W. S. GLINES.

COIN OPERATED VENDING MACHINE.

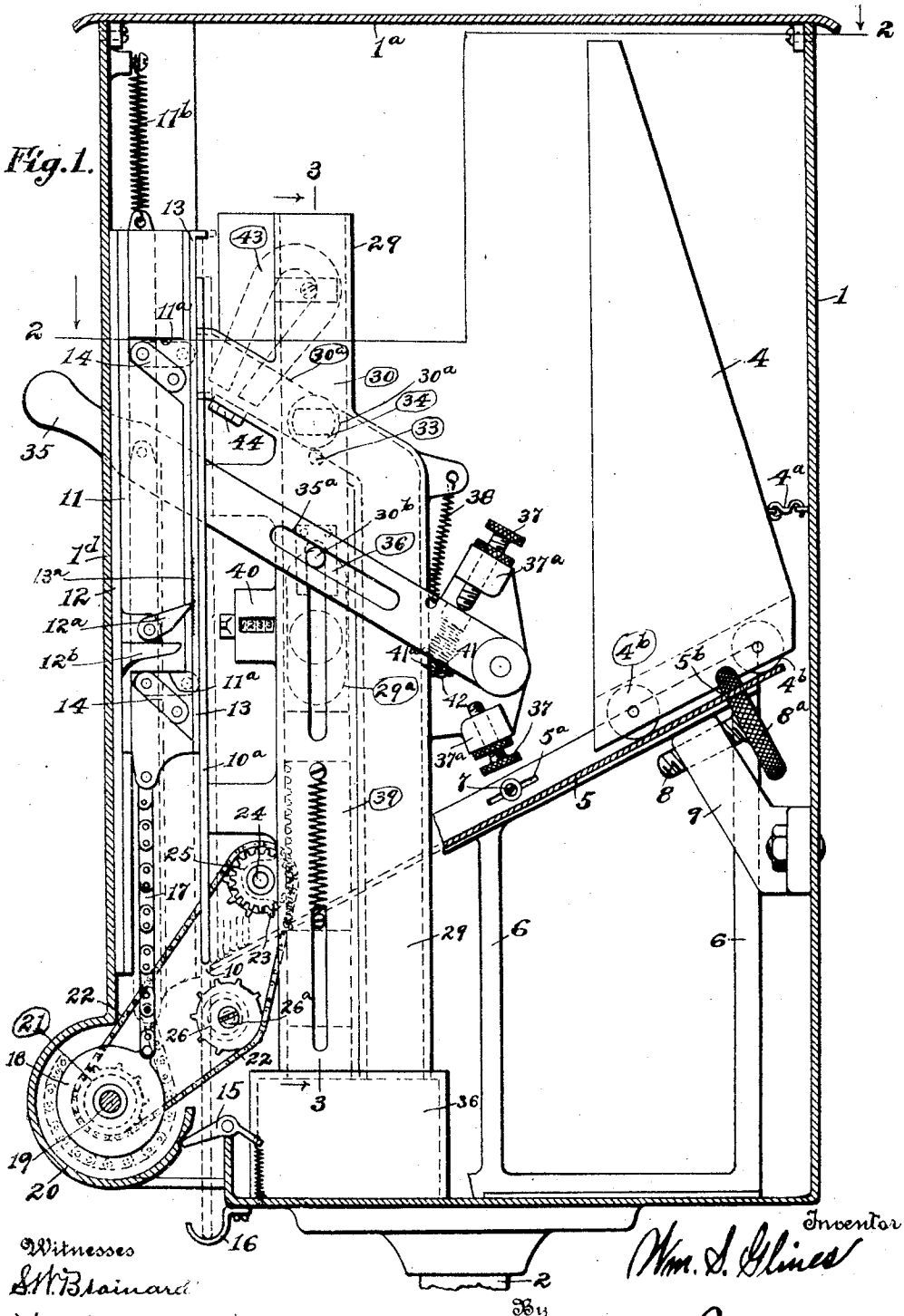
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1,108,164.

