

March 31, 1936.

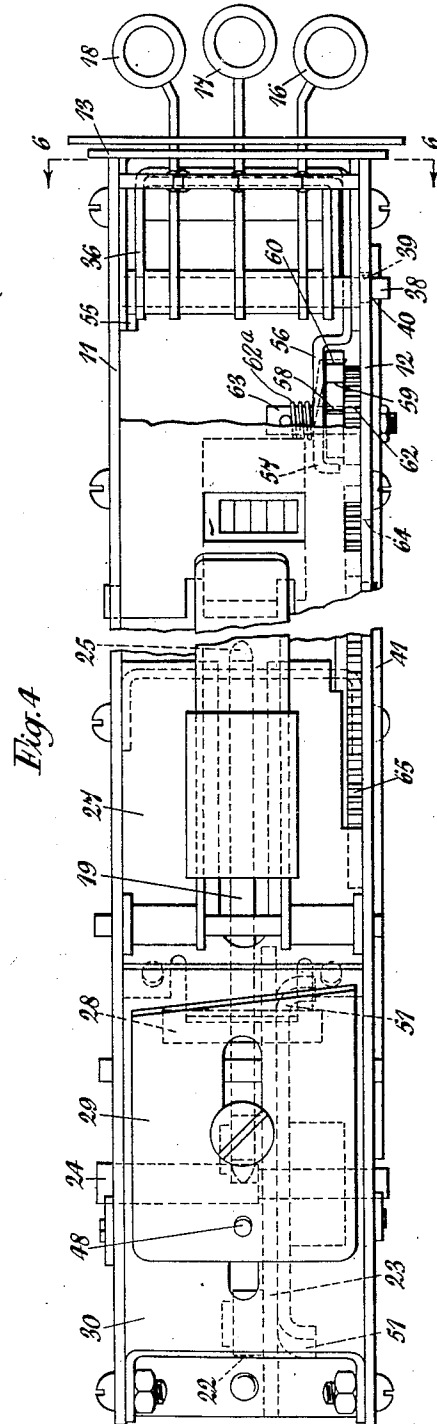
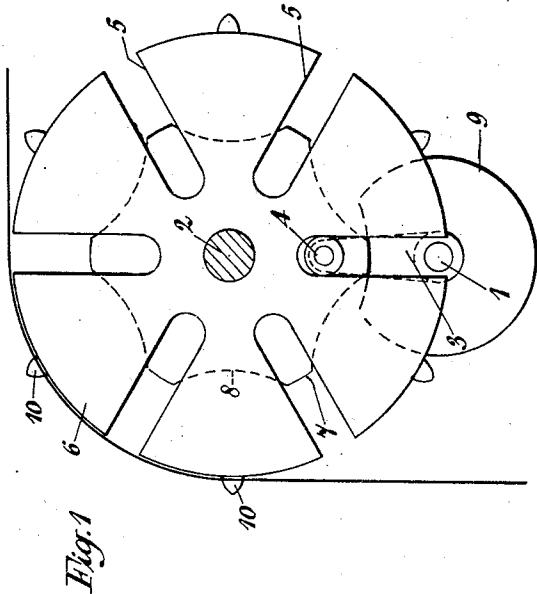
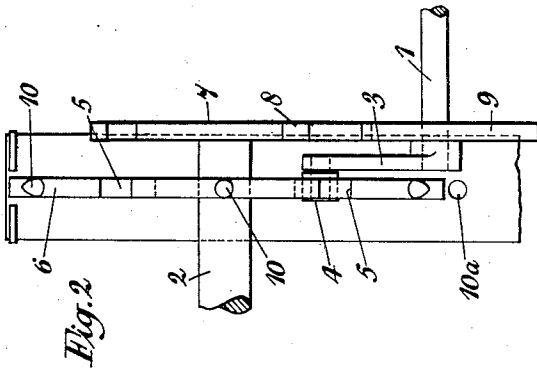
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2,035,524

TICKET ISSUING MACHINE

Filed Sept. 29, 1933

3 Sheets-Sheet 1



By *H. S. Black & C. D. Webb* INVENTOR
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TICKET ISSUING MACHINE

