

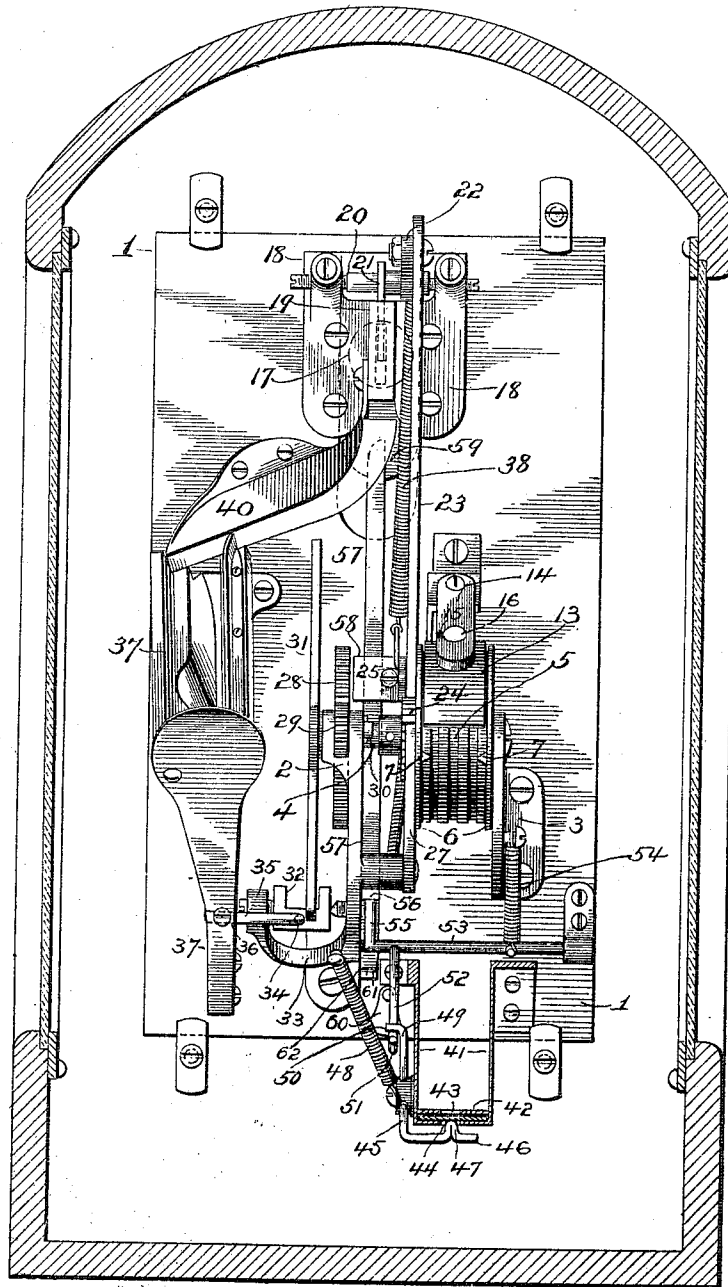
E. W. WERDEN & S. L. W. COE.
VENDING MACHINE.

APPLICATION FILED SEPT. 4, 1908.

964,591.

Patented July 19, 1910.