Patented Aug. 25, 1914.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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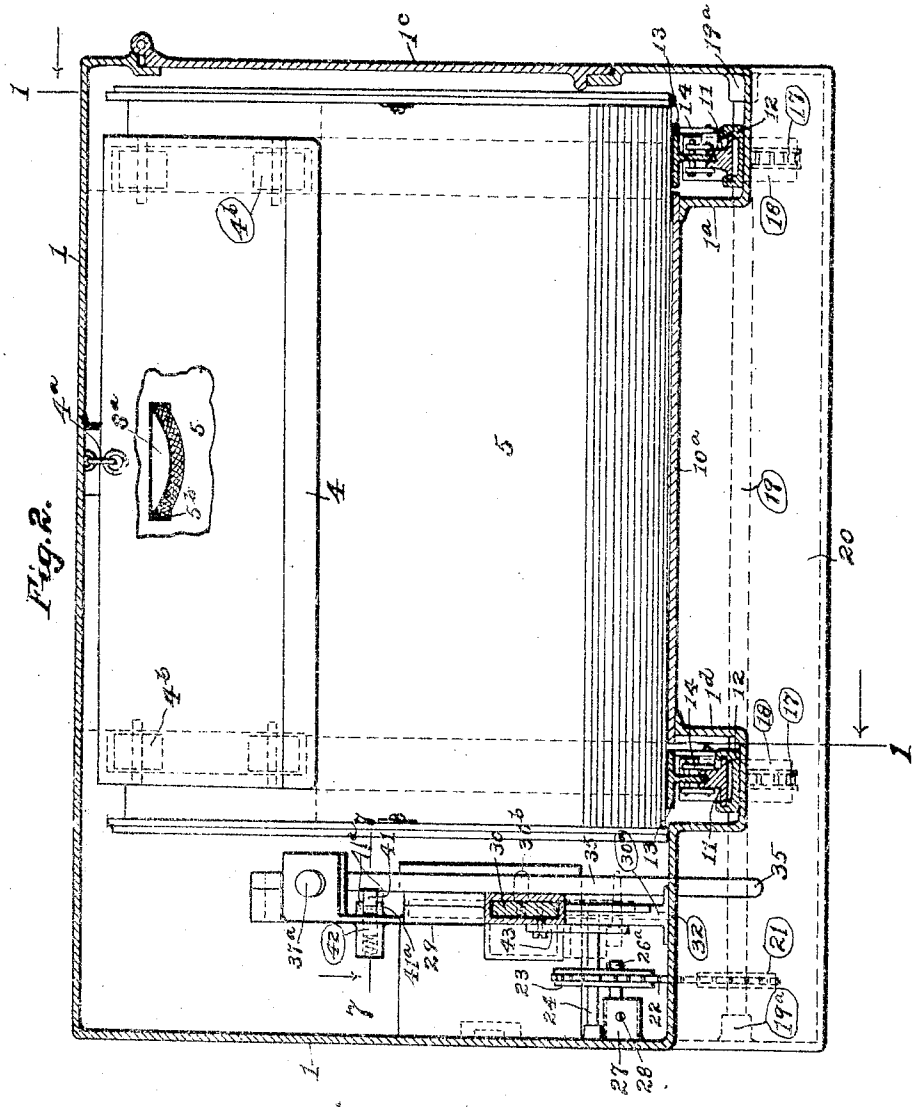
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3 SHEETS-SHEET 2.

Fig. 2.



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3 SHEETS—SHEET 3.

Fig. 5.

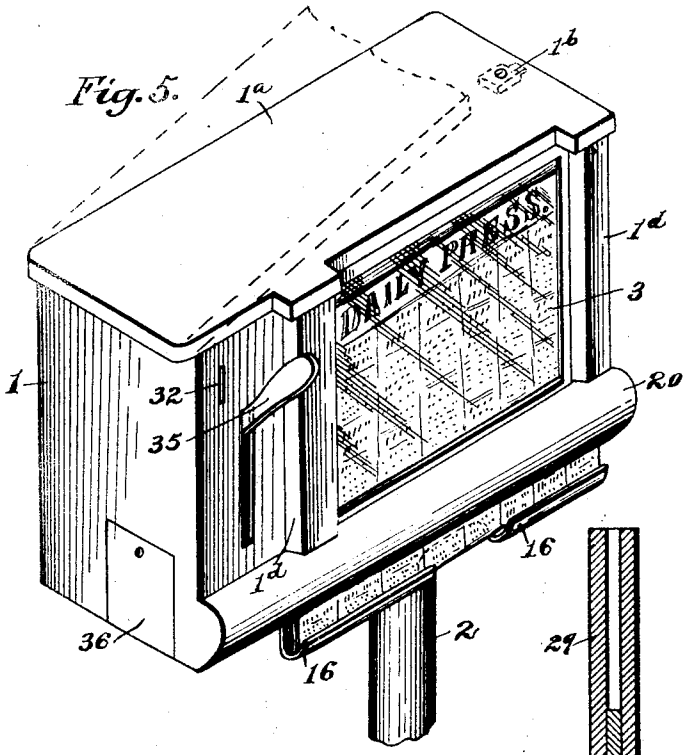


Fig. 3.

