No. 822,829. PATENTED JUNE 5, 1906.

H. H. CUMMINGS.

TICKET DELIVERING MACHINE.

APPLICATION FILED FEB. 19, 1904.

3 SHEETS—SHEET 1.

Fig. 1.

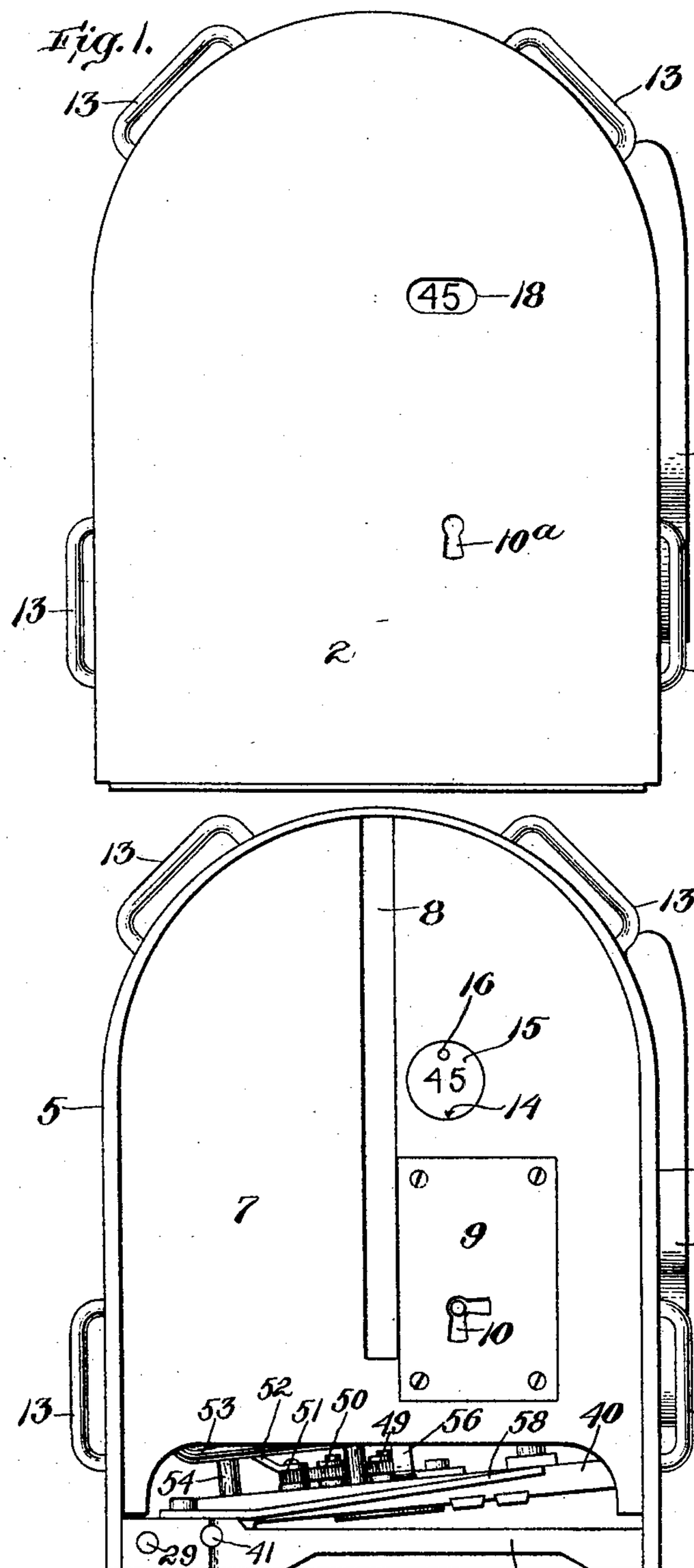


Fig. 2.

