May 5, 1931. E. E. EVANS 1,803,323

AUTOMATIC STAMPING DEVICE

Filed May 23, 1927 3 Sheets-Sheet 1

Fig. 9

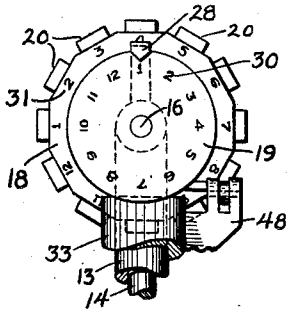


Fig. 10

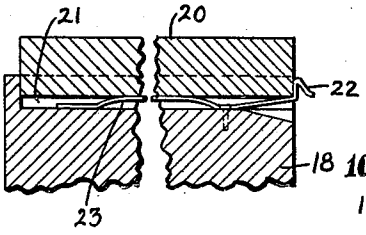


Fig. 13

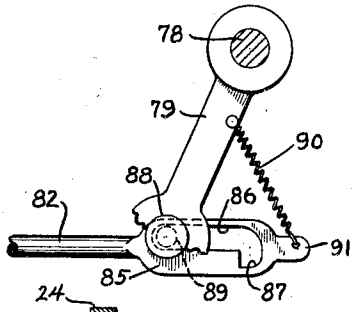


Fig. 15

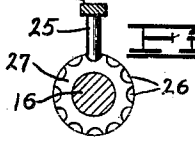


Fig. 16

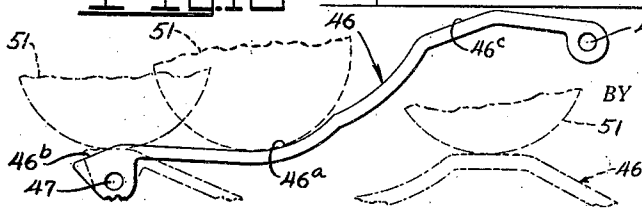
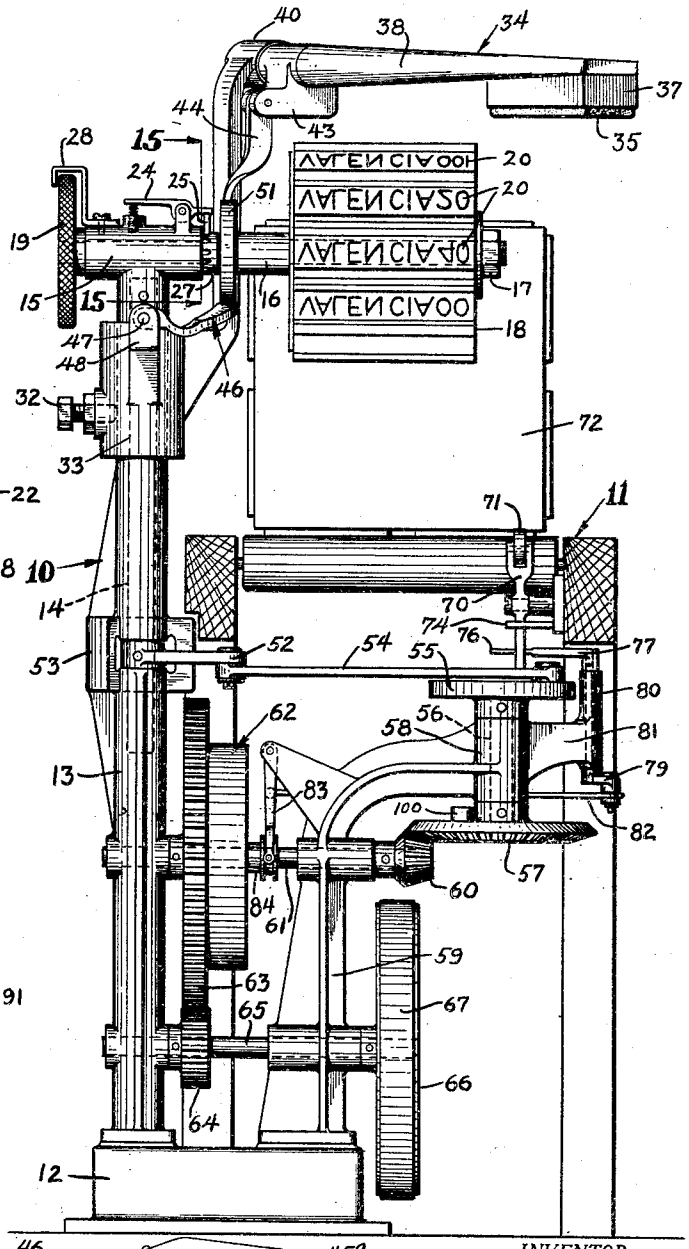