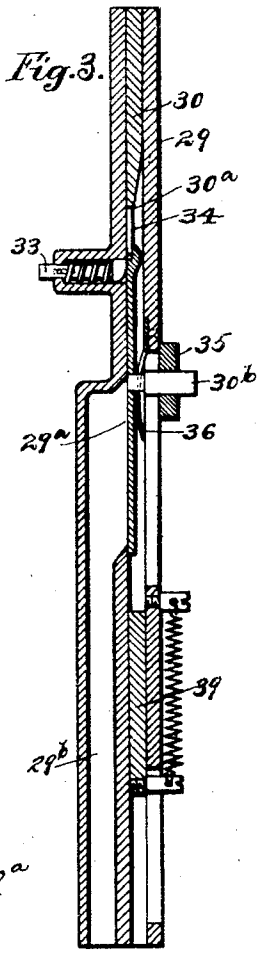


Fig. 6.

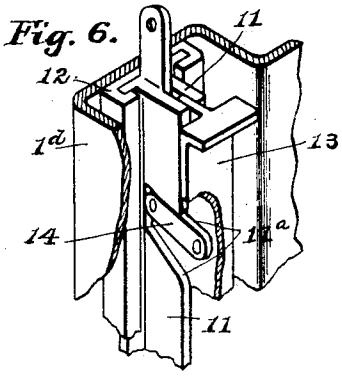


Fig. 4.

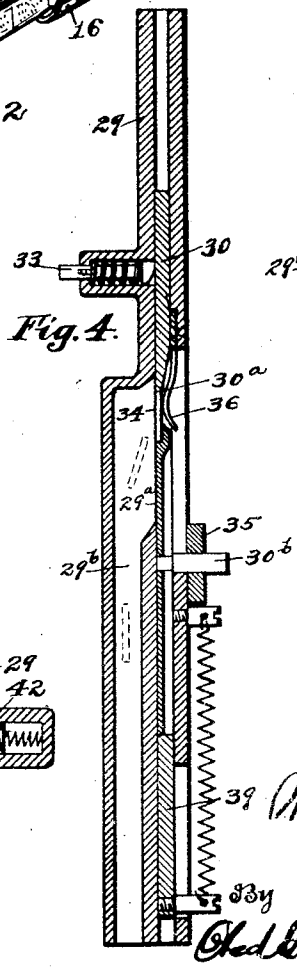
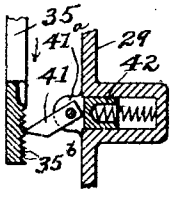


Fig. 7.



Witnesses

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COIN-OPERATED VENDING-MACHINE.

1,108,164. Specification of Letters Patent. Patented Aug. 25, 1914.

Application filed April 27, 1914. Serial No. 834,605.

To all whom it may concern:

Be it known that I, WILLIAM S. GLINES, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Coin-Operated Vending-Machines, of which the following is a specification.

My invention relates to improvements in coin-operated vending machines, the present embodiment of the invention being particularly designed and adapted for use in the storage and sale of newspapers, magazines, and other flat articles.

The primary object of the invention is to provide a generally improved automatic vending machine of this class adapted for ejecting or making accessible to a purchaser an article contained within a storage receptacle in response to the insertion of a coin in the mechanism associated with such receptacle, and the invention relates more particularly to a coin-operated machine especially adapted for making accessible to a purchaser, a newspaper, magazine, sheet music, or other article having a thin flat shape of considerable area; and one of the objects of my improvement is to provide an automatic coin-operated vending machine which may be stored with newspapers, periodical publications, and the like, and which may be placed in a location accessible to the general public, so that any one who so desires, may, by depositing a coin within a slot in such machine, procure one of the articles contained therein.

A further object is to provide improved coin-operated mechanism together with improved paper or article feeding mechanism adapted to coöperate therewith which will be exceedingly simple in construction, cheap of manufacture, and efficient in use.

With the above mentioned and other ends in view, the invention consists in the novel construction, arrangement, and combination of parts, hereinafter described, illustrated in one of its embodiments in the accompanying drawings, and particularly pointed out in the appended claims.

