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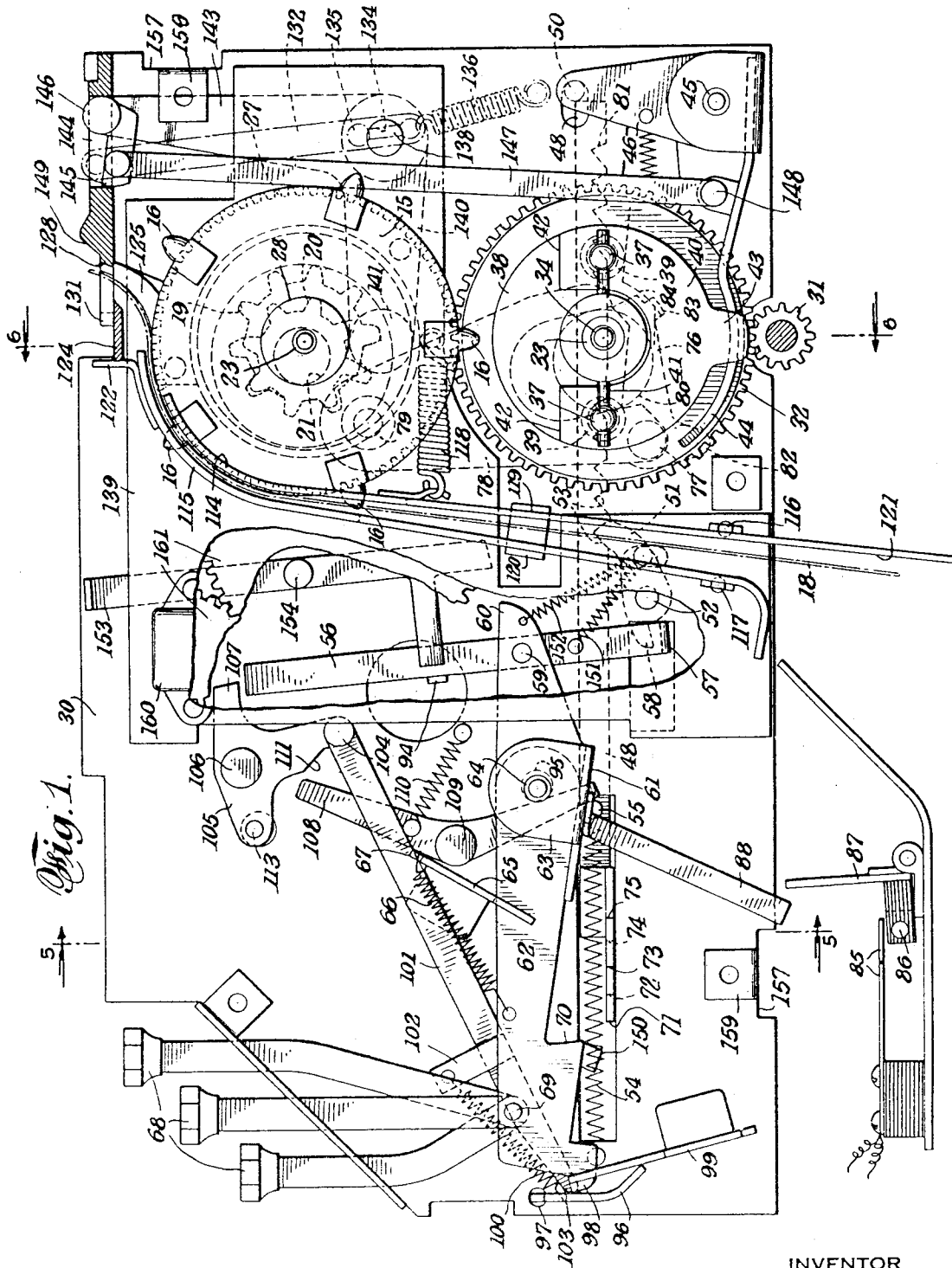
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1,992,767

TICKET ISSUING MACHINE

Filed Jan. 15, 1934

5 Sheets-Sheet 1



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TICKET ISSUING MACHINE

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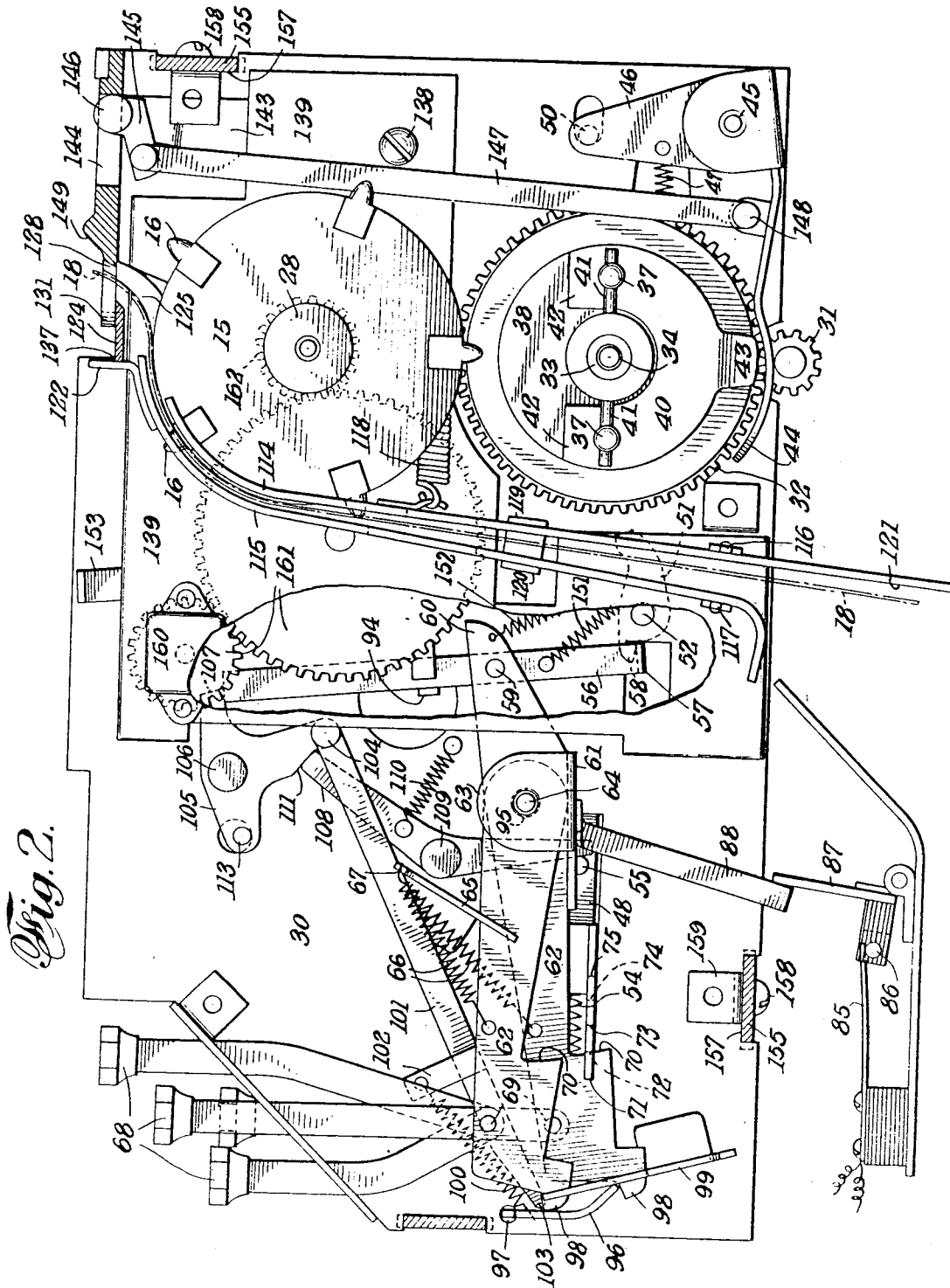


Fig. 2.

