(No Model.) 3 Sheets—Sheet 1.

# J. A. BOWYER & U. L. HULL.

## VENDING MACHINE.

No. 476,513. Patented June 7, 1892.

Fig. 1.

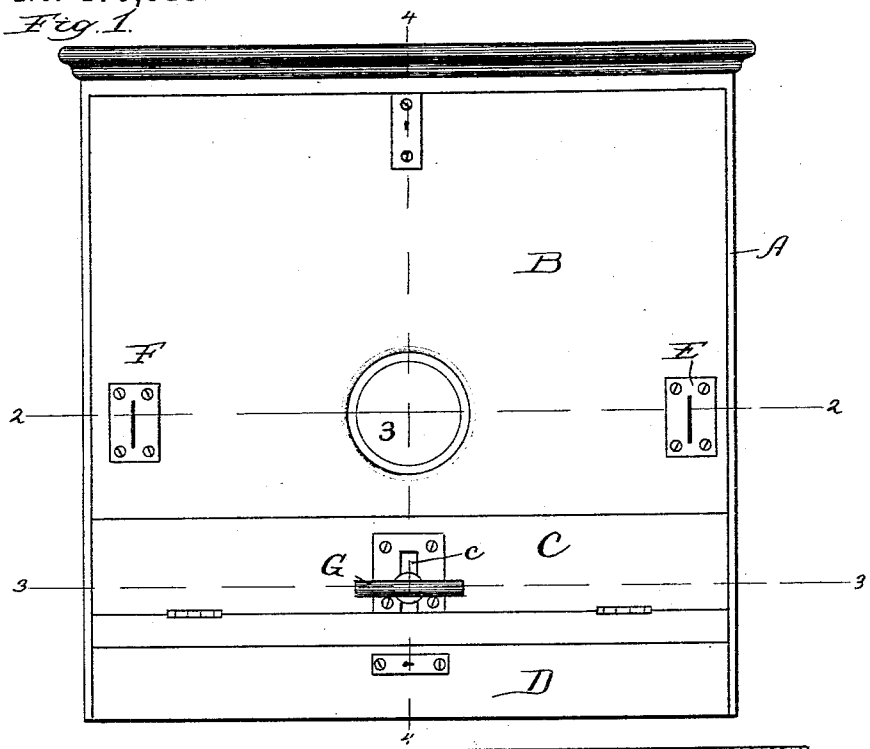
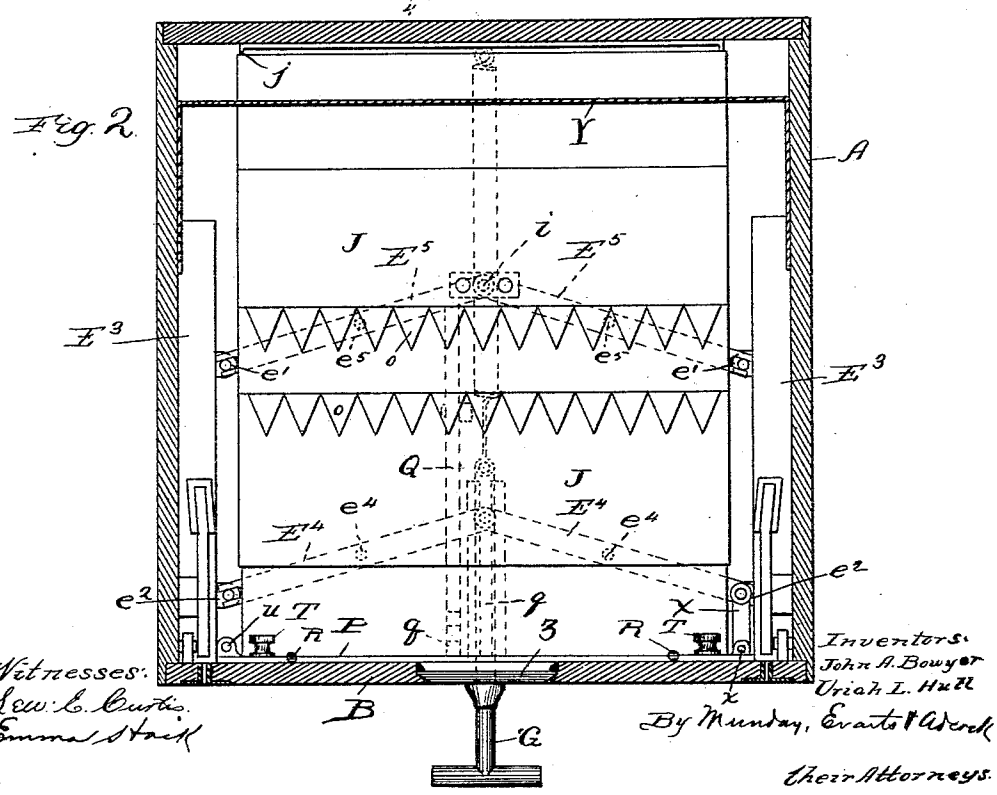