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3 Sheets-Sheet 2

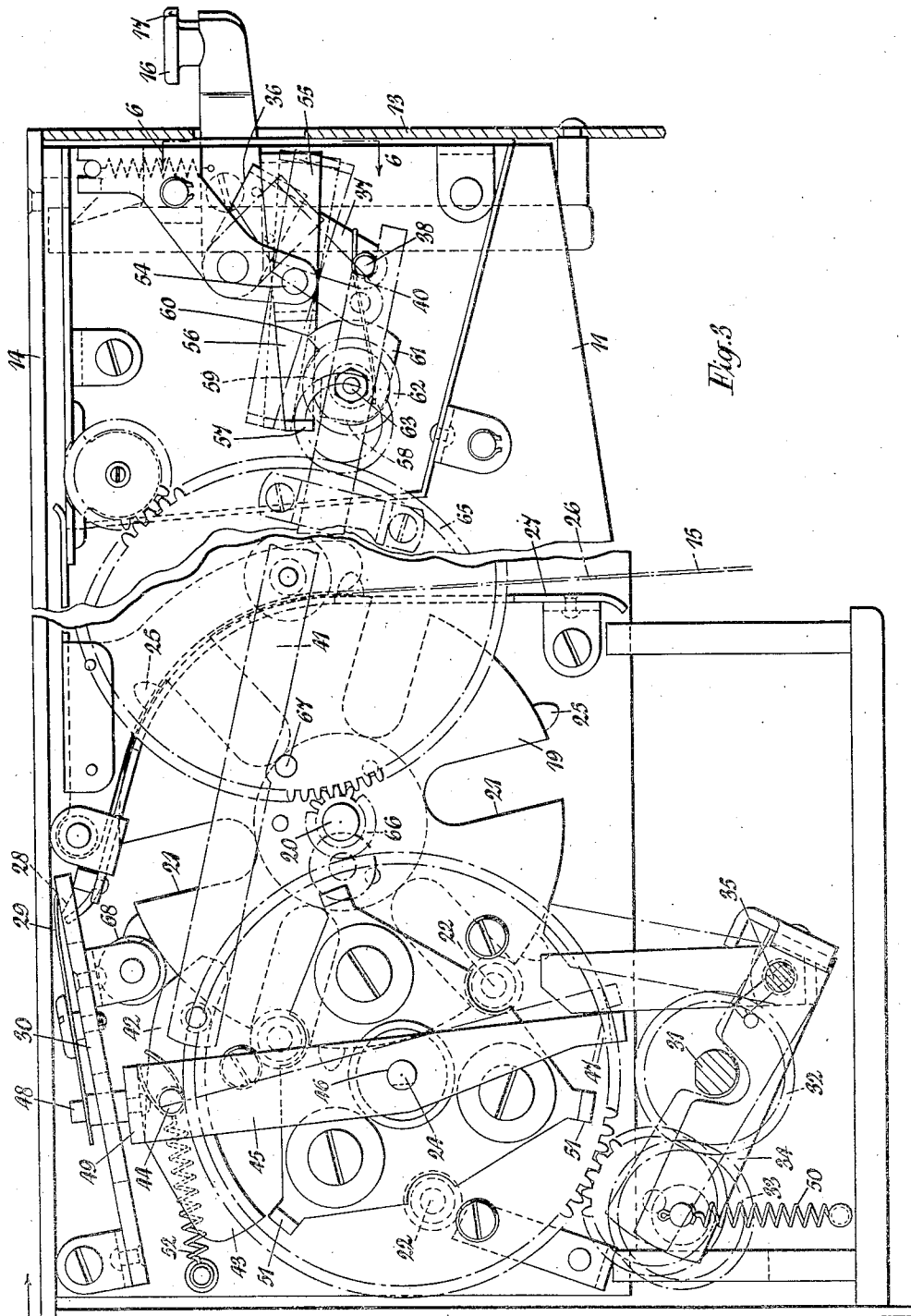


Fig. 3

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3 Sheets-Sheet 3

Fig. 5

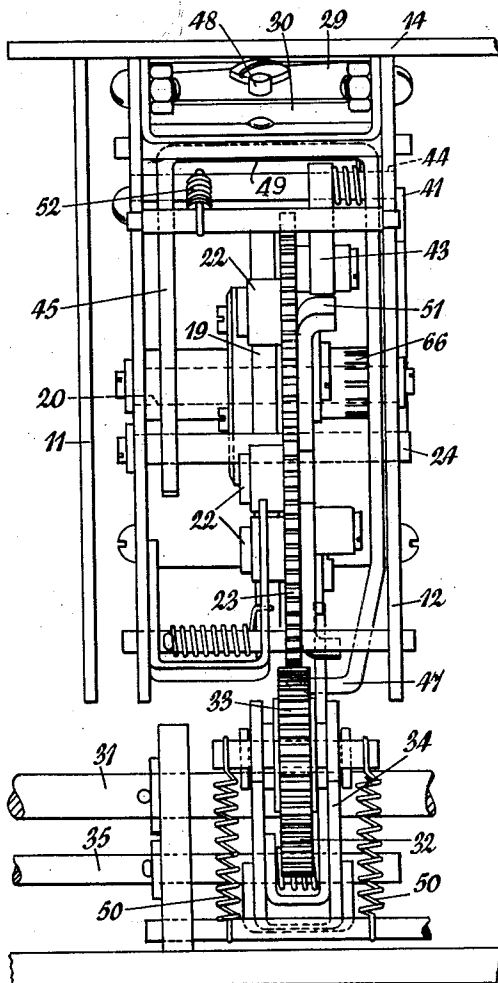
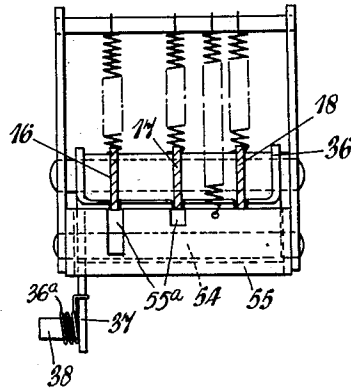


