

Dec. 3, 1935.

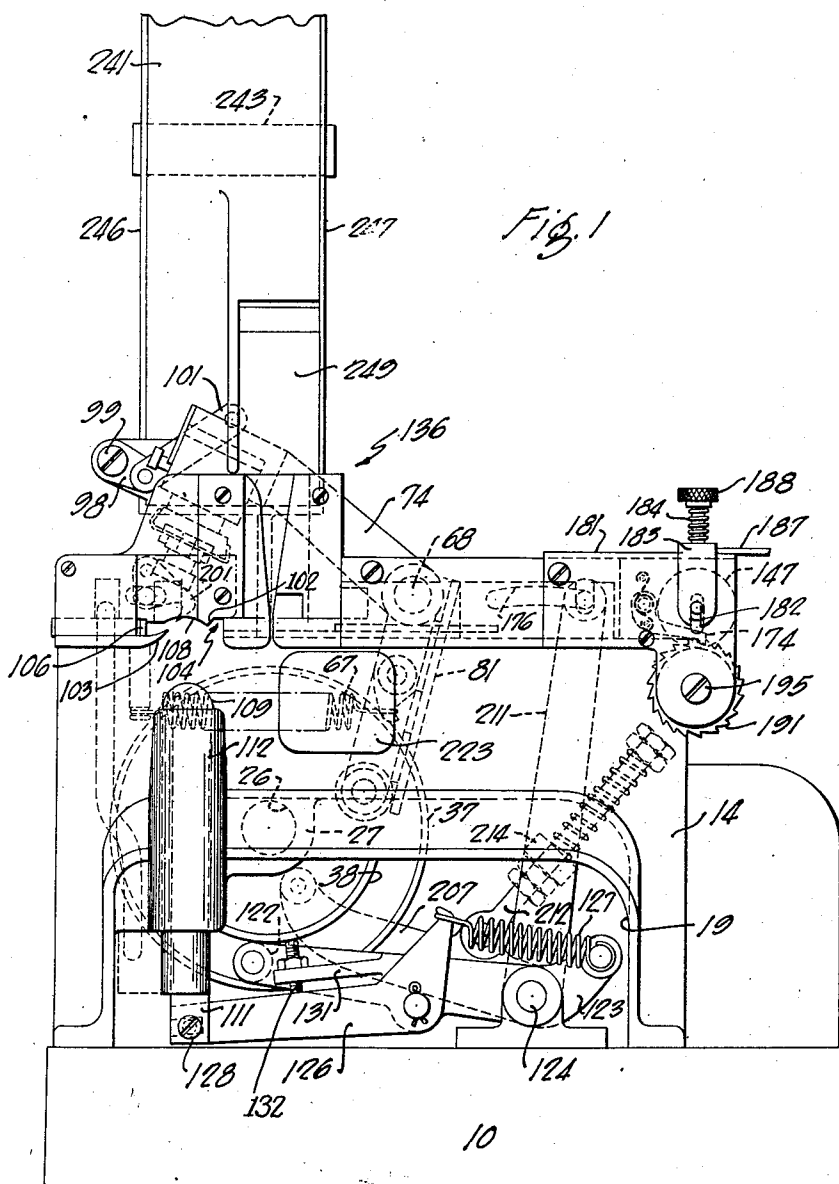
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2,023,045

TICKET FEEDING AND PRINTING

Filed Jan. 5, 1933

10 Sheets-Sheet 1



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TICKET FEEDING AND PRINTING

Filed Jan. 5, 1933

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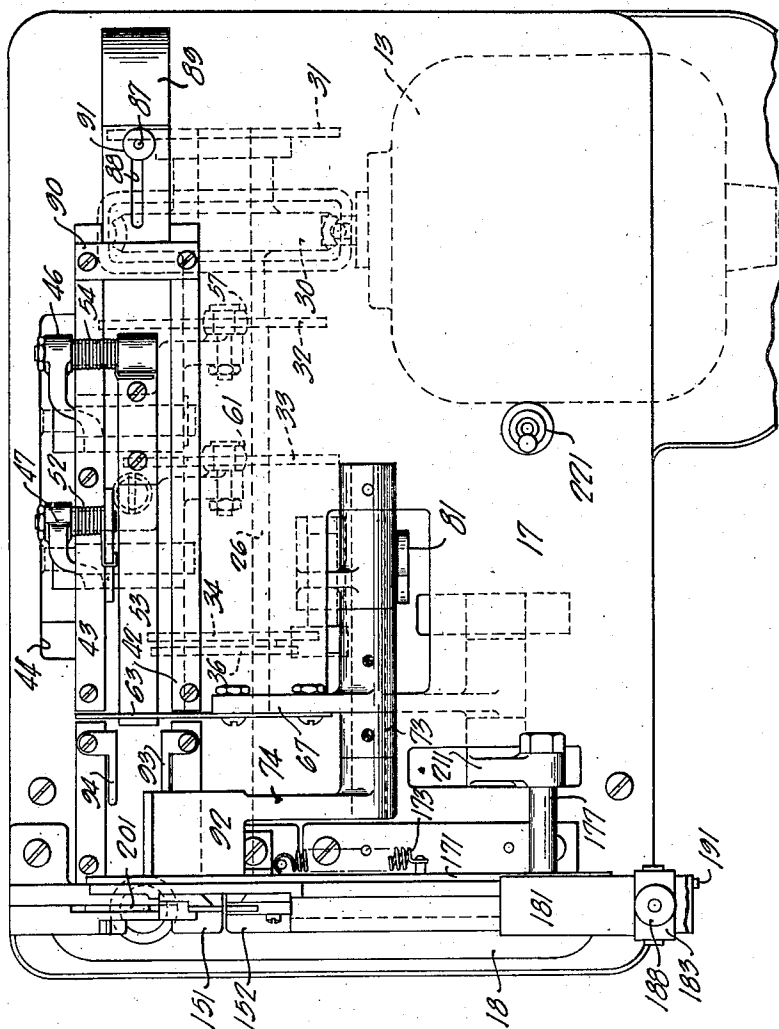


Fig. 2

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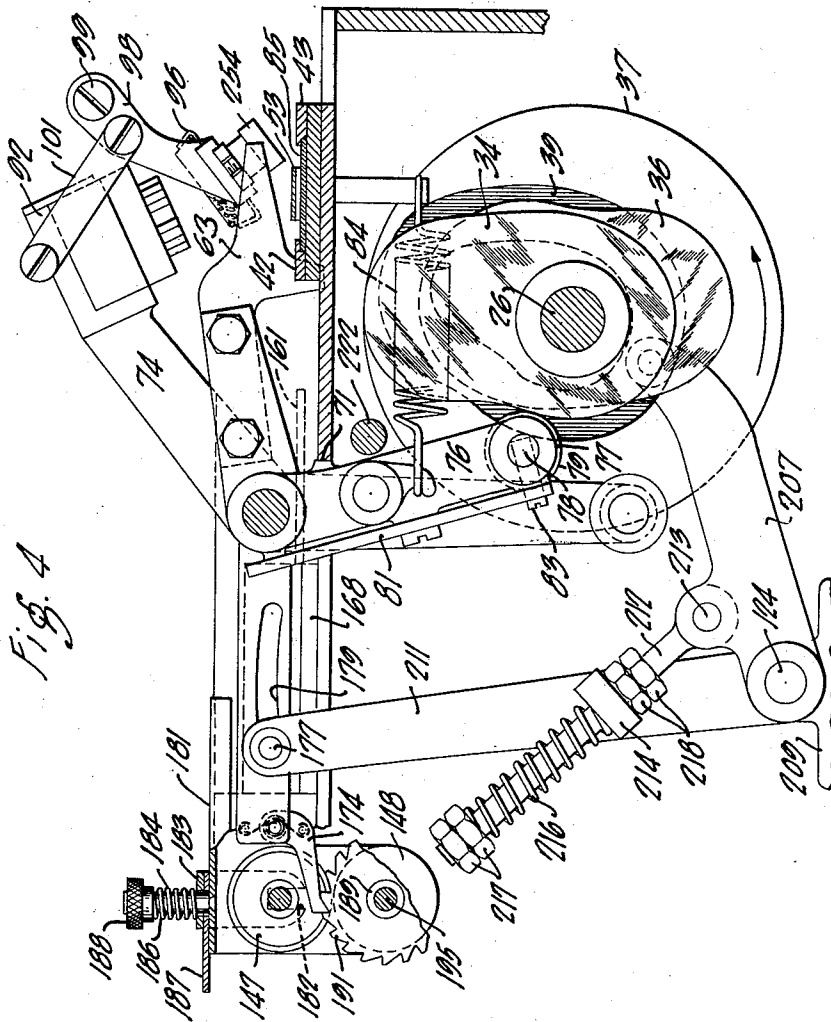
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TICKET FEEDING AND PRINTING

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10 Sheets-Sheet 4



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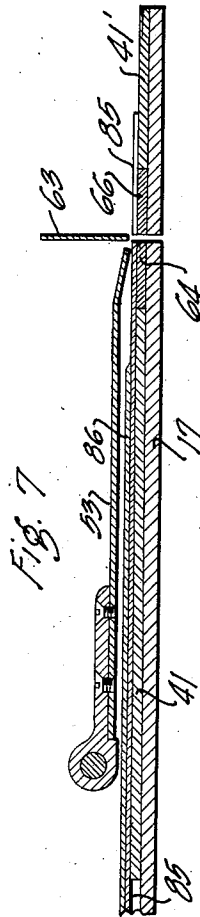
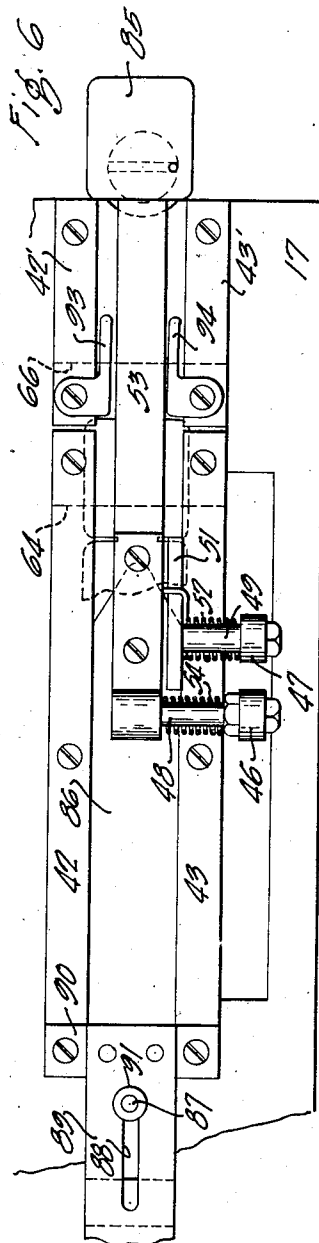
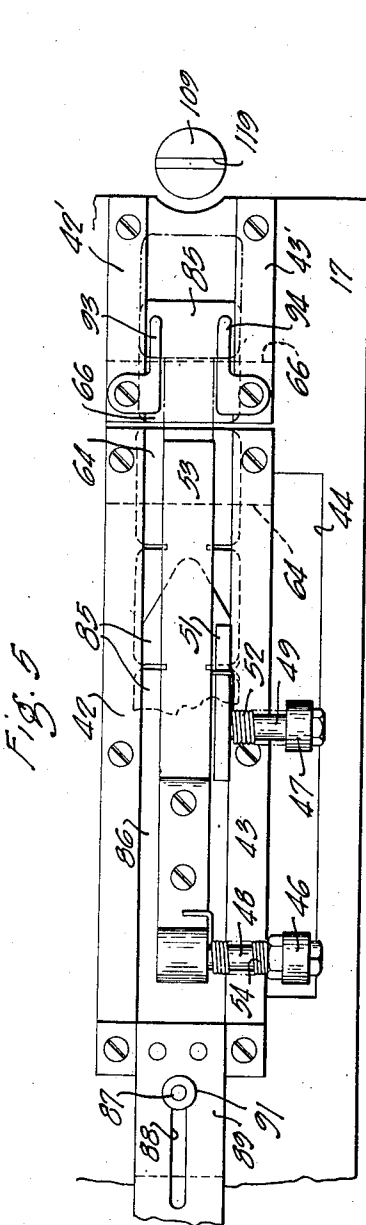
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TICKET FEEDING AND PRINTING