Fig. 1



INVENTOR.
E. E. EVANS
BY
ATTORNEY.

May 5, 1931. E. E. EVANS 1,803,323

AUTOMATIC STAMPING DEVICE

Filed May 23, 1927 3 Sheets-Sheet 2

Fig. 1

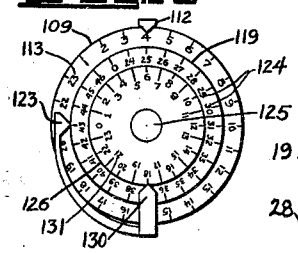


Fig. 14

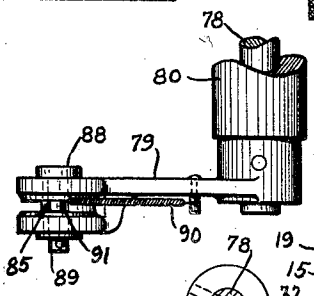


Fig. 12

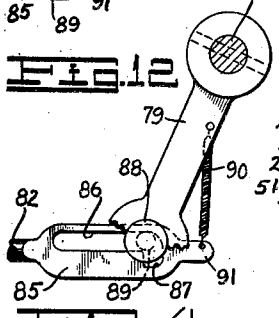


Fig. 4

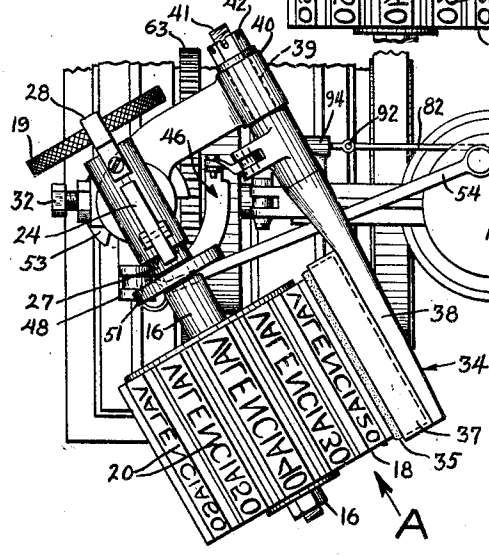


Fig. 2

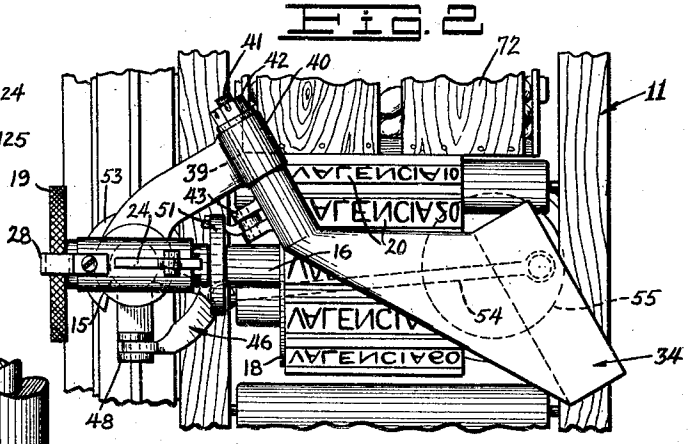


Fig. 3

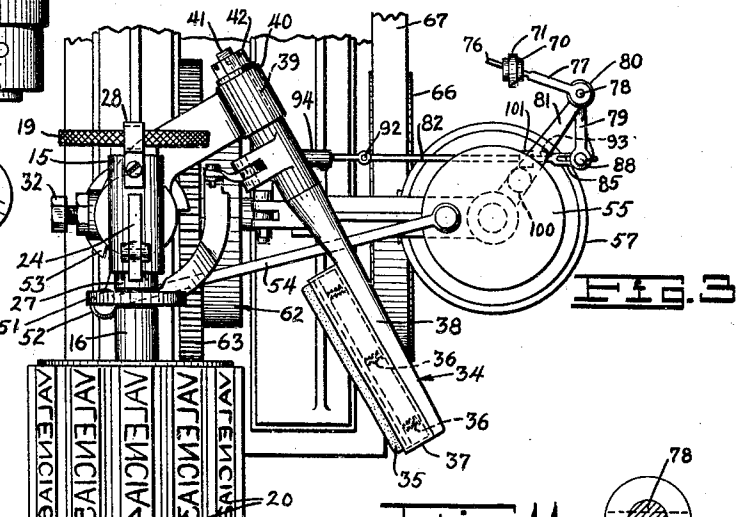
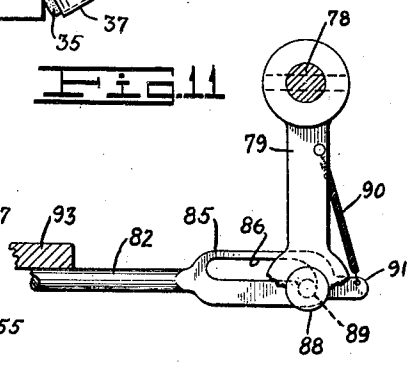


Fig. 11



INVENTOR.
E. E. EVANS
BY
ATTORNEY.