Fig. 6



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UNITED STATES PATENT OFFICE

2,035,524

TICKET ISSUING MACHINE

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Application September 29, 1933, Serial No. 691,560
In Great Britain October 3, 1932

10 Claims. (Cl. 271-2.4)

This invention is for improvements in or relating to ticket issuing machines of the type arranged to issue either a single ticket or a length of two or more unsevered tickets and in which for this purpose a strip or web is fed from a supply roll thereof to a severing device by way of a rotary feed member engaging the strip (which term will hereinafter, if the text permit, include a web in the sense in which this expression is understood in the art), for example by spaced pins projecting from the periphery of the feed member and co-operating with spaced perforations in the strip, and operatively associated with a plurality of keys allocated respectively to the several ticket lengths to be issued in the machine and combined with selector mechanism operative to determine the extent of ticket feed movement of the rotary feed member in accordance with the ticket length to be issued, the said keys moreover being operatively connected to means for throwing the rotary feed member into and out of operative connection with driving means for the member so that upon depression of any one of the keys the feed member becomes thrown into operative connection with said driving means.

The general object of the invention is to provide an improved construction of ticket issuing machine of this type which shall be marked by enhanced compactness of parts coupled with a high order of efficiency of operation.

According to the present invention, a ticket issuing machine of the type referred to is provided, wherein the rotary feed member for the strip is driven through a rotary pin and slot drive, the pin wheel of which is operatively associated with means for limiting the extent of rotation of the pin wheel in proportion to the number of tickets to be issued during the current cycle of ticket feed movement of the feed member, which means are brought into operation by depression of any one of the keys, and the slot wheel of the rotary pin and slot drive constitutes the rotary feed member for the strip.

Hitherto, in machines wherein the rotary feed member for the strip has been driven through the intermediary of a rotary pin and slot drive, for example a Maltese cross mechanism, the rotary feed member has usually been a separate entity from the drive. By combining it with the drive as herein, considerable space is saved and the arrangement makes for general compactness of parts.

According to a feature of the invention, the rotary pin and slot drive of the improved ma-

chine may take the form of a Maltese cross mechanism having the pin and the slotted portion of the slot wheel displaced axially from the plane in which the locating disc of the pin wheel and the member engaging it of the slot wheel are located whereby a larger radial dimension of the said slotted portion of the slot wheel is rendered possible as compared with the conventional form of mechanism wherein the pin and locating disc of the pin wheel are both disposed in the same plane with the slotted portion of the slot wheel. In this connection, it may be remarked that in the conventional form of Maltese cross mechanism, the pin of the pin wheel is disposed in a cut-away portion of a disc forming part of the wheel and constituting the locating means for the slot wheel. In consequence, certain restrictions are imposed upon the permissible relative size of the parts. If the overall dimensions of these are to be maintained reasonably small, the slots in the slot wheel have of necessity to be narrow and the pin of the pin wheel correspondingly small, the slots being located between adjacent concave peripheral portions of the slot wheel which co-act with the periphery of said locating disc of the pin wheel to lock the slot wheel in the position to which it has been rotated at each step of the pin wheel. This limitation upon the dimensions of the parts of the mechanism is disadvantageous, in that the wear of the said parts becomes comparatively rapid owing to the smallness of their dimensions and any proportionate increase in the size of the parts to avoid this rapid wear tends to increase the overall size of the machine to an undesirable degree. By employing, however, the relative disposition of parts set forth above in accordance with said further feature of the present invention, it is possible to increase the size of the pin of the pin wheel and the slotted portion of the slot wheel to any desired extent without correspondingly increasing the size of the locating disc of the pin wheel or of the member of the slot wheel which engages this disc, that is to say the member which is formed at the periphery with concave locating surfaces to interlock with the circular periphery of the locating disc.

According to another feature of the invention, the aforesaid means operatively associated with the pin wheel of the rotary pin and slot mechanism of the improved machine may comprise a pawl constituting an element in the operative connection between the keys and the means for throwing the feed member into and out of operative connection with its driving means, dis-

placeable with depression of any one of the keys from a retracted position to an advanced position and displaceable also towards the close of the cycle of ticket feed movement of the feed member from a normal inoperative position clear of the path of a dog on the pin wheel to an operative position in said path, the dog, upon being thus intercepted by the pawl, operating during further movement of the pin wheel with continued engagement of the pawl, to return the latter to its retracted position and, with the pawl, the means for throwing the feed member into and out of operative connection with its driving means to the out-of-connection position, means being also provided for automatically returning the pawl to its said normal position at or towards the end of the movement of the pawl to its retracted position.

