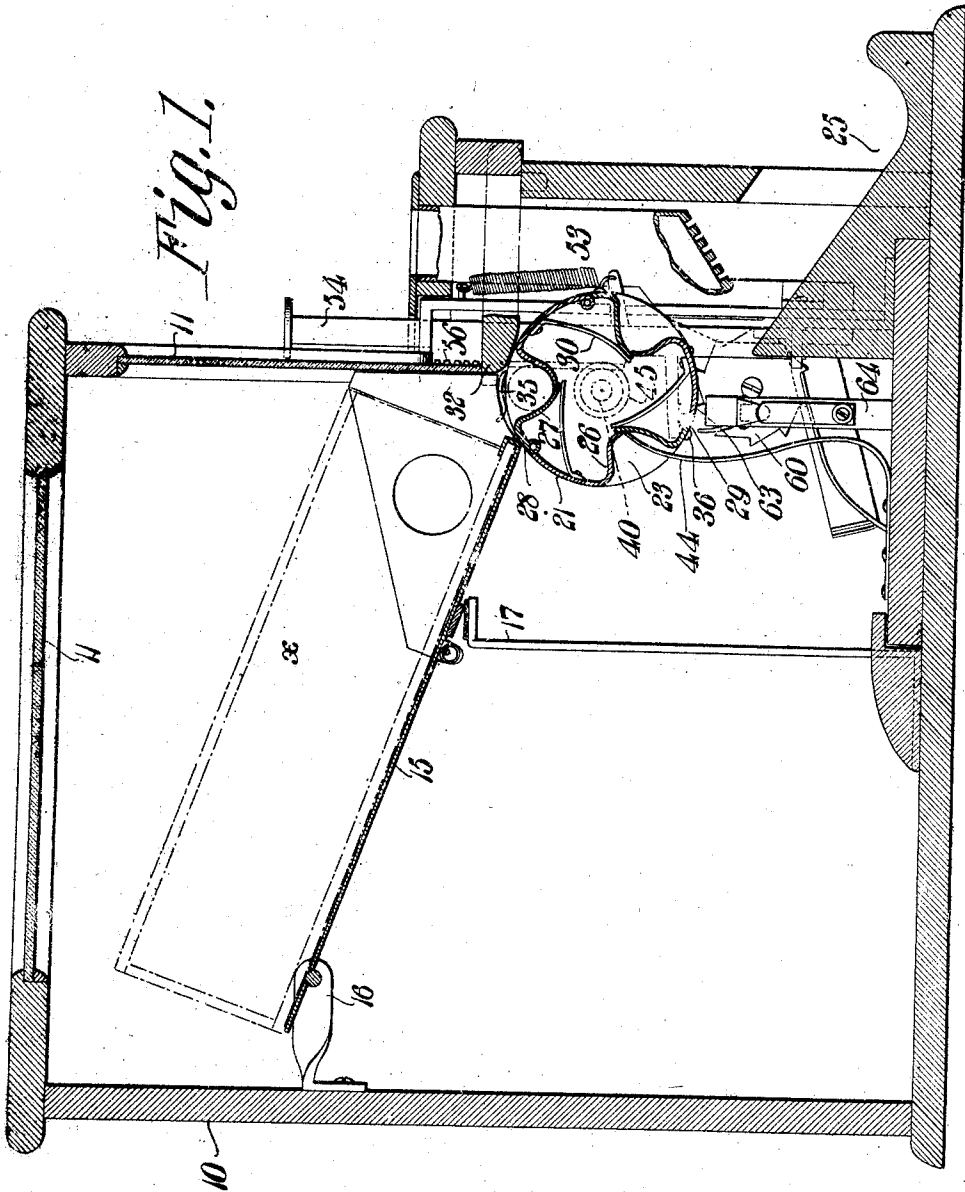


No. 874,170.

PATENTED DEC. 17, 1907.

H. J. DAVIDSON.
CIGAR VENDING MACHINE.
APPLICATION FILED APR. 15, 1907.

2 SHEETS—SHEET 1.



WITNESSES:

R. H. Martin
J. E. Carter

Harry J. Davidson,
INVENTOR.

By *C. A. Knowlton,*
ATTORNEYS

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2 SHEETS—SHEET 2.

