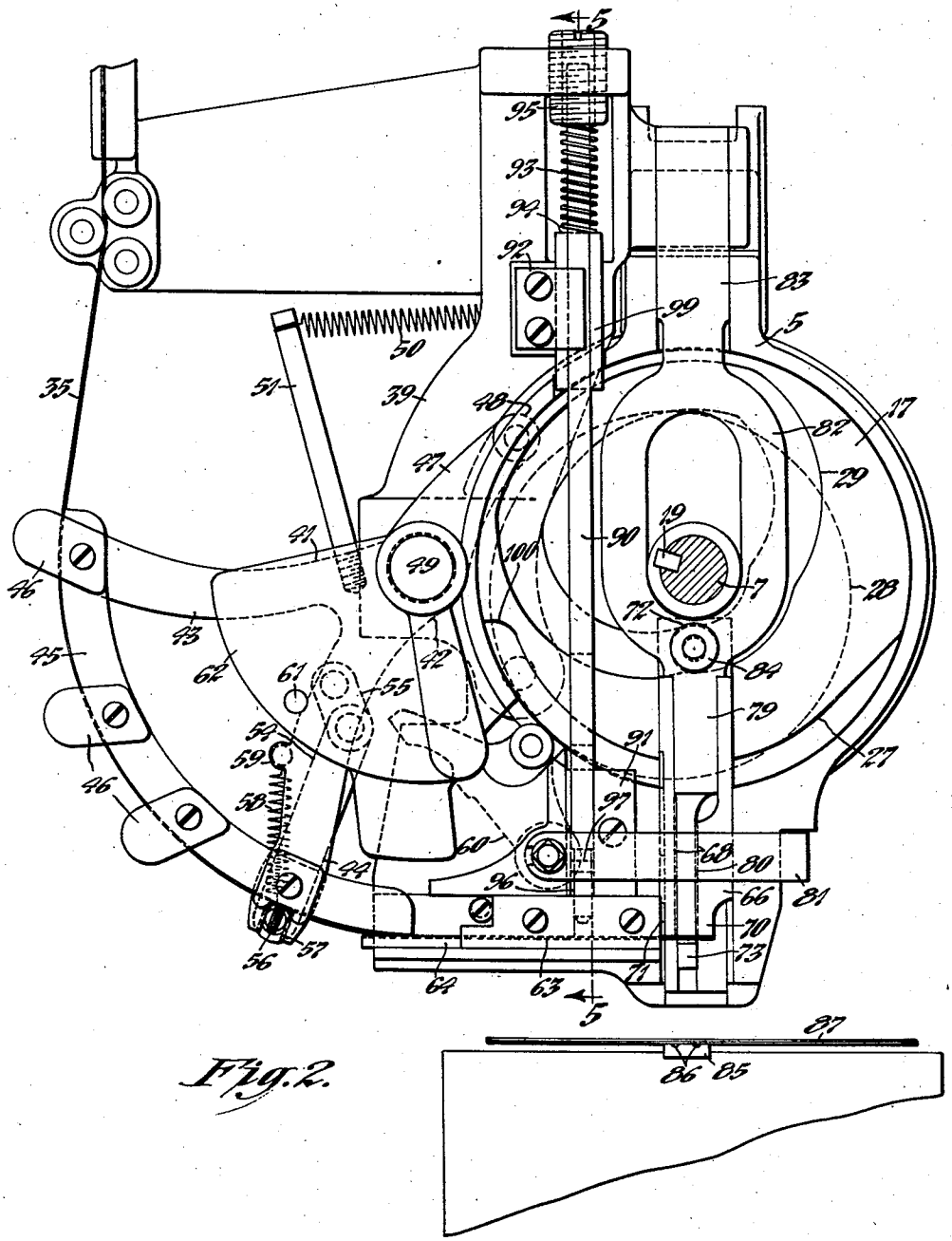

Fig. 2.