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10 Sheets-Sheet 5



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TICKET FEEDING AND PRINTING

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10 Sheets-Sheet 6

Fig. 8

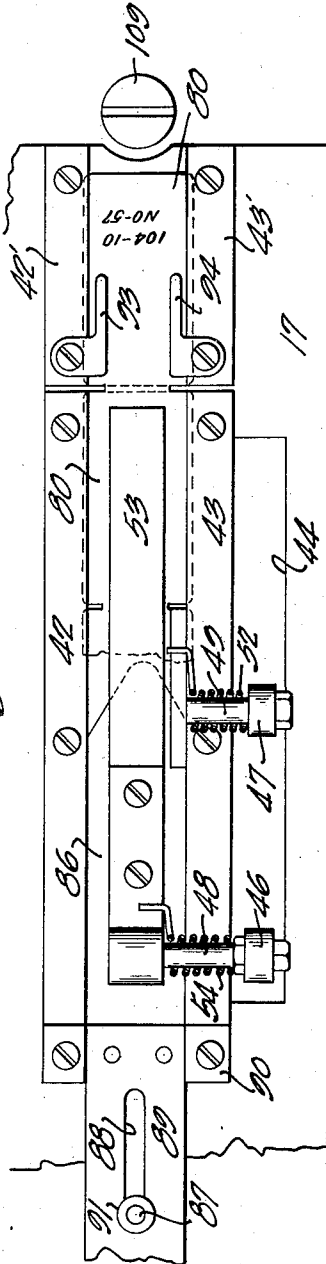
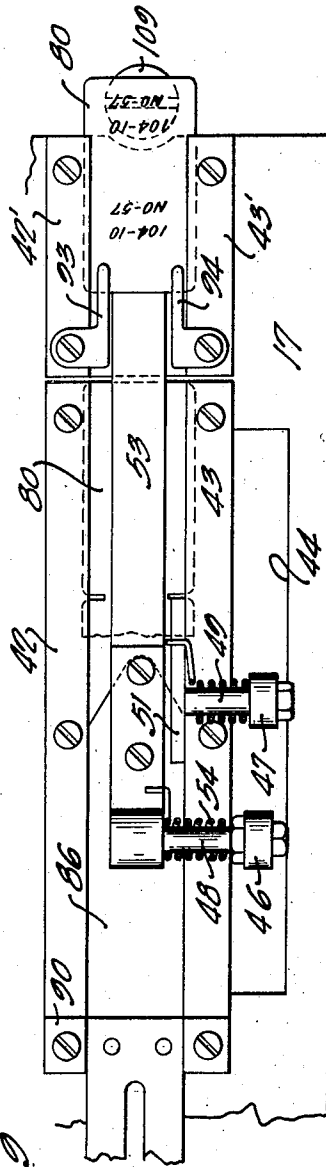


Fig. 9



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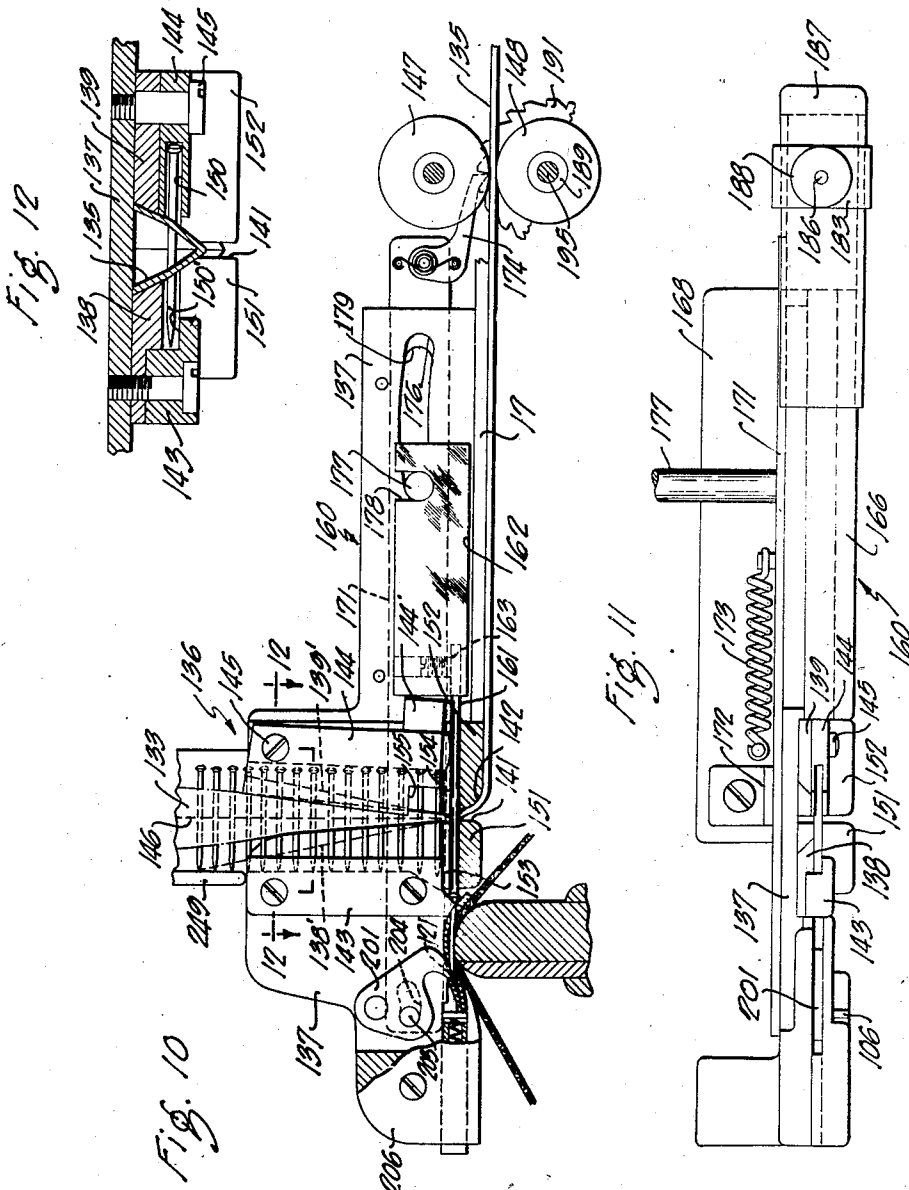
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TICKET FEEDING AND PRINTING

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10 Sheets-Sheet 7



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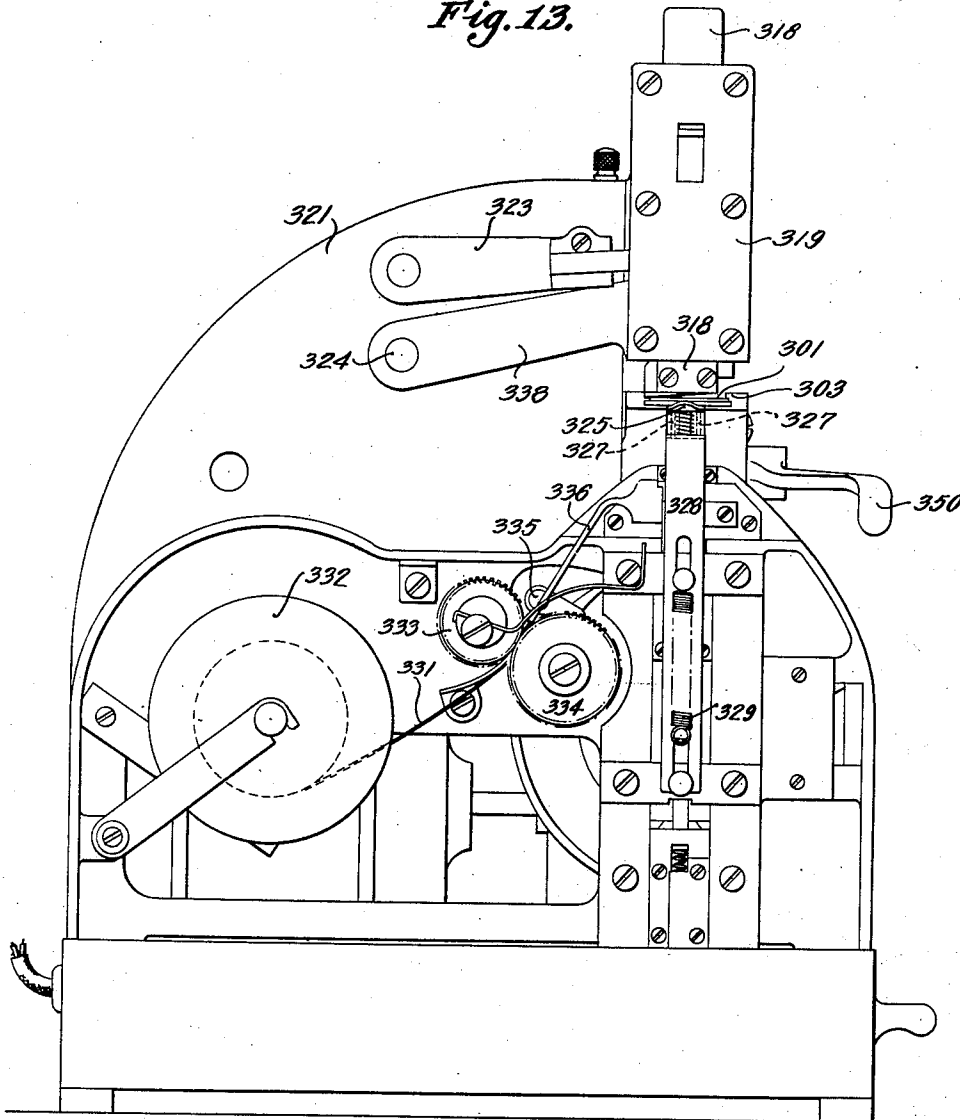
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10 Sheets-Sheet 8

Fig. 13.



