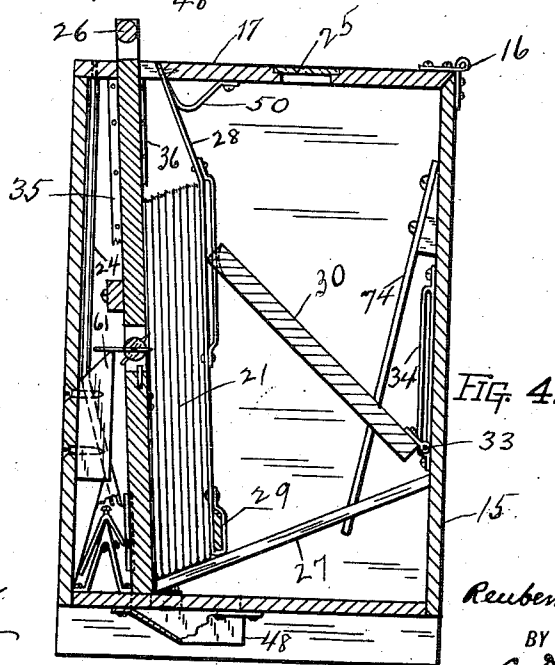
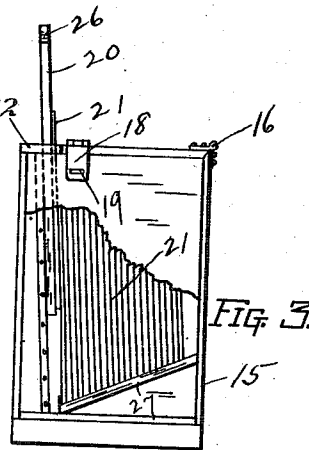
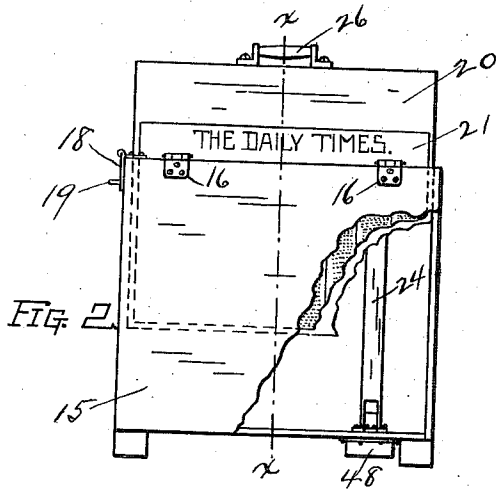
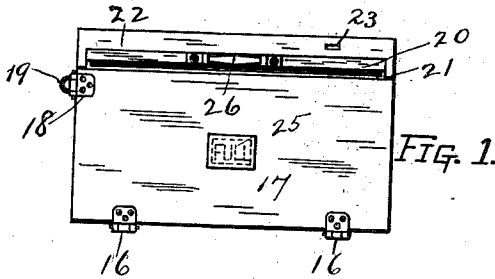


R. S. SHEPHERD.
 COIN OPERATED VENDING MACHINE.
 APPLICATION FILED MAY 16, 1912.

1,049,414.

Patented Jan. 7, 1913.

3 SHEETS—SHEET 1.



WITNESSES:

