

Dec. 4, 1934.

J. G. MILLER

1,982,999

NEWSPAPER VENDOR

Filed March 3, 1933

2 Sheets-Sheet 1

Fig. 1.

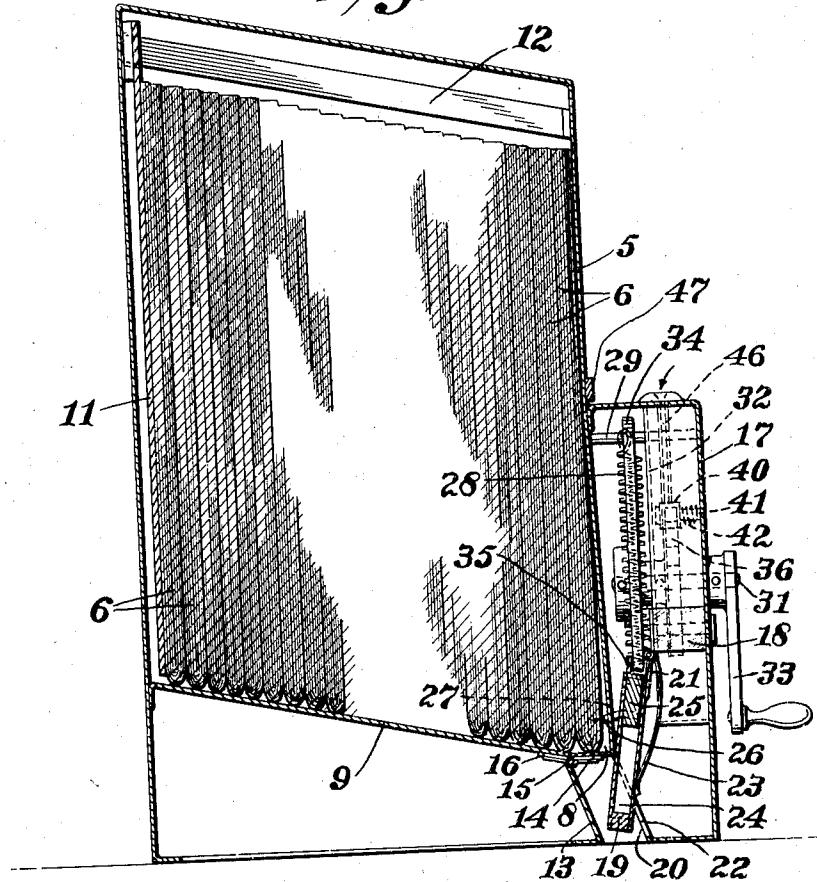


Fig. 5.

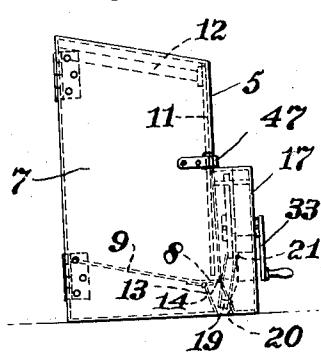
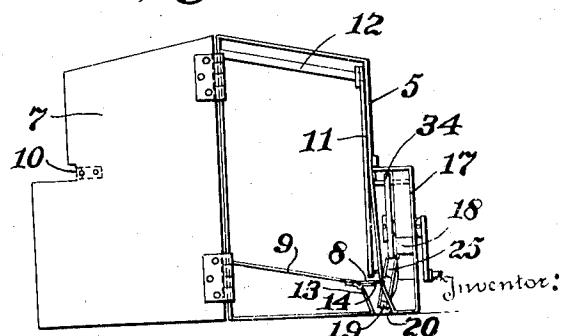


Fig. 6.



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Fig. 2.

