Sept. 5, 1939. L. SCHER 2,171,898

TICKET-ISSUING MACHINE

Filed Sept. 11, 1936 4 Sheets-Sheet 1

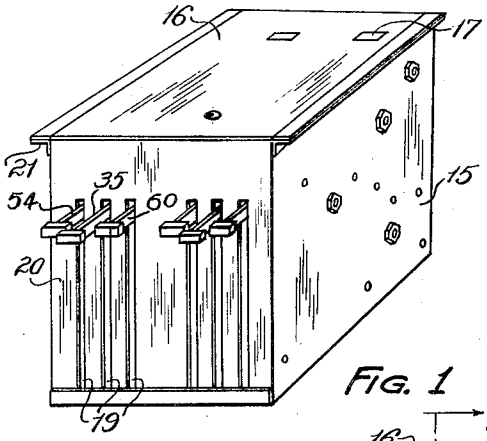


FIG. 1

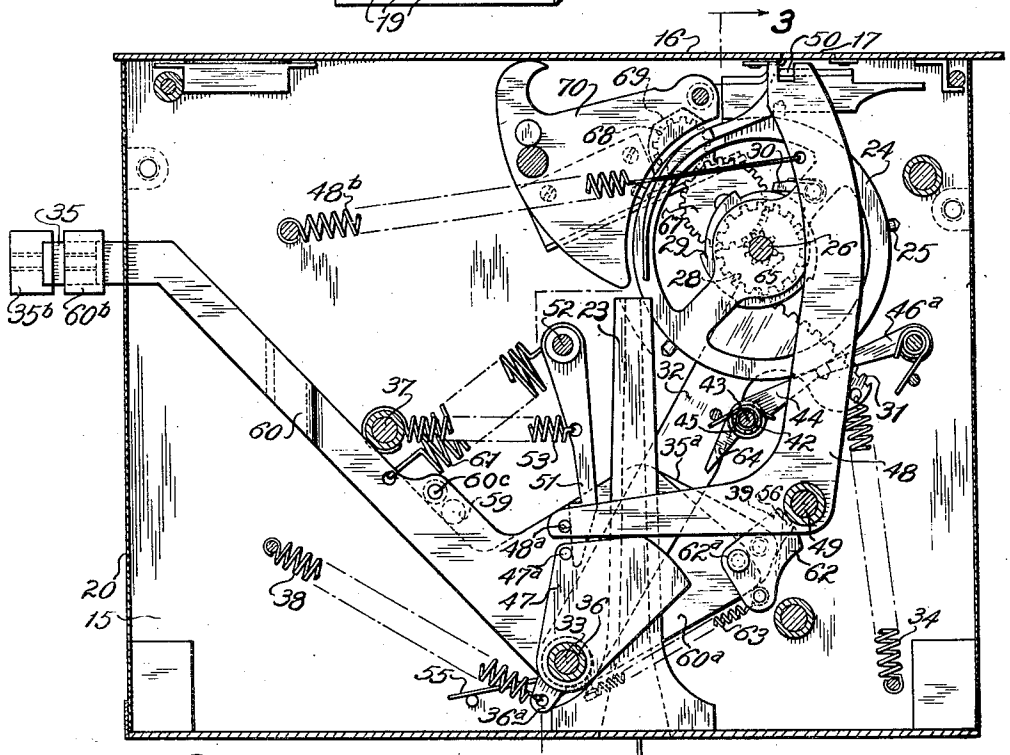


FIG. 2

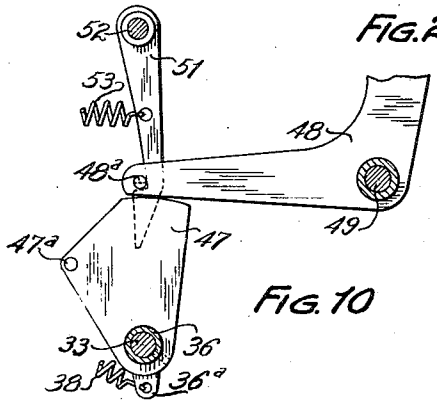


FIG. 10

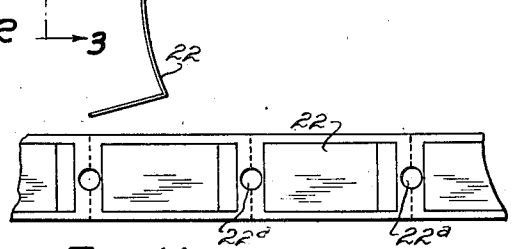


FIG. 11

INVENTOR.
LOUIS SCHER
BY
Kwis, Hudson & Kent
ATTORNEYS

Sept. 5, 1939. L. SCHER 2,171,898

TICKET-ISSUING MACHINE

Filed Sept. 11, 1936 4 Sheets-Sheet 2

