

Feb. 9, 1926.

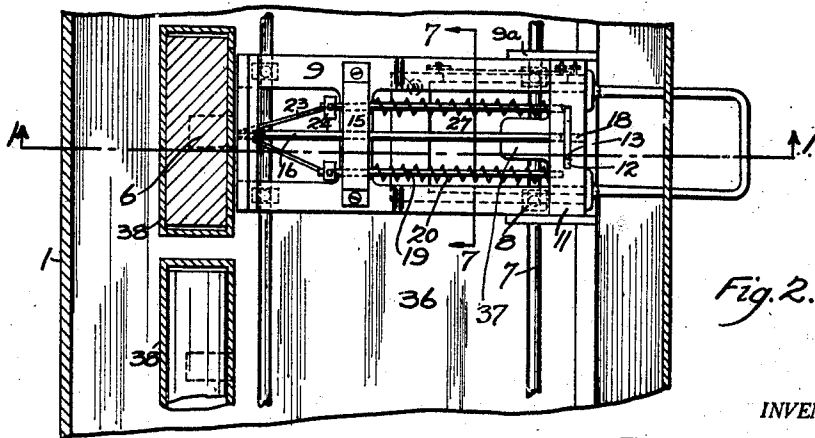
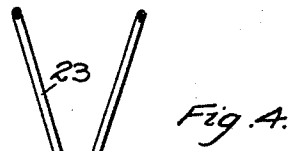
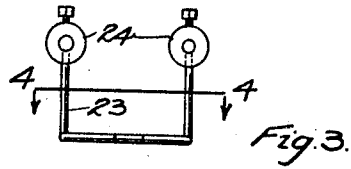
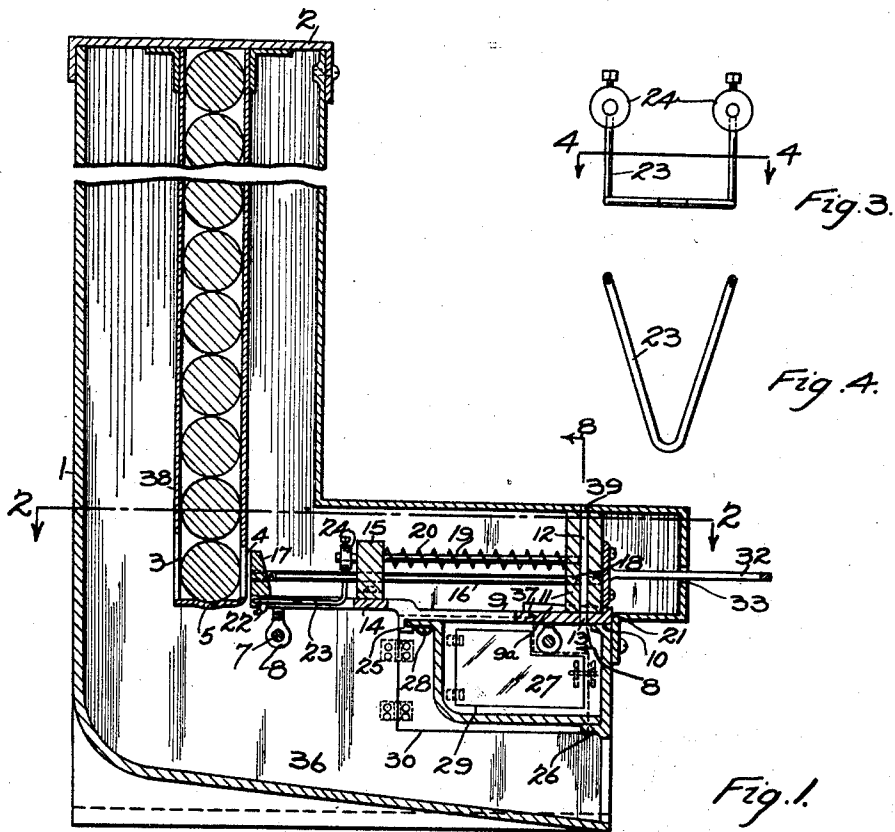
D. J. CROWLEY

1,572,189

VENDING MACHINE

Filed May 15, 1925

2 Sheets-Sheet 1



INVENTOR.

