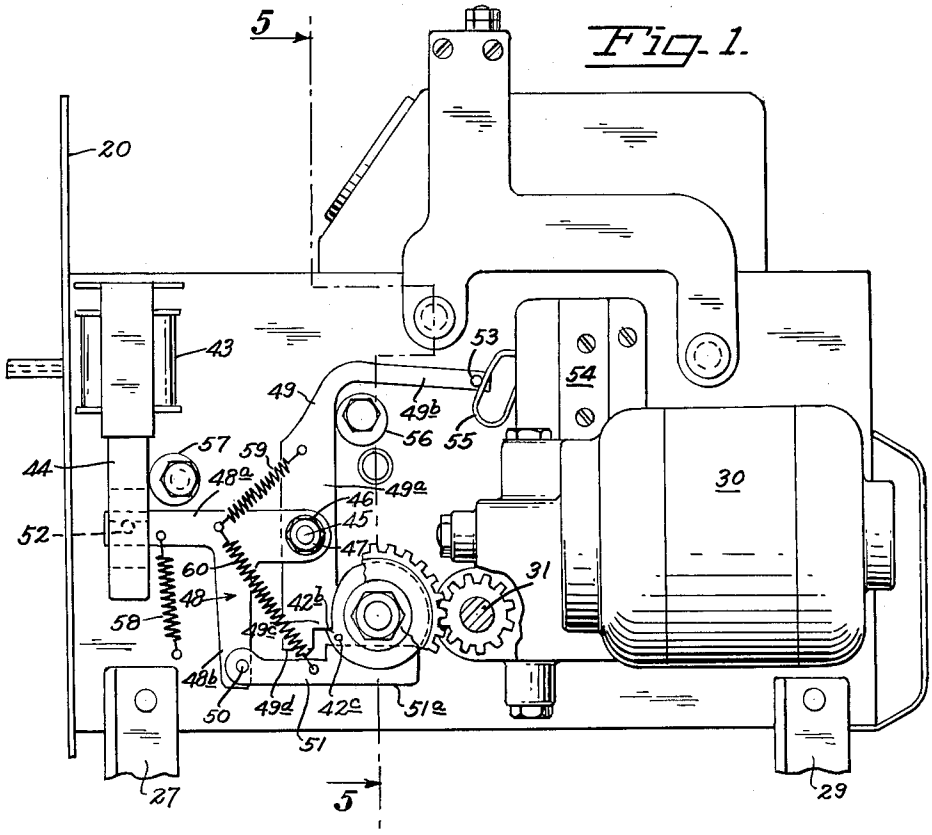
May 8, 1962 E. V. ABBOTT ET AL 3,034,123

TICKET DISPENSING MACHINE

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Fig. 1.



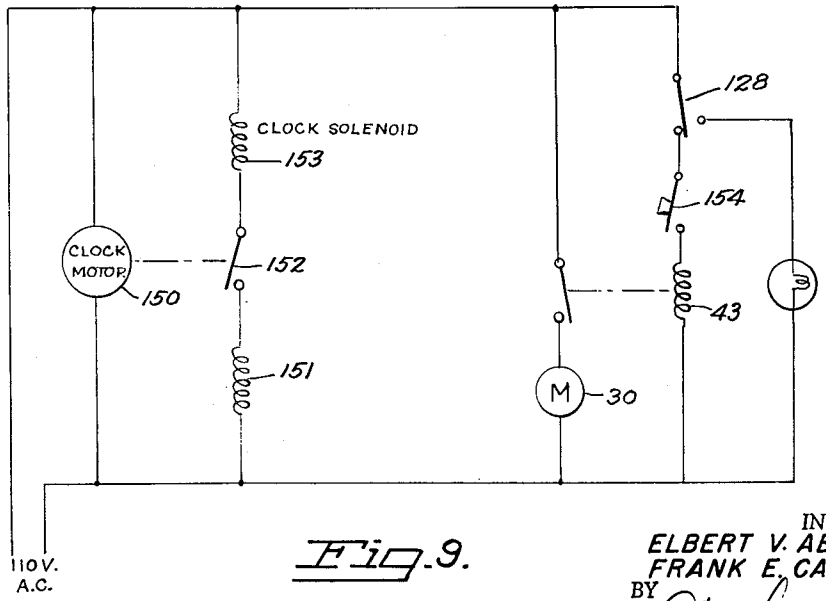


Fig. 9.

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TICKET DISPENSING MACHINE

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Fig. 2.

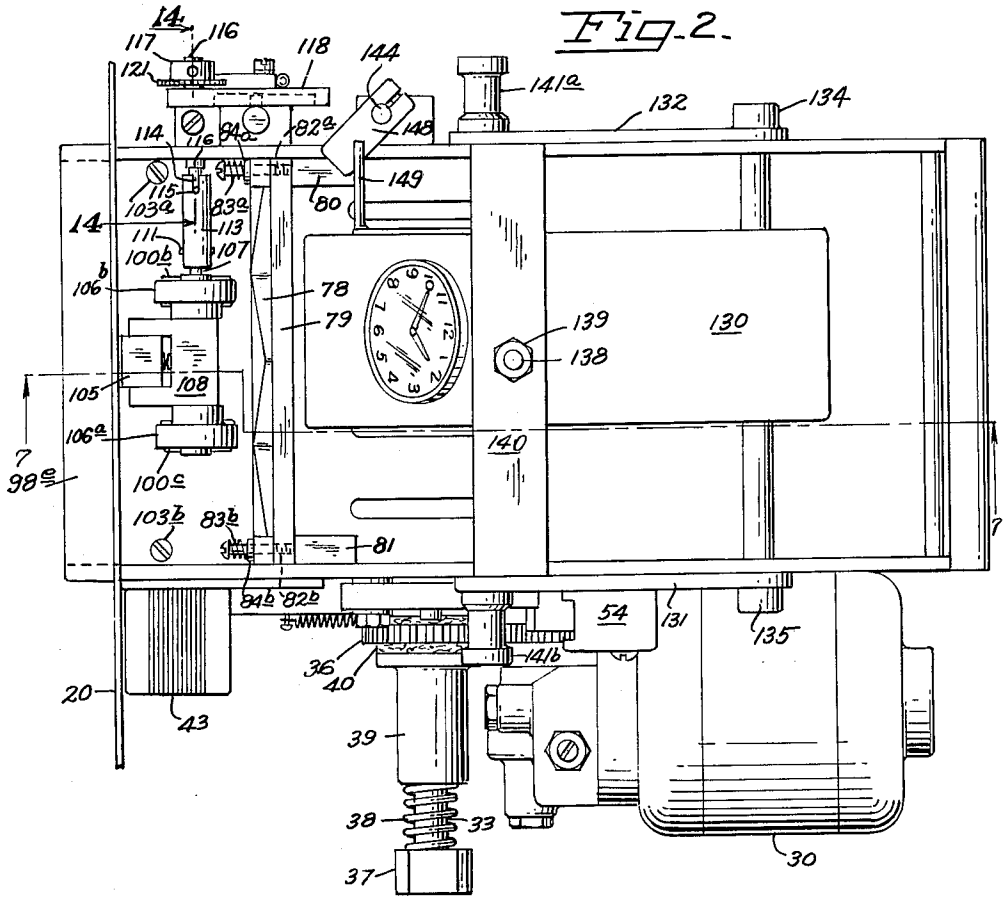
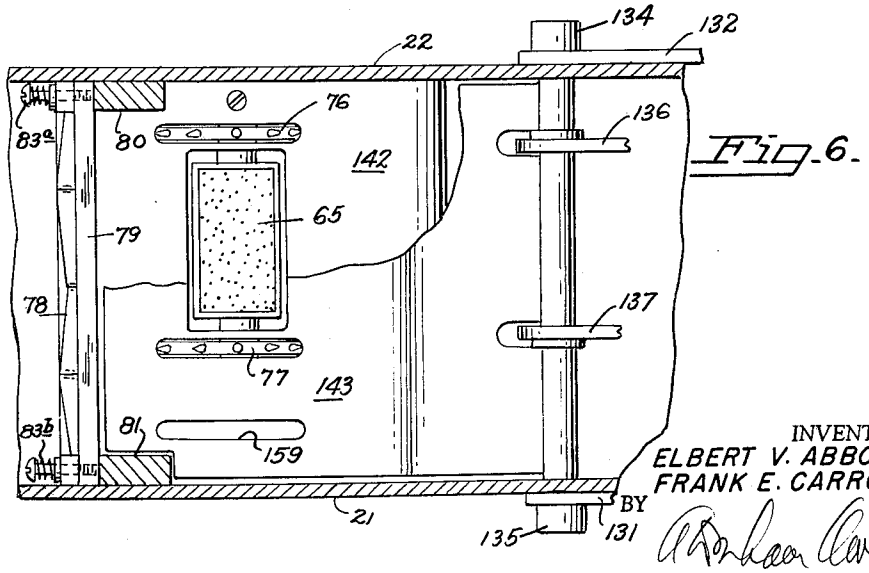


