

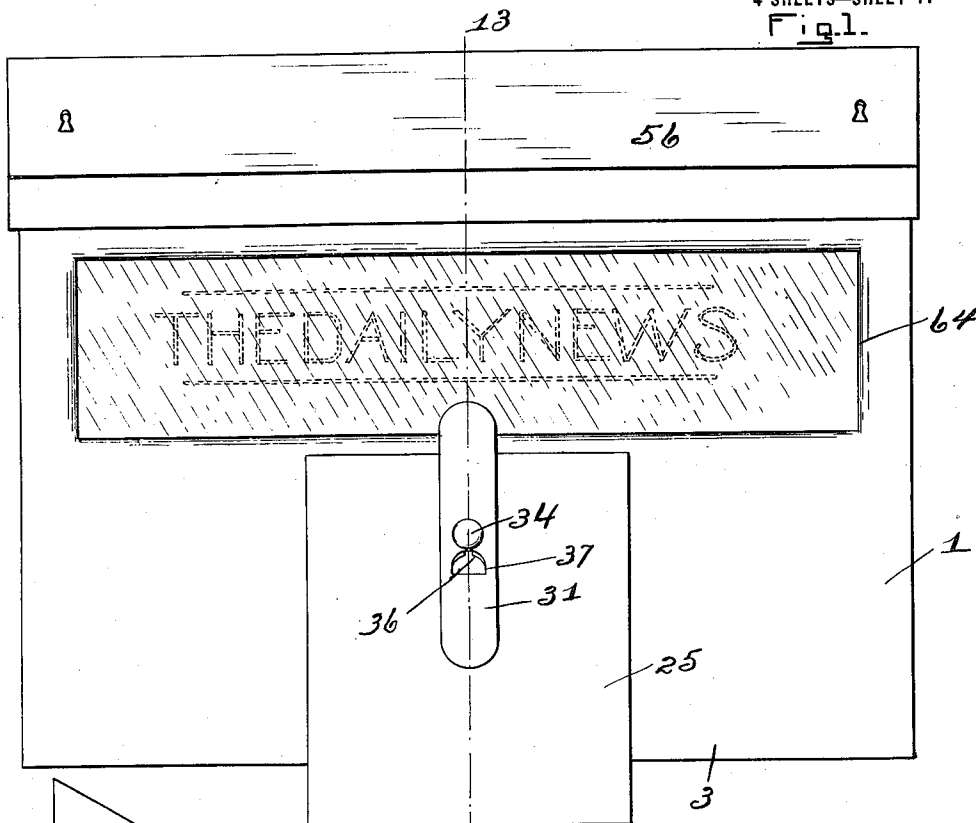
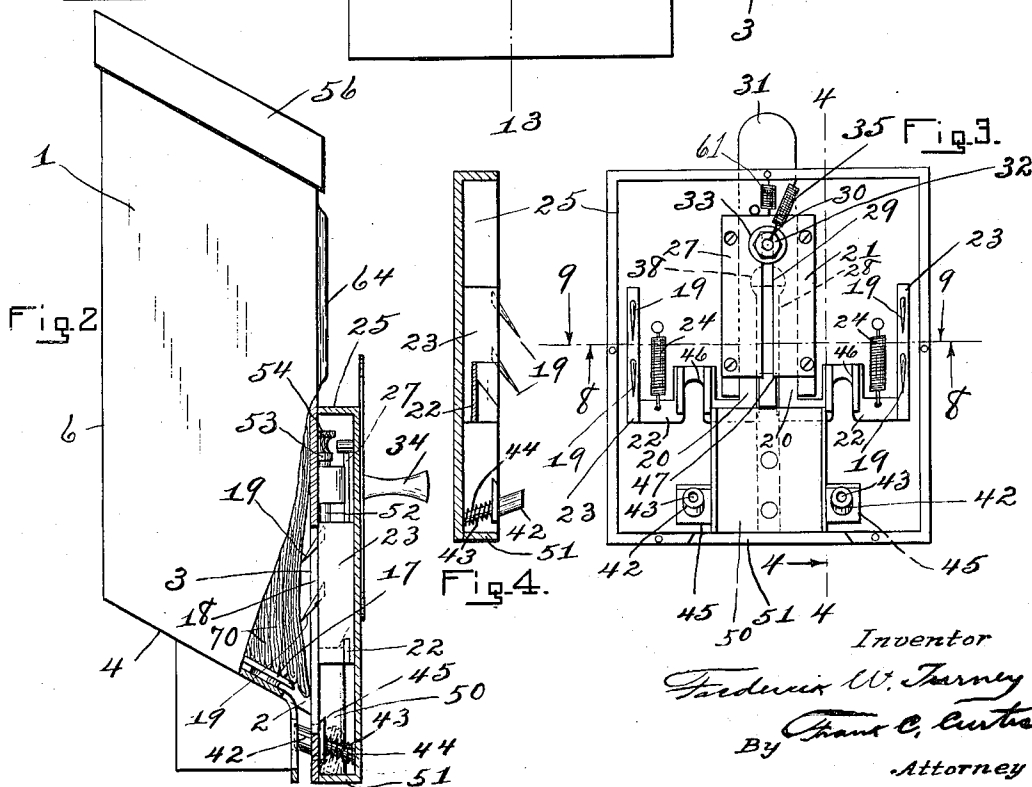
F. W. TURNEY.
 NEWSPAPER VENDING MACHINE.
 APPLICATION FILED JAN. 27, 1916.

