

(No Model.)

3 Sheets—Sheet 1.

A. BEGG.

AUTOMATIC APPARATUS FOR THE SALE OF NEWSPAPERS.

No. 472,492.

Patented Apr. 5, 1892.

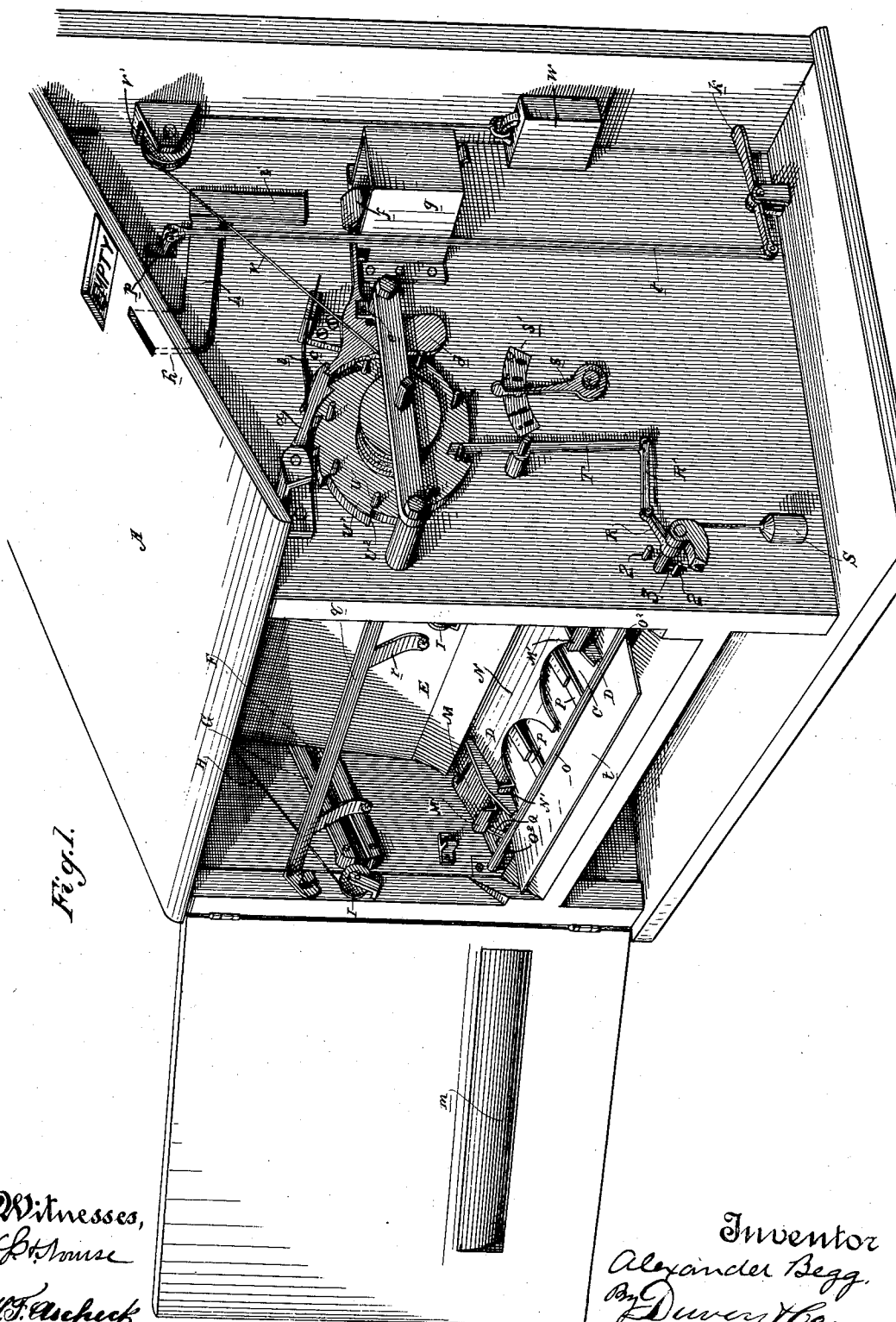


Fig. 1.

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(No Model.)