In an arrangement of this description, the return of the pawl to its retracted position may conveniently occasion the return of the selector mechanism to its initial condition in readiness for the next cycle of actuation of the machine.

Moreover, the said pawl may be operatively connected to a guillotine for severing the fed strip in such a manner that during the return of the pawl to its retracted position, the guillotine is actuated.

The invention will now be further described with reference to the accompanying drawings, of which

Figure 1 is an axial view of the rotary feed member for the strip of a machine in accordance with the present invention, the rotary pin and slot drive for the said feed member being of the particular construction hereinbefore referred to and the feed member being constituted by the slot wheel of the said drive;

Figure 2 is a corresponding side elevation to Figure 1;

Figure 3 is a side elevation of one of (it may be) several similar units of a ticket issuing machine in accordance with this invention, the unit being one adapted to issue either one, two or three tickets at a time;

Figure 4 is a corresponding plan view to Figure 3;

Figure 5 is a corresponding end view, looking in the direction of the arrow in Figure 3, and

Figure 6 is a fragmentary section through Figures 3 and 4 taken on the section lines 6-6 of those figures.

Like reference characters indicate like parts in the various figures.

Referring first to Figures 1 and 2, the mechanism shown in these figures comprises two shafts 1, 2 disposed parallel to one another. Upon the shaft 1 is a radial arm 3, upon the end of which is mounted a roller pin 4, the axis of which is parallel to the axis of the shaft 1. The roller pin 4 constitutes the pin of the Maltese cross mechanism, and works in radial slots 5 in a slotted disc 6 fast upon shaft 2 and through the intermediary of this shaft with a second disc 7 formed at its periphery with concave recesses 8 concentric as to their curvature with a circular disc 9 fast on shaft 1 and disposed with said disc 7 in a plane axially displaced from the general plane of disc 6.

As previously stated, the roller pin 4 constitutes the pin of the Maltese cross mechanism. The two discs 6, 7 constitute together the slot wheel and the disc 9 constitutes the locating disc of the mechanism, said disc 9 and the radial

arm 3 and pin 4 constituting together the pin wheel.

The said disc 6 also constitutes, according to one of the above features of the present invention, the rotary feed member for the ticket forming strip of the machine, and to this end is provided upon its periphery with a series of spaced pins 10 which extend through and engage correspondingly spaced perforations 11 in the strip, the latter being drawn on to, carried round and fed off from the periphery of the member 6 to the severing device of the machine at each stage or cycle of rotation of the disc 6.

Referring now to the other figures of the drawings, the unit generally comprises a rectangular framework consisting of two side plates 11, 12, an end plate 13, located at the front of the machine, and a top plate 14. There may be several of these units, accommodated side by side in a common casing and allocated to the issue of different classes of tickets or different multiples of issue of tickets.

Mounted within the said framework is the following mechanism, which will of course be repeated in the other units of the machine.

This mechanism comprises means for feeding to an automatic guillotine, in single ticket lengths or multiple ticket lengths, at each cycle of operation, a continuous ticket forming strip 15 drawn from a supply reel thereof (not shown), means for actuating the said guillotine in time with the feed of the strip and means for selectively controlling the duration of feed of the ticket strip per cycle of feed according to whether one severed ticket only is to be issued at each cycle or a series of tickets unsevered from one another and delivered in the form of a continuous strip.

The said feeding mechanism for the ticket forming strip and the automatic guillotine are both actuated by a small electric motor (not shown). The circuit of this motor is closed upon depression of any one of the three keys 16, 17, 18 of the machine, a suitable switch (not shown) being provided for this purpose.

The ticket strip feed mechanism comprises a slotted disc 19, fast on a shaft 20 and formed with six radial slots 21, as shown more clearly in Figure 3. These slots are spaced at equal angular intervals apart and they co-operate with three roller pins 22 mounted upon the face of a toothed wheel 23 fast upon a second shaft 24 parallel with the shaft 20.

There are three of such roller pins 22, and, as shown, they are spaced at equal angular intervals apart around the axis of shaft 24. As said shaft 24 and consequently toothed wheel 23 rotate, the pins 22 move around the axis of shaft 20 and in doing so, reciprocate along the slots 21 of wheel 19, revolving wheel 19 and shaft 20 in consequence. Said pins 22, wheel 23, slots 21 and wheel 19 constitute together, therefore, a form of Geneva drive mechanism.

Upon the periphery of slotted disc 19 are an equally spaced series of short pegs 25 which are arranged to extend through and engage with correspondingly spaced perforations 26 provided to receive the pegs in the ticket forming strip 15. The said strip 15 is drawn by the pegs 25 over a curved guide plate 27, substantially co-incident, around the curved portion, with the periphery of the disc 19, the latter being accommodated in a slot in the guide plate extending along the centre thereof.