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WIRE STITCHING MACHINE

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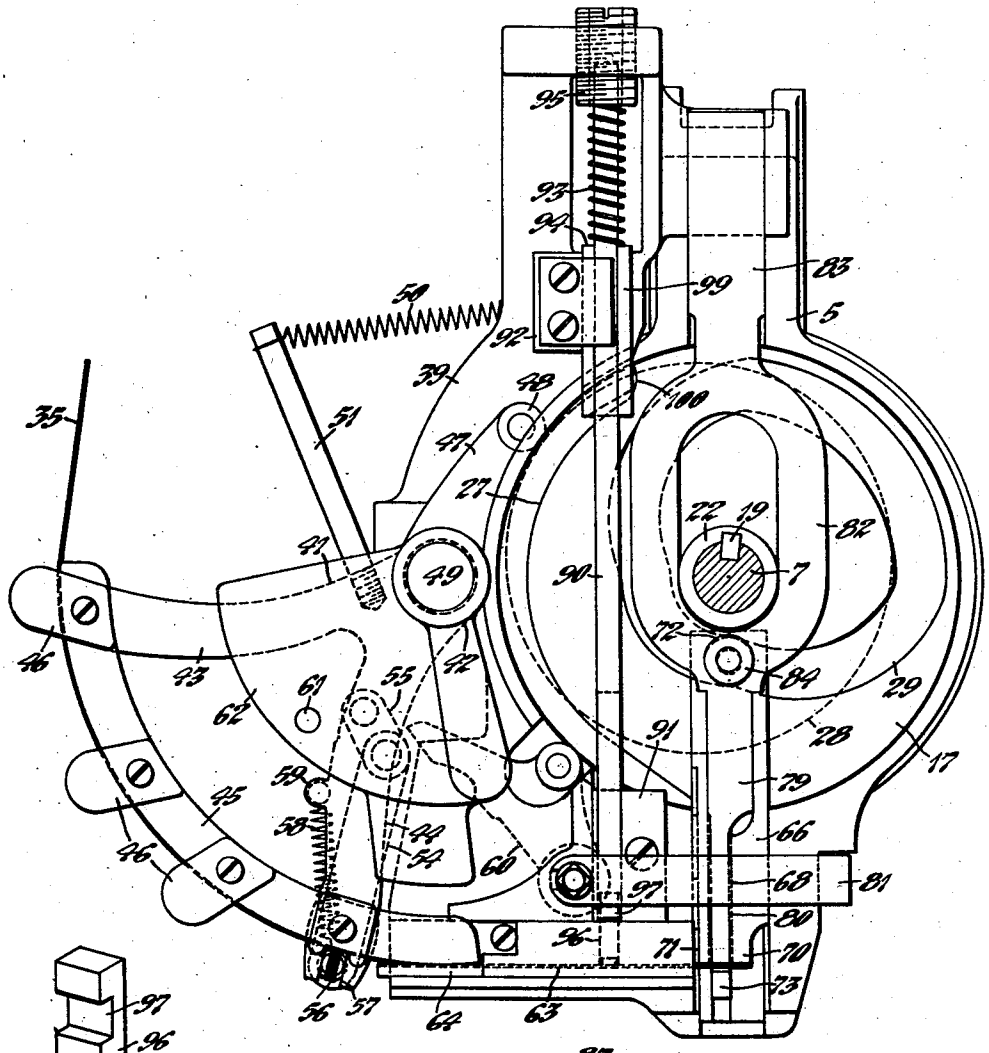

Fig. 6.

Fig. 3.

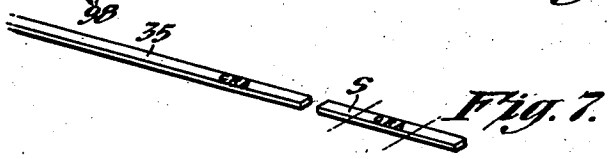

Fig. 7.

Fig. 8.

Fig. 9.

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WIRE STITCHING MACHINE

Filed Dec. 27, 1934 4 Sheets-Sheet 4

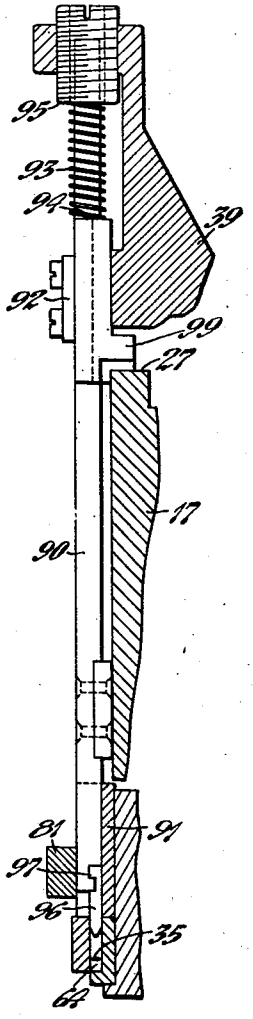

Fig. 5.