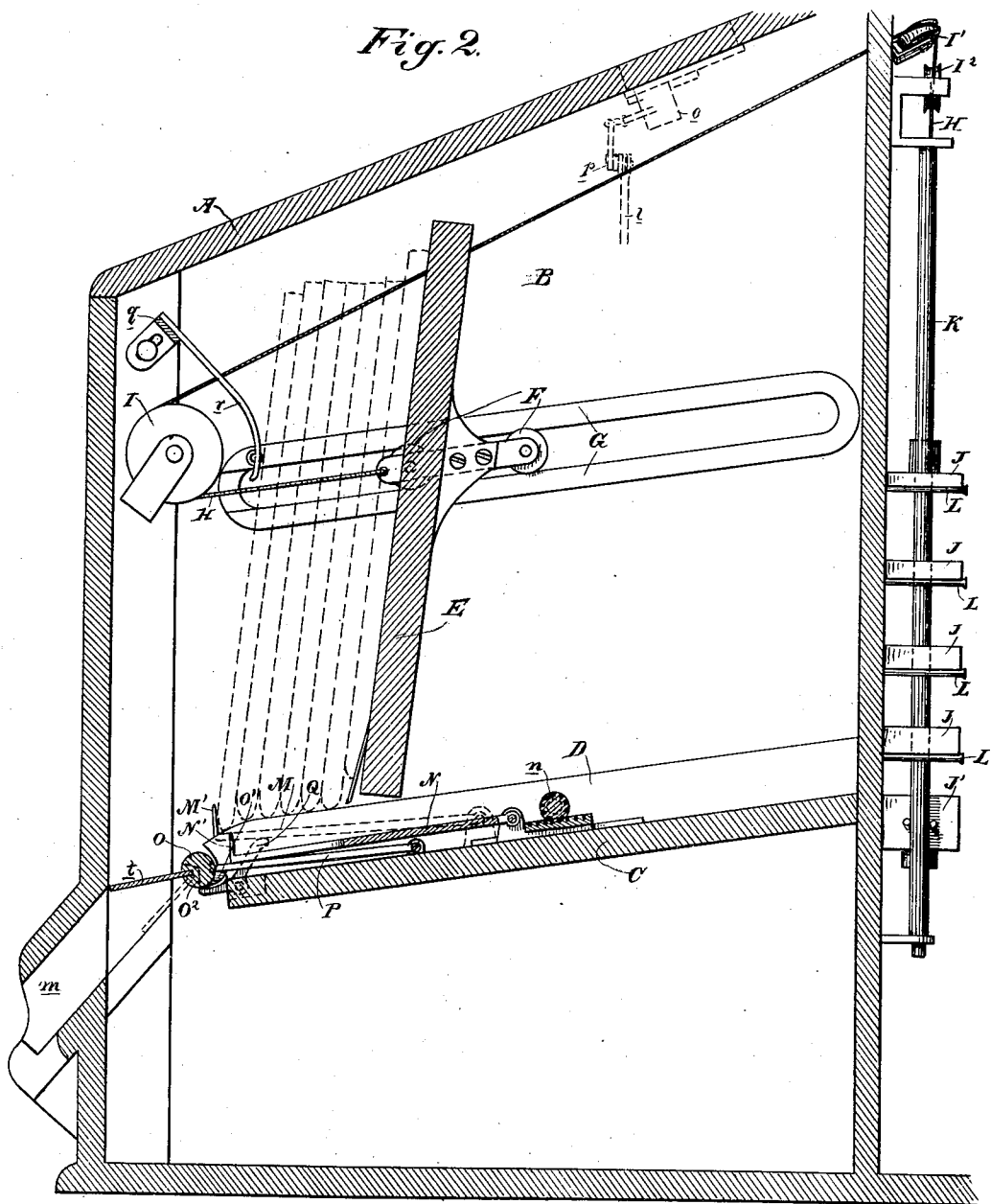
3 Sheets—Sheet 2

A. BEGG.

AUTOMATIC APPARATUS FOR THE SALE OF NEWSPAPERS.

No. 472,492.

Patented Apr. 5, 1892.



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3 Sheets—Sheet 3.

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AUTOMATIC APPARATUS FOR THE SALE OF NEWSPAPERS.

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Fig. 3.

