L. M. PARKHURST.

MACHINE FOR HANDLING ARTICLES.

APPLICATION FILED JUNE 19, 1906. RENEWED OCT. 22, 1908.

963,245. **Patented July 5, 1910.**

3 SHEETS—SHEET 1.

Fig. 1.

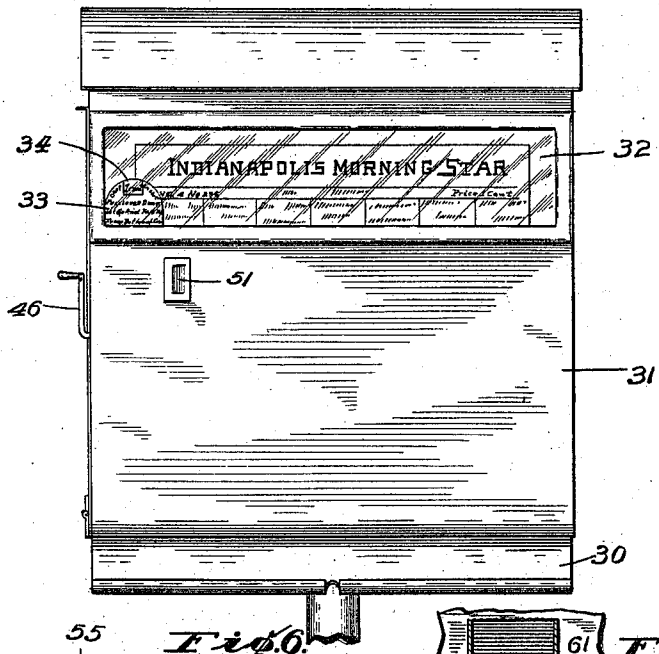

Fig. 2.

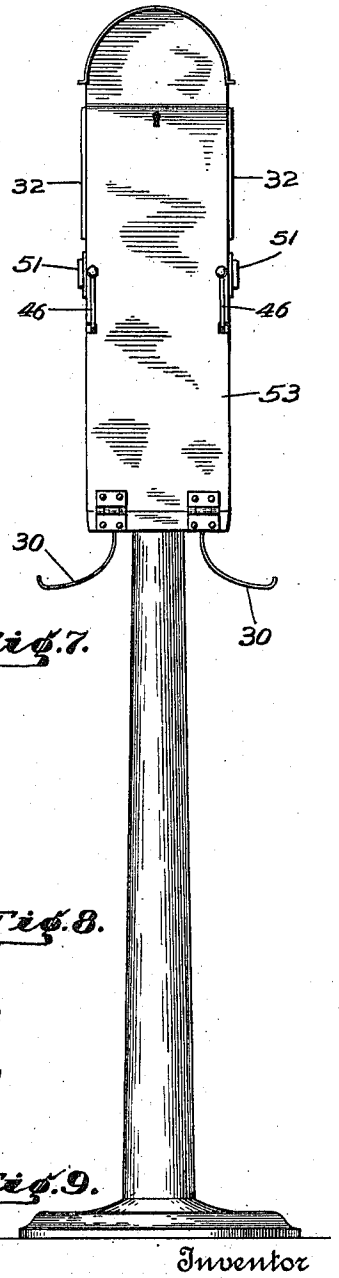

Fig. 6.

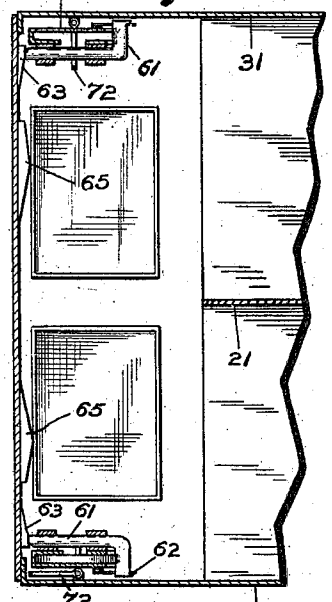

Fig. 7.

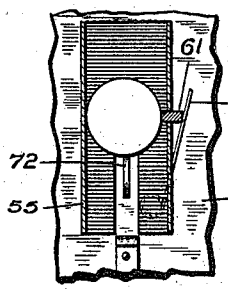

Fig. 8.