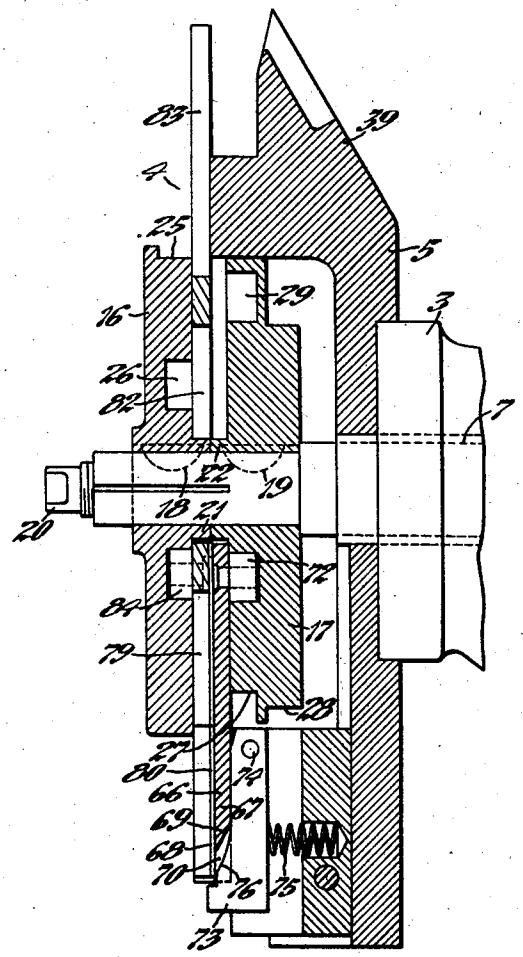

Fig. 4.

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UNITED STATES PATENT OFFICE

2,088,428

WIRE-STITCHING MACHINE

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Application December 27, 1934, Serial No. 759,398

13 Claims. (Cl. 1—2)

This invention relates to improvements in wire-stitching and stapling machines and particularly to box-stitching machines for stitching together the parts of cardboard cartons and boxes and other similar work with staples marked with identifying indicia.

One of the objects of the present invention is to provide a stapling machine with mechanism for permanently marking staples with identifying indicia.

Another object of the present invention is to provide a mechanism for forming staple fasteners from a continuous strip of material, and marking the same with identifying indicia by deforming the material of the strip.

Another object of the present invention is to provide a machine for successively feeding predetermined lengths of stapling material in strip form, marking each length of strip advanced, and cutting and forming the lengths of marked material into staples, by a sequence of successive operations.

Another object of the present invention is to provide a stapling machine having a common actuator for successively operating separate mechanism for feeding lengths of strip material, permanently marking each length of strip advanced, cutting and forming the strips into staples, and driving the staples into engagement with the work.

Another object of the present invention is to provide a machine of the type indicated that is simple and compact in construction, reliable and efficient in operation and capable of extended use without repair or adjustment.

These and other objects will become more apparent from the following description and drawings but it is to be understood, however, that the drawings are for purpose of illustration only and not a definition of the limits of the invention, reference being had for this purpose to the appended claims. In the drawings:

Fig. 1 is a side elevational view of a stapling machine incorporating the novel features of the present invention;

Fig. 2 is an enlarged front elevational view of the stitcher-head or bonnet shown in Fig. 1 with the forward cam-disk removed to show the operating parts thereof in a position prior to the strip-feeding operation and subsequent to the staple-driving operations, and with the stamping plunger in its inoperative position;

Fig. 3 is a view similar to Fig. 2 showing the operating parts in a position subsequent to the strip-feeding operation, and with the plunger operative to impress a mark upon the length of strip advanced;

Fig. 4 is a longitudinal sectional view of the stapling head in side elevation showing the cam-disks for actuating the operating parts;

Fig. 5 is a similar view taken on line 5—5 of Fig. 2 illustrating the stamping plunger in detail;

Fig. 6 is a perspective view of the stamping die carried by the plunger;

Fig. 7 is a perspective view of the stapling-material strip illustrating the manner in which the indicia are formed thereon and showing a length of the material severed from the strip to be formed into a staple;

Fig. 8 is a perspective view of the formed staple; and

Fig. 9 is a perspective view of the staple shown in Fig. 8 in binding engagement with several pieces of paper, cardboard or like material.

This invention relates generally to stitching the parts of boxes or cartons together with staples or fasteners that are permanently marked with indicia to identify the maker of the carton or its contents. In this way the purchaser of an article sealed in a carton is assured that the product is genuine and made by the manufacturer represented and is not a spurious product of inferior quality substituted for the original. The invention in its broader aspect also includes the marking of staples with informatory marks whether in the form of letters, numbers, designs or otherwise, and which are intended to be included by the term indicia. More specifically, the invention relates to a machine for stitching cartons or boxes with identifying staples having means for successively advancing predetermined lengths of stapling material in strip form, means for permanently marking each length of strip material advanced, means for cutting and forming the marked lengths of strip into staples, and means for driving and clinching the formed staples. The invention further relates to the sequential succession of operation of the several means by a common operating mechanism.