Frank Warren
 R. L. Rockwell

INVENTOR

Reuben S. Shepherd

BY

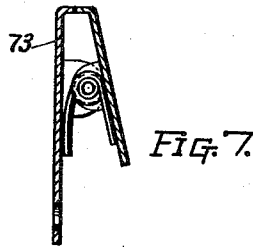
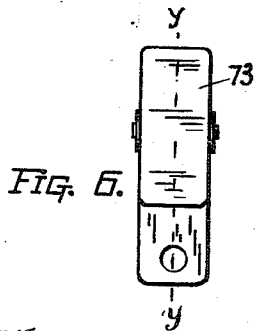
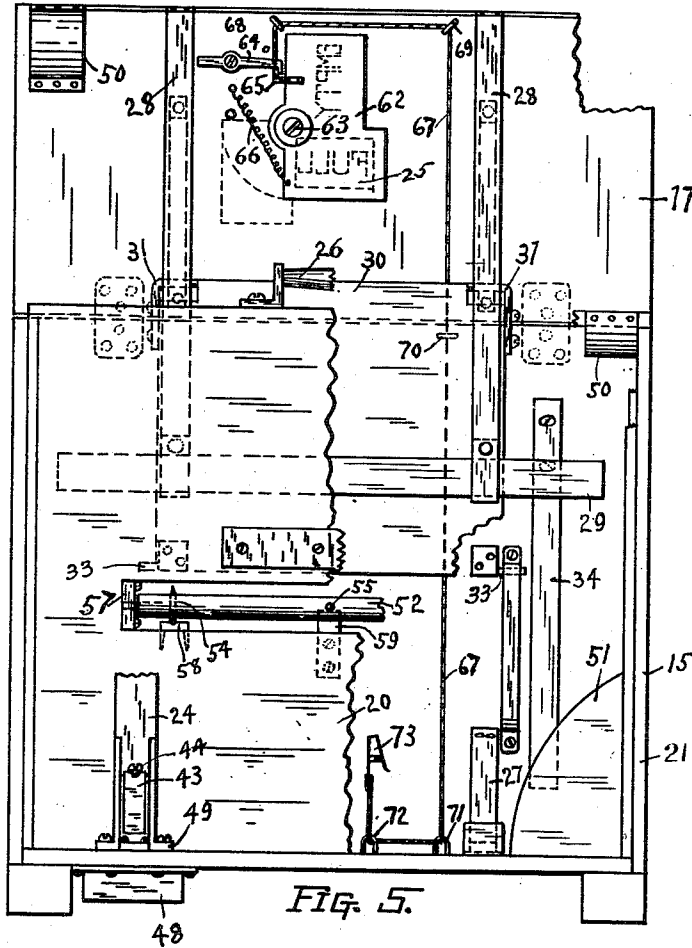
C. D. Perkins
 ATTORNEY

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3 SHEETS—SHEET 2.