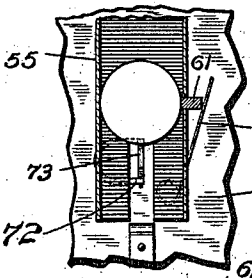

Fig. 9.

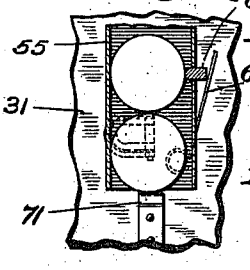

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Fig. 3.

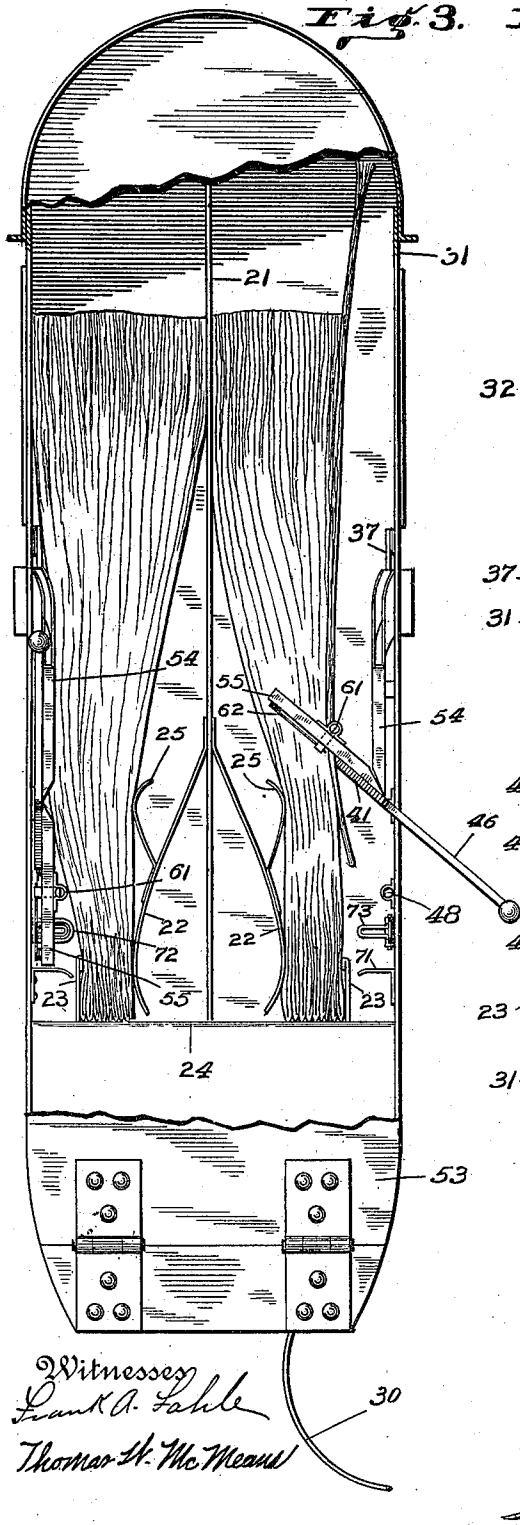
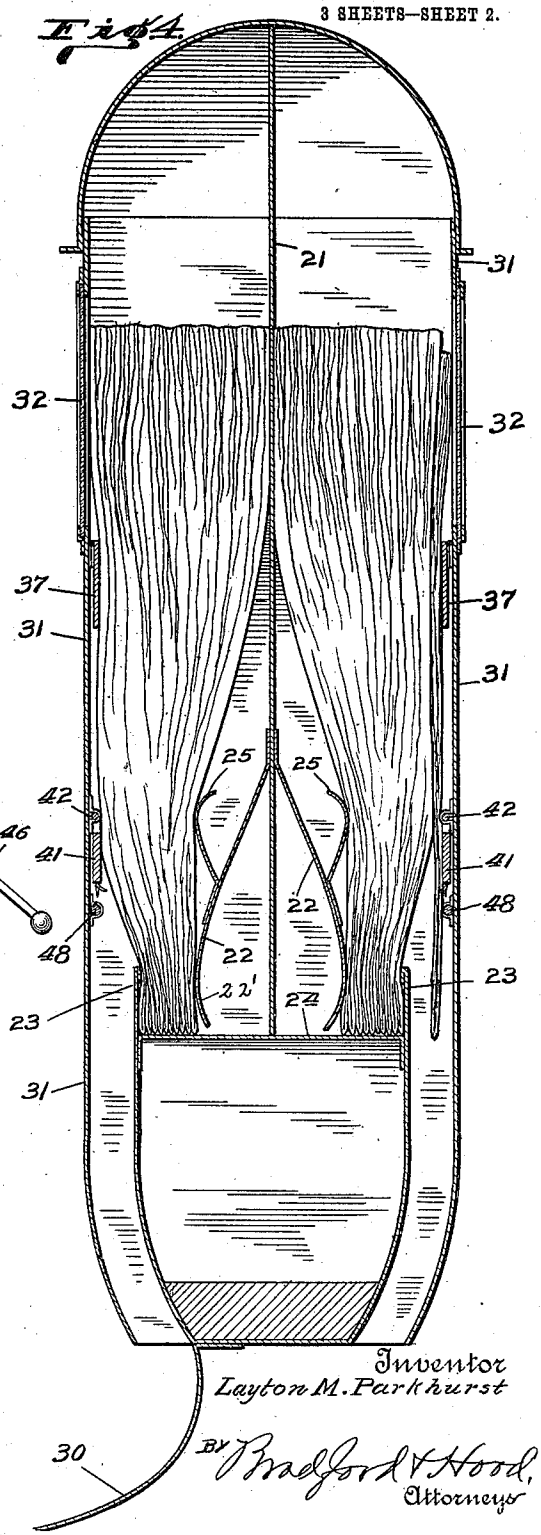


