PUBLISHED MAY 18, 1943.

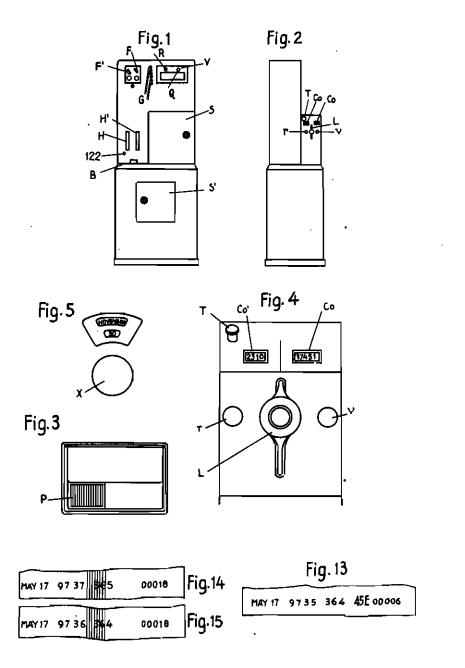
ISHED B. BERIA
, 1943. TICKET DELIVERING MACHINE

Serial No. 309,215

BY A. P. C.

Filed Dec. 14, 1939

5 Sheets-Sheet 1



Inventor
Stape Is one
By I. Intilluan
Attorney,

PUBLISHED

MAY 18, 1943.

BY A. P. C.

B. BERIA

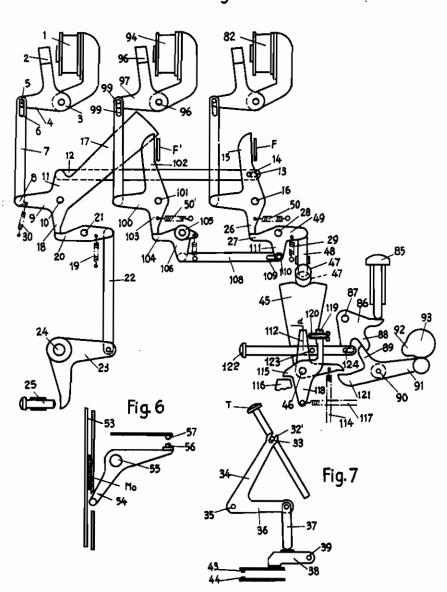
TICKET DELIVERING MACHINE

Filed Dec. 14, 1939

Serial No. 309,215

5 Sheets-Sheet 2

Fig. 8



Inventor Augus Navie By Zimillonau Attorney, PUBLISHED

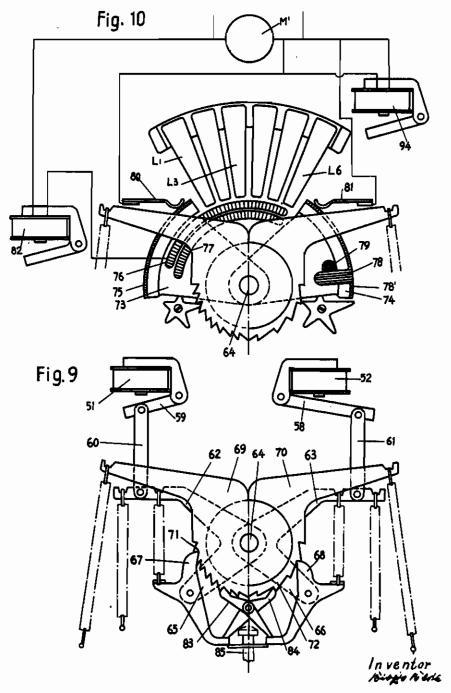
B. BERIA

Serial No. 309,215

MAY 18, 1943. BY A. P. C. TICKET DELIVERING MACHINE

Filed Dec. 14, 1939

5 Sheets-Sheet 3



By 2.milunan. Attornoy.

PUBLISHED MAY 18, 1943.