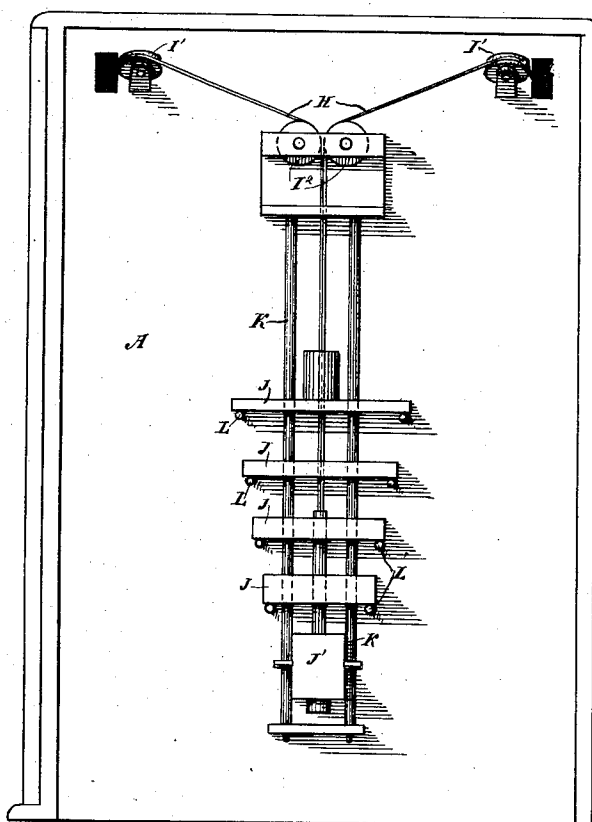
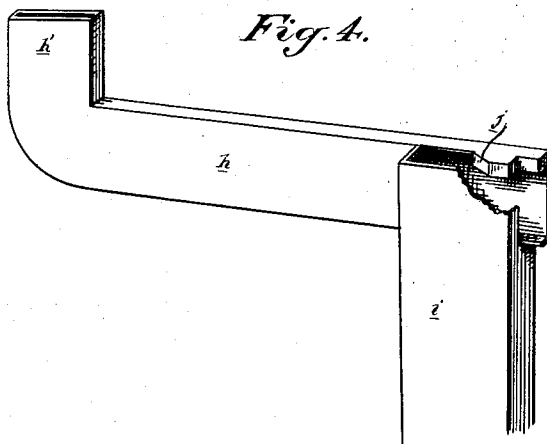


Fig. 4.



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UNITED STATES PATENT OFFICE.

ALEXANDER BEGG, OF SEATTLE, WASHINGTON, ASSIGNOR OF ONE-HALF TO
D. E. DURIE, OF SAME PLACE.

AUTOMATIC APPARATUS FOR THE SALE OF NEWSPAPERS.

SPECIFICATION forming part of Letters Patent No. 472,492, dated April 5, 1892.

Application filed June 30, 1891. Serial No. 398,077. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER BEGG, a citizen of the United States, residing at Seattle, King county, State of Washington, have invented an Improvement in Automatic Apparatus for the Sale of Newspapers; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an automatic apparatus for the sale of newspapers, books, pamphlets, &c.; and my invention consists of the constructions and combinations of devices hereinafter claimed, and which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of my machine. Fig. 2 is a vertical section through the same. Fig. 3 is a rear view. Fig. 4 is a detail of the coin passage-way.

A is a case having a compartment B of sufficient size to contain any desired number of papers properly folded, and C is an inclined bottom having rails D, upon which the lower edges of the folded papers or the books or other articles rest.

E is a movable back standing in a slightly-inclined position and having rollers or travelers F at each end, which move upon the rails G, fixed in the sides of the case and having approximately the same inclination as the bottom of the case. By these guides and rails upon which the travelers move this back is held in its proper position as it moves forward and back.

H I are cords fixed to each of the travelers, these cords passing over guide-pulleys I at the front of the case, thence extending rearwardly through the top of the case, where they pass over other guide-pulleys I' and I'', and extending downwardly are connected with the weights J and J', which are sufficiently heavy to force the movable carrier forward and any papers which may be in front of it toward the front of the apparatus.

In order to proportion the weights J and J' to the number of papers which are contained within the apparatus I have shown these weights movable loosely upon the suspending-cords and of different lengths, the lowest one, to which the cords are fastened, being the

smallest, the next one a little longer, and the successive weights above this made proportionately longer and as heavy as may be desired. These weights preferably travel upon vertical guide-rods K to keep them steady.

