No. 764,548. PATENTED JULY 12, 1904

H. S. BAUGHMAN.

VENDING MACHINE.

APPLICATION FILED OCT. 7, 1903.

NO MODEL. 4 SHEETS—SHEET 1.

Fig. 1

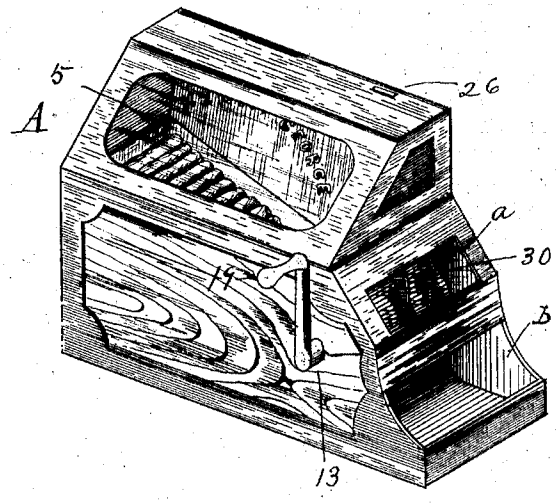
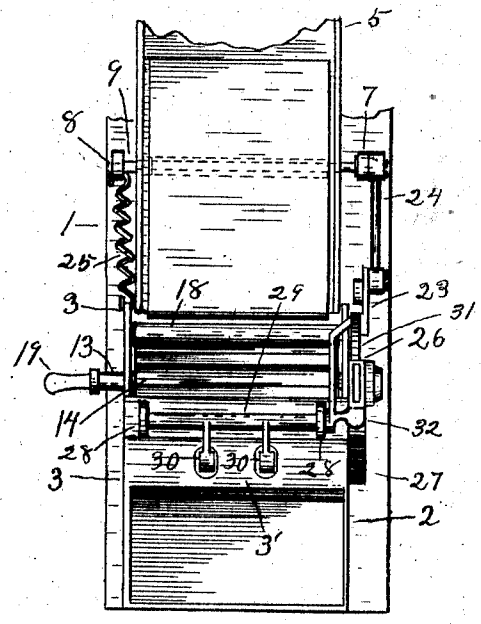


Fig. 2



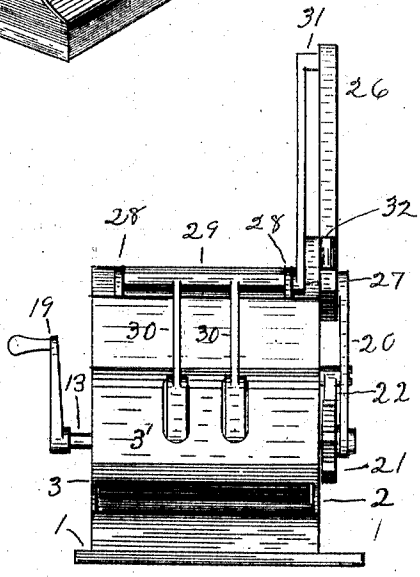


Fig. 3

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NO MODEL. 4 SHEETS—SHEET 2.