Fig. 6.



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TICKET DISPENSING MACHINE

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Fig. 3.

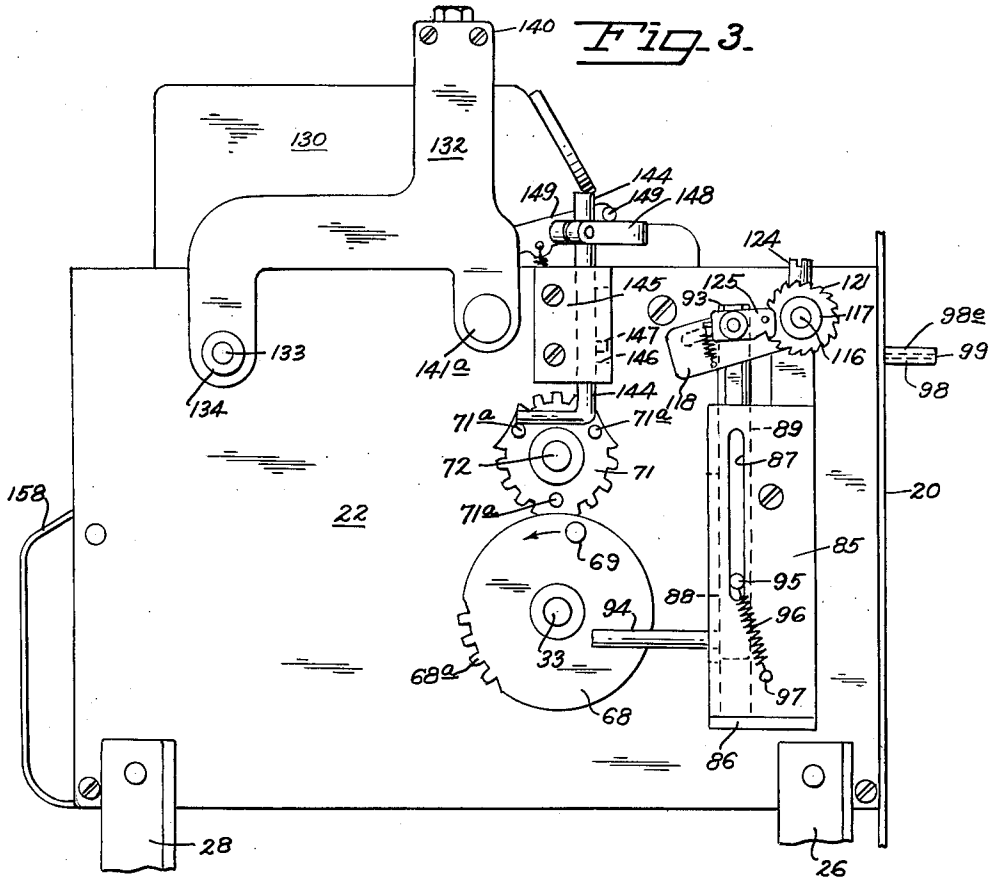


Fig. 10.

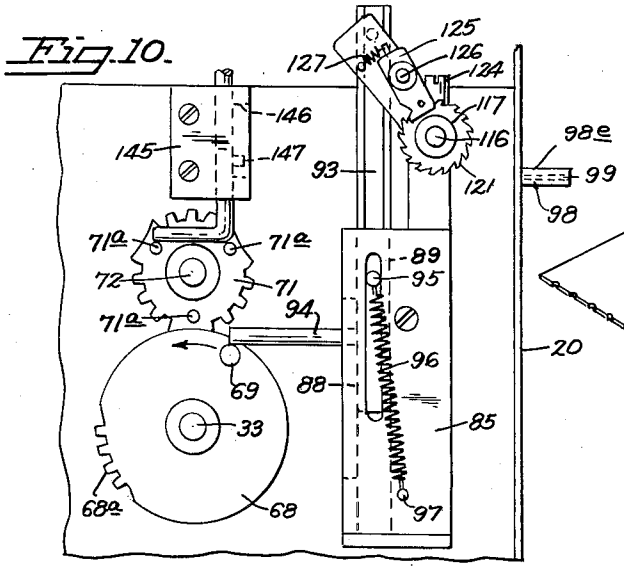
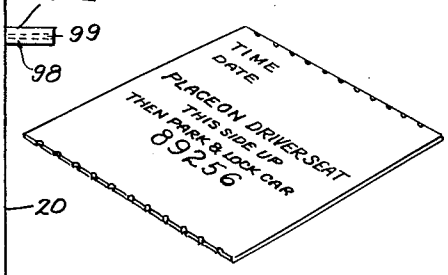


Fig. 11.