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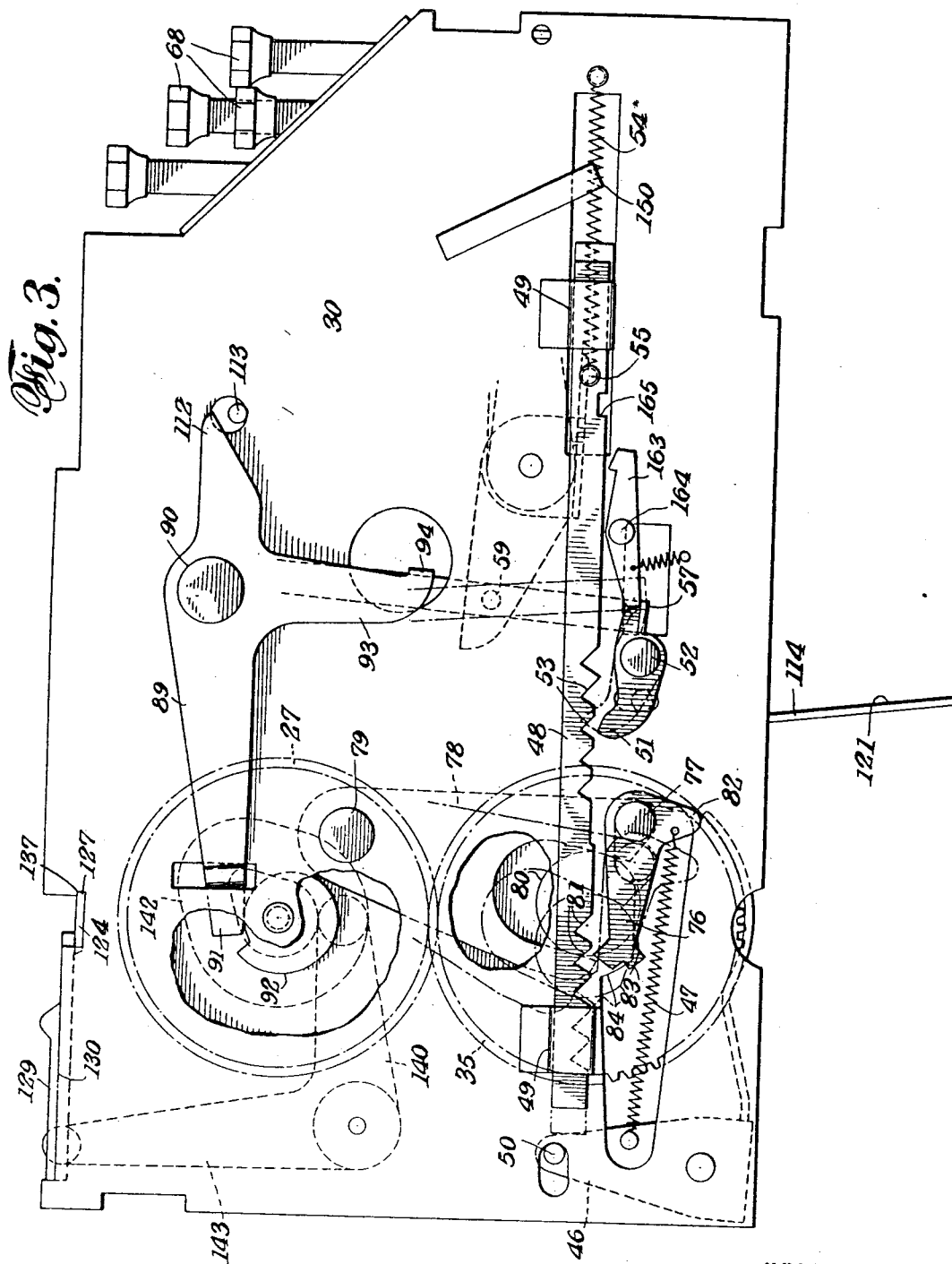
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TICKET ISSUING MACHINE

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5 Sheets-Sheet 3



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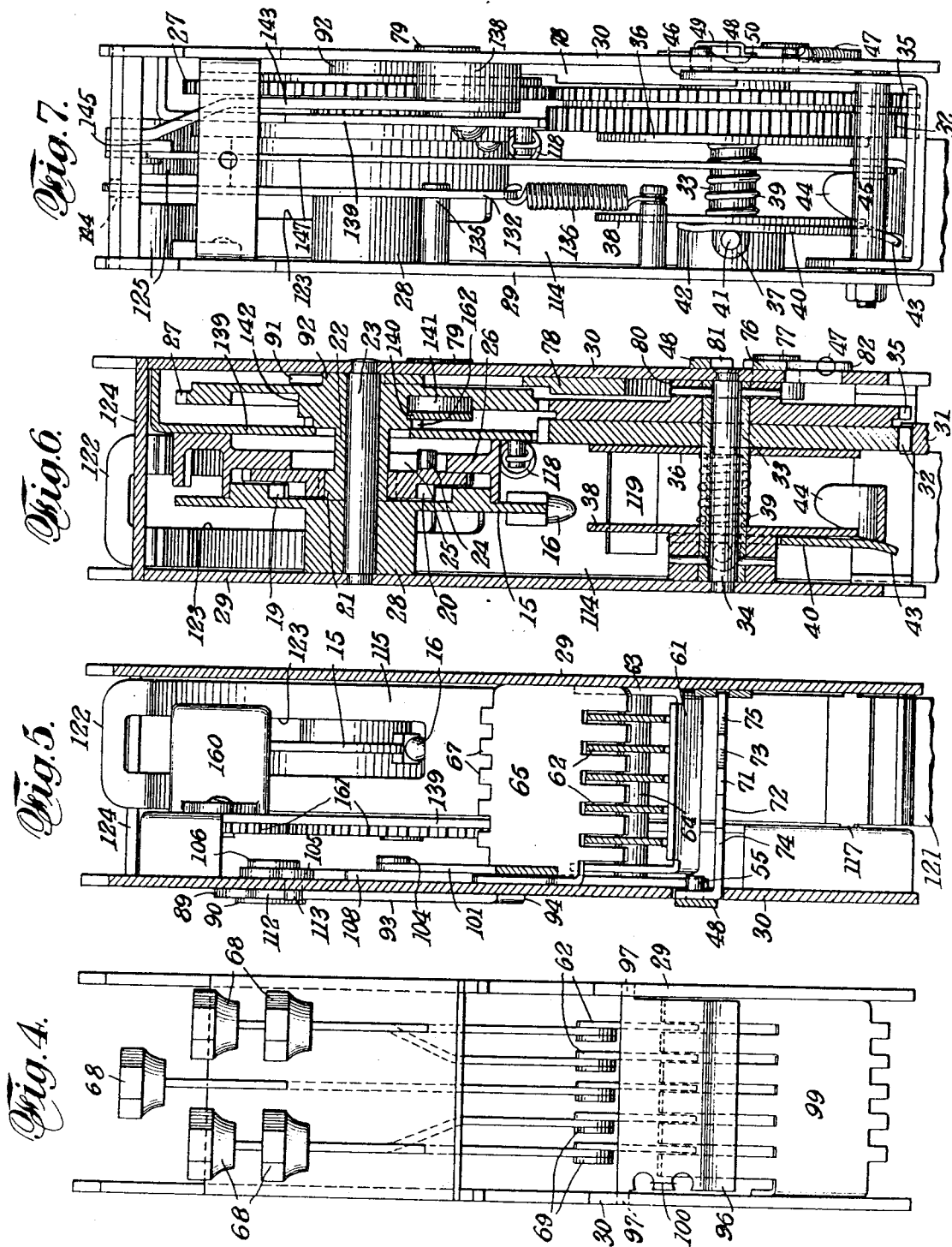
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TICKET ISSUING MACHINE

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5 Sheets-Sheet 4



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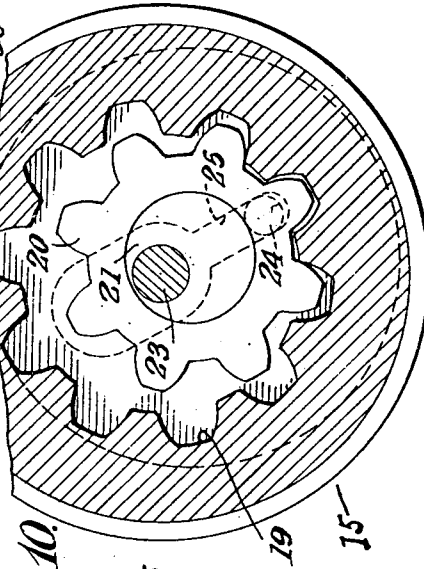
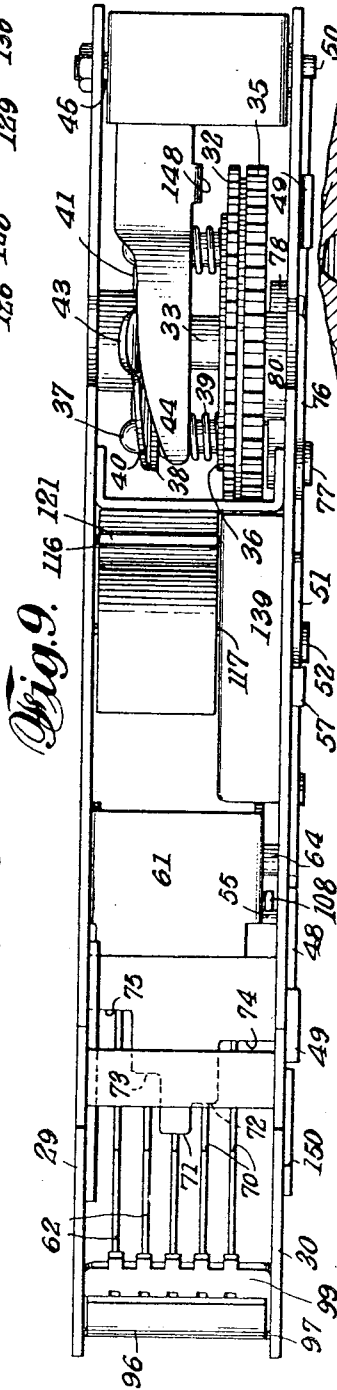
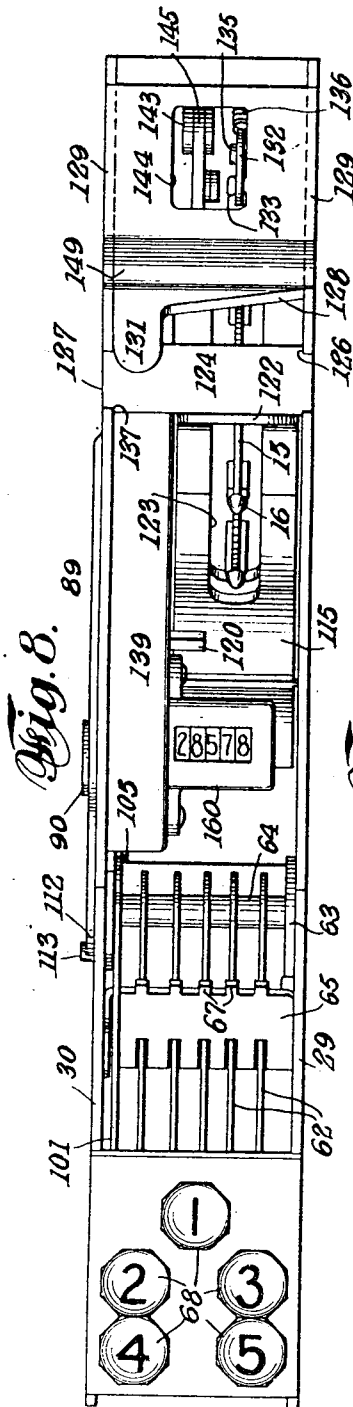
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TICKET ISSUING MACHINE