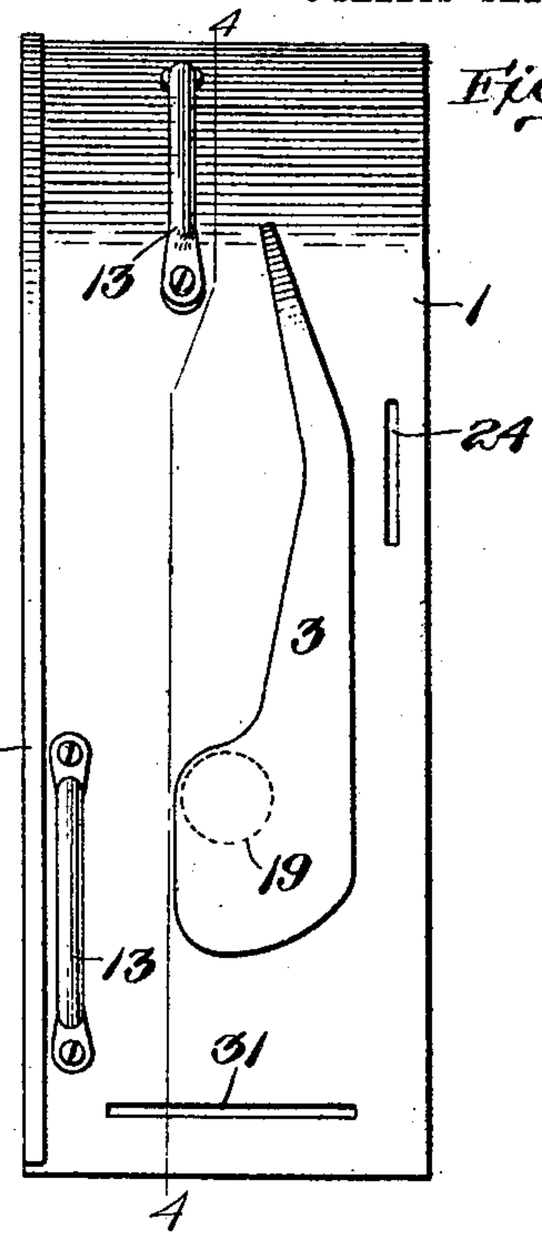


Fig. 3.

Witnesses:

Arthur L. Randall

Josephine H. Ryan

Inventor:

Henry H. Cummings

by Roberts & Mitchell

Attorneys.

No. 822,829. PATENTED JUNE 5, 1906.

H. H. CUMMINGS.

TICKET DELIVERING MACHINE.

APPLICATION FILED FEB. 19, 1904.

3 SHEETS—SHEET 2

Fig. 4.