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TICKET DISPENSING MACHINE

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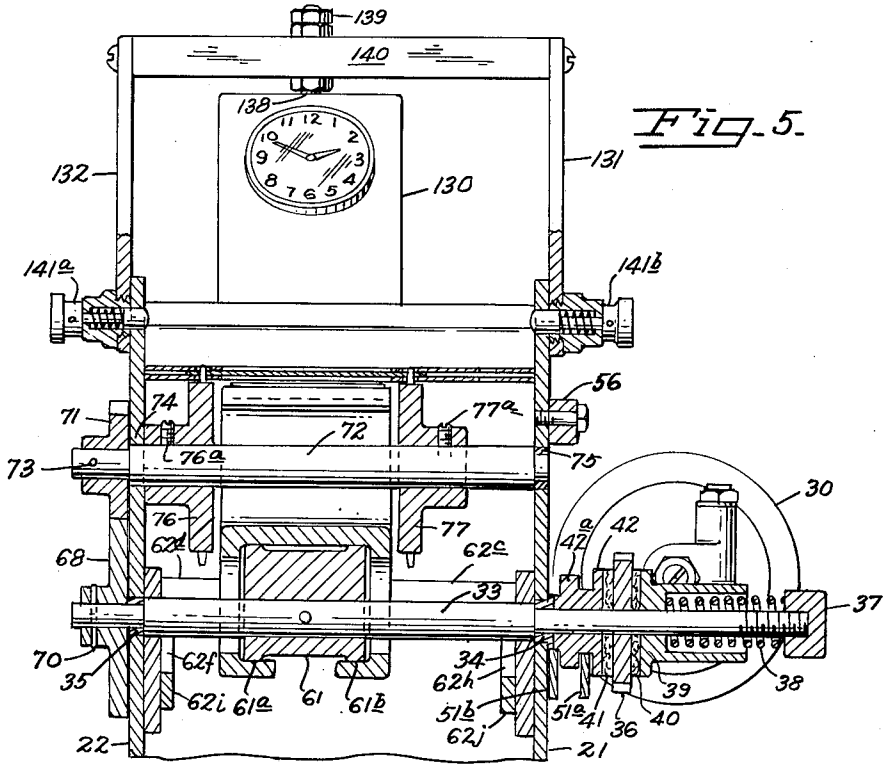


Fig. 5.

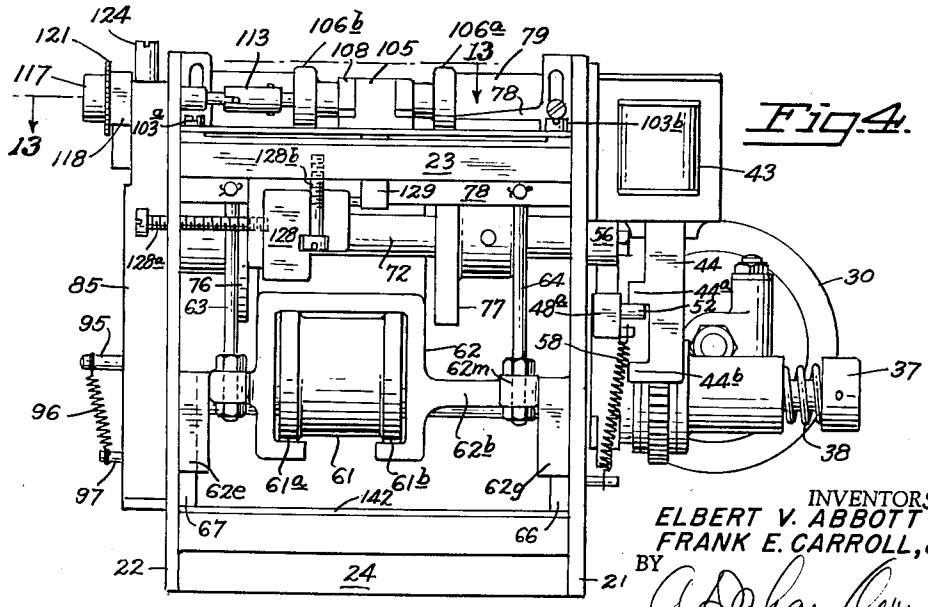


Fig. 4.

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TICKET DISPENSING MACHINE

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Fig. 7.

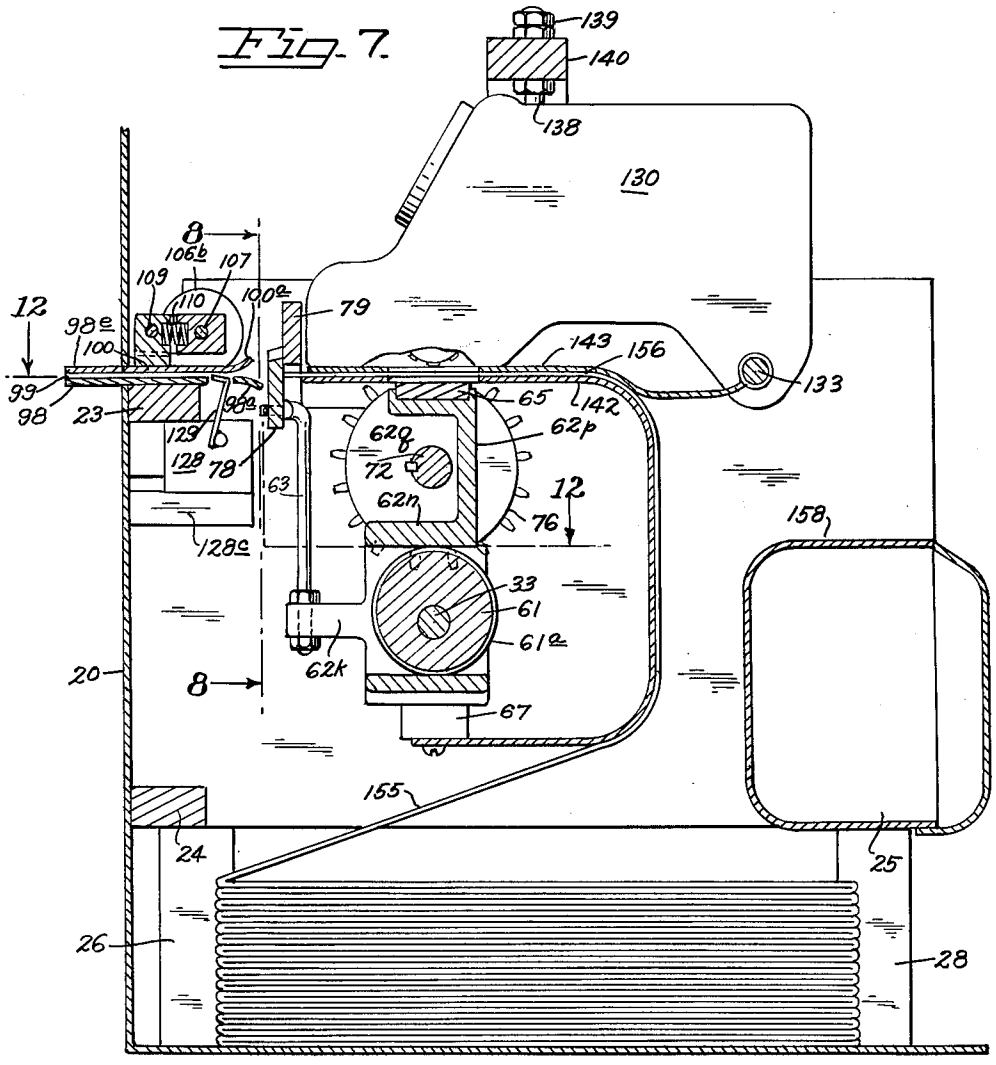
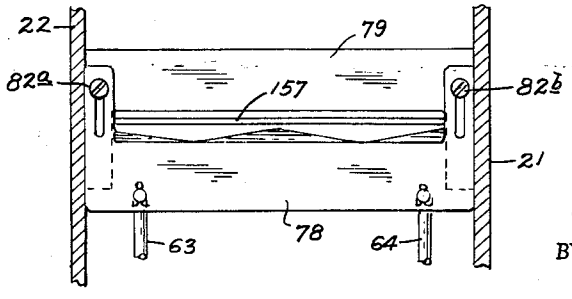


Fig. 8.



