(No Model.) 2 Sheets—Sheet 1.

J. WILLIAMS.

DEVICE FOR RECEIVING COIN AND DELIVERING TICKETS.

No. 487,139. Patented Nov. 29, 1892.

Fig. 2.

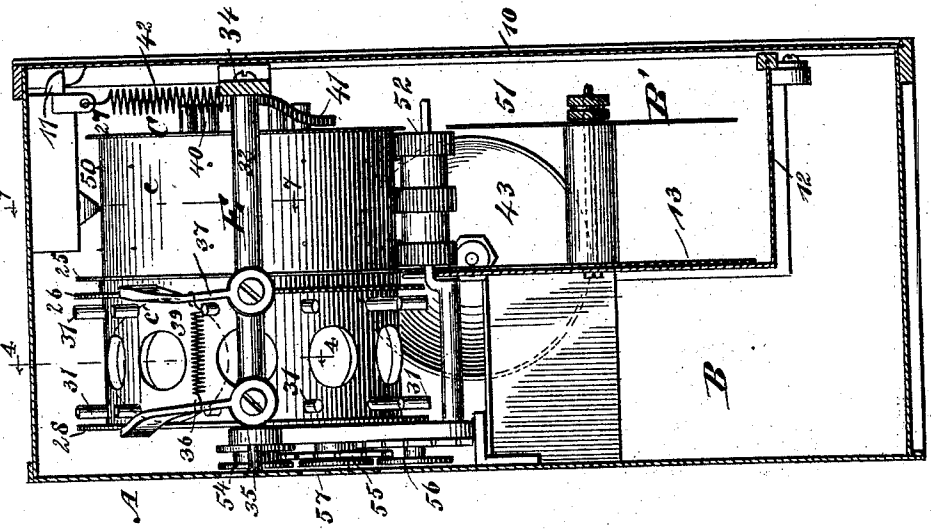
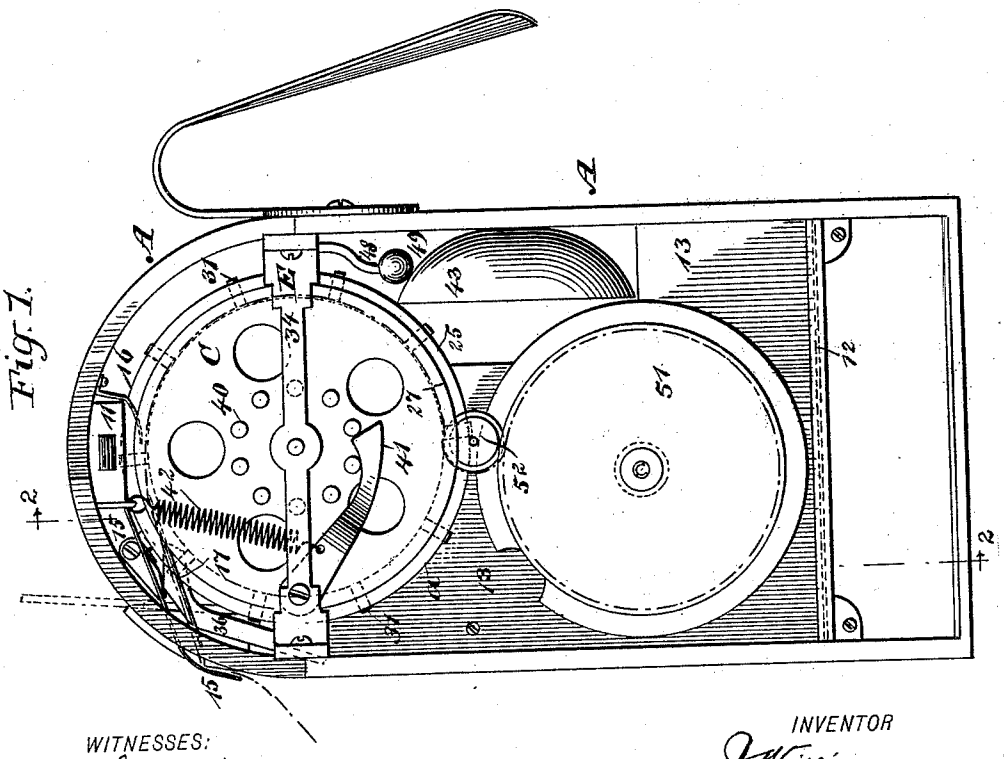


Fig. 1.