May 5, 1931. E. E. EVANS 1,803,323

AUTOMATIC STAMPING DEVICE

Filed May 23, 1927 3 Sheets-Sheet 3

Fig. 8

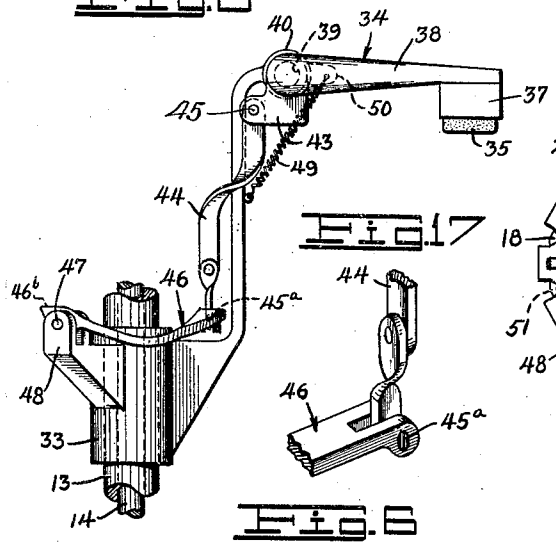


Fig. 17

Fig. 7

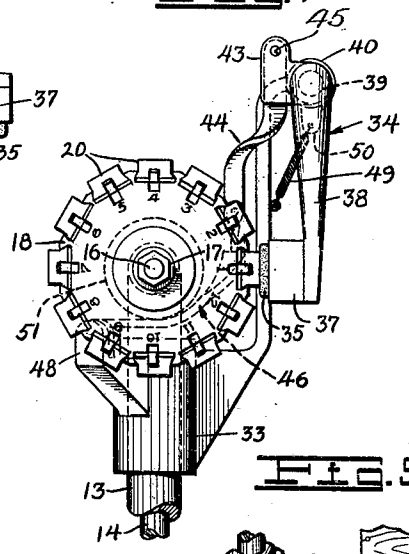


Fig. 6

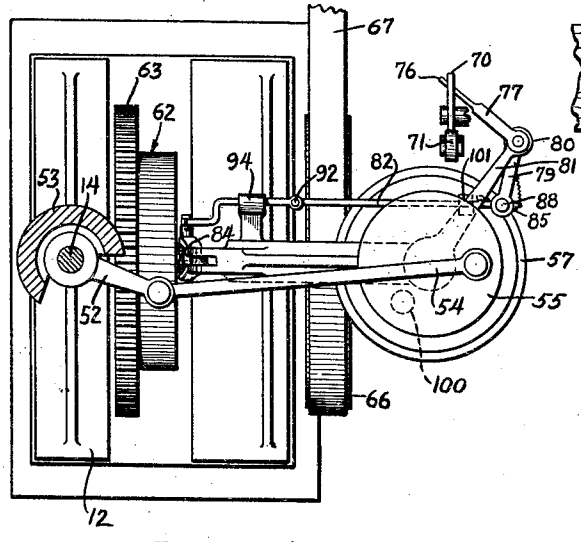


Fig. 5

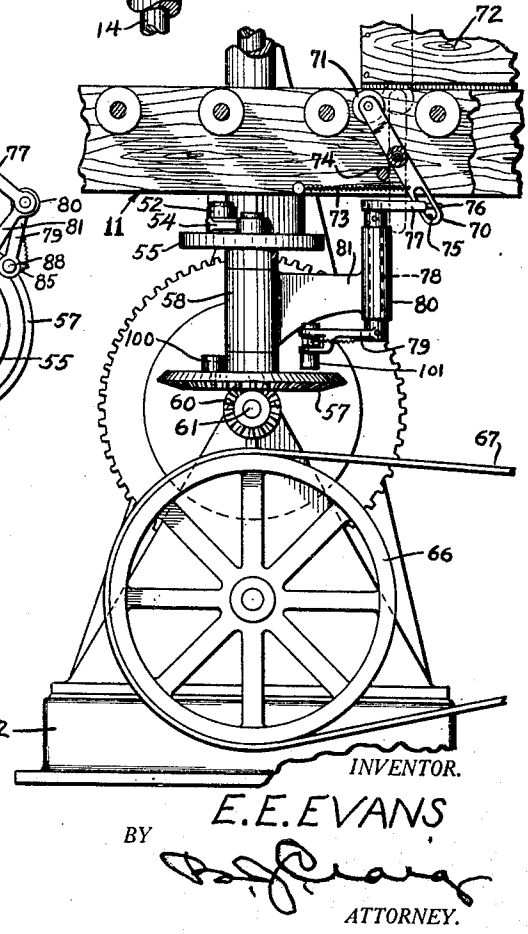
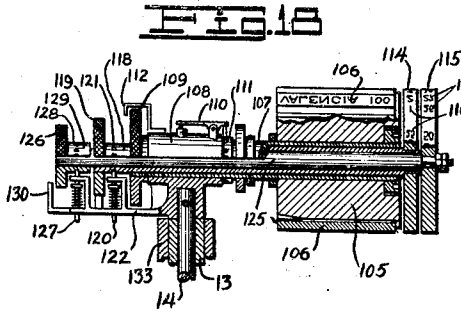


Fig. 18



INVENTOR.

E. E. EVANS

BY

ATTORNEY.

Patented May 5, 1931

1,803,323

UNITED STATES PATENT OFFICE

ERNEST E. EVANS, OF RIVERSIDE, CALIFORNIA

AUTOMATIC STAMPING DEVICE

Application filed May 23, 1927. Serial No. 193,702.

This invention relates to improvements in automatic stamping or marking devices.

The general object of this invention is to provide an improved stamping device which will be automatically actuated by the article to be stamped.

Another object of this invention is to provide an improved stamping device wherein the type is automatically inked before each stamping operation.

A further object of my invention is to provide a novel means for operating a marking device.

Other objects and advantages of the invention will be apparent from the following description taken in connection with the accompanying drawings wherein:

Fig. 1 has a side elevation of my improved stamping device showing it in an operative position and as actuating to imprint a stamp upon an article.