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TICKET DISPENSING MACHINE

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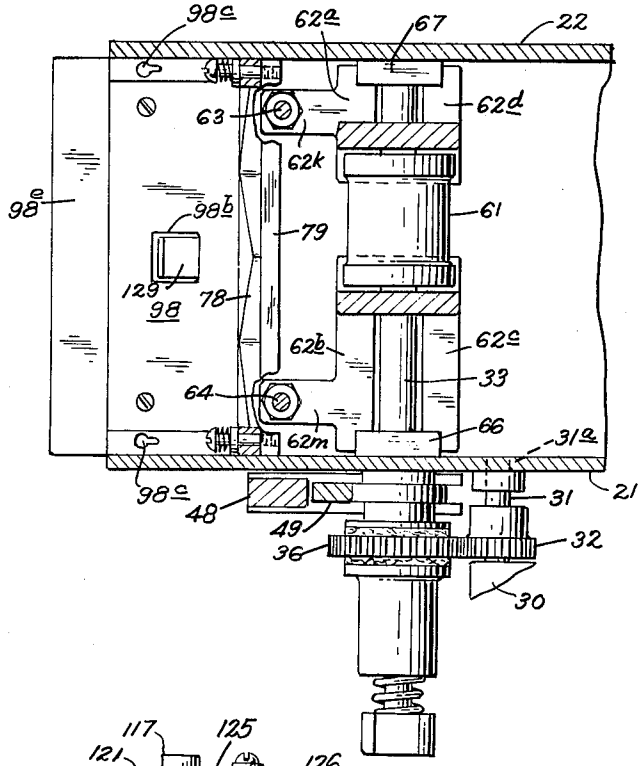


Fig. 12.

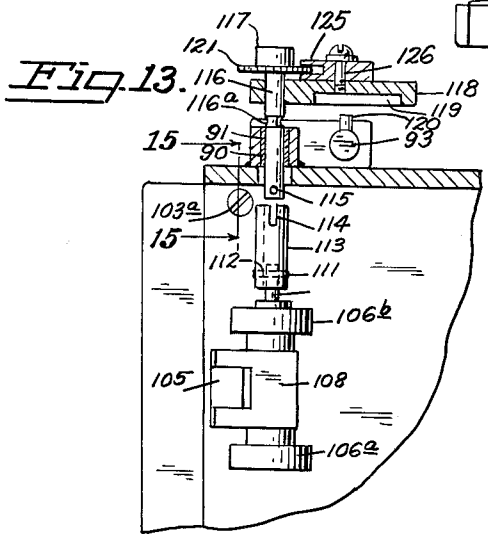


Fig. 13.

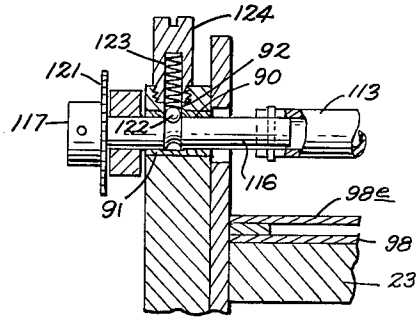


Fig. 14

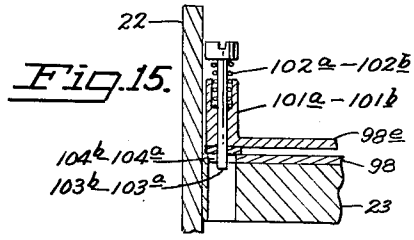


Fig. 15.

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United States Patent Office

3,034,123

Patented May 8, 1962

3,034,123

TICKET DISPENSING MACHINE

Elbert V. Abbott and Frank E. Carroll, Jr., San Francisco, Calif., assignors to The Park-Ur-Self System, San Francisco, Calif., a corporation

Filed Jan. 16, 1959, Ser. No. 787,245

8 Claims. (Cl. 346—24)

This invention relates to a ticket dispensing machine which delivers single tickets from a continuous strip type of ticket supply. More particularly, this invention relates to an electrically powered ticket dispensing machine which produces only one date-and-time stamped ticket in response to one activating stimulus.

The use of a small, printed piece of paper called a ticket has come to occupy a significant place in our modern way of life. In motion picture theatres, at baseball parks, the opera, railroad stations, airports, bus depots, bridge and highway toll plazas, the ticket is commonly used to indicate payment of a fee for a specific privilege. Most tickets are sold and delivered by a cashier, attendant, or other form of manpower. Many disagreeable features can be present in the use of manpower for selling and delivering tickets; incorrect change making, high cost of labor, inefficient use of time, and other factors which, if not controlled, may cost the employer a considerable sum of money. It is well known that the human element of error is ever present, no matter how capable or efficient a person may be in his particular job; and it is also well known that a machine comes closest to elimination of this error. Moreover, a machine is an ever-present and ever-ready means for carrying out a given task and usually results in considerable saving of time and money when used in lieu of manpower. Therefore, if a machine could be made to do the job of selling and delivering tickets, a great saving in time, effort, and money could ultimately accrue to the user thereof.

Although attempts have been made to develop a machine which would adequately take the place of man in the sale and delivery of tickets, none as yet has proved to be entirely satisfactory. Either the device was improperly designed, with a resulting excess of strain and wear on some parts, or it would not function as required. Some of the prior art ticket dispensing machines were easy to jam and thereby render inoperable. Others were capable of being manipulated into delivering a plurality of tickets for the price of a single ticket and, in some instances, for no money expenditures whatsoever. Then, even when efficient and comparatively foolproof, some machines of this type were very costly to construct and hence to own; and still others, while lower in original cost, were extremely costly in upkeep.

The primary object of this invention is to provide a ticket dispensing machine which is far superior to similar machines of the prior art.

A further object of this invention is to provide a mechanism which will deliver one ticket only for each activating stimulus received by the mechanism.

Still another object of the instant invention is that of providing a simple, compact, efficient mechanism combining the features of stamping a date, a time, and any other desired indicia upon a ticket and dispensing said ticket upon receipt of an external stimulus.

Another object of the instant invention is that of providing a ticket dispensing mechanism which is relatively inexpensive in initial cost and which will withstand long periods of continued, severe use without failure.

These and other objects of the instant invention will become apparent from the following detailed description, used as explanation for the accompanying drawings, in which:

FIG. 1 is a side elevation of the machine constituting the instant invention;

FIG. 2 is a top plan view of the machine constituting the instant invention;

FIG. 3 is a side elevation of the side opposite that of FIG. 1;

FIG. 4 is a front elevation of the machine of the instant invention;

FIG. 5 is a vertical section viewed from the front of the machine and taken along the lines 5—5 of FIG. 1;

FIG. 6 is a top plan view with the clock mechanism pivoted to its opened position;

FIG. 7 is a vertical section, viewed from the side of FIG. 1, and taken along the lines 7—7 of FIG. 2;

FIG. 8 is a front elevation, partly in section of the severing means, taken along the lines 8—8 of FIG. 7;

FIG. 9 is a schematic representation of the electrical circuitry of the machine constituting the instant invention;

FIG. 10 is a portion of FIG. 3, showing the ratchet and arm in their most elevated position;

FIG. 11 is a perspective view, in reduced scale, of one form of ticket dispensed by the machine;

FIG. 12 is a horizontal section taken on line 12—12 of FIG. 7;

FIG. 13 is a fragmentary sectional view taken on line 13—13 of FIG. 4, showing the universal-type joint in disengaged position;

FIG. 14 is an enlarged, fragmentary vertical sectional view taken on line 14—14 of FIG. 2; and

FIG. 15 is an enlarged, fragmentary vertical sectional view taken on line 15—15 of FIG. 13.