1,257,153.

Patented Feb. 19, 1918.

4 SHEETS—SHEET 1.

Fig. 1.

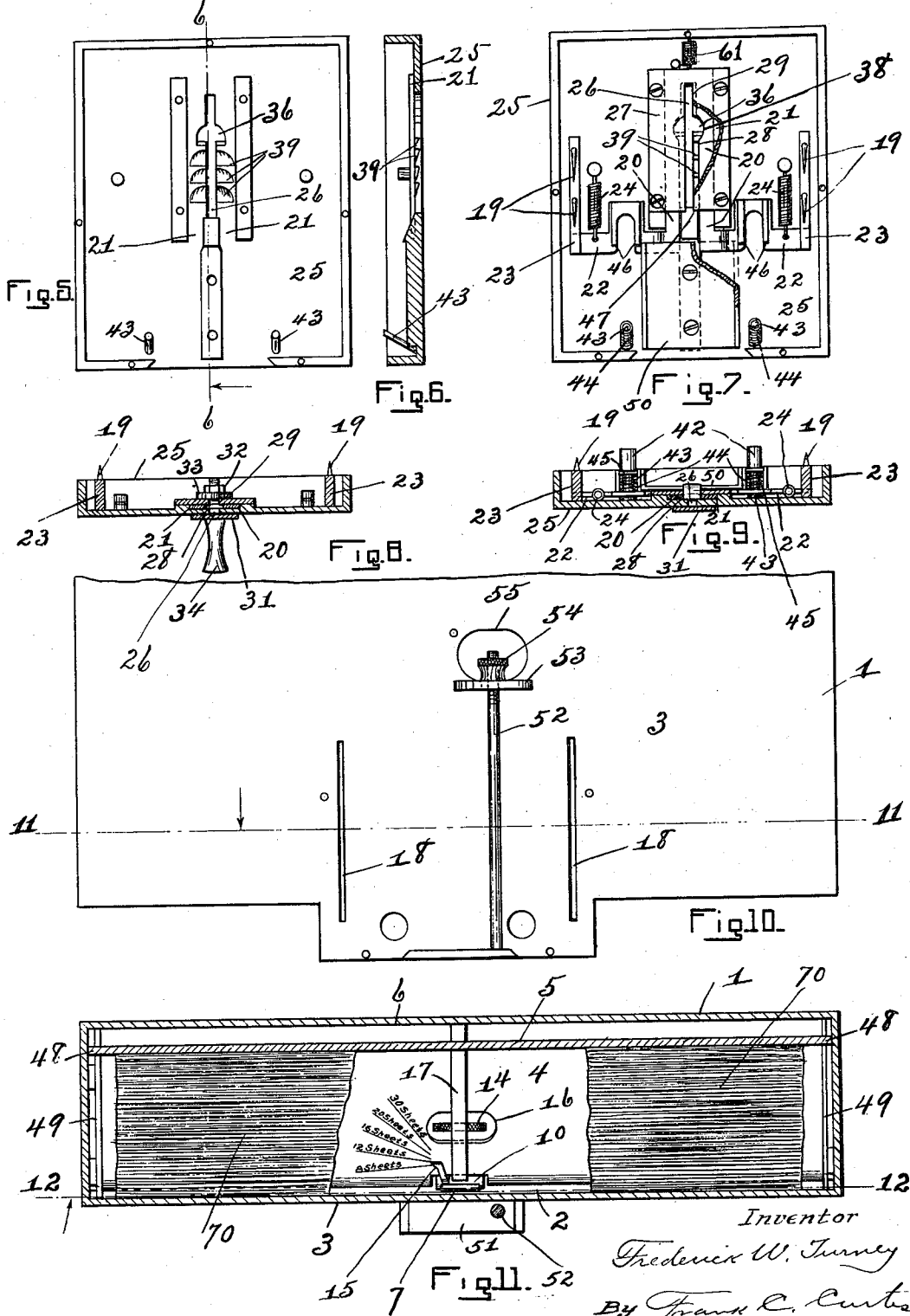