Referring to the drawings, forming a part of this specification, Figure 1, is a vertical sectional view of a machine constructed in accordance with this invention taken on line 1—1 of Fig. 2. Fig. 2, a horizontal sectional view taken on line 2—2 of Fig. 1. Fig. 3, a longitudinal sectional view of the coin-operated mechanism taken on line 3—3 of Fig. 1, the coin being inserted and the parts being shown in their initial position preparatory to being operated by the depression of the lever. Fig. 4, a similar view, the parts being shown in their lowermost position at the end of the downward stroke of the operating lever and illustrating the manner in which the coin is ejected after having performed its function. Fig. 5, a perspective view of the machine body or casing. Fig. 6, a detached isometric view of the upper portion of one of the vertically movable paper or article feeding sections and the operating plunger mechanism connected therewith, the paper or article engaging section being shown in its outward or operative position during the ejectment of the paper or magazine after the insertion of a coin and the depression of the lever. Fig. 7, a cross sectional view of the rear or pivoted portion of the operating lever taken on line 7—7 of Fig. 2 and illustrating a safety latch for engagement with the lever during its initial downward movement and to prevent the return of the lever during such initial downward movement.

Similar numerals of reference designate like parts throughout all the figures of the drawings.

The improved vending machine comprises a suitable body or casing 1, which, if desired, may be mounted on a suitable pedestal or supporting stand 2.

As a means of inserting or removing the supply of newspapers, magazines, or the like, into and out of the machine body or casing, the cover 1^a, is pivotally or hingedly connected at one corner and provided at its free edge with a suitable lock 1^b, which lock 1^b, is also adapted to simultaneously lock the upper edge of a hinged door 1^c, (see Fig. 2) at one end of the machine casing.

The front or face side of the machine body or casing is preferably provided with a glass or transparent front 3, against which the papers or magazines are adapted to be fed and which transparent front will not only serve to indicate the paper or magazine for sale but will indicate the condition of the supply as well as show when the machine is empty.

As a means of feeding the papers or magazines in a vertical position as well as maintaining the same in proper contact with the glass front and the vertically arranged paper or article feeding plungers or slides, hereinafter described, a gravity feeding follower member 4, is mounted in the machine casing and is adapted to travel upon a forwardly inclined magazine chute or slide-way 5, the latter being slidably and adjustably mounted within the machine casing by means of suitable supports 6, and guide screws 7, extending through guide slots 5^a, and an adjusting screw 8, having its head 8^a, extending through a slot 5^b, at the rear of the magazine chute 5, said adjusting screw 8, being mounted in a supporting bracket 9, within the rear portion of the machine casing. The lower or front edge of the inclined chute or slide-way 5, is adapted to be spaced a suitable distance from the front 3, to provide an ejection slot 10, and as a means for regulating the size or width of said slot 10, to correspond substantially with the thickness of the paper or magazine 10^a, to be fed or ejected therefrom said adjusting screw 8, may be moved through the medium of its head 8^a, thus correspondingly moving the chute or slide-way 5.

As a means of successively feeding out the papers or magazines 10^a, when operated by the coin controlled or operated mechanism hereinafter described, vertically arranged plunger members are mounted in suitable housings 1^a, at opposite sides of the glass front 3, said feeding or plunger members comprising a pair of spring resisted plunger sections or slides 11, slidably mounted in guide-ways 12, each of said plunger members or slides 11, being connected to vertically movable paper or article feeding sections 13, by means of link members 14, the latter having a limited movement in suitable notches or recesses 11^a, in the sides of the plungers or slides 11.

It will be apparent that when the plunger sections or slides 11, are depressed or moved downwardly during each working impulse of the machine through the lever and coin-operated mechanism hereinafter described, the resistance of the first paper or magazine against the paper or article feeding sections 13, will cause the link members 14, to move the feeding sections 13, rearwardly or laterally against the adjacent paper or magazine as illustrated by dotted lines in Fig. 1 and in full lines in Fig. 6 of the drawings, and this downward movement of the plunger sections will eject the paper or magazine through the slot 10, opening the spring resisted pivoted shutter 15, (see Fig. 1) the lower edge of the paper striking against and resting upon the curved delivery member 16, where the lower edge of the paper or magazine may be readily grasped and pulled out by the purchaser. Upon the release of pressure upon and the return of the operating handle or lever the springs 11^b, attached to the tops of the plunger sections 11, will return the latter together with the feeding sections 13, and links 14, to their original or initial position as indicated in full lines in Fig. 1 preparatory to engaging and feeding the next paper or magazine.