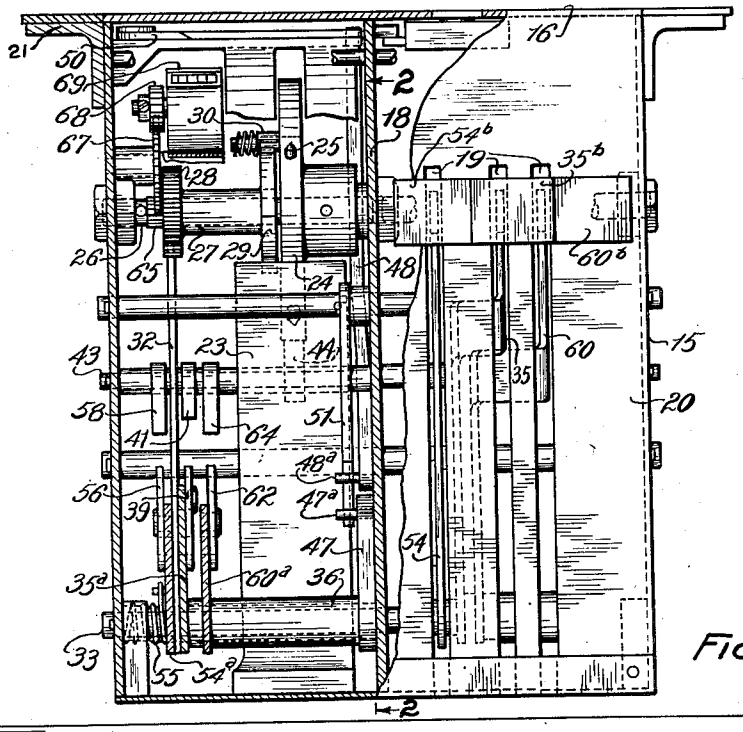


FIG. 3

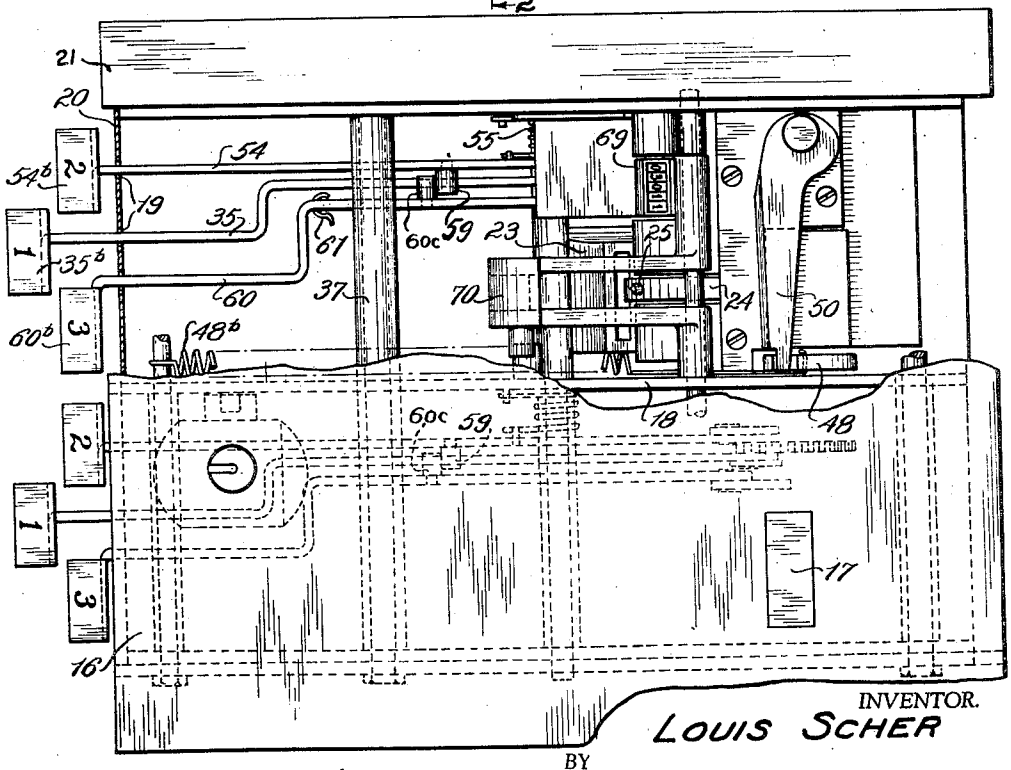


FIG. 4

INVENTOR.
LOUIS SCHER

BY
Hines, Hudson & Kent
ATTORNEYS.

Sept. 5, 1939. L. SCHER 2,171,898

TICKET-ISSUING MACHINE

Filed Sept. 11, 1936 · 4 Sheets-Sheet 3

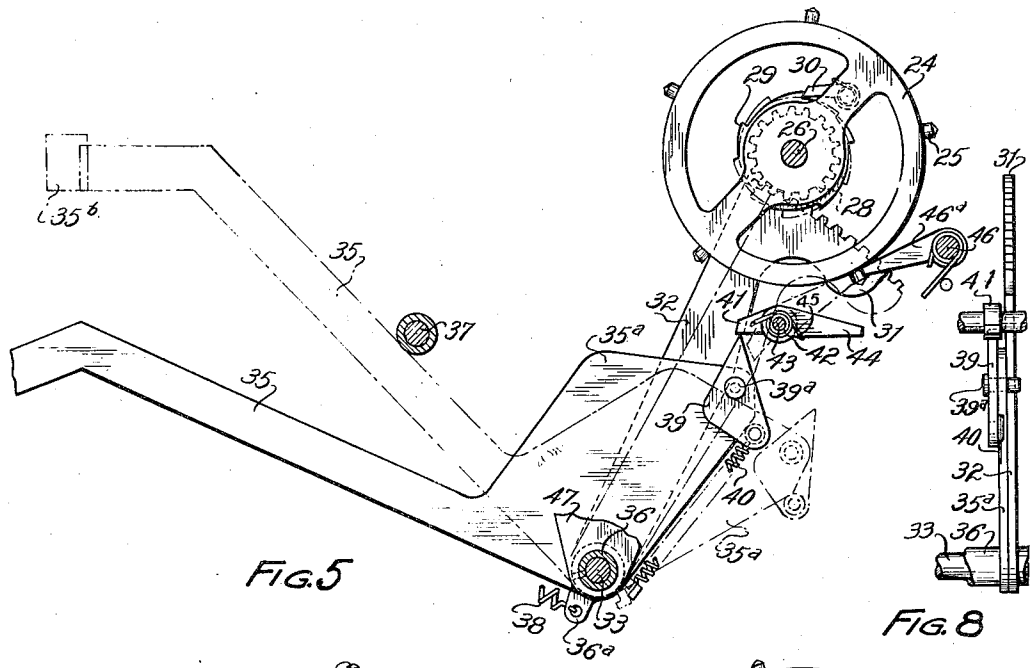


FIG. 5

FIG. 8

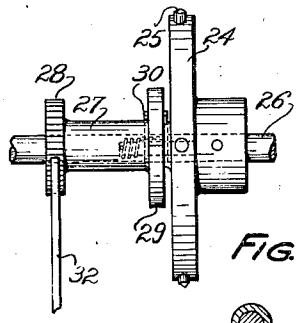


FIG. 7

FIG. 6

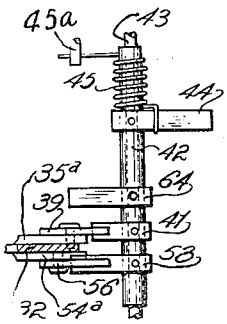


FIG. 9

INVENTOR.