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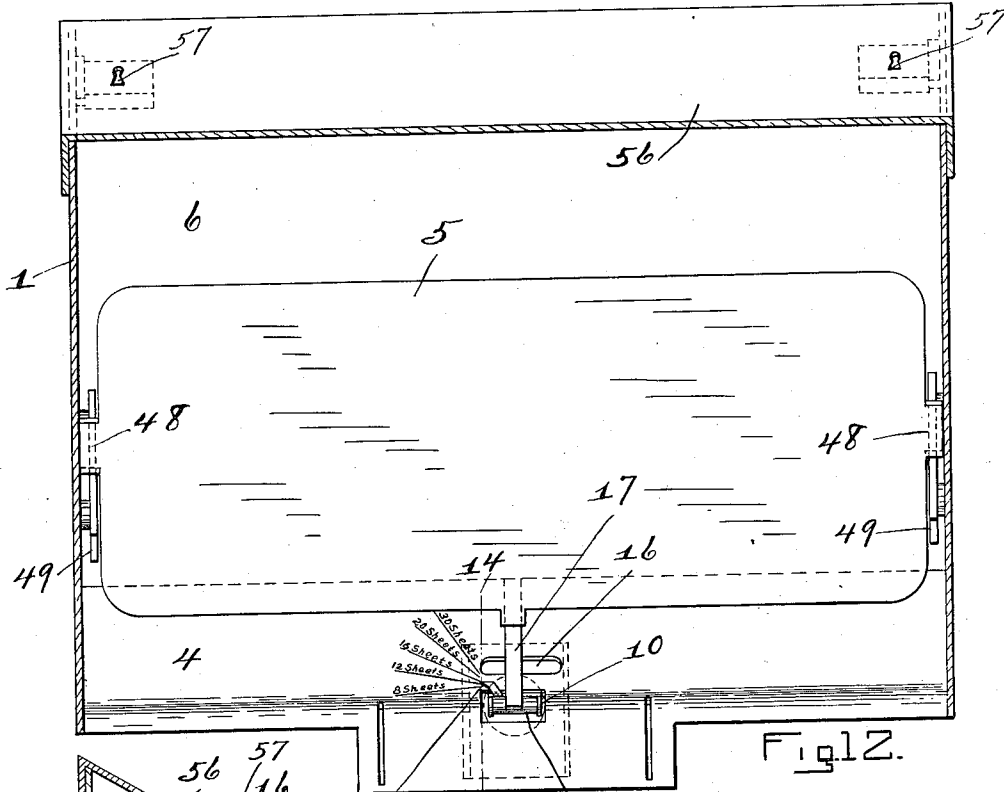
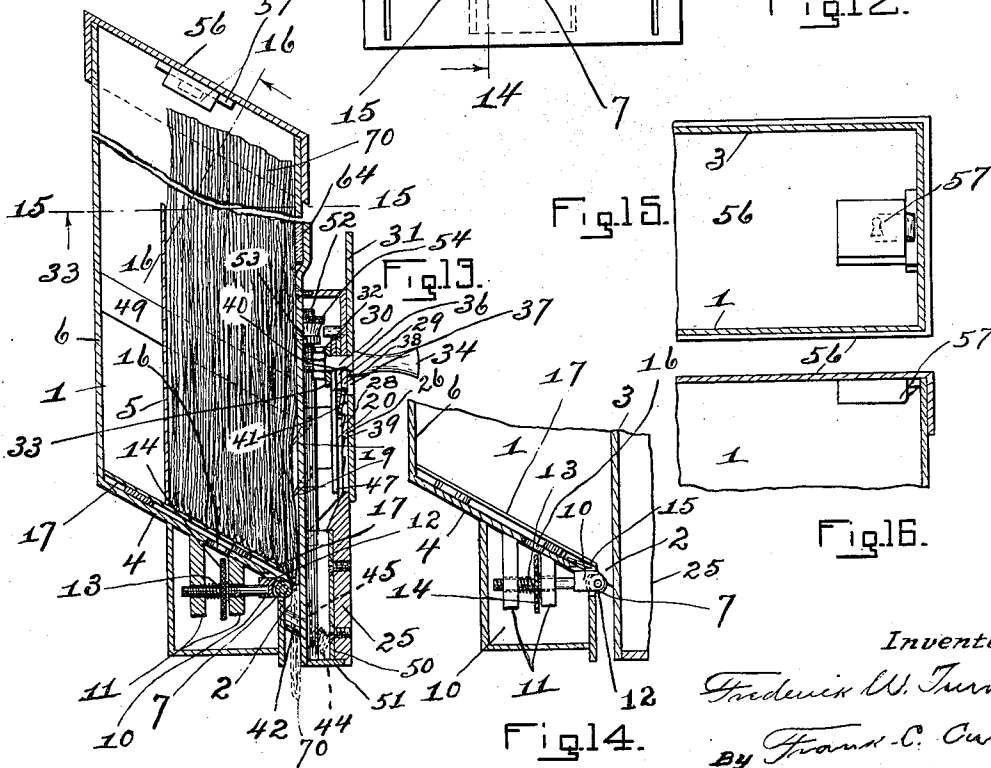