Fig. 2.

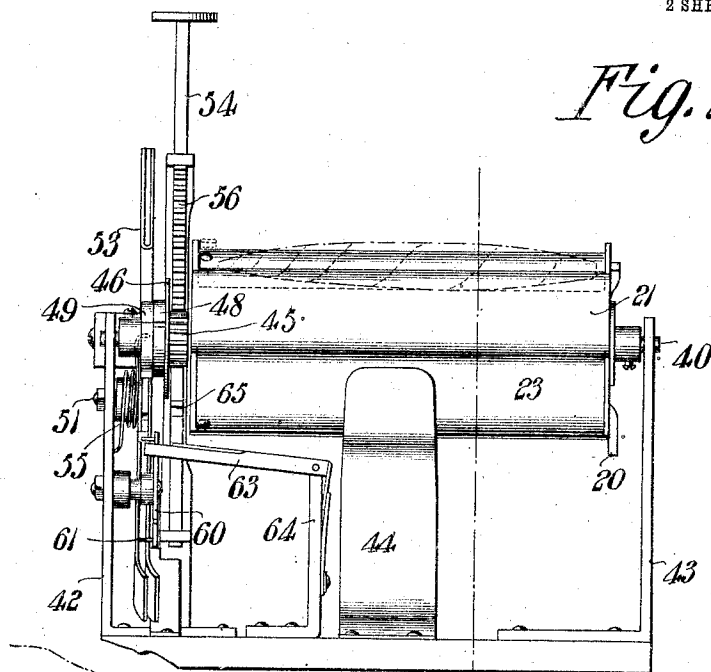


Fig. 4.

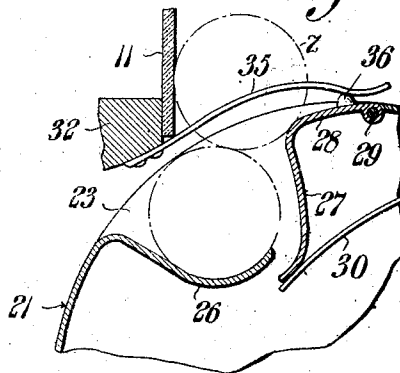
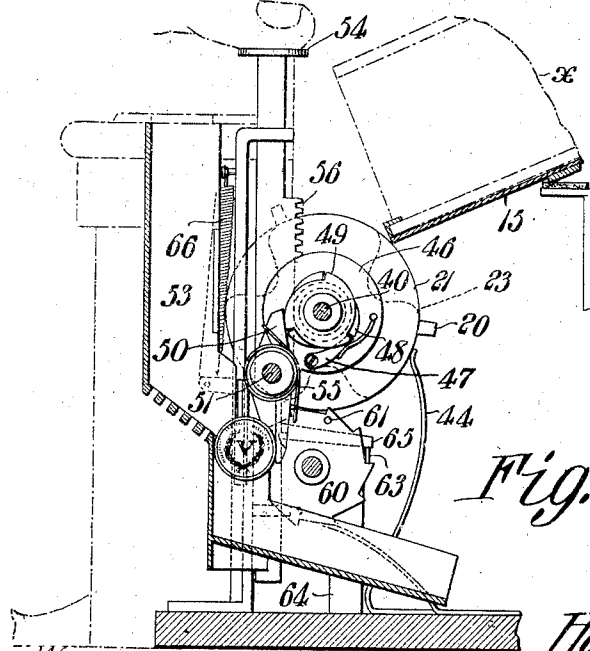


Fig. 3.



WITNESSES:

E. J. Stewart
John E. Carter

Harry J. Davidson,
INVENTOR.

By *Chas. Snow & Co.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

HARRY J. DAVIDSON, OF WASHINGTON, DISTRICT OF COLUMBIA.

CIGAR-VENDING MACHINE.

No. 874,170.

Specification of Letters Patent.

Patented Dec. 17, 1907

Application filed April 15, 1907. Serial No. 368 273.

To all whom it may concern:

Be it known that I, HARRY J. DAVIDSON, a citizen of the United States, residing at Washington, District of Columbia, have invented a new and useful Cigar-Vending Machine, of which the following is a specification.

This invention relates to coin controlled vending machines, and has for its principal object to provide a machine by which cigars or similar articles may be delivered without danger of breakage.

