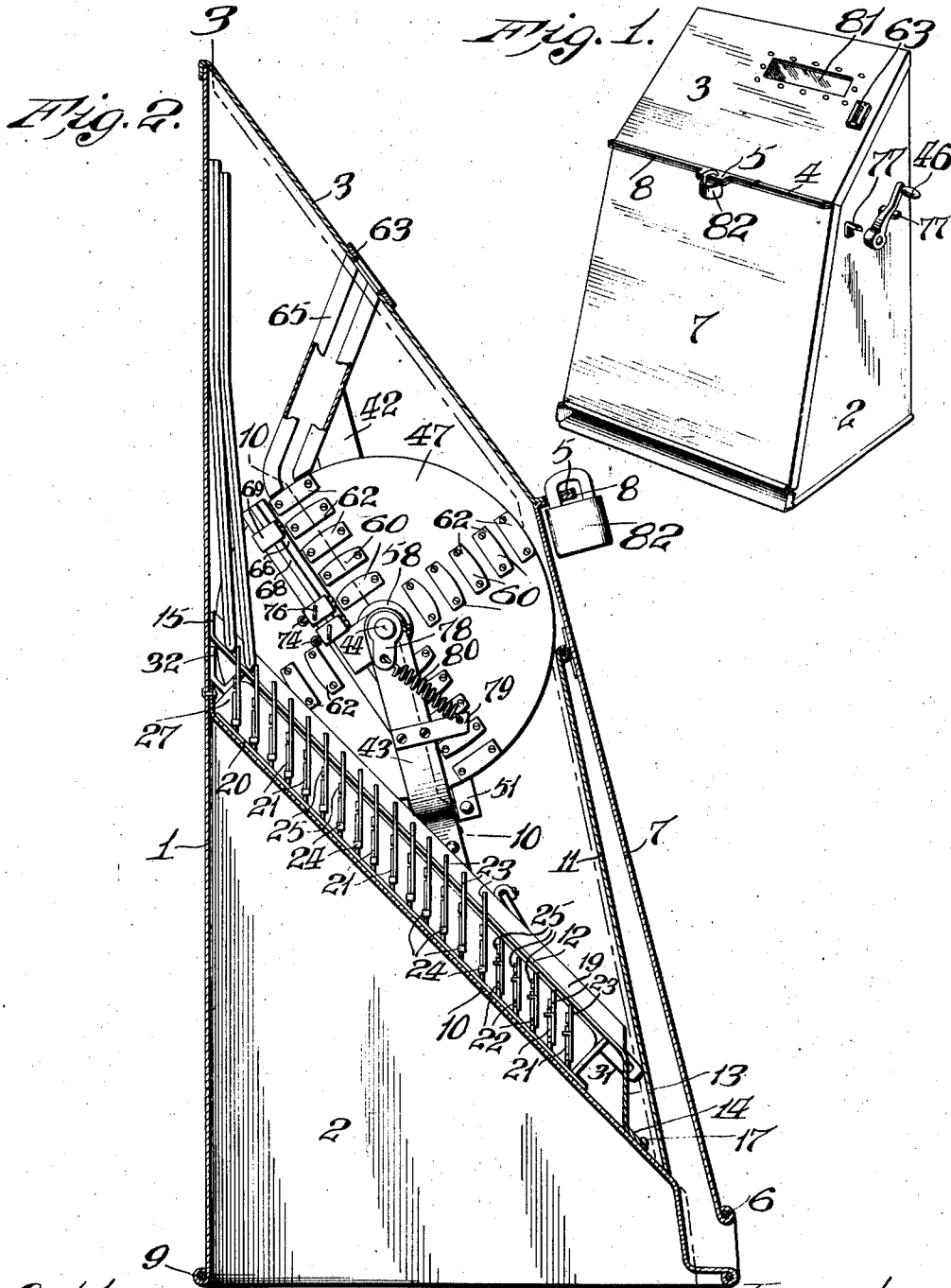


C. A. DAWES.
 NEWSPAPER VENDING MACHINE.
 APPLICATION FILED OCT. 27, 1909.

967,112.

Patented Aug. 9, 1910.

5 SHEETS—SHEET 1.



Attest:
 H. G. Fletcher.
 N. G. Butler.

Inventor:
 Charles A. Dawes.
 By Higdon & Longan.
 attys.