Referring now to the figures in detail, the machine frame (which can be enclosed in any suitable housing schematically represented by 20) comprises vertical, side plate supports 21, 22 spaced apart and held securely in position by front cross-members 23, 24 and rear cross-member 25, the entire frame resting upon two front legs 26, 27 and two rear legs 28, 29. The machine is powered by electricity, such as the common 115-volt alternating current (A.C.) supply, which activates both the main power motor 30 and the remaining electrical parts to be fully explained later.

The motor 30 is a conventional speed-reducer motor (such as type NSE–11R manufactured by the Bodine Electric Co., Chicago, Ill.), operating on 115 volts A.C. at approximately .38 ampere (amp.), at approximately 81 revolutions per minute (r.p.m.), and having a gear ratio of 72:1. This motor 30 is securely mounted on the outside of support 21, as best viewed in FIGS. 1 and 2, by means of bolts (not shown) extending from the inside of the support 21, through it, and into the base of the motor 30. The drive shaft 31 (FIG. 2) of the motor 30 passes out of the motor in a horizontal direction but perpendicular to the axis of rotation of the motor armature (not shown), and is journaled in a bearing 31*a* which is mounted in support 21. The drive shaft 31 carries a driving gear 32 which serves to transmit power to all the mechanically actuated moving parts.

Shaft 33, extending from beyond the outer surface of support 21 to beyond the outer surface of support 22 and journaled in bearings 34, 35 of the supports 21, 22 respectively, derives power from the motor 30 via driven gear 36 which meshes with the drive gear 32. Since the gear 36 is mounted on the shaft 33 in a manner permitting free rotation thereon, a clutch mechanism comprising nut 37, spring 38, outer clutch plate 39, outer clutch disc 40, inner clutch disc 41, and inner clutch plate 42, is provided to establish a variable-strength bond between the gear 36 and the shaft 33. As the nut 37 is tightened, it applies pressure on the spring 38, which transmits this tension through the remaining clutch parts. The clutch

plates 39, 42 are non-rotatably mounted on the shaft 33 via conventional slots and keys (not shown), and if the tension on the spring 38 is sufficient a non-slipping union is formed between the gear 36 and the shaft 33.

Also mounted firmly on the outer surface of the support 21 is a 115-volt A.C., 60-cycle solenoid 43 (such as WesCo Model AC101, duty C, supplied by West Coast Electric Mfg. Co., Los Angeles, Calif.), having a metallic (such as iron or other magnetizable metal) core 44 constructed in the shape of an inverted F when viewed from the front of the machine (FIG. 4). A pivot 45, such as a bolt with washer 46 and nut 47, extends through the support 21 and affords a pivot foundation for T-lever 48 and inverted L-lever 49 (FIG. 1). Extending from base 48*b* of the lever 48, and pivotally mounted thereon via pivot pin 50, is a generally Y-shaped (as viewed from above or below) lever 51, positioned so that the parallel arms 51*a*, 51*b* closely straddle inner clutch face cam 42*a* and thereby prevent excessive lateral misalignment of said lever 51 (FIGS. 1 and 5). Arm 48*a* of the lever 48 carries an outwardly projecting pin 52 (FIG. 4) which bears against either arm 44*a* or 44*b* of the solenoid core 44, depending upon the relative positions of the pin and the arms, and mechanically transmits power from the solenoid core 44 to the lever 48. Horizontal arm 49*a* of the lever 49 carries an outwardly projecting pin 53 which serves to close microswitch 54 by depressing microswitch lever 55 when the solenoid core 44 is raised. A pin 42*c* on the cam 42*a* bears against the arm 51*a* and, as the cam 42*a* is rotated, displaces the arm 51*a* enough to prevent interference with said cam 42*a*.

The lower end of the vertical arm 49*b* of the lever 49 rests against cam 42*a*, and is relieved in a step-like manner (FIG. 1) to form corner 49*c* and extension 49*d*. The said cam 42*a* is notched to form a step-like projection 42*b* which comes to rest against the corner 49*c* at the end of each ticket dispensing cycle, thereby preventing more than one ticket being dispensed for each stimulus of the machine. The lever 51 is relieved on its upper side, forming step 51*c* (FIG. 1) which contacts the lever extension 49*d* when the cycle is begun. Lever stops 56 and 57 are mounted firmly on support 21, and springs 58, 59, and 60 are positioned to tension levers 48, 49, and 51.

Between the two supports 21, 22 and eccentrically mounted on the shaft 33 is cam 61 having bearing surfaces 61*a*, 61*b* abutting cam follower 62 (FIGS. 4 and 5), having laterally extending support arms 62*a*, 62*b*, 62*c*, and 62*d* (FIG. 12) which turn downwardly to form bearing surfaces 62*e*, 62*f*, 62*g*, and 62*h*, respectively. The bearing surfaces 62*e*, 62*f* are united at their lower ends by a transverse extension 62*i*, also serving as a bearing surface. Likewise, the bottom ends of the bearing surfaces 62*g* and 62*h* flow into each other via transverse bearing surface 62*j*. Extending forward from support arms 62*a*, 62*b* respectively, and serving as supports for pushrods 63, 64 respectively, are support arms 62*k* and 62*m*. Rising vertically from, and forming a continuation of, the rear of the top of the central body portion 62*n* is an inverted L-shaped platen support with vertical arm 62*p* and horizontal arm 62*q*. Affixed to the top surface of the arm 62*q* is a platen 65 of elastomeric material. In order that the cam follower 62 may reciprocate up and down around the shaft 33 in response to the rotating cam 61, slots 66*a*, 66*b*, 66*c*, and 66*d* are provided through the said cam follower 62. Securely fastened to the inner surfaces of supports 21, 22 and providing a guide and bearing surface for the cam follower 62 are guides 65, 67 respectively.

As stated supra, the shaft 33 extends through the support 22 and out from the outer side thereof. Gear 68, having an outwardly projecting axially disposed pin 69, is firmly mounted on the end of the shaft 33 by pin 70. This gear, via teeth 68*a*, is driven by the shaft 33 and in turn drives gear 71, which is securely fastened to the end of the upper shaft 72 by pin 73. The gear 71 has three axially disposed pins 74 extending outwardly and three groups of gear teeth 71*a* positioned 120° apart. The shaft 72 extends through and between the supports 22, 21 and is journaled therein in bearings 74, 75 respectively. Ticket pinwheels 76, 77 are mounted on the shaft 72 between the supports 21, 22 and rotate with the shaft as it turns, being prevented from slipping thereon by conventional slots and keys (not shown). The distance between the pinwheels 76, 77 is variable by set screws 76*a*, 77*a* respectively, to accommodate various widths of tickets.

The ticket-severing device comprises vertically reciprocating knife-blade 78 and shearing-bar 79, said bar 79 being firmly attached to the supports 21, 22 via posts 80, 81. The blade 78 and the bar 79 are maintained in juxtaposition by tension screws 82*a*, 82*b*, springs 83*a*, 83*b*, and washers 84*a*, 84*b*, and the blade 78 is moved up and down by the pushrods 63, 64 simultaneously with the cam follower 62.