Referring now to the drawings, a single embodiment of the invention only is illustrated, by way of example, as incorporated in a stapling machine generally similar to that shown in United States Letters Patent No. 662,184, dated November 20, 1900, that preforms staples from strip material and thereafter drives the staples into the work. In Fig. 1 of the drawings the machine is shown as comprising a frame of conventional type having a column or standard 2 rising from the floor with an arm 3 extending laterally from the top of the standard and terminating in a head 4 that embraces the operative mechanism of the stapling machine. The head 4 is formed by a bonnet 5 suitably attached to the arm of the frame to form a chamber for the operating mechanism. A work support in the form of an arm 6 extends outwardly from the frame to a position directly below the head 4 and includes the staple-clinching mechanism as will later appear.

The stapling mechanism is operated from a drive-shaft 7 that is suitably journaled within the arm 3 with its ends extending forwardly and rearwardly of the arm. A belt-pulley 10 is mounted for rotation on the rearward extension of the drive-shaft 7 and is driven from a suitable source of power, not herein shown. A clutch indicated at 11, such as that shown and described in United States Letters Patent No. 1,495,342, dated May 27, 1924, is provided for drivably connecting the pulley 10 with the shaft 7 at the will of the operator. To this end a controlling mechanism for the clutch is shown as comprising a spring-pressed plunger rod 13 actuated from a bell-crank lever 14 that is operatively connected with a foot treadle, not herein shown, by means of linkage 15. By depressing the treadle the clutch is engaged and the shaft 7 connected with a source of power.

Referring now to Fig. 4, the driving mechanism for the several operating elements of the stapling machine is shown as comprising a pair of rotating cam-disks 16 and 17 mounted on the outer end of the driving shaft 7 and within the head 4. The cam-disks 16 and 17 are fixed to rotate with the driving shaft 7 by means of keys 18 and 19 and are held against axial movement by means of a tapered screw 20 within the split end of the shaft 7. The cam-disks 16 and 17 are held in axial spaced relation on the shaft 7 by their hubs 21 and 22 that extend outwardly from the inner faces of the disks in abutting engagement. The forward cam-disk 16 is provided with a peripheral cam-surface 25 and a cam-groove 26 on its inner rearward face, while the rearward cam-disk 17 is provided with a pair of peripheral cam-surfaces 27 and 28 and a cam-groove 29 on its inner forward face. The peripheral cam-surfaces 25, 27 and 28 and the cam-grooves 26 and 29 are so arranged with respect to each other as to operate a feeding mechanism, stamping mechanism, releasing mechanism, cutting and forming mechanism, and a staple-driving mechanism in a sequential order of successive steps as will later appear.

Referring again to Fig. 1 of the drawings, the stapling or fastening material is shown in the form of a flat continuous strip 35 and wound on a spool 36 that is mounted above the head 4 on a spindle 37 carried by a bracket 38. The bracket 38 is adjustably mounted in a support 39 that is rigidly secured to the bonnet 5 and arm 3 to form part of the frame. The material strip is fed from the spool 36 over a straightening guide 40 to a feeding mechanism at the side of the head for successively advancing the strip in predetermined lengths to be formed into staple fasteners.

Referring to Figs. 2 and 3, the feeding mechanism is shown in the form of an oscillating sector frame 41 having a hub 42 and radial arms 43 and 44 on one side that carry an arcuate guide 45 for supporting the material strip 35 as it is fed into the machine. Clips 46 are mounted in spaced relation on the sides of the arcuate guide 45 to prevent lateral displacement of strip 35 therefrom. On the opposite side of the hub the frame 41 includes a follower arm 47 having a roller 48 at its end. The frame 41 is pivotally mounted for oscillation on a stud 49 that extends through a bearing aperture in the hub 42 of the frame and is rigidly held in the stationary frame support 39. When the frame 41 is in operative position on the stud 49 the roller 48 on the follower arm 47 extends through a suitable aperture in the bonnet and engages the peripheral cam-surface 28 on the rearward cam-disk 17. The roller 48 is held in engagement with the cam-surface 28 by means of a tension spring 50 connected between the bonnet 5 and pin 51 extending radially from the sector frame 41, and the frame is oscillated with a counterclockwise movement by the cam-surface 28 during its forward feeding stroke and with a clockwise movement by the spring during its return stroke, as viewed in Figs. 2 and 3.