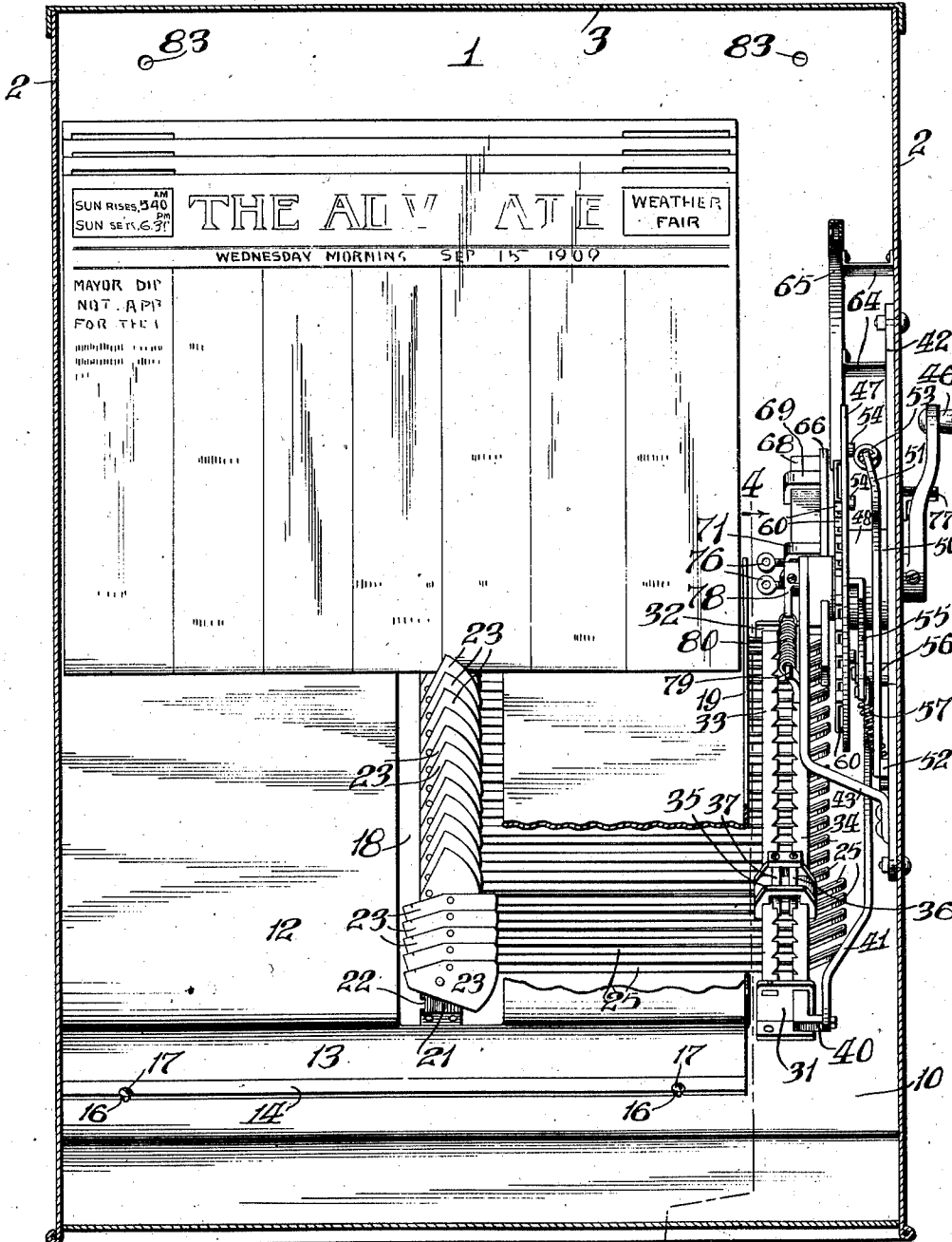
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5 SHEETS—SHEET 2.

Fig. 3.



Attest:
 L. G. Fletcher.
 N. G. Butler

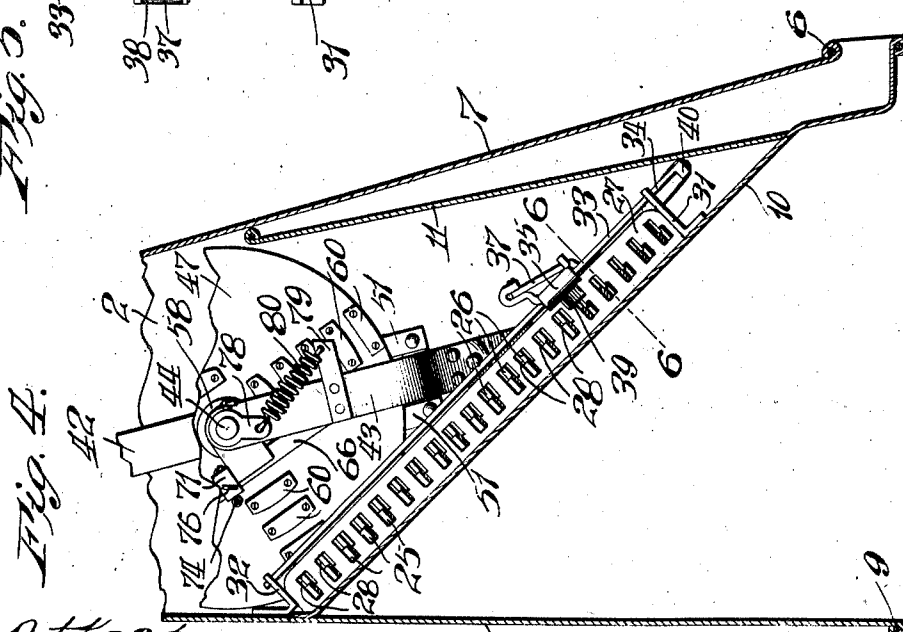
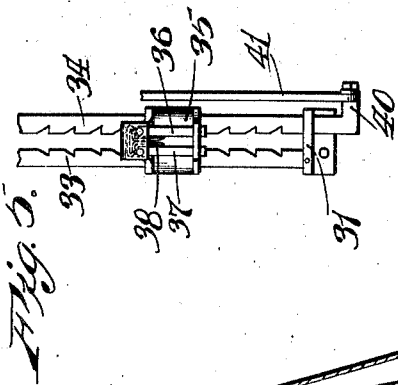
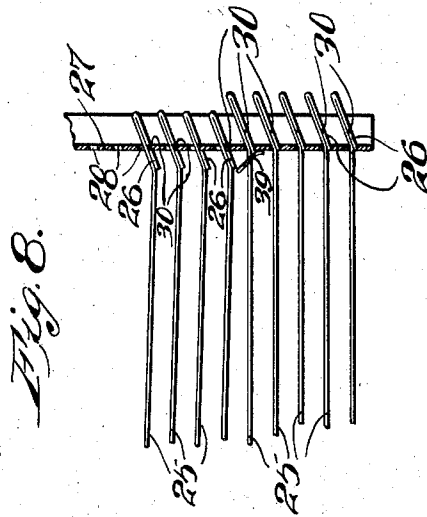
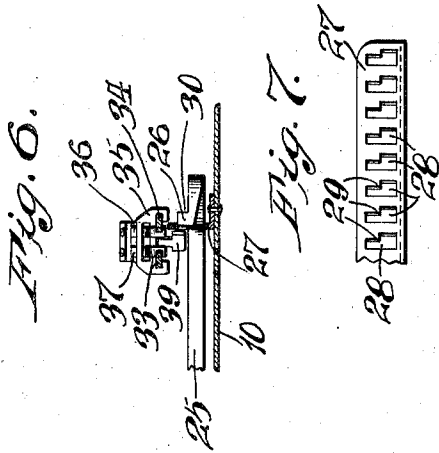
Inventor:
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5 SHEETS—SHEET 3.



