No. 693,414. Patented Feb. 18, 1902.

A. MARSH.

MEANS FOR DELIVERING AND REGISTERING TICKETS OR CHECKS.

(Application filed Oct. 26, 1899.)

(No Model.) 4 Sheets—Sheet 1.

Fig. 1.

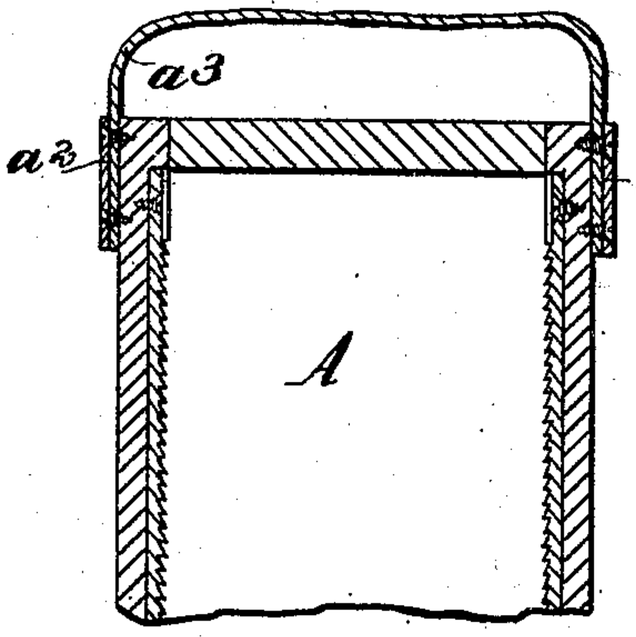


Fig. 2.

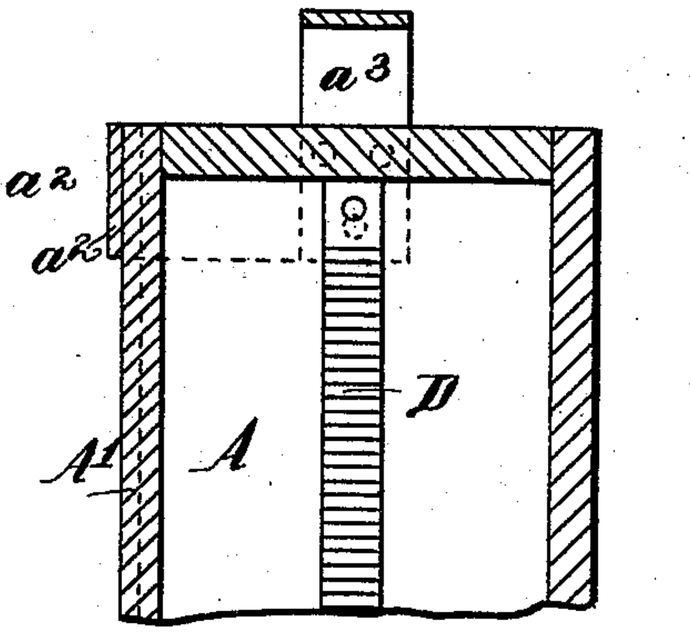


Fig. 3.

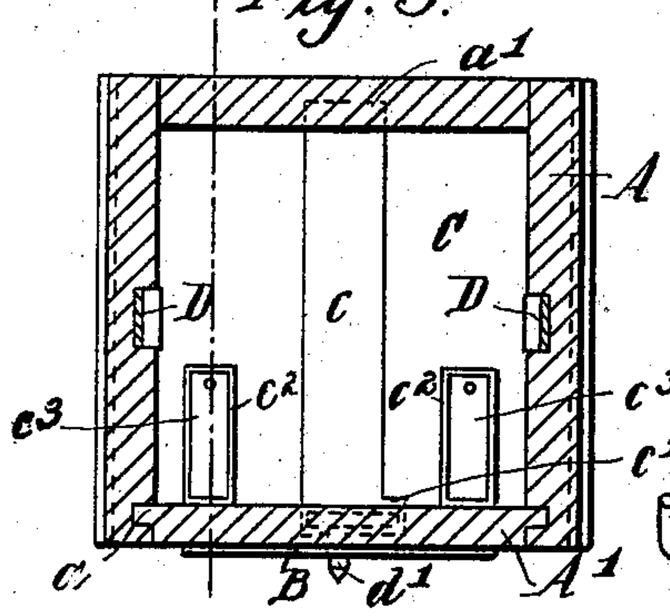


Fig. 4.