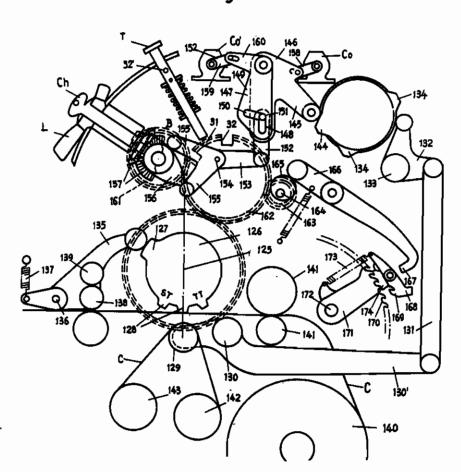
B. BERIA
TICKET DELIVERING MACHINE

Serial No. 309,215 5 Sheets-Sheet 4

BY A. P. C.

Filed Dec. 14, 1939

Fig. 11



Inventor Argo han By Modellan Attorney. **PUBLISHED**

B. BERIA

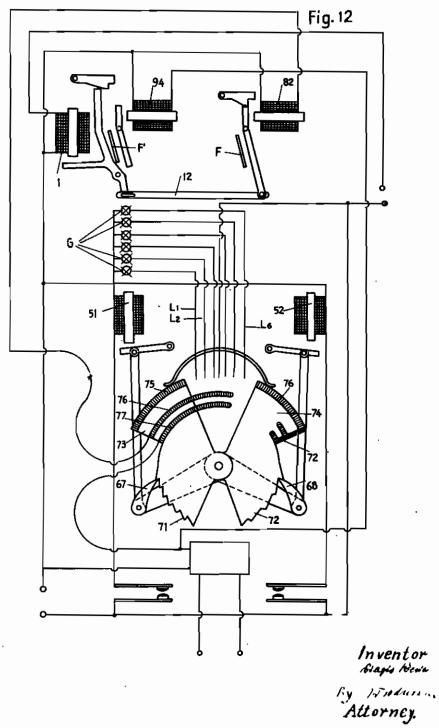
Serial No. 309,215

MAY 18, 1943. BY A. P. C.

TICKET DELIVERING MACHINE

5 Sheets-Sheet 5

Filed Dec. 14, 1939



ALIEN PROPERTY CUSTODIAN

TICKET DELIVERING MACHINE

Blagio Beria, Turin, Italy; vested in the Alien Property Custodian

Application filed December 14, 1939

This invention relates to a machine which delivers tickets and performs checking registrations. The machine has been more particularly developed for automatically distributing tickets having a fixed value, for instance railway tickets for a determined mileage, and it comprises special controlling and checking devices that may be usefully employed also in machines delivering tickets for public amusement places, such as theaters, cinemas and the like, with a guaranteed 10 chine. accuracy both in respect of its operator and taxation authorities.

The accompanying drawings show diagrammatically by way of example the machine according to this invention used for delivering railway tickets having a fixed value that may be formed with coins of two different denominations, for instance one and two with a fixed value for instance of six dollars.

Figures 1, 2 and 3 show a front view of the wholly closed machine, as it appears in use, a side view with the normally locked inspection lid, removed to show the counters and the "reading" iever, and a plan view of the machine, respectively.

Figure 4 is a detail view on an enlarged scale of the inner parts visible in Figure 2.

Figure 5 is a fletail view on an enlarged scale of the device for changing the day and month to be printed on the ticket and checking tape, which would be visible in the position of the machine shown in Fig. 1 upon opening the normally locked lid.

Figure 6 shows a detail of the device released by the coins inserted into and accepted by the machine which, on passage of each coin, actuates the device shown in Figures 9 and 10.

Figure 7 shows the knob, visible also in Figures 2 and 4, which becomes accessible by opening the locked lid of the machine, for actuating the machine by hand after the "reading" lever has been brought into a position rotated through 90° to the right or left, respectively, with respect to the position shown in Figures 2 and 4.

Figure 8 shows a detail of the automatic mechanism for closing the coin slots when the paper strip tears or is near the end, and for closing the slot for the coin of higher denomination when insertion of one of these coins would exceed the fixed ticket price, and, finally, for closing the slits when the fixed value is reached. This mechanism further comprises means for automatically uncovering the slits at the end of the operating cycle of the machine and fully 55 not accessible to the public. In hand operation

restoring the mechanism shown in Figures 9 to 10 to its initial position.