Attest:
 W. G. Fletcher,
 N. G. Butler.

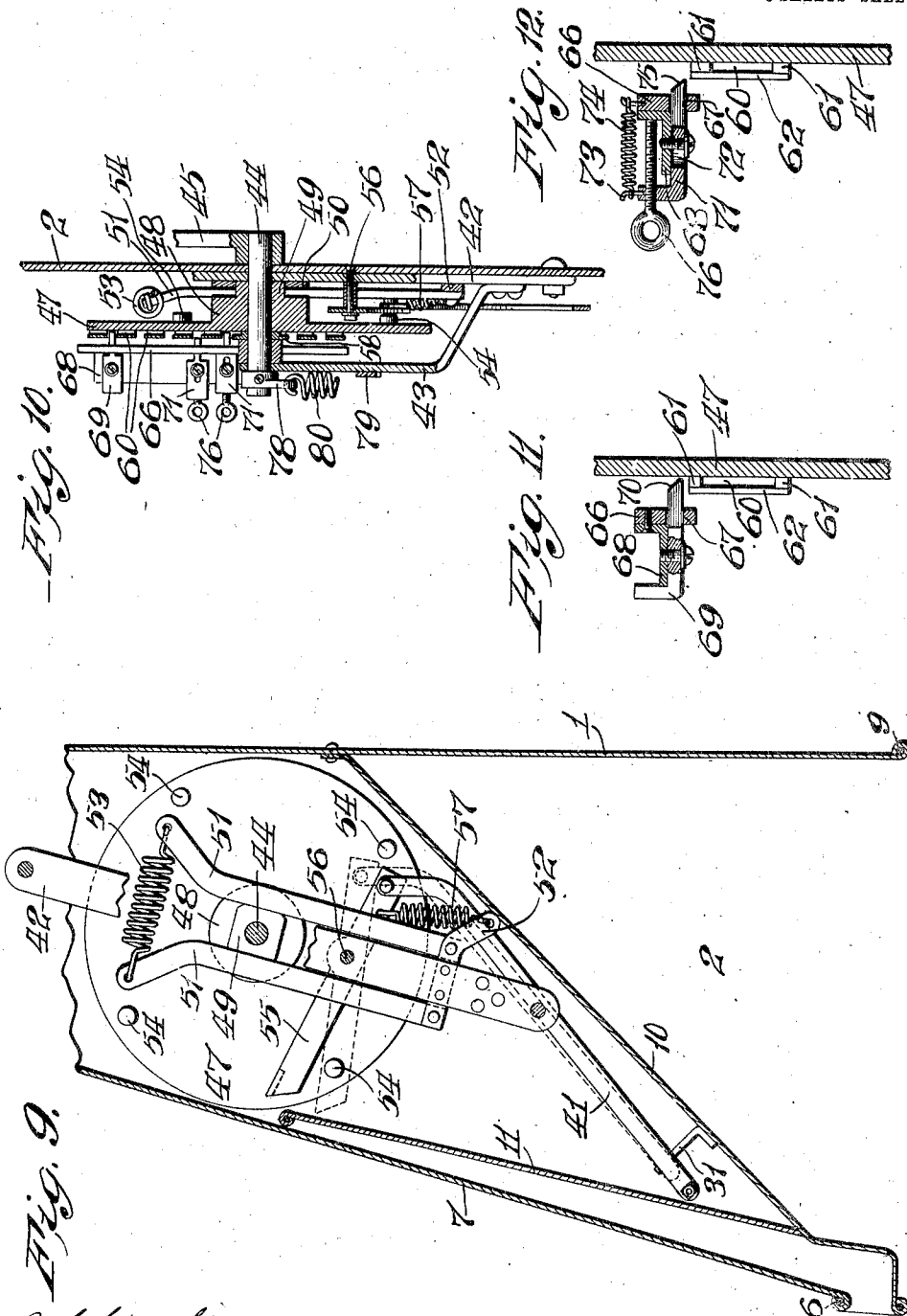
Inventor:
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5 SHEETS—SHEET 4.



attest:
 H. G. Fletcher.
 N. L. Butler.