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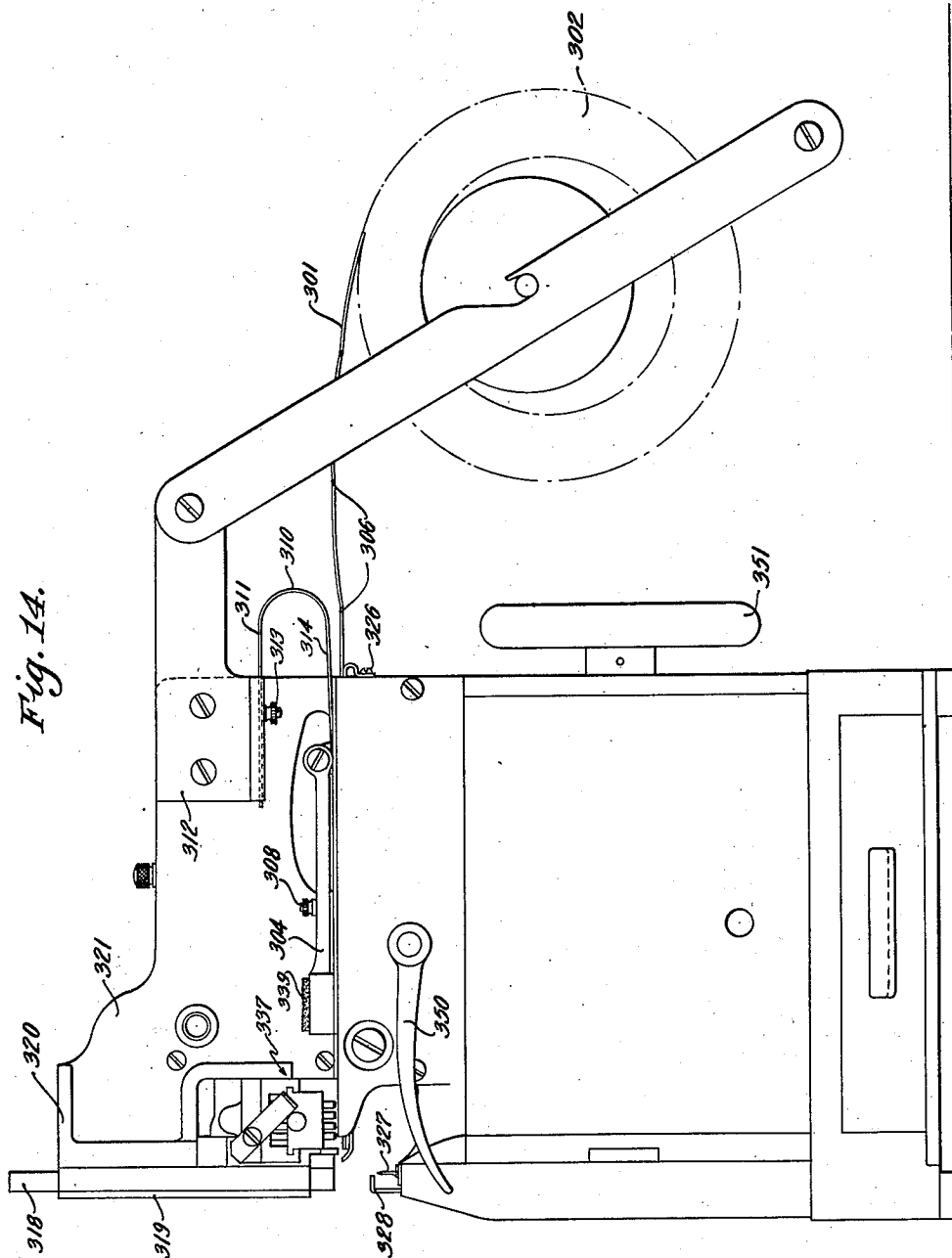
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Fig. 14.



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TICKET FEEDING AND PRINTING

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Fig. 15.

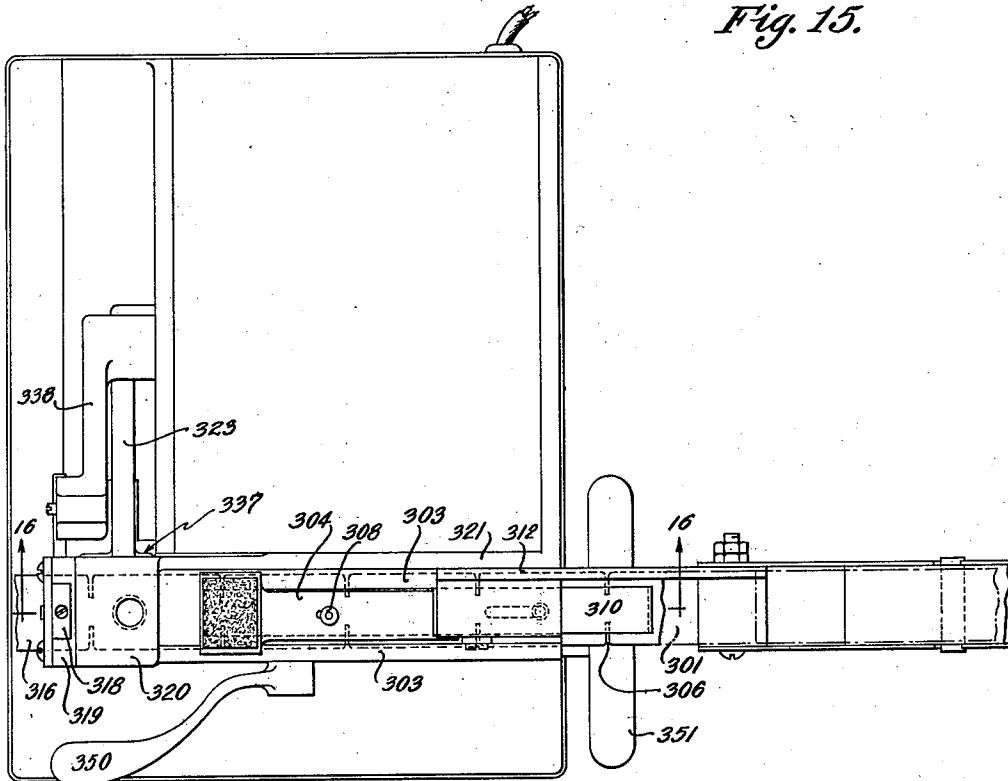
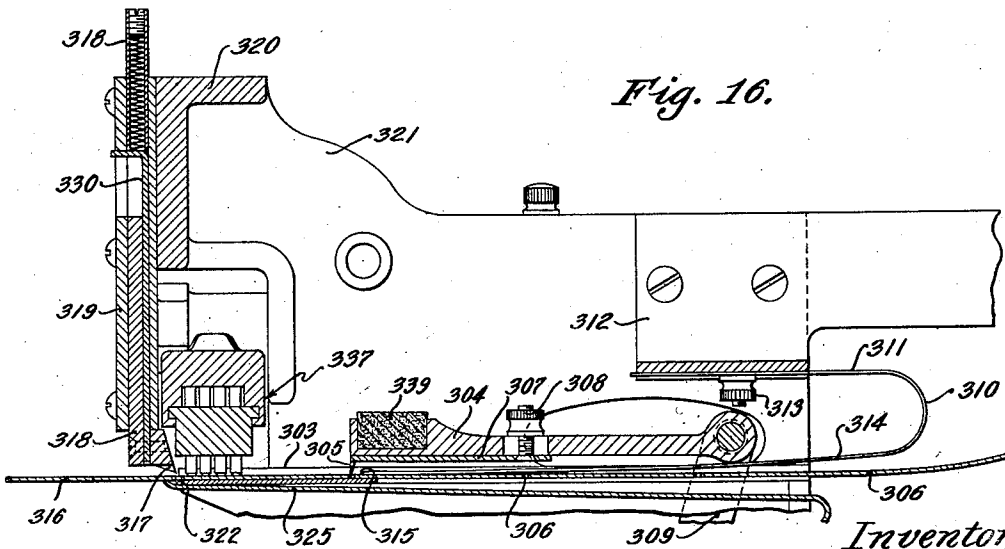


Fig. 16.



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UNITED STATES PATENT OFFICE

2,023,045

TICKET FEEDING AND PRINTING

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Application January 5, 1933, Serial No. 650,285

28 Claims. (Cl. 271—88)

This invention relates to the art of printing tickets and the like, and particularly to machines for both printing and attaching price tickets to articles such as garments and other articles of merchandise. In many commercial establishments, such as department stores, it is customary to mark certain classes of merchandise with tickets having a single set of indicia printed thereon and to mark other classes of merchandise with tickets having the indicia printed in duplicate in two locations on the same ticket, the tickets printed in duplicate usually being larger than those printed in a single location. To print and attach these different kinds of tickets, different machines have been employed heretofore, thus requiring duplication of equivalent and in many cases disproportionate expense.

One object of the present invention is to provide a machine which prints tickets with the same indicia in two locations and which is also adapted, by quick and easy adjustment, to be converted into a single-printing machine, that is, a machine for printing each ticket in only one location. For this purpose the machine is preferably provided with selectively operable means controlled by a handle having two operating positions in one of which each ticket is printed in one location, and in the other of which each ticket is printed in duplicate in two locations, together with conjointly operating means adapted to feed the tickets along the aforesaid track by steps corresponding to the length of the tickets being printed. After the tickets are printed they are advanced along the track to a delivery station which, as hereinafter set forth, also may constitute an attaching station.