During the forward feeding stroke of the sector frame 41 the strip 35 is gripped and advanced with the frame but during its rearward stroke the strip is released so that the frame slips on the strip. To this end a gripper bar 54 is mounted for radial movement on one side of the arm 44 and extends to a position beyond the arcuate guide 45. The gripper bar 54 is connected to the arm 44 through a link 55 pivotally connected with the bar at one end and with the arm 44 at its other end to form a toggle. At its outer end the bar 54 carries a gripper element 56 which extends laterally across the outer face of the guide 45 and slides in a slot 57 formed in the end of the arm 44. A spring 58 is connected between the outer free end of the bar 54 and a pin 59 projecting rearwardly from the arm 44, the spring acting to move the bar and gripper element 56 inwardly with respect to the arcuate guide 45. With the bar 54 and link 55 in the position shown in Fig. 2 the gripper element 56 engages the material strip 35 and holds it tightly against the arcuate guide 45 of the oscillating frame 41 as the guide advances a predetermined length of the strip during its forward stroke. At the end of its forward stroke the gripper 56 is moved to releasing position by a pivoted arm 60 which engages the knee of the toggle and moves it across a median line extending between the axis of the pivot at the outer end of the bar 54 and the axis of the pivot at the upper end of the link 55. Just after the knee of the toggle passes this median line the gripper bar 54 engages the rearwardly extending pin 59 on the arm 44 and in this position of the bar the side of the link 55 projects beyond the side of the arm 44. The bar 54 is thus extended radially from the axis of the frame 41 to move the gripper element 56 into spaced relation to the guide 45 whereby to release the material strip 35 while the frame 41 is oscillated through its return stroke.

The gripper element 56 is automatically shifted into engagement with the strip 35 at the end of the rearward stroke of the frame 41. To this end the projecting side of the link 55 is engaged by a relatively fixed pin 61. The pin 61 projects forwardly from a plate 62 which is mounted on the stud 49 adjacent the sector frame 41. As the arm 44 of the sector frame 41 continues to move through its rearward stroke after the link 55 is engaged by the pin 61 the knee of the toggle is moved in the opposite direction from that previously described across the median line extending between the pivotal axes at the ends of the bar 54 and link 55. The spring 58 then acts to move the bar 54 radially inward to engage the gripper element 56 with the material strip 35 and hold it tightly to the guide 45 of the oscillating frame 41. At substantially the same instant that the toggle is actuated to engage the gripper element 56 with the strip 35 the arm 44 of the sector frame 41 engages the pin 61 which limits its rearward movement and determines the length of its feeding stroke. The plate 62 carrying the pin 61 is adjustable about

the stud 49 to vary the position of the pin 61 with respect to the arm 45 and to thereby vary the length of the feeding stroke. In this way predetermined lengths of the strip are advanced by the oscillating frame as it engages the strip during its forward stroke and releases the strip during its return stroke.

The pivoted actuating arm 60 carries a roller which is spring pressed into engagement with the peripheral cam-surface 25 of the forward cam-disk 16 and the contour of the cam-surface is so formed with respect to the cam-surface 28 as to cause the arm to engage the knee of the toggle and release the gripper 56 after the oscillating sector 41 has completed its forward feeding stroke. The predetermined lengths of the strip material advanced by the feeding mechanism are fed into the head 4 through a slot 63, formed in a shelf or ledge 64 on one side of the head, to be cut and formed into staples.

The cutting and forming mechanism is comprised of a bender-bar 66 slidably mounted in a vertical slot or guideway in the front of the head and an anvil 73 positioned below the bender-bar as shown in Figs. 2, 3 and 4. The bender-bar 66 is of U-shaped configuration having a back-plate 67 and forwardly extending sides provided with recesses 68. The back-plate is cut away adjacent its end to provide a beveled cam-surface 69 and depending side legs 70. A cutter-bar 71 is fixed to the side leg 70 adjacent the feeding mechanism and cooperates with the end of the ledge 64 on the head to shear the lengths *s* of strip advanced by the feeding mechanism. The bender-bar 66 extends upwardly between the cam-disks 16 and 17 and is provided at its upper end with a roller 72 engaging the cam-groove 29 in the forward face of the rearward cam 17, and the bender-bar is reciprocated by the cam once for every complete revolution of the cam-disk. The cam-groove 29 is so shaped with respect to the cam-surface 28 of the feeding mechanism that the cutter and bender-bar are operated only after the feeding mechanism has completed its forward feeding stroke.