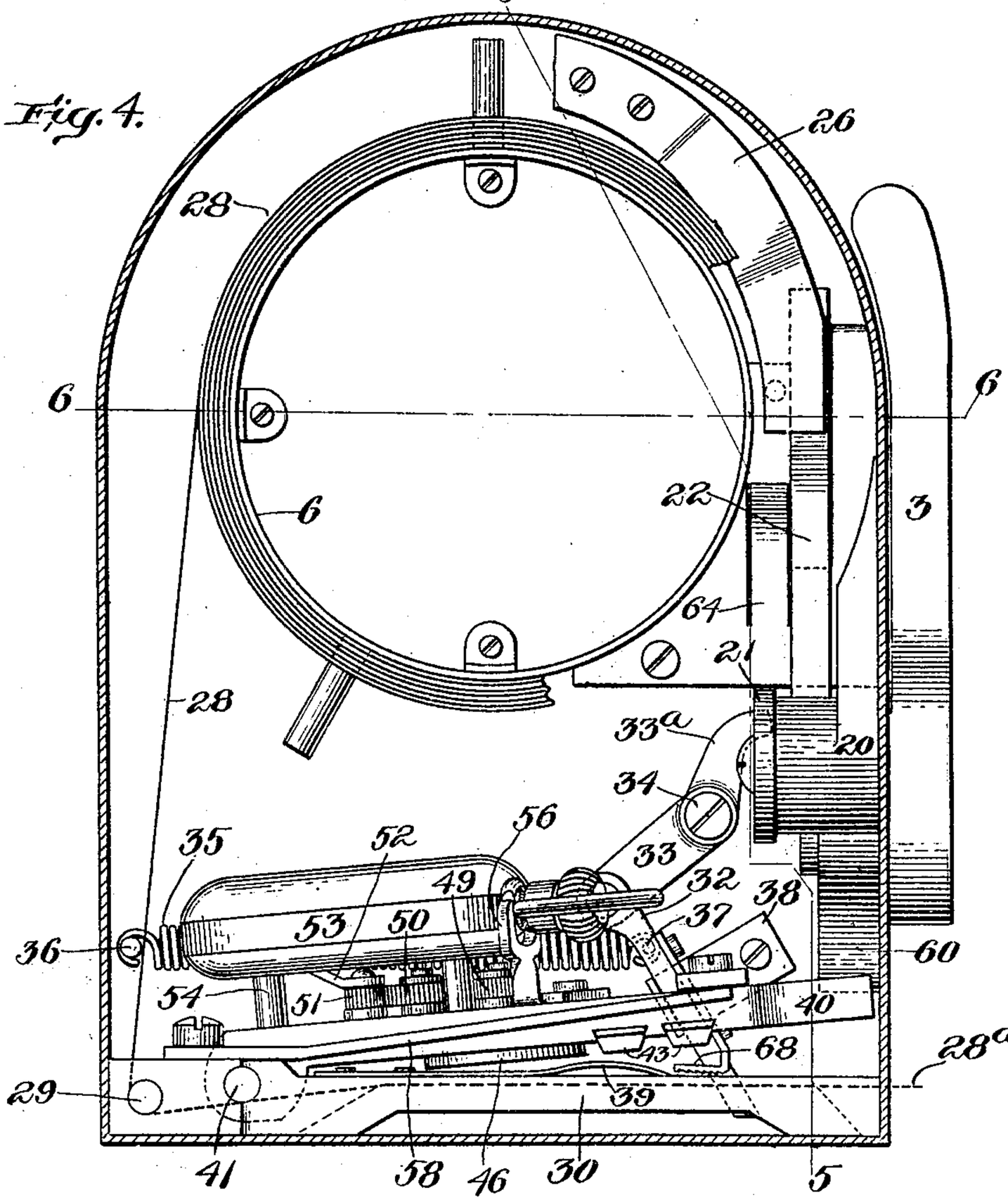
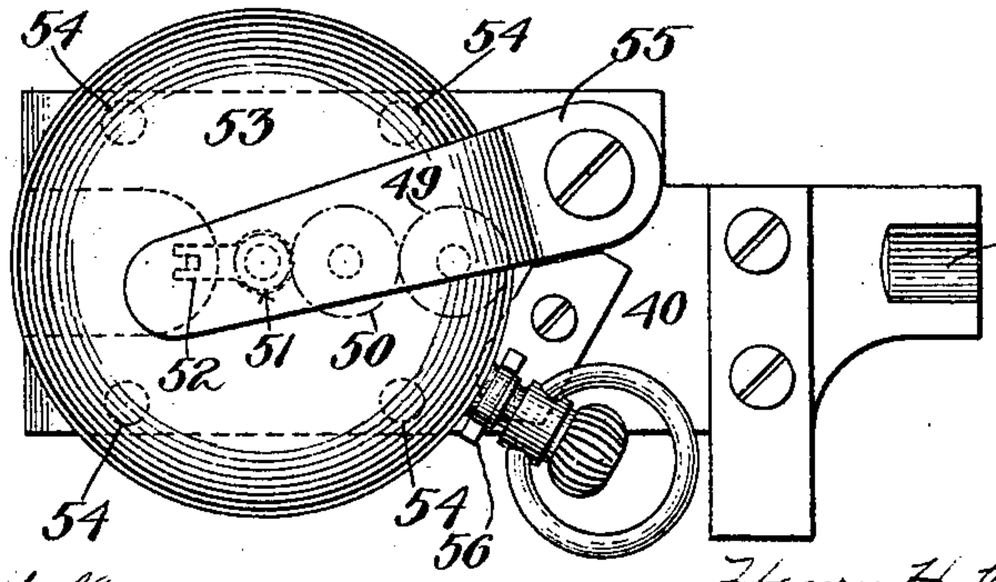


Fig. 10.



Witnesses:

Arthur F. Randall.

Josephine H. Ryan

Inventor:

Henry H. Cummings

by Roberts & Mitchell

Attorneys.

No. 822,829. PATENTED JUNE 5, 1906.

H. H. CUMMINGS.

TICKET DELIVERING MACHINE.

APPLICATION FILED FEB. 19, 1904.

3 SHEETS—SHEET 3.

Fig. 7.