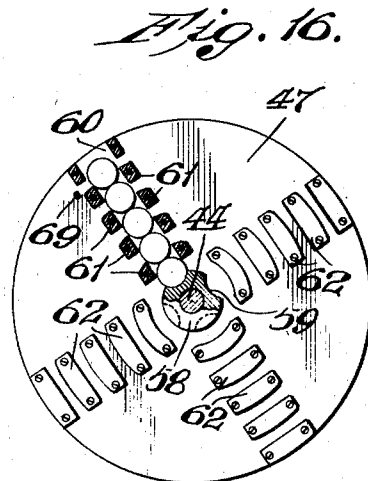
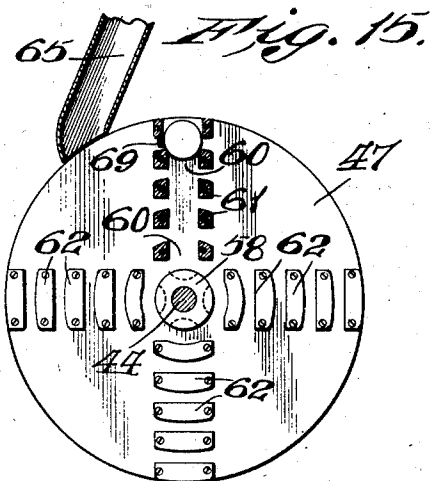
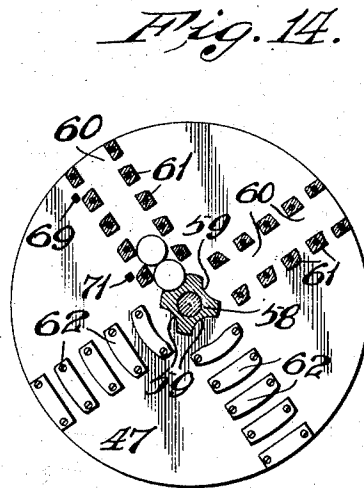
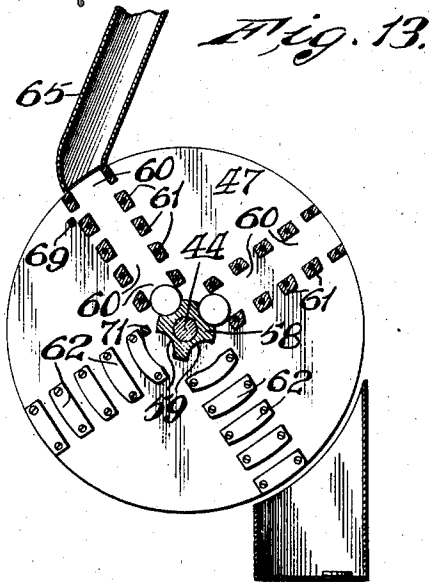
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C. A. DAWES.
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 APPLICATION FILED OCT. 27, 1909.

967,112.

Patented Aug. 9, 1910.

5 SHEETS—SHEET 5.



attest:
A. G. Fletcher,
N. G. Butler.

Inventor:
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UNITED STATES PATENT OFFICE.

CHARLES A. DAWES, OF ST. LOUIS, MISSOURI.

NEWSPAPER-VENDING MACHINE.

967,112.

Specification of Letters Patent.

Patented Aug. 9, 1910.

Application filed October 27, 1909. Serial No. 524,775.

To all whom it may concern:

Be it known that I, CHARLES A. DAWES, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Newspaper-Vending Machines, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in newspaper vending machines, the object of my invention being to construct a vending machine which will occupy a minimum of space by reason of the positioning of the inclined bottom from which the papers are delivered to an accessible point without the employment of a secondary receiving compartment.

A further object of my invention is to construct a newspaper vending machine having an inclined bottom supporting the papers to be vended and to provide the devices for engaging and retaining the papers on the inclined bottom, which devices are automatically tripped when a coin is inserted in the coin-controlling apparatus and upon the movement of the operating lever.

This invention relates particularly to the delivery mechanism in a newspaper vending machine.

For the purposes before stated, my invention consists in certain novel features of construction and arrangement of parts as will be hereinafter more fully set forth, pointed out in the claims and illustrated in the accompanying drawings, in which:

Figure 1 is a perspective of the complete vending machine; Fig. 2 is a vertical, section of the complete machine taken on a vertical line through the transverse center of the machine, a portion of the side walls of the coin chute being broken away; Fig. 3 is a sectional front elevation of the complete machine taken approximately on the line 3—3 of Fig. 2; Fig. 4 is a vertical sectional elevation taken on the line 4—4 of Fig. 3; Fig. 5 is a detail plan of the means for tripping the devices which engage and retain the newspapers upon the inclined bottom; Fig. 6 is a vertical sectional plan taken on the line 6—6 of Fig. 4; Fig. 7 is a detail elevation of a section of the strip which engages the pitmen for holding the newspaper-engaging devices; Fig. 8 is a sectional plan of the strip shown in Fig. 7 together with a