3 SHEETS—SHEET 1.



WITNESSES
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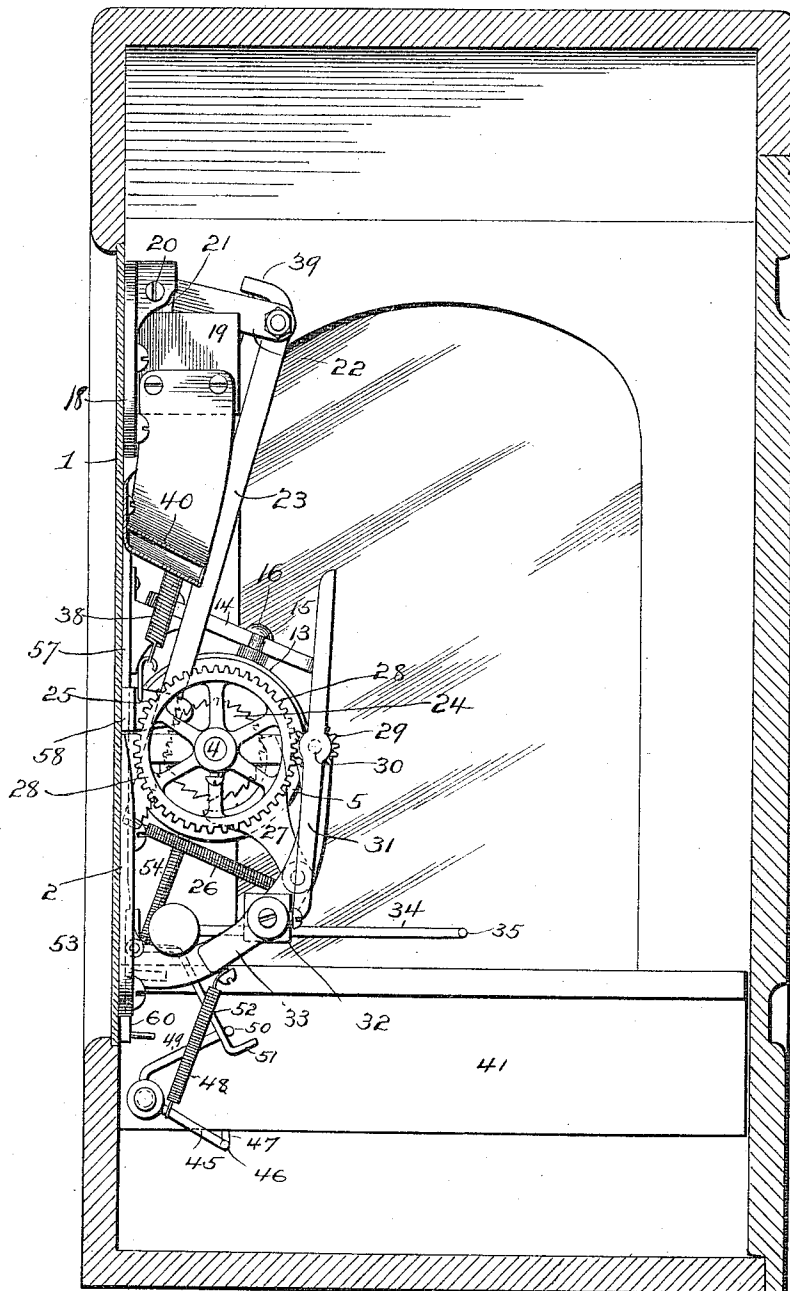
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FIG. 2.