Fig. 2.

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(No Model.) 3 Sheets—Sheet 2.

# J. A. BOWYER & U. L. HULL.

## VENDING MACHINE.

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Fig. 3.

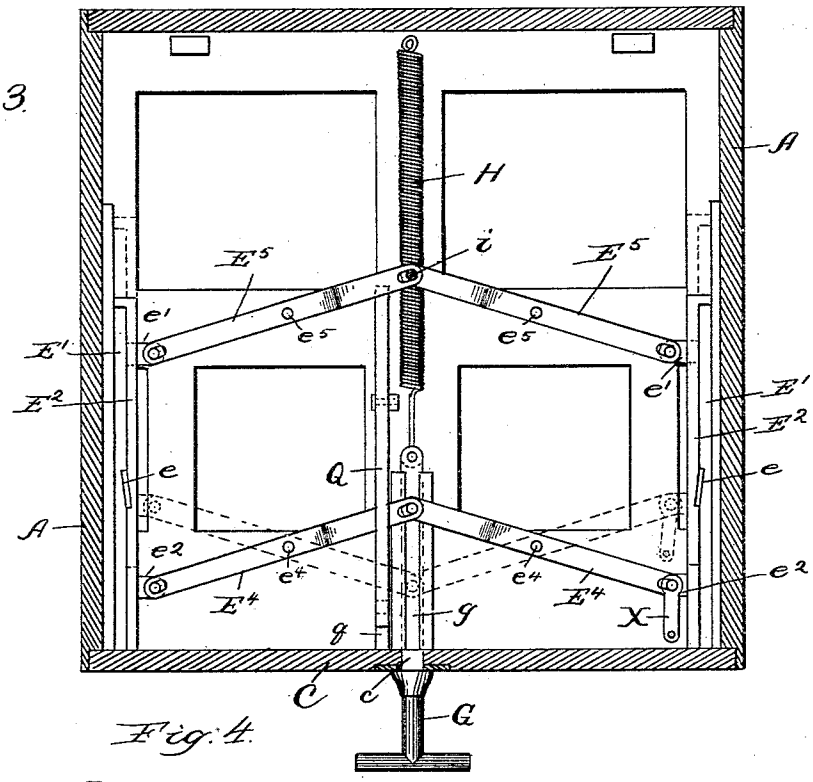
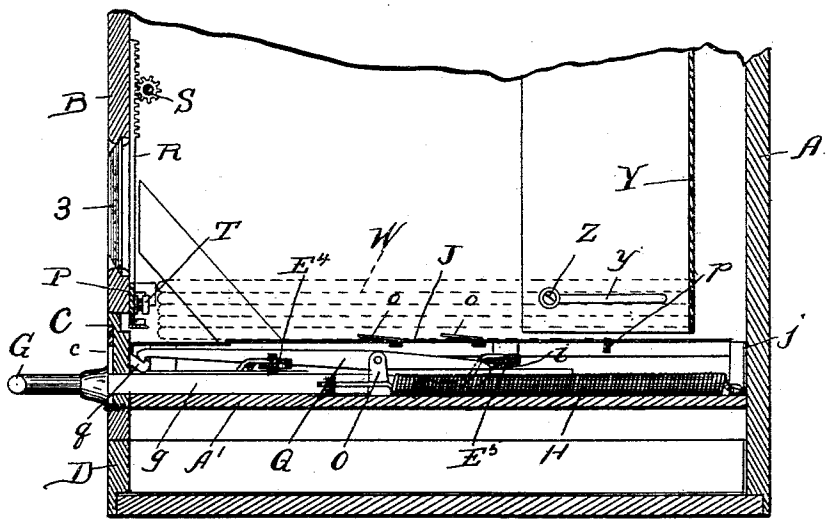