number of the pitmen, a portion of which are in a tripped position showing the arrangement of the inclined face which moves said pitmen; Fig. 9 is a sectional elevation of the machine with the paper-engaging devices removed, taken on a line immediately inside the right hand wall; Fig. 10, is a vertical sectional elevation taken approximately on the line 10—10 of Fig. 2; Fig. 11 is an enlarged detail sectional plan of a portion of the coin-carrying disk showing the relative position of the disk and the uppermost coin-engaging device; Fig. 12 is a view similar to Fig. 11 showing the relative position of the disk with one of the adjustable coin-engaging devices; Fig. 13 is an elevation showing the relative positions of the coin chute, the coin-carrying disk and the coin receptacle; the chute, the receptacle and two of the series of coin pockets being in section and showing the arrangement of the devices for engaging the coins in position to be operated by either one cent, five cents or a single coin of the value of five cents; Fig. 14 is a view similar to Fig. 13, the chute and receptacle being omitted and the coin-engaging devices in a position to act upon two cents or five cents or a single coin of the value of five cents; Fig. 15 is an elevation of the coin disk and chute, the chute and a single series of the coin pockets being in section, the disk being in a position partly rotated and showing the coin-engaging device in engagement with a coin of the value of five cents; and, Fig. 16 is an elevation of the coin disk partly in section showing a coin-engaging device in position to engage the uppermost one of five cents.

Referring by numerals to the accompanying drawings: 1 designates the rear wall of the inclosure for the vending apparatus which is substantially rectangular.

2—2 designate the side walls of the inclosure for the vending apparatus, the forward margins of which presenting inclined faces on different planes.

3 designates the top or cover for the inclosure, the side and rear margins of which are preferably turned to overlie the upper margins of the wall 1 and the upper inclined margins of the side walls 2 and secured thereto. The lowermost margin of the cover 3 is turned outwardly forming a flange 4 having an integral enlarged portion provided with a perforation.

A pintle 6 is supported between the side

walls in proximity to the forward margins thereof and adjacent their bottom margins, and a door 7 is pivotally carried by said pintle, the door being provided with a flange 8 of substantially the same contour as the flange 4 of the cover 3.

The lowermost margins of the walls 1 and 2—2 are crimped and embrace a reinforcing wire 9, the wire 9, at the forward margin of the inclosure, is arranged to support the lowermost forward margin of the inclined bottom 10 and the uppermost margin of the bottom 10 is secured to the rear wall 1.

Pivotally mounted upon the door 7 is a plate 11 extending the full width of the margin between the walls 2, its lowermost margin arranged to engage the upper face of the inclined bottom 10.

A detachable auxiliary or false bottom 12, having a down-turned portion 13 at its forward end terminating in a flange 14 which parallels and rests upon the bottom 10, is placed within the margin with its rear margin 15 resting against the rear wall 1. The forward margin of the flange 14 is provided with notches 16 which engage the studs 17 projecting from the upper face of the bottom 10 to prevent movement of the bottom 12 relative to the bottom 10. An opening 18 is formed in the auxiliary bottom 12 extending from the forward down-turned portion 13 and throughout the length of the auxiliary bottom, which space is provided to accommodate the newspaper-retaining devices. The right hand margin 19 of the auxiliary bottom 12 is turned upwardly forming a flange, which flange is provided to retain the newspapers within the inclosure against the left hand wall of the machine for the purpose of holding them away from the coin actuating mechanism. The function of the auxiliary or false bottom 12 is to hold or support the papers above the series of pitmen which operate the releasing devices.

Secured to the bottom 10 is a cleat 20 carrying a series of vertically disposed perforated ears 21, each of which ears is notched at 22 in the left hand margin thereof and adjacent the cleat 20. Pivotally secured to each perforated ear 21 is a newspaper-engaging device 23, which is preferably struck from a single piece of sheet metal, having an integral projection 24 arranged to seat in one of the notches 22 when the engaging device is extended upwardly in engaging position. The engaging devices, when in engaging positions, present a substantially triangular-shaped portion projecting in a plane above the auxiliary bottom 12 and when the engaging devices are in non-engaging positions their entire body is in a plane below the auxiliary bottom 12, so that as the engaging devices are tripped into non-engaging positions the paper held by the engaging device is free to move downwardly

over the auxiliary bottom. Pivotally secured to each engaging device is a pitman 25, the forward free end of each pitman being bent and folded backwardly over the body of the pitman and terminating in a projection 26 extending above the upper margin of the pitman, which projection and the entire doubled end of the pitman is bent at an angle relative to the pitman proper.

An L-shaped angle plate 27 is secured to the bottom 10 adjacent the ends of the pitmen 25 and is provided with a series of openings 28 corresponding in number to the number of pitmen, the side margins of which openings are preferably beveled to approximate the angle of the bent ends of the pitmen 25. The width of said openings being sufficient to permit lateral movements of the pitmen and each opening is provided with a shoulder 29 arranged to engage the terminal margin 30 of each pitman. The pitmen, when arranged or positioned with said terminal ends 30 engaging the shoulders 29, hold the newspaper-engaging devices upwardly in a position to engage and retain the newspapers upon the auxiliary bottom 12. The projections 24, on the engaging devices seating in the notches 22, together with the terminal end 30 of each pitman engaging with the shoulder 29 prevent a longitudinal movement of the pitmen.