Figures 9 and 10 show the two parts mounted on one axis which form the central mechanism. This mechanism gives a light signal on insertion of each successive coin, blocks the coin slots as mentioned above and automatically releases the machine when the fixed value has been reached by the coins thrust in and accepted by the ma-

Fig. 11 shows the printing mechanism and a device controlling two counters, one of which records all the operating cycles performed by the machine, while the others only record the 15 checking cycles which deliver "void" tickets with total or sub-total reading, that is with and without return to zero position.

Figure 12 shows the main electric diagram of the machine.

Figures 13, 14 and 15 show three examples of how a ticket is printed, namely, printing of a "valid" ticket delivered by the machine operating automatically on insertion and reception of coins for the fixed predetermined amount, and 25 printing of a "void" ticket during the ohecking operation actuated by the hand knob, with total and sub-total taking, respectively.

The main features of the machine are as foiiows:

- 1. The ticket may be obtained by any combination of good coins forming the fixed value.
- 2. Successive receptions by the machine of the the coins thrust in are checked by means of light signals.
- 3. Automatic blocking of the coin slot when the coins inserted into and accepted by the machine reach a value such that any further coin would exceed the total fixed value.
 - 4. Exhibiting accepted coins.
- 5. Possibility of recovery by user of all the coins accepted before reaching the full fixed value.
 - 6. On reaching said fixed value, the machine automatically starts and actuates the totalizer, the automatic recording devices, etc. and prints the ticket and check strip.
 - 7. The machine may operate in two different manners: firstly, automatically, on reaching the fixed amount inserted by the user and accepted by the machine (in this case the totalizer adds up the inserted and accepted amount; secondly, by hand, after performing a special manipulation by means of the "reading" lever key and depressing a starting knob which, like the lever, is

2 309,215

the machine does not sum up any longer, because the totalizer is inoperative, but prints the amount cashed up to that moment. Both cycles are controlled by the two counters mentioned under 9).

The difference between the two counters indicates the actual number of tickets delivered by the machine on accepting the money introduced by the public. The number of tickets multiplied by the fixed amount should exactly correspond 10 to the figure printed on the ticket and check strip during a reading operation by and as mentioned above.

In reading and testing cycles for the purpose which is automatically annulled by well-visible signs or inscriptions; for instance, a red strip or the word "void" in red or a combination of this word with lines or other marks printed in red.

8. The machine is provided with two counters, $^{\,20}$ one of which records the operating cycles of the machine including tests carried out for setting the strips adapted to form the tickets and the check record and for reading totals, while the testing or reading purposes.

9. When the machine is at standstill and in ready-for-operation condition, a white lamp burns and indicates this condition and also lights the instructions for use by the public. On start- 30 ing the machine this white light goes out and a red lamp is switched on and burns as long as the machine operates, i. e. till the end of the cycle, which denotes that the machine works satisfac-At the end of the cycle, the white light 35 and block them. is switched on again. If the red light is not extinguished, this denotes a failure in the machine. In this case, the coin slots are automatically blocked.

A further green light lights, while the white 40one is put off and the slots automatically close, when the ticket or check strip tears or is near the end. The device actuating the green lamps is arranged in such manner that it safely guarantees delivery of the ticket corresponding to the . 45 operation under progress, inasmuch as the feeler of said device is mounted at a distance from the point where the tickets are cut, which is greater than the length of a ticket.

10. A suitable device permits recovery of the 50 coins by the public before automatic starting of the machine.

The machine and its operation shall now be described with reference to the accompanying drawings which diagrammatically show a con- 55 struction of the machine. The machine is enclosed in a cabinet which comprises a foundation, a locked lid S' giving access to the coin magazine, and an upper portion which is provided on top with slots F, F' for insertion of the coins; 69 two inspection glasses H, H' through which the coins are exhibited as they are inserted and remain visible till the fixed value is formed; lamps G which automatically light on insertion of the coins, a board Q with the instructions for use 65 lighted by a white light when the machine is inoperative but ready for operation, and which is lighted by a red light R when the machine performs its operating cycle or is not in readyfor-operation condition, and by a green light V 70 when the ticket or check strip tears or fails. At the base of the top portion near the surface P, an outlet B is provided through which the coins inserted into the machine may be discharged by actuating the knob 122 before the machine 75

starts. The top portion enclosing the various mechanisms and recording and printing means, is provided with a lid S, which is normally locked. This lid gives access to the "reading" lever, key T for hand-actuation of the machine and knob X (fig. 5) for setting the day and month to be printed on the ticket. It is also possible to actuate the knob 25 (fig. 8) which after mending or renewing the strip sets the slots F and F' free from the arms 17 and 15 that had automatically blocked them as a consequence of tear or failure of the paper. This automatic mechanism operates as follows:

Thes electromagnet I is energized by closure of setting the strips the machine delivers a ticket 15 of its feeding circuit, produced by a feeler acting on the ticket or check strip when the latter tears or is near the end, but there is still a sufficient length for one ticket which corresponds to the operating cycle of the machine under progress. The electromagnet I (fig. 8) draws the armature 2 carried by a lever rocking about the pivot 3 and provided with a further arm 4 having a pivot 5 engaged by an eyelet 6 cut in the link 7, pivoted at 8 to the arm 9 of a four-armed lever other counter only records tickets delivered for 25 rocking about the pivot 10. This four-armed lever has an arm ! | pivoted to the link !2 provided with an eyelet 13 engaging a pivot 14 secured to the arm 15 covering the slit F for the two dollar coins and rocking about the pivot 16. The four-armed lever further carries an arm (7 adapted to cover the slot F' for thrusting in the one dollar coins. Obviously, when the armature 2 is drawn through the leverage described, the two arms 17 and 15 come over the coin slots F

A spring 19 presses against the fourth arm 18 of the four-armed lever the arm 20 of a lever rocking about the pivot 21, of which the other arm is connected through the link 22 to the bell erank lever 23 rocking about the pivot 24, and the other arm of which may be acted upon by the knob 25 not accessible to the public. On oscillation of the armature 2, when this is drawn by the electromagnet I, the pawl arm 20 snaps behind the arm is of the four-armed lever, so as to keep it in the position in which the latter blocks the slot F' by its arm 17. Similarly, the end of the arm 26 of the three-armed lever carrying the arm 15 hiding the slot F, is acted upon by the arm 27 of a lever rocking about 28 and subjected to the action of a spring 29.

When the armature is attracted by the electromagnet 1, the link 12 brings the arm 15 over the slot F, so that the pawl 27 snaps behind the arm 28 and the spring 29 keeps the arm 15 over the slot F in the same manner as the spring 19 keeps the arm 17 on the slot F' even as energization of the electromagnet I ceases.

The attendant is warned by the green signal given by the lamp V which is switched on, and opens by means of a key the lid S of the machine, which gives access to the inner mechanism in which the paper is renewed or repaired. On completing this operation, before closing the machine, the operator presses the knob 25, lowering the arm or pawl 20 and setting free the arm 16 of the four-armed lever which, under the action of a spring 30, is rocked about its pivot 10 so as to uncover the slot F' by its arm 17.

Before closing the machine and after depressing the knob 25, the attendant having renewed or mended the paper should move the "reading" lever L from the position shown in the drawing (figures 2 and 4) to a position normal thereto, by

3 309,215

rotating it through 90° either to the right or left over the green mark v or red mark r, depending upon whether the attendant is in possession of the longer or shorter key for reading a sub-total or a total respectively. In this position of the lever L the operator may operate the machine after depressing the key T (figs. 4 and 11) which is prevented from being lowered unless the lever L has been displaced, by a wheel situated under the key and formed with two cuts 31, 32 (fig. 11) 10 which, when they are brought under the key T, permit lowering of the latter, while in the other positions the key cannot be lowered because it soon strikes against the wheel on its portion deprived of cuts and the cuts 31, 32 come under 15 the key T on rocking to the right or left, respectively, of the lever L over said green and red marks.

When the key T is lowered, the machine is automatically started by electrical means. For this purpose, the key T (fig. 7) is provided with a lateral pin 32' engaged by the notch 33 in a lever 34 rocking about the pivot 35, and the other arm of which 36 is pivoted to a small stay 31, of which the free end cooperates with a lever 38 rocking about the pivot 39 and carrying at its end the movable contact 43 adapted to close on the fixed contact 44 the electrical circuit controlling the electric motor actuating the machine 30 on depression of the key T.

