J. T. WILMORE.

VENDING MACHINE.

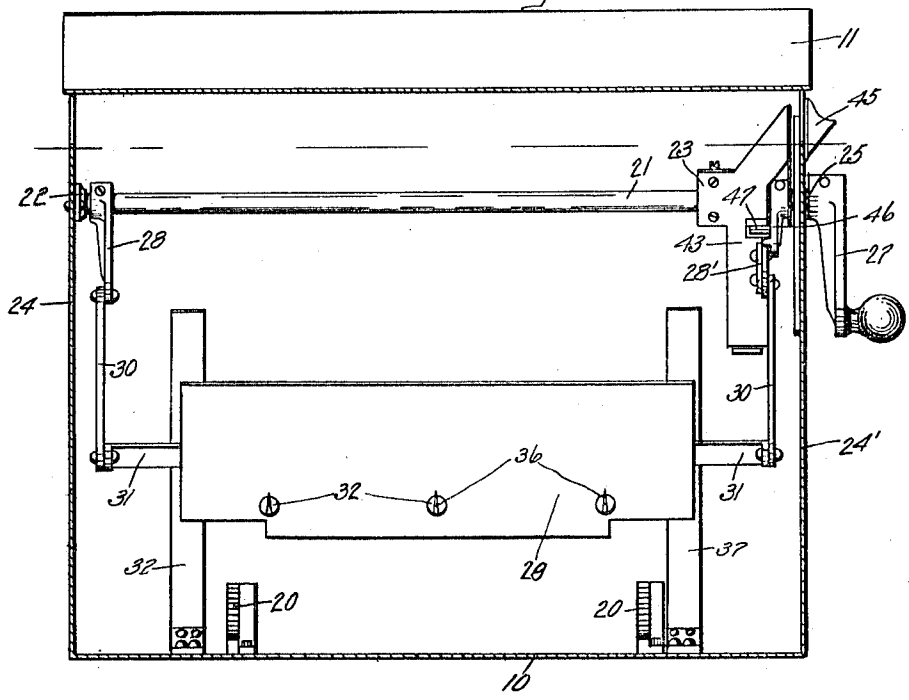
APPLICATION FILED APR. 16, 1914.

**1,273,437.**

Patented July 23, 1918.

2 SHEETS—SHEET 1.

Fig. 2.



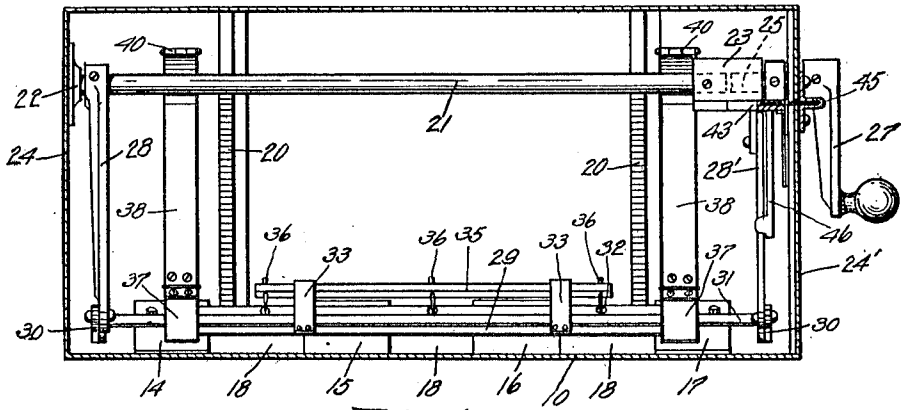




Fig. 1.

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2 SHEETS—SHEET 2.