The anvil 73 that cooperates with the bender-bar to form the staples is mounted in the frame directly below the bender-bar and with its upper face in alinement with the bottom of the feeding slot 63 to adapt it to receive the lengths of strip as they are advanced into the head. The anvil 73 is pivotally mounted in the frame at 74 and yieldingly held in its operative position by a spring 75. Adjacent its lower end with respect to the pivotal mounting the anvil 73 is provided with a cam-surface 76 for engagement by the cam-surface 69 on the bender-bar 66 to move the anvil to an inoperative position after the staple has been formed. When the bender-bar is moved downwardly the cutter-bar 71 first shears a length *s* of the strip, after which the depending legs 70 engage the strip *s* on either side of the anvil 73 and bend the ends over the sides of the anvil to form the staple. Upon further downward movement of the bender-bar 66 the beveled cam-surface 69 engages the cam-surface 76 on the anvil 73 to move the anvil about its pivot to its inoperative position. The staple is then held within the grooves or recesses 68 in the legs 70 of the bender-bar 66 which is moved downwardly into engagement with the work to hold the same while the staple S is being driven. The formed staple is then in a position to be driven into engagement with the work.

The staple driving mechanism comprises a driving bar 79 and a staple driver 80 attached to the rear face of the driving bar, and the two elements as a single unit are mounted for reciprocation in the slot formed in the forward face of the bender-bar 66 by its U-shaped configuration with the staple driver extending laterally into the grooves or recesses 68 in the forwardly extending sides. The bender-bar 66 and the driving bar 99 are held in operative position by a crosspiece 81 on the front of the head. The driving bar 79 extends upwardly beyond the upper end of the staple driver 80 and the bender-bar 66, and has a yoke 82 embracing the hub 21 of the forward cam 16 and an extension 83 that is slidably mounted in a guideway in the bracket 39 on the head. A roller 84 on the driving bar 79 engages the cam-groove 26 on the inner face of the forward cam-disk 16. The cam-groove 26 is so shaped with respect to the cam-groove 29 that after the downward movement of the bender-bar 66 has been completed to form the staple the driving bar 79 and the staple driver 80 rigidly fixed thereto are reciprocated to drive the staple out of the bender-bar and into engagement with the work.

Clincher means are provided on the work support 6 comprising an anvil 85 having grooves 86 for bending the ends of the staples S into clinching engagement with the work 87 as shown in Figs. 2 and 9.

The present invention provides for permanently marking the staples or fasteners with identifying indicia to indicate their source of origin. In the illustrated embodiment the marking mechanism is positioned between the feeding sector and the bender-bar and preferably is in the form of a reciprocating plunger having a die or stamp for engaging the strip to impress characters therein by deforming the material of the strip.

Referring now to Figs. 2, 3 and 5, the plunger comprises a reciprocating bar 90 extending upwardly between the cam-disks 16 and 17 and mounted in guides 91 and 92 in the frame with its lower end positioned above the strip 35 in the feeding slot 63. The bar 90 is resiliently urged downwardly into engagement with the strip 35 by means of a spring 93 engaging a shoulder 94 on the bar at one end and an adjustable screw 95 threaded into the bracket 39 on the head at the other end. The material at the end of the reciprocating bar may be cut with charatcers to form a die, or as illustrated, the die may be made as a separate piece 96 that is connected with the bar by a tongue and groove engagement as indicated at 97. The die, shown in detail in Fig. 6, has characters 98 projecting from its face to indent the strip so that the identifying indicia will be formed as depressions in the strip. A cam-shoe 99, as more clearly shown in Fig. 5, extends rearwardly from the shoulder 94 of the bar and engages the forward peripheral cam-surface 27 of the rearward cam-disk 17. The cam-surface 27 is so shaped with respect to the cam-surface 28 that the stamping bar 90 will be held out of engagement with the strip until after the oscillating sector 41 has completed its forward stroke. After completion of the forward feeding stroke and before the strip 35 is released by the gripper 56, the position of the cam 27 is such that a recess 100 in the cam releases the bar 90 so that it may move into engagement with the strip with considerable force by the action of the spring 93, as shown in Fig. 3. The cam-surface 27 then allows the bar

90 to continue to engage and hold the strip 35 while the lever 60 releases the gripper 56 and the oscillating sector makes its return stroke, after which the stamping bar 90 is raised to its inoperative position shown in Fig. 2. The present embodiment of the invention having now been described, its mode of operation will be next explained.

To prepare the machine for operation the spool 36 of the strip stapling material 35 is positioned on the spindle 37 and the end of the strip led over the straightening guide 40 and the arcuate guide 45 of the feeding mechanism and under the gripper 56, with a length of the strip material extending into the slot 63 at the side of the head. The machine is then ready for automatic operation and by depressing the foot treadle the operator may commence a stapling operation. Let it be assumed first that the feeding mechanism is in the position shown in Fig. 2 with the sector frame 41 about to begin its forward feeding stroke with the gripper 56 holding the strip 35 in engagement with the arcute guide 45 and with the stamping plunger 90 and the cutting and forming mechanism in inoperative position. When the foot treadle is depressed the clutch 11 engages the driving pulley 10 with the driving shaft 7 and the spaced cam-disks 16 and 17 are rotated. As the rearward cam-disk 17 rotates the follower arm 47 on the oscillating feed sector 41 is actuated by the peripheral cam-surface 28 to move the sector through its forward feeding stroke. During the forward feeding movement of the sector the gripper 56, the strip 35, and the arcuate guide 45, move forward as a unit to advance a length of the strip into the head through the slot 63 to be cut and formed into a staple.