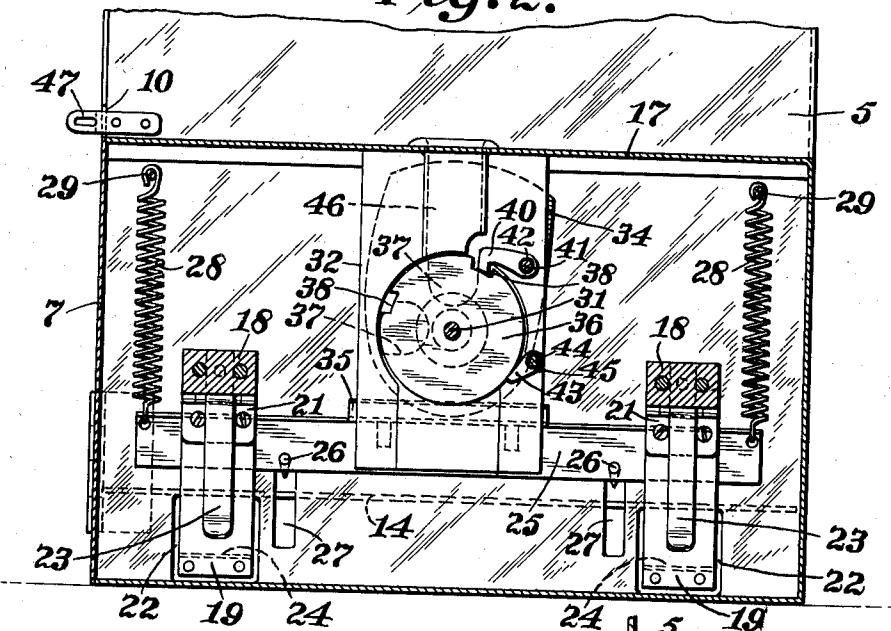


Fig. 3.

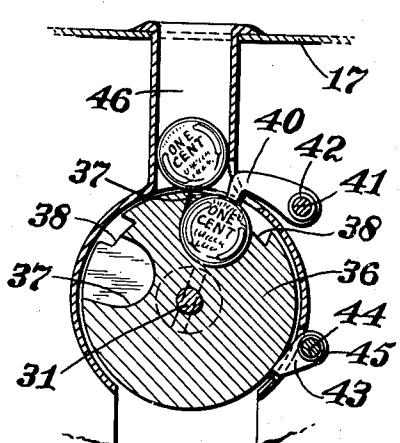
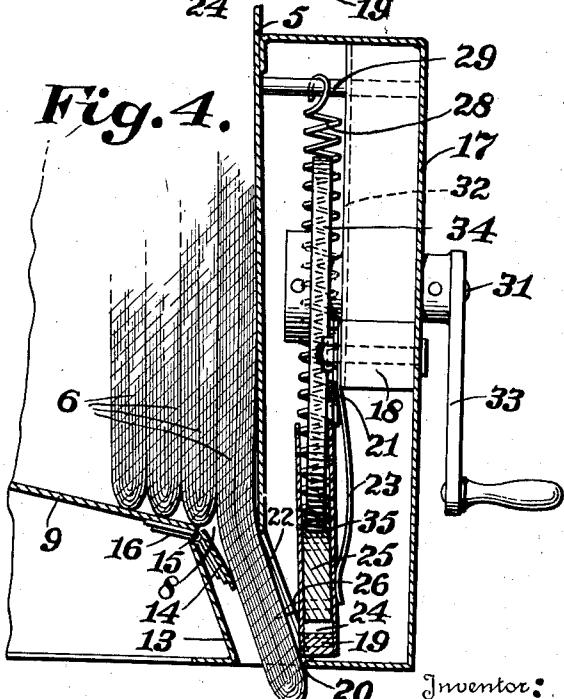


Fig. 4.



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Patented Dec. 4, 1934

1,982,999

UNITED STATES PATENT OFFICE

1,982,999

NEWSPAPER VENDOR

John G. Miller, Baltimore, Md.

Application March 3, 1933, Serial No. 659,587

14 Claims. (Cl. 312—56)

This invention relates to vending machines and more particularly to one adapted for the manual delivery of newspapers upon the insertion of the required coins.

5 An object of this invention is to provide a machine having a storage space for newspapers from which they may be individually and successively discharged.

Another object of the invention is the provision of a delivery mechanism which will deliver a single newspaper without danger of tearing that or succeeding papers.

A further object of the invention is the provision of a coin controlled releasing mechanism particularly adapted for use in conjunction with the delivery mechanism.

A further object is the provision of a vending machine having a minimum number of operating parts and which will be positive in operation.

20 Other objects will appear from the following disclosure taken in connection with the accompanying drawings, in which:

Figure 1 is a sectional view of the complete vending machine.

25 Fig. 2 is a front view of the delivery mechanism, the casing being in section.

Fig. 3 is a detailed view of the coin releasing elements in disengaging position.

Fig. 4 is a detailed view of the delivery mechanism as it appears in delivering a paper.

Fig. 5 is a side elevation of the complete device, with the door closed, shown on a reduced scale, and

Fig. 6 is a similar view with the door open.

30 The casing represented by 5 provides a chamber for the articles such as newspapers 6 to be delivered, and which may be placed therein through the hinged side 7. To cause the newspapers to move toward the opening 8 in the floor

40 9 of the casing, the floor is inclined downwardly toward this opening, as shown. The papers are maintained in an upright position and further urged toward the opening by a follower plate 11 carried on inclined guide bars 12 along which it may slide. The lower portion of the casing may be formed to present a forwardly inclined guide plate 13 below and to the rear of the opening 8.