A further object is to provide a machine which is adapted not only to print long or short tickets selectively as aforesaid, but also to attach tickets of either kind to fabric or the like, preferably with the pin, staple or other attaching device inserted in the same relation to one edge of the ticket. The preferred means for accomplishing this involves feeding devices which engage the strip and severed ticket respectively, to move the strip into position for severing the foremost ticket from the strip and to move the severed ticket to the attaching station, the printings whether singly or in duplicate preferably being effected adjacent the cutter in advance of the attaching station, at least one printing being effected while the strip is in position to sever the foremost ticket, and the travel of each ticket from severing position to the attaching station

being the same whether the ticket be long or short.

Other objects of the invention will be evident from the following description of the typical embodiments shown in the accompanying drawings, in which:

Fig. 1 is a front elevation;

Fig. 2 is a plan view;

Fig. 3 is a side elevation with part of the housing removed;

Fig. 4 is a rear view with parts broken away and omitted to show the operating mechanism in elevation;

Figs. 5 and 6 are top plan views of the ticket feeding and guiding mechanism, showing the parts in different short-ticket feeding positions;

Fig. 7 is a central longitudinal section through the ticket strip guiding means with the parts in the position shown in Fig. 5;

Figs. 8 and 9 are views like Figs. 5 and 6, showing the parts in different long-ticket feeding positions;

Fig. 10 is an enlarged view in front elevation, showing the pin strip guiding means and portions of the ticket attaching mechanism;

Fig. 11 is a top plan of the parts shown in Fig. 10;

Fig. 12 is a section on line 12—12 of Fig. 10;

Figs. 13, 14 and 15 are front, side and plan views of another embodiment, the front cover plate being removed in Fig. 13; and

Fig. 16 is a section on line 16—16 of Fig. 15.

In the apparatus selected for illustration in Figs. 1 to 12 the operating parts are mounted within and upon a frame or housing comprising a base 10 which is provided with a depression 12 (Fig. 3) in which the driving motor 13 is mounted. Front and rear walls 14 are mounted on the base and support a top or table 17. The front wall extends entirely across the front side of the machine and is provided with a removable section or plate 18 which closes an opening 19 through which access may be had to the interior parts from this side of the machine. A cam shaft 26 is rotatably mounted in bearings 27 and 28 carried by the front and rear walls. Power is transmitted from the driving motor to the cam shaft through reduction gearing, comprising a worm 29 and a worm wheel 30, and a one-revolution clutch 31 (Fig. 3). The cam shaft has affixed thereon peripheral cams 32, 33, 34 and 36 and a double face cam 37 having grooves 38 (Fig. 1) and 39 (Fig. 4) in the opposite faces thereof.

Mechanism for feeding and for operating upon tickets is mounted upon the top or table portion

17 of the housing and comprises an open guideway (Figs. 5 to 9) formed by aligned base strips 41 and 41' and aligned marginal strips 42, 42' and 43, 43', the latter serving to confine and guide the tickets along the base strip toward the front of the machine. At one side of this guideway a slot 44 is formed in the top of the housing to receive the upwardly extending arms of bell cranks 46 and 47. At its upper end each arm carries a stub shaft 48 and 49 respectively. The stub shaft 49 carries a pivotally mounted feed pawl or finger 51 which normally is urged downwardly toward the guideway by the action of a coil spring 52. The stub shaft 48 carries a relatively long finger or pusher 53 which is likewise urged downwardly toward the guideway by the action of a coil spring 54. The bell crank 46 is mounted to pivot on a stub shaft 56 (Fig. 3) and carries on its lower arm a roller or follower 57 which is held in engagement with the peripheral cam 32 by the action of a retracting spring 58. In a similar manner the bell crank 47 is mounted to pivot on a stub shaft 59 carried by the frame, and the lower arm of this bell crank is fitted with a roller or follower 61 which is held against the cam 33 by a retracting spring 62.

At a suitable point along the ticket guideway a cutter or knife 63 is mounted to extend across the guideway from side to side and to cooperate with hardened insert strips 64 and 66 for severing the ticket from the strip. Preferably the adjacent upper edges of both of the insert strips 64 and 66 are cutting edges which cooperate with similar cutting edges of the cutter 63 so that the material between adjacent tickets will be died out as the cutter descends. Preferably the material so removed is discharged to one side of the machine through a chute (not shown) formed in the side wall member to extend beneath the cutter. The cutter blade 63 is attached to the upper arm of a bell crank 67 (Figs. 1, 2 and 4) which is mounted to pivot about a horizontal shaft 68 as well as for rotary movement relative thereto. The lower arm of the bell crank 67 carries a follower 70 which is engageable with cam 36 and which normally is urged toward the cam by a retracting spring 69, but this movement is limited as the cam recedes by a stop or abutment 71 (Fig. 4) which engages the end of a slot in the table 17 through which the bell crank operates and thus limits upward movement of the cutting blade.

The horizontal shaft 68 on which the cutter mechanism is mounted for relative rotary movement is also rotatably supported in bearings 72 and 73 carried by the table portion 17. This shaft 68 functions as a pivot pin for a bell crank comprising a printing arm 74 extending upwardly above the machine and a depending arm 76 having at its lower end a boss 77 which slidably receives a pin 78 carrying a follower roller 79 (Fig. 4). The depending arm 76 also has pivotally mounted thereon a lever 81 extending through the table portion to be operable from the upper side of the machine and having a slot in its lower end which receives and slidably engages a pin or set screw 83 carried by the sliding pin 78 on which the follower roller 79 is mounted. When the lever is thrown to the right, as viewed in Fig. 2, the follower is spaced to engage the cam 34 and also the cam 36, but when the upper end of the lever 81 is thrown to the left, the lower end, through its connection with the follower, causes the latter to be displaced to the right so that the follower roller

is in position to be engaged only by cam 34. It will be apparent that by shifting the lever 81 the printing arm 74 may be made responsive to the action of one or both of the cams 34 and 36, the follower in each instance being held against one of the cams at all times by the action of a retracting spring 84 (Fig. 4) connected to the lower arm of the bell crank. Thus this mechanism constitutes selectively operable means for shifting from single to duplicate printing.

The mechanism for feeding and operating upon the ticket strip as thus far described, preferably is arranged to provide for feeding tickets of different sizes, as long and short tickets, and printing data once on each ticket or in duplicate on long tickets. Thus, the feed pawl 51 is reciprocated through a sufficient stroke longitudinally of the guideway to be capable of feeding relatively long tickets 80 (Figs. 8 and 9), but when shorter tickets are used the latter are advanced by the pawl 51 during a part of the full stroke thereof. The tickets are restrained from moving too freely along the guideway by a flat strip 86, which extends longitudinally above the guideway and bears downwardly upon the ticket strip disposed therein. This flat strip is also adjustable longitudinally of the guideway to cooperate with the pawl 51 when feeding short tickets. Thus when feeding the shorter tickets 85 (Figs. 5 to 7), the plate 86 is arranged to extend forwardly beneath the pusher pawl 53 to engage and lift the feed pawl 51 as the latter moves rearwardly, and to permit this feed pawl to descend again into engagement with the ticket strip at the proper point to engage a ticket, preferably to engage an aperture or notch between adjacent tickets of the size being used. This strip 86 carries at its rear end an upwardly extended threaded pin 87 which is received in a longitudinal slot 88 formed in a rearwardly extending guide strip 89 carried by a bridge piece 90 attached to guide strips 42 and 43. The rear end of this guide strip curves upwardly and then forwardly for guiding a strip of tickets into the channel formed by the guide strips 42 and 43. A nut 91 threaded upon the pin 87 is provided for holding the strip 86 in the desired position of adjustment longitudinally of the guideway, these parts comprising selectively operable means for feeding short-ticket strips and long-ticket strips by steps proportional to the lengths of the tickets respectively. The pawl 51 is adapted to move forwardly preferably substantially to the cutter blade 63 so as to advance each ticket as it is engaged by the pawl to a proper position beneath the cutter for severing from the strip. The pusher 53 is adapted to advance each ticket from substantially the position shown in Figs. 5 and 7 to the position shown in Fig. 6 at which the forward end of the pusher is disposed substantially at the front side of the machine adjacent the ticket attaching apparatus. In advancing from the position shown in Fig. 7 to that shown in Fig. 6, the pusher is caused by its actuating cam 32 to dwell as the detached ticket arrives beneath the printing head 92 in a proper position for printing (indicated in dotted lines in Fig. 5) and then after the printing operation, to continue the advance to deliver the printed ticket from the guideway 41 to the ticket attaching station.

Thus it will be seen that each ticket is advanced in a progressive stroke from a position in the ticket strip where it is first engaged by the feed pawl 51 and brought beyond the cutter to a position for severing, at which time both the

feed pawl and the pusher are disengaged from the ticket (Fig. 5) and the latter is held yieldably against the base of the guideway by longitudinally extending spring fingers 93 and 94. The parts are so timed that as a ticket is engaged by the retaining or holding fingers 93 and 94, both the pusher 53 and feed pawl 51 are retracted so as to approach the positions shown in Fig. 5 and the cutter is actuated by cam 36 to sever the ticket.

When only one printing is to be made upon such a ticket, the shifter arm 81 should be thrown to the left or to the opposite position from that shown in Fig. 2, so that the follower 79 will engage only the cam 34. This cam and the cam which actuates the pusher are so correlated and designed that the pusher is caused to advance the ticket and to cause the latter to dwell beneath the printing head 92 while the cam 34 causes the head to descend and make a printing impression upon the ticket during the dwell thereof, after which the ticket is advanced by the pusher to the ticket attaching mechanism. This cycle of operation is useful with either long or short tickets.

When long tickets are used, however, and it is desired to print data in duplicate on such tickets, the shifter lever 81 may be thrown to the right, as viewed in Fig. 2, in which condition the printing head 92 becomes responsive to the action of cams 34 and 36. These cams, together with the cams 32 and 33, are so correlated and designed as to cause the printing head to descend and make a printing impression on the leading or lower end of a long ticket, due to the action of cam 36 while the ticket is in the position shown in Fig. 8, and just before the cutter is actuated by the cam 36. Immediately after this first printing impression is made the cutter descends, severs the ticket, and the pusher advances the ticket as before, causing the latter to dwell beneath the printing head (Fig. 9) as the second impression is made and then delivering the ticket to the attaching mechanism.

The conditions necessary for best efficiency in the operation of this apparatus are that the cutter be spaced from the printing head on one side or the other, although preferably on the side shown, at a distance to sever a long ticket when the end portion or leading end of the latter extends beneath the printing head in position for printing. It is also advantageous to sever the ticket from the strip and print the first impression thereon during the same interruption or dwell at the forward or progressive stroke of the ticket. This arrangement together with the cooperating cams 34 and 36 makes it possible always to print a single impression on long or short tickets and yet, when desired, to print in duplicate on long tickets.