A bearing plate 31 is secured to the bottom 10, adjacent the right hand wall of the inclosure, and a second bearing plate 32 is secured to the rear wall 1 of the inclosure, and, carried by the bearing plates 31 and 32, parallel with the ratchet bar 33, is a movable ratchet bar 34, the notches in each bar being normally opposite each other. Arranged to slide upon the bars 33 and 34 is a pawl carrier 35, and pivotally carried upon the carrier is a pair of pawls 36 and 37, the outer ends of which are normally held outwardly to engage the notches in the bars 33 and 34 by the spring 38. Projecting downwardly from the lower face of the pawl carrier 35 is an integral portion having an inclined face 39 which is arranged on an angle approximately forty five degrees relative to the bars 33 and 34, the function of which inclined face will be hereinafter more fully described.

The lowermost end of the movable ratchet bar 34, outside of and below the bearing plate 31, is provided with an integral extension 40 to which is secured the outer free end of an actuating lever 41 which is arranged to be operated by coin actuating mechanism, each operation of which reciprocates the bar 34, and, by reason of the engagement of the pawl 36 with the bar 34, the pawl carrier together with the inclined face is moved upwardly, the inclined face engaging the up-turned portion 26 of one of the pitmen and freeing the terminal margin 30 of said pitman from the shoulder 29 of

the opening 28 and moving the entire pitman longitudinally, thus moving the corresponding newspaper-engaging device to a position out of engagement with the newspaper and positioning said newspaper-engaging device in a plane below the auxiliary bottom 12; thus permitting the paper, which was held by the engaging device, to be free to move downwardly over the inclined bottom 12 to an accessible point. In this manner, each operation of the coin actuating device operates successively the newspaper-engaging devices.

Secured to the right hand wall of the machine inclosure, is a bearing plate 42 and secured to said plate is a bearing plate 43 which projects outwardly and upwardly parallel with the plate 42. Each of the plates 42 and 43 being provided with an opening, there being a coinciding opening through the wall to which they are attached.

Mounted for oscillation in the openings in the bearing plates 42 and 43, is a shaft 44, and secured to said shaft is a crank arm 45 provided with a handle 46. Loosely mounted upon the shaft 44 is a disk 47 having a cylindrical hub section 48 and an integral squared section 49. Embracing the squared section 49 of the disk is a washer 50 between which and the cylindrical hub section, is a pair of arms 51. The lower ends of the arms 51 are pivotally secured to a strap 52 which is secured to the bearing plate 42, the rear end of the strap being bent downwardly and perforated, the uppermost or free ends of the arms 52 are bent outwardly relative to each other and are perforated. Carried by the perforated ends is a contractile coil spring 53 arranged to normally hold the arms 51 against the faces of the squared section 49.

Projecting from the rear face of the disk 47 is a number of studs 54 arranged for engagement, when the disk is rotated, with an integral flange carried by the tilting lever 55, which lever is pivotally mounted upon the stub 56 secured to the inner face of the right hand wall 2. The end of the lever 55, opposed to the end engaged by the studs 54, is provided with a perforation through which is inserted the end of a contractile coil spring 57, the opposite end of the spring engaging in the perforation in the downwardly-turned end of the strap 52. Secured to the lever 55, adjacent the point engaged by the spring 57, is the up-turned end of the lever 41 which actuates the delivery mechanism.

Secured to the outer face of the disk 47 and embracing the shaft 44 is a disk 58 having four radially disposed notches 59 in its periphery, and arranged upon the inner face of the disk 47 are four series of radially disposed pockets 60, which are preferably formed by securing to the disk 47 a series of blocks 61 which are spanned or connected by the plates 62, the outermost pair of each

series of blocks being spaced apart a greater distance than the remaining blocks and the corresponding plates 62 of the pockets 60 being of greater length than the remaining plates, thus providing for the reception of a single coin of the value of five cents which coin is held between the blocks of the outermost pocket and is prevented from moving downwardly through the remaining pockets by reason of their being narrower than the diametrical dimension of the coin of the value of five cents.

Carried by the cover 3 is a plate 63 provided with a slot, and, communicating with said slot and supported by the brackets 64 is a coin chute 65, which coin chute is arranged at such angle, relative to the cover 3, as to bring its discharging end immediately over the outermost pocket 60 when said pocket is in its normal initial position, the arrangement of said pockets being disposed in such positions relative to the squared faces of the section 49 of the disk 47 that the arms 51 will hold the pockets on the disk 47 so as to hold said pockets in a position relative to said chute to receive coins which are inserted in the slot.

Non-rotatably secured to the shaft 44, between the bearing 43 and disk 58, is a perforated block, and formed integral with the outer end of said block and at right angles thereto is an arm 66 which is provided with a number of squared apertures 67. Carried by the arm 66 is an angle plate 68, and, secured to the arm 66, adjacent its outer end, is an L-shaped angle plate 69 having a reduced portion which extends through the outermost aperture 67 in the arm 66, which reduced end is provided with a beveled face 70. This extension of the angle plate 69 is arranged at such position on the arm 66 that its beveled end will be adjacent the disk 47 so that the extension will move in an arc between the outermost and fourth pocket from the center of the disk so that the point of the extension, when the arm is moved, will engage the periphery of a coin of the value of five cents which is carried by the outermost and fourth pockets from the center of the disk, and the beveled face is provided to permit a backward movement of the extension over a coin.