On operation of the machine, the cam-sector 45 (fig. 8) pivoted at 48 rocks to the left of the position shown in the drawing, and the roller 47, carried by a link suitably guided and piv- 35 oted to an arm 49 of the lever carrying the pawl arm 27, is lifted from the position shown in dotted lines, to which it had been brought on reception of the last coin forming the fixed value quently the pawl arm 27 is lowered, setting free the arm 26 of the three-armed lever, of which the arm 15 is moved under the action of the spring 50 away from the slot F, which is set free.

On automatic starting of the machine, the two slots F and F" are closed by the arms 15 and 102, as will be described hereinafter, and the same cam 45 uncovers said slots at the end of the operating cycle of the machine.

Operation of the machine.—The machine has two slots F and F' for thrusting in the coins Mo which are guided in a suitable chute 53 (fig. 4) under the control of known devices for diverting false or unlegal coins, and form a visible pile which is exhibited through H and H', respectively (flg. 1).

The luminous check means for the coins thrust in and received by the machine are constituted by a set of lamps G six in the example shown, in which the ticket is obtainable at the cost of six dollars in 2 and 1 dollar coins. On introduction of each coin of the higher denomination, two upper lamps are switched on and project light downwardly and on insertion of each coin of the lower denomination, one bottom lamp lights up and projects light upwardly. In this manner, it is possible to form the full amount required for purchase of the ticket by thirteen 70 combinations obtainable with the two different denominations.

The device for lighting the lights and controlling the slots F and F' so as to close the slit for the coin of higher denomination when coins for 75 so as to produce lighting in the above described

five dollars have already been introduced and close the other slit when the full value has been thrust in and accepted by the machine, and to reopen them automatically on completion of the operating cycle of the machine, is as follows:

Two electromagnets 51 and 52 (figure 9) are energized by the passage of each coin of the lower and higher denomination, by means of a device similar to the one shown in fig. 6, while, the coins slide in the chute 53 to the windows H and H'. The arm 54 of a lever pivoted at 55 comes within range of the chute, the other arm of said lever carrying the movable contact 56 which closes by the other fixed contact 57 the circuit of the electromagnet 51, 52, respectively, on passage of each coin of the lower and higher denomination, owing to the fact that the coins rock the arm 54. The armatures 58 and 59 of the said electromagnets, that are drawn on flow of the current as each coin is thrust in oscillate the sectors 69, 70, respectively, by means of the links 60 and 61 (fig. 9) connected to the arms 62, 63 of bell crank levers pivoted at 64 and of which the other arm 65, 66, respectively, has pivoted thereto the pawls 67, 68.

The pawls act on the sets of teeth 11, 12, respectively of said sectors. The lever ratios are such that the pawl 68 is carried along on a path which is twice that of the pawl 67, so as to move the sector 10 twice as much as the sector 69. The pawls 83 and 84 maintain the sectors in the positions reached on each current flow, while the bell crank levers resume each time their initial position.

The sectors 73, 74, respectively of insulating material (fig. 10) are positively connected to the sectors 69, 70.

The two sectors 73, 74 carry a conducting leaf required for operation of the machine; conse- 40 15, 15' respectively, over their whole periphery and the sector 73 further carries two front curved conducting leaves 16, 11, respectively, extending beyond the sector 13 towards the other sector 14. The latter is provided with a radial conducting leaf 78 carrying towards the sector 73 and opposite the leaf 16 a laminated projection 79. Sliding contacts 80, 81 rest on the leaves 15 and 75' of the sectors 73, 74 and are connected in the circuit of the electric motor M' driving the machine.

The leaf 77 is electrically connected with the motor actuating means and the leaf 78 is permanently to the leaf 15'. Movements of the sectors **13, 14** take place in such manner that when the fifth dollar has been inserted, the leaf 16 contacts on the projection 19 closing the circuit feeding the electromagnet 82 which moves in the manner described hereinafter the lever carrying the arm 15 closing the slot F for the introduction of the coin of higher denomination. A further displacement of the sector 13 causes the leaf 77 to contact with the leaf 78 and the motor circuit to close, whereby the machine performs its ticket delivery cycle in the manner that will be hereinafter described.