The strip, after leaving the pegs 25 on the

slotted disc 19, is delivered, still in position upon the guide plate 27, to the gate 28 of a guillotine consisting of a knife 29 reciprocable upon supporting guides therefor 30. This knife is reciprocated in time with the angular movements of the slotted disc 19, which, as will be appreciated, constitutes the rotary feed member for the ticket forming strip as well as the slot wheel of the Geneva drive mechanism therefor.

The drive train from the electric motor hereinbefore referred to, to the feed disc 19, comprises a shaft 31, a pinion 32 fast thereon, a second pinion 33 in mesh with pinion 32 and mounted upon the upper end of one arm of a bell crank lever 34 pivoted in the unit at 35, the toothed wheel 23, pins 22 and slots 21, the lever 34 being normally in the lowered full-line position shown in Figure 3 and the pinion 33 in the out-of-mesh position relatively to the teeth of the wheel 23.

Whenever any of the three keys 16, 17, 18 is depressed the bell crank lever 34 becomes automatically angulated about its pivot 35 in the clockwise (in Figure 3) direction to the broken-line position shown, and the rotating wheel 33 is in consequence brought into mesh with the teeth of the wheel 23, imparting rotation thereto by the drive from the motor to occasion in turn rotation of the feed disc 19 and feed of the strip thereby to the gate of the guillotine.

The operative connection to this end, between the keys 16, 17, 18 and the bell crank lever 34, comprises a stirrup 36 pivoted upon the axis of pivoting of the keys and spring-controlled by a spring 38a (Figure 6) towards the normal position shown in full lines in Figure 3. This stirrup has at one side a depending extension arm 37, projecting laterally from which is a pin 38. This pin projects through an aperture 39 provided to accommodate it in the side plate 12 of the unit framework and abuts at the end a shoulder 40 at the right hand end of a sloping push bar 41 located adjacent the face of the side plate 12 exteriorly of the unit. The push bar 41 is reciprocable in the direction of its length and is arranged to be forced forwardly (to the left in Figure 3) by the depression of any one of the keys 16, 17, 18, the manual thrust being transmitted to the bar from the keys through the intermediary of the stirrup 36 (which is common to all three of the keys and is depressed to the chain-line position shown whenever any one of the keys is depressed) arm 37, pin 38 and shoulder 40. The stroke of the bar is the same irrespective of which key is depressed.

The push bar 41 is pivotally connected at its left hand end to the tail 42 of a pawl 43 pivoted intermediate its ends at 44 upon the upper end of a double-armed lever 45 pivoted at 46 upon shaft 24 aforesaid. Consequently, when the bar 41 is reciprocated it operates to angulate the lever 45 about shaft 24. When the bar is moved forwardly, that is to say to the left, it moves lever 45 anti-clockwise, and vice versa. Such anti-clockwise movement of the lever 45 causes the lower end 47 of the lever, by abutting the upstanding arm, to angulate the bell crank lever 34 in the clockwise direction, which, as previously intimated, occasions the bringing into mesh of pinion 33 with toothed wheel 23 and consequently the establishing of drive connection as between the feed disc 19 and the electric motor of the unit.

At the same time, the guillotine knife 29 is retracted, that is to say moved to the left in Figure 3, to clear the gate of the guillotine for the

passage therethrough of the strip as it is fed from the guide plate 27. To this end, said knife 29 is connected by a pin 48 to a horizontal stirrup portion 49 of the lever 45, this lever being formed in one piece, as shown more clearly in Figure 5, of two side portions, both pivoted upon the shaft 24, and the stirrup portion 49 referred to. With this arrangement, as will be appreciated, the necessary thrust to retract the guillotine knife to its gate-open position is imparted manually by the depression of the keys 16, 17, 18, the thrust being transmitted from the keys through the medium of the push bar 41, tail 42 of pawl 43, pawl pivot 44 and pin 48.

As previously described, upon depression of any one of the three keys 16, 17, 18, the motor is brought into operation and through the medium of the drive trains interconnecting the motor with the feed disc 19, the latter is rotated to feed the ticket strip 15 through the gate of the guillotine, this gate having previously been opened, that is to say, during the forward stroke of the push bar 41 and therefore during the depression of the operated key.

The motor, once started, continues to operate and the strip continues to be fed through the gate of the guillotine, until disconnection is effected as between pinion 33 and toothed wheel 23, that is to say, until bell crank lever 34 is re-angulated back to its normal full-line position. At this moment, a switch (not shown) in the motor circuit is actuated to break the circuit and stop the motor.

From the description so far given, it will be clear that the angulation of the bell crank lever 34 from its normal full-line position to its operative chain-line position, is effected by manual thrust transmitted, in the depression of the operated key 16, 17 or 18, through the intermediary of push bar 41, pawl 43 and lever 45. The return angulation of the bell crank lever to the full-line position, that is to say upon completion of a cycle of feed movement of the slotted disc 19, is effected automatically by a tension spring 50 tending always to move the bell crank lever in the anti-clockwise direction.