Closing the opening 8 is a door 14 which is preferably pivotally connected to the casing as by 45 a hinge 15. A spring 16 urges the door to a closed position. It is important in connection with this invention that the swinging movement of the door toward closed position be toward the forward part of the casing, as will hereinafter appear.

Secured to the forward part of the casing 5 is the supporting structure 17 enclosing the delivery mechanism to prevent access to it. The lower portion of the supporting structure extends below the opening 8 and its rear face 20 opposing the guide plate 13 is inclined forwardly so as to be substantially parallel with the guide plate and form a discharge passageway between them. In addition to the purpose which will later be described, these plates prevent access to the interior of the newspaper casing through the opening 8 by unauthorized persons.

Carried, as by blocks 18 forming a part of the supporting structure, are a pair of slotted guide ways 19, the hinges 21 forming the connecting means. These hinges provide a pivotal mounting for the guides 19 to permit their lower ends to swing into or out of the passageway below the opening 8, through apertures 22 in the inclined face 20 of the enclosing structure 17. The guides are urged into the passageway by springs 23 held in place by the blocks 18.

Positioned within the slots 24 of the guide ways so as to have substantially vertical reciprocating motion therein is a cross bar 25. This cross bar is provided with projecting pins 26 which extend through apertures 27 of the casing 5 to engage with the forward newspaper. Urging the cross bar to its upper and initial position are springs 28 secured between it and a part of the supporting structure as the rods 29. The pins 26 are bent slightly downward as shown in Fig. 1, so that upon downward movement of the cross bar the pins will tend to penetrate deeper into the paper and force it out of the opening, rather than to tear the paper.

A shaft 31 journaled in the front plate and a hanger 32, extends beyond the front plate a short distance to receive a crank 33, or other means for rotating the shaft. Mounted on the shaft so as to engage with the cross arm 25 is a cam plate 34. To insure registration between the cam and the cross plate, the latter may be provided with a channelled element 35 to receive the cam. Upon rotation of the shaft 31 the cam 34 will impart a reciprocatory motion to the cross bar 25, the spring 28 maintaining the cross bar against the cam and assisting in returning them to their initial positions.

The shaft 31 also carries a disk 36 rotatable therewith. The disk is provided with a plurality of angularly disposed coin receiving recesses 37, each opening at the periphery of the disk and having a depth approximately equal to the diameter of the intended coin. The number of these

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recesses is determined by the purchase price of the article to be delivered. Across the circular face of the disk 36 and at one side of each recess 37 so as to communicate with it is a notch 38.

5 For engagement within these notches, a locking pawl or dog 40 is pivotably carried on a cross pin 41. It may be urged toward the disk by gravity alone or by the provision of a spring 42. To prevent reverse rotation of the disk when the 10 pawl 40 is out of engagement with the notches, a detent 43 is provided. This is pivotably mounted on a cross pin 44 and urged against the disk by a spring 45.

15 A coin slot 46 leading from the exterior to a point directly in line with the disk recesses 37 supplies a coin to each recess as it comes in registry with the coin slot.

20 In the operation of the device, when the necessary number of coins have been deposited in the coin slot 46 the first one will enter recess 37 in line with it. Upon giving the shaft a turn as by the crank 33, the coin will wedge itself beneath the pawl 40, raising it out of engagement with the notch 38, whereby further rotation of the 25 shaft may be effected. If a second coin is not present to drop in the next slot as it appears, the pawl will engage with the adjoining notch and further operation will be prevented. However, when the next coin drops in the recess, the shaft 30 may be rotated as described.

35 Rotation of the shaft causes the cam 34 to give a downward thrust to the cross bar 25 and since the pins 26 are in engagement with the forward paper, the paper will be urged downwardly and out of the opening 8 forcing the door 14 aside. As the paper continues to pass out of the casing it will contact with the portion of the guides 19 extending into the inclined passageway between the plates 13 and 20. Under the action of the 40 door spring 16, the paper will be forced against the plate 20, thus forcing the guide ways 19 backward into the supporting structure 17 against the action of springs 23. In driving the guide ways backward the pins 26 will be withdrawn from the 45 paper and eventually will become completely free of it. It will be noted that the plate 13 further directs the paper being delivered against the guide ways 19.

50 When the pins have been completely withdrawn from the paper, the cross bar will be returned to its initial position under the action of the spring 28, and this will also cause the shaft to return to its initial position since the cross arm acts against the cam 34. In the return motion of the cross arm, the pins will not tear the paper because the guides 19 are still being retained in their backward position by the interposition of the newspaper. When the newspaper is withdrawn by hand from the passageway the 55 pins will remain clear of it and when the paper is completely removed the guideways 19 under the action of springs 23 will move into engagement with the next paper. Further delivery may of course be effected by depositing additional coins 60 and repeating the operation.