Fig. 4

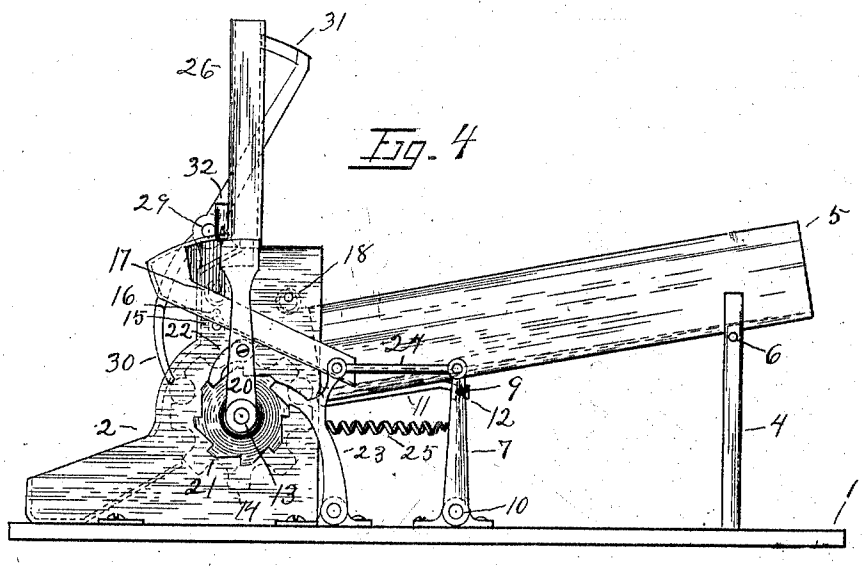
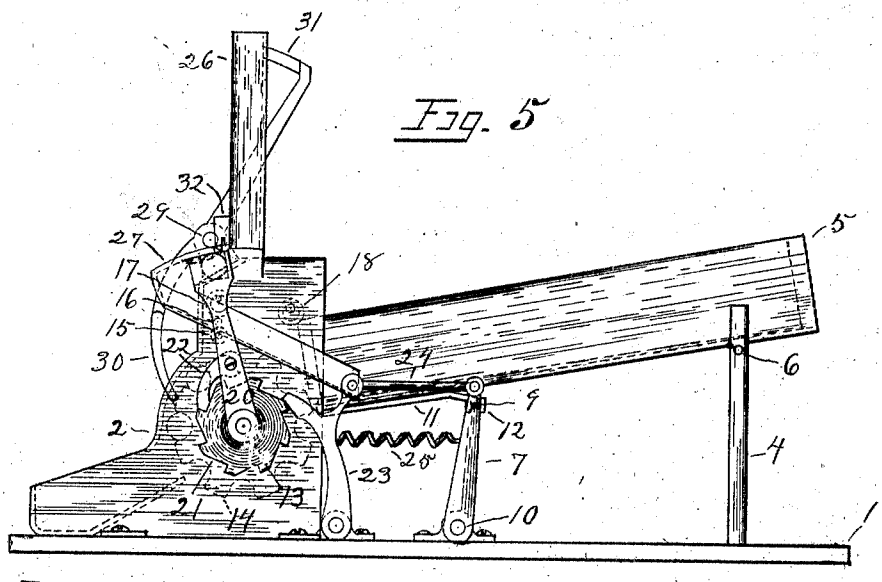


Fig. 5



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NO MODEL. 4 SHEETS—SHEET 3.