Fig. 2 is a fragmentary plan view of my machine.

Fig. 3 is a view similar to Fig. 2 showing the mechanism in an inoperative position.

Fig. 4 is an other view similar to Fig. 2 showing the mechanism operating to ink the type.

Fig. 5 is a rear view of the lower portion of the device.

Fig. 6 is a top plan view of the mechanism shown in Fig. 5.

Fig. 7 is an elevation of the upper portion of the marking device looking in the direction of the arrow "A" in Fig. 4.

Fig. 8 is a view similar to Fig. 7 showing the inking pad moved out of the way of the type, the type carrying device having been omitted for clarity.

Fig. 9 is a front view of the type carrying device and positioning knob.

Fig. 10 is an enlarged fragmentary section of the type carrying device showing the manner of securing the type thereon.

Fig. 11 is a top plan view of one of the clutch actuating levers in an inoperative position.

Fig. 12 is a view similar to Fig. 11 showing the lever actuated to place the clutch in an operative position.

Fig. 13 is another view similar to Fig. 11 showing the lever in the same position as in Fig. 12 and the clutch rod actuated to disengage the clutch.

Fig. 14 is a side elevation of the arm shown in Figs. 11 to 13 inclusive.

Fig. 15 is an enlarged fragmentary section taken on line 15—15 of Fig. 1.

Fig. 16 is an enlarged development of the inking mechanism actuating track.

Fig. 17 is a fragmentary perspective view of the pivoted link attachment of the inking mechanism track.

Fig. 18 is a side elevation partly in section of a modified form of printing head and

Fig. 19 is an enlarged face view of the turning knobs shown in Fig. 18.

Referring to the drawings by reference characters, I have indicated my improved stamping device generally at 10 and shown it as adapted to actuate in conjunction with a box liding machine, only the continuous conveyor table 11 of the liding machine being shown. My improved stamping device 10 is so constructed that it may be used between a liding machine and a strapping machine without interfering with the actuation of either or being in the way of the operator of either machine.

As shown in the drawings my improved stamping device 10 comprises a base 12 having a standard 13 mounted thereon. A shaft 14 is mounted for rotation upon the standard. The shaft terminates in a head 15. In the head 15 I mount a shaft 16 having secured at one end by a nut 17 a type carrying roll 18 and having secured to its other end a knob or hand wheel 19 for rotating it for positioning the type carrying roll 18.

The type roll 18 is adapted to support a plurality of type bars 20 which fit in dovetailed grooves 21 of the type roll and are retained in position in the grooves by spring catches 22 (see Fig. 10). The spring catches 22 are secured to the bottom of the grooves 21 and have an extension 23 thereon which engages the bottoms of the type bars 20 and force them outwardly. By so resiliently mounting the type bars 20 they may give a little when striking a solid object to print

thereon, thus greatly prolonging the life of the type.

For retaining the desired type bar 20 in a printing position I provide on the head 15 a spring pressed finger 24 having a projection 25 thereon which is adapted to engage singularly a plurality of depressions 26 in a collar 27 which is secured to the shaft 16 (see Figs. 1 and 15). For indicating which type bar is in a printing position I provide on the head 15 an indicator 28 which coacts with markings on the knob 19 such as letters or numerals 30. The numerals 30 corresponding to numerals 31 on the ends of the type roll 18. Thus when a certain number 30 registers with the indicator 28 the type bar 20 in the groove designated by the corresponding numbers 31 will be in a printing position.

Mounted adjacent the upper end of the standard 13 and secured thereto by a set screw 32 I provide a bracket 33 for supporting the inking device 34. This inking device includes an ink carrying pad 35 resiliently mounted as by springs 36 (see Fig. 3) in a casing 37. By so resiliently mounting the inking pad 35 the striking of the type against it will not force the ink to squeeze out of the pad to excess and will in addition prolong the life of the inking surface of the pad.