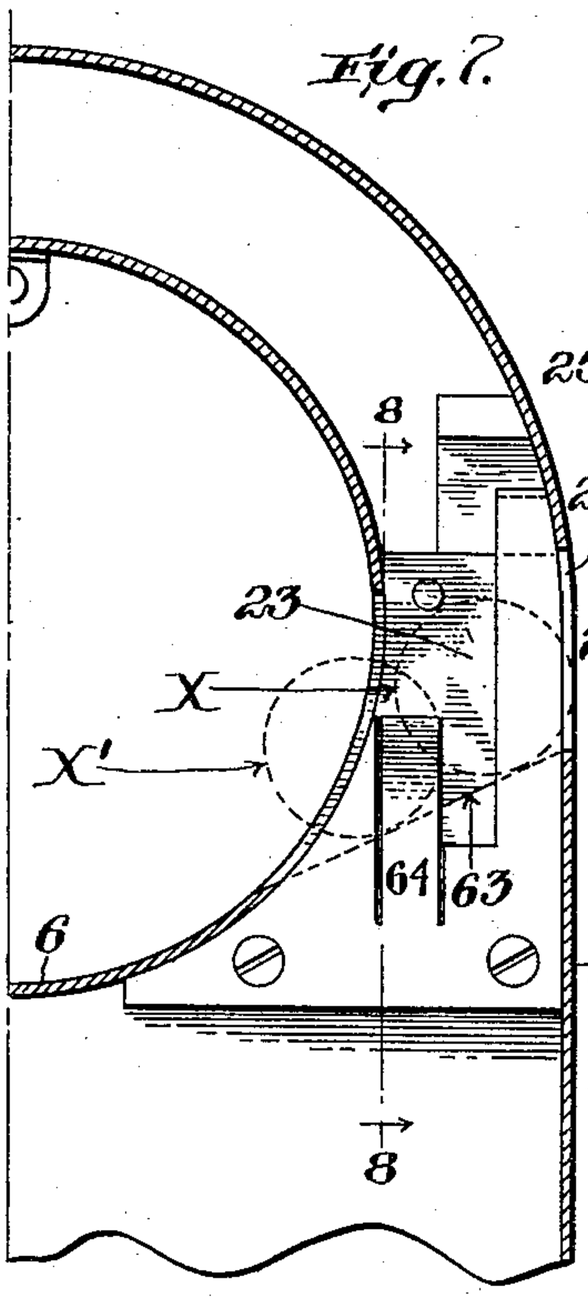


Fig. 9.

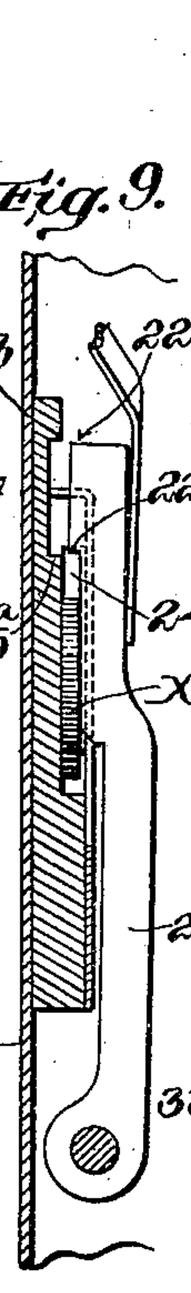


Fig. 5.

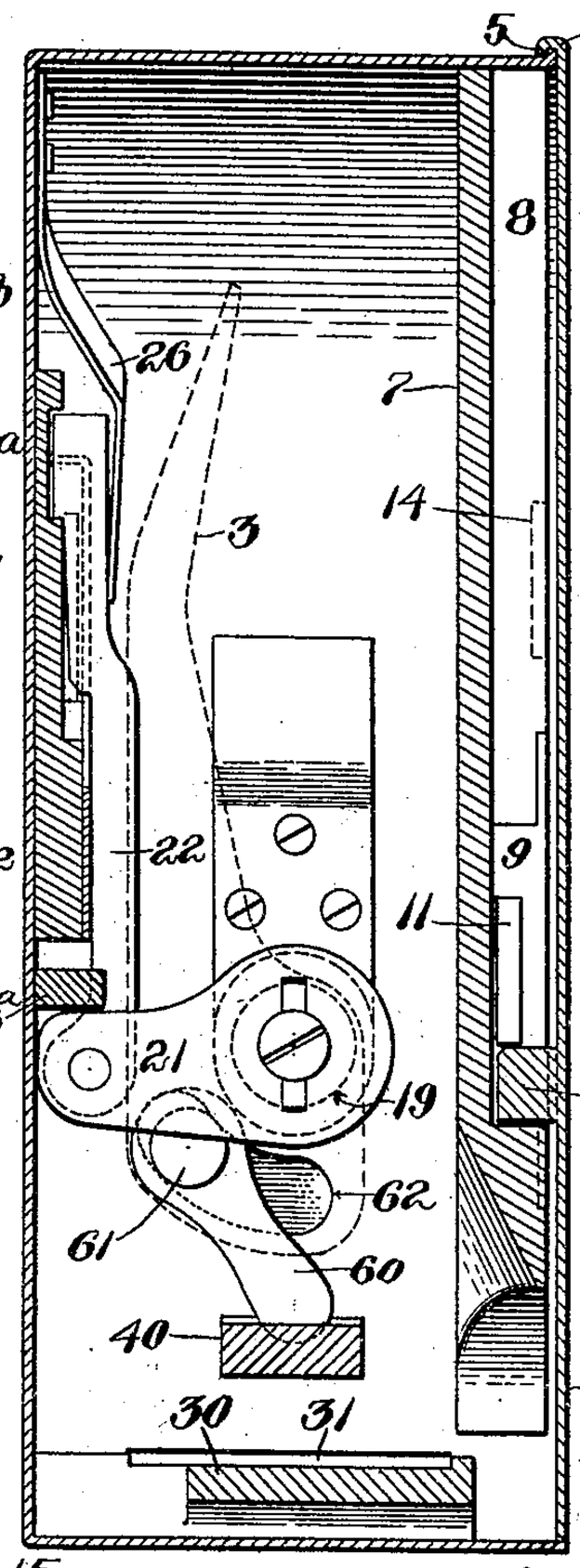


Fig. 8.