Fig. 4.

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(No Model.) 3 Sheets—Sheet 3.

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## VENDING MACHINE.

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Fig. 5.

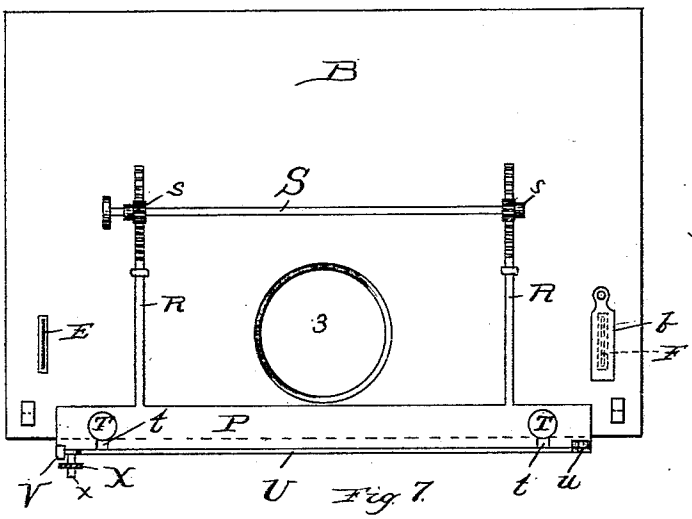



Fig. 6.

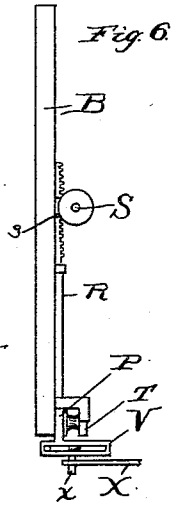
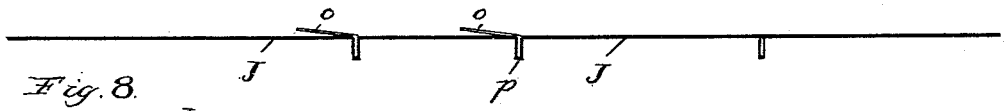



Fig. 7.

Fig. 8.



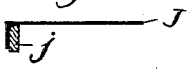




Fig. 9.




Fig. 10.

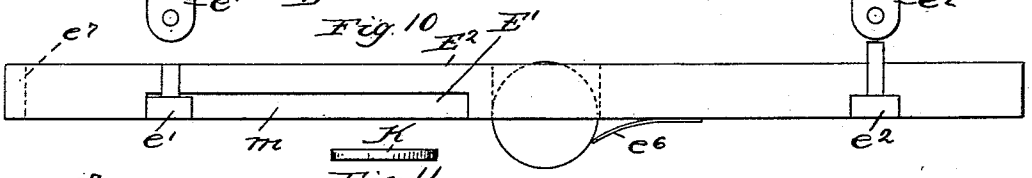
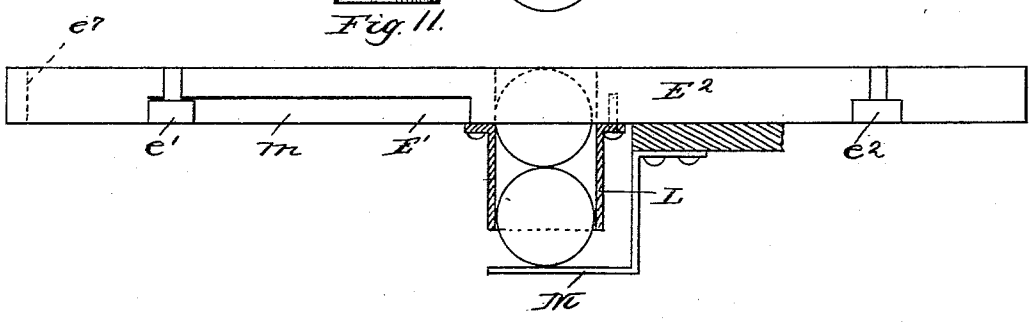