A further object of the invention is to provide a device of this kind in which the delivery pocket is provided with a yieldable wall so arranged that in case one of the articles is caught in such manner as to be injured, the wall will yield and prevent damage.

A still further object of the invention is to simplify and improve the delivery mechanism, so as to insure the delivery of single articles only at each operation, and further to so arrange the coin controlled mechanism as to permit the free delivery of an extra article after a predetermined number of operations, as, for instance, the delivery of six cigars, on successive operations of the machine by five nickels.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts, herein-after fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings:—Figure 1 is a longitudinal sectional elevation of a vending machine constructed in accordance with the invention. Fig. 2 is a rear elevation of the principal working parts of the machine, detached. Fig. 3 is a transverse sectional view through a portion of the coin controlled mechanism. Fig. 4 is a detail sectional view on an enlarged scale showing the yielding wall of the delivery pocket.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The working parts of the machine are arranged within a suitable casing 10 at the

front and top of which are transparent panels 11 through which the contents of the machine may be observed. The machine in the present instance is designed for the delivery of cigars which may be placed in a cigar box 2, as indicated by dotted lines, one end of the box being removed in order to allow the cigars to discharge therefrom by gravity. The box is mounted on a carrier 15 that is pivoted at its rear end on brackets 16 and rests near its forward end on standards 17. The extreme front end of the carrier is arranged to be engaged by lugs 20 that project from a revoluble delivery drum 21 so that as the drum is revolved in the delivery of an article, the lugs will successively engage with the carrier and will agitate the latter in order to insure movement of the cigars or other contents of the box toward the point of delivery.

The drum 21 is provided in the present instance with three delivery pockets 23, and the articles are carried by the pockets toward a delivery trough 25, the cigars falling by gravity from the pockets and passing to a position outside the machine.

The delivery drum 21 is formed of any suitable material, preferably sheet metal, and as shown, has three pockets. Each of these pockets extends from end to end of the drum and is formed of two sections, one section 26 being formed of a sheet of metal that is preferably integral with the peripheral portion of the drum and is slightly curved to conform to the shape of the cigar or other article. The opposite section 27 of the pocket is, also, slightly curved, and has a rearwardly extended flange portion 28 that is curved to conform to the contour of the periphery of the drum, and is pivoted to said drum by a pin 29. The movable section 27 of the drum is normally held up against the bottom of the section 26 by means of a small leaf spring 30, and the pocket thus formed is intended to receive a single cigar or other article, and deliver the same to the trough 25 when the drum is turned. As the drum turns, the pocket passes under a plate 32 that forms a part of the fixed casing of the machine, and during this discharging movement there is always danger of a second cigar, such as indicated by dotted line 2 in Fig. 4, falling partly within the pocket in such position that as the drum is turned, it will be jammed between the plate 32 or the glass panel 11, and the rear wall of the delivery

pocket, this occurring especially in the cases where the cigars are slightly misshapen, or where they are smaller in diameter than the pockets.

5 If the pocket has a rigid rear wall, as is usual in all machines of this type, the cigar wrapper will be broken, and the cigar spoiled. In the present case, however, the movable rear wall of the pocket 27 is bent
10 downward, so that it will pass under the second cigar, and avoid injury to the same. This is accomplished by a depressing cam 35 that is carried by the plate 32, or other portion of the fixed casing, and is arranged to be
15 engaged by small lugs 36 that project from the movable sections of the pockets as the latter turn toward the discharge position. As the lug engages the cam and passes thereunder, a movable portion of the pocket will
20 be depressed to the position shown in Fig. 4, so that the second cigar *z* will be elevated, and as the lug passes beyond the ends of the cam, will be thrust upward as the movable wall of the pocket resumes its normal position, so that the cigars are preserved unin-
25 jured.

