F. SMITH.

VENDING MACHINE.

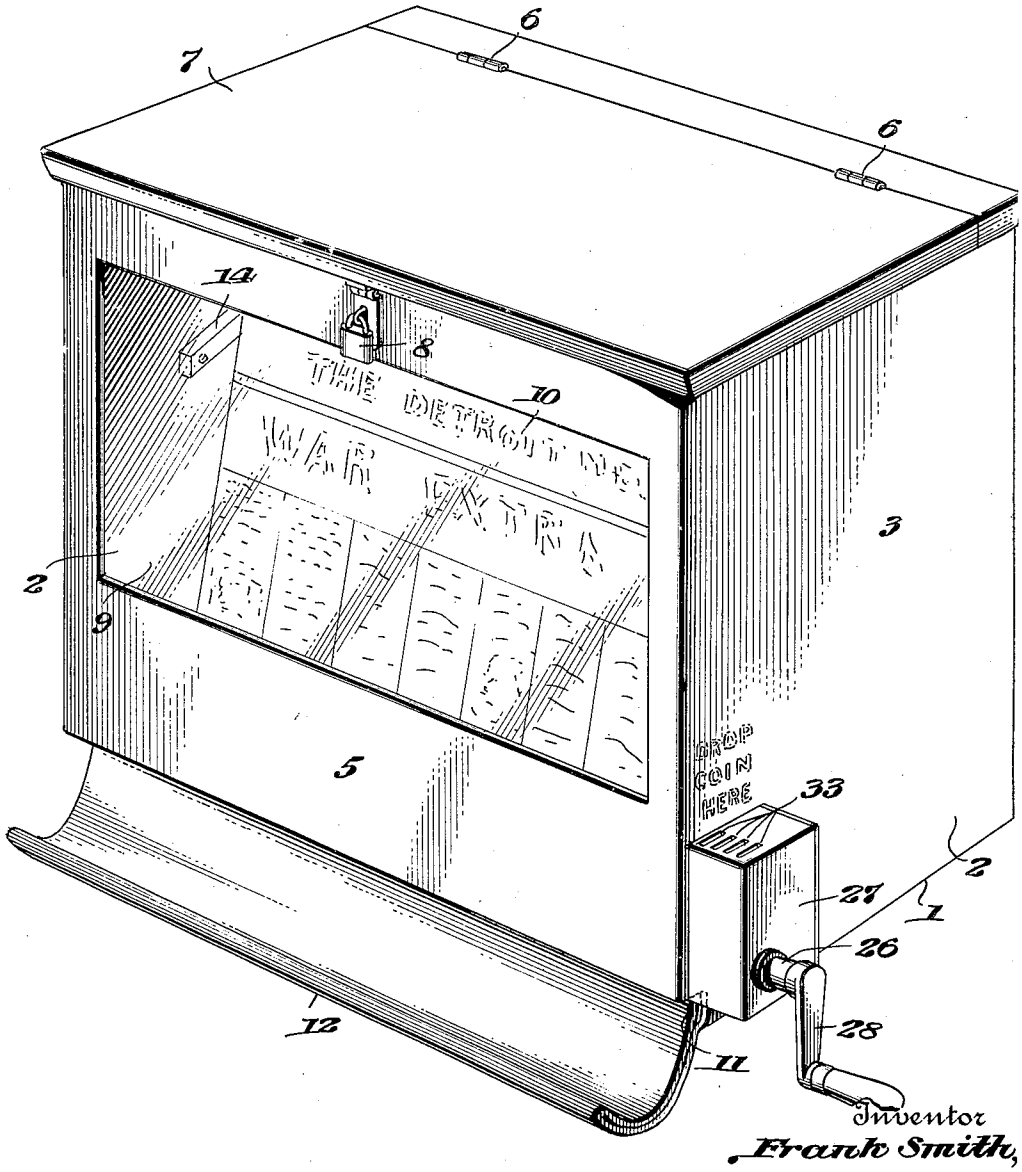
APPLICATION FILED OCT. 24, 1918.

1,324,415.

Patented Dec. 9, 1919.

2 SHEETS—SHEET 1.

Fig. 1.