BY LOUIS SCHER

Kurs, Hudson & Kent

ATTORNEYS

Sept. 5, 1939. L. SCHER 2,171,898

TICKET-ISSUING MACHINE

Filed Sept. 11, 1936 4 Sheets-Sheet 4

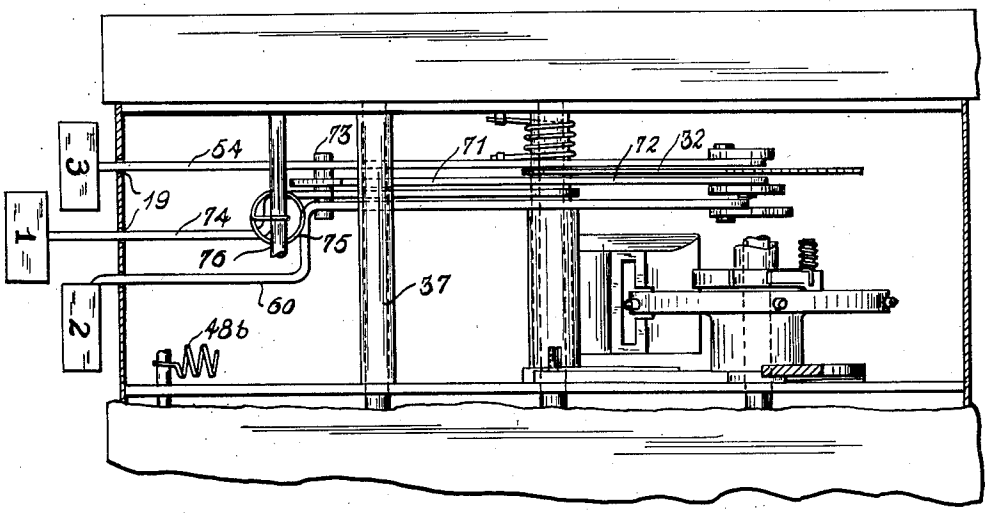
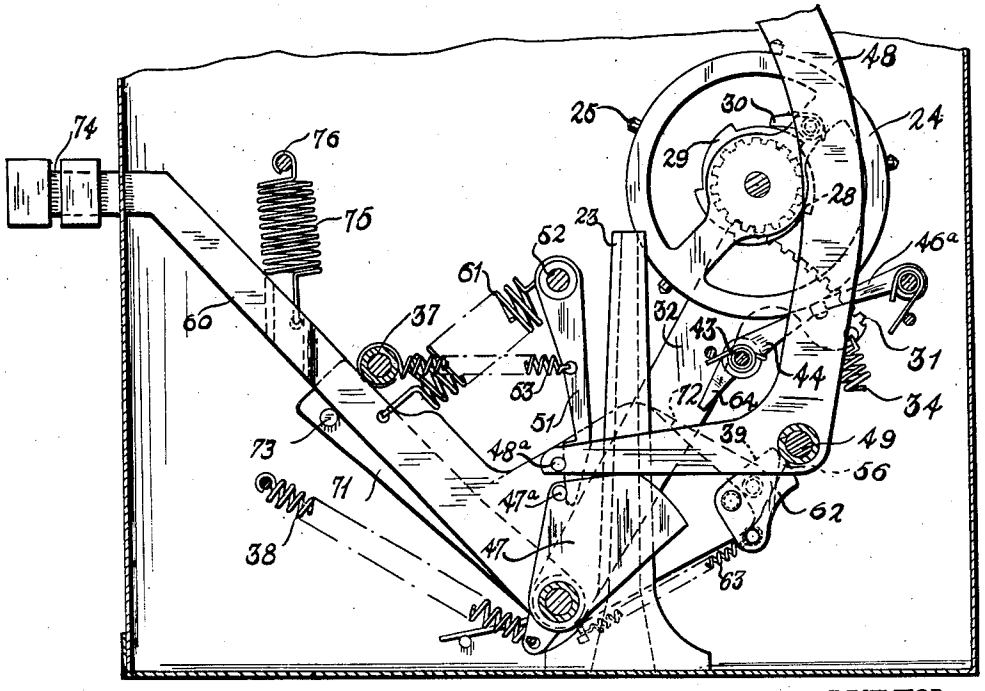


FIG. 12



INVENTOR.

FIG. 13

BY LOUIS SCHER

Kwis Hudson & Kent

ATTORNEYS

Patented Sept. 5, 1939

2,171,898

UNITED STATES PATENT OFFICE

2,171,898

TICKET-ISSUING MACHINE

Louis Scher, Shaker Heights, Ohio, assignor to The Ticket Issuing Machine Company, Cleveland, Ohio, a corporation of Ohio

Application September 11, 1936, Serial No. 100,380

20 Claims. (Cl. 164—49)

This invention relates to an improved ticket issuing machine, such as is employed in the box offices of theaters, amusement and other places to issue to patrons as called for different numbers of tickets.

An object of the invention is to provide a manually operated ticket issuing machine which may be readily and easily operated and which requires on the part of the operator a minimum amount of selection of keys, buttons, levers or other similar members or devices to select and issue different numbers of tickets.

Another object is to provide a manually operated ticket issuing machine, wherein the selection and actuation of a single member by a single movement of the operator selects the number of tickets to be issued and operates the ticket issuing and severing mechanism.

A further object is to provide a ticket issuing machine such as above specified, which is efficient in operation, simple and economical in construction, and which is sturdy and requires a minimum amount of maintenance or servicing.

Further and additional objects and advantages not hereinbefore specified will become apparent hereinafter during a detailed description which is to follow of an embodiment of the invention.

Referring to the accompanying drawings illustrating such embodiment,

Fig. 1 is a perspective view, on a greatly reduced scale, illustrating a dual unit ticket issuing machine embodying the invention.

Fig. 2 is a longitudinal vertical sectional view, on a larger scale than Fig. 1, through one of the units of the machine shown in Fig. 1, and is taken substantially on line 2—2 of Fig. 3 looking in the direction of the arrows.

Fig. 3 is a front view of the machine shown in Fig. 1 and is partly in elevation and partly in section, the section being taken substantially on the irregular line 3—3 of Fig. 2 looking in the direction of the arrows.

Fig. 4 is a top plan view of the machine shown in Fig. 1 with a portion of the cover plate broken away.

Fig. 5 is a detached view to show the relationship of certain of the parts of the machine during the issuance of a single ticket.

Fig. 6 is a view similar to Fig. 5, but shows the relationship of the parts when two tickets are being issued.

Fig. 7 is a detached fragmentary elevational view of the ticket feed wheel, ratchet, pinion and gear segment and is taken looking from the left hand side of Fig. 6.

Fig. 8 is a detached fragmentary elevational view and is taken looking from the right hand side of Fig. 5 and shows the gear segment and the actuating and selecting lever with the cam thereon cooperating with the lever for holding the ticket feed wheel, stop dog or pawl in inoperative position.

Fig. 9 is a fragmentary sectional view taken substantially on line 9—9 of Fig. 6 looking in the direction of the arrows.

Fig. 10 is a detached fragmentary view showing the relationship of certain of the parts of the ticket severing mechanism when the knife thereof is held in open position.

Fig. 11 is a top plan view of a portion of a strip of tickets of the character issued by the machine.

Fig. 12 is a view similar to Fig. 4 which shows a modified form of ticket issuing machine embodying the invention, certain of the parts being omitted.

Fig. 13 is a fragmentary view similar to Fig. 2 of the modified form of machine shown in Fig. 12.

A ticket issuing machine embodying the invention may comprise various numbers of separate units, but for purposes of illustration the machine illustrated in the drawings is a dual unit machine, it being understood that each unit thereof is identical in structure and constitutes a complete and operative ticket issuing machine in itself.

The machine comprises a case indicated in Fig. 1 generally at 15, and provided with a removable cover plate 16 having therein openings through which the tickets are issued, and which openings are normally closed by doors 17 that are raised by the tickets in their passage through the openings. The interior of the case 15 is divided into two compartments by a central partition 18 (see Figs. 3 and 4), and each compartment houses a unit of the machine. In the present instance each unit of the machine is capable of issuing one to three tickets and the three selecting and actuating levers of each unit and which will later be referred to extend through vertical slots 19 formed in the front plate 20 of the case. It will be understood, of course, that other embodiments of the invention might be so constructed as to issue a lesser or a greater number of tickets.

It will be understood that the case 15 can be positioned in any suitable manner as, for example, it can be supported by the angle strips 21 in an opening or recess formed in the counter of the box office or other place where the machine is used, and the strips of tickets 22 can be lo-

cated beneath the case in a suitable magazine cabinet and fed into the machine as indicated in Fig. 2, as will be well understood in the art.

Inasmuch as the mechanisms of both units are identical it will be necessary to describe in detail herein the construction of only a single unit of the machine.