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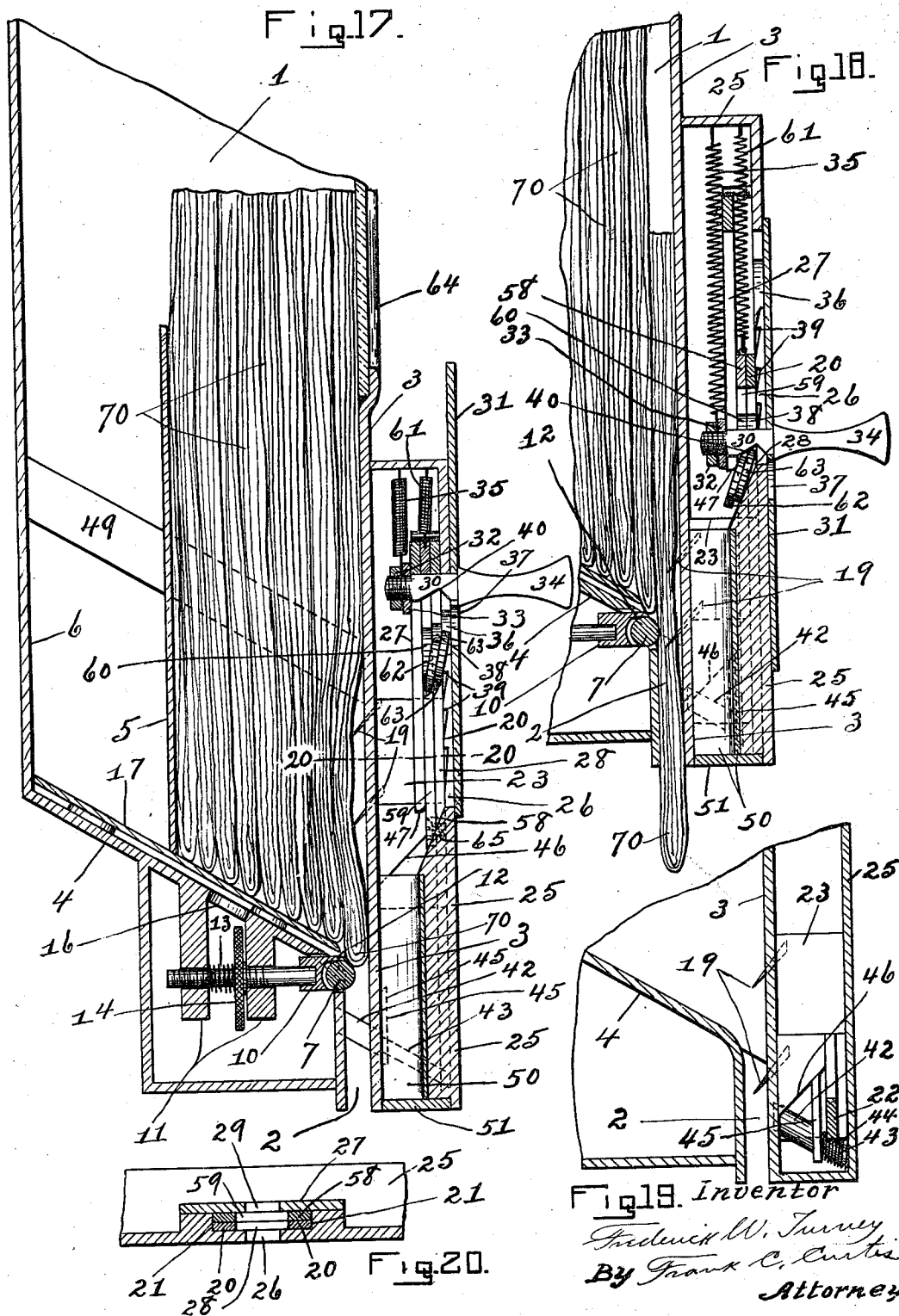


Fig. 19. Inventor
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UNITED STATES PATENT OFFICE.

FREDERICK W. TURNEY, OF BALLSTON LAKE, NEW YORK.

NEWSPAPER-VENDING MACHINE.

1,257,153.

Specification of Letters Patent. Patented Feb. 19, 1918.