In the back of the case are fixed pins L, one pair of pins being fixed at a point where the upper weight will rest upon them after the carrier-plate has been forced forward and a certain number of papers delivered. The next pair of pins is so situated as to receive and support the second weight from the top, these pins being a little nearer together, so that the second weight, having a length less than the distance between the upper pair of pins, will pass down between these pins, but will be arrested by the second pair of supporting-pins. The third weight and the others succeeding are in like manner arrested by a similar arrangement of pins, so that as the number of papers and the weight within the case are diminished the operating-weights will be correspondingly diminished, until at the end only a sufficient weight remains suspended by the cords to properly actuate the carrier and the few papers which may be left in the apparatus.

In order to properly deliver the papers one at a time, I have shown the mechanism, which consists of two series of plates M and N and a rotary actuating-shaft O.

The plates M are hinged, as shown, in the present case outside of the rails which support the papers and below the level of these rails. At the front end these plates have the upturned edges or flanges M', and these flanges, projecting above the level of the rails, serve to arrest the papers and prevent their being pressed forward. The second plate N is correspondingly hinged between the carrying-rails and has the upturned points or flanges N'. These are situated sufficiently far behind the line of the flanges M' so that when raised up above the level of the rails they will pass between the first and second papers which are supported upon the rails, and after these points have been raised in this manner the points M' will be depressed below the level of the carrying-rails, thus allowing the first paper to slip off and be delivered through the discharge-slot *m* in front of the case.

The plate N is hinged to a frame, which is movable forward or back by means of a rack moved by a gear-wheel, the shaft *n* of which extends through the side of the case or to any suitable point. Upon the outer end of this shaft is an index-finger *s*, which engages a figured rack *s'*. The intervals between the notches of the rack indicate the different thicknesses of the periodicals, and by the movement of the index-finger the plate N is correspondingly moved. By moving the plate N the points N' are adjusted with relation to the points M' to suit thick or thin papers or books.

The manner of operating these plates is as follows: The shaft O, which is journaled horizontally in front of the rails and just below the level of the top, has the cams O' projecting from its rear side, and just above these cams the shaft is cut away, so as to allow the fingers P, which lift the plate N, to lie in these chambers, the cams lying beneath these fingers when the shaft is in its normal position. In this position the points N' of the plate lie below the level of the rails. The outer plates M rest upon the inner ends of levers Q, which are fulcrumed to the bottom of the case just in rear of the shaft O. The forward ends of these levers project beneath the shaft, and when the shaft is in its normal position the rear ends of the levers are held up, thus raising the plates M, with their points or spurs M', so that they act to stop the papers which are being pressed forward by the carrier or movable back, as before described.

When a paper is to be delivered, the mechanism which actuates the apparatus causes the shaft O to rotate toward the front. The first action of the rotation will be to raise the cams O', and these, acting upon the projections or fingers P, will raise them up, and with them the plate N, thus introducing the points or spurs N' between the first and second papers. A further rotation of the shaft carries it around to a point where the notches or channels O², which are cut in the shaft opposite the levers Q, will allow the front ends of these levers to fall into these depressions. This allows the front end of the levers to be raised and the rear ends to be correspondingly depressed, and with them the plates N will be depressed until their flanges M' are beneath the level of the supporting-bars upon which the papers rest, and they thus allow the front paper to escape through the discharge-opening. A light plate *t* is fixed to the shaft O in such a position that it normally covers the discharge-opening *m* and prevents any one from extracting papers from the outside. This plate revolves with the rotation of the shaft, so as to leave the opening *m* free for the escape of a paper. The shaft O is actuated by a lever R and a weight S. The lever R is connected by a link R' with an escapement-lever T, and this lever is actuated by pins U upon the face of an escapement-wheel U', so that when this wheel turns it moves