The strip of tickets 22 extends into the case from the bottom thereof and passes upwardly through an elongated vertical guide member 23, and has its upper end extending partially around the circumference of a ticket feed wheel 24. The ticket feed wheel 24 is provided on its periphery with circumferentially spaced radially extending and outwardly projecting pins 25, which engage in openings 22a formed in the strip 22 and spaced apart the distance of a single ticket (see Fig. 11), wherefore it will be seen that rotation of the feed wheel 24 in a clockwise direction, as viewed in Fig. 2, will cause the tickets at the end of the strip to be fed into and through the delivery and severing mechanism later to be referred to, a suitable guide being provided to deflect the end of the strip from the feed wheel and into said mechanism as is well understood in the art.

The feed wheel 24 is fixed to a rotatable shaft 26 extending transversely of the unit and supported in a side wall of the case and the partition 18. A sleeve 27 is mounted on the shaft 26 for free rotation thereon and said sleeve carries at one end a pinion 28, while its opposite end has fixed thereto a ratchet 29. The ratchet 29 cooperates with a spring-pressed pawl 30 carried by a pin projecting from one of the spokes of the feed wheel 24, and the teeth of said ratchet are so disposed and faced that rotation of the ratchet in a clockwise direction, as viewed in Fig. 2, will effect through the pawl 30 a clockwise rotation of the feed wheel 24 to feed the tickets to and through the delivery and severing mechanism, while an anti-clockwise rotation of the ratchet 29 will not cause any rotation of the feed wheel, since the pawl will merely idle over the teeth of the ratchet.

The sleeve 27, pinion 28 and ratchet 29 are actuated by a gear segment 31 formed on the upper end of a lever arm 32, the lower end of which is loosely supported for swinging movement on a rod 33 extending transversely of the machine and supported by the side walls and the partition 18 of the case. It will be seen that when a swinging movement is imparted to the lever arm 32 toward the left, as viewed in the drawings, the segment 31 will cause a rotation of the pinion 28 and ratchet 29 in a clockwise direction, with a resultant clockwise rotation of the feed wheel 24 to effect a feeding of the tickets to the delivery and severing mechanism. The lever arm 32 and gear segment 31 are normally held in their most right hand position by means of a spring 34 connected to the lever arm adjacent the gear segment and to a pin carried by the wall of the case, as clearly shown in Fig. 2, it being understood that the movement of the lever arm 32 toward the right under the action of the spring 34 does not cause an anti-clockwise rotation of the feed wheel, since the pawl 30 idles over the teeth of the ratchet 29. The movement of the lever arm 32 toward the right is limited by a shaft later to be referred to, wherefore the segment 31 is always in mesh with the pinion 28.

It will be observed that if the ticket feed wheel 24 is rotated in a clockwise direction through different and predetermined arcs that variable numbers of tickets will be fed by the wheel to the delivery and severing mechanism, and the means whereby such predetermined arcuate rotation of the ticket feed wheel can be selectively accomplished by the operator will now be described.

A selecting and actuating lever 35 which projects through the middle slot 19 of each group of three slots in the front plate 20 of the case and extends angularly downwardly within the case is provided at its lower end with an enlarged angularly disposed portion 35a that is fixed to a sleeve 36 rotatably mounted upon the rod 33. The lever 35 is normally held in its uppermost position and in stopping engagement with a spacer rod 37 that extends transversely of the case by a spring 38 which has one of its ends secured to a pin carried by the wall of the case and its other end secured to an extension 36a on the lower end of a cam (later to be referred to) that is secured to the sleeve 36 to rock therewith. The portion 35a of the lever adjacent the upper right hand end thereof, as viewed in the drawings, has a cam 39 pivoted thereto by means of a pivot pin 39a which extends through the portion 35a and projects beyond the side surface of the same. The right hand end of the cam 39 is connected to one end of a coil spring 40, the opposite end of which spring is connected to a lug formed on the portion 35a adjacent the sleeve 36, wherefore the cam 39 is normally held in the position indicated in Fig. 5. When the lever 35 is depressed from the dot-dash position of Fig. 5 into the full line position thereof, the pointed upper end of the cam 39 first comes into engagement with a relatively short lever 41 that is fixed to a sleeve 42 rotatably supported upon a rod 43 extending transversely of the case, see Figs. 3 and 9. The rod 43 also serves as a stop to limit the right hand movement of the gear segment 31. The sleeve 42 also has fixed thereto and extending in the opposite direction from the lever 41 an arm or dog 44, while a coil spring 45 arranged on the sleeve 42 and having one end engaging the underside of the dog or arm 44 and its opposite end engaging a fixed pin 45a carried by the partition 18 of the case acts to normally rock the dog 44, lever 41 and sleeve 42 in an anti-clockwise direction (as viewed in the drawings) until the upper side of the dog 44 adjacent the end thereof contacts with the periphery of the feed wheel 24.

It will be seen that as the lever 35 is depressed and the point of the cam 39 comes into contact with the underside of the lever 41 that said lever will be rocked against the action of the spring 45 by the cam in a clockwise direction, as viewed in the drawings, with a resultant rocking of the dog 44 in a similar direction and out of engagement with the periphery of the feed wheel 24. As shown by dot-dash lines in Fig. 5, when the dog engages the periphery of the feed wheel 24 the latter can only rotate in a clockwise or feeding direction until one of the pins 25 engages the end of the dog. It will also be noted that the feed wheel 24 is held against rotation in an anti-clockwise direction by means of the spring-pressed stop pawl 46a rockably supported on a rod 46 extending transversely of the case, it being understood that during a clockwise rotation of the feed wheel the pawl 46a idles over the pins 25. Hence, as soon as the cam 39 has engaged the underside of the lever 41 and rocked the same upwardly with a resultant downward movement of the dog 44 out of contact with the periphery of the wheel 24 and the pin 25, the feed wheel 24 is free to move in a clockwise direction.

Shortly after the disengagement of the dog 44 from the pin 25 the extension of the pivot pin 39a for the cam 39 contacts with the rear or right hand edge of the lever 32, wherefore further downward movement of the lever 35 causes a rocking movement to the left of the lever 32 and a resultant actuation through the gear segment 31 and pinion 28 of the feed wheel 24 in a clockwise direction to cause a feeding of the ticket strip into and through the delivery and severing mechanism.

The length of the lever 41, the breadth of the point of the cam 39 and the relationship between said lever and cam are so proportioned and arranged in the present instance that prior to the rotation of the wheel 24 through an arc equal to one-fifth of a circle (72°) the cam 39 rides out of engagement with the underside of the lever 41, whereupon the spring 45 causes the dog 44 to move upwardly into engagement with the periphery of the feed wheel and as soon as the wheel has completed its rotation through an arc of 72°, due to the continued downward movement of the lever 35, the next pin 25 will engage the end of the dog and stop immediately further rotation of the feed wheel and downward movement of the lever 35.