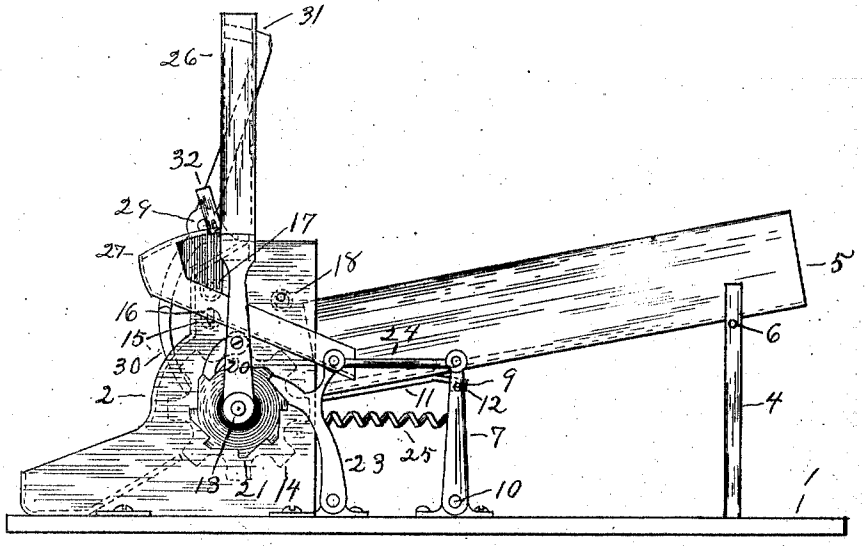
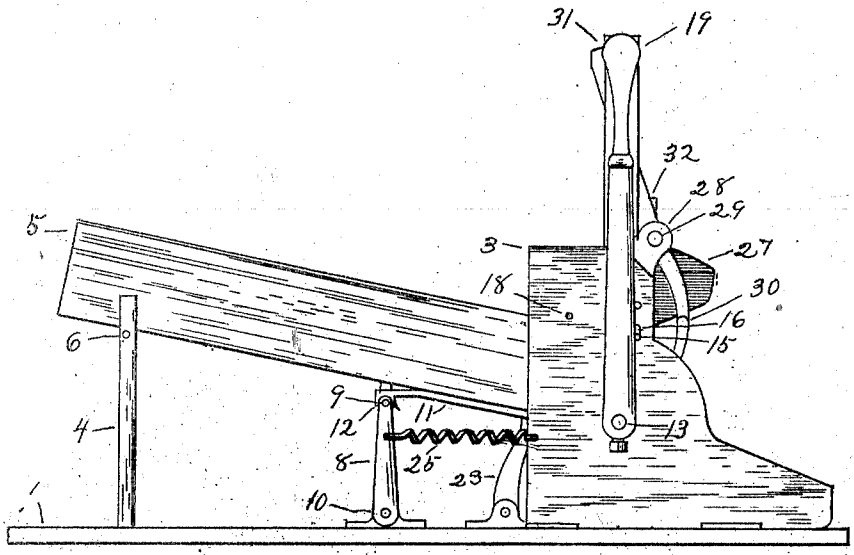


Fig. 6



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Fig. 7

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NO MODEL. 4 SHEETS—SHEET 4.

Fig. 9

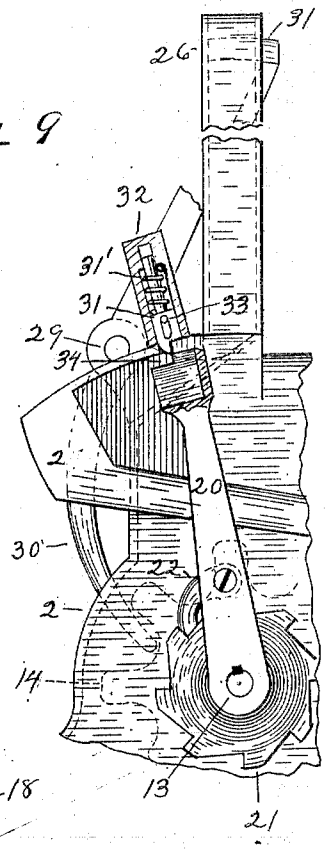


Fig. 8

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No. 764,548. Patented July 12, 1904.

UNITED STATES PATENT OFFICE.

HARRY S. BAUGHMAN, OF BATTLECREEK, MICHIGAN.

VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 764,548, dated July 12, 1904.

Application filed October 7, 1903. Serial No. 176,059. (No model.)