Immovably mounted on the outer side of support 22 is a housing 85 with a bottom striker plate 86, vertical slots 87, 88 communicating with a vertical, hollow, cylindrical bore 89 extending the length of the housing, a horizontal, cylindrical bore 90 and bearing 91 extending through the upper extension 85*a* of the housing 85, and a vertical, cylindrical, threaded bore 92 communicating with the bore 90. Mounted within the bore 89 is a shaft 93 having laterally projecting arms 94, 95 with their axes perpendicular to each other. The arm 94 rides on the pin 69 and serves to raise the shaft 94 as cam 68 rotates. The arm 95 is connected to the housing 85 via spring 96 and spring retainer pin 97, this system of elements serving to return the shaft 93 to its bottom rest position after the pin 69 has traveled past the arm 94.

Mounted stationary on top of the frame cross-member 23, extending sidewise from support 21 to support 22 and lengthwise from immediately in front of the knife-blade 78 to beyond the outside of the housing 20, is a lower ticket guide plate 98 having a slightly curled-down rear edge 98*a*, a centrally disposed orifice 98*b*, two laterally disposed keyhole-shaped orifices 98*c*, 98*d*, and a narrow cover plate 98*e* spaced slightly from the top surface of the plate 98 to form a shallow, slot-like ticket exit 99. Removably mounted on top of the plate 98 is an upper ticket guide plate 100 with an upwardly curving rear edge 100*a* terminating immediately in front of the knife-blade 78, two rectangular-shaped orifices 100*b*, 100*c*, and two laterally disposed fastening devices positioned immediately above the orifices 98*c*, 98*d* and consisting of upstanding, cylindrical, hollow guides 101*a*, 101*b* securely attached to the plate 100, housing springs 102*a*, 102*b*, and slotted-head shafts 103*a*, 103*b*, which are tensioned by the springs 102*a*, 102*b* and which extend through orifices (not shown) in the plate 100 and are retained in position by pins 104*a*, 104*b*.

On top of the plate 100, firmly anchored thereto and positioned at the center of the front edge thereof, is a post support 105 providing a mounting for a severed-ticket-advancing mechanism comprising a pair of rubber (or other paper-gripping material) wheels 106*a*, 106*b* connected by and immovably mounted on an axle 107 which is journaled in a U-shaped support 108, said support 108 being pivotally (vertically) secured to the support 105 by a pin 109 and tensioned in a downward direction by a spring 110. The axle 107 is linked to the vertically reciprocating shaft 93 through a universal-type joint coupling consisting of axle-end 107, pin 111, holes 112, hollow tube-like axle 113, slots 114, pin 115, and axle 116, and then through collar 117, arm 118, slot 119, and arm 120 of the said shaft 93. The collar 117 fastens cogwheel 121 firmly to the axle 116 and also serves as a retaining device for arm 118 on said axle 116. The axle 116 has a semicircular groove 116*a* extending around it to provide a receptacle for ball 122 held in position against the axle

116 by spring 123 and spring retainer- screw 124, the combination serving to maintain the axle 116 in proper position while operating and yet to permit lateral withdrawal of the axle 116 and pin 115 from the axle 113, enabling the upper guide plate 100 to be removed from the machine. Ratchet 125, pivoted on bolt 126 which is secured to the arm 118, is held against the cogwheel 121 by spring 127. The teeth of the cogwheel 121 are cut in a clockwise-slanting attitude (looking at the outer side of support 22) so that, as the shaft 93 is raised, thereby raising and pivoting the arm 118, the ratchet 125 advances on said cogwheel. When the shaft 93 abruptly returns downwardly to rest, the arm 118 pivots down around the axle 116, bringing the ratchet 125 with it and thereby revolving the cogwheel 121 and the ticket-advancing wheels 106*a*, 106*b* in a counterclockwise direction, ejecting the ticket from the ticket exit 99.

Adjustably mounted by set screws 128*a*, 128*b* beneath the frame cross-member 23 is a microswitch 128 with an upwardly and forwardly projecting trigger 129 extending up through the orifice 98*b*. This switch 128 serves to inactivate the solenoid 43 when a ticket is in the ticket exit, and switches the solenoid 43 back in when the ticket is removed, as will become apparent from a discussion of the electrical circuitry to follow.

In order to apply an indicia of the date-and-time when the ticket is issued, a conventional date-time stamping clock mechanism illustrated schematically at 130 (such as a 24-hour Stromberg timeclock unit T5 or T3 manufactured by Stromberg Time Corporation, San Francisco, California) is mounted above the machine by affixing it to supports 131, 132 which are pivotally secured to the supports 21, 22 respectively, by a shaft 133 running through said supports 21, 22, and held in position by collars 134, 135. The clock 130 is rotatably fastened to the shaft 133 at 136, 137 and to the supports 131, 132 via bolt 138, nut 139, and cross-member 140, extending between said supports 131, 132 and immovably fastened thereto. The forward legs of the supports 131, 132 are removably fastened to the supports 21, 22 via spring-tensioned shafts 141*a*, 141*b*, enabling the clock mechanism 130 and its supports 131, 132 to be rotated upwardly and backwardly for easy access to the interior of the machine. The clock mechanism 130 is positioned so that the time-and-date stamp mechanism 130*a* is immediately above the platen 65, with an inked ribbon (not shown) in between. The tickets advance between the ribbon and the platen 65 and are imprinted when the machine is activated and the platen 65 is raised.

A guideway 156 for the strip of tickets is formed by lower coverplate 142 and upper coverplate 143, said lower plate 142 being firmly mounted on the supports 21, 22 and the upper plate 143 being rotatably mounted on shaft 133. Both plates 142, 143 have orifices 142*a*, 143*a* immediately above the platen 65 and openings 142*b*, 143*b* above and lateral to the pinwheels 76, 77, to allow the tickets to be printed and the wheels 76, 77 to be rotated or their positions changed.

To advance the inked printing ribbon each time a ticket is dispensed, an L-shaped pushrod 144 is mounted in housing 145 in such a manner that the pins 71*a* on the gear 71 reciprocate it vertically. Housing 145 is securely fastened to the support 22, and contains a vertical slot 146 communicating with the bore 145*a* for the pushrod 144, to allow the pushrod retainer-pin 147 to reciprocate with the said pushrod 144. An arm 148 is securely mounted on the upper end of the pushrod 144 and bears against the lever 149 of the clock mechanism 130 which advances the ribbon via an up-down reciprocation.

The machine is operated by an electrical power source schematically represented in FIG. 9. The circuitry is relatively simple and comprises a first circuit through the clock-motor 150; a second circuit comprising, in series, a clock-timer coil 151, a clock-switch 152 (both coil 151 and switch 152 contained in housing 158 together with the clock motor 150), and a time-advancing clock-solenoid 153, respectively; a third circuit comprising the main power motor 30 in series with the motor microswitch 54; and a fourth circuit comprising the ticket microswitch 129 in series on one side with the machine-starting switch (such as a pushbutton) 154 and the solenoid 43, and on the other side with ground (or perhaps through a light to indicate when a stamped ticket is in the ticket exit, ready for removal); all of the four circuits connected in parallel with each other. As has been stated supra, the solenoid 43 is linked mechanically to the motor-microswitch 54 and serves to close said microswitch when said solenoid is energized. Also, the clock-motor 150 is connected to the clock-switch 152 via a mechanical linkage (not shown) so that every 60 seconds the switch 152 is closed, energizing the clock solenoid 153 which is mechanically linked to a time-advancing mechanism (not shown) of the type well-known in the art, advancing the clock hands and time-stamp one minute. The date-stamp is advanced one day every twenty-four hours by the same mechanism.