The pad casing 37 is secured to an arm 38 which has a reduced portion 39 thereon which is adapted to be rotatably mounted in a boss 40 of the bracket 33. The reduced portion 39 terminates in a reduced threaded stud 41 and the arm 38 is retained in position in the boss 40 by a nut 42.

For actuating the inking mechanism in and out of the path of the type roll, I provide on the arm 38 a boss 43 to which I pivotally attach a link 44 at 45. The link is pivotally secured at 45*a* to a track 46. This track 46 is pivotally secured at 47 to an extended bracket 48 integral with the bracket 33 and includes a depression 46*a* having operating portions 46*b* and 46*c* on either side thereof.

For normally urging the inking pad 35 downward or into the path of the type I provide a coiled spring 49 having one of its ends attached to a lug 50 which is integral with the arm 38 and having its other end anchored to a portion of the bracket 33. On the shaft 16 I provide a roller 51 which is adapted to roll upon the track 46. The operation of this will be more fully explained hereinafter.

For imparting horizontal movement to the type roll 18 I provide an arm 52 which is secured to the shaft 14 and is arranged in an enlarged boss 53 on the standard 13. The arm 52 has a link 54 pivotally secured thereto which is in turn pivotally secured to a rotatable disk 55. The disk 55 is adapted to be rotated by a shaft 56 having a bevel gear 57 secured to its other end. The shaft 56 is shown as supported in a bearing 58 on a standard 59.

The gear 57 is rotated by a gear 60 secured to a shaft 61 and the shaft 61 is adapted to be rotated through the medium of a clutch mechanism 62 from a gear 63. The clutch 62 may be of any desired type suitable for the purpose. The gear 63 is shown as driven by a pinion 64 secured to a shaft 65 which is shown as adapted to be rotated by a pulley 66.

The pulley 66 is preferably rotated by a belt 67 which may be in turn operated either from some revolving part of the liding machine or from a pulley on a line shaft. If desired the shaft 65 may be driven by geared connections to other rotating elements or by geared connection to an independent electric motor.

For engaging the clutch mechanism 62 to cause the stamping device to actuate I provide an arm 70 (see Figs. 1 and 5) pivoted intermediate its length to one of the side rails of the conveyor table 11 and provided adjacent its upper end with a roller 71. This roller 71 normally projects above the top of the conveyor rollers in the path of the article to be stamped which is shown in the accompanying drawings as a crate of fruit indicated at 72. For normally urging the arm 70 to an upright position to the position indicated by the broken lines in Fig. 5 I provide a coiled spring 73 having one end secured to the arm 70 and having its other end anchored to one of the conveyor table side rails. For preventing movement of the arm 70 past the vertical in one direction I provide a stop pin 74.

The lower end of the arm 70 is shown as provided with a slot 75 in which a reduced portion 76 of an arm 77 is adapted to actuate. The arm 77 by means of a shaft 78 is adapted to rock another arm 79. The shaft 78 is shown as supported in a bearing 80 which in turn is supported by a rib 81 integral with the bearing 58. The arm 79 is adapted to reciprocate a rod 82 which is adapted to move a lever 83 which in turn is adapted to shift a spool 84 of the clutch mechanism 62 to engage and disengage the clutch.

The arm 79 and rod 82 are slackly linked together as shown in detail in Figs. 11 to 14 inclusive. The end of the rod 82 is flattened as at 85 and provided with an elongated aperture 86, the outer end of which is provided with a notch 87. The arm 79 is provided with a bolt 88, the shank 89 of which is adapted to actuate in the elongated aperture 86 and the notch 87.

For normally urging the end of the rod 82 towards the arm 79 to retain the shank 89 in the notch 87 I provide a coiled spring 90 having one of its ends attached to a lip 91 of the rod and the other anchored to the arm 79.

To allow a horizontal movement of the end of rod 82 I provide a pivoted joint in the rod as at 92 and for restricting this move-

ment in one direction I provide a downwardly extending lip 93 which is integral with the rib 81. The rod 82 is shown as supported in a bearing 94 integral with the standard 59.