WITNESSES:
J. A. C. Criswell.
L. Bedgwick

INVENTOR
J. Williams
BY Munn & Co
ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2.

J. WILLIAMS.

DEVICE FOR RECEIVING COIN AND DELIVERING TICKETS.

No. 487,139. Patented Nov. 29, 1892.

Fig. 3.

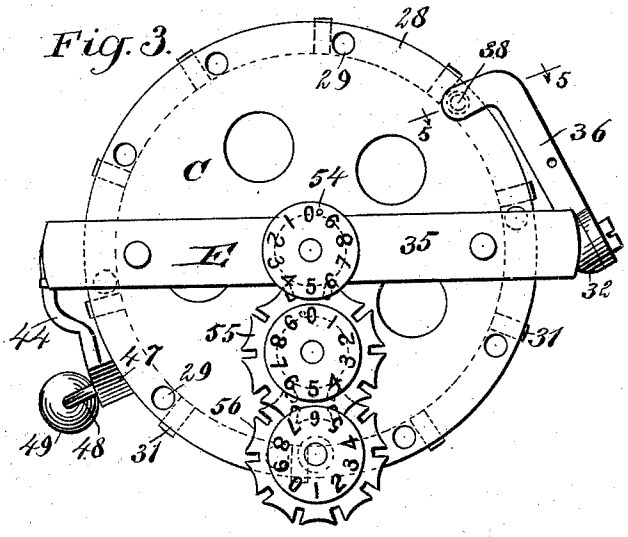


Fig. 4.

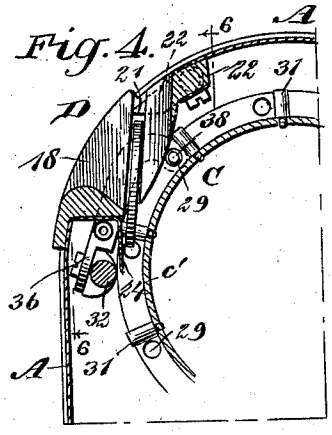


Fig. 5.

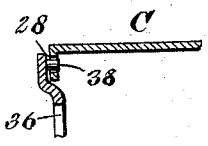


Fig. 6.

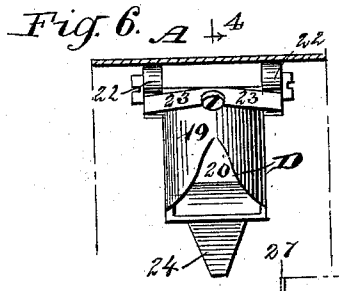


Fig. 7.

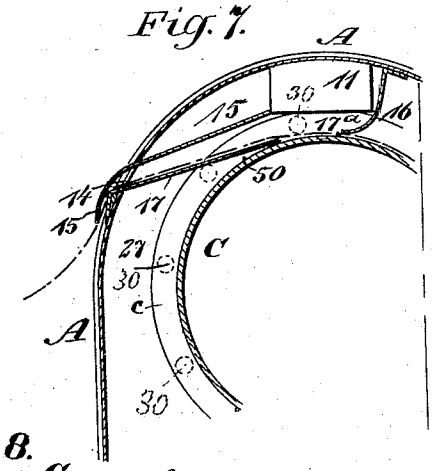
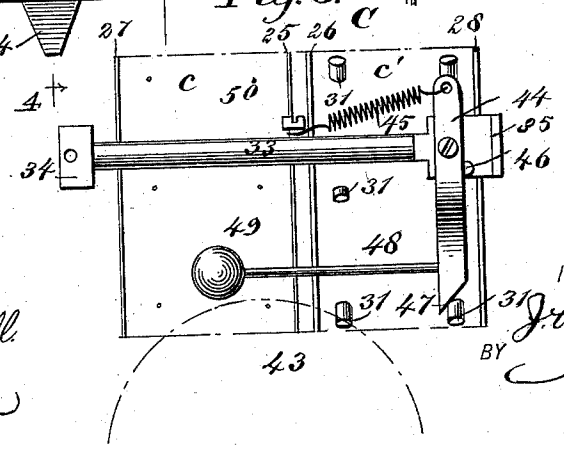