Fig. 11.

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# UNITED STATES PATENT OFFICE.

JOHN A. BOWYER AND URIAH L. HULL, OF CHICAGO, ILLINOIS, ASSIGNORS OF ONE-EIGHTH TO THERON CARSON, OF SAME PLACE.

## VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 476,513, dated June 7, 1892.

Application filed February 29, 1892. Serial No. 423,110. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN A. BOWYER and URIAH L. HULL, citizens of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Vending-Machines, of which the following is a specification.

This invention is designed to provide a machine for the vending of newspapers. In some cities the newspapers vary in their different editions, some containing more pages than others, and consequently being more bulky when folded into form for sale. In some cases, also, some editions are sold at one price and other editions at a different price.

This invention is designed to render the machine changeable to accommodate different-sized editions and also to be used with different-priced editions. The machine is also capable of being used with papers which are folded differently, being provided with guides which are adjustable to the size and shape of the paper.

The nature of the invention and the points of novelty therein will be fully understood from the description given below and the accompanying drawings, in the latter of which—

Figure 1 is a front elevation of our improved vending-machine. Figs. 2 and 3 are horizontal sections thereof on the lines 2 2 and 3 3, respectively, of Fig. 1. Fig. 4 is a partial section upon the line 4 4 of Fig. 1. Fig. 5 is an inside view, and Fig. 6 an end view, of the front door of the machine. Fig. 7 is a longitudinal section of the plate by which the papers are discharged. Fig. 8 is a partial vertical section of the same at right angles to Fig. 7. Fig. 9 is a plan, and Fig. 10 a side, view of the single-coin chute. Fig. 11 is a view similar to Fig. 10 of the two-coin chutes.

In the drawings, A represents a suitable box or case, and B a removable door at the front of the case. Below this door is a hinged board C, also forming part of the case front and which swings open and gives access to the paper which is sold.

D is a drawer at the bottom of the case, intended to catch the coins as they drop from the chute. Both door B and drawer D are locked in the case by any appropriate locking devices.

We provide the machine with two coin-slots E and F, and in order that but one of these slots may be used at a time we provide a swinging guard-plate *b*, attached to the rear of the door B in such position as to entirely close the slot to which it is applied. The slots may be of a size which will fit the coin for which they are designed, and in this way the danger of the customer putting a large coin into the slot intended for a small coin will be obviated, and hence but one of the shut-off gates or guards *b* will then be necessary. If the mouths of the chutes are, however, of the same size, the guard will be desirable in the case of both.

The chute E is intended for a single coin—as, for instance, a nickel. It conducts the coin to a recess *e*, formed in the adjacent faces of two horizontal sliding bars E′ and $E^2$, confined in a tube $E^3$ and supported upon a false floor or frame A′. The bar $E^2$ is connected by a laterally-extending arm $e^3$ to a lever $E^4$, pivoted to the false floor or frame at $e^4$ and joined at its other end to the stem *g* of the discharging-handle G. This handle extends through the slot *c* in the hinged panel-board C and is provided with a retracting-spring H. The sliding bar E′ is provided with a lateral arm *e*′, and such arm actuates the lever $E^5$, pivoted at $e^5$ and joined at its farther end by a downwardly-projecting pin *i* to the paper-discharging plate J, which is supported by bars *j*. The discharge-plate slides back and forth upon the bars *j* under impulses received from the handle G; but unless a coin of the proper size is inserted in the chute to lock the two bars E′ and $E^2$ together it will be noticed that motion will not be carried to the paper-discharging plate.