As previously stated this stamping device is preferably adapted for coaction with a liding machine and when the crate 72 is brought up against the stop on the liding machine it forces the lever 70 from the broken line position in Fig. 5 to the full line position, thereby causing the arm 77 to be moved from the position shown in Fig. 3 to the position shown in Fig. 6. As the arm 77 moves it causes the arm 79 to move from the position shown in Fig. 11 to the position shown in Fig. 12. As this movement occurs the arm 79 moves the shank 89 of the bolt 88 with the latter engaging against the shoulder of the notch 87 in the flattened portion 85 of the rod 82. This moves the rod 82 which in turn moves the clutch mechanism into engagement to revolve the shaft 61 and the pinion 60. The pinion 60 revolves the gear 57 which through the medium of the shaft 56 revolves the disk 55.

As the arm 79 completes its movement from the position shown in Fig. 11 to the position shown in Fig. 12, the shank 89 of the bolt 88 moves up out of engagement with the notch 87 and into the elongated aperture 86 where it is free to move relative to the notch as will be later described.

As the disk 55 revolves it moves the arm 52 by means of the link 54 from the position shown in Fig. 3 towards the position shown in Fig. 2. When the arm 52 moves it rotates the shaft 14 which in turn moves the head 15 thereby moving the type roll 18 from the retracted position shown in Fig. 3 to the stamping position shown in Fig. 2.

As the type roll 18 moves toward a stamping position the roller 51 rides along the track 46*b* and into the depression 46*a*, this allows the inking mechanism 34 to swing downwardly into the path of the type roll, whereupon the type bar 20 which is in a printing position strikes against the inking pad 35. As the type roll 18 continues to move forward the roller 51 rides upon the track portion 46*c* and forces the track 46 down again and causes the track 46 to move about the pivot 47, thereby forcing the link 44 downward which in turn moves the arm 38 to lift the inking pad 35 and the casing 37 up out of the path of the type roll 18, whereupon the type roll moves to the stamping position shown in Fig. 2 to print upon the crate 72.

This printing operation takes one half of a revolution of the disk 55 and as the disk 55 moves the arm 52 from the position shown in Fig. 6 to the retracted position shown in Fig. 3 the type roll 18 and the roller 51 are similarly moved.

As the roller 51 moves to the retracted position it rides along the track portion 46*c* into the depression 46*a* and onto the track portion 46*b* which forces the track 46 to move about the pivot 47 and move the link 44 to cause the inking mechanism 35 to move up out of the path of the crate 72 as it is moved from the liding machine to the strapping machine.

When the disk 55 has rotated the type roll to the retracted position shown in Fig. 3 a roller 100 upon the bevel gear 57 strikes against a downwardly extending pin 101 on the rod 82 and moves the rod to disengage the clutch mechanism 62. As the rod 82 is so moved the flattened end portion 85 of the rod moves from the position shown in Fig. 12 to the position shown in Fig. 13.

The arm 79 remains in the position as shown in Fig. 13 until the crate 72 moves off of the lever 70 and allows it to resume the vertical position shown in broken lines in Fig. 5. When the lever 70 shifts to the vertical position it moves the arm 79 from the position shown in Fig. 13 back to the position shown in Fig. 11. As the arm 79 moves back to the starting position the shank 89 of the bolt 88 rides in the elongated aperture 86 until it reaches and is moved into the notch 87 by the spring 90, where it finally comes to rest and is ready to again move the rod 82 to engage the clutch mechanism when the lever 70 is moved by another crate.

In Fig. 18 I have shown a modified form of printing head which may be secured to the end of the shaft 14 instead of the one previously described. This modified form of head includes a type carrying roll 105 similar to the previously described type carrying roll 18. The type roll 105 is adapted to support a plurality of type bars 106 which are mounted therein in the same manner as previously described in connection with the type bars 20.

The type carrying roll 105 is shown as mounted on a sleeve 107 which is supported for rotation in a head 108 and has secured to its free end a knob or hand wheel 109 for rotating it for positioning the type carrying roll 105.