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Feb. 9, 1926.

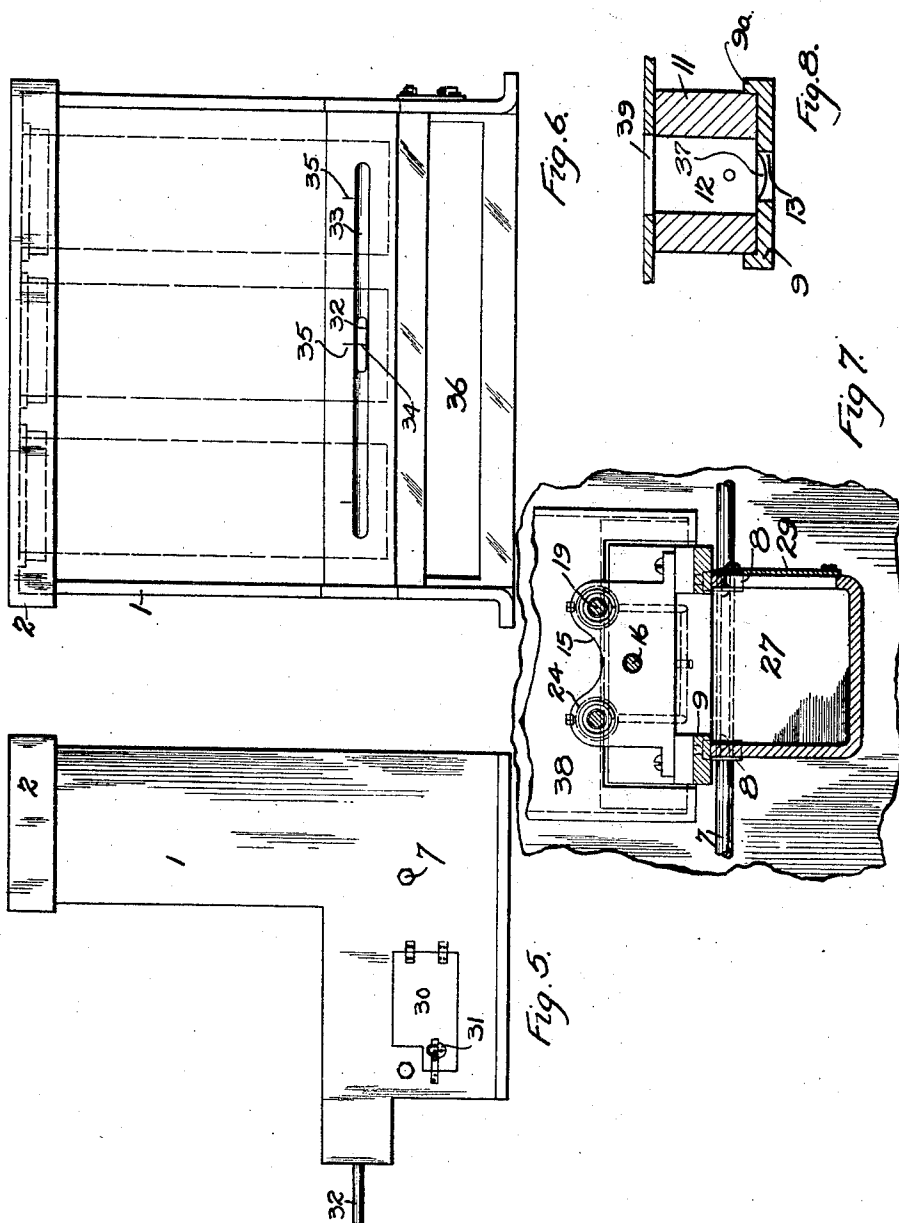
D. J. CROWLEY

1,572,189

VENDING MACHINE

Filed May 15, 1925

2 Sheets-Sheet 2



INVENTOR.