To all whom it may concern:

Be it known that I, HARRY S. BAUGHMAN, a citizen of the United States, residing at Battlecreek, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

My invention relates to vending-machines in which a rotatable fluted cylinder adapted to receive cigars or similar articles is actuated by ratchet-and-pawl mechanism after having been released by the passage therethrough of a coin of a predetermined size and value; and the object of my invention is to construct a machine of the kind that will be simple, capable of handling cigars of uniformity in shape, and whereby should any chamber of the vending-roller fail in discharging a cigar a lever will automatically seal the coin-slot and prevent the passage of a coin into the machine until said machine is actuated to relieve said slot and be in a position to discharge a cigar or other commodity therefrom. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved vending-machine inclosed within a cabinet. Fig. 2 is a plan view of part of the machine without the cabinet. Fig. 3 is a front end view of Fig. 2. Fig. 4 is a side view opposite the handle and shows the position of the machine ready to receive a coin preparatory to discharging a cigar. Fig. 5 is a side view opposite the handle and shows a coin in the act of tripping the actuating device preparatory to discharging a cigar. Fig. 6 is a side view opposite the handle and shows the vending-roller empty and the indicating-lever actuated thereby to close the coin-tube. Fig. 7 is a side view, handle side, representing a straight lever. Fig. 8 is a broken side view, in part section, opposite the handle and shows a coin of a predetermined value in the act of releasing the tripping mechanism. Fig. 9 is a broken side view, in part section, opposite the handle and shows the vending-roller empty, the indicating-lever actuated thereby to close the coin-tube, and the actuating or coin-detecting trip oscillated above the lever carrying the pawl, whereby the vending-roller may be rotated to again refill and release said indicating-lever.

Like marks of reference refer to corresponding parts throughout the several views.

A represents the cabinet within which the vending apparatus proper is placed. This cabinet may be composed of any material desirable for the purpose, and in the preferred form the base is somewhat longer than the top, the latter of which has one sloping side longitudinal therewith and within which a glass is placed to facilitate in observing the operation of the machine. A glass may be also placed in front, as at *a*. Below the latter glass the exit or discharge-receptacle *b* is located.

The vending-machine frame proper comprises the base 1, the two side frames 2 and 3, and the front 3'. To the rear of the base a standard or support 4 is secured. This support comprises two standards, one on either side of the cigar or other box 5, and they are united by a cross-tie 6, upon which said box is held in a tilted position at its rear end, as shown, the forward end of the box being open and entering at the rear between the aforesaid side frames.

Supporting the box at or near its forward end a standard similar to the rear standard is provided, with the exception that the forward standard is capable of oscillation. It comprises the two standards 7 8 and the cross-tie 9, the two former pivoted to the base by the hinges 10. To keep this box 5 from sliding against the vending-roller and also to securely hold the same in position within the machine, a clip or clamp 11 is provided. This clamp in the preferred form is made of sheet metal and is bent to form a U-shaped curve between which the bottom of the box 5 is thrust. The upper surface or face within the box may be formed with longitudinal ribs or may be left smooth, as may be found expedient. The under side of the clamp is formed with two downwardly-extending lips 12, between which the cross-piece 9 to the oscillating standard is placed.

Loosely rotatable upon a crank-shaft 13, passing through the sides of the machine, is

the fluted vending-roller 14. By preference this roller is supported within the machine, so that the downward end of the cigar-box will be somewhat above the center thereof and in such manner that one of the flutations thereof will take up a cigar, while a diametrically opposite one will discharge one, as shown in Fig. 4.

Above, in vertical alinement, and just forward of the axle of the vending-roller I provide a series of rollers, two of which admirably suit the purpose, the lower roller 15 by preference having a solid axle and protruding within vertical slots or grooves 16 in the sides of the machine, a secondary or upper roller 17 having a large bore and supported from a solid cross-piece to the machine.

Above and to the rear of the axle of the vending-roller and at a point slightly in advance of the upper edge of the cigar-box I employ a third roller 18. This roller by preference is supported within the machine like the roller 17.

Opposite the handle 19 and secured to the axle thereof is the coin-actuating lever 20, and between this lever and the frame and connectively united through an aperture thereof to the vending-roller is a ratchet-wheel 21, operative from said lever by the pawl 22.