For retaining the desired type bar 106 in a printing position I provide on the head 108 a spring pressed finger 110 which is adapted to engage singularly a plurality of depressions in a collar 111 which is secured to the sleeve 107 as previously described in connection with the spring pressed finger 24. For indicating which type bar 106 is in a printing position I provide on the head 108 an indicator 112 which coacts with markings on the knob 109 such as letters or numerals 113 (see Fig. 19). The numerals 113 correspond to similar numerals on the ends of the type roll 108. Thus when a certain numeral 113 registers with the indicator 112 the type bar 106 in the groove designated by

the corresponding numeral will be in a printing position.

This modified form of printing head is also shown as provided with two independently rotatable type disks 114 and 115 upon which may be letters or numerals 116 and 117. The type disk 114 is shown as mounted on a sleeve 118 which is rotatably mounted in the sleeve 107 and has secured to its free end a knob 119 for rotating it for positioning the type disk 114. For retaining the desired numeral 116 in a printing position I provide a spring pressed plunger 120 which is adapted to engage singularly a plurality of depressions 121 in the sleeve 118. The spring pressed plunger 120 is shown as adapted to be supported in a bracket 122 integral with the head 108.

For indicating which numeral 116 on the disk 114 is in a printing position I provide integral with the bracket 122 an indicator 123 which coacts with markings on the knob 119 such as letters or numerals 124 (see Fig. 19). The numerals 124 correspond to the numerals 116 on the disk 114. Thus when a certain numeral 124 registers with the indicator 123 the operator will know that the corresponding numeral 116 on the disk 114 is in a printing position.

The disk 115 is shown as mounted on a shaft 125 which is rotatably mounted in the sleeve 107 and has secured to its free end a knob 126 for rotating it for positioning the type disk 115. For retaining the desired numeral 117 in a printing position I provide a spring pressed plunger 127 which is shown as supported by the bracket 122. The plunger 127 is adapted to engage singularly a plurality of depressions 128 in a hub 129 of the knob 126.

For indicating which numeral 117 is in a printing position I provide integral with the bracket 122 an indicator 130 which coacts with markings on the knob 126 such as letters or numerals 131 (see Fig. 19). The numerals 131 correspond to the numerals 117 on the disk 115. Thus when a certain numeral 131 registers with the indicator 130 the operator will know that the corresponding numeral 117 on the disk 115 is in a printing position.

Although I have shown and described my improved stamping devices as operating in conjunction with a liding machine and actuating to print upon a crate I wish it to be understood that it may be used for any other purpose for which it may be adapted.

From the foregoing description it will be apparent that I have provided an improved stamping device which is simple in construction, automatic in operation and efficient in use.

What I claim is:

1. In a printing device, a support, a printing member mounted for movement on said support, means for moving said printing member to operative position, an inking member associated with said printing member and means for moving said inking member against and from said printing member while said printing member is moving from normal position to operative position and means operated by an object being printed to cause operation of said last mentioned means.

2. The combination of a conveyor and a printing device, means adjacent to said conveyor for supporting said printing member, an inking device associated with said printing device, means actuated by an article on said conveyor for moving said printing member against the approaching face of said article and means for inking said printing member during its movement towards an article.

3. In combination with a conveyor, a printing device including a type carrier positioned adjacent said conveyor, clutch controlled means for moving said type carrier to and from a printing position, means whereby said clutch means is moved to an operating position by an article on said conveyor to print upon said article, means to move said type carrier to an inoperative position after a printing operation, and means to disengage said clutch means when said type carrier has reached an inoperative position regardless of said article actuated clutch means.

4. In a printing device, a support, a printing member mounted for movement about a vertical axis on said support, means for moving said printing member to operative position, an inking member mounted for movement about a horizontal axis on said support, means actuated by an object being printed for moving said inking member against said printing member while said printing member is moving to operative position.

In testimony whereof, I hereunto affix my signature.

ERNEST E. EVANS.