As a means of operating the plunger sections or slides 11, during each working impulse of the machine, sprocket chains 17, are connected to the lower ends of the plunger sections 11, said chains being connected to and being adapted to be wound upon rolls or wheels 18, mounted upon and carried by a shaft 19, the latter being mounted at its ends in suitable bearings 19^a, at the front side of the casing, said shaft 19, and wheels 18, being inclosed within a tubular shaped horizontally extending casing 20, at the front of the machine. The shaft 19, is provided at one end with a sprocket wheel 21, which latter receives its motion from a sprocket chain 22, passing over a second sprocket wheel 23, mounted on a shaft 24, said shaft 24, being provided with a gear wheel 25, meshing with a rack on one of the vertically movable coin-operated plunger members hereinafter described. It will be seen that upon the operation of the vertically movable plunger member motion will be imparted to the gear wheel 25, and thence through the sprocket chain 22, to the shaft 19, and the connections of the latter to the paper or magazine plunger sections hereinbefore described. As a means of adjusting the tension of the sprocket chain 22, an idle wheel 26, is mounted on a shaft 26^a, said shaft 26, being eccentrically and adjustably mounted in a bearing sleeve 27, by means of an adjusting screw 28.

The coin-operated plunger mechanism comprises a vertically extending casing or guide-way 29, arranged within one end of the machine casing, said coin-operated plunger casing or guide-way being provided with a vertically arranged plunger 30, having a coin receiving opening 30^a, normally intersecting a coin chute 31, the latter leading from a coin slot 32, at the front of the machine casing.

As a means of preventing the operation of the plunger 30, through the operating lever hereinafter referred to, except only when a proper coin has been inserted into the coin slot 32, and has found its way through the coin chute 31, into the coin receiving opening 30^a, of the plunger, a spring actuated dog 33, is mounted in the casing or guide-way 29, so that when the plunger 30, is in its normal or elevated position the dog 33, will move out into the coin receiving opening 30^a, and prevent the depression or actuation of the plunger 30, unless a coin 34, has found its

way into the opening 30ª, as shown in Figs. 3 and 4 of the drawings, in which instance the dog 33, will slide over the coin 34, when the operating lever 35, is depressed.

As a means for ejecting the coin 34, from the opening or pocket 30ª, when the plunger 30, has been depressed sufficiently to operate the paper or magazine feeding mechanism hereinbefore described, a coin ejecting bifurcated spring 36, is mounted at one side of the casing or guide-way 29, and at the upper portion of the elongated opening 29ª, so that when the lever 35, has been depressed as shown in Fig. 4 of the drawings the spring 36, as it rides upon the coin 34, will eject the latter into the coin receiving slot 29ᵇ, of the plunger casing as indicated by dotted lines in Fig. 4, said used coins being adapted to pass down the slot 29ᵇ, into the coin receiving receptacle 36ª, in the form of a locked drawer leading from one end of the machine casing.

The lever 35, is pivoted at the rear of the plunger casing 29, and as a means of limiting its movements, adjustably mounted stop screws 37, may be mounted in lugs 37ª. The lever 35, is adapted to be operated or depressed against the resistance of a spring 38, and is provided with a guide slot 35ª, adapted to travel upon a guide pin 30ᵇ, extending from one side of the plunger 30. As the plunger 30, is depressed it is adapted to come into engagement with a second spring resisted plunger or slide 39, which plunger 39, is provided with a rack engaging with the gear wheel 25, and shaft 24, hereinbefore referred to for operating the paper or magazine plunger feeding sections as hereinbefore described.

If desired, the number of impulses or a number of papers, magazines, or like articles ejected or sold may be registered by means of a suitable counting or registering device 40, adapted to be actuated by the lever 35.

As a means of preventing the return of the operating lever 35, during its downward movement, or until it has been depressed far enough to give a working impulse to the machine and eject the used coin into the coin chute leading to the coin receptacle a latch member 41, is mounted on lugs 41ª, and in front of a spring resisted plunger 42, in one side of the casing or guide-way 29, as shown most clearly in Figs. 2 and 7 of the drawings, said latch member being adapted to engage with a toothed portion 35ᵇ, at the rear of the lever 35.