A spring $e^6$ is secured to the bar E′ at the under side of the recess *e* and acts to gage the coin which may be inserted at chute E. If an inferior coin should be put into the chute, it will pass this spring and not be detained thereby, but, on the contrary, will drop directly into the drawer beneath. If the coin is of the proper size, however, it is detained in the recess *e* by the spring, as illustrated at Fig. 10, and this locks the two sliding bars together and permits the actuation of the paper-discharge plate, as already set forth. Upon

the completion of the discharge or delivery of the paper the purchaser releases the handle G, and the same is retracted by spring H. This carries back the bar $E^2$ to its normal position, and the discharge-plate is also retracted by the power of said spring, communicated to it through the medium of the features next described.

The rear end of bar $E^2$ is provided with a laterally-extending projection $e^7$, which extends behind the bar E′, as shown at Figs. 9 and 10. This projection serves to secure the return of the bar E′ to its normal position with the return of bar $E^2$, and as the discharge-plate is mechanically connected to bar E′ it also moves back to its normal position. Adjacent to these sliding bars and supported upon the case of the machine or other stationary part is a deflector K, adapted by its position to push the coin laterally as it passes the deflector, so that it will be almost or quite free from the spring $e^6$. This insures the discharge of the coin as soon as the friction thereon due to the drawing upon the handle ceases.

The coin-chute F is adapted to secure the discharge of the papers when two one-cent coins are inserted therein. This chute leads to a similar recess *e*, formed upon the abutting faces of two similar sliding levers E′ $E^2$, which are also connected to the handle and the paper-discharge plate in the same manner as are the levers belonging to chute E, and one of the levers is provided with a similar projection $e^7$. Instead, however, of the spring $e^6$, we employ with this chute F a short auxiliary chute L, secured to the bar $E^2$, and located immediately below the recess *e* and in conjunction therewith a stationary rest M below the bottom of chute L. The operation of this chute and the rest will be clearly understood from Fig. 11, where the two coins are shown in proper position to secure the operation of the discharge mechanism. The first of the two coins which is inserted falls through the chute L until it is arrested by the rest M, and it will be noticed that in its position upon the rest it is below the sliding levers, so that it cannot lock them together. It results from this that a single coin inserted at chute F could not by any possibility cause the delivery of the paper; but the second coin falls upon the first one and is supported by it in proper position to lock the bars. The movement imparted to the bars by the drawing upon the discharge-handle carries the coins beyond the rest M, so that they are free to fall into the drawer. In respects other than those described this coin-chute F is like the chute E. The bars $E^2$ are in each case cut away, as shown at *m*, to give room to the arms *e′*.

The discharge-plate serves as a support for the supply of papers placed in the machine and is adapted to discharge the lower one of the pile at each operation. The movement imparted to the lower paper is a sliding movement toward the front, so that its edge will project at the opening of the panel C and in position where it can be readily taken hold of by the purchaser. To secure the pushing forward of the lower paper in this manner, we arm the plate with one or more rows of pointed teeth *o*, with their points projecting forwardly in the direction of the discharge movement and also standing upward very slightly from the surface of the plate. There being quite a large number of these teeth, they do no injury to the paper; but they exert such friction thereon as insures its movement. The plate J is formed, preferably, of sheet metal and with one or more stiffening-ribs formed by doubling the metal upon itself, as shown at *p*. The teeth *o* may be formed upon the edges of strips secured in these bends *p*. This clearly appears in Fig. 7.