Inventor

Frank Smith,

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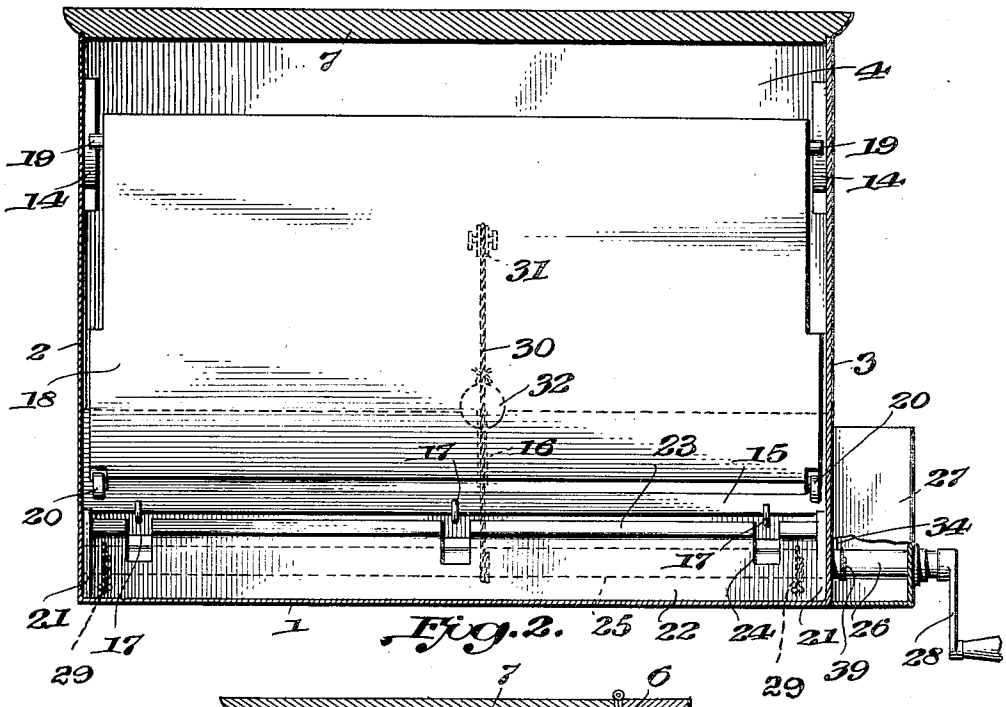


Fig. 2.

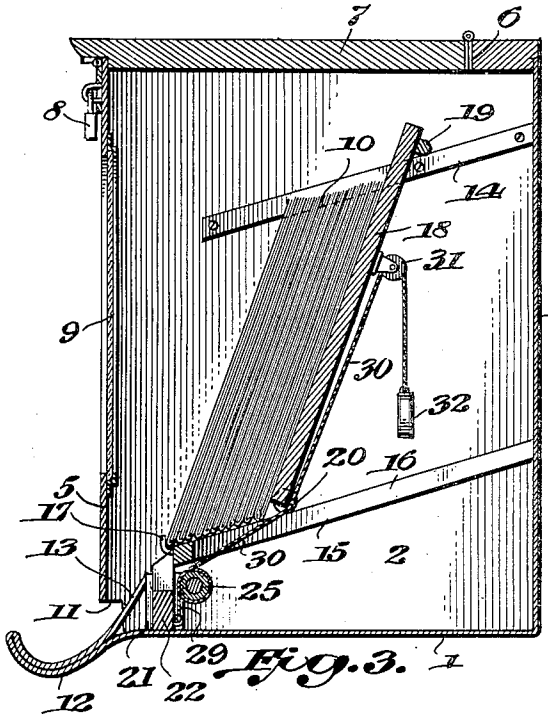
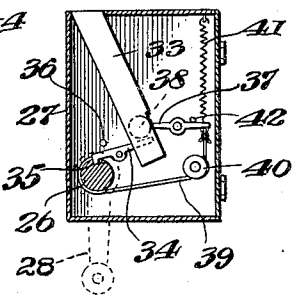


Fig. 3.

Fig. 4



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UNITED STATES PATENT OFFICE.