It will be understood that since the pins 25 are spaced apart a distance equal to the length of one ticket, the rotation of the feed wheel through an arc of one-fifth of a circle will cause a single ticket to be delivered into and through the delivery and severing mechanism, and hence the downward movement of the lever 35 acts to select and effect the delivery to the severing mechanism of one ticket. When the lever 35 is allowed to return or move upwardly under the action of the spring 38 into engagement with the spacer rod 37, the cam 39 contacts with the end of the lever 41 which is now in the dot and dash line position of Fig. 5, and is rocked thereby on its pivot against the action of the spring 40 until the cam has passed the lever 41, whereupon it will be moved into its normal position again by the spring 40. It will also be understood that the lever 32 and gear segment 31 are returned to normal position, as shown in Fig. 2, by the spring 34 when the pin 39a moves toward the right away from the edge of the lever and during which movement of the gear segment the pinion 28 and ratchet 29 are rotated in an anti-clockwise direction but do not impart any movement to the feed wheel 24, since the pawl 30 merely idles over the teeth of the ratchet 29 and the feed wheel is locked by the stop pawl 46a.

When the lever 35 is depressed, as previously referred to, a cam lever 47 carrying the projection 36a previously referred to and which cam lever is fixed to the opposite end of the sleeve 36 from the lever 35 is rocked in an anti-clockwise direction, as viewed in Fig. 2, until the camming portion thereof comes into engagement with the underside of the short and horizontal arm of a bell crank lever 48 that is pivotally mounted on a rod 49 extending transversely of the case and said bell crank lever is rocked by the cam against the action of the spring 48b, so that the upper end of the long vertical arm of the lever moves toward the right, as viewed in Fig. 2, and said upper end of this arm of the lever is provided with a forked portion that receives an extension on the end of a pivoted knife blade 50, wherefore said blade is moved into open position so that the ticket delivered by the feed wheel 24 can pass through the opening in the ticket delivery guide and open the door 17 in the cover plate 16. As the lever 48 is rocked, as just described, a pin 48a carried by the outer end of the short arm of the lever rides upwardly along the straight surface of the pointed end of a trip lever 51 that is rockably supported on a rod 52 extending transversely of the case. The trip lever 51 is normally urged toward the left, as viewed in Figs. 2 and 10, by a spring 53 connected to the lever intermediate its ends and to the rod 37. After the pin has traveled upwardly along the straight side of the pointed end of the lever 51, the spring 53 causes the trip lever 51 to move toward the left, with the result that the pin 48a is positioned back of the shoulder at the junction of the pointed end of the lever 51 with the main body of the lever, wherefore the bell crank lever 48 is held in its rocked position, the knife blade 50 remains open, and the spring 48b is maintained under tension.

After the ticket has been delivered by the feed wheel 24 and the lever 35 is allowed to move upwardly under the action of the spring 38, the cam 47 is rocked in a clockwise direction, and just prior to the lever 35 reaching its uppermost position a pin 47a carried by the cam 47 engages the straight side of the pointed end of the trip lever 51 and moves said lever to the right against the tension of the spring 53 to effect a release of the pin 48a from its engagement with the shoulder on the lever 51, whereupon the spring 48b acts to rock the lever 48 in a direction to effect a movement of the knife blade 50 to closed position, with the result that said knife blade severs the ticket which has been delivered by the feed wheel 24.

In order that two tickets may be issued by the machine when desired, a selecting and actuating lever 54 is provided and extends through one of the slots 19 in the front plate 20 of the case and lies adjacent to the lever 35, as clearly shown in the drawings, it being noted that the levers 35 and 54 are provided with actuating finger pads 35b and 54b, respectively, and that said pads bear numerals indicating the number of tickets which will be issued by operation of the respective levers, as will be well understood in the art. The lever 54 extends angularly downwardly in the case as does the lever 35, and is provided at its lower end with an enlarged angularly disposed portion 54a that carries a bearing sleeve which is loosely mounted upon the rod 33. The lever 54 is normally held in its uppermost position and in engagement with the spacer rod 37 by means of a rat trap spring 55 arranged on the bearing sleeve and having one of its ends engaging a pin carried by the portion 54a, while its other end engages a pin carried by the side wall of the case 15, as clearly indicated in Figs. 3 and 4. The upper right hand corner of the portion 54a has a cam 56 pivoted thereto on a pivot pin 56a and is normally held in the position shown in Fig. 6 by a spring 57. The cam 56 is similar in construction to the cam 39 previously referred to, except that the point of the cam 56 is broader than the point of the cam 39, while the pivot pin 56a does not extend beyond the side face of the cam as does the pivot pin 39a. When the lever 54 is rocked in an anti-clockwise direction by depressing the pad 54b, the cam 56 engages the underside of a lever 58 that is fixed to the sleeve 42 upon which the lever 41 is fixed. The engagement between the cam 56 and the lever 58 results in an upward rocking movement of the

lever 58 and a downward rocking movement of the arm or dog 44 out of contact with the periphery of the feed wheel 24, in a manner identical as when the cam 39 engages the lever 41 to rock the latter upwardly. It will be noted, however, that the lever 58 is longer than the lever 41, and also that the point of the cam 56 is broader than the point of the cam 39, and consequently a greater downward movement of the lever 54 is required to move the point of the cam 56 out of contact with the underside of the lever 58 than is required of the lever 35 to move the cam 39 out of engagement with the lever 41. The lever 58 and cam 56 are so proportioned that the cam 56 will remain in contact with the lever and hold the same in its upwardly rocked position and the dog 44 in its downwardly disengaged position a length of time sufficient for the feed wheel 24 to rotate in a clockwise direction through an arc of two-fifths of a circle or 144°, with the result that such rotation of the feed wheel will deliver two tickets to and through the delivery and severing mechanism.

In order to effect a rotation of the feed wheel and an operation of the severing mechanism when the lever 54 is actuated, it is proposed to have the lever 35 move with the lever 54, and to this end it will be noted that the lever 54 carries a fixed pin 59, see Fig. 4, which engages the upper edge of the lever 35, from whence it will be clear that downward movement of the lever 54 causes a downward movement of the lever 35 and such downward movement of the lever 35 will effect through the engagement of the pivot pin 39a therewith a rocking movement of the lever 32 and gear segment 31, as previously described, to cause the clockwise rotation of the feed wheel 24 and the downward movement of the lever 35 will also cause a rocking movement of the cam 47 to effect an opening of the knife blade 50.

Although the construction illustrated is such that the lever 35 must move downwardly when the lever 54 is moved downwardly, it should be understood that this construction is merely by way of illustration and shown simply because it has certain manufacturing advantages, but it is equally within the purview of the present invention as illustrated in Figs. 12 and 13 and later to be described herein, that the levers 35 and 54 move separately and that a downward movement of the lever 54 would not only release the dog 44, but would also rock the lever 32 and the gear segment formed thereon, as well as actuate the ticket severing mechanism.