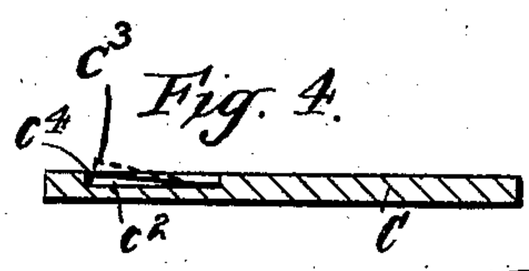
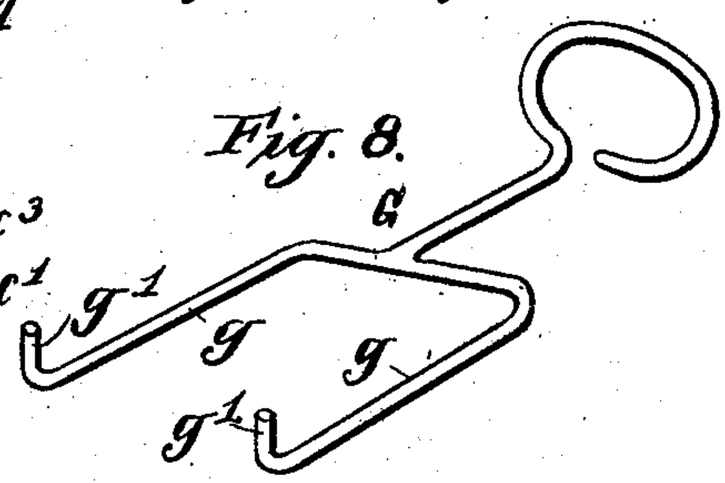


Fig. 8.



Witnesses
William James Cox
Frank William Pattison

Inventor
Albert Marsh.

By his Attorney
Geo. H. Rayner

No. 693,414. Patented Feb. 18, 1902.