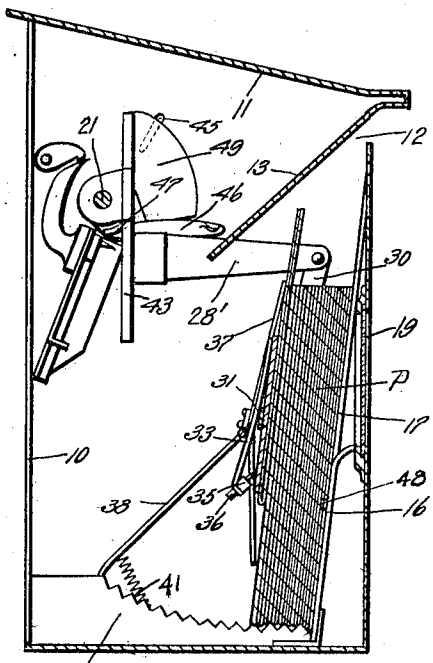



Fig. 3.

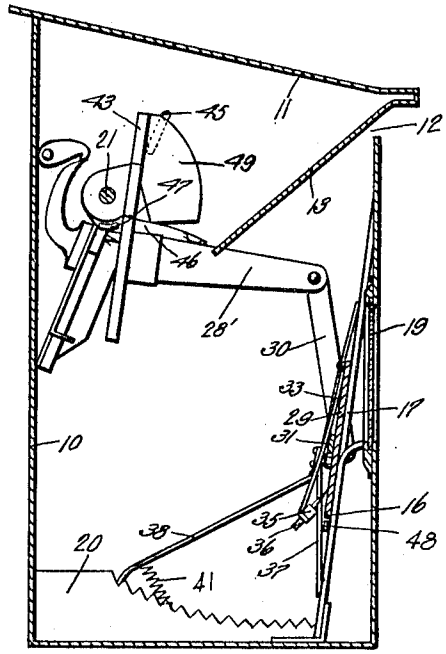



Fig 4.

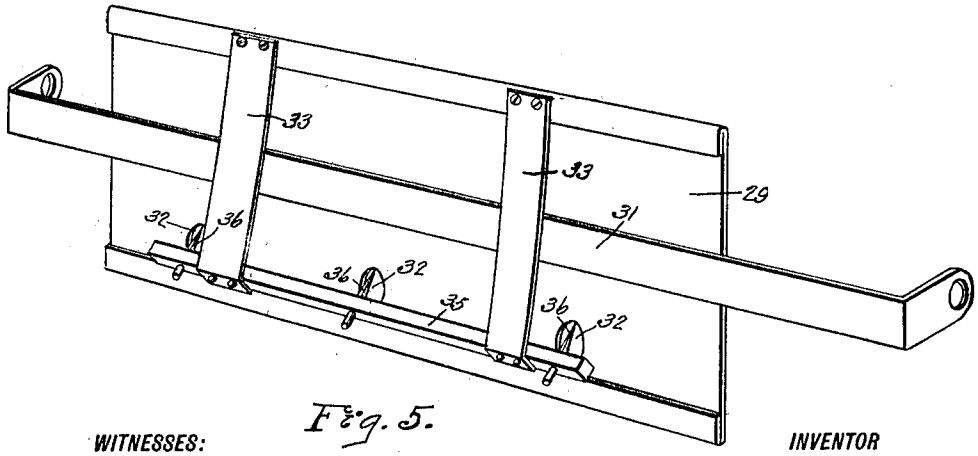



Fig. 5.

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# UNITED STATES PATENT OFFICE.

JOHN T. WILMORE, OF SEATTLE, WASHINGTON.

## VENDING-MACHINE.

1,273,437. Specification of Letters Patent. Patented July 23, 1918.

Application filed April 16, 1914. Serial No. 832,145.

*To all whom it may concern:*

Be it known that I, JOHN T. WILMORE, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

This invention relates to improvements in vending machines and particularly to machines of that class adapted to store and deliver newspapers and the like by manually operative devices controlled by the introduction of a suitable coin.

The principal objects of the invention are the provision of a containing case for storing and maintaining a bundle of newspapers in position for ejecting them one by one from the case; the provision of devices of simple and efficient design and operation for ejecting the papers singly from the case, and the provision of means for rendering the ejecting devices inoperative when the papers in the machine have become exhausted.

The invention consists in the novel construction of a vending machine, and the adaptation and combination of parts, devices and mechanisms as above outlined, and as will be fully described in the following specification, illustrated in the accompanying drawings, and finally set forth in the appended claims.