Means are provided for inking type carried by the printing head 92 before each printing impression, irrespective of whether one or more impressions are made upon each ticket. This mechanism comprises an inking pad 96 (Fig. 4) carried by the lower end of an arm 98 mounted upon a fixed shaft or pivot 99. The printing head is pivotally connected to the inking pad arm by a link 101 of such proportions as to force the inking pad against the type at the upper limit of the stroke of the printing arm. Preferably the parts are so arranged that the cams 34 and 36 by which the printing head is actuated recede far enough as the printing head approaches the upper limit of its stroke to leave this head under the influence of the retracting spring 84. Thus this spring is

effective for bringing the inking pad yieldably against the type.

As a severed and printed ticket is moved forwardly out of the guideway 41 by the action of the pusher 53 as the latter moves to the position shown in Fig. 6, the ticket is received beneath a downwardly extending cusp 102 (Fig. 1) and above the point of an upwardly directed cusp 103, the inner longitudinal edge of the ticket being yieldably urged against a fixed shoulder 104 by a spring-pressed member 106 which engages the opposite longitudinal edge of the ticket.

The material forming the cusp 102 recedes from the point thereof upwardly above the ticket along a concave curve providing a rigid abutment 108 against which the ticket may be forced for crimping during attachment. Directly below the abutment 108 and the cusp 102 an anvil 111 (Figs. 1 and 5) is mounted for vertical reciprocatory movement in a boss 112 carried by the front wall of the housing. The upper end 109 of this anvil is rounded off somewhat spherically so as to be complementary to the downwardly curved lower edge of the abutment 108. The upper end of the anvil is also provided with a groove 119 which may be inclined slightly upwardly for directing a pin as the ticket is being attached to the material. These parts preferably are so proportioned and arranged that the groove 119 aligns with an undercut groove 121 formed in the cusp 102 (Fig. 10).

The anvil is moved upwardly to hold material against a ticket as the latter arrives at the attaching station shown in Fig. 6, to crimp the ticket substantially as shown in Fig. 10, and is then withdrawn in properly timed relation by a system of levers actuated from the groove 38 of cam 37. From Fig. 1 it will be seen that a follower 122 rides in the groove 38 and actuates a bell crank 123 rotatably mounted on a pivot pin 124. Another bell crank 126 is mounted to pivot on the longer arm on bell crank 123, the shorter arms of these two bell cranks being yieldably connected by a relatively strong retracting spring 127. The longer arm of the bell crank 126 is slotted to receive a pin 128 carried by the lower end of the anvil 111. The longer arm of the bell crank 123 is provided with a laterally extending lug 131 in which an adjusting screw 132 is mounted to engage the bell crank 126.

During normal operation the adjusting screw is held firmly against the bell crank 126 by the action of the retracting spring 127, and as the levers are actuated by the cam the anvil will be moved upwardly to a position, as shown in Fig. 10, for guiding a pin during attachment, but due to the yieldable connection of the parts, the anvil is permitted to yield against the action of the spring 118, thereby to accommodate differences in the combined thickness of ticket and material to which the ticket is to be attached. It will be evident that while this anvil is illustrated in connection with apparatus for pinning a ticket to material, it also may be used advantageously with other forms of attaching devices as, for example, with means for stapling a ticket to material.

The pins for attaching the tickets are carried by a strip 135 which is conducted downwardly into a guiding means indicated generally at 136. This guide may be formed conveniently from a back plate 137 (Fig. 12) having spaced pin strip guiding plates 138 and 139 attached thereto for engagement with the paper carrying the pins. The strip guiding plates have their adjacent

edges undercut to diverge from the front or outer sides thereof to meet the back plate 137 substantially along the downwardly inclined dotted lines 138' and 139' (Fig. 10). The outer adjacent edges of these guide plates also incline downwardly toward the lower end of the guide 136 so as to form with the back plate 137 a guide passage having a cross section converging outwardly to the open and downwardly convergent slot formed by the adjacent front or outer edges of the plates 138 and 139 and merging at the lower end of the guide into a vertical slot 141 having relatively closely spaced side walls disposed substantially perpendicular to the back plate. The material forming one side of this slot is rounded smoothly, as indicated at 142, and then extends horizontally to provide a guiding surface against which the pin strip may be held after the pins have been removed therefrom. The pins are retained in the strip in aligned and spaced relation by a guide channel formed by vertically disposed pin guide strips 143 and 144 which are attached to the inner strips 138 and 139 and overlie the outer ends of the pins as the strip 135 moves downwardly. The pin guide strips 143 and 144 as well as the inner strips 138 and 139 may be rigidly mounted to remain in a fixed spaced relation, if desired, as very satisfactory results are obtained by this construction.

The pins carried by the strip due to their frictional contact at the pin-receiving apertures tend to oppose folding of the strip and require that the latter be placed under considerable tension in constructions such as that just described where the fold is formed solely by the action of the convergent passage in bringing the edges of the strip together. Excessive tension on the strip may cause rupturing thereof, especially about the lowermost pin, which may tear partially away so as to permit the strip to be pulled or advanced far enough to cause relative upward movement in the strip of the lowermost pin as this pin comes into the grooves 153 and 154, thereby bringing the next pin so close to the path of the pin driver as to interfere with proper operation. In order to avoid occurrences of this kind it is desirable to provide for pressing the marginal edges of the pin strip toward each other just before each step advance of this strip. This may be accomplished conveniently by arranging the inner lateral edges of the strip 144 to follow the contour of the pin strip and to cooperate with the edge of the strip 139 for guiding the adjacent marginal portion of the pin strip. The strip 144 is also supported for relative movement, preferably by being mounted to pivot or oscillate on a pivot screw 145. In order that movement of the strip 144 may be effected automatically in properly timed relation, an abutment 144' carried by the movable strip 144 is arranged to extend into the path of the pin driving mechanism to be engaged by the latter as a pin is transferred to a ticket. The movable strip 144 has a vertical groove 150 which receives and guides the headed ends of the pins while the fixed strip 143 has an offset portion which cooperates with the plate 138 to form a similar groove 150' for receiving the pointed ends of the pins. The lower end of the strip 144 is notched or cut away on front and back sides, as indicated at 155 to provide clearance for the lower portion of the pin strip as well as a larger opening for observing the position of the pins.

While in general the pin strip 135 may be of

usual construction, preferably it is formed with a weakened portion extending longitudinally between the rows of apertures in which the pins are disposed. Thus the strip may have been perforated along a longitudinal line 146 (Fig. 10) or it may have been previously folded or creased or otherwise weakened along this line so as to facilitate folding. It will be apparent that whatever means be adopted for weakening this strip, the line 146 representing the location of this weakened portion should extend midway between the longitudinal rows of pin receiving apertures so that as the strip is folded longitudinally upon itself, the two apertures in which each pin is disposed will be brought into register. A strip of this type is disclosed and claimed in my copending application Serial No. 501,053, filed December 9, 1930.

The strip is inserted into the guide by folding the leading end thereof and inserting this folded 20 portion between the strip guiding members 138 and 139 and pulling it downwardly and through the slot 141 and around the curved shoulder 142 to a pair of feeding rollers 147 and 148 (Fig. 10). These feeding rollers are preferably located to 25 one side of the machine so as to carry portions of the strip from which the pins have been removed away from the point of attachment of the tickets and out of the way of a person operating the machine. It will also be evident that as the 30 strip is first led to the machine, the pins must either be removed from a sufficient portion of the leading end of the strip to permit the latter to extend between the feeding rollers 147 and 148 or the strip should be provided with a blank 35 portion at its leading end of similar dimensions. It will be seen that as this weakened pin strip is moved downwardly through the converging passage formed by the strip guiding members 138 and 139, the longitudinal edges of the strip will 40 be brought together, thus folding the strip longitudinally upon itself along the weakened portion 146 and bringing the apertures in which each pin is disposed substantially into alignment. 45

Each of the strip guides 138 and 139 has formed on the lower end thereof an outwardly disposed ledge or shoulder 151, 152 which extends across the path of pins carried by the strip for intercepting such pins as the strip descends 50 or advances through the guide. Preferably aligned grooves 153 and 154 are formed in the upper sides of these shoulders at the proper elevation to receive an advancing pin and to support and guide the latter while it is being inserted into a ticket. Thus the groove 153 is 55 aligned with the groove 121 formed in the under side of beak 201.

As each pin is delivered into the grooves 153 and 154 it may be removed from the folded strip 60 by being forced therethrough in a direction normal to the plane of the folded portions of the strip. When removal is effected in this manner, the only resistance offered by the strip is that which opposes movement of the head of the pin. 65 This is reduced to a minimum when the strip is supported or backed up around the shank of the pin so as to prevent the head from tearing large holes in the strip. However, if the backing or support for the strip provides too small a clearance for the head of the pin, the head will shear or punch out and carry with it an annular ring of paper as it passes through the pin strip. To avoid this undesirable result the groove 153 70 may be enlarged, as by being counterbored for a

short distance from the slot 141. This construction avoids excessive rupture of the strip and the disadvantages resulting therefrom and yet provides practically all the desirable features of a direct shearing action. While in some cases it may be preferred to back up the strip entirely around the shank of the pin, this is not necessary, for good results are obtained when the groove 153 is open along the upper side, as shown in the drawings.

The mechanism for transferring a pin from the pin strip into a ticket for attaching the latter to material, is mounted in a frame, indicated generally at 160 (Figs. 4, 10 and 11), and supported on a portion of the top or table 17 of the housing which extends forwardly beyond the front wall of the housing. The strip guiding means 136 is carried by this frame, the back plate 137 being extended to form the back vertical wall of the frame and serves for supporting and guiding moving parts. A pin driver rod 161 is fixedly secured in the desired position of longitudinal adjustment in a bore in the driver head 162 by means of a set screw 163. The pin driver rod is supported and guided in a pin driver hole in the guide 136 for movement through the grooves 153 and 154. The driver head 162 is mounted to slide along a passage provided by a slot in an elongate guide block 166 which is attached to the adjacent portion of plate 137 (Fig. 11), the latter being provided with a flange 168 extending along the rear side thereof by which it is attached to the table 17. The rear vertical wall of the back plate 137 provides a continuous guiding surface for a bar 171 (Figs. 4 and 11). While this bar has a combined sliding and rocking motion it is hereinafter referred to as a slide bar or merely a bar. An upstanding bracket 172 (Fig. 11) is arranged in opposed relation to the aforementioned vertical surface and cooperates therewith for guiding the slide bar. This slide bar normally is urged toward the ticket attaching mechanism by a retracting spring 173. The slide bar also normally extends beyond the guide 166 and carries a pivotally mounted spring pressed feed pawl 174 (Figs. 4 and 10) which cooperates with the strip feeding mechanism. The back plate 137 has an arcuate longitudinal slot 176 (Fig. 10), through which a driving connection or pin 177 may operate freely for imparting the desired stroke or reciprocatory motion to the driver head 162. This driving pin fits snugly in a recess or notch 178 formed in the driver head and also extends through a slot 179 (Fig. 4) in the slide bar. This latter slot, which may be arcuate or straight, as shown, is shorter in length than the normal full stroke of the driving connection or pin 177 so that during each such stroke the slide bar is moved as the driving connection engages the ends of the slot 179.