Fig. 8.



WITNESSES:

J. E. Criswell.

C. Sedgwick

INVENTOR

J. Williams

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN WILLIAMS, OF PATRICROFT, ENGLAND.

DEVICE FOR RECEIVING COIN AND DELIVERING TICKETS.

SPECIFICATION forming part of Letters Patent No. 487,139, dated November 29, 1892.

Application filed August 6, 1892. Serial No. 442,386. (No model.) Patented in England December 13, 1889, No. 20,052,

To all whom it may concern:

Be it known that I, JOHN WILLIAMS, of Patricroft, Manchester, England, have invented a new and Improved Device for Receiving Coin and Delivering Tickets, of which the following is a full, clear, and exact description.

This invention was patened in Great Britain December 13, 1889, No. 20,052.

My invention relates to a device especially adapted for receiving coin and for automatically dispensing a ticket when a coin has been deposited.

A further object of the invention is to provide a device in which all the parts will be of exceedingly simple yet durable construction, and, further, wherein at each time a coin is placed in the device an alarm will be sounded, and, further, whereby the coin when placed in a mouth in the device after its reception in the device said coin cannot be removed, although it has not been pressed downward sufficiently to drop into the interior of the device.

Another feature of the invention consists in providing a means for preventing more than one ticket at a time being removed from the device or automatically delivered therefrom when actuating mechanism has been set in operation, and another feature consists in combining with the operative mechanism a dial of any description indicating the amount of money which has been placed in the device.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation of the device, the front plate being removed. Fig. 2 is a vertical section taken, practically, on the line 2 2 of Fig. 1. Fig. 3 is a rear elevation of the drum of the device, illustrating the connection therewith of the dial. Fig. 4 is a section through the mouth or throat of the device, the said section being taken on the line 4 4 of Figs. 2 and 6. Fig. 5 is a transverse section through a portion of the drum and a lock-lever operated in connection therewith, the section being taken, practically, on the line 5 5 of Fig. 3. Fig. 6 is a rear view of the throat and the retaining-levers connected with the throat, said figure representing, also, a section through the casing, the section being taken, essentially, on the line 6 6 of Fig. 4. Fig. 7 is a section through the casing and through the ticket-guide chute of the casing; and Fig. 8 is a partial bottom plan view of the drum, indicating the manner in which the alarm mechanism is sounded.

The casing A of the device may be of any approved construction and is preferably made with an arched top. One side face of the casing is constructed in the shape of a door 10, and when said door is removed it discloses the interior of the casing, as the door is adapted to completely cover the side at which it is located. This door is preferably a sliding one, being held to travel in suitable slideways produced in the body of the casing, and the door when it is in position is preferably acted upon by a spring-lock 11, of any approved construction, as shown in Figs. 1 and 2, which lock may be manipulated by a suitable form of key. A partition 12 is secured to the back of the casing, upon its inner face, and upon this partition, which is horizontal, or upon suitable brackets secured to the casing at back and sides a vertical partition 13 is rigidly yet removably fastened, and this partition, which is shown best in Fig. 1, extends from a point a slight distance above the bottom to a point near the top, the upper face of the partition being preferably concaved, as shown at *a* in Fig. 1. By this means the casing is divided into a main compartment B, adapted to receive the money, and a front compartment B′, in which a portion of the mechanism is placed, and when the door 10 is removed the mechanism in the front compartment B′ is visible and access is obtained to the rear compartment through the space beneath the lower edge of the partition 13. Thus when the door is removed or even partially raised whatever coin there may be in the compartment B may find an exit through the said space. In front of the casing, preferably near the side closed by the door and in the arched portion of the casing, a slot 14 is transversely made. This