Filed Jan. 15, 1934

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UNITED STATES PATENT OFFICE

1,992,767

TICKET ISSUING MACHINE

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Application January 15, 1934, Serial No. 706,598

45 Claims. (Cl. 164—48)

This invention relates to machines for issuing tickets such as used in theatres and the like.

Special objects of the invention are to provide a machine of the character stated, which will be
5 quiet, speedy, accurate and reliable and of sturdy design requiring no attention over extended periods of use.

More detailed objects are in particular to cause the machine to respond instantly to a light touch
10 on the finger keys and to complete the predetermined, selected cycle of operations smoothly, quickly and quietly, to render the ticket feed positive and accurate, to accurately time the ticket severing knife and to construct this knife
15 mechanism so that it will be self-sharpening and may, when desired, be easily and quickly removed and to improve the key mechanism so as to eliminate the possibility of inaccuracies in the operation of the same.

Other objects and the novel features of construction, combinations and relations of parts by which the same are attained will appear as the specification proceeds.

The drawings accompanying and forming part of the specification illustrate one practical commercial embodiment of the invention, but as such illustration is primarily by way of disclosure, it will be appreciated that various modifications and changes may be made all within the true spirit and broad scope of the invention.

Fig. 1 is a broken side elevation and part vertical sectional view of a ticket issuing unit incorporating features of the invention and with the parts shown in the normal position of rest.

Fig. 2 is a similar view showing the machine started by depression of the two-ticket key.

Fig. 3 is a broken side elevation of the opposite side of the machine with parts in the same position.

Fig. 4 is a front elevation of the unit.

Fig. 5 is a vertical sectional view as on substantially the plane of line 5—5 of Fig. 1.

Fig. 6 is a similar view as on generally the plane of line 6—6 of Fig. 1.

Fig. 7 is a rear elevation of the unit.

Fig. 8 is a top plan view of the unit.

Fig. 9 is a bottom plan view.

Fig. 10 is a detail view illustrating the action of the intermittent gear mechanism, which provides a dwell at the feed wheel while the knife is severing the tickets.

Fig. 11 is a broken perspective view illustrating the mounting and connection of a plurality of the machine units.

Ticket feed mechanism

The tickets are advanced to the point of delivery, in the machine illustrated, by a feed wheel or drum 15, with prongs 16, engaging the perforations in the ticket strip 18:

The movement of this feed wheel is intermittent, in steps equivalent to a ticket length and with a dwell or rest between ticket feeding movements in time with the operation of a ticket severing knife.

This intermittent action is effected in the disclosure by an internal and external gear couple operating in the nature of an eccentric gear combination and shown as consisting of a ten toothed internal gear 19, in the feed wheel engaged by an eight toothed pinion 20, relatively rotatable on an eccentric 21 (Fig. 6), carried by sleeve 22, rotatably mounted on the supporting shaft 23. The pinion 20 is held against rotary movement and caused to operate as a circular oscillating pawl within the internal gear by having a pin 24 on the back of the same slide in a radial slot 25, in a stationary guide plate 26. With rotation of the eccentric 21, the smaller diameter pinion will gyrate or "wobble" about inside the large internal gear 19, with a gradually accelerating and decelerating movement with respect to the point when the throw of the eccentric is substantially in line with the radial guide slot, at which time the pinion is passing over a dead center and rocking over into engagement with a fresh tooth in the internal gear.

This intermittent feed wheel advancing action is quiet, positive and accurate and provides the desired dwell for the ticket strip severing knife.

Drive of the eccentric 21 is effected from a gear 27, on the other end of the eccentric carrying sleeve 22. As shown in Fig. 6, the feed wheel 15 has a hub 28, which abuts the end of the eccentric sleeve 22, these abutting rotatable members being thereby properly spaced on the stud shaft 23, between the two frame plates 29, 30.

Drive mechanism

In Figs. 1, 2 and 6, a motor carried or motor driven pinion is indicated at 31, in mesh with a clutch gear 32, rotatably mounted on a sleeve 33, rotatable on a stud shaft 34 and fixedly carrying a gear 35, in mesh with the feed wheel gear 27.

The clutch gear 32, may be of fiber or the like, for the sake of quietness and for providing a releasable frictional engagement with the face of gear 35.

Frictional coupling of the two gears 32, 35, is

effected by a pressure plate 36, slidable over the sleeve 33, Fig. 6 and having pins 37, slidably guided through a head or flange 38, on the end of sleeve 33, springs 39 surrounding said pins and engaged between the sliding and fixed heads on flanges 36, 38, furnishing the force for actually clutching the motor driven loose gear 32, to the fixed gear 35.

This clutch in the driving train is released in the illustration by a forked clutch release lever 40, having its arms loosely engaged over the protruding ends of the clutch plate studs 37, beneath the cross pins 41, extending through said studs. The inner ends 42 of the release fork extending beyond the supporting studs 37, bear upon the outer face of the fixed disc 38, and serve as fulcrums for the lever when the projecting out-turned end 43 of the lever is rocked to the left, Figs. 6 and 7, to lift the cross pins 41, and hence draw out the studs 37 and attached movable clutch plate 36.

The forked clutch release lever 40, mounted as it is on the clutch plate studs 37, which studs slide through the abutment flange 38, of the clutch, is thus caused to rotate with the clutch and with the feed drum driving gear 35, fixed on the clutch sleeve 33. The motor driven gear 32 however, engaged between spring pressed clutch plate 36 and gear 35, may rotate independently when the clutch is released by retracting the clutch release lever 43. The latter being in effect keyed to the gear 35, will function as a means for stopping the parts in a definite position of rest as well as a means simply for unclutching the driving train.

Automatic clutch throwout

The clutch is automatically thrown out and the machine stopped in a definite position of rest by mechanism consisting in the present disclosure of a tapered or wedge-shaped curvilinear trip 44, Figs. 1, 6 and 7, forming one arm of a bell crank pivoted to rock at 45, the other arm of which 46, is acted on by a spring 47, to rock it when permitted into the inactive position shown in Figs. 2 and 3, where trip 44 is clear and out of the path of projecting tongue 43 of the clutch release lever.

With the parts turning and the curved wedge-shaped trip raised into the position shown in Figs. 1, 6 and 7, that is, with the arcuate portion of the same substantially corresponding to the arc of travel of the projecting tongue of the clutch release lever, this tongue will ride up the incline of the trip, effecting the gradual release of the clutch, the gradual stoppage of the gearing driving the feed wheel and freeing the clutch gear 32, to turn as it may while the motor which drives it is coming to rest.

Delivery initiating mechanism

With the parts as shown in Figs. 1, 6 and 7, the machine is stopped in a definite position of rest by both the uncoupling and the stopping action of the clutch described. The trip 44 which effects clutch release and definite stoppage of the mechanism is held in this rest position by a controller shown in the illustration as a slide bar 48, Fig. 1, operating in guides 49, Fig. 3 and positioned to engage at its rearward end a protruding pin 50, on the upper end of the trip lever arm 46. This bar is shown as guided on the outer side of frame plate 30 and as retained in its clutch holding position by a dog or pawl 51, pivoted at 52, in position to engage the notches 53, in the lower edge of the bar. A spring 54, connected between

a fixed point on the frame and a pin 55, on the bar tends to draw the bar forwardly or away from the trip lever. Consequently, upon release of the holding dog 51, the control bar 48 will snap forwardly under the pull of the spring 54, to drop the clutch trip out of its position as a stop for the gearing and to permit engagement of the clutch. This movement out of the stopping position and for setting the clutch is facilitated by the camming action of the outwardly inclined portion 43 of the clutch lever on the edge of the clutch trip 44, which as indicated in Figs. 6 and 7, will have a tendency to throw the trip downward, the clutch springs exerting their force in this camming action.