Application filed January 27, 1916. Serial No. 74,546.

To all whom it may concern:

Be it known that I, FREDERICK W. TURNEY, a citizen of the United States, residing at Ballston Lake, county of Saratoga, and State of New York, have invented certain new and useful Improvements in Newspaper-Vending Machines, of which the following is a specification.

Reference may be had to the accompanying drawings, and the reference characters marked thereon, which form a part of this specification. Similar characters refer to similar parts in the several figures therein.

The invention relates to machines for delivering, one by one from a magazine, newspapers, periodicals, or the like, and is particularly adapted for machines of this character having hand-actuated ejecting mechanism operating through the medium of coins deposited in the machine.

Certain objects of the invention are to facilitate the delivery, one by one, of the contents of the magazine; to prevent abstraction of the contents of the magazine without prepayment therefor; to prevent the delivery of more than a single one of the contents of the magazine at a single operation of the coin-controlled ejecting mechanism; to prevent the delivery of an article from the magazine except upon the completion of the coin-releasing movement of the ejecting mechanism; and to adapt the ejecting mechanism for operation through the medium of a single coin, or a plurality of coins, as may be desired from time to time.

Figure 1 of the drawings is a view in front elevation of a newspaper-vending machine embodying my invention.

Fig. 2 is a view in end elevation of the same.

Fig. 3 is a view in elevation of the inner open side of the housing for the ejecting mechanism and its contents, removed from the magazine.

Fig. 4 is a vertical cross-section taken on the broken line 4—4 in Fig. 3.

Fig. 5 is a view similar to Fig. 3, showing merely the housing and parts permanently fixed thereupon.

Fig. 6 is a vertical cross-section taken on the broken line 6—6 in Fig. 5.

Fig. 7 is a view similar to Fig. 3, with certain of the parts broken away, and certain other parts removed.

Fig. 8 is a horizontal cross-section taken on the broken line in Fig. 3, indicated by

arrows 8—8, viewed in the direction of said arrows.

Fig. 9 is a horizontal section taken on the same broken line in Fig. 3, viewed in the direction of the arrows 9—9.

Fig. 10 is a view in front elevation of the machine partly broken away and with the housing for the ejecting mechanism and its contents removed.

Fig. 11 is a horizontal section of the same taken on the broken line 11—11 in Fig. 10.

Fig. 12 is a vertical section of the same taken on the broken line 12—12 in Fig. 11.

Fig. 13 is a central vertical cross-section of the machine taken on the broken line 13—13 in Fig. 1.

Fig. 14 is a vertical cross-section of the machine taken on the broken line 14—14 in Fig. 12.

Fig. 15 is a horizontal section of the machine taken through the magazine of the machine on the broken line 15—15 in Fig. 13.

Fig. 16 is a cross-section of the same taken on the broken line 16—16 in Fig. 13.

Fig. 17 is a sectional view similar to Fig. 13, showing a modification of the invention.

Fig. 18 is a similar view showing the handle at approximately the limit of its downward movement.

Fig. 19 is a vertical cross-section of the front lower corner-portion of the machine.

Fig. 20 is a horizontal cross-section taken on the broken line 20—20 in Fig. 17, with the outer slide-plate omitted.

Referring to the drawings wherein the invention is shown in preferred form, 1 is an inclosure or magazine adapted to contain the folded newspapers or the like, 70, for the vending of which the machine is adapted.

The magazine is provided with a bottom outlet-slot, 2, of a width adapted for the free passage therethrough of a folded newspaper or the like of the greatest thickness for which the machine is adapted, which slot is adjacent to the front side-wall, 3, of the magazine.

The bottom, 4, of the magazine is inclined downwardly toward the outlet-slot, 2, and the folded papers are arranged in upright position within the magazine with their folded edges resting upon said inclined bottom.

To facilitate thus supporting the papers and cause them to slide down along the inclined bottom toward the outlet-slot, a mov-

able weight, 5, is interposed between the contents of the magazine and the rear side-wall, 6, of the magazine, said weight having end-lugs, 48, adapted to slide along downwardly inclined flanges or slideways, 49, on the respective end-walls of the magazine.

The papers are yieldingly prevented from passing from the magazine into the outlet-slot, 2, by means of a roller, 7, movably mounted in an opening in the rear wall of the slot, 2, to project more or less into the slot, and to so restrict the width of the slot that the folded paper next to the front side-wall of the magazine will not pass down into the slot, except when forced by the use of suitable ejecting mechanism.

This roller is mounted upon a frame, 10, reciprocatory, in bearings in the lugs, 11, depending from the magazine, toward and from the outlet-slot, said frame having a housing, 12, overhanging substantially half of the roller on the side remote from the front side-wall, 3, of the magazine, permitting contact of the folded edge of the papers with only the side of the roller adjacent to the slot.