As a means of insuring the outward movement of the paper or article feeding sections 13, during the initial downward movement of the spring resisted plunger sections 11, gravity pawls 12ª, may be pivotally mounted on lugs extending from the guide-way 12, the free ends thereof being adapted to engage with a toothed portion 13ª, on the inner sides of the paper feeding sections 13, the downward movements of the pawls 12ª, being limited by means of stop arms or brackets 12ᵇ.

The feeding follower member 4, may be secured in its most rearward position by means of a hooked latch member 4ª, as shown in Figs. 1 and 2 of the drawings when it is desired to insert or remove a supply of papers or magazines into and out of the machine casing, it being observed that the follower 4, is mounted on wheels or rollers 4ᵇ, adapted to travel on the inclined chute or slide-way 5.

As a means of eliminating or preventing the use of slugs, a magnetic coin detector 43, and movable pivoted latch 44, may be provided adapted to operate in any suitable and convenient manner and which detector, for the purpose of this application, need not be further described in detail.

From the foregoing description, taken in connection with the accompanying drawings, the operation and advantages of my invention will be readily understood.

Having thus described one of the embodiments of my invention, what I claim and desire to secure by Letters Patent, is,—

1. In a vending machine provided with a vertically extending delivery front, gravity supply mechanism therein in coöperative relation to said front, linked plunger sections and paper feed sections within said front and vertically movable therein, and means for depressing said plunger sections whereby said feed sections are moved toward said gravity supply mechanism.

2. In a vending machine, a pair of spring resisted vertically movable plunger sections, link members connected thereto, paper feed sections connected to said link members, and adapted to be moved outwardly from said vertically movable plunger sections when the latter are depressed, and gravity feed mechanism in coöperative relation to said spring resisted plunger sections.

3. In a newspaper vending machine, a casing provided at its front with spring resisted vertically movable plunger sections, a magazine chute adjustably mounted therein and inclined toward said plunger sections, a gravity follower member mounted above said inclined chute and adapted to travel toward said plunger sections, and depressing mechanism operatively connected to said plunger sections at the front of said base casing.

4. In a newspaper vending machine, a casing provided with a vertically extending transparent front, and plunger and paper feed sections therein, gravity feed supply mechanism including an inclined magazine chute inclined toward and spaced from said transparent front affording an intermediate feed ejection slot, means for adjusting said

inclined chute to adjust said slot, and plunger mechanism operatively connected to said plunger sections.

5. In a newspaper vending machine, a casing provided with a vertically extending transparent delivery front, spring resisted paper feed plunger sections within said front, a magazine chute adjustably mounted within said casing and inclined toward said front, means for adjusting said chute toward and from said front, and a gravity feed follower member mounted above said inclined chute adapted to carry the supply against and toward said paper feed plunger sections in a vertical position.

6. In a newspaper vending machine, a casing provided with a vertically extending delivery front, spring resisted paper feed plunger sections mounted within said front, gravity feed supply mechanism within said casing in coöperative relation to said front, means for moving some of said plunger sections toward and from the source of supply as said sections are moved downwardly and upwardly, respectively, and plunger mechanism operatively connected to said paper feed plunger sections.

7. In a vending machine, a casing provided at its front with a pair of spring resisted vertically movable plunger sections, a pair of paper feed sections carried thereby, link members connecting said plunger sections and paper feed sections, gravity feed mechanism carrying the supply against and toward said paper feed sections in a vertical position, and means for depressing said plunger sections whereby said paper feed sections are moved inwardly against the supply.

8. In a newspaper vending machine, a casing provided with a vertically extending delivery front, a pair of spring resisted vertically movable plunger sections within said front, a pair of paper feed sections carried by said plunger sections, link members connecting said plunger sections and paper feed sections, a magazine chute adjustably mounted in said casing and inclined toward said front, and a gravity feed carriage mounted on said chute and adapted to carry the supply against and toward said paper feed sections.

9. In a newspaper vending machine, a casing having a vertically extending delivery front and spring resisted plunger and paper feed sections, means for depressing said plunger sections, gravity feed supply mechanism within said casing in coöperative relation to said front, and means for moving said paper feed sections toward and from the source of supply as said plunger sections are moved downwardly and upwardly, respectively.

In testimony whereof I have affixed my signature in presence of two witnesses.

WILLIAM S. GLINES.

Witnesses:
O. O. BILLMAN,
F. C. ADAMS.

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