Fig. 4.



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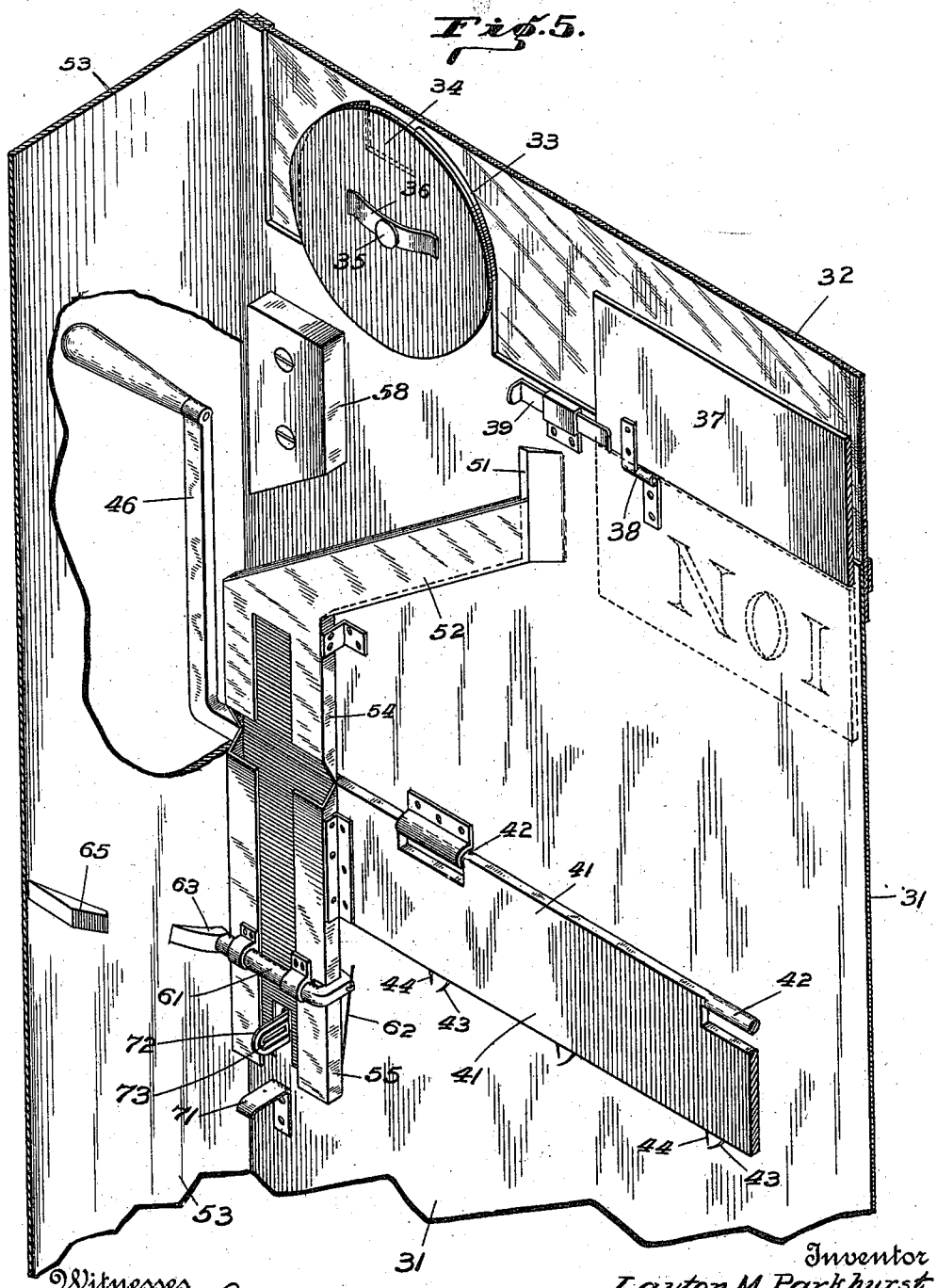
3 SHEETS—SHEET 3.