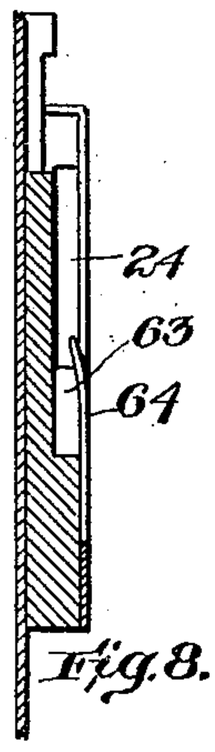
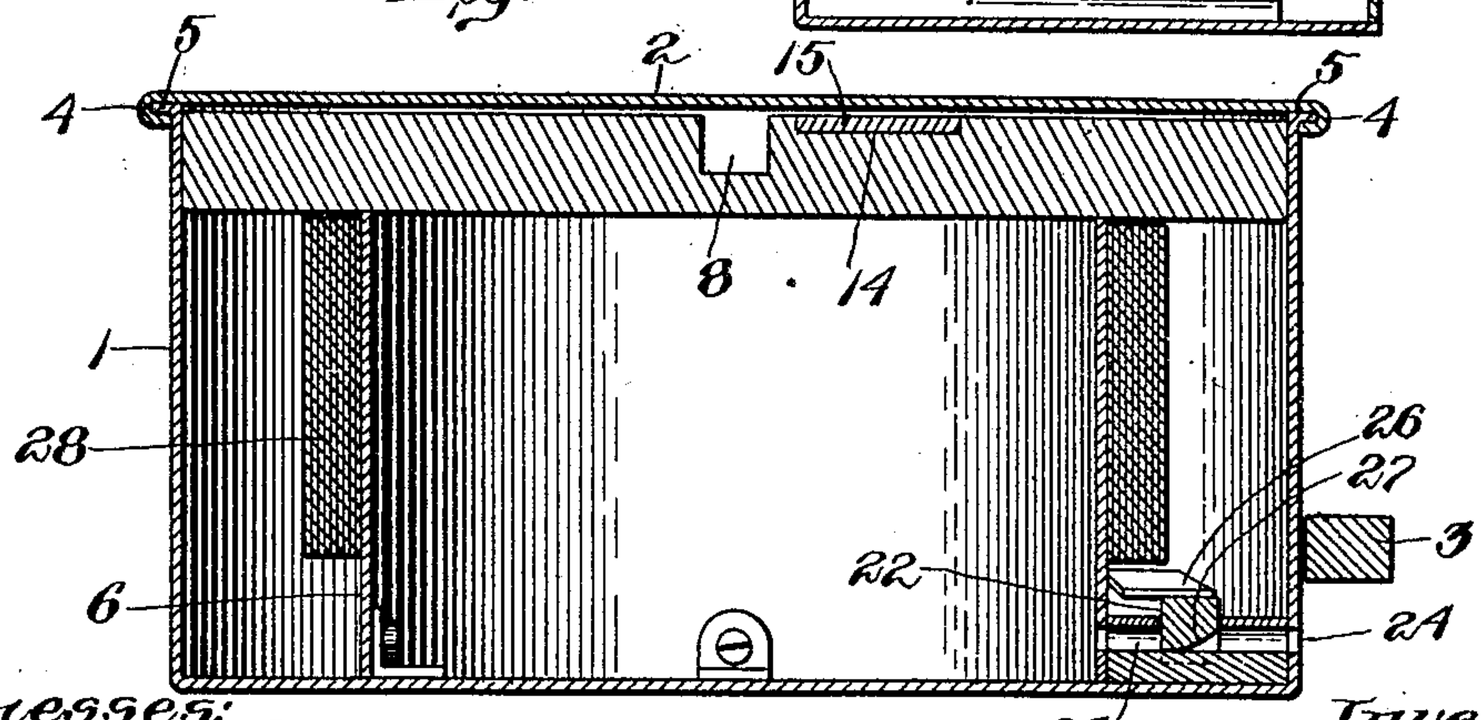


Fig. 6.



Witnesses:

Arthur F. Randall.

Josephine H. Ryan

Inventor:

Henry H. Cummings

by Roberts & Mitchell

Attorneys.

UNITED STATES PATENT OFFICE.