the upper end of the lever T backward, pushing the front end correspondingly forward, and this acts upon the lever-arm R to push it forward and thus rotate the shaft O to produce the results above described. As soon as the escapement-wheel has turned so far that the acting pin U passes the end of the lever T the weight S will act. This weight is suspended by a cord either from a grooved pulley or, as shown in the present case, an arm which forms a spiral curve from the center to its outer end. This arm has a groove in the back within which the cord rests, and as the shaft O is turned the cord, winding upon this spiral arm, carries the weight farther away from the center, thus increasing the power by which the weight acts and insuring the proper return of the parts to their original position. When they have thus returned, the weight hangs very nearly in line beneath the shaft O, and consequently has but little power to prevent its commencing its motion when it is acted on by the levers. Suitable stops 2 are fixed in the sides of the case, and a pin or lug 3, projecting from the shaft O, strikes these stops, so as to limit the rotation of the shaft O to the desired distance in each direction. The escapement-wheel U' has a drum, around which is wound a cord V. This cord passes over a pulley V' in the upper part of the case and has suspended from its opposite end a weight W, which is sufficient to rotate the escapement-wheel whenever it is released. This escapement-wheel has ratchet-teeth U² upon its periphery, and these are engaged by a pawl *a*, which is pivoted above the wheel and is pressed down by a light spring *b*. The outer end of this pawl has a projecting lug, which is engaged by the point *c* of a lever *d*, which is fulcrumed at *e*. This lever extends beyond the fulcrum-point a sufficient distance, which is determined by the weight and friction of the mechanism to be moved, and has upon its end an inclined plate *f*. Upon this plate the coin, which is introduced into the proper opening, drops, and its action upon the lever raises the pawl *a*, thus allowing the escapement-wheel to turn the distance between two of its teeth, this being sufficient to actuate the mechanism, as previously described. The coin itself slips off of the inclined plate *f* and drops into a receptacle *g*, where the coins are collected and may be removed from time to time.

h is an inclined channel having an upwardly-turned end *h'*. This channel is of sufficient length and width in cross-section of its open end to admit the coin which is to be paid for the paper—as, for instance, two or five cents, as the case may be. This coin, being dropped into the opening, will drop to the bottom of the inclined channel *h* and will roll down this channel until it reaches the vertical channel *i*, through which it falls and strikes the inclined plate *f*, as before described. In order to deliver this coin into the channel *i*, I have shown a beveled or inclined lug or projection

j at the top and in line with the channel *h*. The bottom of the channel *h* extends across one side of the vertical channel *i*, the latter being made of sufficient width to allow the coin to drop through it readily when it is once thrown off of the extension of the bottom of *h* by the action of the beveled lug *j*, above described.

If a smaller coin than the one designed for the purchase of the paper be placed in the opening, it will roll down the inclined channel *h* and by its momentum will retain its position on the extension of the bottom of *h*, and, being of so small diameter that it will not strike the deflector *j* above, it will simply run out through the opening which is made in the side of the upper part of the channel *i* and in line with the channel *h*. This coin will then drop to one side in the proper receptacle and will not actuate the mechanism for delivering the paper. Thus if a two or five cent coin be necessary to pay for a certain paper a one-cent coin dropped into the opening would pass out over the extension at the bottom of *h* and be delivered to one side, while the proper coin would strike the deflecting-lug *j* and would thus drop the coin into the proper receptacle and actuate the mechanism. In some cases it may be desirable to operate the escapement by two or three independent impulses, so that a two-cent paper may be delivered by introducing two one-cent pieces successively, or by other similar modification for other books or pamphlets. For this purpose the escapement-wheel *U'* is made with one or more teeth between those employed when the apparatus is actuated by a single coin. With this construction the first coin will move the escapement-wheel one tooth, the second will move it another tooth, and so on until the requisite number of single coins have been introduced, the last one finally operating to move the mechanism. In this construction the opening in the side of the vertical channel *i* will be closed and all coins will pass down that channel and actuate the escapement-wheel.

In order to show when the papers in the case are exhausted, the weight *W* is so adjusted that just before the last paper is discharged the weight will touch a lever *k*, which actuates a rod *l*, and through this rod and a lever *p*, with which it is connected, a plate bearing the word "Empty" is exposed beneath a glazed protected opening. If desired, another word, as "Full," may be exposed when the weight is raised.

The upper front edges of the papers are supported by elastic arms *r*, projecting downward and backward from a bar *q*, which extends across the front of the case at a suitable point for the purpose. Small outer friction-rollers on the ends of the arms *r* allow the front paper to move freely when released.

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

1. An apparatus for the automatic sale of

newspapers, consisting of a case having an inclined bottom, a supporting carrier or back against which the papers rest and rails or ledges upon which the lower edges of the papers are supported, weights by which the carrier is pressed forward, the stop-plates by which the papers are arrested at the front, and the plates *N*, having the separating-points *N'* by which all the papers but the front one are arrested, in combination with the rotary oscillating shaft *O* with cams, whereby the plates are actuated in opposite directions and a single paper delivered, while the others are arrested, substantially as herein described.