The release of the holding dog 51, is effected by a pull link 56, having an angled end 57, engaging beneath the tail 58, of said dog, said link being pivotally suspended at 59, on the tail 60, of the universal bar 61, underlying the key levers 62, and having wings 63, hung on the arbor 64, which serves as the pivotal support for said levers. These levers are shown as guided in a comb 65, as yieldingly supported by spring 66, connected between individual levers and teeth 67, on top of the comb; and as having suitable keys 68, with shanks pivotally connected to the forward ends of the levers at 69.

Five such keys and key levers are illustrated in the unit shown for issuing as desired from one to five tickets.

Selective control mechanism

The timing of the feed wheel to deliver one or more tickets is effected by determining the extent of movement of the control bar 48, away from the clutch trip and by restoring said bar to the clutch trip and stopping position by a step-by-step movement synchronized with the ticket advancing of the feed wheel.

In the illustration, all the key levers are alike, having hooks or stop shoulders 70, on the under edges of the same in alignment with the sequentially disposed stop shoulders 71, 72, 73, 74, 75, Fig. 9, carried by the forward end of the sliding control bar. These sequentially disposed shoulders are disposed in the order named in alignment with the single, the two, the three, the four and the five ticket delivery keys respectively. Accordingly, when the single ticket key is depressed, the control bar will have only a relatively short forward movement. The two ticket key is indicated depressed in Fig. 2, this view showing at such time how the second stop shoulder 72, will engage the shoulder 70, on the lower edge of such key lever, stopping the control bar at a second forward position. For each additional ticket, it will be understood that the control bar has a further advanced position when it has been drawn forward by spring 54, after release of the holding dog 51.

The restoration of the control bar is effected by the step mechanism consisting in the illustration of a returning pawl 76, Fig. 3, pivoted at 77, on a swinging lever 78, pivoted at 79, and actuated by eccentric 80, on the back of the fixed gear 35, (Fig. 6), said pawl being thereby positioned to engage the teeth 81, on the bar. For shifting this return pawl into engagement with the teeth of the bar, the spring 47, which is heretofore described for rocking the clutch trip into the inactive position, is here utilized, being shown as connected to a dependent lug or tail 82, on said pawl.

Retraction of the pawl from the teeth in the

bar is effected automatically in the illustration by causing a lug 83, struck inward from the pawl to ride over an incline 84, cut in the side frame 30, as the pawl swings back on its recovery stroke toward the right in Fig. 3.

In the stopped position of the machine, the control bar returning pawl 76 is held retracted by the cam incline 84, as indicated in Figs. 1 and 3, so that with tripping of the holding dog 51, the control bar will be free to slide forward in the clutch setting direction to the position determined by the cooperating stops on the bar and the particular key depressed.

The motor is cut into operation upon depression of any one of the key levers by switch mechanism indicated as consisting of two spring contact arms 85, Figs. 1 and 2, adapted to be bridged by a contact 86, carried by a spring tensioned rocker 87, which is lifted to the switch closing position by an arm 88, dependent from the universal bar.

The switch mechanism is of the quick acting type, so that the motor is started the instant the key is depressed. Simultaneously, or immediately following, the clutch is set by the snapping forward of the control bar. Actually, the parts may be timed so that the clutch will take hold after the motor has started, thus giving the motor an opportunity to start turning before picking up the load and enabling it then to carry through the cycle at greater speed.

The pawl 51, which is tripped to release the control bar is utilized also as a pawl for holding the bar as it is stepped back into the clutch release position. To enable this double use, the trip link 56, which is hooked under the tail of the pawl at the start of operations, Figs. 1 and 3, is automatically swung back free of the pawl at each operation of the restoring pawl 76, by a cam lever 89, pivoted at 90, having an intumed end 91, engaging a snail cam 92, on the outer face of the feed wheel gear 27 (Fig. 6), said lever having a dependent arm 93, carrying a lug 94, engaging the forward edge of the trip link 56, above its point of pivotal mounting 59, on the universal bar. This relation of parts is indicated in the dotted lines in Fig. 3, from which it will be evident that as the lever 89 is lifted by the cam 92, the dependent arm of such lever will rock the trip link in a proper direction to clear the hook 57, at the lower end of the same from the tail of the pawl 51, enabling that pawl to then engage the teeth 53, in the bar to hold that bar in the position to which it has been advanced by pawl 76, while the latter swings back on its recovery stroke.

The stoppage of the control or selector bar against the shoulder of the depressed key lever is automatically cushioned in the illustration by mounting the key levers loosely on the supporting arbor 64, as indicated at 95, Figs. 1 and 2, thereby enabling the key lever which is so struck to yield, under control of its sustaining spring 66, such lever then cushioning the bar sufficiently to prevent rebound of the bar or other action which might affect the proper operation of the apparatus. The lost motion mounting of the key levers at 95, may be afforded by simply providing slightly "over-size" openings, where these levers engage over the supporting shaft 64.

Automatic key lock and release

The keys when struck are automatically locked down to hold the motor circuit closed until the selected cycle is completed, by means comprising

in the illustration a wide hold-down pawl 96, Figs. 1 and 2, pivotally supported between the frame plates at 97, in position to be swung outward by and then catch over the locking shoulders 98, on the forward lower edges of the key levers. These forward edges of the key levers are shown guided in the comb plate 99, which plate serves as a stop for the hold-down pawl in the inactive position of the same indicated in Fig. 1. The key holding dog or pawl 96, is tensioned toward the key levers by a spring 100, and this same spring is utilized in the illustration as a means for operating the push link 101, which releases the holding dog. For this latter purpose, the spring 100 is shown connected at its upper or back end with a lug 102, standing up from the link 101. The front end of this spring is shown connected with the dog 96, at a point close beneath the pivotal center of the dog which in the relation shown in Fig. 1, gives an effect approximating that of anchoring the spring to a fixed point, so that the reaction of the spring is mainly to shift the link 101, forward and so that the dog is tensioned relatively lightly to the holding position. The dog therefore yields easily to pressure on the keys and the main effect of the spring is to pull the link 101, forwardly when such motion is permitted.

The outer or forward rounded end 103, of the pushing link bears against the back of the hold-down dog below the pivotal mounting and spring connection of the latter and the upper inner end of this link is pivoted at 104, to the lower arm of a T-shaped lever 105, pivoted on the side plate 30 at 106. The rearwardly extending arm 107, of this T-lever overstands the upper end of the trip link 56, as in Fig. 1, so that as this link comes up with the actuation of the universal bar from one of the key levers, the T-lever will be rocked left-handedly as in Fig. 2, to pull back the key releasing link 101. As this takes place, the lock lever 108, pivoted at 109, and which up to such time has been restrained by engagement of pin 55, of the slide with the lower end of the same (Fig. 1), is rocked back by spring 110, into holding engagement with a locking shoulder 111, on lever 105. Thus when a key is depressed and caught by the hold-down dog, the releasing link 101, is pulled back and locked in this condition.

Unlocking of the key hold-down is not effected until substantially the entire ticket delivery cycle is completed and this is then accomplished by the pin 55, on the returning slide engaging the lower extension or tail of the locking lever 108, substantially as in Fig. 1. When this occurs, the spring 100 shifts the link 101 forwardly to push the dog from holding engagement over the shoulder 98, of the depressed key.

In the machine constructed as illustrated, there is a tendency for the returning selector slide to release the locking lever too soon and hence stop the motor before it has fully completed all its functions. To overcome this effect, there is provided in the disclosure, a forwardly extending arm 112, on cam lever 89, Fig. 3, which overstands a projecting pin 113, on the forward arm of the key releasing rock lever and serves to hold this latter lever from shifting to release the keys until the cycle of operations is fully completed or so nearly completed that the universal bar can be released to cut the switch to the off position.

Ticket guides

As shown particularly in Figs. 1 and 2, the perforated ticket strip passes from the magazine to

the feed wheel upwardly between the inner, lower guide 114, and the upper outer guide 115. These are both pivoted in the frame at their lower ends at 116, 117, and are pulled inward toward the feed wheel by spring 118, connected with the inner guide member, the outer guide member being loosely coupled to the inner spring tensioned member by a lug or strap 119, fixed to the back of the inner guide and arched about the outer guide at 120.