A. MARSH.

MEANS FOR DELIVERING AND REGISTERING TICKETS OR CHECKS.

(Application filed Oct. 26, 1899.)

(No Model.) 4 Sheets—Sheet 2.

Fig. 5

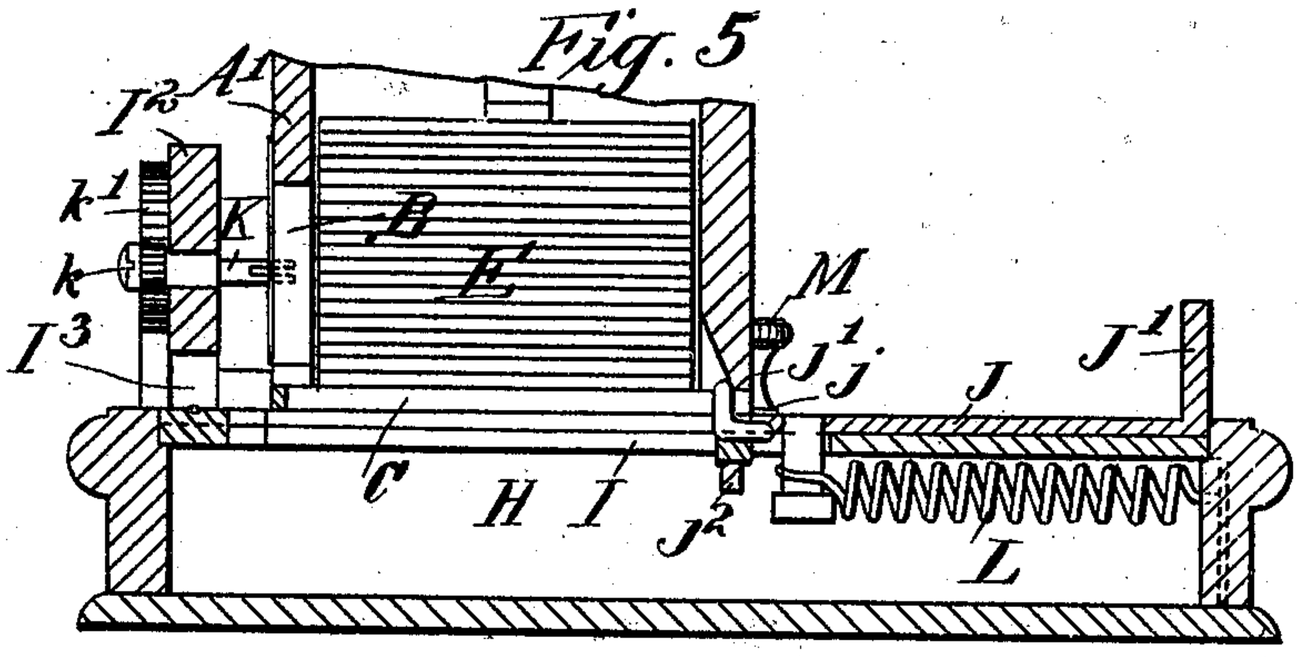
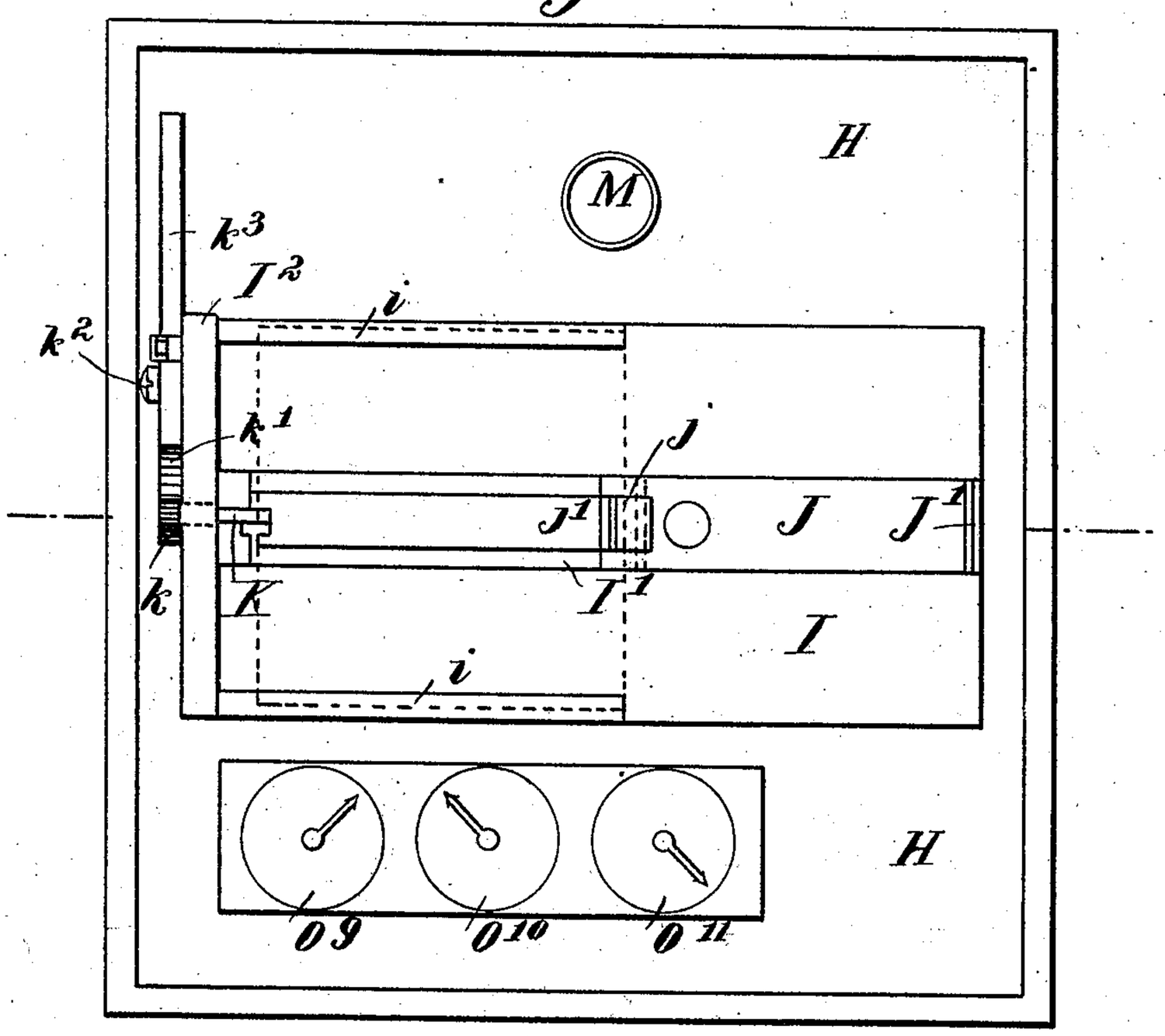