INVENTORS

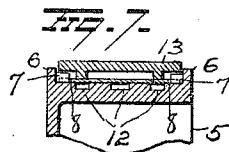
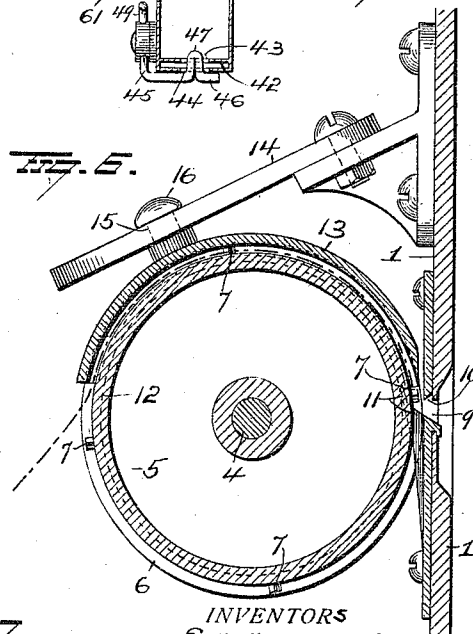
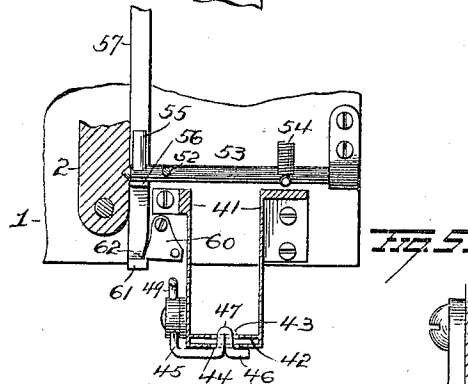
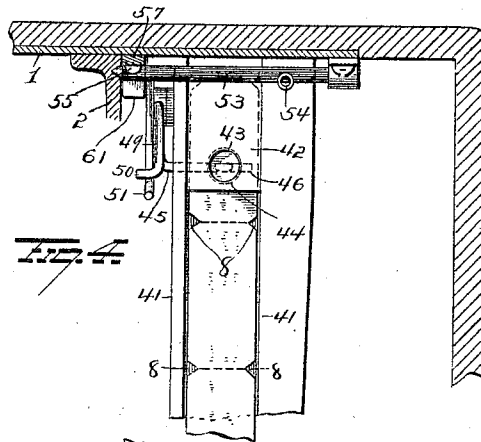
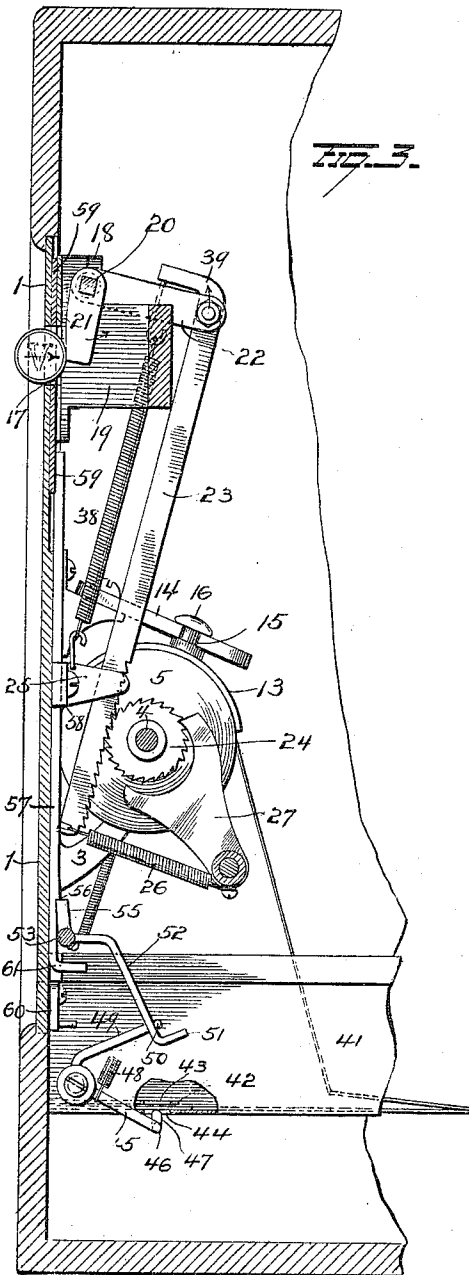
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

EDWARD W. WERDEN AND SARA L. W. COE, OF NEW YORK, N. Y.

VENDING-MACHINE.

964,591.

Specification of Letters Patent.

Patented July 19, 1910.

Application filed September 4, 1908. Serial No. 451,728.

To all whom it may concern:

Be it known that we, EDWARD W. WERDEN and SARA L. W. COE, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Vending-Machines; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in vending machines, and more particularly to such as are adapted to vend tickets and the like,—one object of the invention being to provide simple and efficient means to be energized directly by a coin for vending tickets, &c.

A further object is to provide devices which shall be under the control of the tickets to be vended, for effecting the automatic closing of the coin inlet slot when the goods shall have become approximately exhausted.

With these objects in view the invention consists in certain novel features of construction and combinations of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings, Figure 1 is a rear face view. Fig. 2 is a section on the line $x-x$ of Fig. 1. Fig. 3 is a section on the line $y-y$ of Fig. 1, and Figs. 4, 5, 6 and 7 are detail views.