The roller-frame is yieldingly forced toward the slot by means of a coil-spring, 13, and its spring-induced movement toward the slot is limited by the engagement with the front lug, 11, of an adjustable stop in the form of a wheel, 14, fitting a screw-threaded portion of the roller-frame.

The distance which the roller projects into the outlet-slot can thus be regulated from time to time in accordance with the thickness of the folded papers to be delivered by the machine; and for the convenience of the person who makes the adjustment, the roller-frame may have fixed thereon an index, 15, movable with the frame along a graduated scale on the bottom of the magazine, the divisions of which scale are marked with the number of newspaper-sheets or thicknesses which they respectively indicate, as shown in Figs. 11 and 12.

The inclined bottom of the magazine is provided with an aperture, 16, through which the wheel, 14, is accessible for adjustment; and at this point, the folded edges of the papers are held slightly above the inclined bottom by means of a plate or strip, 17, which prevents the papers from catching on the adjusting wheel, 14, or the index, 15.

The front side-wall, 3, of the magazine is provided with vertical slots, 18, through which parts of the ejecting mechanism extend into engagement with the paper next to said side-wall.

As shown in the drawings, such paper-engaging means are in the form of spurs, 19, inclined downwardly toward the outlet-slot, which spurs project from a vertically-

reciprocatory frame comprising a slide-plate, 20, vertically-reciprocatory in an inclosed slideway, 21, and having on its lower end a cross-head, 22, terminating in vertical arms, 23, opposite the respective slots, 18, from which arms the spurs project through the respective slots.

Coil-springs, 24, tend to yieldingly support the spring-carrying frame in elevated position.

The slideway, 21, for the slide-plate, 20, is formed upon a housing which is preferably mounted upon the outer side of the front side-wall, 3, by screws inserted from within the magazine, whereby it is removable only by access to the magazine.

This housing is provided with a vertical slot, 26, parallel with the slideway; and the slide-plate, 20, and the cover-plate, 27, for the slideway are provided with slots respectively, 28 and 29, registering with the slot, 26, which registering slots are adapted to freely receive and permit vertical play of a spindle, 30, projecting inwardly from a vertically-reciprocatory slide-plate, 31, movable along the outer side of the slotted wall of the housing, 25.

The inner end of the spindle, 30, is screw-threaded to receive a nut, 32, which holds a washer, 33, closely in sliding engagement with the cover-plate, 27, for the slideway.

A handle, 34, is fixed upon the slide-plate, 31, to serve as a means for forcing said slide-plate and the spindle, 30, downwardly, a coil-spring, 35, serving to restore them to, and yieldingly hold them in, elevated position.

The housing, 25, is provided with an opening, 36, intersected by the slot, 26, adapted to register with a similar opening, 37, in the outer slide-plate, 31, when the latter is in raised position, said openings being of a size and shape to permit passage there-through of an ordinary coin; and the slide-plate, 20, of the spur-carrying frame is provided with a recess or opening, 38, intersected by its slot, 28, adapted when said plate is in elevated position to receive a coin inserted through the slots, 36 and 37.

Adjacent to the vertical slot, 26, the housing, 25, has formed upon its inner surface a vertical series of downwardly-facing ratchet-teeth, 39, and the under side of the spindle, 30, is formed with a beveled surface, 40, adapted to engage the top edge of an inserted coin, when forced downward thereagainst, so as to tilt said coin against said toothed surface.

The downward movement of the handle, 34, and spindle, 30, is transmitted to the spur-carrying frame through the medium of the inserted coin, 41, which bears upon the bottom of the recess or opening, 38.

The coin is prevented from escape through said opening by the cover-plate, 27, for the

slideway, which cover-plate terminates or is cut away, as at, 47, at the point reached by the coin at the limit of the downward movement of the ejecting-mechanism to thereat permit the coin to escape.

The downward movement of the ejecting-mechanism having been thus started through the medium of an inserted coin, must be completed so that the coin escapes or is expelled before the spur-carrying frame can be restored to its elevated position, due to the engagement of the coin with the ratchet-teeth, 39.

The downward movement imparted to the spur-carrying frame by the handle, 34, through the medium of the inserted coin, causes the paper, which is next to the front side-wall, 3, of the magazine, to be slightly penetrated by the spurs, 19, and thereby forced downward past the roller, 7, through the bottom outlet-slot, 2.

To prevent abstraction of the papers through the bottom outlet-slot without operation of the machine through the medium of the coin-controlled mechanism, I have provided movable stops extending across said slot in the form of a pair of sleeves, 42, slidably mounted upon respective posts, 43, and yieldingly forced toward the slot by the respective coil-springs, 44.