In said drawings, Figure 1 is a horizontal sectional view of a vending machine embodying my invention. Fig. 2 is a vertical longitudinal sectional view of the same with the cover raised. Fig. 3 is a vertical transverse sectional view of the invention shown with a pack of newspapers stored in the case. Fig. 4 is a similar view with papers removed. Fig. 5 is a detached perspective view of the ejecting-plate drawn to an enlarged scale.

Referring to said views, the reference numeral 10 indicates the containing case for the newspapers P to be vended and for the actuating and ejecting mechanism. A hinged cover 11 is provided and a delivery aperture 12 is formed in the front wall or other convenient portion of the case. A directrix plate 13 is secured to said cover adapted to guide the upwardly directed papers to pass through said aperture when the cover is in closed position.

Inclined bearing members 14, 15, 16 and 17 against which the pile of newspapers or other articles are supported are positioned in connection with the front wall of the case. Members 14 and 17 are located in proximity of the respective ends of the wall and extend upwardly to within close relation to said slot.

Members 15 and 16 are located intermediate the other said members and spaced from the same to provide channels 18 therebetween. Said members 15 and 16 may extend for only a portion of the height of the outer members, to afford an unobstructed view through the glazed opening 19 in the front wall of the case of the exposed portion of the foremost of the newspapers contained therein, in such manner that the upper portion of the folded newspaper will be plainly visible bearing the name of the newspaper and the principal headlines.

Inclined strips 20 are provided to support the pack of newspapers upon their edges and may be desirably serrated to prevent undue crowding together of the lower edges of the newspapers. Said strips may also be given an arcuate configuration with foci at the aperture 12, approximately.

A longitudinally arranged rock-shaft 21 is mounted at one end in a bearing 22 in an end wall 24 of the case, and at its opposite end is provided with a sleeve 23 rigidly secured thereto into which a stub-shaft 25 is loosely journaled in axial alinement. Said shaft 25 is mounted in the opposite end-wall $24^1$ of the case and is provided with a crank-handle 27 exteriorly of the casing through which it may be manually actuated. Rigidly secured to shaft 21 at its opposite ends are swinging-arms 28 and $28^1$, the latter of which may be integrally connected to said sleeve 23.

A vertically slidable plate 29 is connected to the opposite extremity of said arms through intermediate links 30 pivoted to laterally extending extremities of a longitudinally directed central frame-member 31. The forwardly directed face of said plate is plane, relatively smooth, and provided with openings 32 arranged symmetrically along the lower edge of said plate in register with the respective channels 18 between the bearing members 14, 15, 16 and 17.

Spring metal strips 33 are secured at one end to the upper edge at the rear of said plate and resiliently support at their lower ends a horizontal bar 35 in which are secured a plurality of needles 36 whose sharp points are directed angularly upward

through the respective openings 32 beyond the forward face of the plate, the object being to maintain said needle points in yielding contact with the rearmost newspaper of the pack, whereby the points will penetrate the paper sheets as they are drawn upwardly with the plate to move the paper therewith and upon the retraction of the plate the inclined needles, together with the yielding connection of their supporting bar, will cause the points to glide downward over the papers wthout penetraton.

Said plate 29 is resiliently pressed into engagement with said newspapers through the impingement thereon of presser-members 37 hingedly connected to inclined strips 38 which are respectively hinged at 40 to the casing-bottom and each provided with a coil-spring 41 urging the same forwardly upon the plate 29.

As before stated, the arms 28, 28[1] are rigidly connected to said rock-shaft 21 and a loose-journal connection is formed between the latter and a stub-shaft 25 which is provided with a crank-handle 27. Coin-actuated devices are shown in the views whereby, through the introduction of a suitable coin or plurality of coins, the said shafts may be operatively connected together and the plate 29 actuated by said crank-handle to extract a paper through the delivery aperture. Said coin-controlling devices are made the subject matter of a separate application for patent made concurrently with the present one and are characterized by a coin-chute 43 connected to said sleeve 23 adapted to receive and temporarily retain a coin deposited through slotted hopper 45. The shaft 25 carries a lever 46 having a lug 47 adapted to engage said coin and swing said coin-chute and shaft 21 therewith and actuates the swinging arms 28, 28[1], as will be further described.