Fig. 6.



Witnesses
William James Cox
Frank William Pattison

Inventor
Albert Marsh
By his Attorney.
Geo. H. Rayner

No. 693,414. Patented Feb. 18, 1902.

A. MARSH.

MEANS FOR DELIVERING AND REGISTERING TICKETS OR CHECKS.

(Application filed Oct. 26, 1899.)

(No Model.) 4 Sheets—Sheet 3.

Fig. 7.

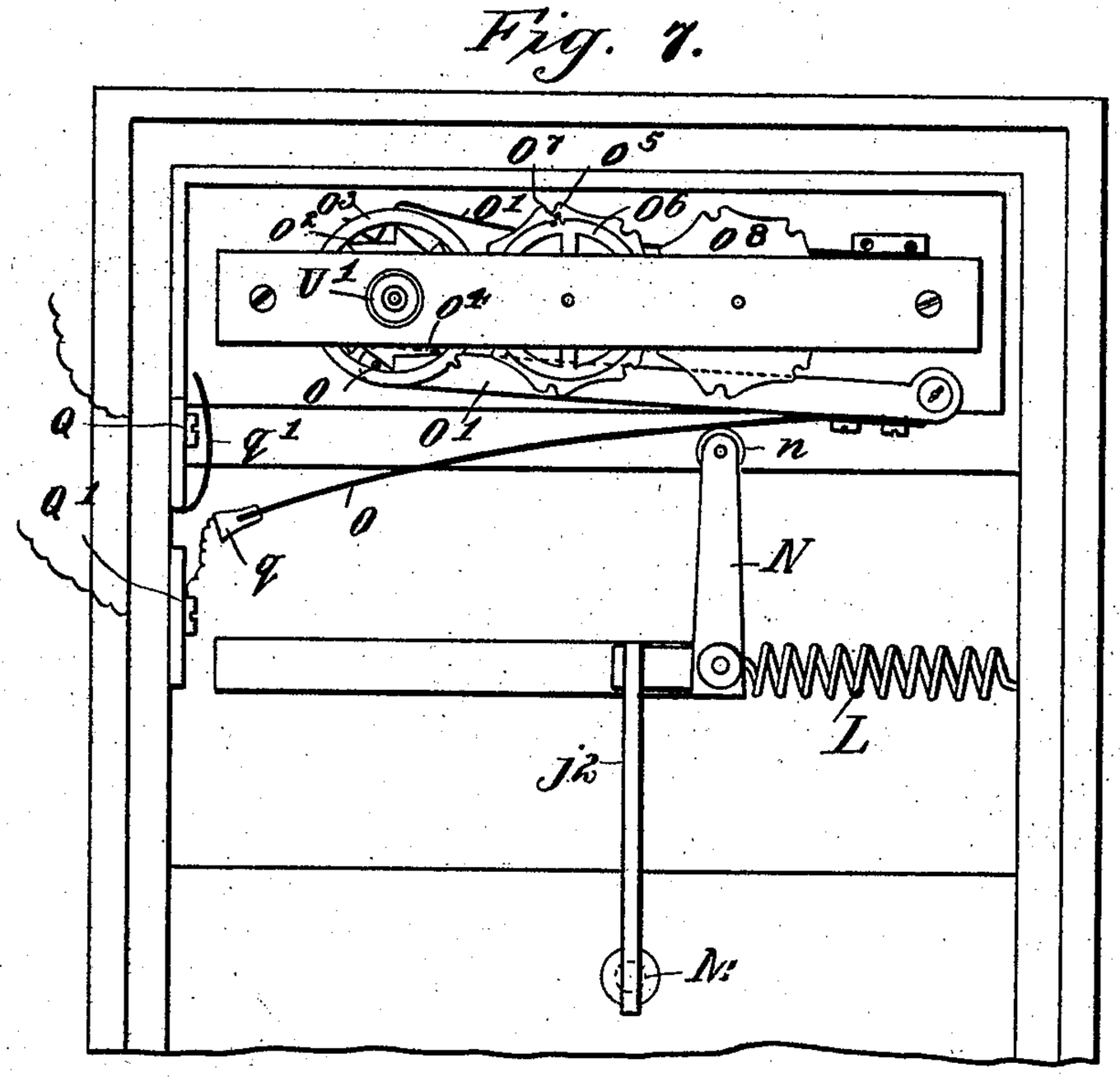
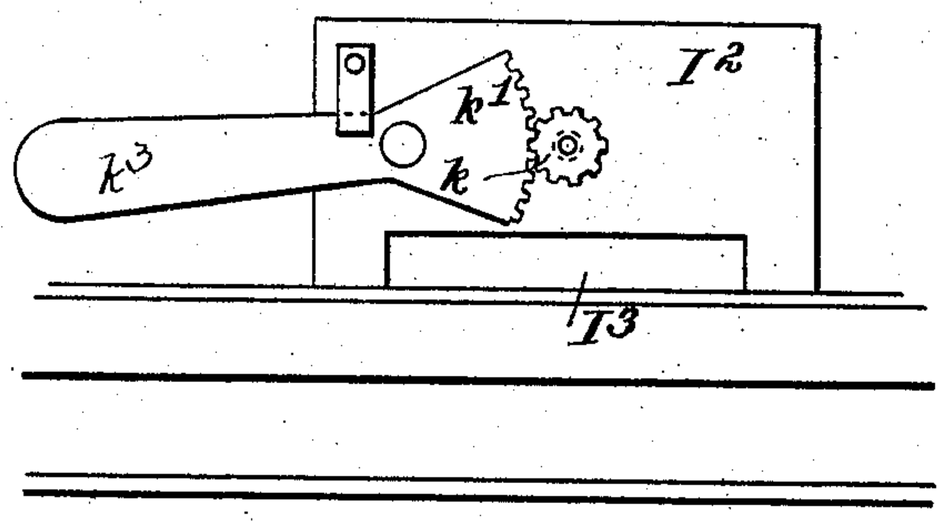


Fig. 9.



Witnesses
William James Cox
Frank William Pattison

Inventor
Albert Marsh
By his Attorney.
Geo. H. Rayner

No. 693,414. Patented Feb. 18, 1902.

A. MARSH.

MEANS FOR DELIVERING AND REGISTERING TICKETS OR CHECKS.

(Application filed Oct. 26, 1899.)

(No Model.) 4 Sheets—Sheet 4.

Fig. 10.