FRANK SMITH, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF TO ADOLPH BAUERLE, OF DETROIT, MICHIGAN.

VENDING-MACHINE.

1,324,415. Specification of Letters Patent. Patented Dec. 9, 1919.

Application filed October 24, 1918. Serial No. 259,462.

To all whom it may concern:

Be it known that I, FRANK SMITH, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention aims to provide a vending machine that may be advantageously used on street corners and in public buildings, railroad stations and public places for dispensing newspapers, periodicals and various kinds of articles, especially in sheet form, the machine being coin controlled and of such construction as to positively deliver articles placed therein, whether the same be in small or large quantities. It is in this connection that special provision has been made, as will be hereinafter set forth, for facilitating the delivery of newspapers or other articles when there is a large quantity in the machine, the large quantity tending to slowly feed on account of friction. I have found, after experimenting with numerous machines, that some pressure or weight means must be employed to accomplish a positive feeding of the newspapers or articles and thus prevent the withholding of the newspapers from delivery after the machine has been operated.

My invention further aims to provide a machine of the above type wherein the parts are constructed with a view of reducing the cost of manufacture and at the same time retain those features by which durability, ease of assembling and positive operations are secured. With such ends in view, my invention resides in the novel construction to be hereinafter specifically described and then claimed.

Reference will now be had to the drawings, wherein—

Figure 1 is a perspective view of the vending machine;

Fig. 2 is a vertical longitudinal sectional view of the same;

Fig. 3 is a vertical cross sectional view of the machine, and

Fig. 4 is a detail view of a conventional form of coin controlled mechanism for the machine.

The machine comprises a substantially rectangular sheet metal casing having a bottom wall 1, end walls 2 and 3, a rear wall 4, a front wall 5, and a top wall 6 which has a hinged lid or cover 7. The hinged lid or cover 7 permits of easy access to be had to the interior of the casing and any suitable means, generally indicated at 8, may be employed for holding the lid in a closed position, thus preventing surreptitious removal of newspapers or other articles from the machine.

The front wall 5 has a window or transparent plate 9 so that newspapers 10 or other articles within the casing may be observed, and the lower edge of the front wall 5 is cut away or slotted, as at 11, to permit of the newspapers 10 being discharged from the casing. Below the slot 11 is a tray 12, which is preferably formed as part of the bottom wall 1, said tray having an inclined portion 13 extending through the slot 11 into the casing.

The confronting sides of the end walls are provided with an inclined set of guides 14 adjacent the top of the casing and contiguous to the bottom wall 1 of said casing is an inclined platform 15 having a slot 16 extending from the rear edge thereof to a point in proximity to the front edge of said platform, the front edge of said platform terminating adjacent the slot 11 of the front wall 5. The platform 15 is adapted to support the newspapers 10 in an inclined position, and has a plurality of retaining members 17 at the front edge thereof, said retaining members being in the form of hooks to engage and hold the lower edge of a newspaper shifted on to said retaining members.

Supporting the newspapers 10 in an inclined position is a feed member 18 having the ends thereof, at the upper and lower edges, provided with guide pins 19 engaging the rails 14 and rollers or wheels 20 engaging the inclined platform 15.

The confronting sides of the end walls 2 and 3 are provided with vertical guides 21 on the bottom wall 1 of the casing and adjacent the slot 11 and slidable between said

guides is a delivery member 22 in the form of a longitudinal bar having an upper beveled edge 23 and slots 24, said slots providing clearance for the retaining members 17 when the delivery member is elevated. The upper beveled edge 23 of the delivery member is normally at the lower edge of the inclined platform 15 and bridges the gap between said platform and the upper edge of the inclined portion 13 of the tray 12.

Behind the delivery member 22 is a shaft or roll 25 which is journaled in the end walls 2 and 3 of the casing and has one end 26 thereof protruding through a coin casing 27 suitably connected to the end wall 3 of the casing where it has a crank or suitable handle 28 so that the shaft or roll can be partially rotated.