It will be understood that as the lever 54 is moved downwardly by the operator the cam 56 will move out of engagement with the underside of the lever 58 after the feed wheel has rotated through one-fifth of a turn, but before it has completed its clockwise movement of 144° or two-fifths of a turn, and that as soon as the cam 56 is disengaged from the lever 58 the spring 45 will rock the dog 44 upwardly into contact with the periphery of the feed wheel 24, and upon further downward movement of the lever 54 the second succeeding pin 25 will contact with the end of the dog when the wheel has completed its rotation through an arc of 144°, and further rotation of the wheel will then be stopped. When the lever 54 is allowed by the operator to move upwardly under the action of the spring 55, the cam 56 will engage the lever 58 and be rocked thereby against the action of the spring 57 to allow the cam to pass the lever and as soon as it has passed the lever the spring 57 will restore the cam to its normal position. As the lever 54 moves upwardly the lever 35 will also move upwardly under the action of the spring 38, so that the projecting end of the pin 39a moves away from the rear edge of the lever 32 and allows said lever to be rocked in a clockwise direction by the spring 34 to restore the gear segment 31 to its original position, during which time the pawl 30 idles over the ratchet 29. The upward movement of the lever 35 will, as has been previously explained, rock the cam 47 in a clockwise direction and by means of the pin 47a carried by the cam will trip the lever 51 to allow the knife 50 to move to closed position to sever from the strip of tickets the two tickets that have been positioned in the delivery opening by the feed wheel 24.

In the present embodiment a third selecting and actuating lever 60 is provided and said lever lies parallel to the lever 35 on the side thereof opposite to the lever 54 and projects through the third slot 19 in the front plate 20 of the case, and has on its outwardly projecting end a finger pad 60b. The lever 60 extends angularly downwardly into the case as do the levers 35 and 54, and is provided at its lower end with an enlarged portion 60a carrying a bearing and spacing sleeve that is loosely mounted on the sleeve 36 for rocking movement thereon, it being observed that the lever 60 is normally maintained in its uppermost position and in engagement with the spacer rod 37 by the spring 61 connected to the lever and to the rod 52.

The enlarged portion 60a of the lever 60 has a cam 62 pivoted thereto on a pivot pin 62a similar in construction to the cams 39 and 56 described in connection with the levers 35 and 54, respectively, and normally held in the position shown in Fig. 2 by a coil spring 63, corresponding to the coil springs 40 and 57 for holding the cams 39 and 56 in their normal positions. The cam 62 is provided with a broader camming point or active surface than are the cams 39 and 56 for a purpose later to be explained.

When the lever 60 is depressed by the operator the point of the cam 62 will come into contact with the underside of a lever 64 fixed to the sleeve 42, see Figs. 3 and 9, and will move said lever upwardly to rock the sleeve 42 to effect a downward movement of the dog 44 to disengaged position, whereupon clockwise movement of the feed wheel 24 is permitted.

The lever 60 carries a pin 60c fixed thereto and which contacts with the upper edge of the lever 35, see Fig. 4, wherefore downward movement of the lever 60 also causes a downward movement of the lever 35. As the lever 35 moves downwardly with the lever 60 the pivot pin 39a for the cam 39 on the portion 35a of the lever 35 engages the rear edge of the lever arm 32 shortly after the time that the cam 62 engages the lever 64 to rock the same upwardly and to move the dog 44 out of engaged position. Consequently the continued downward movement of the lever 60 with the resultant downward movement of the lever 35 acts to rock the lever arm 32 to the left and through the gear segment 31, pinion 28, ratchet 29 and pawl 30 to bring about a clockwise rotation of the feed wheel 24. The downward movement of the lever 35 along with the lever 60 also rocks the cam 47 to rock the bell crank 48 to open the knife 50, it being remembered that when the knife 50 has been

opened it is held in that position by the trip lever 51 engaging the pin 48a.

The breadth of the camming portion or point of the cam 62 is so selected that it remains in engagement with the underside of the lever 64 a length of time sufficient for the dog 44 to remain out of engagement with the feed wheel 24 until after the latter has been rotated in a clockwise direction through an arc of two-fifths of a circle but before it has rotated through an arc of 216° or three-fifths of a circle. The rotation of the feed wheel through this arc will, as will be well understood, result in feeding the strip into and through the delivery and severing mechanism a length equal to three tickets. The operator moves the lever 60 downwardly until the cam 62 moves out of engagement with the lever 64 and the dog 44 under the action of the spring 45 moves into engagement with the periphery of the feed wheel 24 and further clockwise rotation of the feed wheel and downward movement of the lever 60 is stopped.

When the operator allows the lever 60 to move upwardly under the action of the spring 61 the cam 62 will engage the lever 64, but will rock on its pivot and pass said lever as the lever 60 moves upwardly to its initial position. In this connection it should be noted that the springs 40, 57 and 63 are connected to the cams 39, 56 and 62, respectively, by means of pins which engage the rear edges of the portions 35a, 54a and 60a of the levers 35, 54 and 60 to limit movement of the cams in a clockwise direction, as viewed in the drawings. The upward movement of the lever 60 allows the lever 35 to move upwardly under the action of the spring 38, wherefore the pin 47a on the cam 47 trips the lever 41 to release the bell crank 48 and allow the knife blade 50 to shut under the action of the spring 48b to sever from the strip the three tickets which have been delivered to the delivery mechanism. Also as the lever 35 moves upwardly the lever arm 32 moves to the right under the action of the spring 34 to restore the gear segment 31 to its original position, it being understood that during this movement of the gear segment no rotation is imparted to the feed wheel 24, since the pawl 30 idles over the teeth of the ratchet 29.

In the present embodiment the cams 39, 56 and 62 have been illustrated as provided with camming points or active surfaces of different breadths, while the levers 58 and 64 have been illustrated as of the same length as each other but longer than the lever 41. It will be understood, however, that if desired the cams might all be provided with camming points of the same breadth, while the levers with which they coact may be made of different lengths. On the other hand, the levers might all be made of the same length, while the cams are provided with points of different breadths. In other words, the arrangement of the cams and levers should be such that the different cams will maintain the levers in their uppermost position to retain the dog 44 disengaged from the feed wheel the desired length of time to effect the predetermined clockwise rotation of the feed wheel to deliver the selected number of tickets in each instance.

The shaft 26 has formed thereon adjacent to the pinion 28 pinion teeth 65 which mesh with an idler gear 67 mounted on a stub shaft carried by the side wall of the case, and which, in turn, meshes with a small gear 68 fixed to the operating shaft of a counting device 69, wherefore operation of the feed wheel 24 will operate the counting device to indicate the number of tickets delivered by the machine.

A pivoted ticket hold-down member 70 is mounted in the case adjacent the feed wheel 24 and said member is provided with a curved surface that engages the ticket strip and holds the same in position upon the feed wheel, said member 70 being held in its operative position by means of a suitable spring point or by the removable cover 16 of the case.

In Figs. 12 and 13 a modified form of ticket issuing machine is illustrated from that previously described herein. In this modified form of machine the selecting and actuating levers move independently of each other instead of having one of the levers always move upon movement of the other levers as in the first described form. The independent movement of any one of the levers acts to release the dog 44, rock the lever 32 and gear segment 31 formed thereon and actuate the ticket severing mechanism.

In the modified form of machine shown in Figs. 12 and 13 the parts which are identical with the corresponding parts of the machine previously described are indicated by the same reference numerals.