The pin strip is fed through the guiding means 136 and held continually under tension therein by the upper and lower feed rollers 147 and 148 which are rotatably mounted in and between front and rear depending arms of an auxiliary frame 181 (Figs. 1 and 3) mounted upon the guide 166 and back plate 137. The upper roller is provided with journals 147' and 147'' (Figs. 1 and 3) which are mounted for vertical movement toward and from the lower roller in vertical slots 182 formed in the arms of this frame while the lower roller is mounted for rotation about a fixed axis. A U-shaped brace member or yoke 183 embraces the upper portion of the frame and has the lower ends of its depending

arms slotted to receive and bear against the journals of the upper roller.

A compression spring 184 is mounted upon a rod 186 affixed to the top portion of the frame 181 and extends freely through an aperture in the top portion of member 183 (Fig. 4). A flat strip or thumb piece 187 is interposed between the top cross-piece of member 183 and the top portion of the frame 181 and has an aperture through which the rod 186 loosely extends. The spring 184 seats on the yoke 183 and is held under the desired compression by a thumb nut 188 threaded on the upper end of rod 186. It will be seen that the spring 184 acts through the yoke member yieldably to urge the journals of the upper roller downwardly and thus to produce a yieldable tension on the portion of the pin strip extending between these rollers, movement for this purpose being provided by the slots 182 and 182' which receive the journals of the upper roller. This tension may be relieved temporarily by raising the thumb piece 187 so as to raise the yoke against the action of the spring. The lower roller is provided with a central bushing 189 which extends beyond the side of the roller to carry a ratchet wheel 191. Preferably the surface of at least one of the feed rollers, as that of the lower roller, is formed with transverse ridges or corrugations or is otherwise roughened to assure good adhesion and definite feeding of the pin strip as well as for holding the latter under some tension while at rest. The ratchet mechanism for the roller feed is preferably adjusted so that each step advance of the rollers tends to feed the strip slightly more than the distance between pins to insure that the foremost pin is seated against the ledges 151 and 152 (Figs. 13 and 14), the rollers then slipping slightly on the strip.

The beak 201 for opening or spreading plies of the ticket to receive the point of the pin as the latter is inserted may be supported by the back plate 137 which may be extended for this purpose to the left of the strip guiding means, as viewed in Fig. 10, preferably substantially to the side of the machine. On the forward side of this back plate the beak 201 is pivotally mounted and has its lower end turned downwardly in the form of a relatively sharp, flat and spear-like hook. This beak is widened at its upper portion and carries a driving connection or pin 203 which extends rearwardly through an arcuate slot 204 in the back plate 137. This driving connection or pin may be fixedly attached to the adjacent end of the slide bar 171, and the slot 204 may be so positioned and proportioned as to permit the beak 201 to move downwardly each time the slide bar moves to the left to the extreme end of its stroke, as viewed in Fig. 10, and then as the slide bar returns to the right to the extreme end of its stroke in this direction, the beak 201 will be moved upwardly so as to withdraw the pointed lower end thereof above the lower edge of plate 137. Preferably this beak operates in a slot formed in a cover plate 206 which is attached to the plate 137. It will also be evident that if desired the strip 143 of the guiding means may be formed integral with this cover plate and that the tension member 106 may operate in a similar slot in the inner side of the cover plate, which also provides the recess for the spring 107 engaging the tension member 106.

The mechanism for operating the pin driver rod 161 and for operating the beak 201 to spread the plies of a ticket to receive and to enclose the point of a pin as well as for operating the upper

and lower feeding rollers 147 and 148 is all actuated in properly timed relation with a one-lever motion. This motion is produced by the groove 39 in the cam 37 which actuates a follower carried by a lever 207 (Fig. 4) which is mounted to pivot on the pin 124, the latter being rotatably supported in a bracket 209 mounted on the base of the machine. Another lever 211 is also mounted on the pin 124, these two levers being capable of relative rotary movement about the pivotal axis provided by the pin. The lever 211 carries at its upper end the driving connection or pin 177 which operates the driver head 162 and also the slide bar 171. These levers 207 and 211 are connected by a yieldable connection comprising an eye or swing bolt 212 mounted to pivot on a pin 213 carried by the lever 207. This bolt extends through a boss or lug 214 on lever 211 and carries a compression spring 216 which seats against the boss and is held under the desired tension by lock nuts 217. The bolt also carries lock nuts 218 which constitute a fixed abutment for engaging the boss 214 to move the pin driver to the left, as viewed in Fig. 4, or to withdraw the pin driver rod. The spring 216 is held under sufficient tension so that during normal operation the levers 207 and 211 operate as a bell crank and the swing bolt 212 constitutes merely a substantially rigid connection between the levers. However, in the event that the apparatus should not function properly or a pin should become jammed, or for some other reason it might be undesirable to force the pin driver or other portions of the mechanism through the normal cycle of operation, the spring 216 is adapted to yield so that although the lever 207 may continue to operate through its normal cycle, as produced by the cam 37, yet only a part of this motion need be transmitted to the lever 211.

The driving motor is controlled by a switch 221 (Fig. 2) which may be mounted upon the table portion 17 or at any other convenient location. While the motor is in operation the worm wheel 30 rotates freely about the shaft 26 (Fig. 3) except at such times as the clutch 31 operates to engage this worm wheel with the shaft. The clutch is arranged to be operated from the front side of the machine by a spring-pressed rod 222 extending beneath the table portion 17 through the front wall and carrying a thumb or finger piece or plate 223. This rod preferably is arranged to pass through the front wall of the housing at a point relatively close to the ticket attaching mechanism so that the thumb piece 223 may be engaged by an operator with a straight-in motion which may be the same movement required to insert material to be ticketed above the anvil of the ticket attaching mechanism. When the thumb piece is pressed inwardly the clutch is engaged during one revolution of the cam shaft, thereby to complete one cycle of operations, after which the clutch automatically snaps out in well-known manner.

The tickets to be operated upon and attached to the material are preferably in a continuous strip which conveniently may be supplied in a roll from which the tickets are fed through the machine as previously set forth herein. The pin strip 135 may also advantageously be provided in roll form. These two rolls may be carried by a magazine (Figs. 1 and 3) comprising a cylindrical wall 241 having a central vertical partition or web extending diametrically therein to separate the magazine into separate compartments for the different rolls. This partition car-

ries a centrally disposed axially extending pin 243 which extends into each of the compartments and is adapted to support apertured blocks on which the rolls are mounted. Removable side plates 246 and 247 are provided for closing the respective compartments and may conveniently be releasably attached to the end portions of the pin 243 in any approved manner.

The cylindrical wall 241 is formed with or mounted upon a pedestal 248 which is secured to the top of table portion 17 of the housing (Fig. 3). At the forward side of the magazine opposite the compartment for the pin strip the cylindrical wall 241 is provided with an outwardly and downwardly curved guideway 249 which is arranged to register with the strip guiding means 136 (Fig. 1) and preferably to bear against the top edge of the back plate 137 of this strip guiding means. The forward side of the magazine is also provided with a bracket arm 251 to which the fixed pivot or stub shaft 99 (Figs. 3 and 4) of the inking arm may be attached. On the rear side of the housing opposite the compartment for the strip of tickets the cylindrical wall 241 is provided with a slot through which the ticket strip passes downwardly around the upwardly curved end portion of the guide strip 89 (Figs. 3, 5 and 6).

In preparing the machine for use, a roll of tickets and the rolled pin strip are mounted in the magazine. The end of the strip of tickets is then passed through the opening in the magazine downwardly around and beneath the curved rear portion of the guide strip 89 and into the ticket feeding and guiding means. Preferably the leading end of this ticket strip is advanced substantially to a position to register with the cutter slot in the guideway, although this is not necessary, for so long as the ticket strip extends in the guideway for a sufficient distance to be engaged by the feed pawl 51 (Figs. 5 and 6) the strip will be adjusted automatically to the proper position in this guideway after one cycle of operation. The pin strip is passed through the guide 249 and the forward end of the strip is folded along the weakened portion 146 with the fold edge extending outwardly. This folded portion is then inserted in the vertical slot 141 (Fig. 10) and carried around the shoulder 142 to the feeding rollers 147 and 148. By raising the thumb piece 187 (Fig. 4) the feeding rollers may be easily separated to receive the pin strip which is pulled through these rollers far enough to bring a pin into the guiding grooves 153 and 154 of the guiding means 136 (Fig. 10). The pin strip having been pulled taut in this position, the thumb piece 187 is released and, assuming the spring 184 to be under the proper tension, the device is ready for operation.

The material to which a ticket is to be attached may be grasped on either side of the point to which the ticket is to be secured and inserted above the anvil. The same motion may be effective for depressing the thumb piece or plate 223 and tripping the one-revolution clutch. The various parts of the apparatus operate in properly timed relation, as previously set forth, to advance, sever and print a ticket, and finally to bring the latter to the position shown at the right-hand end of Fig. 9. On arriving at this position the beak 201 swings downwardly causing the spear-like point to enter between and separate the plies of the ticket while the latter is substantially flat, and thus this point forms an opening to receive the point of a pin. The

anvil then moves upwardly and crimps the ticket in the manner illustrated in Fig. 10. The pin driver rod 161 moves through the guiding grooves 153 and 154 to force a pin from these grooves through the pin strip and through the crimped ticket and the material which is held taut across the anvil, in the manner illustrated in Fig. 10. As the point of the pin is advanced to pierce the ticket the second time, the lower grooved edge of the beak guides the point of the pin into the opening formed by the beak. While the point of the pin is being inserted in this way the ticket is supported on its lower side by the cusp 103. The beak 201 is then moved upwardly by the slide bar so that the point is withdrawn from the ticket which is removed from the machine as the next ticket is advanced to the position shown in Fig. 10.