The dependent lower extension 121, of the inner guide, forms a convenient stop against which the ticket strip may be placed in locating the same in the machine and an upstanding finger lug 122, on the upper end of the outer guide forms a convenient grip, by which this guide may be rocked back on its pivotal center 117, as in the dotted lines in Fig. 2, to carry both it and the inner guide with which it is loosely coupled at 119, 120, away from the feed wheel and clear of the feed prongs operating through the slots 123, in these guides.

This construction makes it easy both to locate the ticket strip at the entrance between the guides and to slip it upwardly into the properly engaged position on the prongs.

The finger lug 123, at the upper end of the outer guide also serves as a stop limiting movement of the guides toward the feed wheel. A definitely positioned rest is provided for this guide stop in the present illustration, in the form of the back edge of the stationary strip severing blade 124.

From the retractably mounted guides described, the ticket strip passes over the upwardly curved guides 125, at opposite sides of the upper portion of the feed wheel, these serving to direct the strip upwardly in front of the stationary knife blade.

In the present machine, the parts are intended to stop as in Fig. 1, with the forward numbered edge of the leading ticket projecting from the top of the ticket guide, where such number can be easily read by the operator without having to open up the machine. This is accomplished in part by timing the mechanism so that after severance of the strip, the feed wheel will turn far enough to bring the numbered edge of the next ticket up into view.

Ticket strip severing mechanism

The stationary cutter blade 124, heretofore alluded to is shown in Figs. 3 and 8 as definitely positioned and supported by being notched at opposite ends at 126, and as having such notched ends seating down in correspondingly notched ends 127, in the upper edges of the frame plates 29, 30.

Cooperating with the fixed blade is an over-sliding cutter blade 128, guided between frame plates 29 and 30, and having extended edge flanges 129, riding on the guides afforded by the straight upper edges 130, of the frame plates 29, 30. This sliding blade is shown as bevelled in both directions, Figs. 1 and 8, and as having an extended lug portion 131, at the far non-cutting edge portion of the same, at the top in Fig. 8, over-sliding the fixed blade at all times.

The sliding blade is held down on its guides and in proper cooperative relation with the fixed blade by a link 132, looped at its upper end over the shank of a headed stud 133, in the intermediate portion of the blade, said link being longitudinally slotted and slidably guided at its lower end portion at 134, over the reduced neck of a stud 135, and a spring 136, being hooked into the lower end

of said slot. By this spring tensioned link, the sliding blade is yieldingly held down in position on its guides and the extension 131, of this blade over-sliding the fixed blade insures that the latter can not become accidentally or unintentionally displaced. The positioning slots 127, in the frame plates for the fixed cutter blade are shown as inclined to present the bevelled cutting edge of the blade at an efficient cutting angle to the over-sliding blade and the back edges of these notches are indicated in Figs. 3 and 8, as undercut at 137, to hold the lower back edges of the blade down in place in the slots under the pressure of the over-sliding blade, which is spring tensioned as described over the upper and forward cutting edge of the stationary blade.

By the construction last described, it will be seen that the stationary and movable cutter blades are maintained at all times in proper cutting relation and that either one or both these blades may be readily removed without the necessity of unscrewing parts by simply unhooking the spring tensioned link 132, from the movable blade, which thereupon is free to be lifted off its guides and leaves the stationary blade free to be lifted out of its positioning notches in the side plates.

The movable blade is actuated from a bell crank lever journalled at 138, Figs. 1 and 7, between side plate 30, and an intermediate frame plate 139, said bell crank carrying on its horizontal arm 140, a roll 141, working in the cam groove 142, on the inside face of feed wheel gear 27 and the upstanding arm 143, of said bell crank lever projecting up through a clearance opening 144, in the movable blade.

The blade actuating bell crank oscillates with each rotation of the feed wheel gear 27, but is only coupled to actuate said blade when the selected number of tickets have been advanced by the feed wheel.

This automatic coupling of the blade to its actuating means is effected in the illustration by means of a coupler link 145, pivoted at 146, at the upper end of the bell crank arm 143, and connected by link 147, with a pivotal center 148, on the clutch tripping lever 44.

Fig. 2 shows how when the clutch trip is down with the clutch engaged and the machine in operation, the knife coupler 145, is dropped down by link 147, into position clear of the opening 144, in the blade, so that the bell crank carrying this coupler may oscillate without actuating the sliding blade and Fig. 1 illustrates how when the clutch trip is lifted at approximately the end of the ticket serving operation, the coupler will come into position to engage the wall of opening 144, in the blade, so that with this last reciprocation of the bell crank, the blade will be advanced to cut the ticket strip and then retract it by the pivot end 146, of the coupler, to clear the fixed blade and leave space clear for the feed wheel to advance the leading edge of the next ticket. An inclined hump 149, is shown on the movable blade back of the cutting edge to serve as a guide for the issued tickets.

Operation

In the position of rest indicated in Fig. 1, the parts are stopped by engagement of the leverage portion 43, of the clutch throwout with the wedge portion of the trip 44, the feed wheel 15 having turned far enough after severance of the strip 18, to advance the numbered edge of the next ticket into view. In this tripped condition, the

clutch plate 36, is retracted to free the clutch gear 32, as in Fig. 6.

When one of the keys is depressed, such as the number 2 key shown in Figs. 2 and 3, the attached key lever 62, will rock the universal bar 61, throwing the motor switch to the "on" position illustrated in Fig. 2, starting the motor, which drives through motor pinion 31, the clutch gear 32.

The rocking of the universal, lifts the link 56, which having been hooked (Fig. 1), beneath the tail 58 of the dogging pawl 51, unlatches this pawl from the selector bar 48, permitting that bar to snap forward under pull of spring 54, to the position determined by the stop on the bar, which is in line with the particular key depressed, in the case supposed, the stop 72, engaging the shoulder 70, of the number 2 key lever.

The inner end of the selector bar 48, through engagement with pin 50 (Fig. 1), holds the clutch trip in the clutch release position. Consequently, the release of the selector bar permits the trip member 44, to drop down as in Fig. 2, and the clutch to become engaged by shifting of clutch plate 36, to the right in Fig. 6, to couple gear 35. The feed wheel gear 27, thus becomes driven by gear 35, and imparts rotation to eccentric 21, Figs. 1 and 10, to rock the pinion 20, about its sliding center 24, 25, around in engagement with the internal gear 19, of feed wheel 15. At each ticket length of feed, the eccentric in passing over the dead center of the sliding pivot effects a dwell sufficient for movement of the ticket severing knife.

The actuating lever 143, for the ticket knife 128, is oscillated at each revolution of gear 27, but only becomes coupled to drive the knife, when as indicated in Fig. 1, the coupler 145, is lifted by link 147, by shifting of the throwout lever 44, back to the clutch throwout position.

The key lever depressed is automatically caught and held in the depressed position by the dog or pawl 96, Figs. 1 and 2. At such time, the upper end of the trip link 56, has turned the rocker 105, to pull back the dog releasing link 101, and as this is accomplished, the lock lever 108, snaps forward under shoulder 111, to lock the rocker and hence the release link in such retracted relation. This lock is released at the end of the cycle in the return of the selector bar to its clutch releasing position by engagement of pin 55, thereon with the lower end of such lock lever as in Fig. 1. Too early release of this lock, that is, before the motor has fully completed its functions is prevented in the illustration, by the control arm 112, of cam lever 89, of Fig. 3, coming down over the pin 113, on the end of this rocker. When this rocker is released, the link 101 is snapped forward by its spring 100, to throw out the hold-down dog and permit the lever to come back into normal position.

To prevent over-throw of the selector bar when released by holding pawl 51, there may be provided a stop 150, Fig. 3, positively limiting the forward or outward throw of this bar.

The trip dog or pawl 51, is shown in Fig. 1 as connected by spring 152, with the lower end of the trip link 56, this one spring thereby serving to shift the pawl toward the selector and to pull the link outward for engagement with the tail of this dog. If desired, however, and as shown, a separate or additional spring 152, may be provided for lifting the dog 51, said spring being indicated in Fig. 1, as connected with the inner end

60, of the universal bar, so as to also aid in restoring that bar to normal position.

As a convenient method of locking the unit, there is provided in the illustration, a hand lever 153, Fig. 1, pivoted at 154, and adapted to have its lower end swing over the rearward portion 60 of the universal bar.

The present invention makes it possible to construct the units quite thin as appears in Figs. 3 and 9, and a number of such units can therefore be grouped in quite small space. Where the units are to be thus grouped, a spacer bar or bars, such as shown in 155, Fig. 11, may be employed, these being notched as indicated at 156, to receive the side plates of the units and such plates in turn being notched at 157, to provide seats for the bars. In such interlocked relation with the units definitely spaced, the bars 155, may be secured as by screws 158, turned into the underlying spacers 159, which tie the frame plates together.

Each unit may be equipped with a suitable counter 160, Figs. 1 and 8, shown as driven by gearing 161, Fig. 2, meshing with a drive gear 162, Fig. 6 on the hub of the feed wheel gear 127.

As an extra precaution to prevent inadvertent or accidental release of the selector, there is shown, in addition to the trip or holding pawl 51, a locking lever 163, pivoted at 164, Fig. 3, for engagement with a holding notch 165, in the selector, this lever being positioned for release by the upwardly moving trip link 56, after that link has tripped the pawl 51. This structure provides a double lock for insuring release of the selector only after a key has been properly depressed.