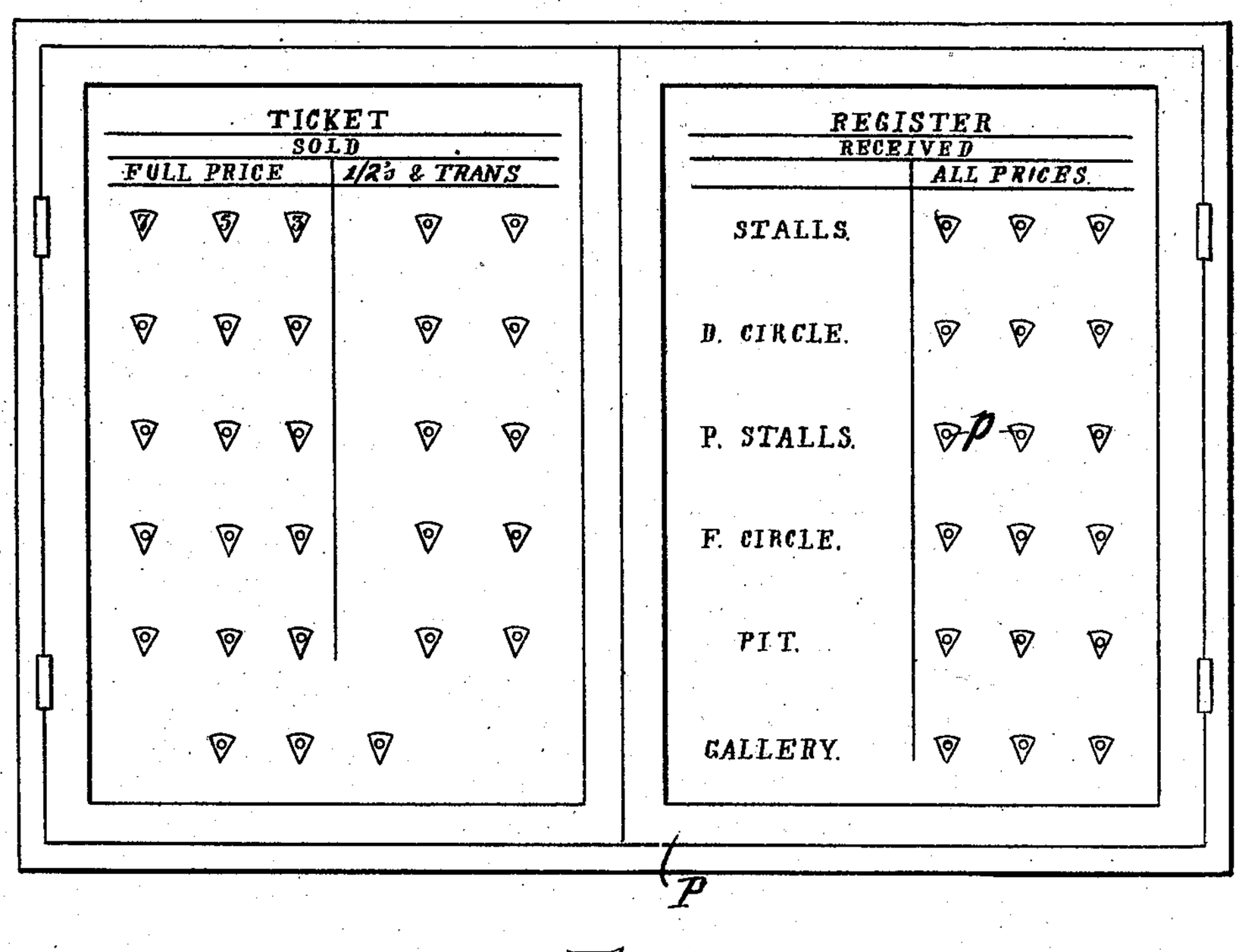


Fig. 11.

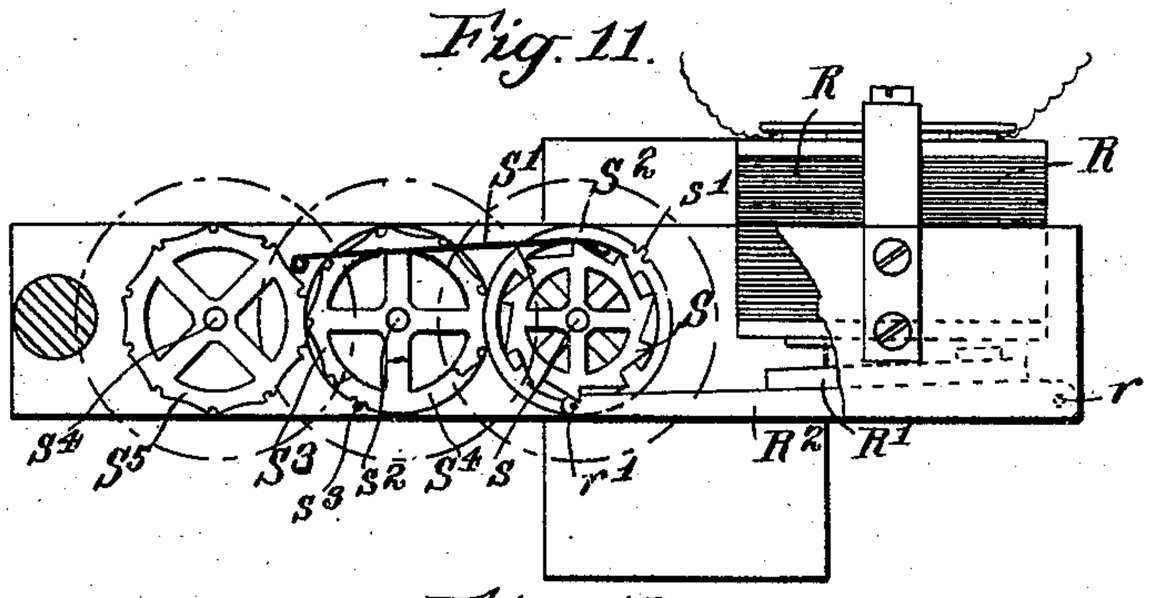
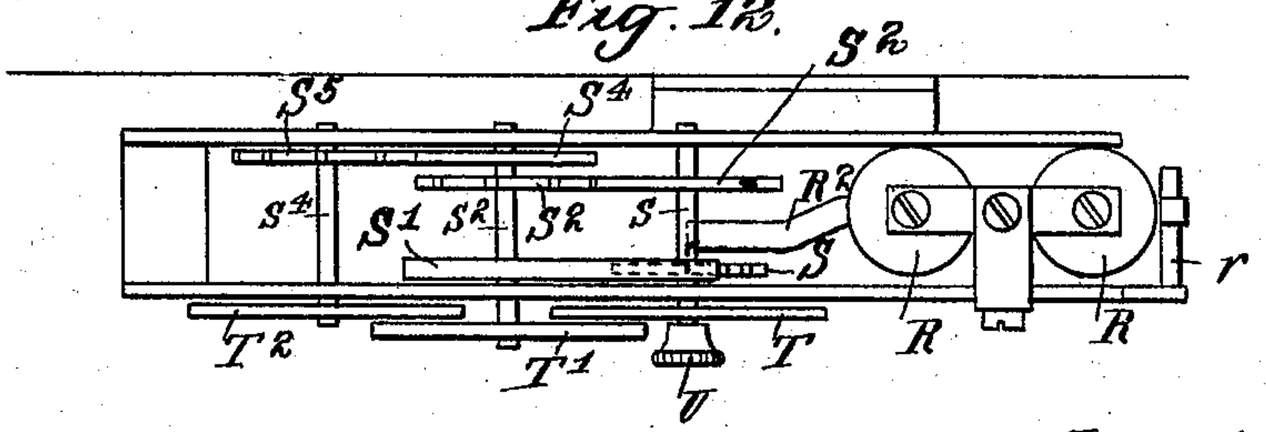