As the pin driver mechanism advances to the position shown in Fig. 10, the block 162 engages the abutment 148' and rocks the strip 144 in a clockwise direction about its pivot. This moves the pin strip away from the guiding edge of the inner strip 139 and also forces the marginal edge of the pin strip longitudinally along the pins carried thereby. This forms a more distinct fold in the pin strip and has the effect of drawing the lateral edges thereof toward each other and away from the guiding edges of the inner guide strips 138 and 139, and in this way prepares the pin strip for the next step advance movement. It will be evident that the action of the movable strip 144 may be made sufficient to compress or preform the lateral edges of the pin strip to the form required for these edges to fit within the converging slot formed by the inner strips 138 and 139 after the next step advance of the pin strip. While this is a very simple operation it provides a clearance for the lateral edges of the pin strip during at least a portion of the step advance movement thereof and thereby reduces or eliminates the resistance which otherwise would oppose this step advance movement due to the necessity of relying upon the converging edges of the strips 138 and 139 for moving the lateral edges of the pin strip toward each other and longitudinally of the pins. As the pin driver is withdrawn the movable strip 144 swings back to the position shown in Fig. 11. Preferably the lower edge of the movable strip 144 is curved convexly to engage the pin driver rod with a light frictional contact. This relatively light engagement between these parts is sufficient to return the movable strip 144 as the pin driver rod is withdrawn.

From the foregoing it will be evident that one of the duplicate printings on long tickets (the one on the foremost end of the ticket in the illustration) is effected while the ticket is at the severing station, and before it is further advanced toward the attaching station, the ticket being severed just before or just after or concomitantly with this printing but preferably after the printing. It will also be understood that to shift from single printing on short tickets to double printing on long tickets it is merely necessary conjointly to shift the handle 81 and the strip 86.

Figs. 13 to 16 illustrate a machine for printing either short tickets in one location or long tickets in two locations, and then stapling the tickets to another article such as a garment or a piece of dry goods. As shown in Fig. 14 the ticket strip 301 is fed from a reel 302 to a guideway having overhanging shoulders 303 at each side, the guideway extending from the rear to the

front of the machine. The strip is fed along this guideway step by step by a feed pawl 304 having a tooth 305 at each side of the guideway for engagement in the marginal notches 306 in the strip, the teeth being carried by plate 307 which is adjustably mounted on the pawl at 308. The pawl is reciprocated back and forth along the guideway by means of a cam-actuated arm 309. A U-shaped band 310 of sheet metal, having its upper shorter leg 311 adjustably mounted on the bracket 312 by means of a longitudinal slot in the leg and a nut 313 and its lower longer leg 314 extending under the feed pawl 304, lifts the pawl from the ticket strip on the return stroke, the rear faces of the teeth 305 being beveled as shown in Fig. 16 to ride over the notches 306 and the front end 315 of leg 314. By adjusting the leg 314 lengthwise of the guideway the pawl may be caused to feed either a short-ticket or a long-ticket strip the length of a single ticket at each cycle of operations, it being understood that the stroke of the feed pawl is at least equal to the length of the longest ticket to be used in the machine.

In this embodiment the foremost ticket is fed to attaching position before it is severed from the strip, the ticket 316 being shown in this position in Figs. 15 and 16. When in this position the foremost ticket is severed by a cutter 317 mounted on the lower end of a vertically reciprocating head 318 which slides in a guideway 319 mounted on a bracket 320 of the frame 321, the beveled cutter 317 cooperating with a stationary cutting edge 322 which constitutes the end of the bed of the guideway for the ticket strip. The head 318 is moved up and down by an arm 323 fast on a shaft 324 which is oscillated by a cam inside the frame 321. As the ticket is severed it is gripped between the lower end of the head 318 and a spring finger 325, the rear end of which is mounted on the frame as shown at 326 in Fig. 14 and the forward end of which swings downwardly with the head while yieldingly holding the severed ticket against the flat lower end of the head at the rear end of the ticket.

With the severed ticket thus clamped between the head 318 and the spring finger 325 the ticket is carried downwardly until it is impaled upon the two points 327. Just before the ticket reaches the points 327 it engages the spring pressed plunger 328 which is pressed downwardly against the action of spring 329, whereby the ticket is yieldingly held against the lower face of the head on both sides of the points while being impaled. After the ticket is thus impaled upon the points 327 a staple is forced upwardly along grooves in the opposed sides of the points, the points of the staple being bent toward each other, by the lower end of a spring-pressed plunger 330 in the head, through arcs of approximately 180° so that the points of the staple are embedded in the ticket.

The stapling mechanism is substantially like that disclosed in my prior Patent No. 1,854,647, granted April 19, 1932 for Stapling machine and it will therefore be sufficient for the purpose of the present disclosure merely to point out that the stapling wire 331 is fed from a reel 332, by feed rolls 333 and 334 actuated by a pawl and ratchet, the pawl of which is shown at 335, through a guide 336 to the staple-forming and driving mechanism which is fully disclosed in my prior patent.

Before the foremost ticket is severed it is printed by a printing head 337 mounted on an oscillating arm 338. During each cycle of opera-

tions the printing head moves downwardly to print the ticket twice and, while the feed pawl 304 is in foremost position it makes a third partial descent to press the printing type against the ink pad 339 mounted in the upper face of the forward end of the feed pawl. During each cycle of operations the feed pawl moves forward in two steps, namely, from the rearmost position shown in Fig. 16 approximately half way to the cutter 317 in the first step and the rest of this distance in the second step; and the printing head 337 moves downwardly to make an imprint on the ticket before each step. Thus when using long tickets as illustrated in Figs. 15 and 16 the first imprint is made on the forward end of the ticket either at the end of the cycle for attaching the preceding ticket or at the beginning of a new cycle before the ticket is advanced the first step by the feed pawl. After the first step and before the second step the printing head descends a second time to make an imprint on the rearward end of the ticket. The ticket is then advanced to the position occupied by ticket 316 in Fig. 16 whereupon it is severed and attached as aforesaid. During this severing and attaching process the printing head makes a partial descent to bring the printing type in contact with the ink pad 339 which is then immediately under the printing head.

When using short-ticket strips the strip 314 is shifted forwardly (toward the left in Fig. 16) so that after riding over the first pair of notches 306 in the ticket strip on the return stroke the pawl teeth 305 ride up on the strip 314, thereby being prevented from engaging the second set of notches 306 at the extreme end of the return stroke. Consequently the first forward step of the feed pawl is ineffective to advance the ticket strip and the printing head therefore makes two impressions on the short ticket in the same location. Otherwise the mode of operation when using short tickets is the same as when using long tickets.

In the embodiment shown in Figs. 13 and 16 each cycle of operations is initiated by depressing the lever, thus actuating a clutch as above described in connection with the preceding embodiment of the invention. The mechanism is preferably operated by a motor inside the casing 321 in a manner similar to that above described in connection with Figs. 1 to 12, but a hand-wheel 351 is provided to turn the mechanism by hand in adjusting the parts, threading in a new ticket strip, etc.

Matter disclosed in this application is also disclosed and claimed in my copending application Serial No. 565,466, filed September 28, 1931.

It should be understood that the present disclosure is for the purpose of illustration only and that this invention includes all modifications and equivalents which fall within the scope of the appended claims.

I claim:

1. A machine of the type referred to for operating upon either short or long tickets, comprising a track for guiding the tickets to be operated upon, printing means along said track for printing each ticket, a rotary shaft, means operable by said shaft during one revolution thereof for actuating said printing means to print each short ticket in one location and each long ticket in two locations, means for producing relative movement lengthwise of the ticket between each long ticket and said printing means between suc-

cessive printings, and means for adjusting the ticket feed to either long or short tickets.

2. A machine for feeding, cutting, and printing either short or long tickets and the like, comprising a track for guiding a strip of tickets to a delivery station, a cutter for severing the foremost ticket from the strip, printing means adjacent said cutter in advance of said station for printing each ticket, a rotary shaft, means operable by said shaft during one revolution thereof for actuating said printing means to print each short ticket in one location and each long ticket in two locations, means for producing relative movement edgewise of the ticket between each long ticket and said printing means between successive printings, and means for adjusting the ticket feed to either long or short tickets.

3. A machine for feeding, cutting, and printing either short or long tickets and the like, comprising a track for guiding a strip of tickets to a delivery station, a cutter for severing the foremost ticket from the strip, printing means adjacent said cutter in advance of said station for printing each ticket, a rotary shaft, means operable by said shaft during one revolution thereof for actuating said printing means to print each short ticket in one location and each long ticket in two locations, one printing being effected while the strip is in position to sever said foremost ticket, means for producing relative movement edgewise of the ticket between each long ticket and said printing means between successive printings, and means for adjusting the ticket feed to either long or short tickets.

4. A machine of the type referred to for operating upon either short or long tickets, comprising a track for guiding a strip of tickets to an attaching station, printing means along said track for printing each ticket, a rotary shaft, means operable by said shaft during one revolution thereof for actuating said printing means to print each short ticket in one location and each long ticket in two locations, means for producing relative movement longitudinally of said track between each long ticket and said printing means between successive printings, means for adjusting the ticket feed to either long or short tickets, and a cutter for severing the foremost ticket from the strip while one of the tickets is in printing position.

5. A machine of the type referred to for operating upon either short or long tickets, comprising a track for guiding a strip of tickets to an attaching station, means along said track for printing each short ticket in one location and each long ticket in two locations, means for producing relative movement longitudinally of said track between each long ticket and said printing means between successive printings, means for adjusting the ticket feed to either long or short tickets, and a cutter for severing the foremost ticket from the strip after the first printing thereon and before the ticket is further advanced along the track toward said station.

6. A machine of the type referred to for operating upon either short or long tickets, comprising a track for guiding a strip of tickets to an attaching station, a cutter for severing the foremost ticket from the strip at a severing position in advance of said station, selectively operable means between said cutter and said station for printing each short ticket in one location and each long ticket in two locations, one printing on each long ticket being effected while the ticket is in severing position, means for producing rela-

tive movement between each long ticket and the printing means between successive printings, and selectively operable means for feeding long-ticket strips and short-ticket strips by steps proportional to the lengths of the tickets respectively.

7. A machine of the type referred to for operating upon either short or long tickets, comprising a track for guiding a strip of tickets to an attaching station, a cutter for severing the foremost ticket from the strip at a severing position in advance of said station, selectively operable means for printing each short ticket in one location and each long ticket in two locations between said cutter and said station, at least one printing being effected while the ticket is in severing position, means for producing relative movement between each long ticket and said printing means between successive printings, and selectively operable means for feeding long-ticket strips and short-ticket strips by steps proportional to the lengths of the tickets respectively.

8. A machine of the type referred to for operating upon either short or long tickets, comprising a track for guiding a strip of tickets to an attaching station, a cutter for severing the foremost ticket from the strip, a printing head along the track for printing each ticket, a rotary shaft, means operable by said shaft during one revolution thereof for twice impressing said head upon each ticket, and means for producing relative movement longitudinally of said track between the ticket and printing head between successive printings on long tickets only, whereby short tickets are printed in one location and long tickets are printed in two locations.