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UNITED STATES PATENT OFFICE.

DANIEL J. CROWLEY, OF DETROIT, MICHIGAN.

VENDING MACHINE.

Application filed May 15, 1925. Serial No. 30,400.

To all whom it may concern:

Be it known that I, DANIEL J. CROWLEY, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Vending Machine, of which the following is a specification.

This invention relates to improvements in vending machines, one of the objects of which is to provide a machine in which a plurality of stacks of merchandise may be arranged, and wherein a simple form of dispensing unit may be moved transversely of the machine, and placed opposite which-ever stack of merchandise a purchaser wishes to procure.

Another object of the invention is to provide a vending machine wherein the coin, when dropped into the slot, comes in direct contact with a rod on which a pusher is adapted to force merchandise from one of the stacks into a discharge chute is mounted, thereby considerably reducing the number of working parts in the machine.

With these and other objects in view, the invention, which consists in certain novel construction and combination of parts, is hereinafter more fully described with the aid of the accompanying drawings and claimed.

Figure 1 is a vertical section on the line 1—1 of Figure 2;

Figure 2 is a horizontal section on the line 2—2 of Figure 1.

Figure 3 is a detail, and Figure 4 is a section on the line 4—4 of Figure 2.

Figure 5 is a side elevation, and Figure 6 a front elevation of the machine.

Figure 7 is a section on the line 7—7 of Figure 2, and

Figure 8 shows a partial section on the line 8—8 of Figure 1.

Referring more particularly to the drawings, 1 designates the casing of the machine which may be of any desired size and shape, and 2 indicates the cover. On the latter a plurality of containers 38 are dependently attached; these containers are usually rectangular in section, and have openings 3 and 4 towards their lower ends, and a depression 5 at the bottom conforming to the shape of the packages of merchandise for which they are intended. The lower ends of the containers are also slotted substantial-

ly centrally at 6. A forwardly sloping discharge chute 36 extends across substantially the whole width of the machine.

Bars 7 are arranged transversely of the machine and pass through eyelets 8 secured to the underside of the carriage 9, the front edge of which latter is slidably arranged on the casing at 10. A cross member 14 integral with the carriage supports the bearing 15, and 37 indicates an apron also integral with the carriage. The slide 11, which is mounted on the carriage, has a coin slot 12, which, when the slide is in the position shown in the drawings, registers with a narrower slit 13 through the carriage.

The rod 16 secured to the pusher 17 is supported more or less centrally of its length by the bearing 15, and has its opposite end partly within the hole 18 through the slide 11 when in normal position. Guide rods 19 are secured to the slide 11, and are adapted to slide through the bearing 15. Coil springs 20 are arranged round the guide rods to tend to hold the slide 11 against the stop 21 formed by the casing.

On the underside of the pusher 17 is a lug 22 round which the yoke 23 passes. The latter is attached to collars 24 mounted towards the outer ends of the guide rods 19. Supported partly by the ledge 25 integral with the carriage 9 and partly by the ledge 26 integral with the casing is a cash box 27, which is held in position under the carriage as by a screw 28. A door 29 is supplied in one side of the cash box, and a door 30 is provided in the side of the casing so as to give access to the inner door. The outer door 30, I generally provide with a pad-lock 31.

To the front of the slide 11 a handle 32 is attached which projects forwardly through a longitudinal slot 33 in the front of the casing. An indicating mark 34 is provided on the handle which must be set opposite one of the indicating marks 35 on the casing according to which container a purchaser may wish to buy from. 39 indicates a slot in the casing, these slots are provided in front of each container to allow a coin to be dropped into the coin slot 12 when the dispensing mechanism has been set in front of any of the merchandise containers. The guide arms 9^a hold the slide

in position on the carriage when the latter is being moved transversely along the bars 7.