Successive displacements of the sectors 73, 74 close contacts between extensions of the leaves 75, 75' over contact leaves 1, 11, 12, 13 . . . 16 which connect in the circuit the check lamps G described above. As the sector 74 performs an oscillation which is twice that of the sector 13, it closes on each movement the circuit of two lamps, while the other sector closes the circuit of one lamp only proceeding in an opposite direction manner. When the operation is completed and the ticket has been printed and delivered and the amount cashed as will be described hereinafter, the machine should entirely resume its initial position illustrated above. The pawis 83, 84 (Fig. 5 by a pawl 6 an arm 106 its other entire produced by the passage of a coin under the paction of the pawls 67, 68 which, as said impulses cease, are released and returned by the levers to nomination. In this makes the tails of the pawls 67 and 68.

In order to vary at will the coin combinations within the maximum limit determined by the end positions of the selectors (delivery position), 15 each sector (73, 74) is subjected to the action of a stepped cam (190, 191). Displacement of a stepped cam to a higher step, for instance to the next higher step, moves the corresponding sector by one step in the direction towards the 20 delivery position. Therefore, the sector moves a step less for reaching said end position, in which its contact leaf comes into contact with the conducting leaf of the other sector, and resumes its initial position (zero position) which is nearer 25 said end position by one step. A coin less should therefore be introduced in order to close the delivery circuit, when the other sector has not been similarly moved by its cam. By bringing one or both sectors towards or away from this position, 30 it is possible to obtain any desired combination of coins by setting on the machine in an easy and rapid manner any other amount for the ticket to be delivered. The height of the cam steps is proportional to the displacement produced by a set of teeth on its respective sector; the cam steps 191 are therefore twice as high as the corresponding steps on the cam 190, so that rotation of the cam [9] through one step moves its respective sector twice as much as rotation 40 of cam 190 through one step moves the sector 73.

The head of the rod 65 (Fig. 8) actuated by the lever 86 rocking about the pivot 87 and arranged under the tails of the pawls 67, 68 returns to its initial position the whole mechanism 45 shown in Figures 9 and 10 at the end of an operating cycle of the machine. The lever 86 is provided with an arm 88 with which cooperated the arm 89 of a three-armed lever oscillating about the pivot 90 and provided with an arm 91, 50 of which the end is subjected to the action of a cam 92 keyed on a shaft 93, which performs a rotation through 360° at each full operating cycle of the machine. In this manner, at the end of the cycle the cam 92 lifts the rod 85 which raises the tails of the pawls 67 and 68, releasing them from the corresponding toothed sectors and simultaneously actuating the tails of the pawls 63 and 94 and releasing them from said sets of teeth. The springs with which all the levers are provided, as shown, restore the entire mechanism at the end of the cycle.

As the fifth dollar is accepted by the machine, the circuit closes over the leaf 16' and projection 19, which feeds the electromagnet 82 closing 65 through the arm 15 the slit F; on accepting the sixth dollar, by effect of the closure of the motor circuit through the contact established by the leaf 17 with the leaf 18 (Fig. 10), current is supplied also to an electromagnet 94 (Fig. 8), of 70 which the armature 95, rocking about 96, lifts by means of its arm 97 and pivot 98 fixed thereto the link 99 provided with an eyelet and of which the other end is pivoted to the arm 180 of a three-armed lever rocking about 101 and pro-75

vided with an arm 102 which closes the slot F' for the coins of lower denomination. The shorter arm 103 of this lever is acted upon at its end by a pawl 104 pivoted at 105 and provided with an arm 106 connected to the link 108, having at its other end an eyelet 109 engaging a pin 110 on an arm 111 fast with the above described pawl 27 that acts on the lever carrying the arm 15 closing the slot F for the two coins of higher denomination.

In this manner on starting the machine the slot for the coins of lower denomination may be closed, the slot F for the coins of higher denomination having previously been closed as a result of the introduction of coins up to 5 cents.

Rotation of the eccentric 92 of the machine at the end of each cycle releases from the pawl 27 the arm 26 of the lever carrying the arm 15 for covering the slot F whereby the arm 103 of the lever carrying the arm 102 closing the slot F' is also released through the connection established by the link 108 with parol 104.