HENRY H. CUMMINGS, OF MALDEN, MASSACHUSETTS, ASSIGNOR TO ADAMS D. CLAFLIN, OF NEWTON, MASSACHUSETTS.

TICKET-DELIVERING MACHINE.

No. 822,829. Specification of Letters Patent. Patented June 5, 1906.

Application filed February 19, 1904. Serial No. 194,334

To all whom it may concern:

Be it known that I, HENRY H. CUMMINGS, a citizen of the United States, and a resident of Malden, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Ticket-Delivering Machines, of which the following is a specification.

My invention relates to ticket-delivering machines; and the object of my invention is to provide a light portable machine of improved construction which can be carried by a car conductor and used by him to deliver transfers to passengers.

My object is also to provide a machine of the character described the use of which will prevent loss to railroad companies through the dishonesty of their employees—that is to say, provide a machine which will make it impossible for the conductor of a car to issue a transfer without first depositing in the machine a coin representing the fare of the passenger and to have the machine so constructed that the coins used to operate it are held inaccessible except to authorized persons.

The chief essentials of a ticket stamping and delivering mechanism of this character are that it shall be small, compact, and light, so that it may be carried with convenience, and so constructed and arranged that it cannot be manipulated by a dishonest conductor for fraudulent purposes. These qualities I have combined in the mechanism hereinafter described.

A feature of my improved ticket-delivering mechanism consists in providing the operating member of the mechanism with a control-latch projecting into a coin-passage near enough to the mouth thereof so that by inserting a coin in said passage said latch can be reached and positively shifted to free it from a fixed abutment with which it coöperates to control the operating member. After the latch has been freed from the fixed abutment by inserting a coin in the coin-passage and when the operating member is shifted to deliver a ticket the movement of the latch with said member automatically and positively shifts the coin along said passage away from the mouth of the latter and into an inaccessible position.

Another feature of my invention is that a coin-receptacle is provided within which the coins are collected so constructed as to be used also as the strip-holder of the delivering mechanism, thereby serving a double function and resulting in economy of space.

In the best form of my invention the coin-passage is made with an inclined or cam-shaped side against which the coin is thrust by movement of the latch and which coöperating with a shoulder on the latch effects the feeding of the coin into the hollow strip-holder. Also means are provided to engage the coin and prevent its return along the passage toward the mouth thereof after it has been shifted by the latch toward the coin-receptacle.

Other features of my invention are hereinafter pointed out.

In the accompanying drawings, Figure 1 is a front view of my improved ticket-delivering machine. Fig. 2 is a side view of the machine shown in Fig. 1. Fig. 3 is a view similar to Fig. 1, but showing the outer cover removed. Fig. 4 is a section on line 4 4 of Fig. 2. Fig. 5 is a section on line 5 5 of Fig. 4. Fig. 6 is a section on line 6 6 of Fig. 4. Fig. 7 is a sectional detail of part of the casing, showing particularly the coin-passage hereinafter described. Fig. 8 is a section on line 8 8 of Fig. 7. Fig. 9 is a detail of portion of Fig. 5, but showing the parts in another position. Fig. 10 is a plan view of the type-carrier.

As herein shown, my improved ticket-delivering machine comprises a casing 1, closed by a cover 2, within which all of the parts of the mechanism, with the exception of the operating member 3, hereinafter described, are inclosed, so that they are normally inaccessible and cannot be tampered with. The cover 2 is made with a groove 4, extending along each side and around the top of said cover, and this groove engages with a tongue 5 on casing 1, extending along the sides and around the top thereof, so that said cover can be slid on and off from the top of the casing. Within casing 1 and somewhat shallower than said casing is a fixed cylindrical drum 6, which constitutes the hollow strip-holder, hereinafter described, and which is also used as a coin-receptacle. Between strip-holder 6 and cover 2 is a removable inner cover or filler 7, having upon its outermost face a central longitudinal groove 8, at one side of which is a lock 9, whose keyhole 10, Fig. 3, is opposite a corresponding keyhole 10^a, Fig.

1, provided in cover 2, so that a key can be passed through holes 10 and 10ª to operate the bolt 11 of lock 9 and shift said bolt into and out of groove 8. Cover 2 is made upon its inner face with a stud 12, extending into groove 8, and when cover 2 is in its closed position and bolt 11 is projected into groove 8 said cover is locked in that position by the engagement of the bolt and stud and cannot be removed without operating lock 9.