From Figure 8 it will be noted that the apron 37 and that portion of the carriage between the slot 13 and the apron are concaved, otherwise a larger coin, such as a nickel, would catch in the slot 13 and prevent the slide from moving forward. The width of the slot 13 should be just sufficient for a smaller coin, such as a cent, to drop through; the larger coin would then not sink far into the hole and therefore a deep concavity would not be necessary. The curvature should be such that movement of the slide with the larger coin in would just be permitted.

The method of operating the machine is as follows:—

The handle 32 is pulled sideways until the indicating mark 34 registers with the indicating mark 35 opposite the container from which the purchaser wishes to buy. A coin is then dropped through the slot 39 into the slot 12 where it remains if it is of the correct size. The handle 32 is pressed inwards and the coin then contacts with the rod 16, which together with the pusher 17 is forced inwards until a piece of merchandise is ejected from the container 38 and drops into the chute 36 in which it rolls forward towards the purchaser. The length of the apron 37 is such that as the merchandise is ejected the coin reaches the end of the apron and drops into the cash box 27.

When inward pressure on the handle 32 ceases the spring 20 forces the slide 11 back into the position shown in the drawings, and as the guide rods 19 return the yoke 23 moves with them and contacts with the lug 22 thereby drawing the pusher 17 and the rod 16 back. The centre slot 6 is to allow the lug 22 to be moved forward.

Should the slide be pushed forward when there is no coin in the slot 12 the rod 16 merely passes through the hole 18 and the pusher remains stationary.

In the drawings the type of containers or racks shown therein is such that the cover 2 must be removed and the racks filled through the holes 3 when the lid is inverted, but another arrangement of supporting the containers may be employed if desired.

Moreover though a plurality of containers or racks have been mentioned in the foregoing, it is understood that the dispensing apparatus may be utilized in machines having only a single rack, in which case the bars 7 may be dispensed with and the carriage mounted rigidly on the frame.

It is further understood that the construction herein described is subject to such alterations as fall within the scope of the appended claims.

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

1. In a vending machine, a dispensing apparatus consisting of a carriage having a slide, a bearing and a pusher mounted thereon, a push rod secured to the pusher and supported intermediately of its length by the bearing and adapted to pass through a hole in the slide, which hole is at right angles to and substantially centrally of a vertical coin slot in said slide, guide rods secured to said slide and adapted to slide through said bearing, an apron extending rearwardly from the front portion of the carriage and integral therewith, a container from which said pusher is adapted to discharge merchandise into a discharge chute, a cash box under said carriage, and spring means for drawing said slide back to its forward position after it has been pushed inwards.

2. In a vending machine, a dispensing apparatus consisting of a carriage having a slide, a bearing and a pusher mounted thereon, a push rod secured to the pusher and supported intermediately of its length by the bearing and adapted to pass through a hole in the slide, which hole is at right angles to and substantially centrally of a vertical coin slot in said slide, guide rods secured to said slide, an apron extending rearwardly from the front portion of the carriage and integral therewith, a container from which said pusher is adapted to discharge merchandise into a chute, a cash box under the carriage, and spring means for drawing said slide back to its forward position after it has been pushed inwards.

3. In a vending machine, the combination as described in claim 1, wherein the spring means for drawing back the slide consists of helical springs arranged round the guide rods and extending from the slide to the bearing.

4. In a vending machine, the combination as described in claim 1, wherein a lug is secured to the underside of the pusher, and a yoke is mounted to the guide rods by which said lug is engaged, and the pusher returned to normal position as the spring means forces the slide back to normal position.

5. In a vending machine, the combination as described in claim 1, wherein the carriage is provided with a smaller coin slot located immediately under the coin slot in the slide when the latter is in normal position, and a concave upper surface on the apron and that portion of the carriage between the coin slot and the apron having a radius substantially the same as the radius of the coin for which the coin slot in the slide is intended.

DANIEL J. CROWLEY.