9. Means for advancing tickets to an attaching station and to facilitate printing one or more times on each ticket during the advance thereof comprising successively operable feeding members engageable with the tickets for advancing the latter through successive predetermined strokes, means for causing one of said feeding members to dwell during its stroke to provide for printing, said feeding members being timed to cause a ticket to dwell during the progressive advance thereof and between successive strokes of said members to provide for printing at this point.

10. Means for advancing tickets to an attaching station and to facilitate printing one or more times on each ticket during the advance thereof comprising successively operable feeding members engageable with the tickets for advancing the latter through successive predetermined strokes, means for causing one of said feeding members to dwell during its stroke to provide for printing, said feeding members being timed to cause a ticket to dwell during the progressive advance thereof and between successive strokes of said members to provide for printing at this point, and printing means disposed for printing on the forward portion of a ticket during the first dwell thereof and on the succeeding portion of the ticket during the next dwell.

11. Means for advancing tickets to an attaching station and to facilitate printing one or more times on each ticket during the advance thereof comprising successively operable feeding members engageable with the tickets for advancing the latter through successive predetermined strokes, means for causing one of said feeding members to dwell during its stroke to provide for printing, said feeding members being timed to cause a ticket to dwell during the progressive advance thereof and between successive strokes of

said members to provide for printing at this point, printing means disposed for printing on one portion of a ticket during the first dwell thereof and on the succeeding portion of the ticket during the next dwell, and selective means for causing the printing means to operate during only one of said dwells and during both of said dwells.

12. Means for advancing tickets of a strip to an attaching station and for severing tickets and printing one or more times on each ticket during the advance thereof, comprising successively operable feeding members engageable with the tickets for advancing the latter through successive predetermined strokes, means for causing one of said feeding members to dwell during its stroke to provide for printing, said feeding members being timed to cause a ticket to dwell during the progressive advance thereof and between successive strokes of said members to provide for printing at this point, and means for severing a ticket from the strip during the latter dwell.

13. Means for advancing tickets of a strip to an attaching station and for severing tickets and printing one or more times on each ticket during the advance thereof, comprising successively operable feeding members engageable with the tickets for advancing the latter through successive predetermined strokes, means for causing one of said feeding members to dwell during its stroke to provide for printing, said feeding members being timed to cause a ticket to dwell during the progressive advance thereof and between successive strokes of said members to provide for printing at this point, and means for severing a ticket from the strip during one of said dwells.

14. Means for advancing long or short tickets of a strip to an attaching station and to facilitate printing one or more times on each long ticket and once on each short ticket during the advance thereof, comprising successively operable feeding members engageable with the tickets for advancing the latter through successive predetermined strokes, selective means for rendering that feeding member, which operates through the first of said strokes, effective during substantially its full stroke for feeding long tickets and effective during only a portion of its stroke for feeding shorter tickets, means for causing the other of said feeding members to dwell during its stroke to provide for printing, said feeding members being timed to cause a ticket to dwell during the progressive advance thereof and between successive strokes of said members to provide for printing at this point.

15. Means for advancing long or short tickets of a strip to an attaching station and to facilitate printing one or more times on each long ticket and once on each short ticket during the advance thereof, comprising successively operable feeding members engageable with the tickets for advancing the latter through successive predetermined strokes, selective means for rendering that feeding member, which operates through the first of said strokes, effective during substantially its full stroke for feeding long tickets and effective during only a portion of its stroke for feeding shorter tickets, means for causing the other of said feeding members to dwell during its stroke to provide for printing, said feeding members being timed to cause a ticket to dwell during the progressive advance thereof and between successive strokes of said members to provide for printing at this point, and means for severing a ticket from the strip during the latter dwell.

16. In an apparatus of the character described, 75

the combination of a printing member, means for advancing tickets to the printing member, a plurality of cam surfaces, and means for rendering the printing member responsive to only one or to more than one of the cam surfaces, whereby data may be printed only once or a plurality of times on each ticket.

17. The combination of a printer operable in a substantially fixed position, means for advancing successive tickets each in a progressive stroke to and beyond the printer, a cutter spaced from the printer for severing a long ticket when one end portion thereof extends substantially across the printing position of the printer, and means for causing each ticket to dwell in the latter position relative to the printer and also when in another position for another printing, whereby the printer may be operated during each of said dwells for printing duplicate data on long tickets or the printer may be operated during only one of said dwells for printing once on long or short tickets.

18. The combination of a printer operable in a substantially fixed position, means for advancing successive tickets each in a progressive stroke to and beyond the printer, a cutter spaced from the printer for severing a long ticket when one end portion thereof extends substantially across the printing position of the printer, means for causing each ticket to dwell when in the latter position relative to the printer and also when in another position for another printing, and means for operating the cutter during one of said dwells, whereby the printer may be operated during each of said dwells for printing duplicate data on long tickets or the printer may be operated during only one of said dwells for printing once on long or short tickets.

19. Apparatus of the class described comprising means for severing tickets from a strip, a movable member having a full stroke for feeding large tickets to the severing means, means for causing said member to be effective only during a part of its stroke for feeding smaller tickets, printing means spaced from the severing means to print on a ticket extending substantially a full stroke beyond the severing means, means for advancing a ticket from the severing means in part stroke lengths whereby the printing means may print duplicate data on large tickets.

20. Apparatus of the class described comprising means for severing tickets from a strip, a movable member having a full stroke for feeding large tickets to the severing means, means for causing said member to be effective only during a part of its stroke for feeding smaller tickets, printing means spaced from the severing means to print on the forward end portion of a large ticket which has been advanced a full stroke through the severing means, means for advancing tickets from the severing means to the printing means in part stroke lengths corresponding approximately to the part stroke advance of the smaller tickets, and selectively operable means for actuating the printing means after successive part strokes for printing data in duplicate on large tickets or for actuating the printing means only after alternate part strokes for printing data only once on all tickets.

21. Apparatus of the class described comprising severing mechanism, printing means spaced from the severing mechanism within the length of a ticket, means for advancing a ticket strip through the severing mechanism in single strokes each approximating the strip length of a ticket to

bring a ticket in position for severing and also partly beneath the printing means in a first printing position, means for advancing the ticket a part of its strip length from the severing mechanism to bring the ticket to a second printing position, and selectively operable means for actuating the printing means while the ticket is in both of said printing positions or only while the ticket is in one of said printing positions, whereby data may be printed only once or in duplicate on each ticket.

22. Apparatus for severing and printing tickets of different sizes comprising severing mechanism, printing means disposed within the length of the larger size ticket from the severing mechanism, a movable member having a full stroke for advancing a ticket strip through the severing mechanism to bring the larger size ticket in position for severing and partly beneath the printing means in a first printing position, means for causing the movable member to be effective only during a part of its stroke for advancing smaller tickets through the severing mechanism to position for severing, means for advancing severed tickets beneath the printing means in part strokes, the latter means being effective for bringing the larger tickets to a second printing position and for bringing the smaller tickets beneath the printing means.

23. Apparatus for severing and printing tickets of different sizes comprising severing mechanism, printing means disposed within the length of the larger size ticket from the severing mechanism, a movable member having a full stroke for advancing a ticket strip through the severing mechanism to bring the larger size ticket in position for severing partly beneath the printing means in a first printing position, means for causing the movable member to be effective only during a part of its stroke for advancing smaller tickets through the severing mechanism to position for severing, means for advancing severed tickets beneath the printing means in part strokes, the latter means being effective for bringing the larger tickets to a second printing position and for bringing the smaller tickets beneath the printing means, and selectively operable means for actuating the printing means only while each ticket is in said second printing position for printing data once on all tickets, this means also being operable for actuating the printing means while a ticket is in each of said printing positions for printing data in duplicate on the larger tickets.

24. A machine for operating on either short-ticket strips or long-ticket strips as the tickets are fed to an attaching station, means for severing the tickets from the strip in advance of said station, means for attaching the severed tickets to merchandise at said station, means for printing the tickets, mechanism for actuating said means in cycles each comprising the severing of a single ticket and the attachment of a single ticket by a single fastening, and selectively operable means for adjusting the ticket feed to either short or long tickets and causing said printing means to print each short ticket in one location and each long ticket in two locations during each cycle.

25. A machine operating on either short-ticket strips or long-ticket strips as the tickets are fed to an attaching station, means for severing the tickets from the strip in advance of said station, means for attaching the severed tickets to merchandise at said station, means for printing the

tickets, mechanism for actuating said means in cycles each comprising the severing of a single ticket and the attachment of a single ticket by a single fastening, selectively operable means for adjusting the ticket feed to either short or long tickets and causing said printing means to print each short ticket in one location and each long ticket in two locations during each cycle, and means for producing relative movement between each long ticket and the printing means along the plane of the ticket between successive printings thereon.

26. A machine for printing either short or long tickets comprising a printer, strip-feed means for feeding tickets to the printer in strip form, a cutter for severing the tickets from the strip, means for actuating the printer twice for each ticket, and selectively operable means for effecting, in the interval between each two printings, a relative shift between printer and long tickets only, whereby short tickets are printed twice in one location and long tickets are printed in two locations.

27. A machine for printing either short or long tickets comprising a printer, strip-feed means for feeding tickets to the printer in strip form, a cutter for severing the tickets from the strip, means for actuating the printer twice for each ticket, and selectively operable means for effecting, in the interval between each two printings, a relative shift between printer and long tickets only so that short tickets are printed twice in one location and long tickets in two locations, the relationship between the cutter and printer being such that both printings are impressed on

each short ticket while one edge of the ticket is at the cutting line of said cutter.

28. In a machine of the type described, the combination of a cutter, a guide for directing a strip of tickets to the cutter, a printing device, ticket feeding and supporting means, mechanism for attaching a ticket to an article by means of a fastener, and driving means for the cutter, the printing device and said first-named means, said feeding and supporting means being arranged so that a short ticket may be held in one printing position or a longer ticket may be held in two different printing positions as well as being moved between said positions, the printing device being effective to print a short ticket when occupying one of said positions and a long ticket when occupying each of said positions, the feeding means being effective in supplying either a long or a short printed ticket to the attaching station, the attaching mechanism being effective in each operation in securing either a long or a short printed ticket by a single fastening means to a juxtaposed article, the driving means being adjustable so that it actuates the printing device to print a short ticket once in a single cycle including a single operation of the cutter and a single operation of the fastening mechanism, or so that it actuates the printing mechanism to print a long ticket twice and causes the feeding mechanism to move the ticket between the printing positions during a single cycle including a single operation of the cutter and a single operation of the fastening means.

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