In the operation of the machine, when the circuit through the solenoid 43 is closed (such as by depositing a coin or coins, pushing a button, etc., or any mechanical action serving to close the machine-starting switch 154), the solenoid core 44 rises, activating the T-lever 48 and the L-lever 49 and closing the motor-microswitch 54. The motor 30 then rotates the shaft 33 in a clockwise direction (when viewed from the outside of support 21), lifting cam-follower 62, causing the indicia of time, date, etc. to be imprinted upon the end ticket of ticket-strip 155. The cam-follower 62 then drops, taking with it the knife-blade 78, creating a passageway 157 between said knife-blade 78 and the shear-blade 79 for the ticket to pass through. The ticket pinwheels 76, 77 then rotate forward 120° as the gear-teeth of the drive-gear 68 mesh with and carry one-third of the gear-teeth on driven-gear 71. As the pinwheels 76, 77 are rotating, the ticket strip is being advanced past the knife-blade 78 and on top of microswitch trigger 129, causing the microswitch 128 to cut off the solenoid 43 and the starting switch 154 from a source of current. Also, during the rotation of the pinwheels 76, 77 the inked ribbon is being advanced in response to the reciprocation of the L-shaped pushrod 144. The knife-blade 78 then rises, severing the stamped ticket from the ticket strip and, simultaneously therewith, the ratchet 125 is cocked by the upward movement of shaft 93. Then, as the gear 68 completes its one revolution, the shaft 93 is abruptly returned to its down or "rest" position, revolving the wheels 106*a*, 106*b* and kicking the ticket part-way out of the ticket exit 99. Thus the cycle ends, with all parts back at their "rest" positions and with a stamped ticket ready for use. As the ticket is removed from the ticket exit 99, the microswitch 128 is released to return to its "rest" position, completing the circuit with the starter-switch 154 and the solenoid 43.

The machine of the instant invention has many features which establish it as highly superior to the machines of the prior art. First, no more than one ticket may be obtained for each stimulus of the machine. This has been a severe handicap of other types of dispensers. Second, the instant invention contains a very low number of parts in comparison with other known machines designed for dispensing purposes. This keeps the production costs lower and increases saleability. Third, the parts of the mechanism so interact that cleaning, adjusting and repairing can be done with a minimum of time and effort. Fourth, the invention is adaptable to a wide variety of installations, can be activated by many different means, and uses a number of conventional and readily obtainable parts. These features and many others operate to produce a unique advancement in the art of dispensing.

To those skilled in the art to which this invention relates, many changes in construction and widely differ-

ing embodiments and applications of the invention will suggest themselves without departing from the spirit and scope of the invention. The disclosures and the description herein are purely illustrative and are not intended to be in any sense limiting.

We claim:

1. An apparatus for dispensing date-and-time stamped tickets, comprising: a housing; a ticket outlet; a guideway for directing a continuous strip of tickets to said ticket outlet; means for propelling said continuous strip of tickets along said guideway; means for stamping the date and time of issuance on each ticket as it passes along the guideway but before it is severed from the continuous strip of tickets; means for severing stamped tickets from the continuous strip of tickets before the stamped tickets are advanced into the ticket outlet; means for advancing stamped, severed tickets into and partially out of said ticket outlet; a plurality of means for activating the said stamped, severed-ticket advancing means, the said continuous strip ticket propelling means, the said time-and-date stamping means, and the ticket severing means, all of said means interconnected so that, in sequence, the leading ticket on the continuous strip of tickets is stamped, the continuous strip of tickets is advanced, the stamped, leading ticket is severed from the continuous strip, and then the stamped and severed ticket is partially extruded through the ticket outlet.

2. The apparatus of claim 1, wherein the date-and-time stamping means consists of a clock connected to a date-and-time stamping die in such a manner that the date is advanced each 24 hours and the time is advanced each 60 seconds, mounted in a position to stamp the date and time immediately prior to the severence of the ticket; the continuous-ticket-strip advancing means consists of a pair of ticket-advancing pinwheels containing a uniformly spaced series of pins protruding from the peripheries thereof; and wherein the actuating means for the propelling wheels, the advancing wheels, the severing mechanism and the date-and-time stamping clock comprises a motor, driven by electric current, connected by a system of gears and shafts to the aforesaid means.

3. A date-and-time stamped ticket-dispensing apparatus comprising: a housing, containing a ticket outlet; a guideway for directing a continuous strip of tickets through said housing and to said ticket outlet; a date-and-time stamping means mounted above the guideway in such a manner as to stamp the date and time of issuance upon each ticket as it passes beneath the said date-and-time stamping means; a continuous-strip ticket advancing means comprising a pair of pinwheels positioned immediately beneath the date-and-time stamping means and containing a series of uniformly spaced pins projecting radially from the peripheries thereof; a ticket-severing means and continuous-strip ticket advancing means consisting of a knife-blade mounted against a facebar; a pair of severed-ticket advancing wheels positioned above the ticket guideway posterior to the ticket-severing means and anterior to the ticket outlet, positioned so that after the stamped ticket is severed, it is grasped by the said ticket-advancing wheels and propelled into and partially out of the said ticket outlet; a plurality of means to drive said continuous-strip ticket advancing means, said date-and-time stamping means, and ticket-severing means, and said severed-ticket advancing wheels; and electrical means connected to said continuous-strip ticket advancing means, said date-and-time stamping means, and said severed-ticket advancing wheels in such a manner that the leading ticket on the ticket strip is respectively date-and-time stamped, advanced, severed, and advanced into and partially out of said ticket outlet.

4. A machine designed to dispense date-and-time stamped tickets in response to an external stimulus, comprising: a ticket outlet; a ticket guideway; a date-and-time stamping mechanism containing a time clock; a ticket-cutting mechanism; a cut-ticket propelling mechanism; a continuous-strip ticket-propelling mechanism; and a plurality of means for powering the aforementioned mechanisms, said means interconnecting said mechanisms in such a manner that, in sequence, the leading ticket on a continuous strip of tickets is stamped with the date and time of issuance, is advanced along the ticket guideway for a distance substantially equal to its length, is severed from the continuous strip of unstamped tickets, and is then advanced into and partially out of the ticket outlet, so that a ticket is positioned within reach of the purchaser only after it has first been stamped and then severed from the continuous strip of tickets, said machine also including a device for preventing the issuance of more than one ticket for each stimulus of the said machine.