71 designates adjustable coin-engaging devices, and, as shown in Fig. 12 of the drawing, such devices are of the same general construction as the angle plates 69 except that the devices 71 are provided with slots 72 which permit the drawing of the beveled end of the device away from the disk 47 so that it will not engage a coin. In this construction, the arm 66 and member 71 are provided with pins 73, which pins are embraced by a contractile coil spring 74 the normal tendency of which is to draw the beveled face 75 toward the disk 47, and,

when it is desired to position the beveled face so that it will not engage the coin, the set screw 76 is manipulated, said screw being threaded to the member 71 and impinging at its free end against the angle plate 68. This adjustable coin-engaging device is duplicated as desired to provide means whereby a single machine may be set to vend papers for one cent, two cents, three cents, four cents, five cents or a single coin of the value of five cents, it being understood that the outermost coin-engaging device is always in position to engage with either five pennies or a single coin of the value of five cents.

To limit the movement of the crank arm 45, stops 77 are secured against the outer face of the right hand wall 2 in such relative positions to permit a movement of the crank arm equivalent to one quarter of a revolution. To normally hold the crank arm and rotating parts in their initial position, that is in a position wherein the pockets 60 are in such relation to the coin chute as to receive a coin, a lever 78 is secured to and embraces the inner end of the shaft 44. A strap 79 is secured to the inner face of the bearing plate 43 and a contractile coil spring 80 connects the outer end of the lever 78 with the outer end of the strap 79, the normal tendency of which spring is to draw the lever 78 in such position as to normally retain the operating crank arm against the rearmost stub 77.

A glazed opening 81 is formed in the cover 3 through which the operating parts of the vending apparatus may be viewed without unlocking or opening the machine inclosure.

To lock the hinged door 7, a pad lock 82 is employed and the bolt of the lock is inserted through the openings in the flanges 8 and 4.

To provide means whereby the machine may be secured to a building or the like, I have provided the apertures 83 in the rear wall 1 adjacent its top through which screws, nails or the like, may be driven into the building to suspend the machine therefrom. However, the machine may be supported on any suitable base.

In the practical operation of the machine, assuming that the coin-engaging devices are set to vend a paper, the sale price of which is one cent, the end 75 of the lowermost adjustable coin-engaging device 71 is brought to a position adjacent the disk 47, the remaining adjustable coin-engaging devices being in positions so that they will not engage with coins carried in the pockets on the disk 47. A coin is then inserted through the slot and after the coin has been released manually it will slide, by gravity, through the chute 65 through each of the pockets 60 adjacent the chute and will rest in one of the notches 59 and be engaged by the locks

and plate of the first pocket and be held therein. The handle 46 is then grasped and a movement forwardly is imparted to the crank arm 45, which movement imparts a rotary movement to the shaft 44, which movement of the shaft 44 imparts a rotary movement to the arm 66, then, by reason of the end of the coin-engaging device engaging with the coin the entire disk is rotated approximately one fourth of a revolution. As the disk 47 is rotated the studs 54 on the rear face thereof engage with the integral flange carried by the lever 55 and impart a rocking movement to said lever as illustrated by dotted lines in Fig. 9. The movement of the lever 55 imparts a reciprocating movement to the lowermost end of the actuating lever 41, which movement of the actuating lever 41, by reason of the connection between the actuating lever and the ratchet bar 34, and by reason of the pawl 36 engaging with the ratchet bar 34, the pawl carrier 35 is moved upwardly a distance equal to the spacing apart of the notches in the bars 33 and 34. Such a movement of the pawl carrier brings the inclined face 39 into a position engaging the portion 26 of one of the pitmen 25. The pitman is thus freed from the shoulder 29 of the angle plate 27 and will be free to move through the opening 28. The action of the inclined face 39 not only releases the pitman from the shoulder 29 but forces the pitman to move longitudinally, which longitudinal movement of the pitman, by reason of its pivotal connection with the paper-engaging device tilts the paper-engaging device and places it in a position in a plane below the auxiliary bottom 12, which movement of the paper-engaging device frees a single paper and permits it to slide, by gravity, down an inclined bottom 12 and in its travel engages with the protecting plate 11 causing the plate to move toward the door 7 and permitting the paper to travel to the horizontal forward portion of the bottom 10, where it is accessible to the customer through the opening formed between the bottom of the door 7 and said horizontal forward portion of the bottom 10, which opening extends the full width of the machine or a width sufficient to remove a newspaper therethrough. Assuming that each of the paper-engaging devices has been set to an engaging position and that newspapers have been held by each engaging device the engaging devices may each be operated as hereinbefore stated to free the paper and deliver it to an accessible point.

The hinged plate 11 is provided for the purpose of protecting the operative parts of the machine against the insertion of a probe or the like for the purpose of unlawfully removing a newspaper from the machine without the insertion of a proper coin. The function of the arms 51 being to pro-

vide means whereby the pockets 60 are brought to aline with the coin chute. This alining is brought about by the positioning or alining of the pockets 60 in such relation to the faces of the squared section 49 of the disk 47.

I claim:

1. In a newspaper vending machine, an inclosure comprising a rear wall, side walls secured thereto, an inclined cover, an inclined hinged forward wall, an inclined bottom an inclined auxiliary bottom supported in a plane some considerable distance above the bottom proper, a series of newspaper-engaging devices between said bottoms and means for successively operating said engaging devices.

2. In a newspaper vending machine, an inclosure comprising a rear wall, side walls secured thereto, an inclined cover, an inclined hinged forward wall, an inclined bottom, an inclined auxiliary bottom supported in a plane some considerable distance above the bottom proper and a plate pivotally carried by the hinged door with its free end resting against the bottom proper, there being an opening formed between the lower margins of the hinged door and the bottom of the inclosure.