The spring tensioned key levers 62, loosely mounted at 95, on their common arbor, cushion the end of the outward stroke of the selector bar, as will be clear in Figs. 1 and 2. A cushioning effect may be provided at the start of the selector bar movement, by leaving the point of the restoring pawl 76, at rest on the smooth part of the bar at 166, Fig. 3, in the stopped position of the machine. With this relation, the releasing movement of the bar will be checked, after it has traveled sufficiently to throw the switch on, the point of pawl 76, dropping into the first tooth 81. Then with the parts in motion, pawl 76, will be retracted clear of the bar to complete its movement determined by the cooperating selector stops of the bar and actuated key lever.

The pawl 51, after being tripped and the parts started in movement, is uncoupled and free to serve as a holding pawl for the selector bar by cam 92, Fig. 3, rocking lever 89 to swing the trip link 56, clear of the tail of the pawl, as indicated in the broken lines. Consequently, as the restoring pawl 76, rocks to the left in Fig. 3, it will carry the bar one step toward the clutch release position and upon its recovery stroke, the pawl 51 will then serve to hold the bar in its advanced position.

At the end of its recovery movement, the inner end of selector bar 48, engages pin 50, Fig. 1, to rock the clutch trip 44, up into the operative position, where in the continued rotation of the gears, the clutch release lever 43, rides over the incline of the same to draw out the clutch and to stop the parts substantially in the position shown.

In the position of rest, the forward numbered edge of the next ticket is left in view of the operator, substantially as indicated in Fig. 1. The severed tickets are left free to be grasped by the

purchaser and the upstanding finger lug 122, provides at such time a guard preventing the cut tickets being accidentally pushed back down into the machine.

5 What is claimed is:

1. In ticket issuing apparatus, the combination of a feed drum, drive means therefor, including a clutch having a throwout member rotating therewith, a trip engageable with said throwout member to effect release of the clutch and stoppage of the parts in a predetermined position, said trip being shiftable into and out of the path of movement of said throwout, a clutch control member for holding said trip in the clutch releasing position and shiftable to permit movement of said trip out of said clutch releasing position, key mechanism for effecting movement of said control member out of said clutch releasing position, cooperating stop means between said key mechanism and control member governing extent of movement of said control member out of the clutch releasing position and step-by-step mechanism operating in synchronism with the feed drum for picking up the control member in the shifted position and for restoring it to the clutch releasing position.

2. In ticket issuing apparatus, the combination of a feed drum, drive means therefor, including a clutch having a throwout member rotating therewith, a trip engageable with said throwout member to effect release of the clutch and stoppage of the parts in a predetermined position, said trip being shiftable into and out of the path of movement of said throwout, a clutch control member for holding said trip in the clutch releasing position and shiftable to permit movement of said trip out of said clutch releasing position, key mechanism for effecting movement of said control member out of said clutch releasing position, cooperating stop means between said key mechanism and control member governing extent of movement of said control member out of the clutch releasing position, step-by-step mechanism operating in synchronism with the feed drum for picking up the control member in the shifted position and for restoring it to the clutch releasing position, a motor forming part of the drive means, a switch for controlling said motor, means operable by said key mechanism for throwing said switch to on position and trip means on the control member for effecting throw of the switch to off position.

3. In ticket issuing apparatus, the combination of a feed drum, drive means therefor, including a clutch having a throwout member rotating therewith, a trip engageable with said throwout member to effect release of the clutch and stoppage of the parts in a predetermined position, said trip being shiftable into and out of the path of movement of said throwout, a clutch control member for holding said trip in the clutch releasing position and shiftable to permit movement of said trip out of said clutch releasing position, key mechanism for effecting movement of said control member out of said clutch releasing position, cooperating stop means between said key mechanism and control member governing extent of movement of said control member out of the clutch releasing position, step-by-step mechanism operating in synchronism with the feed drum for picking up the control member in the shifted position and for restoring it to the clutch releasing position, a ticket knife, an actuator therefor operable in synchronism with the feed drum and means for coupling said actuator to

said ticket knife, said coupling means being connected with and timed by said trip member.

4. In ticket issuing apparatus, the combination of a feed drum, drive means therefor, including a clutch having a throwout member rotating therewith, a trip engageable with said throwout member to effect release of the clutch and stoppage of the parts in a predetermined position, said trip being shiftable into and out of the path of movement of said throwout, a clutch control member for holding said trip in the clutch releasing position and shiftable to permit movement of said trip out of said clutch releasing position, key mechanism for effecting movement of said control member out of said clutch releasing position, cooperating stop means between said key mechanism and control member governing extent of movement of said control member out of the clutch releasing position, step-by-step mechanism operating in synchronism with the feed drum for picking up the control member in the shifted position and for restoring it to the clutch releasing position, said drive means for the feed drum also including an eccentric gear couple operating to give the feed drum periods of dwell and a ticket cutter actuated from said drive means in said periods of dwell.

5. In ticket issuing apparatus, the combination of a feed drum, drive means therefor, including a clutch having a throwout member rotating therewith, a trip engageable with said throwout member to effect release of the clutch and stoppage of the parts in a predetermined position, said trip being shiftable into and out of the path of movement of said throwout, a clutch control member for holding said trip in the clutch releasing position and shiftable to permit movement of said trip out of said clutch releasing position, key mechanism for effecting movement of said control member out of said clutch releasing position, cooperating stop means between said key mechanism and control member governing extent of movement of said control member out of the clutch releasing position, step-by-step mechanism operating in synchronism with the feed drum for picking up the control member in the shifted position and for restoring it to the clutch releasing position, the key mechanism aforesaid comprising depressible key levers, means for locking said keys in depressed position and means for automatically releasing said locking means approximately at the completion of the predetermined cycle.

6. In ticket issuing apparatus, the combination of a feed drum, drive means therefor, including a clutch having a throwout member rotating therewith, a trip engageable with said throwout member to effect release of the clutch and stoppage of the parts in a predetermined position, said trip being shiftable into and out of the path of movement of said throwout, a clutch control member for holding said trip in the clutch releasing position and shiftable to permit movement of said trip out of said clutch releasing position, key mechanism for effecting movement of said control member out of said clutch releasing position, cooperating stop means between said key mechanism and control member governing extent of movement of said control member out of the clutch releasing position, step-by-step mechanism operating in synchronism with the feed drum for picking up the control member in the shifted position and for restoring it to the clutch releasing position, said cooperating stop

means including sequentially arranged stops on the control member and the key levers having duplicate stop shoulders cooperable respectively with the sequential stop shoulders of the control member.

7. In ticket issuing apparatus, the combination of a feed drum, drive means therefor, including a clutch having a throwout member rotating therewith, a trip engageable with said throwout member to effect release of the clutch and stoppage of the parts in a predetermined position, said trip being shiftable into and out of the path of movement of said throwout, a clutch control member for holding said trip in the clutch releasing position and shiftable to permit movement of said trip out of said clutch releasing position, key mechanism for effecting movement of said control member out of said clutch releasing position, cooperating stop means between said key mechanism and control member governing extent of movement of said control member out of the clutch releasing position, step-by-step mechanism operating in synchronism with the feed drum for picking up the control member in the shifted position and for restoring it to the clutch releasing position, said key mechanism including loosely mounted spring supported key levers adapted to yield to cushion the movement of the control member upon engagement of the cooperating stop shoulders.

8. In a machine of the character disclosed, a ticket feed wheel having an internal gear, an external gear of lesser size cooperating therewith, eccentric driving means for said external gear and eccentrically disposed pivotal means confining said external gear to non-rotating oscillating engagement of the same with the internal gear of the feed wheel.

9. Feed wheel mechanism for a ticket issuing machine, comprising a rotating eccentric, a pinion concentrically engaged on said eccentric, cooperating pin and slot devices for holding said pinion against rotation while oscillating with the eccentric and a feed wheel having an internal gear of greater diameter engageable by said first gear in said oscillating travel of the same.

10. Feed wheel mechanism for a ticket issuing machine, comprising a rotating eccentric, a pinion concentrically engaged on said eccentric, cooperating pin and slot devices for holding said pinion against rotation while oscillating with the eccentric, a feed wheel having an internal gear of greater diameter engageable by said first gear in said oscillating travel of the same, said parts being proportioned to produce a dwell in the feed wheel movement at a time when the eccentric is passing the center of the pin and slot guide and ticket cutting mechanism operating in said dwell.

11. In a ticket issuing machine, ticket feed mechanism, ticket severing mechanism and drive means therefor timed to effect feed of a ticket strip, severance of a selected length of the ticket strip by the cutting mechanism and stoppage of said parts after further advance of the feed mechanism sufficient to expose the numbered edge of the next ticket unit of the strip.