Fig. 5.



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UNITED STATES PATENT OFFICE.

LAYTON M. PARKHURST, OF INDIANAPOLIS, INDIANA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE PARKHURST COMPANY, OF INDIANAPOLIS, INDIANA, A CORPORATION OF NEW JERSEY.

MACHINE FOR HANDLING ARTICLES.

963,245. Specification of Letters Patent. Patented July 5, 1910.

Application filed June 19, 1906, Serial No. 322,372. Renewed October 22, 1908. Serial No. 459,091.

To all whom it may concern:

Be it known that I, LAYTON M. PARKHURST, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Machines for Handling Articles, of which the following is a specification.

My invention relates to a machine for vending articles and particularly to a machine for vending newspapers one by one.

One object of the invention is to produce a machine of this character that is simple in construction and easily operated.

Another object of the invention is to provide means for vending papers of any size or number of pages, one by one.

Referring to the accompanying drawings, which are made a part hereof, and on which similar reference characters indicate similar parts, Figure 1 is a front elevation of a newspaper vending machine embodying my present invention—the supporting stand however being broken away; Fig. 2 an end elevation of such a machine, including the stand; Fig. 3 a view on an enlarged scale with the greater portion of the door or end wall broken away, thus exposing the interior to view; Fig. 4 a transverse vertical sectional view of the machine; Fig. 5 an interior perspective view, showing the coin admitting and controlling mechanism; Fig. 6 a horizontal sectional view, on a still further enlarged scale, through the operating part of the coin-controlled locking devices, and Figs. 7, 8 and 9 detail views illustrating the positions of the various parts when used with coins of different denominations.

In most of the views I have illustrated my invention as applied to a machine arranged to vend two newspapers. In such a machine the structure is preferably divided centrally to form two compartments—a central partition 21 forming the back wall of both said compartments. 24 indicates a floor on which the edges, preferably the folded edges, of the papers rest.