Fig. 12.



Witnesses
William James Cox
Frank William Pattison.

Inventor
Albert Marsh

By his Attorney
Geo. H. Rayner

UNITED STATES PATENT OFFICE.

ALBERT MARSH, OF LONDON, ENGLAND.

MEANS FOR DELIVERING AND REGISTERING TICKETS OR CHECKS.

SPECIFICATION forming part of Letters Patent No. 693,414, dated February 18, 1902.

Application filed October 26, 1899. Serial No. 734,874. (No model.)

To all whom it may concern:

Be it known that I, ALBERT MARSH, a subject of the Queen of Great Britain and Ireland, residing at the Eccentric Club, Shaftesbury avenue, London, E., England, have invented certain new and useful Improvements in Means for Delivering and Registering Tickets or Checks for Theaters, Halls, Athletic and Race Grounds, and other Places of Public Entertainment, of which the following is a specification.

This invention relates to apparatus for delivering tickets or checks for theaters, halls, athletic and race grounds, and other places of public entertainment and for registering and indicating electrically at a distance the tickets so delivered.

In order that this invention may be more clearly understood, reference is had to the accompanying two sheets of illustrative drawings, on which—

Figure 1 is a sectional view of one of the magazines detached from the delivery-machine. Fig. 2 is a vertical section of one of the magazines detached from the delivery-machine, taken on a plane at right angles to the sectional plane of Fig. 1. Fig. 3 is a horizontal section of same on line A B, Fig. 1, the tickets and weight being supposed removed. Fig. 4 is a section on line C D, Fig. 2, of the bottom plate of the magazine. Fig. 5 is a cross-section of the delivery-machine, taken on line E F, Fig. 6. Fig. 6 is a plan of the same, the magazine being removed. Fig. 7 is an underneath plan of the same, the bottom plate being supposed to be removed. Fig. 8 is a detail view of part of the delivery-machine. Fig. 9 shows the device employed for lifting the weight into and out of the magazine. Fig. 10 is a general view of the indicator. Fig. 11 is a front elevation, partly in section, of the indicating mechanism; and Fig. 12, a plan of the same.

Referring first to Figs. 1 to 4, the magazine consists of a case A of size adapted to contain, say, two hundred and fifty tickets or checks. The front A′ of the case A slides in grooves *a* and is provided with a lock B at its lower end, the bolt *b* of which normally projects. No key is provided for this lock, and it cannot be operated until the magazine is placed on the delivering-machine. The sliding front A′ does not fit quite to the bottom of the case A, so that an opening is formed of just sufficient size to admit of the passage of a ticket or check. This opening is, however, closed by the bolt *b*, and until the lock B is operated to unlock it—that is, until the magazine is properly placed on the delivering-machine—no tickets or checks can be removed from the magazine. The bottom plate C is formed with a slot *c*, and a side slot *c′* is also provided, into which the bolt *b* can fit. Depressions c^2 are formed in the said plate, and in them spring-plates c^3, having turned-over ends c^4, are fitted. (See Fig. 4.) These serve to prevent the return of a ticket or check to the magazine through the opening when the magazine is nearly empty and it would be possible to force up the tickets therein. The back of the magazine is recessed back at *a′* behind the slot *c*, as shown most clearly in Fig. 2.

At each side of the case A a toothed rack D is attached by screws, the teeth being of pitch equal to the thickness of the ticket or check in use. The tickets or checks E are flat pieces of suitable material, of square, (in this instance,) round, or other shape, and a weight F rests upon them, pressing them down as the bottom ticket or check is removed. This weight F is provided with an extension *f*, and two arms *f′ f′* are pivoted at f^2, their outer ends being adapted to engage in the teeth of the rack D. A spring f^3 presses upon said arms *f′ f′* and keeps them in engagement with the rack. The weight F falls as each ticket is issued, and as the arms *f′ f′* are in engagement with the teeth of the rack D it will be understood that this provides an additional guard against insertion of a ticket or check through the delivery-openings. Small grooves f^4 f^4 are formed in the arms *f′ f′* to allow of closing the arms together, so that the weight F can be lifted out of the case A by means of a key G. (Shown in Fig. 8.) The key is formed of bent wire or the like and is provided with the arms *g g*, having turned-up ends *g′ g′*, which fit under the arms *f′ f′* of the weight F in the grooves. As the weight thereof comes on the key G the arms *f′ f′* close together sufficiently to escape the teeth of the rack D.