12. In a ticket issuing machine, a feed wheel and drive means therefor, including a gear train having a clutch incorporated therein, said clutch having a projecting throwout element and a movable trip constructed and arranged in one position to engage and shift said projecting throwout member and to stop said parts including said feed wheel in a definite position of rest.

13. In a ticket issuing machine, ticket strip feeding mechanism, drive means therefor, trip mechanism for said drive means to interrupt operation of the same, a ticket cutter blade, normally uncoupled actuating means therefor and connections from said trip means for positively coupling said actuating means with said cutter blade and thereby timing the operation of said ticket cutter.

14. In a ticket issuing machine, a ticket knife having an opening therein and means for reciprocating the same, including a coupler shiftable into and out of operative position in said opening in the knife.

15. In a ticket issuing machine, a reciprocating ticket knife, a rocking lever for actuating the same, a coupler shiftable mounted on said lever and adapted in different positions to connect and disconnect said knife and actuating lever and a link connected with said coupler for shifting the same into said different positions.

16. In a ticket issuing machine, a reciprocating ticket knife, a rocking lever for actuating the same, a coupler shiftable mounted on said lever and adapted in different positions to connect and disconnect said knife and actuating lever, a link connected with said coupler for shifting the same into said different positions, a ticket strip feeding wheel, a drive train therefor and means for interrupting operation of said drive train and connected with said link for controlling the coupler for the knife.

17. In a ticket issuing machine, spaced frame plates, a stationary knife blade adapted to bridge the same, said frame plates and knife blade being relatively shouldered to definitely position said knife blade on said frame plates, a cooperating over-sliding knife blade, guides on the frame plates for said over-sliding blade and spring means holding said over-sliding blade on said guides in the over-sliding relation retaining the fixed blade in its position on the frame plates.

18. In a ticket issuing machine, a sliding ticket knife, guide means therefor, said knife having an opening in the intermediate portion of the same, spring means connected in said intermediate opening for yieldingly retaining said knife on the guide means therefor, a blade reciprocating member and a coupler shiftable into and out of said intermediate opening to connect or disconnect said blade and reciprocating member.

19. In a ticket issuing machine, a feed wheel with points for advancing a perforated ticket strip, guides spaced to receive a ticket strip between them and positioned to direct the received ticket strip about said feed wheel, said guides being pivotally mounted at a point removed from the feed wheel to swing toward and away from the feed wheel and spring means for yieldingly swinging said guides toward said feed wheel.

20. In a ticket issuing machine, a feed wheel with points for advancing a perforated ticket strip, guides spaced to direct a ticket strip about said feed wheel, said guides being pivotally mounted at a point removed from the feed wheel, spring means for yieldingly urging said guides toward said feed wheel, including a spring connected with the guide nearest the feed wheel, means linking the two guides in spaced relation, so that shifting the outer guide away from the feed wheel will effect pickup and shifting of the inner guide away from the feed wheel and a stop limiting the movement of the outer guide toward the feed wheel, the inner spring tensioned guide being limited in its movement toward the feed

wheel by said spacing coupling between the two guides.

21. In a ticket issuing machine, a feed wheel with points for advancing a perforated ticket strip, guides spaced to direct a ticket strip about said feed wheel, said guides being pivotally mounted at a point removed from the feed wheel, spring means for yieldingly urging said guides toward said feed wheel, including a spring connected with the guide nearest the feed wheel, means linking the two guides in spaced relation, so that shifting the outer guide away from the feed wheel will effect pickup and shifting of the inner guide away from the feed wheel, a stop limiting the movement of the outer guide toward the feed wheel, the inner spring tensioned guide being limited in its movement toward the feed wheel by said spacing coupling between the two guides, said stop including a fixedly positioned knife, the movable outer guide being directed beneath said knife and having an abutment for engagement with the back of said knife.

22. In a ticket issuing machine, the combination of ticket levers with similarly positioned stops, a selector member movable toward said ticket lever stops and having differently positioned stops for cooperation with said similarly positioned stops of the key levers to thereby govern extent of movement of said selector member and ticket feed mechanism variably controlled by and in accordance with the extent of movement of said selector member.

23. In a ticket issuing machine, the combination of ticket levers with similarly positioned stops, a selector member movable toward said ticket lever stops and having differently positioned stops for cooperation with said similarly positioned stops of the key levers to thereby govern extent of movement of said selector member, ticket feed mechanism variably controlled by and in accordance with the extent of movement of said selector member, the cooperative engagement of said key lever and selector stops determining selected movements of said member and a limiting stop positioned to prevent overthrow of said selector member.

24. In a ticket issuing machine, the combination of ticket levers, a movable selector member, said member and levers having cooperative selector stops, said levers having loose mountings and spring tensioned on said loose mountings in opposition to movement of the selector member, whereby to yieldingly cushion the latter in stopping the same.

25. In a ticket issuing machine, cooperating key levers and movable selector, means for urging said selector into stopped engagement with said key levers, ticket strip feeding mechanism governed by said selector and spring cushioning mounting means for said key levers for yieldingly stopping said selector.

26. In a machine of the character disclosed, key levers, a universal bar operated thereby, ticket strip feed mechanism rendered operative by movement of said universal bar and a unit lock lever shiftable into position to prevent movement of the universal bar by said key levers.

27. In a machine of the character disclosed, key levers having locking shoulders at the free ends of the same, a pivoted hold-down dog overstanding said ends of the key levers, a dog releasing push link and a spring connection from said link to a point of the dog close to the pivotal mounting of the same for enabling said link to effect release of the dog from the key levers.

28. In a machine of the character disclosed, key levers, pivot mounting means for the rearward ends of said levers, a spacing comb over the intermediate portions of said levers, spring means lifting said levers upward in said comb, a spacing comb receiving the forward ends of said levers, said forward ends of the levers having locking portions projecting through said forward comb and a hold-down dog overstanding said forward comb in position to be displaced by and to take hold of said projecting locking portions.

29. In a machine of the character disclosed, the combination of key levers, a movable selector cooperating therewith, ticket strip feed mechanism controlled by said selector, hold-down means for said keys and releasing mechanism for said hold-down means including a lock and releasing means therefor, operated by the selector.

30. In a ticket issuing machine, ticket delivery mechanism, key levers controlling same, a universal bar actuated thereby, a link positioned by said universal bar, a rocker actuated by said link, hold-down means for the key levers and releasing means for said hold-down means controlled by said rocker.

31. In a ticket issuing machine, ticket delivery mechanism, key levers controlling same, a universal bar actuated thereby, a link positioned by said universal bar, a rocker actuated by said link, hold-down means for the key levers, releasing means for said hold-down means controlled by said rocker, a member for locking said rocker in non-releasing position and means timed to effect freeing of said lock in the ticket delivery operation.

32. In ticket issuing apparatus, the combination of a movable selector bar, a dogging pawl therefor, key controlled mechanism for effecting release of said dogging pawl, a restoring pawl, means for stepping the same to restore the selector bar and means for effecting release of the dogging panel from the key actuated mechanism to enable said pawl to operate as a holding pawl for the selector during the return stepping operations of the same.

33. In ticket issuing apparatus, the combination of ticket feed mechanism, a selector governing operation of the same, a trip pawl for releasing said selector, key actuated mechanism for operating said pawl and including a connection shiftable to free said pawl to act as a holding pawl for the selector, means operating in timed relation with said ticket feed mechanism for shifting said connection and means operating in timed relation with the feed mechanism for restoring the selector while so held by said trip pawl.

34. In ticket issuing apparatus, the combination of ticket feed mechanism, a selector bar governing operation of the same, a dogging pawl for said bar, a restoring pawl for said selector bar, a swinging support for said restoring pawl and cam means for automatically retracting said restoring pawl to leave the dogging pawl in control of the selector bar.

35. In ticket issuing apparatus, ticket feed mechanism, a shiftable selector governing operation of the same, a trip pawl for said selector, key levers, a universal bar actuated thereby, a link carried by said universal bar and shiftable into and out of operating relation in respect to said trip pawl and means operating in timed relation to said feed mechanism, controlling shifting of said link into and out of operative relation with said trip pawl.

36. In ticket issuing apparatus, motor driven ticket feed mechanism, a switch for effecting starting and stopping of said motor driven feed mechanism, key mechanism including a universal bar arranged to actuate said switch, means controlling restoration of said universal bar to the switch off position and means in timed relation with the ticket feed mechanism for preventing restoration of said universal bar prior to completion of functions of the motor driven mechanism.

37. A ticket issuing unit including frame plates and ticket issuing mechanism mounted therebetween, including a ticket guide forming one side of a ticket guiding channel, said guide projecting below the frame plates and forming thereby a stop against which a ticket strip may be placed in threading the strip up through the unit.

38. In apparatus of the character disclosed, ticket feed mechanism including a ticket wheel, a drive gear therefor, a concentric loosely mounted clutch gear, a clutch disc for holding said loose gear in clutched relation to the first gear, studs carried by said clutch plate, a flange spaced from said clutch disc and having openings loosely receiving said studs, said flange being attached to and rotating with said first gear and whereby said clutch plate and studs are caused to rotate with said gear, spring means interposed between said flange and clutch plate, a clutch release lever loosely fulcrumed on said studs and having a bearing on the flange and a trip shiftable in the path of said release lever for effecting release of the clutch in a predetermined position of rotation of the first mentioned gear and feed wheel.