Instead of employing a lever like the lever 35 that is provided with the integrally enlarged angularly disposed portion 35a carrying the cam 39 and fixed to the sleeve 36 that is rotatively mounted on the rod 33, a relatively short lever member 71 is fixed to the sleeve 36 and has an enlarged integral angularly disposed portion 72 which carries the cam 39 and corresponds in structure and function to the portion 35a. The lever member 71 with the enlarged portion 72 is normally held in the position shown in Fig. 13 by the spring 38 connected to the extension 36a on the cam 47 that is also fixed to the sleeve 36, as previously explained. Adjacent the forward end of the lever member 71 (the left hand end as viewed in the drawings) is a pin 73 fixed in the lever member and extending laterally of the opposite side faces thereof.

A selecting and actuating lever 74 lies adjacent one side of the lever member 71 and is loosely pivoted on the sleeve 36 and extends outwardly of the case through the middle slot 19, similar to the lever 35 previously described. The lever 74 overlies the pin 73 mounted on the member 71, as clearly shown in the drawing, and is normally held in the position shown in Figs. 12 and 13 by means of a coil spring 75 secured to the lever and to a rod 76 extending transversely of the casing. When the lever 74 is in the position shown in the drawing its upper edge is in engagement with the spacer rod 37.

When the lever 74 is depressed by the operator it will cause the lever member 71 to rock downwardly, due to the engagement between the lower edge of the lever 74 and the pin 73 carried by the member 71. The working movement of the member 71 effects an actuation of the ticket feeding mechanism to feed one ticket to the delivery and severing means and also actuates the severing means to detach the ticket thus fed, in the same way as does the rocking movement of the previously described lever 35 and its enlarged portion 35a, as will be understood.

The selecting and actuating levers 54 and 60 for causing the delivery of two or three tickets respectively are identical in function, operation and structure to the levers 54 and 60 previously described, with the exception that movement of either of these levers does not effect any move-

ment of the lever **74**. However, movement of the levers **54** and **60** does cause a rocking movement of the lever member **71** for a purpose which will be well understood, since the pin **73** carried thereby extends beneath the lower edges of both of the levers and will be engaged by the levers when they are moved downwardly.

It will be seen that in the modified form of machine shown in Figs. 12 and 13 the selecting and actuating levers for causing the delivery of one, two or three tickets, as the case may be, each acts independently of the other levers, whereas in the first described form the lever **35** always moved when either the lever **50** or the lever **60** was actuated by the operator.

From the foregoing description it will be seen that the present invention provides a manually operated ticket issuing machine, which may be readily and easily operated, in that the operator merely depresses the lever, the finger pad of which bears a number corresponding to the number of tickets called for, and such depression of the lever acts to select and issue the desired number of tickets. It is not necessary in a machine such as described for the operator to first select and actuate a selector key and then to operate an actuating lever or other member to cause the selected number of tickets to be delivered. The operator merely makes one movement in operating the machine embodying the present invention. When the operator has depressed the selected lever to its lowermost limit of movement the lever can then be allowed to return to its original position under the action of its spring, and such return or upward movement of the lever causes the severing mechanism to function to sever the tickets which have been delivered thereto from the strip and also acts to restore all of the working parts of the machine to their original position and ready for subsequent operation of the machine.

It should be observed that the feeding rotation of the feed wheel is brought about by the positive depression of the levers and that the upward movement of the levers under the action of their return springs merely trips the knife holding means.

It will further be noted that the machine is simple and sturdy in construction, and hence there is small likelihood of the machine getting out of order and requiring servicing in use.

Although a preferred embodiment of the invention has been illustrated and described herein, it should be understood that the invention is susceptible of various modifications and adaptations within the scope of the appended claims.

Having thus described my invention I claim:

1. A ticket issuing machine comprising a ticket feeding member, driving means therefor normally in position to move said member in a ticket feeding direction, mechanism normally and directly locking said member against movement, a plurality of pivoted levers, means forming an operative connection between said levers and said mechanism when any one of said levers is moved in one direction to render said mechanism inactive for different predetermined periods to permit different predetermined movements of said feeding member, and means forming an operative mechanical connection between said levers and said driving means whereby movement of any one of said levers in said direction actuates said driving means during said periods.

2. A ticket issuing machine comprising a ticket feeding member, driving means therefor normally in position to move the same in a ticket feeding direction, mechanism normally locking said member against such movement, ticket severing means, and means for determining the extent of such movement of said member and operative to first move said mechanism to inactive position, then actuate said driving means to move said member in a ticket feeding direction and also initiate the operation of said ticket severing means and then after a predetermined period to restore said mechanism to active position to arrest said driving means and said movement of said member and permit the completion of the actuation of said severing means.

3. A ticket issuing machine comprising a ticket feeding wheel, driving means normally in position to rotate said wheel in a ticket feeding direction, mechanism normally locking said wheel against rotation, ticket severing means, a plurality of manually operated pivoted levers, means forming operative connections between said mechanism and said levers when any one of the latter is moved in one direction for rendering said mechanism inactive for predetermined periods to permit rotation of said wheel through different predetermined arcs, and means forming an operative mechanical connection between said levers, said driving means and said ticket severing means whereby movement of any one of said levers in said direction actuates said driving means and initiates the actuation of said severing means.

4. A ticket issuing machine comprising a ticket feeding wheel, driving means for rotating said wheel in one direction, a dog cooperating with said wheel for locking the same against rotation, a plurality of manually operated pivoted levers, means for rendering said dog inactive to permit rotation of said wheel through different predetermined arcs and including cams carried by said levers and having an operative association with said dog when said levers are moved in one direction, and means forming an operative connection between said levers and said driving means whereby movement of any one of said levers in said direction actuates said driving means while said dog is in inactive position.

5. A ticket issuing machine comprising a ticket feeding wheel, driving means for rotating said wheel in one direction and including a pawl and ratchet, a dog cooperating with said wheel for locking the same against rotation, a plurality of manually operated pivoted levers, means for rendering said dog inactive to permit rotation of said wheel through different predetermined arcs and including cams carried by said levers and having an operative association with said dog when said levers are moved in one direction, and means forming an operative connection between said levers and said driving means whereby movement of any one of said levers in said direction actuates said driving means while said dog is in inactive position.

6. A ticket issuing machine comprising a ticket feeding wheel provided on its circumference with radially extending pins spaced apart the length of a single ticket, driving means for rotating said wheel in one direction, a pivoted dog normally engaging the circumference of said wheel and cooperating with said pins for locking the wheel against rotation, a plurality of manually operated pivoted levers, means for moving said dog out of engagement with said pins and the circumference of said wheel to permit rotation of said wheel through different predetermined arcs and including cams carried by said levers and having an

operative association with said dog when said levers are moved in one direction, and means forming an operative connection between said levers and said driving means whereby movement of any one of said levers in said direction actuates said driving means while said dog is out of engagement with the circumference of said wheel.