After the feeding mechanism has completed its forward feeding stroke the recess 100 on the cam-surface 27 is so positioned that it releases the cam-shoe 99 on the stamping bar 90 which is forced downwardly with a stamping action by the spring 93 and makes an impression in the surface of the strip by means of the die 96 at the end of the plunger. After the plunger 90 engages the strip the pivoted arm 60 is actuated by the cam-surface 25 on the forward cam-disk 16 to engage the knee of the toggle and move it across the median line extending between centers of the pivots in the manner previously explained to cause the gripper 56 to release the strip 35. The shapes of the peripheral cam-surfaces 25, 27 and 28 are so related that the die and plunger remain in engagement with the strip 35 until after the gripper 56 is released and the feeding sector 41 has made its return stroke so that the strip is held from moving with the sector. The feeding sector is quickly moved through its return stroke by the spring 50 when the end of the follower arm 47 is released by the cam-surface 28. Adjacent the end of the rearward stroke of the sector frame 41 the link 55 is engaged by the fixed pin 61 and the knee of the toggle moved across the median line extending between the axes of the pivots at the ends of the link 55 and gripper bar 45 just prior to the engagement of the arm 44 with the pin to limit its rearward stroke. The spring 58 then acts to move the gripper element inwardly to engage the strip 35. After the feeding mechanism has completed its return stroke the peripheral cam-surface 28 engages the shoe 99 on the stamping plunger 90 and raises the die 96 out of engagement with the strip for a subsequent operation by the feeding mechanism. As the position of the stamping mechanism is laterally spaced from the cutting and forming mechanism by one staple length of the strip 35, a subsequent feeding and stamping operation is required before a length of the strip is in position to be cut and formed.

Upon completion of the second feeding and stamping operation a length of the stamped strip is then positioned directly under the cutting and bender-bar and above the anvil 73. Directly following the release of the plunger 90 to stamp the strip 35 the position of the cam-groove 29 is such that the bender-bar 66 is actuated or moved downwardly and the cutter bar 71 carried by the bender-bar adjacent the ledge 64 cuts the length of the stamped strip extending outwardly from the end of the slot 63. As the bender-bar descends the depending side legs 70 engage the strip s and bend the ends about the anvil 73 to form a staple S.

Upon further downward movement of the bender-bar 66 the cam-face 69 on the back-plate 67 engages the cam-surface 76 on the anvil and moves the anvil about its pivot 74 to an inoperative position at the rear of the bender-bar. The bender-bar 66 continues to move downwardly into engagement with the work to be stapled and the staple S formed and marked is held suspended between the depending legs 70 of the bender-bar 66 in a position to be driven.

The cam-groove 26 in the rearward face of the forward cam-disk 16 is then so positioned as to operate the driving bar 79 and attached staple-driver 80 slidably mounted in the grooved face of the bender-bar. The staple-driver 80 is reciprocated with a rapid motion that forces the formed staple from the bender-bar 66 into engagement with the work. The ends of the staple are then clinched in position in the work 87 by the grooves 86 formed in the anvil 85 on the work support, as shown in Fig. 9. The machine continues to repeat the operations outlined above and to successively drive staples into binding engagement with the work 87 that are marked with identifying indicia.

It will now be apparent that the present invention provides a machine that operates automatically in a sequence of successive steps from a common operating mechanism to first advance predetermined lengths of the strip, to then mark the lengths of strip with identifying indicia, to then cut and form the marked strip into a staple, and to then drive the marked and formed staple into engagement with the work. It will also be apparent that the machine will continue to operate at the will of the operator in the series of sequential steps in repeated order until the foot treadle is released and that the operator may drive one staple and stop or may continue to drive successive staples.

This invention has been illustrated and described above as incorporated in a single type of stapling machine only, but it is to be understood that the invention is not limited to the type shown. The scope of the present invention will also include machines that perform a fewer or greater number of operations such as preparing marked staples for subsequent use in a separate apparatus.

Further it is to be understood that the invention is not limited to the shape of the material strip used nor to any particular kind of characters marked on the staples as any design, brand, figure or the like can be used, and the die may be so operated as to impress several marks on each staple instead of the single mark shown.