Said spring 50 operates thus to return bell crank lever 34 to its normal position, whenever the said lever is released by the return (clockwise) movement of lever 45, that is to say whenever the tail 47 of said lever 45 recedes (to the left) from the upstanding arm of the bell crank lever.

Said clockwise movement of lever 45 and consequent recession of tail 47 is effected mechanically by thrust exercised from the electric motor through the intermediary of shaft 31, pinion 32, pinion 33, toothed wheel 23 and one of a series of three face teeth or dogs 51 projecting laterally from the face of wheel 23, this face tooth, in the rotation of said wheel 23, coming into abutment with the nose of pawl 43, which latter has just previously been moved, by means hereinafter described, into the path of the tooth 51.

The said angulation of the pawl takes place towards the end of the cycle of strip feed of the slotted disc 19 and the timing of the parts is such that at this moment, the face tooth 51 is just approaching the nose of the pawl. Upon actually reaching said nose it abuts it and through the intermediary of the pawl carries the lever 45 round with it in the clockwise direction, with consequent release of the bell crank lever 34 as previously described, break of drive connection as between wheel 23 and the electric

motor, return of push bar 41 to its normal or initial position and operation of the guillotine, the knife of the latter being moved sharply to the right across the gate 23 to sever the length of ticket strip now protruding therethrough.

In order to assist the movement of the parts during the depression of the actuating keys 16, 17, 18, the lever 45 is spring controlled to the left by a tension spring 52 operating, as will be appreciated, in opposition to the previously mentioned tension spring 50.

The angulation of the nose of the pawl 43 into the path of the face tooth 51 as above described is also effected by mechanical thrust derived from the torque of the electric motor. This will be clear from what follows.

Mounted upon stationary pivots 54 is a second stirrup 55 having an arm 56 extending beyond the axis of the pivots 54 to the left in Figure 3. This arm has a finger 57 at the extremity which is positioned as shown in the path of a series of radial stop faces 58, 59, 60 formed upon the periphery of a rotary block 61 fast with a pinion 62 revoluble upon a pin 63 projecting into the unit through an aperture 64 in the side plate 12, from the inner face of push bar 41.

When bar 41 is moved forward (to the left in Figure 3) it carries pinion 62 into mesh with the teeth of a wheel 65, which teeth are in turn and always in mesh with a pinion 66 fast upon shaft 28. Consequently, all the time ticket strip is being fed through the gate of the guillotine, pinion 62 and block 61 are being rotated anticlockwise and this rotation continues until one or other of the stop faces 58, 59, or 60 abuts the finger 57 on stirrup 55. As soon as this abutment occurs, the block is prevented from rotating further and pinion 62 and wheel 65 become locked against further rotation about their own axes. The bar 41, however, is free to angulate about a fulcrum pin 67 projecting beneath it from the framework plate 12 and as the pinion 62 and block 61 are mounted upon the bar, the latter, upon the locking together of pinion 62 and wheel 65 in the manner stated, yields to the thrust imparted from the motor through the gear train, including at the end of the wheel 65 and pinion 62, and moves downwardly (clockwise) about fulcrum pin 67 and in doing so angulates pawl 43 anticlockwise into the path at the nose of the oncoming face tooth 51.

During the resulting return of the lever 45 to its normal position (that is to say in the further and concluding movement of wheel 23 and face tooth 51) the pawl 43 becomes re-angulated back to its normal position clear of the path of the face tooth by the cam action of a roller 68 operating upon the sloping back of the tail 42 of the pawl.

The pinion 62 is spring controlled by a spring 62a (Figure 4) to return automatically to its initial or starting position, upon the pinion being pushed out of mesh with the wheel 65 by the return of the bar 41 to its normal position.

The return, therefore, of all of the moving parts of the machine to their initial or starting positions is entirely automatic.

The machine operates as above described, which ever key is depressed, and the selection action in respect of the number of tickets issued at each cycle of the feed mechanism is obtained in the machine by the variation provided for in the height of lift imparted to the finger 57 of stirrup 55 upon depression of the operated key.

There are three positions of lift for the finger;

the full-line position, the dotted-line position and the chain-line position.

In the full-line position, which is the position occupied by the finger when key 16 is the operated key, the finger is located in the path of the first (58) of the three stop faces on the block 61 so as to be in a position to abut this stop face in the rotation of the block. In the intermediate or dotted-line position, the finger 57 is located in the path of the second stop face 59 and in the chain-line position it is located in the path of the stop face 60.

According to which of these three positions, therefore, the strip is brought by the depression of the operated key, so is determined the length of the feed cycle of the slotted disc 19 and therefore the length of ticket strip delivered through the guillotine gate, and the various parts of the mechanism are so proportioned that the peripheral travel of the disc 19 is equal to the length of one ticket only when key 16 is depressed, to the length of two tickets when key 17 is depressed and to the length of three tickets when key 18 is the operated key.