7. A ticket issuing machine comprising a ticket feeding wheel, driving means for rotating said wheel in one direction and including a pawl and ratchet, a gear and a pivoted lever arm provided with a gear segment cooperating with said gear, a dog cooperating with said wheel for locking the same against rotation, a plurality of manually operated pivoted levers one of which when moved in one direction effects a movement of said lever arm while the remainder of the levers when moved in said direction effect a movement of said first lever in said direction, and means for rendering said dog inactive to permit rotation of said wheel through different predetermined arcs and including cams carried by said levers and having an operative association with said dog when said levers are moved in the before-mentioned direction whereby movement of any one of said levers in said direction actuates said driving means while said dog is in inactive position.

8. A ticket issuing machine comprising a ticket feeding wheel provided on its circumference with a plurality of radially projecting pins spaced apart circumferentially the distance of a single ticket, driving means for rotating said wheel in one direction, a rockable shaft provided with a dog normally engaging the circumference of said wheel and cooperating with said pins for locking the wheel against rotation, said shaft also being provided with a plurality of lever arms, a plurality of manually operated pivoted levers, means for rocking said dog out of engagement with the circumference of said wheel to permit rotation thereof through different predetermined arcs and including cams carried by said levers and engaging the lever arms on said shaft when said levers are moved in one direction, and means forming an operative connection between said levers and said driving means whereby movement of any one of said levers in said direction actuates said driving means while said dog is in inactive position.

9. A ticket issuing machine comprising a ticket feeding wheel, driving means for rotating said wheel in one direction, mechanism for locking said wheel against rotation, a plurality of manually operated pivoted levers, means for causing one of said levers to move when any of the other of said levers are moved in one direction, means forming an operative connection between said mechanism and said first mentioned lever for rendering said mechanism inactive to permit rotation of said wheel through different predetermined arcs when any one of the levers is moved in said direction, means forming an operative connection between said levers and said driving means whereby said movement of any one of said levers actuates said driving means, and ticket severing mechanism including a knife blade, a pivoted member for moving said blade to open position, a cam rockable with said first mentioned lever for moving said pivoted member in a direction to open said knife blade, a spring for moving said pivoted member in the opposite direction, and means for maintaining said knife blade in open position a predetermined period of time.

10. A ticket issuing machine comprising a rotatable ticket feeding wheel, mechanism normally locking said wheel against rotation in a ticket feeding direction, ticket severing means, a plurality of manually operated pivoted levers, means forming an operative connection between said mechanism and said levers when any one of the latter is moved in one direction for rendering said mehcanism inactive for predetermined periods, means forming an operative mechanical connection between said levers and said wheel, such that a continuation of the movement of any one of the levers in said direction rotates said wheel in a ticket feeding direction during said predetermined periods, and means forming an operative mechanical connection between said levers and said ticket severing means such that movement of any one of the levers in said one direction initiates the operation of said ticket severing means while the movement of any one of said levers in the opposite direction completes the actuation of said severing means.

11. A ticket issuing machine comprising a rotatable ticket feeding wheel, mechanism normally locking said wheel against rotation in a ticket feeding direction, a normally closed ticket severing means, a plurality of manually movable members, and operative mechanical connections between said members, said wheel, said mechanism and said ticket severing means such that movement of any one of said members in one direction renders said mechanism inactive for a predetermined period, rotates said wheel during said period in the ticket feeding direction, opens said ticket severing means and restores said mechanism to active position while the return movement of any one of said members in the opposite direction closes said ticket severing means to sever the tickets which have been fed by said wheel.

12. A ticket issuing machine comprising a ticket feeding member, driving means for said member normally in position to move the same in a ticket feeding direction, mechanism normally locking said member against such movement and means determining the extent of such movement of said member and operative to first move said mechanism to inactive position, then actuate said driving means to move said member in a ticket feeding direction and then after a predetermined period to restore said mechanism to active position to arrest said driving means and said movement of said member.

13. A ticket issuing machine comprising a ticket feeding member, driving means therefor normally in position to move the same in a ticket feeding direction, mechanism normally locking said member against such movement, and selective means for determining the extent of such movement of said member and operative to first move said mechanism to inactive position, then actuate said driving means to move said member in a ticket feeding direction and then after different predetermined periods to restore said mechanism to active position to arrest said driving means and the said movement of said member.

14. A ticket issuing machine comprising a ticket feeding member, driving means therefor normally in position to move the same in a ticket feeding direction, mechanism normally locking said member against such movement, and manually operated selective means for determining the extent of such movement of said member and operative to first move said mechanism to inactive position, then actuate said driving means to move said member in a ticket feeding direction and then after different predetermined periods to

restore said mechanism to active position to arrest said driving means and the ticket feeding movement of said member.

15. A ticket issuing machine comprising a ticket feeding member, driving means therefor normally in position to move the same in a ticket feeding direction, mechanism normally locking said member against movement, and a plurality of devices for selectively determining the extent of such movement of said member and each operative to first move said mechanism to inactive position, then actuate said driving means to move said member in a ticket feeding direction and then after a predetermined period to restore said mechanism to active position to arrest said driving means and the movement of said member.

16. A ticket issuing machine comprising a rotatable ticket feeding wheel, driving means therefor normally in position to rotate the same in a ticket feeding direction, mechanism normally locking said wheel against such rotation, and means determining the extent of such rotation of said wheel and operative to first move said mechanism to inactive position, then actuate said driving means to rotate said wheel in a ticket feeding direction and then after a predetermined period to restore said mechanism to active position to arrest said driving means and said rotation of said wheel.

17. A ticket issuing machine comprising a rotatable ticket feeding wheel, driving means therefor normally in position to rotate the same in a ticket feeding direction, mechanism normally locking said wheel against such rotation, and manually operated selective means for determining the arc of such movement of said wheel and operative to first move said mechanism to inactive position, then actuate said driving means to rotate said wheel in the ticket feeding direction and then after different predetermined periods to restore said mechanism to active position to arrest said driving means and the ticket feeding rotation of said wheel.

18. A ticket issuing machine comprising a rotatable ticket feeding wheel, driving means therefor normally in position to rotate the same in a ticket feeding direction, mechanism normally locking said wheel against rotation in said direction, and a plurality of devices for selectively determining the arc of such rotation of said wheel and each operative to first move said mechanism to inactive position, then actuate said driving means to rotate said wheel in a ticket feeding direction and then after a predetermined period to restore said mechanism to active position to arrest said driving means and the rotation of said wheel.

19. A ticket issuing machine comprising a rotatable ticket feeding wheel, mechanism normally locking said wheel against rotation in a ticket feeding direction, a plurality of manually operated pivotal levers, means forming an operative connection between said mechanism and said levers when any one of the latter is moved in one direction for rendering said mechanism inactive for predetermined periods, and means forming an operative mechanical connection between said levers and said wheel such that a continuation of said movement of any one of the levers in said direction rotates said wheel in a ticket feeding direction throughout said predetermined periods.

20. A ticket issuing machine comprising a rotatable ticket feeding wheel, mechanism normally locking said wheel against rotation in a ticket feeding direction, a plurality of manually movable members, and operative mechanical connections between said members, said wheel and said mechanism such that movement of any one of said members in one direction renders said mechanism inactive for a predetermined period and rotates said wheel during said period in the ticket feeding direction.

LOUIS SCHER.