Pivotally supported to the base at the rear of the vending-roller is a lever 23, adapted to engage the ratchet-wheel aforesaid, and uniting with the upper end of the oscillatory standard 7 is pitman 24, while to the opposite side of the machine and connecting the frame 3 and the standard 8 is a coil-spring 25, the object of the spring being to throw the lever 23 in mesh with the ratchet-wheel when rotated and jolt the cigar-box in the operation of the machine and keep cigars always in position to be taken up by the vending-roller.

The positions of the rollers 16, 17, and 18 and the peculiar susceptibility of their movements in adapting themselves to various positions in the operating of the vending-roller always distributes the cigars into the grooves of said roller without bunching or injury to their stock.

The coin-actuating lever 20 is in a normal position when standing vertically, as shown in Figs. 2, 3, 4, and 6, and immediately above this lever and preferably in line therewith is the coin-ingress-slot tube 26.

The upper end of the lever 20 forms a rectangular pocket of a size sufficiently large to receive a coin of a predetermined size, the forward and upper sides thereof being open, the upper end thereof being adapted to receive a coin when dropped through the ingress-tube 26, the forward side being coincident with the forward and upper end of a conveying or exit trough 27, the exit-trough being open at the top the length thereof, and it may be formed flaring, this trough, by preference, being arranged between the lever 20 and the frame end 2 of the machine and positioned so that a coin when discharged therein will by gravity roll and fall below the box 5 toward the rear of the vending-roller mechanism.

Pivoted to ears 28 on the top and forward end of the frame is an axle or shaft 29, carrying one or more depending curved fingers 30, and extending from one end of this shaft is an arm having a curved extension 31 concentric with its axis. The fingers 30 extend through apertures in a face-plate forward of the vending-roller, Fig. 1, and are adapted to engage the periphery of said roller at all times.

Immediately to the rear of the axle 29 and forming a part with the arm having the curved extension 31 is a barrel 32, provided with a plunger-bolt 31, actuated by a spring 31′ and retained in position by the pin 33, passing through a slot in said bolt. (Better shown in Figs. 8 and 9.) By preference this barrel is situated so as to act as a stop bearing against the face or forward side of the coin-ingress tube 26 when in a normal position, as shown in Figs. 2, 3, 4, 5, 7, and 8, and prevents said axle, with its appendages, from tilting beyond a limited position in the operating of said mechanism.

To the inner side of the pocket formed on the upper end of the lever 20 a rectangular slot 34, Figs. 8 and 9, is made. This slot at its forward end is formed above the bottom of the pocket in said lever the distance occupied by the diameter of a one-cent coin, and to the rear its vertical extremity terminates the breadth of a nickel, or five-cent coin, flush therewith when placed within the aforesaid pocket, as shown in Fig. 8.

The lower end of the plunger-bolt 31 when normally stationed projects within the path or circuit of a coin passing from the upper end of the lever 20 to the exit-trough 27, and this bolt is of a width exceeding the width of a coin passing beneath the same and projects sidewise, so that it will form an obstruction and strike the slot 34 in the upper end of the lever 20 when a coin other than a nickel or other predetermined coin is passed through the machine.

The operation of my machine will have been apparent from the foregoing description. Should the machine be fitted to operate with a nickel or five-cent piece, the coin is dropped within the ingress-tube 26 and the handle 19 drawn to the right to its limit, by which passage the plunger-bolt 31 will be raised and admit of the lever 20 passing the same, thus actuating the dog operating the ratchet-wheel 21, causing the cigar or other factor to be discharged within the receptacle 5 at the forward end of the machine. Should a coin smaller than a nickel—a one-cent piece, for instance—be dropped within the ingress-tube 26 when

the lever 20 is in a normal position, it will roll below the point of the plunger-bolt 31 and fall within the coin-receptacle. Should the handle member be thence thrust to expel a cigar from the machine, the rectangular slot 34 in the upper end of the lever 20 will catch the projecting end of the plunger-bolt 31 and stop the throw of said lever and prevent the ratchet from operating the vending-roller.