The selective positioning of the stirrup 55 in the manner referred to is effected automatically by the depression of the keys. To this end, the keys are located, as shown, immediately above the back of the stirrup and the latter is notched (as appears clearly in Figure 6) with a series of stepped notches 55a situated one beneath key 16, and another beneath key 17, the depth of these notches being such, in relation to the proportions of the various parts, that upon depression of key 17 the stirrup is angulated from the normal full-line position to the intermediate or dotted-line position and upon depression of key 18 the stirrup is angulated to the chain-line position. Upon depression of key 16, the stirrup is not angulated at all, its finger 57 being, in this position of the stirrup, already located in the path of the first (58) of the three stop faces.

It will be apparent to engineers skilled in the art that although the foregoing specific embodiment of the invention possesses a number of important advantages and merits, the scope of the invention is by no means limited to the said embodiment, either as regards general arrangement of parts or in respect of details of design or construction of individual elements.

What we claim and desire to secure by Letters Patent of the United States is:—

1. In a key operable strip ticket issuing machine of the type specified, the combination of operating keys, a rotary feed member for the strip, a rotary pin-and-slot drive mechanism for said feed member comprising a driven pin member having rotational engagement with a radially slotted wheel, the periphery of which constitutes the feed member, and means operatively associated with the pin member of the drive mechanism and brought into operation by depression of any one of the keys, for limiting the extent of rotation of said pin member in proportion to the number of tickets to be issued.

2. In a key operable strip ticket issuing machine of the type specified, the combination set forth in claim 1, in a form wherein the drive mechanism is a Maltese cross mechanism comprising a driven pin member having rotational engagement with a radially slotted wheel and carrying a locating disc peripherally engaged with a co-operating disc on the slotted wheel, the said mechanism having the pin of the pin member and the slotted portion of the slotted wheel disposed in

a plane displaced axially from the plane in which the locating disc of the pin member and said co-operating disc are located.

3. In a key operable strip ticket issuing machine of the type specified, the combination set forth in claim 1, in a form wherein there are power means for driving the pin member and means operatively connected to the keys for throwing said power means into and out of operative engagement with the pin member and the said means operatively associated with the pin member comprises a dog on said member, a pawl constituting an element in the operative connection between the keys and said means for throwing the power means into and out of operative engagement with the pin member and displaceable upon depression of any one of the keys from a normal retracted position to an advanced position in which it is clear of the path of the dog and means operable towards the close of the cycle of movement of the feed member to displace the advanced pawl to a further position in which it is in said path, said operative connection being such that the dog upon being thus intercepted by the pawl automatically returns the latter to retracted position and thereby occasions discontinuance of drive to the pin member.

4. In a key operable strip ticket issuing machine of the type specified, the combination set forth in claim 1 in a form wherein there are power means for driving the pin member and means operatively connected to the keys for throwing said power means into and out of operative engagement with the pin member and the said means operatively associated with the pin member comprises a dog on said member, a pawl constituting an element in the operative connection between the keys and said means for throwing the power means into and out of operative engagement with the pin member and displaceable upon depression of any one of the keys from a normal retracted position to an advanced position in which it is clear of the path of the dog and means operable towards the close of the cycle of movement of the feed member to displace the advanced pawl to a further position in which it is in said path, said operative connection being such that the dog upon being thus intercepted by the pawl automatically returns the latter to retracted position and thereby occasions discontinuance of drive to the pin member and at the same time the return of the operated key to normal position.

5. In a key operable strip ticket issuing machine of the type specified, the combination of a motor driven power wheel, operating keys, a rotary feed member for the strip, a rotary pin-and-slot drive mechanism for said feed member comprising a pin member rotationally engaged with a radially slotted wheel, the periphery of which constitutes said feed member, means operatively connected to the keys for throwing the pin member of the drive mechanism into and out of engagement with the power wheel, and key-actuated means for selectively limiting the extent of rotation of the pin member, the said means including a dog on the pin member, a pawl in the operative connection between the keys and the means for throwing the pin member into and out of engagement with the power wheel, said operative connection being such that the pawl upon depression of a key becomes displaced from a normal retracted position to an advanced position in which it is clear of the path of the dog and means whereby towards the close of cycle of

movement of the feed member the pawl becomes moved from the advanced position to a further position in which it is in said path, thereby intercepting the dog and causing the latter to return the pawl to retracted position and occasion discontinuance of drive to the pin member and the return of the operated key to normal position.