The drum is mounted for rotative movement on a shaft 40 having bearings for a pair of end standards 42, 43, and said drum can
30 revolve in but one direction, movement in the reverse direction being prevented by a spring locking pawl 44 which is secured to the bottom of the casing and is arranged to engage in the successive pockets as the latter
35 move to the receiving position. Mounted loosely on the shaft 40 is a pinion 45, to one side of which is attached a disk 46 that is also free to revolve independent of the shaft. The disk carries a pawl 47 that is arranged to
40 engage the teeth of the ratchet wheel 48 that is rigidly secured to the shaft, there being three of such teeth corresponding to the number of delivery pockets. The shaft also carries a second ratchet wheel 49 having
45 three teeth which face in a direction opposite to the teeth of ratchet wheel 48 and the teeth of the second ratchet wheel are engaged by a spring pressed pawl 50 that is pivoted on a suitable stud 51 having bear-
50 ings in the frame. The lower end or tail of the pawl 50 projects within a coin chute 53 and is arranged to be engaged and forced rearward by the entered coin, the latter being frictionally held between the side of the
55 chute and the pawl through the action of a spring 55 which tends to force the pawls to engaging position. When this occurs, the pawl is moved outward from engagement with the ratchet wheel 49 and the drum is
60 then free to rotate.

Mounted in the frame is a coin engaging slide 53 having a finger piece 54 projecting through an opening in the casing within convenient reach of the operator.

65 The lower end of the slide engages the coin

and forces the same from contact with the tail of the locking pawl, while the rear face of the slide is provided with a rack 56 which engages the teeth of the pinion 45, so that when the latter is turned, the disk 46 will be turned
70 and movement will be transmitted through the pawl 47 and ratchet wheel 48 to the drum shaft 40 and the delivery drum.

In order to permit the delivery of one cigar after five successive operations, a ratchet
75 wheel 60 having ten teeth is mounted in the lower portion of the casing and is provided with two pins 61 arranged at diametrically opposite points and adapted to successively engage with the tail of the pawl 50 and move
80 the latter to inoperative position twice during each complete rotation of the ratchet wheel. This ratchet wheel is engaged by a spring pawl 63 pivoted on the standard 64, and the pawl is engaged by an arm 65 that
85 projects from the coin engaging slide, so that each time the latter is depressed, the pawl 63 will be moved down and the ratchet wheel 60 will be turned to the extent of a single tooth. At the end of five complete operations, the
90 pawl 50 will be moved free of the ratchet wheel 48, and a further depression of the slide without the insertion of the coin will permit the delivery of a cigar, so that the oper-
95 ator may secure six cigars for twenty-five cents. The slide is returned to its elevated position after each depression by means of a coiled tension spring 66, as shown in Fig. 3.

I claim:—

1. In a vending machine, a movable mem-
100 ber having a delivery pocket, one wall of which is yieldable, and means for depressing said wall to prevent injury to the articles during the delivery movement.

2. In a machine of the class described, a
105 movable delivery member having a pocket for the reception of an article to be delivered, one wall of the pocket being pivotally mounted, a yieldable means for holding the pivoted wall in place, and means for depress-
110 ing such wall during the delivery movement.

3. In a machine of the class described, a magazine, a frame, a revoluble delivery drum having peripheral pockets, one wall of each
115 pocket being pivoted to the drum, a spring tending to hold the pivoted wall in place during the reception of the article, a lug carried by such pivoted wall, and a cam disposed in the path of movement of the lug and arranged to depress the wall during the delivery move-
120 ment.

4. In a machine of the class described, a casing, a pivotally mounted magazine sup-
port, a revoluble delivery drum having a plu-
125 rality of peripheral pockets, one wall of each pocket being movable, the movable wall having a rearwardly extending flange that forms a part of and is pivoted to the peripheral portion of the drum, a spring tending to hold the movable wall in place, means for depressing
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said wall to prevent damage to the contents of the magazine during the delivery movement, and lugs carried by said drum and arranged to engage and agitate the magazine support.

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5. In a machine of the class described, the combination with a casing, of a magazine, a revoluble delivery drum having peripheral pockets, a shaft carrying the drum, a pair of oppositely facing ratchet wheels secured to the shaft, a pinion and a disk loosely mounted on the shaft, a pawl carried by the disk and engaging one of the ratchet wheels, a

movable slide carrying a rack for engagement with the pinion, a pawl engaging the opposite ratchet wheel and tending to prevent movement of the drum, said pawl being movable to release position to permit movement of the drum to discharging position.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HARRY J. DAVIDSON.

Witnesses:

CHESTER A. SNOW,
FRANK S. APPLEMAN.