The panel C is intended to open at the top when the paper is delivered. The paper itself may be relied upon to open it, or the discharge-handle may perform that office. It is normally locked, however, by the engagement with the hook *q*, carried by the panel, with a lever Q, having a hook at its end adapted to interlock with the hook *q*, said lever being pivoted in standards O. The rear end of the lever is acted upon and depressed when the discharge is operated by one of the levers $E^5$, which at its inner end is bent upwardly, so as to lie over the lever Q. The gravity of lever Q returns it into locking position with the panel-hook when the lever $E^5$ has passed backwardly after the discharge of a paper.

The door B is provided with a sliding gage P upon its inner surface, which is adjusted from time to time to suit the varying thicknesses of the different editions of the papers sold. This gage extends across the bottom of the door B and in such proximity to the plane of the discharge-plate as will prevent the pushing out by the plate of more than a single paper. This will be understood from Fig. 4, where a pile of papers W is shown in the machine ready for sale. This gage is moved up and down by rack-bars R, operated by pinions upon the shaft S, supported in bearings *s*, and it is locked and also guided in its movements by set-screws T, passing through slots *t* in the gage.

In order to prevent the withdrawal of more than a single paper at an operation and also to assist in separating the paper sold from the pile, we provide the following device: To the bottom of the gage-plate is secured a thin blade or bar U in a position parallel to the lower edge of the plate. This bar is also hinged to the gage at one of its ends, as shown at *u*, and the other end is supported in a loop V, giving freedom to this end to move inward. A link X, actuated from the end of one of the levers $E^4$, is joined to this movable end of the bar by a pin *x*, so that whenever the discharge-handle is pulled outward the bar U will be actuated inwardly and enter between the lower paper, which is being discharged, and the one immediately above

it, and thus hold the front edge of the latter from falling down upon the discharge-plate and into position where it can be withdrawn with the paper sold.

In the back of the case is a movable frame Y, which can be moved in or out to suit the size of the papers sold. It is secured to the side of the case by means of screws Z, passing through slots *y* of the adjustable frame.

A window 3 is preferably present in the door B, so that an intending customer may know that the supply of papers in the machine is not exhausted before depositing his coin.

We claim—

1. The combination, in a vending-machine, of a horizontal movable flat discharge-plate J, provided with a series of teeth projecting forwardly in the direction of the discharge and also standing up slightly from the surface of the plate, as set forth, whereby the plate is adapted both to support a pile of papers and to discharge the lower one of the pile, substantially as specified.

2. In a vending-machine, a paper-discharging plate J, constructed of sheet metal and provided with teeth *o*, secured in bends of the metal, substantially as specified.

3. The combination, in a vending-machine, of a suitable case, a coin-controlling mechanism, a paper-discharging plate J, a movable panel in the case adapted to open and give access to the paper which is sold, a bar U for separating the paper sold from the pile, and a handle for actuating said discharging device, substantially as set forth.

4. The combination of a receptacle for a single pile of papers, a movable plate supporting the pile and adapted to discharge the lower one therefrom, a device whereby the purchaser may operate said plate, two independent coin-chutes adapted to receive different amounts of money, and controlling mechanism connecting both of said chutes with said plate, whereby the machine is adapted to use with either of the amounts of money for which the chutes are intended, substantially as set forth.

5. The combination, in a newspaper-vending machine, of a receptacle for a single pile of papers, a discharging device therefor, a coin-chute adapted to receive coin of one denomination, a second coin-chute adapted to receive two coins of the same denomination, and devices whereby said discharging device is controlled from either of said chutes, substantially as set forth.

6. The combination, in a vending-machine, of a receptacle for a single pile of papers, a discharging device, separate coin-chutes, controlling mechanism connecting both said chutes with said discharging device, and a gage located at the discharge-opening, whereby the machine is adapted to use with editions of different thickness and selling at different prices, substantially as specified.

7. The combination, in a newspaper-vending machine, of a discharging-plate located below the pile of papers and adapted to move the lower paper into position for delivery, mechanism whereby the purchaser actuates said plate, and a separating-blade U, mechanically connected to said discharging mechanism and moved into position between the bottom paper and the one next above it by said mechanism, substantially as set forth.

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