6. In a key operable strip ticket issuing machine of the type specified, the combination set forth in claim 5, in a form wherein the said key-actuated means includes in addition to the pawl a rotatable toothed member, a toothed wheel rotatable with the slotted wheel of the drive mechanism, said toothed member being normally out of mesh with the toothed wheel and moved into mesh therewith upon depression of the operated key, and selective stop means brought into operative condition during depression of the operated key and arranged, according to which of the keys is operated, to terminate the rotation of the toothed member at one or other of a series of limiting positions and thereby lock the said member and the toothed wheel together against further relative rotation, the said toothed member being mounted upon a part which, besides being movable in a manner to bring the toothed member into and out of mesh with the toothed wheel, is movable also in a manner to afford to the member and toothed wheel when locked together limited freedom of displacement together substantially around the axis of the toothed wheel during further rotation thereof, and is so operatively connected to the pawl as to move the latter into the path of the dog on the pin member during said displacement of the locked member and toothed wheel and, upon return of the pawl to retracted position, to be displaced thereby to return the toothed member to normal position clear of the toothed wheel.

7. In a key operable strip ticket issuing machine of the type specified, the combination of operating keys, a rotary feed member for the strip, a rotary pin-and-slot drive mechanism for the feed member comprising a driven pin member having rotational engagement with a radially slotted wheel, the periphery of which itself constitutes the feed member, power means for driving the pin member of the drive mechanism, a dog on the pin member, a pawl normally in a retracted position out of the path of the dog, clutch means for throwing the pin member into and out of engagement with said power means, an operative connection between the keys on the one hand and said pawl and said clutch means on the other whereby upon depression of the operated key the pawl is moved to an advanced position but still out of the path of the dog and the clutch means is operated to engage the pin member with the power means, key-actuated selector mechanism to determine the extent of rotation of the feed member in accordance with the number of tickets to be issued and means operatively associated with said selector mechanism whereby, upon completion of the determined extent of rotation of the feed member, the pawl is moved into the path of the dog on the pin member so as to be engaged thereby and returned during the further movement of the pin member to normal position with simultaneous return of the clutch means to disengaged condition.

8. In a key operable strip ticket issuing machine of the type specified, the combination of operating keys, a rotary feed member for the strip, a rotary pin-and-slot drive mechanism for the feed member comprising a driven pin

wheel carrying a plurality of pins and in uninterrupted rotational engagement through one at least of the pins with a radially slotted wheel, the periphery of which itself constitutes the feed member, power means for driving the pin wheel of the drive mechanism, a dog on the pin wheel, a pawl normally in a retracted position out of the path of the dog, clutch means for throwing the pin wheel into and out of engagement with said power means, an operative connection between the keys on the one hand and said pawl and said clutch means on the other whereby, upon depression of the operated key, the pawl is moved to an advanced position but still out of the path of the dog and the clutch means is operated to engage the pin wheel with the power means, key-actuated selector mechanism to determine the extent of rotation of the feed member in accordance with the number of tickets to be issued and means operatively associated with said selector mechanism whereby, upon completion of the determined extent of rotation of the feed member, the pawl is moved into the path of the dog on the pin wheel so as to be engaged thereby and returned during the further movement of the pin wheel to normal position with simultaneous return of the clutch means to disengaged condition.

9. In a key operable strip ticket issuing machine of the type specified, the combination set forth in claim 7, in a form wherein the key-actuated selector mechanism comprises a rotatable toothed member, a toothed wheel rotatable with the slotted wheel of the drive mechanism, said toothed member being normally out of mesh with the wheel and moved into mesh therewith upon depression of the operated key, a series of stops movable with the toothed member, allocated respectively to the several keys and of different effective position in accordance with the number of tickets to be issued upon depression of the operated key, an abutment brought into the path of the stops upon depression of the operated key, the toothed member being thereby rotatable through an angle which is proportional to the number of tickets to be issued in the current

cycle of the machine and thereafter locked with the toothed wheel against further relative rotation therewith, which toothed member is mounted upon a part which has limited freedom of displacement in a direction approximately tangential to the toothed wheel at the point of mesh thereof with the toothed member and is articulated to the pawl so as to move the latter into the path of the dog on the pin member upon interlocking occurring of the toothed wheel with the toothed member with consequent displacement of the said part articulated to the pawl.

10. In a key operable strip ticket issuing machine of the type specified, the combination claimed in claim 8, in a form wherein the key-actuated selector mechanism comprises a rotatable toothed member, a toothed wheel rotatable with the slotted wheel of the drive mechanism, said toothed member being normally out of mesh with the wheel and moved into mesh therewith upon depression of the operated key, a series of stops movable with the toothed member, allocated respectively to the several keys and of different effective position in accordance with the number of tickets to be issued upon depression of the operated key, an abutment brought into the path of the stops upon depression of the operated key, the toothed member being thereby rotatable through an angle which is proportional to the number of tickets to be issued in the current cycle of the machine and thereafter locked with the toothed wheel against further relative rotation therewith, which toothed member is mounted upon a part which has limited freedom of displacement in a direction approximately tangential to the toothed wheel at the point of mesh thereof with the toothed member and is articulated to the pawl so as to move the latter into the path of the dog on the pin member upon interlocking occurring of the toothed wheel with the toothed member with consequent displacement of the said part articulated to the pawl.

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