Each of the compartments has an outer wall 31 provided with a glass or other transparent panel 32 through which the head line, date line, and preferably the headings on the first page of the newspapers can be seen, so that the outer one serves continuously as a bulletin, as is best shown in Fig. 1. As my machine is designed to operate to vend papers of various prices, its mechanism is adjusted to be operated by coins of different denominations, or by different numbers of the same coin. I therefore place inside of this transparent panel directions to the purchaser as to what or how many coins are to be inserted in the slot. These directions are inscribed upon a tablet 33 (see especially Figs. 5 and 1) behind which is a movable device, as disk 34, inscribed with the various prices of newspapers which the machine is adapted to handle, as "one cent," or "two cents," or "a nickel," and the tablet is notched or cut away sufficiently to permit this inscription to show through. By revolving the disk 34 until the desired amount shows through the cut away portion of the tablet 33 the directions are made correct and complete. In Fig. 1 the tablet and disk are shown so that together they make the directions, "Drop one cent in the," etc. The movable device as already indicated is preferably in the form of a disk, as best shown in Fig. 5, and is mounted on a suitable shaft 35. I also provide a flat tension spring 36 which holds it to adjusted position with sufficient firmness for the purpose.

Instead of showing the date line and heads of articles below the title line of the paper, I may show, by means of a sign plate, the edition; as "extra edition," or "special edition," or "regular edition." This sign plate 37 (see Fig. 5) is mounted on hinges 38, so that it drops down out of the way when not in use, and may be held up, where the inscription placed thereon may be seen, by any suitable means, as a catch or bolt 39.

Each of the compartments has a newspaper delivering mechanism consisting of a rocking bar 41 extending longitudinally of the compartment and supported on the adjacent outer wall 31 by pivots 42.

46 indicates a handle or lever connected with the bar 41, whereby it may be manipulated. The bar 41 has its outer edge armed with small points 43 and 44, the former of which are especially adapted to engage with the paper as said bar is swung upwardly, while the latter are especially adapted to engage with the paper as the bar is swung downwardly. In swinging the bar upwardly the operation is to raise the paper, as is best shown at the right hand side of

Fig. 3; while, as said bar is swung downwardly, the operation is to carry the paper down and project its lower edge into the delivery channel, as is best shown at the right hand side of Fig. 4.

23 indicates a guide plate extending above the floor 24 and arranged to guide the paper delivered by the rocking bar 41 into the chute. This plate also serves to maintain the papers in position on the floor 24 so that they will not fall down or be pushed into the chute.

22 indicates as a whole the means for automatically pressing the papers forward so that the outer one is always in position to be engaged and removed by the rocking bar 41. These means preferably consist of one or more spring arms 22′ each having one end fixed to the back wall 21, while the opposite end engages with the papers along or near their lower edges and presses them forward. 25 indicate arms preferably carried by the springs 22′ adapted to maintain the papers in upright position.

In ejecting a paper, it is first raised above the top of the guide plate 23. As the sharp points engage with the outer surface of the paper, the tendency is also to draw the lower edge of the paper outwardly slightly, as shown in Fig. 3. This operation is aided by the position of the springs 25, as also shown in Fig. 3. Then, as the bar is swung back to its lower position, it not only carries the engaged paper downwardly, but enters it in the delivery channel; the pressure of the springs 25 is at the same time being relieved, said paper will drop down said delivery channel, and descend through said channel (which is formed by continuations of the wall 31 and plate 23), as is best shown in Fig. 4, down onto the receiving shelf 30, whence it may be readily taken by the customer. I provide an abutment (shown as a rod 48 in Fig. 4) which acts as a "stripper" and insures that the points on the bar 41 shall be completely disengaged from the paper. The plate 23 also acts as an abutment against which the lower edges of the papers are pressed by the pressing means 22.

In order to render this machine effective as a vending machine, it is, of course, necessary that the bar 41 and its operating lever shall be locked against movement except when the locking mechanism is disengaged by means of the proper coin when introduced therein. This coin-controlled locking mechanism I shall now proceed to describe:

The coin is introduced through the slot at 51 (see Fig. 1) and rolls down the inclined chute 52 (see especially Fig. 5) until it reaches a point adjacent to the door or end wall 53 of the structure, where it changes its direction, and descends perpendicularly through the chute composed of the parts 54 and 55. The chute-part 54 is rigidly connected to the wall 31, while the part 55 is connected to the bar 41 and is adapted to partake of the movement of said bar. The adjacent ends of these two parts 54 and 55 are formed to permit this movement, as is best shown in Fig. 5.