slot at the top is exteriorly covered by a curved plate 15, this plate being carried into the casing and upward ordinarily to a connection with the lock 11 or directly in connection with the under face of the top of the casing. At the inner end of the plate 15 a downwardly-extending and outwardly-curved plate 16 is located, and it is ordinarily attached at its upper end to the top of the casing, and a third plate 17 is located beneath the plate 15, the plate 17 being secured to the under wall of the slot 14, while the plate 15 is attached to the outer wall of said opening. The plate 17 extends rearward, preferably, a like distance as the plate 15 above it; but a space 17^a is made to intervene between the inner end of the plate 17 and the lower end of the plate 16. The plates 15, 16, and 17 constitute a guide-chute through which the tickets are to be passed, entering at the opening 17^a, and the tickets in the chute are passed out and down through the slot 14, receiving their downward inclination from the outer end of the plate 15 of the chute, and this outer portion of the plate 15 also serves as a surface against which the strip of tickets may be made to bear and facilitates the tearing of a single ticket from the strip, as a single ticket only is exposed at one time. At one side of the slot 14 the coin-receiving opening D is located in the casing. This coin-receiving opening has a mouth 18, of somewhat cylindrical shape, it being given this contour in order that a finger may be readily introduced into the mouth. The back wall of the mouth 18 consists of a plate 19, semicircular in cross-section and best shown in Fig. 6, its convexed face being inward and its concaved face outward, and the lower end of this plate is bifurcated, as shown at 20 in said Fig. 6.

At each side of the coin-receiving opening D a slideway 21 is formed, the slideways being located directly opposite one another, and the width from one slideway to the other is varied according to the diameter of the coin that the device is adapted to receive. After a coin has been placed in the slideways and pushed but a slight distance downward it is desirable that the coin shall be so situated at that time that it cannot be withdrawn. To that end at each side of the throat-plate 19, at the upper portion of that plate, a pawl 22 is pivoted, (shown in both Figs. 4 and 6,) and these pawls extend one within each slideway near the top and are held normally transversely across the slideways by a spring or springs 23, secured to the throat-plate and having bearing against the pawls, as best shown in Fig. 6. The coin when depressed downward in the slideways of the coin-receiving opening will force the pawls out of its path; but the moment that the periphery of the coin has passed below the level of the pawls the latter are restored by their springs to their normal position and constitute when in that position a barrier to the removal of the coin. The coin must then either remain fixed in the coin-receiving opening or it must be forced downward to enter the coin-receiving compartment. The coin is insured a downward movement into the coin-receiving compartment by means of a tongue 24, which is attached at the outer lower wall of the coin-receiving opening.