39. In ticket issuing apparatus, the combination of a plurality of individual ticket issuing units in side-by-side relation and consisting each of spaced frame plates with notches in the edges of the same and a spacer bar extending across the edges of the spaced frame plates of said units and having notched edges engageable in the notched portions of said frame plates for thereby fixing said units in definitely spaced relation.

40. In ticket issuing apparatus, the combination of a plurality of individual ticket issuing units in side-by-side relation and consisting each of spaced frame plates with notches in the edges

of the same, a spacer bar extending across the edges of the spaced frame plates of said units and having notched edges engageable in the notched portions of said frame plates for thereby fixing said units in definitely spaced relation and spacers holding the frame plates of said units in fixed spaced relation, said spacers being located adjoining the notched portions of said frame plates and fastenings securing the spacing bar seated in said notches to said spacers.

41. In ticket issuing apparatus, the combination of a feed drum and drive means therefor, including an eccentric gear couple connected and arranged to intermittently advance the feed drum with moments of rest between advancing movements.

42. In combination, a ticket feed drum having an internal gear, an external gear of lesser size cooperating therewith, eccentric driving means for said external gear and means for holding said external gear against rotation in the eccentric movement of the same in respect to the internal gear.

43. In a ticket issuing machine, the combination of a ticket feed wheel, a ticket guide extending partly about said ticket feed wheel, a ticket severing knife adjacent the end of said guide and a stop member at the end of the ticket guide opposite the ticket severing knife.

44. In a ticket issuing machine, the combination of a ticket feed wheel, a ticket guide extending partly about said ticket feed wheel, a ticket severing knife adjacent the end of said guide, a stop member at the end of the ticket guide opposite the ticket severing knife, a stationary blade cooperating with the ticket severing knife, said stationary blade having a back surface providing a rest for the stop member on the ticket guide.

45. In a ticket issuing machine, the combination of a ticket feed wheel and spaced ticket guides for receiving and guiding a ticket strip therebetween, one of said spaced guides at the end remote from the feed wheel being longer than the other guide to form a stop against which the ticket strip may be placed in entering the same between the spaced guides.

HILDING L. PIERSON.

DISCLAIMER

1,992,767.—*Hilding L. Pierson*, Brooklyn, N. Y. TICKET ISSUING MACHINE. Patent dated February 26, 1935. Disclaimer filed August 22, 1935, by the assignee, *General Register Corporation*.

Hereby enters this disclaimer to claims 1, 2, 5, 6, 12, 22, 23, 32, 33, 35, 36, 37, and 45, in said specification, which are in the following words:

"1. In ticket issuing apparatus, the combination of a feed drum, drive means therefor, including a clutch having a throwout member rotating therewith, a trip engageable with said throwout member to effect release of the clutch and stoppage of the parts in a predetermined position, said trip being shiftable into and out of the path of movement of said throwout, a clutch control member for holding said trip in the clutch releasing position and shiftable to permit movement of said trip out of said clutch releasing position, key mechanism for effecting movement of said control member out of said clutch releasing position, cooperating stop means between said key mechanism and control member governing extent of movement of said control member out of the clutch releasing position and step-by-step mechanism operating in synchronism with the feed drum for picking up the control member in the shifted position and for restoring it to the clutch releasing position.

"2. In ticket issuing apparatus, the combination of a feed drum, drive means therefor, including a clutch having a throwout member rotating therewith, a trip engageable with said throwout member to effect release of the clutch and stoppage of the parts in a predetermined position, said trip being shiftable into and out of the path of movement of said throwout, a clutch control member for holding said trip in the clutch releasing position and shiftable to permit movement of said trip out of said clutch releasing position, key mechanism for effecting movement of said control member out of said clutch releasing position, cooperating stop means between said key mechanism and control member governing extent of movement of said control member out of the clutch releasing position, step-by-step mechanism operating in synchronism with the feed drum for picking up the control member in the shifted position and for restoring it to the clutch releasing position, a motor forming part of the drive means, a switch for controlling said motor, means operable by said key mechanism for throwing said switch to on position and trip means on the control member for effecting throw of the switch to off position."

"5. In ticket issuing apparatus, the combination of a feed drum, drive means therefor, including a clutch having a throwout member rotating therewith, a trip engageable with said throwout member to effect release of the clutch and stoppage of the parts in a predetermined position, said trip being shiftable into and out of the path of movement of said throwout, a clutch control member for holding said trip in the clutch releasing position and shiftable to permit movement of said trip out of said clutch releasing position, key mechanism for effecting movement of said control member out of said clutch releasing position, cooperating stop means between said key mechanism and control member governing extent of movement of said control member out of the clutch releasing position, step-by-step mechanism operating in synchronism with the feed drum for picking up the control member in the shifted position and for restoring it to the clutch releasing position, the key mechanism afore-said comprising depressible key levers, means for locking said keys in depressed position and means for automatically releasing said locking means approximately at the completion of the predetermined cycle.

"6. In ticket issuing apparatus, the combination of a feed drum, drive means therefor, including a clutch having a throwout member rotating therewith, a trip engageable with said throwout member to effect release of the clutch and stoppage of the parts in a predetermined position, said trip being shiftable into and out of the path of movement of said throwout, a clutch control member for holding said trip in the clutch releasing position and shiftable to permit movement of said trip out of said clutch releasing position, key mechanism for effecting movement of said control member out of said clutch releasing position, cooperating stop means between said key mechanism and control member governing extent of movement of said control member out of the clutch releasing position, step-by-step mechanism operating in synchronism with the feed drum for picking up the control member in the shifted position and for restoring it to the clutch releasing position, said cooperating stop means including sequentially arranged stops on the control member and the key levers having duplicate stop shoulders cooperable respectively with the sequential stop shoulders of the control member."

"12. In a ticket issuing machine, a feed wheel and drive means therefor, including a gear train having a clutch incorporated therein, said clutch having a projecting throwout element and a movable trip constructed and arranged in one position to engage and shift said projecting throwout member and to stop said parts including said feed wheel in a definite position of rest."

"22. In a ticket issuing machine, the combination of ticket levers with similarly positioned stops, a selector member movable toward said ticket lever stops and having differently positioned stops for cooperation with said similarly positioned stops of the key levers to thereby govern extent of movement of said selector member and ticket feed mechanism variably controlled by and in accordance with the extent of movement of said selector member.

"23. In a ticket issuing machine, the combination of ticket levers with similarly positioned stops, a selector member movable toward said ticket lever stops and having differently positioned stops for cooperation with said similarly positioned stops of the key levers to thereby govern extent of movement of said selector member, ticket feed mechanism variably controlled by and in accordance with the extent of movement of said selector member, the cooperative engagement of said key lever and selector stops determining selected movements of said member and a limiting stop positioned to prevent overthrow of said selector member."

"32. In ticket issuing apparatus, the combination of a movable selector bar, a dogging pawl therefor, key controlled mechanism for effecting release of said dogging pawl, a restoring pawl, means for stepping the same to restore the selector bar and means for effecting release of the dogging pawl from the key actuated mechanism to enable said pawl to operate as a holding pawl for the selector during the return stepping operations of the same.

"33. In ticket issuing apparatus, the combination of ticket feed mechanism, a selector governing operation of the same, a trip pawl for releasing said selector, key actuated mechanism for operating said pawl and including a connection shiftable to free said pawl to act as a holding pawl for the selector, means operating in timed relation with said ticket feed mechanism for shifting said connection and means operating in timed relation with the feed mechanism for restoring the selector while so held by said trip pawl."

"35. In ticket issuing apparatus, ticket feed mechanism, a shiftable selector governing operation of the same, a trip pawl for said selector, key levers, a universal bar actuated thereby, a link carried by said universal bar and shiftable into and out of operating relation in respect to said trip pawl and means operating in timed relation to said feed mechanism, controlling shifting of said link into and out of operative relation with said trip pawl.

"36. In ticket issuing apparatus, motor driven ticket feed mechanism, a switch for effecting starting and stopping of said motor driven feed mechanism, key mechanism including a universal bar arranged to actuate said switch, means controlling restoration of said universal bar to the switch off position and means in timed relation with the ticket feed mechanism for preventing restoration of said universal bar prior to completion of functions of the motor driven mechanism.

"37. A ticket issuing unit including frame plates and ticket issuing mechanism mounted therebetween, including a ticket guide forming one side of a ticket guiding channel, said guide projecting below the frame plates and forming thereby a stop against which a ticket strip may be placed in threading the strip up through the unit."

"45. In a ticket issuing machine, the combination of a ticket feed wheel and spaced ticket guides for receiving and guiding a ticket strip therebetween, one of said spaced guides at the end remote from the feed wheel being longer than the other guide to form a stop against which the ticket strip may be placed in entering the same between the spaced guides."

[Official Gazette, September 17, 1935.]