The invention therefore relates broadly to the marking of staples with identifying indicia, which term as used in the claims is intended to include all forms of marks that may be made on the staple. So without limiting myself in this respect, I claim:

1. In a stapling machine, the combination of means for forming U-shaped wire staples, means for driving the staples into engagement with the work, and means for impressing character legends into the surface of the staples on the central portions of their crossbars without materially weakening the staples.

2. In a stapling machine, the combination of means for feeding wire, means for impressing identifying indicia into the wire, means for severing the marked length of wire from the remainder of the strip, means for bending the opposite ends of the severed length to form a U-shaped wire staple, and means for driving the formed staple.

3. In a stapling or fastener-applying machine, the combination of means for successively feeding predetermined lengths of wire, means for cutting the wire advanced by the feeding means and forming a U-shaped staple, means for driving the formed staple, and means between the feeding means and the cutting means for impressing identifying indicia into each advanced length of wire by deforming the surface of the wire.

4. In a stapling or fastener applying machine, feeding means for successively advancing a strip of material, means for cutting and forming staples from the strip advanced by the feeding means, means for marking each length of strip by deforming the material thereof, and an operating member having cam surfaces for actuating the feeding means, marking means, and cutting means in succession.

5. In a stapling or fastener applying machine, feeding means for successively advancing a strip of material, means for cutting and forming staples from the strip advanced by the feeding means, a reciprocating stamp between the feeding means and the cutting means, and an operating member having cam surfaces for actuating the feeding means, stamping means, and cutting means in succession.

6. In a machine of the type indicated, feeding means for successively advancing a strip of wire staple material, a reciprocating plunger having embossed characters on its end and a cam-follower shoe, a spring for urging the embossed end of the plunger into engagement with the strip, and a rotating cam engaging the shoe and successively holding the plunger spaced from the strip and releasing the plunger to stamp the strip in timed relation with the feeding means.

7. In a stapling or fastener applying machine, the combination of an oscillating means adapted to grip and feed predetermined lengths of a wire strip during its forward stroke and release the strip during its return stroke, and a reciprocating plunger having embossed characters on its end for impressing identifying indicia into each length of wire and adapted to be actuated at the end of the feeding stroke to stamp and hold the strip during the return stroke of the oscillating means.

8. In a stapling machine, feeding means for successively advancing a strip of stapling material, means on the feeding means for gripping and releasing the strip, means for cutting the lengths of strip advanced and forming staples therefrom, means between the feeding means and the cutting and forming means for permanently marking the strip with indicia by deforming the strip, and a series of cams for operating the feeding means, actuating the marking means, releasing the gripping means, and operating the cutting and forming means, in succession.

9. In a stapling machine, feeding means for successively advancing a strip of stapling material, means on the feeding means for gripping and releasing the strip, means for cutting the lengths of strip advanced and forming staples therefrom, a reciprocating die between the feeding means and the cutting and forming means for permanently marking the strip advanced by the feeding means, and a rotating member having a plurality of cam surfaces for operating the feeding means, actuating the marking means, releasing the gripping means, and operating the cutting and forming means, in succession.

10. In a stapling machine, a strip of stapling material, feeding means for successively advancing the strip, means on the feeding means for gripping and releasing the strip, means for marking the strip by deforming the material of the strip, means for cutting and bending the advanced lengths of strip, a staple-driver for driving the formed staple, and rotating means having cam surfaces for successively operating the feeding means, the marking means, the releasing means, the cutting and bending means and the staple-driver.

11. In a machine of the type indicated, feeding means for successively advancing predetermined lengths of wire staple material, a plunger having a die at its end for impressing identifying indicia into each length of wire, a spring for normally urging the plunger into engagement with the wire strip, and means for raising and holding the plunger out of contact with the strip against the action of the spring, said raising means releasing the plunger after each advancement of the strip by the feeding means to allow the plunger to be actuated by the spring to stamp the strip.

12. In a machine of the type indicated, feeding means for successively advancing predetermined lengths of wire staple material, a reciprocating plunger having embossed characters at its end for stamping the strip to impress identifying indicia thereon, a cam for raising the plunger to allow advancement of the strip by the feeding means, and means for actuating the plunger to stamp and hold the strip after each advancement thereof by the feeding means.

13. In a machine of the type indicated, oscillating means for feeding a strip of wire staple material during the forward movement of said means and releasing the strip during its rearward movement, a reciprocating plunger having embossed characters at its end for impressing identifying indicia on the wire strip, a spring for normally urging the plunger into engagement with the strip, and a rotating member having a cam surface for actuating the feeding means and releasing the plunger to advance a length of the strip and stamp it with identifying indicia in sequential order.

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