WITNESSES:
 Frank Warren
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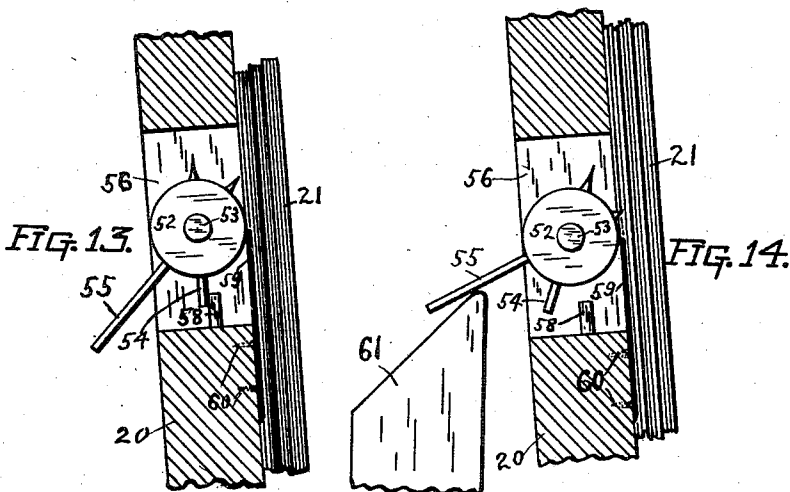
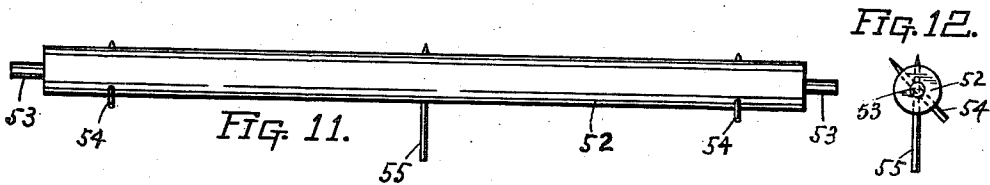
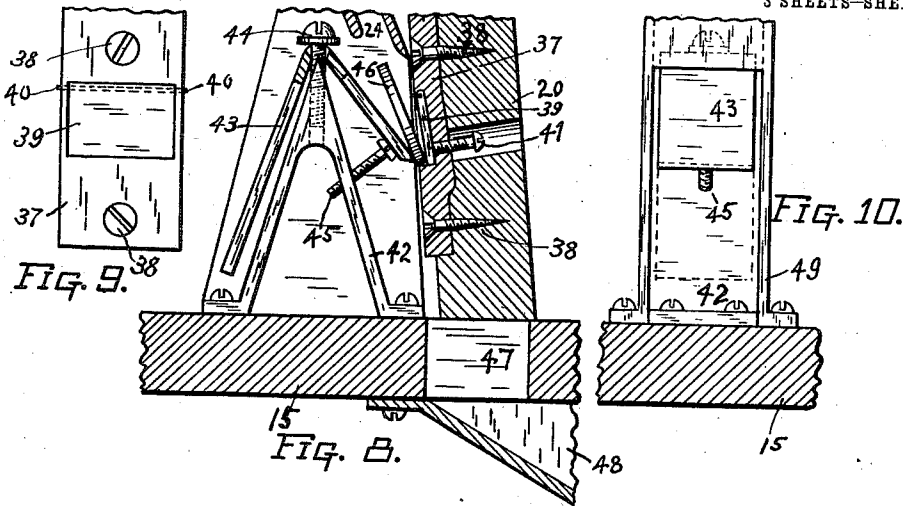
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

REUBEN S. SHEPHERD, OF SEATTLE, WASHINGTON.

COIN-OPERATED VENDING-MACHINE.

1,049,414.

Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed May 16, 1912. Serial No. 897,744.

To all whom it may concern:

Be it known that I, REUBEN S. SHEPHERD, citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented a certain new and useful Improvement in Coin-Operated Vending-Machines, of which the following is a specification.

My invention relates to improvements in automatic vending machines which are 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 a mechanism associated with such receptacle and particularly it relates to a coin-operated machine especially adapted for making accessible to a purchaser a news-paper, magazine, sheet-music or an article having a thin flat shape of considerable area and the object of my improvement is to provide an automatic coin-operated vending machine which may be stored with news-papers, periodical publications and the like, and which may be placed in a location accessible to the general public who, by depositing a coin of proper value within a slot in such machine, may procure one of the articles contained therein.

A further object of my invention is to provide an automatic coin-operated vending machine that shall be simple in its construction, efficient and reliable in its operation and which may be made at a low cost.

I attain these objects by devices illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of my invention, Fig. 2 is a view in front elevation of the same with certain portions broken away to disclose other portions, Fig. 3 is view in end elevation of my invention with a portion of its end wall broken away to disclose the position of some of its inner portions, Fig. 4 is an enlarged view in vertical cross-section on broken line $x-x$ of Fig. 2, Fig. 5 is an enlarged view of my invention in rear elevation showing all but a small piece of its cover raised while such small piece is shown as broken off and remaining in its normal position on the top of the structure, the back of such structure being removed to disclose the arrangement of its internal parts, Fig. 6 is a view in front elevation of a detail of my invention, Fig. 7 is a view in vertical-section of such detail on broken line $y-y$ of Fig. 6, Fig. 8 is a fragmentary view

in vertical-section of parts of my invention associated with other parts shown in side elevation, Fig. 9 is a fragmentary view in rear elevation of a detail of my invention, Fig. 10 is a fragmentary view in front elevation of a detail mounted on the floor bottom of the structure shown in cross-section, Fig. 11 is a longitudinal view of a detail of my invention, Fig. 12 is a view in end elevation of the same, Fig. 13 is a fragmentary view showing a part of my invention in vertical cross-section and other parts in end elevation and Fig. 14 is fragmentary view showing a part of the same in vertical cross-section and other parts in end elevation whereby their relative positions at certain stages of operation are disposed.