A drum C is employed in the machine, which drum is divided peripherally into two sections c and c' by means of two spaced and central peripheral flanges 25 and 26, and at each end of the drum an annular flange is formed, the front annular flange being designated as 27 and the rear flange as 28. The rear flange is provided with a series of apertures 29, as best shown in Fig. 3, and the forward flange 26 of the rear drum-section c' is likewise provided with apertures, the said apertures being designated by the reference-numeral 30, the apertures being shown in dotted lines in Fig. 7, the apertures in the flanges 26 and 28 being diagonally opposite. In the peripheral surface of the section c' of the drum a number of pins 31 are located, the pins being in two circumferential rows, and they are placed close to the flanges 26 and 28, as shown in Fig. 2, one pin being near each of the apertures in the flanges of that section, as shown in Fig. 4. This drum is mounted to turn in a frame E, the frame comprising a front bar 32, a rear bar 33, and two side bars 34 and 35, the trunnion of the drum or the axle upon which it is secured being journaled centrally in the side bars. This frame is located in the upper portion of the casing in such manner that the pin-carrying section c' thereof will rotate immediately back of the coin-receiving opening D of the casing, and when the drum is revolved the pins 31 thereon are enabled to pass the throat-plate 19 by reason of the bifurcation in the lower portion of said plate. Upon the front bar 32 of the frame E, opposite the pin-carrying section c' of the drum, the lower ends of two lock-levers 36 and 37 are pivoted. Each of these levers is adapted to engage with the apertured flange of the said drum-section c', and to that end the forward or free ends of the levers are bent, one so as to extend along the outer face of the outer apertured flange of the drum and the other between the two inner flanges 25 and 26, engaging with the apertured flange 26, as shown best in Fig. 2. The free end of each of these levers is provided with a stud 38, as shown in Fig. 5, and these pins or studs are adapted to enter the apertures in the flanges 26 and 28, and when such an engagement occurs between the drum and the lock-levers the drum is prevented from turning. The levers are widest apart at their upper or free ends and are connected and held in engagement with the flanges by means of a spring 39. The upper ends of these levers are located directly beneath the coin-receiving opening D, and when a coin is forced downward through the opening it is adapted to engage with the levers and force them apart out of engagement

with the flanges with which they normally engage, thus placing the drum in a position which enables it to revolve, and when the coin is pressed farther downward it will raise or strike against two of the pins 31 on the pin-carrying section of the drum, and the pressure upon the coin will turn the drum until the coin has passed through the lock-levers and the drum has been turned a distance equal to that between two adjacent lines of flange-apertures, and this distance is equal to the width of the ticket to be delivered, and when the drum is rotated in the manner described the length of a ticket is passed out through the opening 14. The drum is prevented from moving except but in one direction by placing a series of pins, studs, or projections 40 circularly around the side fronting the door of the casing, as shown in Fig. 1, and causing a detent 41 to engage with the walls defining the spaces between the pins, as likewise shown in said Fig. 1, the detent being controlled by a spring 42 attached to it and to the casing, the spring normally holding the detent in engagement with the pins. Thus the drum may be turned in the direction of the pressure exerted upon it by the coin, but it cannot be turned in the opposite direction, as when such movement is attempted one of the pins 40 will strike against the end face of the detent 41.

A bell 43, gong, or like device is secured to the back portion of the casing in any suitable or approved manner. This bell is rung each time that a coin is placed in the coin-opening, and this is effected by pivoting upon the rear bar 33 of the frame E, preferably near one end thereof, a lever 44, the upper end of which lever is connected with a spring 45, attached to it and to the bar 33, and this spring normally holds the lever 44, which is somewhat circular, concentric with the outer flange 28 of the drum, and the lever strikes against a stop 46, as shown best in Fig. 8. The lower or free end of the lever is bent downward in direction of the drum and is provided with a beveled head 47, the head being in the path of the outer set of pins 31. This lever carries an arm 48, and the arm at one end is provided with an attached ball 49 or a hammer of any description capable of sounding an alarm by striking the gong. Each time that the drum is revolved one of the outer set of teeth will engage with the head 47 of the bell-hammer lever and will force the lever to a diagonal position across the face of the section c' of the drum, and the moment that the pin is relieved from engagement with the lever 44 the latter is returned by its spring to its normal position and the hammer will strike the gong. The section c of the drum is provided with a series of spurs 50, and this drum-section is shaped to have wound around it singly a strip of tickets, and the spurs are intended not only to assist the drum in passing the strip upward, but the spurs will also tear the strip if an attempt is made to draw out more than one ticket when a coin has been placed in the machine.