A lock is provided at the top of the case A, by which the front A′ is locked to the case

A, the key of this lock being in charge of the person responsible for filling the magazine. A metal band a^2 is fitted at the top of the case A for strengthening purposes, the sliding front A′ passing down inside this band. A strap a^3 allows for carrying the magazine about.

Referring now to the delivery-machine, (shown in Figs. 5, 6, and 7,) a plate I is fitted in the base H and is provided with chamfered guides *i i*, into which the chamfered edges of the base-plate C of the magazine are adapted to slide when the magazine is placed in position on the machine. A groove I′ is formed in the plate I, extending for almost the whole length, and an ejecting-plate J is adapted to slide in the said groove I′. This ejecting-plate J is provided with a finger-piece J′ for operating, and at its forward end a hinged piece *j*, having a projection *j′*, is fitted. When the magazine is placed on the machine, the projection *j′* fits into the slot *c*, the magazine pressing the ejecting-piece *j* down against the influence of a spring (not shown) while it is being slid into place, and the projection *j′* then fits into the space behind the tickets or checks in the magazine formed by the recessed portion *a′*, as seen in Fig. 5. On the front of the plate I a vertical plate I^2 is mounted. Into this plate I^2 the key K for operating the lock B is fitted, and upon the key-spindle a small pinion *k* is mounted. A toothed sector *k′*, pivoted at k^2, gears with the toothed wheel *k*, and by moving the handle k^3 the sector *k′* is caused to operate the pinion *k*, and the key K is rotated. The lock-spindle *d* is preferably pointed and when the magazine is in place fits into the hollow of the key K. On rotating the key the bolt *b* of the lock B is raised. While the bolt *b* is raised, the key K is held in the lock B and cannot be removed until the lock B is again actuated. It therefore follows that the tickets or checks can only be obtained while the magazine is locked to the delivery-machine. A slot I^3 in the plate I^2 allows for the passage of the tickets or checks as they are ejected. The magazine being in position on the machine and the lock B unlocked, it will be understood that on pushing the plate J by means of the finger-piece J′ the projection *j′* pushes the lowest ticket or check out of the magazine. The spring L returns the plate J after each operation. In order to depress the ejecting-piece *j* to allow of the removal of the magazine, an arm j^2 is attached to its under side. This arm j^2 comes normally under the knob M at the side of the machine, and it will be seen that by pressing this knob the arm j^2 and therefore the hinged piece *j* are depressed sufficiently to enable the projection *j′* to clear the slot *c*. An arm N is connected to the ejector-plate J, so as to partake of its movement. This arm carries a roller *n* at its outer end and during its movement presses upon a spring O. This causes a gradual movement around its pivot of the arm *o′*, to which the spring O is attached, and the pin *o* acts upon the teeth of the wheel o^2. The wheel o^2 is therefore moved one tooth for each operation of the ejector-plate J as the arm *o′* is withdrawn after each operation and the pin *o* is ready to act upon the next tooth. Upon the same spindle a wheel o^3, having one tooth o^4, is mounted, and this gears with a wheel o^5, having ten teeth, so that this wheel o^5 is rotated once in ten revolutions of the wheel o^3. A wheel o^6, having one tooth o^7, gears with the wheel o^8, having ten teeth. These wheels o^3 o^5 o^8 serve for registering the units, tens, and hundreds, respectively, which are indicated by the pointers over the dials o^9 o^{10} o^{11}. The spring O′ regulates the step-by-step movement of the wheel o^2.

The electric indicating device illustrated in Figs. 10, 11, and 12 works in conjunction with the receiving-machine. The indicator is fitted in the manager's or secretary's room and serves to indicate the number of tickets sold in all parts. Electric counting mechanism is provided in connection with each delivery-machine, and these mechanisms are mounted in the case P, Fig. 10, preferably hung upon the wall, the pointers showing through openings *p* upon a tabulated register.

The electrical contacts from the delivery-machine are arranged as follows, although it will of course be understood that any other convenient and suitable contact devices may be fitted. The terminals Q Q′, Fig. 7, are mounted on the casings, these being connected by wires with the terminals of the corresponding indicator. The terminals Q Q′ are insulated from one another, so that normally no current passes. As the ejector-plate J is moved to issue a ticket or check the spring O is pressed toward the counting mechanism, as hereinbefore described, and its end which is provided with a contact-piece *q* comes in contact with the contact-spring *q′* and presses it upon the terminal Q, thus making electric contact by means of the springs *q′* with the terminal Q′. The circuit is therefore completed and the corresponding indication mechanism is operated, so that each time a ticket or check is issued such issue is shown on the indicator.