Attached to the rear side of the delivery member 22, at the ends thereof are chains or flexible members 29 and these flexible members are wound on and attached to the shaft or roll 25 so that when said shaft or roll is partially rotated, the delivery member 22 will be elevated to remove the lower edge of a newspaper from the retaining member 17 and cause said newspaper to slide into the slot 11 and the tray 12 from where the newspaper may be easily withdrawn. The delivery member 22 may descend or assume normal position by gravity.

Attached to and wound on the shaft or roll 25, intermediate the ends thereof, is a chain or flexible member 30 that extends through the slot 16 of the inclined platform 15, under the lower edge of the feed member 18 and upwardly over a sheave or pulley 31, carried by the rear face of the feed member 18. The free end of the chain or flexible member 30 has a suitable weight 32 constantly exerting a force on the feed member 18 that causes the feed member to descend by gravity, always maintaining an inclination approximately that shown in Fig. 3. This force is particularly set in action when the shaft or roll 25 is operated, and when a large number of newspapers are placed in the machine, and the weight 32 may contact with or be in closer proximity to the rear face of the feed member 18, than when the machine is partially empty. The position of the weight 32, when the machine is fully supplied with newspapers will produce a more positive force in connection with the feed member 18 to cause the same to descend and at all times feed a newspaper into position to be discharged from the machine by the delivery member 22.

The operation of the machine can be controlled by a suitable coin mechanism and in Fig. 4, there is shown a chute 33 adapted to receive a suitable coin, said chute being in the casing 27 so as to deliver the coins therein. Extending into the chute 33 is the end of a pivoted pawl 34 which engages in a notch 35 in the end 26 of the shaft or roll 25 and holds the shaft or roll against actuation until a coin trips the pawl 34. The pawl 34 is limited in its action by a stud 36 and said pawl coöperates with a pivoted dog 37 in retaining a coin 38 in the chute 33, until the shaft or roll 25 is partially rotated. To release the coin 38 the dog 37 has a chain or flexible member 39 connected thereto and adapted to be wound on the shaft or roll 26. The chain or flexible member 39 is trained under the sheave or pulley 40 in the casing 27 and a coiled retractile spring 21 is attached to the dog 37 to restore said dog to normal position against a stud 42.

The casing 27 has been shown with a plurality of coin slots simply to indicate that provision may be made in connection with the coin control mechanism whereby it will be necessary to use one or more coins, possibly of different denominations in order to obtain a newspaper or article from the vending machine. As the coin controlled mechanism forms no part of this invention, other than a locking means for the shaft or roll 25, I do not care to confine my invention to any specific type of coin control mechanism. The same is also true in connection with other structural elements of the machine, as I do not care to limit my invention other than defined by the appended claims.

What I claim is:—

1. A machine of the type described comprising a casing having a slot at the front wall thereof, an inclined platform, in said casing adapted to support articles, an inclined feed member on said platform, guiding means carried by said casing for the upper edge of said feed member, a delivery member adapted to be raised and lowered at the front edge of said platform to cause articles to be removed therefrom and discharged through the slot of said casing, means including a shaft adapted for raising and lowering said delivery member, and a weighted cable having a suspended weight at the rear side of said feed member and connected to said shaft and actuated thereby adapted to cause movement of said feed member.

2. A machine of the type described comprising a casing having a slot at the front wall thereof, a tray carried by said casing and extending into the slot thereof, an inclined platform in said casing adapted for supporting articles, a feed member on said platform adapted to maintain the articles at the front edge thereof, a pulley on the rear side of said feed member, a delivery member between the front edge of said platform and said tray and adapted to be raised to successively remove articles from said platform and cause the same to be discharged into said tray, a shaft at the rear side of said delivery member and below said

platform, a flexible member connecting said shaft to said delivery member and adapted to be wound on said shaft to raise said delivery member, a flexible member attached to and adapted to be wound on said shaft, said flexible member extending under said feed member and upward over the pulley thereof, a weight attached to said flexible member and adapted to produce a pressure which forces said feed member forward, and means adapted to facilitate the operation of said shaft.

In testimony whereof I affix my signature in the presence of two witnesses.

FRANK SMITH.

Witnesses:

ANNA M. DORR,

LEWIS E. FLANDERS.