1 represents a face plate to be secured in an opening of a suitable case and is adapted to support the mechanism within said case. Brackets 2—3 are secured to the face plate and in these brackets a shaft 4 is mounted. A feed wheel 5 for tickets or the like is secured to the shaft 4 and provided at its side edges with flanges 6 between which the tickets or other goods pass. Pairs of triangular lugs 7 are located close to the flanges 6 and are spaced apart around the feed wheel distances equal to the length of a ticket so as to enter notches 8 made in the side edges of a strip of tickets where the tickets of the strip join each other. By rotating this feed wheel the engagement of the lugs 7 with the notches 8 of the ticket strip, the latter will be fed forwardly and a ticket will be discharged through a slot 9 in the face plate and can be torn off with the aid of a knife or tooth edge 10 secured to the face plate. The tickets will be guided

from the feed roll through the slot 9 by means of fingers 11 which enter peripheral grooves 12 in the feed wheel. At each operation of the machine the feed wheel will be moved just a sufficient distance to project a single ticket through the ticket slot 9 and in its passage over the feed wheel, the ticket strip will be held down properly against the latter so that the lugs 7 will engage the notches 8 in the strip between the tickets, by means of a removable guide-plate 13 and this guide-plate is normally held in place by means of a pivoted arm 14 having a notch 15 to engage a knob 16 on the guide plate.

The face plate 1 is provided at 17 with a coin inlet slot and to the rear side of said face plate a bracket 18 is secured and made with a housing or slotted-arm 19 which communicates with the coin inlet slot. A short horizontal shaft 20 is mounted in the upper portion of the bracket 18 and is provided with a depending arm 21 entering the housing or slotted arm 19 so as to be disposed in position to be engaged by a coin inserted through the slot 17. The shaft 20 is also provided with a rearwardly projecting arm 22, to the free end of which a ratchet-bar 23 is pivotally attached. This ratchet-bar is adapted to mesh with a ratchet wheel 24 on the shaft of the feed wheel 5 for propelling the latter when said ratchet bar is moved downwardly. The ratchet bar will be guided in its movement by means of an arm 25 projecting from the face plate and will be held in engagement with the ratchet wheel by means of a spring 26. Retrograde movement of the feed wheel 5, when the ratchet bar is moved upwardly over the teeth of the ratchet wheel, by means of a pivoted dog 27 which engages said ratchet wheel.

A spur wheel 28 is secured to the shaft of the feed wheel and meshes with a pinion 29 on a short shaft 30. This shaft also carries arms 31 to engage a trip dog 32. This trip-dog is mounted in a bracket 33 and carries a weighted trip-lever 34 having an arm 35 projecting through a slot 36 in the outlet portion of a coin chute 37. It is apparent that when one of the arms 31 is in engagement with the trip-dog 32, the vending means will be locked against movement, but that when a coin passes through the coin chute and engages the arm of the trip dog, said trip dog will be turned so as to release

the arm 31 and the gearing between said arm and the feed wheel so that the latter may be operated by the downward movement of the ratchet bar. This downward movement of the ratchet bar to propel the vending means, is effected by means of a spring 38 secured at its upper end to an arm 39 projecting from the upper end of the ratchet-bar and secured at its lower end to the guide-arm 25.

When a coin is inserted through the slot 17 it will engage the depending arm 21 and through the medium thereof cause a partial rotation of the short shaft 20, thus causing the elevation of the free end of arm 22 and consequently the raising of the ratchet-bar. When the ratchet bar is thus raised, the spring 38 will be distended so as to store its power for utilization in propelling the vending means by forcing or pulling the ratchet bar downwardly when the mechanism shall have been released by the operation of the coin. The coin will leave the bottom of the housing or slotted arm 19; pass through a guide chute 40 and thence through the coin chute 37 and in its passage through the latter it will engage the arm of the trip lever 34 and operate the trip dog to release the gearing connected with the vending means. The vending means having been thus released, the spring 38 will promptly propel the ratchet bar 23 downwardly and thus cause a sufficient turning of the feed wheel to eject one ticket or similar article. When the ratchet bar shall have been thus moved downwardly, the short shaft 20 will also be turned so as to bring the arm 21 thereon, in position behind the slot 17 to be engaged by another coin for again operating the machine to purchase a ticket.