Like reference numbers indicate like parts throughout the drawings.

Briefly my invention comprises a box-like case, of wood, sheet metal or other suitable material, of dimensions to adapt it to receive, and store within it for sale, a desired number of articles, for instance, news-papers, folded in the usual form as sold by news boys, which news-papers would be disposed within such box in a vertical plane with their lower edges resting upon an inclined support whereby they would have a tendency to slide toward and against a vertical slidable board or plate which is adapted to be raised and carry with it the newspaper adjacent to it, such news-paper being thus caused to emerge from the case in front of such slidable board which normally projects upwardly through a suitable slot provided in the top cover of the case near its rear edge, such slidable board being provided on its projecting top edge with a convenient handle. This vertically slidable board is provided with a catch disposed near its bottom end and which is associated with a coin-operated locking mechanism that is secured to the bottom of the case there being a suitable chute extending from the top of the case downwardly alongside the back of said case and leading in to said locking mechanism whereby a required coin when deposited in said chute may fall into said locking mechanism to disengage its latch from the catch on the slidable board thus leaving said slidable board free to be raised, whereupon if said slidable board be raised an adjacent news-paper will be carried up with it by means of the action of a

mechanism associated therewith and when the news-paper is removed and the said board is permitted to fall down to its normal position the said locking mechanism acts to lock said board in said normal position until unlocked by the insertion of another coin. Means are provided for moving the remaining news-papers toward and against said slidable board.

Referring now to the drawings, the hinges 16 serve to hinge the cover 17 at its front edge to the top of the case 15, thus adapting the cover 17 to swing upwardly toward the front of the case 15. A hasp 18 secured to cover 17 is adapted to engage with a staple 19 disposed on the side of said case 15 whereby the cover 17 may be locked down on the top of the case 15. A slide-board 20 projects upwardly through a slot extending lengthwise the case 15, near the back thereof, which slot is sufficiently wide to permit a folded news-paper 21 to pass between the back edge of the cover 17 and the slide-board 20, as indicated in Figs. 2 and 3, said slide-board 20, being provided with a handle 26 on its top edge; that portion of the top of the case 15 in the rear of the slide board 20 being permanently covered by a fixed strip 22 through which a slotted hole 23 is cut for the passage of a coin in to a chute 24. A glass window 25 may be provided in the top of the cover 17 through which one may look to determine if there be newspapers within the case.

As shown in Figs. 3 and 4, news-papers 21 may be disposed within the case 15 to be supported by inclined strips 27 while they move toward and against the slide-board 20 on their lower edge as one after another of the news-papers 21 are extracted.

To insure the movement of the news-papers 21 toward the slide-board 20 I have provided straps 28 of flexible material like leather, disposed at suitable points in each end portion of the case 15 where they are suspended, by being nailed to the edge of the cover 17 adjacent to slide-board 20, to hang against the news-papers 21 to force them toward the slide-board 20 in response to the gravity of a metal bar 29 which is disposed in and extends between loops at the lower end of said straps 28. To further insure a movement of the news-papers 21 toward the slide-board 20, at the time when the case has just been refilled, I have provided a push-board 30 disposed lengthwise the case 15 to lean against the straps 28 to press them against the news-papers 21. The upper end corners of said push-board 30 being adapted by iron angles 31 to engage with a loop formed by a short strap 32 which is united at each end with the strap 28 (as clearly shown in Fig. 4) whereby the push-board 30 will be raised when the cover 17 is lifted, said push-board 30 being slid-