The machine is intended to be carried by a car-conductor to stamp and deliver transfers, and to suit it for this use casing 1 is provided upon its exterior with loops 13 to engage shoulder-straps or the like (not shown) by which it may be attached to the person of the conductor. It is customary to give each conductor a number, and for the purpose of identification each instrument should be numbered. For this reason I have shown the inner cover 7 as made with a pocket or recess 14, Fig. 3, upon its outer face to receive a numbered disk 15, which is held from turning in said pocket by a pin 16 projecting from the bottom of the pocket through an eccentric perforation in said disk. The number on this disk is visible from the exterior of the instrument through an opening 18 in cover 2 opposite said pocket 14, as shown in Fig. 1.

The operating member 3 is fixed to a short shaft 19, Fig. 5, journaled in a bearing 20, forming part of a casing 1, and to the inner end of shaft 19 is fixed an arm 21, pivotally connected to a latch 22, the latter extending upwardly from arm 21 across and through a coin-passage 23. This coin-passage 23 terminates at one end in a coin-entrance slot 24, provided in casing 1, and at its other end discharges into the hollow strip-holder 6. Latch 22 is made with two opposed shoulders 22ª and 22ᵇ, the former adapted to coöperate with a shoulder or abutment 25ª on casing 1 and the latter adapted to coöperate with a shoulder or abutment 25ᵇ, also on said casing. Normally the shoulders 22ª and 22ᵇ are held between and in engagement with abutments 25ª and 25ᵇ by a spring 26, fixed at one end to the inside of casing 1 and bearing at its other end upon latch 22. That portion of latch 22 which lies within the coin-passage 23 is beveled, as at 27, Fig. 6, so that by passing a coin into the slot 24 it will engage the beveled portion of latch 22 and force the latter aside out of the path of the coin and at the same time disengage the shoulders 22ª and 22ᵇ from the abutments 25ª and 25ᵇ, as shown in Fig. 9. This disengagement of the shoulders from the abutments is effected by the positive action of the coin when it is forced into the passage, and the coin is held by latch 22 until discharged into holder 6, as hereinafter described, so that rough handling of the machine prior to the discharge of the coin into the holder 6 will not displace the coin. Upon the strip-holder 6 is placed a coiled strip of paper 28, whose outer end extends from said coil downwardly under a guide-rod 29 and thence over a platen 30 to an exit 31, provided through the wall of casing 1 at one end of the platen. Normally the operating member 3 occupies an intermediate position from which it is moved when freed, as above described, in one direction to operate devices which feed said strip along over the platen and in the opposite direction to operate devices which stamp or make an impression upon strip 28.

When operating member 3 is moved in a direction to operate the feeding devices, the latch slides upwardly over the coin (represented in Figs. 7 and 9 as at X) without disturbing the position of the latter; but when operating member 3 is moved in the opposite direction (as to operate stamping devices) shoulder 22ª engages the coin and carries it against the inclined lower side 63 of the coin-passage and coöperating with said side 63 acts to force the coin along said passage into the position indicated by dotted lines at X′, where it is held by a spring-finger 64 until discharged into the hollow strip-holder 6 by the next coin. As soon as latch 22 is returned to normal position spring 26 reëngages shoulders 22ª 22ᵇ with abutments 25ª 25ᵇ, and the latch is locked against further movement until again freed by a coin. The purpose of spring-finger 64 is to prevent the coin returning to its first position under latch 22 as the latter is returned to normal position, which would otherwise be possible if casing 1 were turned upon its side.

The feeding means comprises a pawl or feeder 32, pivotally connected at its upper end to a lever 33, Fig. 4, fulcrumed upon a stud 34 fast to a casing 1. The hooked arm 33ª of lever 33 is held in engagement with the arm 21 on shaft 19 by a spring 35, fastened at 36 to casing 1 and at 37 to pawl 32, the latter being held by said spring against a guide 38, fixed to casing 1. When latch 22 is freed by entering a coin in the coin-passage 23, as above described, the end of the strip 28 is projected through the exit 31 sufficiently to allow the operator to grasp that end by swinging the operating member 3 in one direction from its normal intermediate position—that is, said member when freed, as above described, is swung to the right in Fig. 5 and then back to its normal position again. This movement of member 3 raises and lowers arm 21 and thereby swings lever 33 so as to lower pawl 32 until its lower end or foot engages the strip 28, after which the lower end of pawl 32 slides over platen 30, carrying the strip 28 with it toward exit 31 and causing the end of said strip to project from exit 31, as indicated at 28ª, Fig. 4. When operating member 3 and arm 21 are returned to normal position, spring 35 returns lever 33 and pawl

32 to normal position. During this return movement of pawl 32 backward movement of strip 28 is prevented by a leaf-spring 39, fixed at one end to one side of platen 30 and bearing at its other end upon strip 28. The pressure of this spring, however, is insufficient to hold said strip against movement with pawl 32 when the latter makes its feeding-stroke.