The tickets to be vended are stored in and fed from a trough 41 secured to and projecting rearwardly from the face plate 1. This trough is made as long as the casing in which the mechanism is located will permit and the strip of tickets is folded back and forth within this trough. At its forward end a plate 42 is secured within the trough and spaced a short distance from the bottom thereof,—said plate having therein, a hole 43 in alinement with a similar hole 44 in the bottom of the trough. In placing the strip of tickets in the trough, the ticket at one end of said strip will be inserted under the plate 42 so as to cover the hole 44 in the bottom of the trough. A lever 45 is pivotally attached to one side of the trough 41, the arm 46 of said lever projecting under the trough and being provided with a finger 47 adapted to pass through the hole 44 in the bottom of the trough and engage the ticket over said hole. A spring 48 attached at one end to the bracket 33 and at the other end to the lever 45, serves to

press the finger 47 against the ticket or to force said finger completely through the hole in the bottom of the trough and slightly above the plane of said bottom when no ticket is disposed under the plate 42 and over the hole in the bottom of the trough. The arm 49 of the lever 45 is provided with a finger 50 to engage a finger 51 on an arm 52 projecting from a rock-shaft 53. This rock-shaft is mounted in suitable bearings near the forward end of the trough and is turned in one direction by means of a spring 54 so as to cause an arm or dog 55 on said rock-shaft to engage a shoulder 56 on a vertically movable rod 57. The rod 57 passes through a suitable guide 58 and has secured to its upper end a shutter 59 for closing the coin slot 17 when the tickets shall have become approximately exhausted. The shutter 59 is provided with a slot which will be disposed in alinement with the coin slot 17 when said shutter is propped up by the engagement of the dog 55 with the shoulder 56 on the vertically movable rod 57. When the last ticket shall have been withdrawn from under the plate 42 so as to uncover the hole 44 in the bottom of the trough, the lever 45 will be operated by the spring 48 to cause the finger 47 to pass upwardly through the hole 44 in the bottom of the trough and the finger 50 on the arm 49 of said lever will engage the arm 52 and cause the rock-shaft 53 to be turned and the dog 55 to be moved away from the shoulder 56 on the vertically movable rod 57, thus permitting said rod to drop and move the shutter so as to cover the coin slot 17. When the vertically movable rod and shutter shall have thus dropped, a pivoted dog 60 will engage a shoulder 61 at the lower end of said rod and prevent the shutter from being moved so as to uncover the coin slot, except by the manipulation of said dog by the attendant who would open the casing for recharging the machine with tickets. The lower end of the vertically movable rod may be provided with a thumb piece 62 to permit the attendant to move the rod upwardly when he desires to uncover the coin slot 17 after the machine has been recharged with tickets.

Having fully described our invention what we claim as new and desire to secure by Letters-Patent, is,—

1. In a vending machine, the combination with a feed wheel and a ratchet wheel secured to move with said feed wheel, of a rock shaft provided with an arm to be engaged by a coin, another arm projecting from said rock shaft, a ratchet bar attached to said last-mentioned arm and meshing with said ratchet wheel, said ratchet bar having a laterally projecting arm at its upper end, a spring attached to said laterally projecting arm and a fixed part of the machine for

forcing said ratchet bar downwardly to propel the feed wheel, and coin operated means for releasing such propelling means.

2. In a vending machine, the combination
5 with a feed wheel and a ratchet wheel secured to move with said feed wheel, of a rock shaft provided with an arm to be engaged by a coin, another arm projecting from said rock shaft, a ratchet bar attached
10 to said last-mentioned arm and meshing with the ratchet wheel, said ratchet bar having a laterally projecting arm at its upper end, a spring attached to said laterally projecting arm and a fixed part of the machine for

forcing said ratchet bar downwardly to 15 propel the feed wheel, a pivoted dog engaging the ratchet wheel to prevent retrograde movement of the feed wheel, and coin operated releasing means.

In testimony whereof, we have signed this 20 specification in the presence of two subscribing witnesses.

EDWARD W. WERDEN.
SARA L. W. COE.

Witnesses:

JAMES S. WRIGHT,
THOMAS SPROULL.