Above the stationary chute-part 52 is a magnet 58. The upper side of said chute-part 52 is open, and the magnet is at a distance therefrom somewhat more than the diameter of the coins the machine is adapted to handle. If, instead of a coin, a slug of magnetic metal be introduced, this magnet will serve to lift it out of the coin-chute before it reaches the perpendicular part thereof.

Mounted on the chute-part 55 is a locking bolt 61 which is urged toward the door 53 by means of a spring 62. Said locking bolt has a member which extends transversely across the side of the chute-part 55, and the adjacent portion of the wall of this chute-part is cut through so that said transverse member may enter the passageway which forms the path for the coin. When the parts are in the position shown in Fig. 5 and at the left-hand side of Fig. 3, the locking bolt is held back out of the path of the coin by means of the inclined block 63 on the door 53. When there is no coin in the chute, or only a coin of different size from that which the apparatus is arranged to be operated with, the bolt 61 (under pressure from the spring 62) will travel toward the door as it passes down the inclined surface of the block 63, and as the movement of the rocking-bar 41 carrying the chute-part 55 continues, said bolt will pass behind the square end of the combined strike-and-catch 65, and will thus prevent any movement of these parts beyond said square end. When, however, a coin of the proper size is introduced, it will rest on the appropriate stop or support in such a position that its center is exactly opposite the transverse member of the locking bolt 61, so that said coin will be impinged between said transverse member and the opposite side of the chute as soon as the locking bolt has swung far enough down the incline 63 to permit of such engagement. The force of the spring 62 will hold the coin in this position until the locking bolt strikes the inclined surface of the combined strike-and-catch 65 (the highest point whereof is higher than any portion of the part 63), and this will operate to drive back the locking bolt, and release the coin, and permit said coin to drop into the receptacle provided to receive it. When no coin is in the chute, or when a coin of different size than that with which the machine is adjusted to operate is introduced, the locking bolt will be forced toward the end or door 53 sufficiently so that it will engage with the square end of the part 65. This

insures that no paper can be withdrawn from the machine without the insertion of the proper sized coin. If a coin not of the proper size is introduced it will drop through without unlocking the machine, as its center will not register with the transverse member of the locking bolt. The combined strike-and-catch 65 therefore serves the double purpose of releasing the proper sized coin when introduced, and of preventing a further effective operation of the machine until another similar coin has been introduced.

As before stated, my machine is adapted to be operated with coins of different denominations, or with a single one or more coins of the same denomination. In Figs. 7, 8 and 9 I have illustrated the positions of the mechanism with which the coin comes immediately in contact, when arranged for operation with a cent, a nickel, and two cents, respectively. As best shown in Fig. 5 there is a permanent coin support 71 secured to the wall 31 below the end of the chute-part 55. Above this I place hinged stops 72 and 73. In Fig. 7 the larger of these stops is in use, and is arranged so that when a cent is introduced it will be stopped thereby when its center is opposite the transverse member of the locking bolt 61. In Fig. 8 the larger of these stops is swung to one side, and the smaller one is in position to operate. The position of this stop is such that a nickel will be stopped when its center is opposite the transverse member of the bolt 61. In Fig. 9 both the stops 72 and 73 are swung to one side. When the apparatus is in this condition, the first cent will descend until it rests on the support 71, and the second cent introduced will stop when its center is opposite the transverse member of the bolt 61, and be supported in that position by the cent first introduced. By these simple variations I am enabled to adjust the machine to the requirements indicated. In no case can the coin escape from the chute until it is swung out far enough so that the coin will escape the stop or support upon which it rests and by which its descent has been arrested, and a coin of proper size will be held until the bolt 61 strikes the inclined surface of the part 65.

I have shown and described this machine as containing two compartments each provided with a coin-controlled delivery mechanism, and thus adapted to be used in vending two different newspapers at the same time. It may, of course, be made to vend a single newspaper by merely omitting one of the compartments and its mechanism. It may also be enlarged so as to be capable of vending a greater number of papers than two. By doubling its length, and providing the opposite end of the structure with mechanism corresponding to that shown, its capacity is enlarged to four newspapers, all as will be readily understood. It is also possible to still more greatly increase the capacity of this machine by increasing its thickness, and providing additional compartments between the two shown. In the latter case, however, it would, of course, be impracticable to so display the upper edge of the contained paper as to preserve the bulletin feature, with the same convenience that such feature is secured in a machine only two compartments in thickness, like that illustrated in the drawings.