The indicating mechanism in the indicator P from each delivery and receiving machine is similar, and one mechanism only, therefore, is illustrated and described. On Fig. 11 the front plate and indicator are supposed to be removed. The wires from the corresponding delivery-machine are connected to suitable terminals on the casing P and then to the solenoids R R. An armature R′ is mounted on the lever R^2, pivoted at *r*, and is attracted by the cores of the solenoids R R each time they are energized and the lever R^2 is lifted. A pin *r′* is mounted on the end of the lever R^2 and normally just clears the teeth of the ratchet-wheel S, having ten teeth. Each time the lever R′ is raised the pin *r′* presses on the inclined surface of a tooth of the wheel

S and moves it one tooth. A spring S′, suitably shaped, engages in the teeth of the wheel S and regulates its movement. On the spindle *s* of the wheel S a wheel S^2 is mounted, so as to partake of its movement, and this has a single tooth *s*′. Upon the spindle s^2 a wheel S^3, having ten recesses on its periphery, is mounted, and for each revolution of the wheel S^2 the tooth *s*′ engages in one of the recesses and moves the wheel S^3 one recess. Upon the spindle s^2 a wheel S^4, similar to the wheel S^2, is mounted, having a single tooth s^3, adapted to engage with the recesses on the wheel S^5, similar to the wheel S^2, mounted on the spindle s^4. Upon the spindles s s^2 s^4 indicating-pointers T T′ T^2 are mounted, working over dials upon the outside of the case. Each time a ticket or check is issued or received the corresponding solenoids R R are energized, and the pointer T is moved one division, the tens and hundreds being indicated by the pointers T′ T^2.

To allow for adjusting the dials to zero, an operating-knob U permits of turning the pointers quickly to zero, the wheels being turned forward. A knob U′ is also fitted in the case of the delivering-machine, as shown in Fig. 7.

Sets of dials corresponding to the number of delivering-machines to be indicated are arranged upon the front of the indicator P, and the pointers T T′ T^2 indicate upon the said dials the number of tickets or checks issued or collected in all parts. Preferably the front of the case is arranged so that the mechanism can be got at by the manager or person in charge and set at zero or any number required.

In the case of the indicating mechanism for half-price tickets and transfers for theaters and the like separate dials are necessary; but the mechanism is similar.

It will of course be understood that the contact devices in use can be varied somewhat in construction without departing from this invention.

In using this invention the ticket or check magazines are distributed to the ticket-sellers. The magazines are then placed on the delivering or issuing machines, through which only the tickets or checks can be obtained. The tickets are preferably shot out in front of a glass or wire screen, so that the ticket-seller does not touch them at all, and the counter shows the number of tickets or checks issued. The check taker or collector is provided with a receiving-machine not forming part of this invention, into which the tickets or checks are inserted as collected, and the counter of this machine should indicate the same as the issuing-machine. An electrical indication from both of these machines is provided in the manager's or secretary's room or other suitable place, so that the number of tickets or checks issued and received from all parts of the house can be seen during and after operation.

By means of this system of checking as well as registering the number of tickets or checks an arrangement is provided which effectually prevents any dishonesty, as the checks or tickets are registered both on delivery and on collecting, the registering device automatically indicating sale and receipt of checks or tickets in the manager's office. Thus a perfect check can be kept as to the number of persons in a theater or various parts of a theater or any other place in which the apparatus is used.

Although this invention has been described more especially for theatrical and like purposes, it will be understood that it can also be applied for all kinds of public places and for sporting-grounds, &c. Further, some of the details of mechanism can be varied slightly without departing from this invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A delivery apparatus for tickets or checks, comprising a magazine containing the tickets, a lock upon the lower end of the said magazine closing a delivery-aperture when the magazine is out of delivering position, racks on the inner sides of the magazine, a weight-rest upon the checks having spring-arms engaging the racks, a casing on which the magazine is fitted having means by which the lock of the magazine may be opened when in position, an ejecting-plate in the said casing operating through a slot in the magazine to eject the lowest ticket or check, and counting mechanism connected to the ejecting-piece, substantially as and for the purposes specified.

2. In a delivery apparatus for tickets or checks, the combination with a magazine containing the tickets having a lock upon its lower end normally closing the delivery-aperture, internal racks and a weight with arms engaging the said racks and resting upon the tickets, of a casing receiving the magazine upon its upper side, a lock-operating device on the casing by which the lock may be opened when the magazine is in position, a sliding ejecting-plate carried by the said casing adapted to eject the lowest ticket through a slot in the magazine, a spring returning the ejector when released, counting mechanism placed within the casing, a ratchet-wheel actuating the counting mechanism, an arm with pin engaging the ratchet-wheel and an extension on the ejecting-plate operating the said arm and through it the counting mechanism, substantially as and for the purposes specified.

3. In a delivery apparatus for tickets, the combination with a magazine containing the tickets and means for ejecting the same, of a counting apparatus having a ratchet-wheel and a pawl-lever engaging the ratchet-wheel, a spring upon the said lever, electrical contact-piece upon the end of the spring, a second contact carried by the casing of the apparatus, electrical connections to the con-

tacts, and an arm upon the ejecting mechanism bearing upon the spring adapted when the ejecting part is moved to press back the spring, bring the electrical contacts together to give a signal, and operate the pawl-arm, substantially in the manner described and shown and for the purposes specified.

In witness whereof I have set my hand in the presence of two witnesses.

ALBERT MARSH.

In presence of—
FRANK WILLIAM PATTISON,
HERBERT JAMES CRAGG.