After said release, the springs 50 and 50' rock the blocking levers setting the slots free. The pile of coins of the two denominations formed behind the inspection glasses H and H' of the machine, is supported by a member 112 mounted for oscillation about the pivot 46 and fixedly connected with the cam sector 45. The member 112 has a tail portion 113 acted upon by a relatively weak spring 114. The same pivot 46 has loosely keyed thereon a three-armed lever comprising an arm 115, which is pressed against a fixed stop 116 by a relatively strong spring 117 acting on the other arm 118, while the third arm 119 is provided with an adjustable stop 120 cooperating with the member 112.

The lever 89, 91 oscillating about the pivot 90 and acted upon by the above described cam 92 of the machine, is provided with an arm 121 which, as the cam is lifted, by raising the arm 113 produces at the same time as the already previously described operations an oscillation in the direction of the arrow α of the member 112. By effect of this oscillation the coins, laterally retained in the guides, slide along the side of said member 112 and fail along a shoot, not shown, into the magazine.

The machine is provided with means for permitting recovery by the public, if desired, of the coins, before the latter fall into the magazine. This means comprises a knob 122 (Figs. 1 and 8) projecting to the outside of the machine, provided with a lateral pin 123 and an end eyelet which engages a lateral pin on the previously described lever 86.

Pressure on the knob 122 first oscillates the lever 86 through the pin 124 engaged by the eyelet and then lifts the rod 85 restoring the light signalling mechanism for the coins inserted which, as the coins reach the full value, starts the machine, whereupon, under the action of the pivot 123 the three-armed lever is rocked against the action of the strong spring 117, so that the weak lever 114, no longer overcome by the former, acts on the arm 113 rocking the member 112 in a direction opposite that of the arrow α and the coins in the pile above said member slide in front of it and are delivered by suitable guides to the outside of the machine.

which the armature 95, rocking about 96, lifts by means of its arm 97 and pivot 98 fixed thereto the link 99 provided with an eyelet and of which the other end is pivoted to the arm 100 of a three-armed lever rocking about 101 and pro- 75 by unlocking the lid S of the machine, access is given to a knob X (Fig. 5) rotating about its axis and fixedly connected to a disc carrying numerals from one to thirty-one corresponding to the days of the month. Rotation is trans-

309,215

mitted, through a suitable gearing to a further disc concentric with the former, carrying on its periphery the names of the twelve months of the year, in order to switch over to the next month after all the days of the month have elapsed.

By operation of the knob X, the attendant may set every day through the inspection window the proper day and month and movement is transmitted from the two above mentioned discs to the printing rolls, loosely mounted on the same shaft 125 carrying a further printing roll 126 provided with a cam 127 (Fig. 11). The disc 126 is provided with three peripheral projections 128 adapted to print the letters TT meaning "total taking", a "numeral" corresponding to the number of the machine and, finally, the letters ST meaning "sub-total taking". These inscriptions are printed on the ticket and check strips, as will be hereinafter described.

Printing is effected by means of a printing roll 20 129 carried at the end of a bell crank lever pivoted at 130, of which the other end is connected by the link 131 to the bell crank lever 132 pivoted at 133, of which the other end is operated by the cam 134 that performs a full revolution at each cycle 25 of the machine by which it is automatically actuated

The cam 127 acts on the end of a lever 35 rocking about the pivot 136 and subjected to the action of a spring 137, said lever carrying a printing roll 136 fed by the inking roll 139 adapted to print a suitable sign or inscription, preferably coloured in red if the ticket is printed in black, in order to distinguish "void" tickets printed during the testing or reading operation. The paper 35 C, from which the tickets are cut, unrolls from a spool 140, travels between feed rolls 141 after having moved over the feeler, not shown, adapted to signal tear or failure of the paper by lighting a red lamp and block the machine. As will be seen 40 from the drawing, the paper strip travels under the printing rolls, including the roller 126 shown in the drawing and the roller 138 for the "void" mark. Cutting is effected automatically past the rollers 141 and ahead the printing rollers.