5. A ticket dispensing mechanism comprising: an electric motor; a continuous-strip ticket guideway; a continuous-strip ticket advancing means; a date-and-time stamping mechanism; a ticket-cutting mechanism; and a single-ticket advancing mechanism terminating in a ticket outlet, wherein the electric motor is connected via a mechanical linkage to the date-and-time stamping mechanism, the strip-ticket advancing mechanism, the ticket-cutting mechanism, and the single-ticket advancing mechanism; a mechanical linkage to said date-and-time stamping mechanism comprising a drive shaft terminating in a first gear, which meshes with a larger second gear spring-mounted on a second drive shaft extending at right angles from said first drive shaft and terminating in a third gear which, in turn, meshes with a fourth gear mounted on the end of a third shaft parallel to said second shaft, said fourth gear having axially extending pins radially mounted on the external face of the gear at 120° from each other and an L-shaped shaft extending upwardly from said pin-gear and engaging the pins in successive order and in such a manner that, as a gear is rotated 120°, one of said pins will first elevate the L-shaped shaft and then release it to drop back into its former rest position, the other end of such L-shaped shaft supporting a collar upon which rests a lever linked directly to the date-and-time stamping mechanism, so that when the electric motor is activated the first gear revolves, revolving the second gear, the third gear, and then the fourth gear, which in turn elevates the L-shaped shaft in its collar and therefore the arm connected to the date-and-time stamping mechanism, forcing said date-and-time mechanism to imprint the indicia of the proper date and time upon the ticket positioned immediately beneath said mechanism.

6. The apparatus of claim 5 wherein the shaft carrying the said fourth gear also carries the two continuous ticket advancing wheels and wherein the third gear consists of a disc having teeth only within a 45° segment of said disc and an axially extending pin positioned approximately opposite the said teeth at the periphery of said disc, said pin engaging an arm projecting in a direction normal to the plane of the end of said disc-like gear toward the axis of said gear and elevating said arm as the gear is rotated and then, as the pin reaches the top of the point of rotation, releasing said arm, said arm being spring-mounted and, upon its release from said pin, returning to its original position; said arm being connected to an upwardly disposed shaft which terminates in a laterally projecting pin carrying a ratchet, said ratchet extending forward to engage a fifth gear mounted on the end of a shaft carrying the individual-ticket advancing means, so that as the third gear is rotated one complete revolution the axially extending pin elevates the arm which in turn elevates the upwardly projecting shaft, rotating the 5th gear and the individual ticket-advancing means, advancing the severed date-time stamped ticket partially through the ticket outlet, and returning to its normal position for a subsequent operation.

7. The apparatus of claim 5 wherein the shaft carrying the second gear also carries a cam having a step-like notch which acts as a stop mechanism for an L-shaped lever pivoted at a point above and to the side of said cam and extending from below said pivot upwardly

through said pivot and then laterally to the motor starting switch, said pivot also serving as a pivot for a mechanical linkage between the solenoid and a horizontally disposed lever designed to withdraw the L-shaped lever from the cam notch, the combination of levers and mechanical linkages interacting in such a manner that, as the solenoid is activated, the electric motor switch is closed, thereby activating the motor, and said switch is maintained in a closed position for one complete revolution of the said cam, at which time said switch is opened, resulting in breaking the circuit to the electric motor.

8. A ticket dispensing mechanism designed to deliver, one at a time, dated, time-stamped tickets upon receipt of an external stimulus, comprising: a housing containing a ticket exit, an upstanding support member providing support for an electric motor, a starting switch for said electric motor, a motor solenoid, one side of a bracket which, in turn, affords support for a clock-type date-and-time stamping mechanism, and bearings for two horizontally disposed shafts, one on top of the other, and for a pivot which, in its turn, affords support for a lever extending from the electric motor starting switch to the lower of said two parallel shafts, the said lever being L-shaped and being disposed in an up-side-down position with the foot of the L extending horizontally over to the starting switch and the vertical side of the L pivoted midway between its ends on said pivot, and a T-shaped lever pivoted at one end of the crossbar on said pivot, the other end connected to the solenoid and the foot connected to a horizontally disposed lever, said connection constituting a second pivot and said horizontally disposed lever terminating beneath the lower of the two said horizontally disposed shafts; a second upstanding support positioned apart and parallel to said first upstanding support and providing a bearing for the other end of the two horizontally disposed parallel shafts and for the other side of the bracket which affords a support for the time-and-date stamping mechanism, said support for said time-date stamping mechanism being substantially U-shaped on either end, the rearward portion of said U-shaped member being pivotally mounted upon the respective upstanding support members and the forward portion of said U-shaped members secured to said upstanding support members via a spring-loaded lug removable so that said time-date supporting member may be rotated upwardly and backwardly to remove said time-date mechanism from its normal operating position, the first end of said lower shaft terminating in a gear mounted on the outside of said first upstanding support member and meshing with a second gear mounted on the drive shaft of said electric motor, the second end of said shaft terminating in a gear mounted on the side of said second upstanding member and meshing with a fourth gear mounted on the end of the upper parallel shaft adjacent the outer face of said second upstanding support member, said upper shaft also serving as an axle for two pin-type continuous-strip ticket-advancing wheels placed beneath the ticket guideway and protruding up through said ticket guideway at the uppermost part of their travel, and disposed on said upper shaft between said ticket-advancing wheels a stamping platen and a supply of inked ribbon disposed in such manner that a new section of ribbon is advanced for each new, unstamped ticket, said ticket guideway having an aperture immediately above said inked ribbon, said lower shaft also providing an axis for an eccentrically mounted cam activating a cam-follower which, in turn, is connected via an L-shaped member to the knifeblade which severs the tickets from the continuous tape, said lower shaft also serving as a means of actuation of the individual-ticket advancing mechanism via the gear mounted on the second end of said shaft, said gear containing teeth disposed for only approximately one-eighth of its circumference and containing an axially extending peripherally mounted pin approximately opposite said teeth on the outside of said gear face, said pin serving to elevate a horizontally disposed lever which is connected to a vertical lever, in turn connected to a ratchet serving to rotate the individual-ticket advancing wheels for a sufficient distance to advance the individual severed ticket partially out of the ticket exit, said gear-mounted pin releasing said horizontally mounted lever for two-thirds of its cycle, thereby allowing said horizontally mounted lever, said vertically mounted lever, and said ratchet, to return to their "rest" position and remain thereat until the next ticket is to be advanced, and said external gear, mounted on said upper shaft, containing three series of teeth disposed 120° from each other and designed to rotate only 120° for each ticket-dispensing cycle, said gear also containing three axially disposed outwardly projecting pins positioned near the periphery of said gear and mounted 120° from each other and in between adjacent sets of gear teeth, said pins serving to actuate by elevation an L-shaped lever connected at its upper end to a horizontally disposed lever upon which rests a kicker-bar directly connected to the advancing arm of said clock-mechanism which serves to actuate the date-and-time stamping mechanism by forcing it in a downward position against the ticket in place above the inked ribbon and platen; and an electric circuit interconnecting the clock motor, a clock-solenoid, the clock switch, the microswitch for the electric motor, the electric motor, the motor solenoid, and the starting switch, in such a manner that when said starting switch is closed the motor solenoid is activated, thereby reciprocating the mechanical linkages to the electric motor starting switch, closing said motor starting switch.

References Cited in the file of this patent

UNITED STATES PATENTS

1,370,482	Pope	Mar. 1, 1921
2,421,697	Hobby	June 3, 1947
2,446,400	Woolley	Aug. 3, 1948
2,518,011	Hoppe	Aug. 8, 1950
2,572,003	Binns et al.	Oct. 23, 1951
2,741,982	Rouan et al.	Apr. 17, 1956
2,872,007	Robb et al.	Feb. 3, 1959