ably hinged so that its hinge pivot 33 may slide vertically in guides 34 which are fixed on the inside of the front wall of the case 15 as seen in Fig. 4. To further insure the movement of news-papers 21, when case 15 is full, I have provided, at a point near each end of the case 15, a flexible flat spring 74 which extends, from the inside of the front wall of the case 15, diagonally downward so that its lower portion will engage with the lower portion of the news-papers 21 when the case 15 is full, to press such news-papers 21 backward toward the slide-board; thus as one news-paper 21 after another is extracted the remaining ones move successively against such slide-board 20 which slide-board 20 is guided in its vertical movement by guide strips 35 and 36 respectively.

The slide-board 20 is provided with a locking mechanism near its lower edge which may be adjusted to be unlocked only by the action of a particular coin, as may be desired, when such coin is deposited in the slotted hole 23 to fall through the chute 24 into said locking mechanism which is shown more clearly by enlarged view in Fig. 8 wherein there is inlaid in the lower portion of slide-board 20 a metal plate 37 secured by wood screws 38. A recess is provided in said plate 37 within which is a flap 39 adapted to swing on a pivot 40 disposed at its upper end, said flap 39 being limited in its inward movement by a set screw 41 which passes through the plate 37 as shown.

An A shaped frame 42 is secured on the bottom of the case 15 beneath the chute 24 and on its apex is mounted to oscillate a lock latch 43, of angular form, the longer and heavier arm of which, extending downwardly back of the frame 42, serves to overbalance the shorter arm thereof which extends downwardly in front of said frame 42 where its lower end may project into the recess formed in the plate 37 and there engage with the bottom of such recess to lock the slide-board 20 in its normal position, the lock latch 43 being confined in its seat on the top of the A shaped frame 42 by means of a screw 44.

The position of the shorter arm of the lock latch 43 with relation to the bottom of the recess in the plate 37 may be adjusted by a screw 45. When a coin 46 falls from the chute 24 it may wedge between the flap 39 and the shorter arm of the lock latch 43 to move said lock latch 43 so that the lower end of its shorter arm will disengage from the bottom of the recess in plate 37 and thus permit the slide-board 20 to be raised whereupon said coin 46 will be caused to drop through a hole 47 in the bottom of the case 15 thence into a coin receptacle 48 secured beneath the bottom of the case 15.

The screw 41 may serve to adjust the limit of the swing of the flap 39 whereby only a

coin of any desired thickness may serve to operate the locking mechanism in an obvious manner.

Fig. 9 shows the plate 37 with the flap 39 and its pivots 40 by view looking toward the back of the slide while Fig. 10 shows the frame 42, the front of the short arm of the lock latch 43 and a sheet metal inclosing case 49 into which the chute 24 leads.

To better guide a news-paper 21 as it is being withdrawn by the slide-board 20 I have provided sheet metal guides 50 disposed on the underside of the cover 17 near the ends of the slot through which a news-paper 21 passes, which guides 50 serve to prevent the corners of a news-paper 21 from catching on the edges of such slot. I have also provided sheet metal shields 51 disposed in the bottom of the case 15 at a point near each end of case 15 and nearly in line with the front surface of the slide-board 20 which shields 51 serve to prevent the news-papers 21 from being pressed into the path of the slide-board 20 when it is raised to extract a news-paper 21.