C' indicates the ribbon forming the check strips which unrolls from the spool 142 and is wound up on the roll 143 after having travelled over the printing roller 129. The rollers 142, 143 are mounted on a support fixedly connected with 50 the bell crank lever pivoted at 130. The lever 130' performs two rocking movements at each cycle of the machine, as the cam 134 which performs one turn at each cycle, has two points as clearly shown in the drawing. The first oscilla- 55 tion produces print of the ticket which is immediately cut and expelled, the second oscillation prints the check strip at the end of the cycle of the machine, which is made possible by the fact that, as said above, the ticket has been expelled 60 and the check strip is now free to be printed. A cam 144 is operatively connected to the cam 134 and acts on the arm 145 of a double lever pivoted at 148 and of which the arm 147 is provided with a radial eyelet 148. On the same pivot 146 a 65 further lever 149 is loosely mounted and is provided with an L-shaped eyelct, of which an arm is radially directed and coincides with the arm 148 of the other lever, while the other arm 150 ls arc-shaped and has its center on the pivot 146. 70 The above mentioned eyelets engage a lateral pin 181 on a link 152 connected to the ends of the arm 153 of a three-armed lever 153 oscillating about the pivot 154 and on the other two arms 155 of which acts the double cam 156 actuated in 75

the manner explained hereinaster, by the reading lever L on introduction of the key Ch. On fitting the key into the key-hole, and moving the lever L through 90° from the position shown in Fig. 4 to the right or left, the bevel gear 157 rotates through 90° the double cam 156 and oscillates the three-armed lever about 154, whatever the direction of rotation of the lever L is.

In the position shown, the cam !44 oscillates the arm !45 which advances by one figure by means of the lever !58 the counter Co counting all the tickets delivered by the machine, including void tickets.

In this position of the lever L the cam 144 does not move the lever 149 nor the counter Co', which is adapted to count only the tickets marked "void" delivered by the machine and is connected by the lever 159 to the arm 160 of the lever 149. When the lever L is rotated through 90° with respect to the position described, the lever 155 is rocked and lowers the link 152, of which the lateral pin 151 moves to the lower end of the radial eyelet 148 in the two levers 147, 149. Rocking of the arm 145 produced by the cam 144 also rocks the lever 149 with lever 147, thereby actuating the counter Co'. A toothed wheel 161 coupled to the toothed wheel 157 and actuated by the lever L as the key is fitted into it, meshes with a further toothed wheel 162 meshing in turn with a toothed wheel 163 having keyed on its pin 164 a cam 165 actuating the end of a lever 166 provided at the opposite end of a tooth 167 which, when lowered towards the tail 168 of the pawl 169, causes the latter to engage with the toothed wheel 170 actuating the amount counter; in the example shown, it records the six dollars every time the latter are introduced and the machine performs its cycle. The pawl is carried by a lever 171 which performs at each cycle of the machine a reciprocating rocking movement about its pivot 172 and is under the action of a spring 173 connecting it to the pawl tail. When the cam does not lift the arm 166 (position of the lever L rotated through 90° to the position shown in the drawing) the tooth 167 does not come within range of the pawl tail and the disc actuating the amount totalizer through the toothed wheel 170 does not come into

As shown by the enclosed drawing (Figs. 13, 14 and 15), the ticket bears the date (in the example "may 17"), the serial number of all the ample "May 17"), the serial number of all the operations which is visible, on opening of the lid S, also on the counter Co, this number being in the example shown 9735, further another number indicating how many grandtotal readings have been effected on the machine, in the example 364 and 365, respectively, further, if the tickets are void ones, an indication as to whether in the operation in which the ticket has been delivered a total (Fig. 14) or a sub total (Fig. 15) has been taken or, in the case of valid tickets, the number distinguishing the machine (Fig. 13); finally, a number indicating, in the case of valid tickets, the figure corresponding to the amount actually accepted by the machine for delivering said tickets (in the example six dollars, consequently, the number 00006) and, in the case of "void" tickets, the figure appearing, at the time of delivery of the ticket, on the counter on the machine, not illustrated for simplicity's sake, from the last total taking effected on the machine, in the example shown 00018). As stated above, by omitting the coin insertion device and the device for automatic actuation through the

central mechanism, and by providing the machine with one or more keys T acting like the one described for hand actuation of the machine and corresponding to the various ticket values, for instance of cinemas, with the printing, numbering and checking devices of the above described type, the machine may be usefully employed for delivering tickets for the admission to public amusements.

It will be understood that the forms and constructional details of the various devices may be varied from what has been described and illustrated by way of example, leaving the characteristic principle unvaried, without departing from the scope of this invention.

BIAGIO BERIA.