A reel 51 is pivoted upon the plate or partition 13, beneath the roughened surface of the ticket-carrying section c of the drum, as best shown in Figs. 1 and 2. This reel is adapted to carry a roll of tickets in strip form, and the tickets are passed from the reel around a friction-roller 52, placed between the reel and the ticket-carrying section of the drum, and from the friction-roller the strip is passed over that portion of the drum-surface facing the door 10, and from the drum the strip of tickets is passed into the guide-chute, comprising the plates 15, 16, and 17, through the opening 17^a in the plates, the strip being made to terminate at the outlet opening or slot 14.

Thus in the operation of the device when a coin is placed in the opening D of the casing it is forced downward beyond the retaining-pawls 22, at which time the coin cannot be withdrawn. Next the coin engages with the lock-levers 36 and 37, disengaging said levers from the drum, and finally the coin rests upon a set of two aligning pins 31, and as the coin is pressed downward to cause it to fall into the coin-receiving compartment the coin by reason of its engagement with the said pins 31 will revolve the drum a sufficient distance to cause one ticket on the strip to pass out through the opening 14, and by using the outer curved end of the guide-chute plate 15 as a ruler or cutter the exposed ticket may be neatly and evenly severed from the strip.

The casing may be provided with a handle, as shown in Fig. 1, enabling it to be readily carried from place to place, or the casing may be adapted to be hung up or placed in a stationary manner in engagement with any object.

It is desirable that a recording mechanism should be used in connection with the device, and such a recording mechanism is shown in both Figs. 2 and 3, in which it consists of a numbered dial 54, secured to the trunnion of the shaft to which the drum is attached. This dial after having made one revolution is adapted to turn a second dial 55, also provided with a numbered face, and the second dial when it has made a revolution turns another dial 56, whose face is also numbered, and the numbers of the dials may be read through openings 57, produced in one side surface of the casing.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a vending-machine, the combination, with a casing provided with a coin-receiving opening, of a drum carrying pins and adapted also to carry the article to be disbursed, the pins being located back of the coin-receiving opening, and lock-levers engaging with the drum, the said levers being released from the drum when a coin is placed in the coin-receiving opening and presses against said levers,

the coin being also adapted to revolve the drum by engagement with its pins, as and for the purpose specified.

2. In a vending-machine, the combination, with a casing provided with a coin-receiving opening having slideways in its opposite walls and spring-controlled locking devices extending into the slideways of the said coin-receiving opening, of a drum mounted to turn in the casing and divided into two sections, one section being peripherally provided with a series of pins and the other section with a series of spurs, the spur-section being adapted to carry the article to be vended and the pins upon the other section being so placed as to pass back of the coin-receiving opening when the drum is revolved, and spring-pressed lock-levers located one at each side of the pin-carrying section of the drum and having a locking engagement with said section, the lock-levers being located in the path of the coin when it is entered into the coin-receiving slot, the said coin being also adapted after engaging with the lock-levers and spreading them apart to engage with a pin or set of pins upon the drum, as and for the purpose set forth.

3. In a vending-machine, the combination, with a drum provided with a series of spurs and a driving mechanism connected with the drum and operated by the pressure of an entered coin, of a reel located beneath the spur portion of the drum and adapted to carry a tape of tickets or like articles, a friction-roller located between the reel and the spur portion of the drum, and a chute located above the spur portion of the drum and having an opening for the reception of one end of the tape and an opening for the upward passage of the tape, as and for the purpose set forth.

4. In a vending-machine, the combination, with a casing provided with a coin-receiving opening the wall of which is provided with channels or slideways for a coin and spring-controlled retaining devices extending normally into the slideways, of a drum carrying pins and also adapted to carry the article to be disbursed, the pins being located back of the coin-receiving opening, and lock-levers engaging with the drum, the said levers being released from the drum when a coin is placed in the coin-receiving opening and pressed against the said levers, the coin being also adapted to revolve the drum by engagement with the pins, and whereby also when a coin has been forced into the coin-receiving opening it can be removed therefrom only by downward pressure, as specified.

JOHN WILLIAMS.

Witnesses:
J. FRED. ACKER,
E. M. CLARK.