65 The hinged side 7 covers both the open end of the casing 5 and the open end of the supporting structure 17 enclosing the delivery and coin release mechanisms. Upon opening this side to 70 supply the vendor with newspapers, access is gained to the coins which have previously been deposited. To enable the side 7 to be locked closed, a keeper bracket 47 is provided which projects through an aperture 10 of the side when 75 in closed position.

I claim:

1. The combination in a vending machine having a chamber for the reception of articles to be delivered, said chamber having an opening for the discharge of articles therefrom, of delivery mechanism for discharging articles from said chamber through said opening, said delivery mechanism comprising a member having means for engaging an article to be delivered, said member being reciprocable in a direction transverse to its length toward and away from said opening and being movable laterally toward and away from an article to be delivered, guide means for determining the path of movement of the member and with respect to which the member has reciprocable movement only, said guide means being movably mounted in said machine so that the member may be shifted laterally toward or away from an article and said engaging means will become engaged or disengaged from the article, said movably mounted guide means constituting the sole guide means for said member, and means for reciprocating said member.

2. A vending machine according to claim 1 in which said guide means comprise spaced parallel guideways with which the ends of said member engage.

3. A vending machine according to claim 1 in which the movable mounting for said guide means includes a pivotal connection.

4. The combination in a vending machine having a chamber for the reception of articles to be delivered, said chamber having an opening for the discharge of articles therefrom, of delivery mechanism for discharging articles from said chamber through said opening, said delivery mechanism comprising a cross bar having means for engaging an article to be delivered, said cross bar being reciprocable in a direction transverse to its length toward and away from said opening and being movable laterally toward and away from an article to be delivered, a pair of spaced parallel guideways co-extensive with the path of reciprocation of the cross bar and with which the longitudinal ends of the cross bar have sliding engagement, a pivotal connection for said guideways permitting movement of the guideways toward or away from an article to cause engagement or disengagement of said engaging means with the article, and means for reciprocating said cross bar.

5. A vending machine having a chamber for the reception of the articles to be delivered, and an opening for the discharge of the articles from said chamber, means for urging the articles to said opening, and a delivery mechanism for discharging the articles from said chamber through said opening, said delivery mechanism comprising a supporting structure, a reciprocable element having means for engagement with an article to be delivered, guide means for said reciprocable element, said guide means having a portion associated therewith normally extending into the discharge path from said opening, a mounting for said guide means carried by the supporting structure, said mounting permitting a yielding movement of the guide means upon contact of said extending portion with an article being delivered, whereby the engaging means will be withdrawn from the article to permit the return of the reciprocal element to its initial position, and means for imparting a reciprocal movement to said element.

6. A vending machine having a chamber for the

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into the discharge path from said opening, a mounting for said guide means carried by the supporting structure, said mounting permitting a yielding movement of the guide means under the influence of the urging means upon the interposition of an article being delivered between said closure and said extending portion, whereby the engaging means will be withdrawn from the article to permit the return of the reciprocal element to its initial position, and means for imparting a reciprocal movement to said element.

13. A vending machine having a casing for the reception of the articles to be delivered, said casing having an opening for the discharge of the articles therefrom, means for urging the articles to said opening, a delivery mechanism for discharging the articles from said casing through said opening, and a guide plate disposed beyond said opening for directing an article being delivered, said delivery mechanism comprising a supporting structure, a reciprocal element having means for engagement with an article to be delivered, guide means for said reciprocal element, said guide means having a portion associated therewith normally extending into said discharge passageway, a mounting for said guide means carried by the supporting structure, said mounting permitting a yielding movement of said extending portion of the guide means upon the interposition of an article being delivered between it and the guide plate whereby the engag-

ing means will be withdrawn from the article to permit the return of the reciprocal element to its initial position, and means for imparting a reciprocal movement to said element.

14. A vending machine having a casing for the reception of the articles to be delivered, said casing having an opening for the discharge of the articles therefrom, means for urging the articles to said opening, and a delivery mechanism for discharging the articles from said casing, said delivery mechanism comprising a supporting structure extending beyond said opening and forming with said casing an inclined discharge passageway sloping toward the delivery mechanism, a reciprocal element having means for engagement with an article to be delivered, guide means for said reciprocal element, said guide means having a portion associated therewith normally extending into said discharge passageway, a mounting for said guide means carried by the supporting structure, said mounting permitting a yielding movement of said extending portion of the guide means out of said passageway when displaced by an article being delivered therethrough, whereby the engaging means will be withdrawn from the article to permit the return of the reciprocal element to its initial position, and means for imparting a reciprocal movement to said element.

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