Should it ever occur that one of the receptacles in the vending-roller fail to fill in the operation of the machine, the curved fingers 30 by inherent gravity will fall within said cavity or pocket and actuate the upper curved extremity 31 to pass within an aperture within the upper end of the ingress or coin slot, Fig. 9, and prevent a coin from being placed therein, thus saving the would-be operator the price of a cigar in case the machine did not operate. For instance, the lever operated as aforesaid the oscillation of the same would cause the barrel carrying the plunger-bolt 31 to roll above and out of line with the actuating-lever 20, thus permitting said lever to pass over and throw the dog to again actuate the vending-roller to fill, the filling thereof causing said fingers to raise and release the curved obstruction 31 to the coin-tube 26 and placing the machine again for operation.

It will be apparent that various modifications could be made in carrying out my invention without departing from the spirit and intent of these improvements.

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

1. A vending-machine, the combination with a vending-roller and means for operating same, of the open end of a cigar-box, closely abutting said roller at its rear and above the plane of its axis, the rear end of said box being supported in an elevated position, means for supporting said box at its forward end, and means for longitudinally agitating said box, for the purpose set forth and described.

2. A vending-machine, the combination with a vending-roller and means for operating same, of the open end of a cigar-box, closely abutting said roller at its rear and above the plane of its axis, the opposite end of said box being supported in an elevated position, a lever pivoted at the lower end and provided near the top thereof with a cross-girth upon which the forward end of said box is supported and adapted to be longitudinally agitated by the rotation of said roller, for the purpose set forth and described.

3. A vending-machine, the combination with a vending-roller and means for operating the same, of the open end of a cigar-box closely abutting said roller at the rear and above its axis, the opposite end of said box being supported in an elevated position, a lever pivoted at the lower end, an upper support thereof engaging the forward end of said box, a ratchet-wheel secured to the axle of said vending-roller, a pawl pivoted to the rear of said ratchet, a pitman connecting said pawl with said lever, the operation of said ratchet and pawl actuating said pitman and lever to jolt said box, for the purpose set forth and described.

4. A vending-machine, the combination with a vending-roller and means for operating the same, of the open end of a cigar-box closely abutting said roller at the rear and above its axis, the opposite end of said box being supported in an elevated position, a U-shaped clasp thrust upon the bottom of said box from the forward end thereof, a lever pivoted at its lower end, a transverse bar thereof engaging with said clasp and supporting the forward end of said box, a ratchet-wheel operative with said vending-roller, whereby said box will oscillate in the rotation of said vending-wheel for the purpose set forth.

5. A vending-machine, the combination with a vending-roller and means for actuating the same, the lower and open end of a cigar-box closely abutting the rear of said roller above the axis thereof, rollers axially alined above and forward of the axis of said vending-wheel, a roller axially alined above and to the rear of said vending-roller and in close proximity to the upper forward end of said box, all of said rollers being supported within a common framework, substantially as and for the purpose set forth.

6. A vending-machine, a framework, a vending-roller actuated to operate within said framework, the lower and open end of a cigar-box closely abutting the rear side of said roller above the axis thereof, rollers axially alined above and forward of the axis of said vending-roller, the lower of said rollers adapted to work loosely within slots within said framework, a secondary roller loosely mounted upon its axle, a roller axially mounted above and to the rear of said vending-roller and loosely mounted upon its axle in close proximity to the upper forward end of said box, substantially as and for the purpose set forth.

7. A vending-machine, comprising a cabinet having an elongated rectangular base, the forward end thereof comprising an exit-tray, the rearward end thereof, a box-receptacle, a transparent panel forming an angular upper side to said cabinet, a framework mounted within said cabinet, a vending-roller mounted within said framework, a receptacle-box mounted within said cabinet and communicating at its forward lower and open end with said vending-roller, means for agitating said box, and means for actuating said vending-roller for the purpose set forth.

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