Each of the sleeves, 42, has a wedge-plate, 45, adapted to be engaged by a wedge, 46, carried by the cross-head, 22, near the end of the downward movement of the spur-carrying frame, whereby said stop-sleeves are automatically withdrawn from the outlet-slot at substantially the time when the bottom folded-edge of the paper is brought opposite thereto, thus removing their opposition or obstruction to the spur-induced movement of the paper.

The coin which escapes from the slide-plate, 20, after operating the same, falls into a coin-receptacle formed by a channel-plate, 50, having vertical edge-flanges which make contact with the outer side of the front side-wall, 3, to form an inclosure having a downwardly removable-bottom, 51, which is also a removable section of the bottom wall of the housing 25.

The ends of this removable section of the bottom wall are formed to make underlying beveled engagement with the neighboring portions of the housing, and are removably held in such engagement to close the bottom of the coin-receptacle by means of a screw-threaded rod, 52, connected with said bottom section and passing through a lug, 53, on the front side-wall, 3, and a thumb-nut, 54, fitting the screw-threaded end of said rod.

The front wall, 3, of the magazine is provided with an aperture, 55, just above the lug, 53, permitting access to the thumb-nut from within the magazine.

The magazine has a removable cover, 56, secured by one or more locks, 57.

The operation of the machine is as follows:

The cover is unlocked and removed and the weighted plate, 5, is slid upward along the inclined slideways, 49, and the folded papers are deposited in the magazine in upright position with their folded edges resting on the inclined bottom and the plate or strip, 17.

The plate, 5, is then released to bear against the rearmost paper.

It will be understood that before the papers are deposited in the magazine, the roller-frame will be adjusted by means of the wheel, 14, to adjust the roller, 7, in accordance with the thickness of the papers as indicated by the index, 15, with reference to the adjacent graduated scale.

If the machine has been previously used, the coin-receptacle may be emptied while the magazine is open by unscrewing the thumb-nut, 54, permitting the rod, 52, to be lowered sufficiently to open the bottom, 51, and let the coins fall out or be removed.

After the bottom of the coin-receptacle has been closed by tightening the thumb-nut, 54, and the papers have been deposited in the magazine in the manner above described, the cover is replaced and locked and the magazine is ready for use.

A person desiring to purchase one of the magazine-contained papers, inserts a coin of the proper amount through the coin-openings, 36 and 37, causing the coin to enter the coin-opening, 38, in the slide-plate, 20, he then forces the handle, 34, downward as far as possible thereby forcing the slide-plate downward and causing the spurs, 19, to engage the paper which is next to the front side-wall, 3, and force the same down into the outlet-slot, 2.

As the bottom folded-edge of the paper reaches a point opposite the stop-sleeves, 42, the latter are automatically withdrawn from the slot and from the path of the paper by engagement of the wedges, 46, with the respective wedge-plates, 45, on the sleeves.

At the limit of the downward movement of the ejecting mechanism, the coin escapes from the slide-plate at the cut-away portion, 47, of the cover, 27, for the slideway, and falls into the coin-receptacle, whereupon the spur-carrying mechanism is restored to its raised position by the coil-springs, 24, thereby withdrawing the wedges, 46, and releasing the stop-sleeves, 42, to the influence of their respective springs.

By the time the stop-sleeves are thus released, however, the lower portion of the paper in the outlet-slot will have been forced down below the path of the sleeves so that they cannot immediately enter the slot, but

will be held by their springs against the side of the paper until the latter has been fully withdrawn down through the slot, whereupon the sleeves automatically return to their stop-position across the slot.

The ejecting mechanism forces the paper only part way out through the bottom of the outlet-slot into a position to be easily grasped and withdrawn by hand.

In the operating of the machine, as the handle is forced downward while a coin occupies the opening, 38, in the slide-plate, 20, the engagement of the beveled surface, 40, on the handle-spindle with the top of the coin will cause the top of the coin to be tipped into engagement with the ratchet-teeth, 39, after which engagement the slide-plate which carries the spurs cannot be returned to its raised position until its downward movement has been fully completed to release the coin, although the handle may be ineffectively moved up and down less than its full movement.

As thus far described, the machine is adapted for operating through the medium of a single coin.

In cases where the price of the paper does not express the value of any single coin, means may be provided for actuating the machine through the medium of a plurality of coins whereby the price of the paper can be made up.

In Figs. 17, 18 and 20, I have shown a modification of the above described machine whereby it is adapted to be thus actuated through the joint medium of two inserted coins.

I interpose between the slide-plate, 20, which carries the spurs and the cover-plate, 27, of the slide-way for said slide-plate, an auxiliary-plate or plates, 58, one for each additional coin for the use of which the machine is to be adapted.