2. The combination, with the case having the movable back or carrier by which papers are pressed forward and the rails upon which the lower edges of the papers are supported, of the stop-plates *M* and *N*, acting in opposition to each other, the oscillating shaft *O*, and the cams and levers whereby one plate is elevated and the other depressed to deliver a single paper and arrest the remainder, substantially as herein described.

3. The combination of the containing-case having a movable back or carrier by which the papers are pressed forward, the stop-plates acting alternately to check and release the papers, means for elevating one plate and depressing the other to deliver a single paper and arrest the remainder, and mechanism, substantially as described, for adjusting the check-plate for papers of varying thicknesses.

4. The containing-case having the movable back or carrier by which the papers are pressed forward and the rails upon which the lower edges of the papers are supported, the stop-plates *M* and *N*, acting alternately to check and release the papers, the oscillating shaft *O* and the cams and levers whereby one plate is elevated and the other depressed to deliver a single paper and arrest the remainder, and the stop-plate movable by the rotation of the shaft *O* to open the delivery-passage when a paper is released and to close it after the escape of the paper, substantially as herein described.

5. The case having the inclined bottom and supporting-rails upon which the lower edges of the folded papers rest, a carrier with guides or travelers by which it is moved parallel with the supporting-rails, cords connected with the carrier, passing over direction-pulleys over which the cords pass, and weights suspended from the opposite end of the cords, whereby the carrier is actuated, substantially as herein described.

6. The supporting-rails, carrier, and stop-plates, and the rotary shaft *O* by which said plates are operated to deliver a single paper at a time, in combination with the escapement-wheel, the lever actuated thereby, and the lever-arm upon the rotary shaft, connected with the escapement-lever, whereby the shaft is rotated in one direction by the action of the escapement, a grooved spiral arm fixed to the shaft, a cord adapted to travel in said

groove, and a weight supported from the end of the cord, whereby the shaft is returned after the escapement is released, substantially as herein described.

5 7. A case containing the papers, a movable carrier, supporting-rails, stop and releasing plates whereby the papers are delivered one at a time, and a rotary shaft, levers, and escapement-wheel by which the mechanism is
10 actuated, in combination with a pawl engaging ratchet-teeth upon the escapement-wheel, a lever by which said pawl is lifted to allow the wheel to turn one tooth, a plate upon the end of the lever, a delivery-tube in line above
15 said plate through which the coin passes and strikes the plate to actuate the lever, and the receptacle into which the coin is delivered from the plate, substantially as herein described.

20 8. A case containing papers, a movable carrier, supporting-rails, stop and releasing plates whereby the papers are delivered one at a time, a rotary oscillating shaft, levers, and escapement-wheel, a pawl engaging ratchet-teeth upon this wheel, a coin-actuated lever by
25 which the pawl is lifted to allow the wheel to move forward the space between two adjacent teeth, a drum connected with the wheel, a cord, direction-pulley, and weight acting to rotate
30 the wheel, in combination with an indicator actuated by the weight to show when the paper-case is empty, substantially as herein described.

9. A case containing papers, a movable carrier, supporting-rails, stop and releasing plates 35 whereby the papers are delivered one at a time, a rotary oscillating shaft, levers, and escapement-wheel by which the mechanism is actuated, said wheel having one or more teeth within the space traveled by the wheel 40 to actuate the releasing mechanism, a pawl engaging these teeth, a coin-actuated lever by which the pawl is disengaged to allow the wheel to advance one tooth, and a delivery-tube through which coins of less value than 45 the price of the paper are discharged, whereby the pawl is disengaged and the escapement-wheel advanced a single space for each coin until the number of single coins sufficient to pay for a paper have been introduced, substantially as herein described. 50

10. The containing-case, the movable carrier and the stop-plates moving in opposition to each other to release a single paper and check the rest, a rotary shaft having cams 55 and arms and a mechanism by which the shaft is actuated, and a plate carried by the shaft and movable to open the discharge-aperture when a paper is released and to close it thereafter, substantially as herein described. 60

In witness whereof I have hereunto set my hand.

ALEXANDER BEGG.

Witnesses:

S. H. NOURSE,
J. A. BAYLESS.