The operation of the paper delivery devices may be explained as follows: The papers are inserted in the compartment in substantially vertical order with their lower edges resting upon the supports 20, as shown in Fig. 3. The ejecting plate 29 is positioned to engage the lower edge of the rearmost paper and is pressed thereagainst by the spring-pressed presser members 37. Through the insertion of a proper coin, or otherwise as provided, the shaft 21 may be actuated by the crank-handle 27 to rock the swinging arms 28 and 28[1] to drag the plate 29 upwardly through the connection therewith of links 30. In the upward movement of the plate the angularly directed needles 36 will engage the rearmost newspaper and carry it therewith whence the guide-plate 13 will cause it to protrude through the aperture 12 to be grasped by the customer.

The handle is then reversely actuated to return the plate 29 back to its initial position. The needles, which are mounted upon a resilient support 33, are inclined to slide backwardly with the plate without penetrating the paper. When thus returned, the devices are in condition to be again actuated to deliver another paper when suitably connected by the insertion of another coin.

A safety device is added to make the entire mechanism inoperative when the papers are exhausted and to prevent the loss of a coin to the customer without result. This is accomplished by the provision of a stop 48 upon the inclined bearing members 14, 15, 16 and 17 to arrest the retrogressive movement of the plate 29 at a point above the normal lower limit of its travel after the last paper is ejected. Such stop of the plate causes the arrested condition of its connected parts including the coin-chute 43 which is thus not brought again into register with the slotted hopper 45 and hence will not receive further coins.

A blind 49 is connected to said coin-chute which blocks the slot of said hopper and prevents the deposit of a coin through the hopper 45 while the devices are thus inoperative. The stops 48 are normally covered with papers and these ordinarily present a smooth surface that the plate will pass over without discovering the stop 48 therebeneath until the last one has been removed.

Having described my invention, what I claim, is—

1. In a paper-vending machine, a casing adapted to contain the papers, a plurality of bearing members associated with a wall of the case and spaced apart to afford a vertically arranged channel intermediate the adjacent said members, an ejecting plate arranged for operative movement in vertical directions, means to support a pack of papers upon their edges between said plate and said bearing members, a plurality of needles mounted upon said plate and adapted to protrude forwardly therefrom in register with the respective said channels, and means to actuate said plate.

2. In a paper-vending machine, a casing adapted to contain the papers, a plurality of bearing members associated with the wall of the case and spaced apart to afford a vertically arranged channel intermediate the adjacent said members, an ejecting plate arranged for operative movement in vertical directions, means to support a pack of papers upon their edges between said plate and said bearing members, a plurality of needles resiliently mounted upon said plate and adapted to protrude forwardly therefrom in register with the respective channels, and means to actuate said plate.

3. In a paper-vending machine, a casing adapted to contain the papers, a plurality of bearing members associated with the wall of the case and spaced apart to afford a verti-

cally arranged channel intermediate the adjacent said members, an ejecting plate arranged for operative movement in vertical directions, means to support a pack of papers upon their edges between said plate and said bearing members, means to yieldingly urge said plate upon said papers, a plurality of needles mounted upon said plate and adapted to protrude forwardly therefrom in register with the respective said channels, and means to actuate said plate.

4. In a paper-vending machine, a receptacle for the papers, a plate vertically movable in said receptacle, needles resiliently mounted upon and protruding from the forward face of said plate and adapted to operatively engage the rearmost paper when said plate is actuated upwardly, means for vertically reciprocating said plate, and means for advancing said plate as the papers are removed to maintain a uniform engagement with the rearmost paper of the pile.

5. In a paper-vending machine, a receptacle for the papers provided with a delivery aperture in its front wall, inclined bearing members associated with said front wall and spaced apart to provide vertically arranged channels therebetween, inclined supports adapted to maintain said papers in pack form upon their edges, a plate vertically movable in said receptacle, resiliently mounted needles protruding from the forward face of said plate and adapted to operatively engage the rearmost paper when said plate is actuated upwardly, and means for vertically reciprocating said plate.