The mechanism which serves to catch and raise a news-paper 21 with the slide-board 20 comprises a roller 52 provided with pivots 53, two pointed pins 54 and a longer pointed pin 55. The shorter pins 54 being disposed with their axes in the same plane and extending through the roller 52 at suitable points, one near each end of said roller 52, while the longer pin 55 extends through said roller 52 at a point central of the length of said roller 52 but with its axis at an angle of about thirty or forty degrees with respect to the axes of the two pins 54, as more clearly illustrated in Figs. 11 and 12. This roller 52 is disposed lengthwise in a slot 56 and mounted to turn in suitable bearings 57 secured one at each end of said slot 56. Projecting from the lower wall of said slot 56 are pins 58 each of which pins 58 is adapted to engage with and limit, in one direction, the blunt end of one of the short pins 54 while a stop 59, of sheet metal, is fastened by screw 60 on the front side of slide-board 20 to project upwardly on the front side of slide-board 20 in front of the slot 56 to a point near the center of said slot 56 where it may engage with the pointed end of the center roller pin 55 and thus limit the downward excursion of said point of said pin 55 while in the rear of the slide-board 20 is a block 61 fastened to the back wall of the case 16 at a height from the bottom of said case 15 in a position suitable to engage with the long blunt end portion of the roller pin 55 whereby, when the slide-board 20 rests upon the bottom of the case 15, the roller pin 55 will assume a longitudinal position and with its long end resting on stop 61 while its short pointed end rests upon the sheet metal stop 59 in which

position the short pointed end of said roller pin 55 will penetrate the adjacent news-paper 21 and the pointed ends of the two roller pins 54 will also slightly penetrate such adjacent news-paper 21 but at a different angle whereby when the slide-board 20 is raised the news-paper 21 may not slip off the points of the roller pins 54, as will be understood by looking at Fig. 4. If, now, the slide-board 20 be unlocked by a coin and then raised the adjacent news-paper 21 will be carried up to project through the slot in the top of the case 15 where it may be extracted readily by a purchaser, whereupon the slide-board 20 may be returned to its downward-most position and during its downward travel the point of the roller pin 55 will engage with the succeeding news-paper 21 to turn the roller 52 into the position shown in Fig. 13 and when the slide-board 20 reaches and passes the point where the projecting blunt end of the roller pin 55 engages with the stop 61, as indicated in Fig. 14 then the continued downward movement of the slide-board 20 will serve to turn the roller 52 to a point where the pointed ends of the roller pins 54 and 55 will engage with the succeeding news-paper 21 just after the lock 43 has engaged with the recess in the plate 37 to lock down the slide-board 20.

It is important to note that the mechanism comprising the roller 52, the roller pins 54 and 55, the stops 58 and 59 and the locking mechanism, all co-act in a manner whereby the roller pins 54 and 55 cannot engage with a news-paper 21 until the slide-board 20 is locked and thus no news-paper 21 can be extracted from the case 15 by lowering the slide-board 20 almost to the bottom of the case 15 and then again raising it.

I have provided one form of means whereby a prospective purchaser may determine if there be news-papers within the case 15 which means are illustrated in Figs. 5-6 and 7.

Fig. 5 shows the structure embodying my invention by a rear view in elevation with the cover 17 raised except a fragment from the upper right hand corner of such cover 17 which is broken off and shown in its place on the top of the case 15 in order to disclose the normal position of the sheet metal guides 50; and the rear wall of the case 15 is moved to disclose internal parts some of which parts are indicated by fragmentary views and by dotted lines.

Upon the inside of the cover 17 is a sign plate 62 on one portion of which is inscribed the word "Empty" while in another portion of it is inscribed the word "Full" the line of these two words being at right angles with each other and this card is pivoted by a screw 63 at a point where normally the word "Full" will show through the glass

window 25 in which position it is maintained against the force of a retractile spring 66 by a latch 64 which engages with a catch 65 that is attached to the sign plate 62 as shown in Fig. 5. A cord 67 connecting with the latch 64 extends upwardly through a screw-eye 68, thence horizontally toward the right to and through screw-eye 69, thence across the cover 17 to and through a screw-eye 70 screwed in the upper part of the inner side of the front wall of the case 15, thence downwardly to and through a screw-eye 71 disposed in the floor of said case 15, thence diagonally from screw-eye 71 to screw-eye 72 and there through to extend and be connected to a spring clip 73 of the well form which is illustrated more clearly by front elevation in Fig. 6 and in vertical-section in Fig. 7.