3. In a newspaper vending machine, an inclined bottom, an inclined auxiliary bottom spaced apart from the inclined bottom, newspaper-engaging devices supported on said first mentioned bottom and normally projecting above the auxiliary bottom, there being an opening formed through the auxiliary bottom through which the newspaper-engaging devices operate, and means for successively shifting the engaging devices to occupy positions wholly below the auxiliary bottom.

4. In a newspaper vending machine, an inclosure, an inclined bottom therefor, an auxiliary inclined bottom supported in a plane above and parallel with the bottom proper, there being an opening formed through the auxiliary bottom, the right hand margin of which auxiliary bottom is turned upwardly forming a flange, newspaper-engaging devices pivotally supported on the bottom proper, which devices operate through the opening in the auxiliary bottom, pitmen pivotally connected with the newspaper-engaging devices and means for moving said pitmen.

5. In a newspaper vending machine, an inclosure, an inclined bottom therefor, an auxiliary slotted bottom supported in the inclosure in a plane some considerable distance above the bottom proper, newspaper engaging devices pivotally supported on the bottom proper, which engaging devices, when in an operative position, project above the auxiliary bottom and when in an inoperative position occupy a plane below the

auxiliary bottom, and means for shifting the engaging devices from one position to another.

6. In a newspaper vending machine, an inclosure, an inclined bottom therefor, a removable auxiliary bottom within the inclosure supported in a plane some considerable distance above the bottom proper, the right hand margin of which auxiliary bottom is turned upwardly forming a flange, there being an opening formed longitudinally through the major portion of the auxiliary bottom, newspaper-engaging devices pivotally supported on the bottom proper, which devices, when in an operative position project in a plane above the auxiliary bottom and when in an inoperative position occupy a plane below the auxiliary bottom and means for shifting the positions of the newspaper-engaging devices.

7. In a newspaper vending machine, an inclosure, an inclined bottom therefor, an auxiliary bottom occupying a plane some considerable distance above the bottom proper, newspaper-engaging devices pivotally supported on the bottom proper, which devices, when in an operative position project above the auxiliary bottom and when in an inoperative position occupy a plane below the auxiliary bottom, a pitman pivotally secured to each newspaper-engaging device, means for engaging the pitmen to hold them in positions to lock the newspaper-engaging devices in an operative position, means for releasing the pitmen from the locking means and a lever for actuating the pitmen-releasing means.

8. In a newspaper vending machine, an inclosure, an inclined bottom therefor, an auxiliary slotted bottom positioned in the inclosure in a plane above the bottom proper and arranged to support newspapers thereon, newspaper-engaging devices pivotally supported on the bottom proper, a portion of each of which projects above the auxiliary bottom to retain newspapers upon the auxiliary bottom, means for successively shifting the engaging devices, to inoperative positions occupying planes below the auxiliary bottom, thus permitting the papers to be free to move by gravity down the auxiliary bottom to an accessible point.

9. In a newspaper vending machine, an inclosure, an inclined bottom therefor, an auxiliary slotted bottom within the inclosure in a plane above the bottom proper, newspaper-engaging devices pivotally supported on the bottom proper, pitmen pivotally secured to the engaging devices, means for holding the pitmen against longitudinal movement when the engaging devices are in operative positions, a fixed ratchet bar, a movable ratchet bar, a pawl carrier slidably mounted on said ratchet bars, means carried by the pawl carrier for engagement with

said pitmen and means for operating one of the ratchet bars.

10. In a newspaper vending machine, the combination with an inclosure having an inclined bottom and an auxiliary bottom, of a series of newspaper-engaging devices, which when in an operative position project above the auxiliary bottom for engaging and retaining a newspaper upon the auxiliary bottom, pitmen pivotally secured to said engaging devices, an angle plate secured to the bottom proper having apertures through which the pitmen are extended, a shoulder formed in each aperture for engagement with portions of the pitmen to prevent longitudinal movement of the pitmen when the engaging devices are in operative positions, a fixed ratchet bar, a movable ratchet bar, a pawl carrier slidably mounted on the ratchet bars, a downwardly projecting portion having an inclined face carried by the pawl carrier, a lever for actuating the movable ratchet bar, whereby, when the movable ratchet bar is moved the pawl carrier will move upon the ratchet bars and the inclined face carried thereby will engage the pitman and move it in a position to bring the newspaper-engaging device to a position beneath the auxiliary bottom, thereby releasing a newspaper held by said engaging device and permit it to slide, by gravity, over the in-

clined auxiliary bottom to an accessible point.

11. In a newspaper vending machine, the combination of an inclined bottom, with a series of independently operable newspaper-engaging devices pivotally supported beneath said bottom, a portion of each of which engaging devices occupies a position in a plane above the bottom and means for shifting the engaging devices to occupy planes wholly below the bottom.

12. In a vending machine, the combination with an inclined bottom arranged to support articles to be vended, a series of independently operable article-engaging devices pivotally secured beneath said bottom, means for holding the article-engaging devices in positions wherein a portion of each of which extends above said bottom, means for locking the engaging devices in such elevated positions and means for successively operating the devices to occupy positions wholly below said bottom.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

CHARLES A. DAWES

Witnesses:

E. E. LONGAN,
E. L. WALLACE.