6. In a paper-vending machine, a receptacle for the papers, a plate vertically movable in said receptacle, resiliently mounted needles protruding from the forward face of said plate and adapted to operatively engage the rearmost paper when said plate is actuated upwardly, means for vertically reciprocating said plate, and a presser-member adapted to urge said plate into engagement with said papers.

7. In a paper-vending machine, a receptacle for the papers provided with a delivery aperture in its front wall, inclined bearing members associated with said front wall and spaced apart to provide vertically arranged channels therebetween, inclined supports adapted to maintain said papers in pack form upon their edges, a plate vertically movable in said receptacle, resiliently mounted needles protruding from the forward face of said plate and adapted to operatively engage the rearmost paper when said plate is actuated upwardly, means for vertically reciprocating said plate, and a presser-member adapted to resiliently urge said plate into engagement with said papers.

8. In a paper-vending machine, a casing adapted to contain the papers provided with a delivery aperture in its front wall, means to maintain said papers in inclined relation in pack form against said front wall of the case, a plate arranged for vertical movement in contact with the rearmost of said papers, said plate having a plurality of spaced apertures therein, a resilient strap secured at one end to the rear side of said plate, needles secured to the free end of said strap and protruding through said plate-apertures and adapted to operatively engage the rearmost said paper when said plate is moved upwardly, and means to actuate said plate.

9. In a paper-vending machine, a casing adapted to contain the papers provided with a delivery aperture in its front wall, means to maintain said papers in pack form in position to be ejected from said aperture, a plate arranged for vertical movement in contact with the outermost of said papers, said plate having a plurality of spaced apertures therein, a resilient strap secured at one end to the rear side of said plate, needles secured to the free end of said strap and protruding through said plate-apertures and adapted to operatively engage the rearmost said paper when said plate is moved upwardly, and means to actuate said plate.

10. In a paper-vending machine, a casing adapted to contain the papers provided with a delivery aperture in its front wall, means to maintain said papers in pack form in position to be ejected from said aperture, a plate arranged for vertical movement in contact with the outermost of said papers, said plate having a plurality of spaced apertures therein, a pair of resilient straps secured at one end to the rear side of said plate, a bar connected to the free end of said straps, and a plurality of needles secured to the bar and protruding through said plate apertures.

11. In a vending machine, a casing, a rock-shaft journaled in said casing, a pair of arms rigidly connected to said rock-shaft, a vertically arranged plate arranged for vertical movements in said casing, link connections between said arms and the opposite ends of said plate, and resiliently mounted straps secured at one end in said plate and provided with needles at their opposite ends projecting beyond the plane of said plate.

12. In a vending-machine, a casing, a rock-shaft journaled in said casing, a vertically arranged plate arranged for vertical movements in said casing, connective devices between said shaft and said plate whereby the latter may be reciprocatively actuated, and resiliently mounted straps secured at one end in said plate provided with needles at their opposite ends projecting beyond the plane of said plate.

13. In a paper-vending machine, a receptacle, a rock-shaft mounted in said recep-

tacle, arms rigidly connected to said shaft, an ejecting plate operatively connected to said arms, needles protruding from said plate, and means to actuate said rock-shaft.

14. In a paper-vending machine, a receptacle, a rock-shaft mounted in said receptacle, arms rigidly connected to said shaft, an ejecting-plate operatively connected to said arms provided with a plurality of horizontally alined apertures, a bar supported from the rear of said plate, and a plurality of needles mounted in said bar and protruding forwardly through said aperture, and means to actuate said rock-shaft.

15. In a paper vending machine, a receptacle adapted for the support of the papers upon their edges in substantially vertical position, feed actuating members having vertical movement above the pile of papers, a paper feeding member having means for engaging a paper when moved upwardly, and suspension links connecting said paper feeding member with the said feed actuating member to permit swinging movement in a direction substantially perpendicular to the face of the pile of papers.

Signed at Seattle, Wash., this 9th day of April, 1914.

JOHN T. WILMORE.

Witnesses:
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E. PETERSON.

**Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."**