The strip stamping or impressing means comprises a type-carrier 40, Figs. 4 and 10, pivotally supported at one end by a removable pin 41, mounted at its ends in extensions 30[a] of platen 30, the distance between said extensions being about the same as the width of strip 28, so that the latter can be passed around rod 29 and then over the platen 30 to exit 31.

The structural features embodied in the type-carrier 40 and its printing and time-stamping adjuncts will not be described in detail here, as they form the subject-matter of a divisional application, wherein such matters are reserved for claim, this divisional application being Serial No. 231,541, filed November 5, 1904.

The top face of the platen 30 is covered by a pad 57 of tough but more or less yielding material, such as leather, so that when type-carrier 40 is lowered and the type carried thereby are forced down upon the paper strip 28 the characters of the type are embossed upon the strip. Fixed to one end of the platen 30 is a leaf-spring 58, which yieldingly holds type-carrier 40 in its uppermost position. At one end the type-carrier 40 is made with an open socket 59 in engagement with one end of a toggle member 60. At its other end the toggle member 60 is pivotally mounted upon a stud 61, fast to operating member 3 and extending through a slot 62, provided in casing 1. That part of operating member 3 between stud 61 and shaft 19 constitutes the other member of the toggle. By removing pin 41 type-carrier 40 can be quickly disconnected from toggle 60 and removed when changes are to be made in the type and as easily returned to place. It will now be apparent that when the shoulders 22[a] and 22[b] are disengaged from the shoulders 25[a] and 25[b] by the insertion of a coin in the coin-passage 23, as above described, movement of the operating member 3 in one direction will operate the strip-feeding devices and that movement of operating member 3 in the opposite direction will operate the stamping devices.

The ticket stamping and feeding mechanism, which constitute part of the mechanical organism illustrated in the drawings, will be found described with sufficient detail in the divisional application hereinabove mentioned.

What I claim is—

1. In a ticket-delivering mechanism, the combination with the operating member thereof, of a latch connected with and controlling said member; an abutment coöperating with the latch; a casing containing a coin-passage into which the latch projects near the entrance thereof so as to be reached and positively actuated by the operator to free it from the abutment through a coin placed in the entrance of said passage, said latch being constructed and adapted to engage the coin, and means to positively shift the coin away from the entrance of the passage when the latch is moved with the operating member.

2. In a ticket-delivering mechanism, the combination of a casing, an external operating member and internal hollow strip-holder, of a latch connected with and controlling said member; an abutment coöperating with the latch, the casing containing a coin-passage into which the latch projects near the entrance thereof so as to be reached and positively actuated by the operator to free it from the abutment through a coin placed in the entrance of said passage; said latch being constructed and adapted to engage the coin, and means to positively shift the coin away from the entrance of the passage and into the interior of the hollow strip-holder when the latch is moved with the operating member.

3. In a ticket-delivering mechanism, the combination with the operating member thereof, of a latch connected with and controlling said member; an abutment coöperating with the latch, a casing containing a coin-passage into which the latch projects near the entrance thereof so as to be reached and positively actuated by the operator to free it from the abutment through a coin placed in the entrance of said passage, said latch being constructed and adapted to engage the coin, means to positively shift the coin away from the entrance of the passage, when the latch is moved with the operating member, and means to engage the coin after being shifted by the latch and hold it against movement toward the entrance of the coin-passage.

4. In a ticket-delivering mechanism, the combination of a casing, an external operating member, an internal hollow strip-holder, a latch connected with and controlling said member, an abutment coöperating with the latch, the casing containing a coin-passage into which the latch projects near the entrance thereof so as to be reached and positively actuated by the operator to free it from the abutment through a coin placed in the entrance of said passage, said latch being constructed and adapted to engage the coin, means to positively shift the coin away from the entrance of the passage and into the interior of the hollow strip-holder when the latch is moved with the operating member, and means to engage the coin after being shifted by the latch and hold it against movement toward the entrance of the coin-passage.

5. In a ticket-delivering mechanism, the combination with the operating member

thereof, of a latch connected with and controlling said member, said latch provided with a shoulder, an abutment coöperating with the latch, a casing containing a coin-passage into which the latch projects near the entrance thereof so as to be reached and positively actuated by the operator to free it from the abutment through a coin placed in the entrance of said passage, the said passage being made with an inclined side for coöperating with the shoulder on the latch by wedge action on the coin, to positively shift the coin along the passage-way from the entrance thereof when the latch is moved with the operating member.

Signed by me at Boston, Massachusetts, this 4th day of February, 1904.

HENRY H. CUMMINGS.

Witnesses:
ARTHUR F. RANDALL,
JOSEPH T. BRENNAN.