In operation, after filling the case 15 with news-papers 21 the spring clip 73 is connected to the news-paper 21 farthest from the slide-board 20, the cord 67 being sufficiently slack to permit such last news-paper 21 to travel and move against slide-board 20 and when such last news-paper is extracted, and pulled out of or torn away from the clip 73, the cord 67 is pulled to such extent as to release the latch 64 from the catch 65 whereupon the sign plate 62 turns, in response to the action of spring 66, so that the word "Empty" will be displayed in front of the glass window 25 in the center of the cover 17.

A contemplation of the drawings in connection with the description given hereinbefore will make clear the mode of operation of my invention.

While I have shown one form of construction of essential features of my invention it is manifest that such features may be modified in many respects without departing from the spirit of my invention.

What I claim is:

1. In a vending machine, the combination with a receptacle adapted to inclose a plurality of news papers, magazines, books and other articles of like form, and provided with a slot through which may pass an article contained therein, of an inclined support disposed in the lower portion of said receptacle on which support the edges of a plurality of the said articles may be disposed normally to rest and whereon such articles may be caused to slide downwardly together to a position wherefrom each of said articles one after the other may be caused to project through said slot, and a push-plate swingingly associated with said receptacle and so disposed therein to adapt it to swing to exert the force of its gravity on said articles when they are disposed on said inclined support whereby said articles may be assisted in their downwardly sliding movement.

2. In a vending machine, the combination with a receptacle adapted to inclose a plurality of news papers, magazines, books and other articles of like form, and provided with a slot through which may pass one after another of the articles that may be contained therein, of a slidably movable carrier disposed within said receptacle adjacent to said slot and parallel therewith, a rod rotatably mounted on said carrier and disposed parallel therewith, a plurality of pointed devices associated with and projecting from said rod and automatic means for controlling the rotary movement of said rod with respect to its angular position whereby said pointed devices may be caused to engage with and catch an article adjacent to said carrier to project such article through said slot.

3. In a vending machine of the class described, the combination with a receptacle adapted to inclose a plurality of articles and provided with a slot through which such articles may be extracted one at a time, of an inclined support whereon said articles may be all disposed to slide downwardly together by successive movements to bring each of said articles, one after another, to a position from which it readily may be projected outwardly through said slot, a pushing device swingingly associated with said receptacle and so disposed therein to adapt it to swing to exert the force of its gravity to assist articles in their downwardly sliding movement on said inclined support, a slidably movable carrier disposed within said receptacle adjacent to said slot and parallel therewith, a plurality of pointed pins movably associated with said carrier, by suitable means, so that said pointed pins may be controlled with respect to their angular positions whereby said pointed devices in their movement may be caused to engage with and catch an adjacent article and be prevented from making such engagement, as may be required.

4. In a vending machine, the combination with an inclosing receptacle provided with a slot and adapted to store within it articles for sale, which articles, each successively, may be extracted from said receptacle through said slot, of a pushing device associated with said receptacle and so disposed therein that it may lean to impart to a pile of stored articles a moving force that shall vary with variations in the angular position of said pushing device whereby said articles may be aided in their movement toward said slot through which they may be extracted one at a time.

5. In a news paper vending machine of the class described, the combination with a closing receptacle adapted to store news papers for sale and provided with a slot through which one news paper at a time

may be extracted from said receptacle, of a plurality of pointed pins adapted by suitable means to be controlled with respect to their angular positions whereby they may, as required, be caused to engage with one of said articles to move it.

In witness whereof I hereunto subscribe

my name this thirtieth day of April A. D., 1912.

REUBEN S. SHEPHERD.

Witnesses:

GEO. BLAIR,
ANNA HASKINS.