Each of said auxiliary plates is provided with a vertical slot, 59, for the spindle, 30, and with a coin-opening, 60, adapted to receive a coin inserted through the coin-openings, 36 and 37, and is yieldingly held in raised position by a coil-spring 61.

In Figs. 17, 18 and 20, I have shown the machine adapted for joint use of two coins.

The first coin inserted, 62, will pass into the coin-opening, 60, in the auxiliary plate, 58, without, however, rendering the machine operative, because if the handle is then pushed down before a second coin is inserted, the spindle, 30, will, by engagement with said inserted coin, merely force down the auxiliary plate, 58, without moving the spur-actuating plate, 20.

When a second coin, 63, is inserted, it passes into the coin-opening, 38, in the slide-plate, 20, and is retained therein by engagement with the coin, 62, previously inserted in the coin-opening in the plate, 58.

Downward movement of the handle will thus cause both the slide-plate, 20, and the auxiliary-plate, 58, to be forced downward to operate the machine in the manner above described.

The construction just described can be readily adapted to be operated with a single coin, if desired, by fastening the auxiliary-plate, 58, securely to the slide-plate, 20, as by one or more screws, 65, causing the two plates to act as a unit.

The front of the magazine may be provided with a glass-closed opening, 64, through which the contents of the magazine can be seen, and exposing to view the name of the contained papers, if properly faced toward the front.

What I claim as new and desire to secure by Letters Patent is—

1. In a machine of the class described, and in combination, a magazine provided with an outlet-chute and having a wall on one side of said chute; ejecting-mechanism having a member movable toward said chute and engageable with the contents of the magazine adjacent to said wall; and a roller mounted opposite said wall and said ejecting-mechanism at the mouth of said chute cooperative with said wall to normally support within the magazine an article adjacent to said wall, said roller permitting the article to be forced by the ejecting-mechanism into said chute.

2. In a machine of the class described, and in combination, a magazine provided with a downwardly extending chute, and having a wall on one side of said chute; ejecting-mechanism having a member movable toward said chute; and a roller resiliently mounted opposite said wall and said ejecting-mechanism at the mouth of said chute cooperative with said wall to normally support a magazine-contained article adjacent to said wall.

3. In a machine of the class described, and in combination, a magazine provided with a bottom outlet-slot, and an opening in the wall on one side of said slot, and having a side-wall on the opposite side of said slot, and a bottom downwardly inclined toward said slot; a roller; a movable frame whereby said roller is mounted in said opening; a spring tending to force said frame toward said slot; adjustable means for limiting the spring-induced movement of said frame; and ejecting-mechanism having members engageable with the contents of the magazine adjacent to said side-wall.

4. In a machine of the class described, and in combination, a magazine provided with a bottom outlet-slot, and an opening in the wall on one side of said slot, and having a side-wall on the opposite side of said slot, and a bottom downwardly inclined toward said slot; ejecting-mechanism; a roller; a

movable frame whereby said roller is mounted in said opening in the slot-wall to project more or less into the slot; a spring tending to force said frame toward the slot; adjustable means for limiting the spring-induced movement of said frame; a graduated scale on a fixed part of the magazine; and an index carried by said frame along said scale.

5 10 5. In a machine of the class described, and in combination, a magazine provided with a slot; ejecting-mechanism having a member reciprocatory toward and from said slot; spurs on said reciprocatory member engage-
15 able with the contents of the magazine; a movable stop extending across said slot; and wedgewise-engaging members one on said stop and the other carried by said reciprocatory member whereby said stop is auto-
20 matically withdrawn from the slot near the end of the movement of said reciprocatory member toward the slot.

6. In a machine of the class described, and in combination, a magazine provided with a
25 bottom-slot adjacent to one of its side-walls and with vertical slots in said side-wall; a hand-actuated vertically-reciprocatory member mounted outside of said magazine and

having spurs projecting through said vertical slots into the magazine; a movable stop 30 extending across said bottom-slot; and wedgewise-engaging members one on said stop and the other carried by said reciprocatory member whereby said stop is automatically withdrawn from the slot near the 35 end of the downward movement of said hand-actuated member.

7. In a machine of the class described, and in combination, a magazine provided with a bottom outlet-slot, and an opening in the 40 wall on one side of said slot, and having a side-wall on the opposite side of said slot; ejecting-mechanism; a roller yieldingly mounted in said opening in the slot-wall; and a housing overhanging substantially 45 half of said roller remote from said side-wall, said roller cooperating with said side-wall to normally support an article in the magazine.

In testimony whereof, I have hereunto set 50 my hand this 19th day of January, 1916.

FREDERICK W. TURNEY.

Witnesses:

J. I. SALISBURY,
ANTHONY KLEIN.