Having thus fully described my said invention, what I claim as new and desire to secure by Letters Patent, is,—

1. The combination, in a machine for handling articles, of an abutment against which the lower edges of the articles bear and by which their movement is limited while in the position in which they are introduced, a spring adapted to urge the articles toward said abutment, a rocking bar armed with engaging points adapted when swung upwardly to raise the adjacent articles from behind the abutment and when swung downwardly to deliver said article into a delivery chute, and said delivery chute positioned in front of and leading downwardly from said abutment.

2. The combination, in a machine for handling articles, of a stationary abutment for determining the forward position of the outer article, means for urging the bunch of articles toward said abutment, a reciprocating means for engaging the articles one by one from behind said abutment by one movement and discharging them from the machine through a delivering chute in front of said abutment by a return movement, and said delivering chute.

3. The combination, in a machine for handling articles, of an abutment against which the articles are forced, means for urging said articles toward said abutment, a rocking bar adapted to engage with the individual articles and raise and withdraw them one by one from behind said abutment, and a delivery chute positioned in front of said abutment into which the articles are discharged by a reverse movement of the rocking bar.

4. The combination, in a machine for handling articles, of an abutment for limiting the movement of the articles in one direction, means for pressing the articles toward said abutment, and a rocking bar mounted in front of said abutment and provided with engaging devices adapted to engage with the surface of the nearest article as the bar is rocked on its axis and withdraw the article from behind the abutment by one movement and deliver the same in front thereof by a reverse movement.

5. The combination, in a machine for han-

dling articles, of an abutment for limiting the movement of the articles in one direction, means for pressing the articles toward said abutment, a rocking bar mounted in front of said abutment and provided with engaging devices adapted to engage with the surface of the nearest article as the bar is rocked on its axis and withdraw the articles from behind the abutment by an upward movement and deliver the same in front thereof by a downward movement, and a delivery chute leading downwardly from in front of said abutment into which the article is thus delivered.

6. In a vending machine, the combination of a support for the articles, and reciprocating means provided with engaging devices arranged to move the articles from their support one by one when moved in one direction, and also provided with separate engaging devices arranged to engage with and move the articles into delivery position when moved in the other direction.

7. In a vending machine, the combination of a support for the articles, and reciprocating means provided with engaging devices arranged to move the articles from their support one by one when moved in one direction, and also provided with separate engaging devices arranged to engage with and move the articles into delivery position when moved in the other direction, the last mentioned engaging devices being arranged opposite to the first mentioned engaging devices.

8. In a vending machine, the combination of a support for the articles, and reciprocating means provided with engaging devices arranged to move the articles from their support one by one when moved in one direction, and also provided with separate engaging devices arranged to engage with and move the articles into delivery position when moved in the other direction, and means to cause the disengagement of the last mentioned engaging devices when an article has been delivered.

9. In a vending machine, the combination of means for supporting the papers on their edges, yieldable means for maintaining the articles in vertical position with their lower edges resting upon the said support, and means operating in one direction in opposition to the said yieldable means to remove the articles one by one from their support, and in the opposite direction to move them into delivery position, the said yieldable means operating to maintain the articles in engagement with the said operating means during the delivery movement thereof.

10. In a paper vending machine, the combination of a casing having a front wall and a floor or support for the edges of the papers, the said floor being separated from the wall to form a delivery opening, an abutment or guide plate supported on said floor, means for pressing the lower edges of the papers against said abutment or guide plate and for maintaining them in vertical position, and means for raising the papers vertically one by one into a position directly above the delivery opening, and for moving them downwardly through said opening.

In witness whereof, I, have hereunto set my hand and seal at Indianapolis, Indiana, this 13th day of June, A. D. one thousand nine hundred and six.

LAYTON M. PARKHURST. [L. S.]

Witnesses:
CHESTER BRADFORD,
THOMAS W. MCMEANS.