

(No Model.)

2 Sheets—Sheet 1.

O. A. WHEELER.  
VENDING MACHINE.

No. 447,037.

Patented Feb. 24, 1891.

Fig. 1.

Fig. 2.

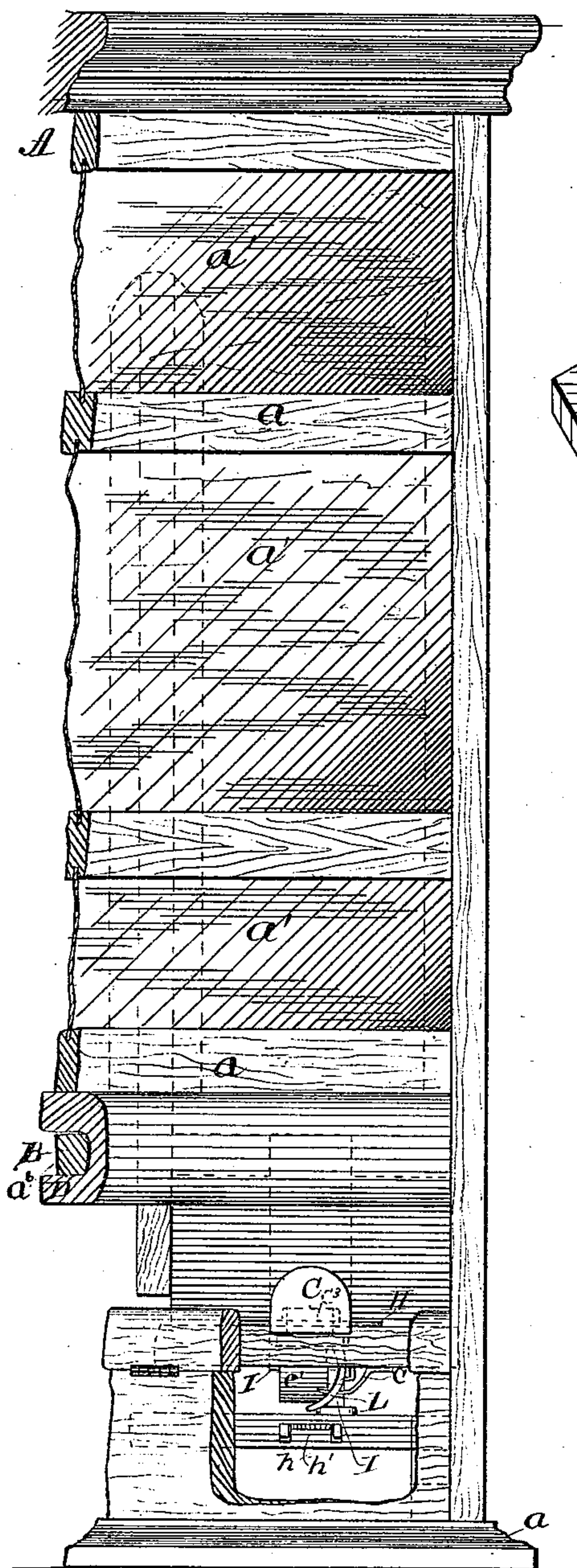


Fig. 3.

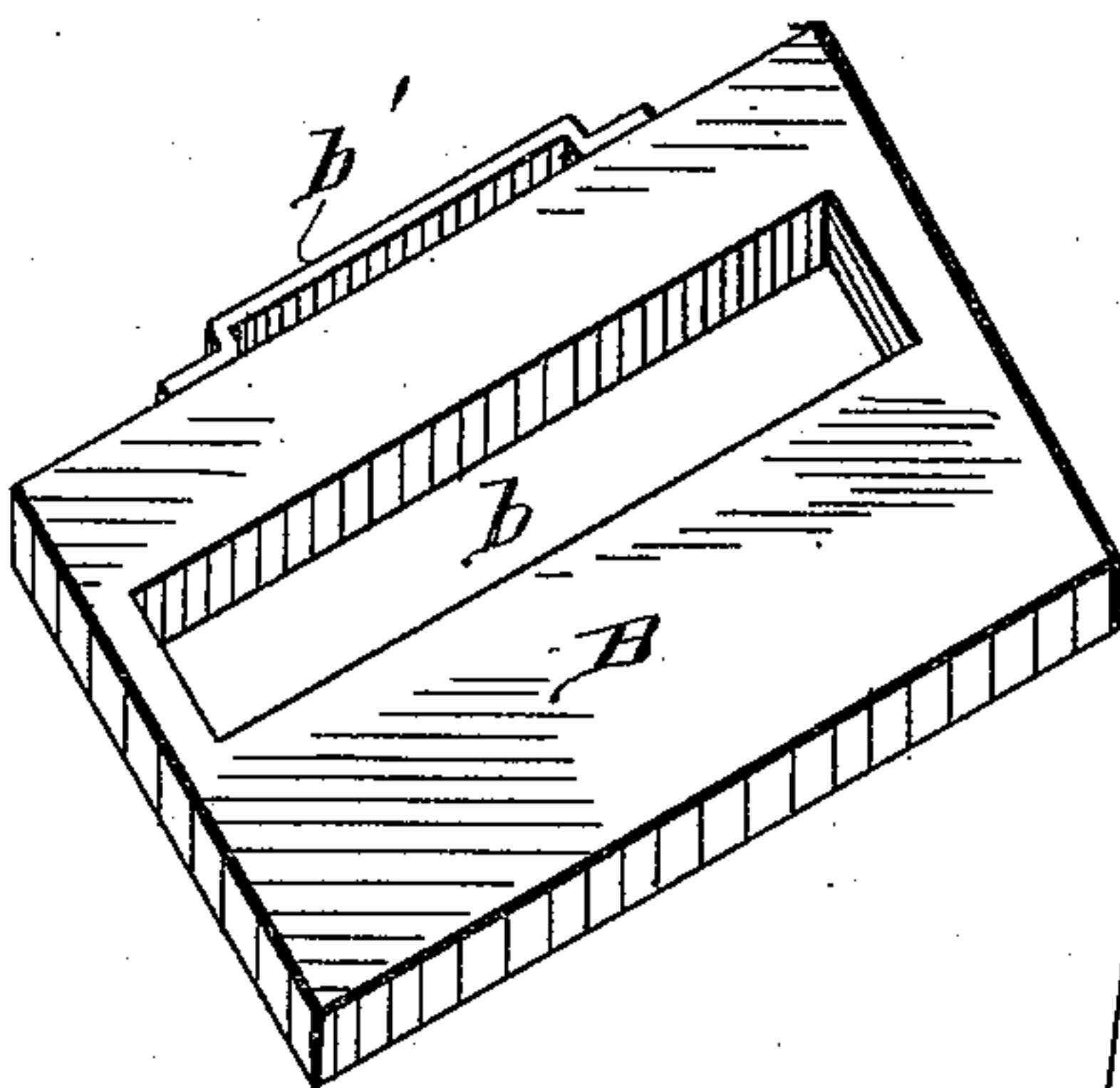
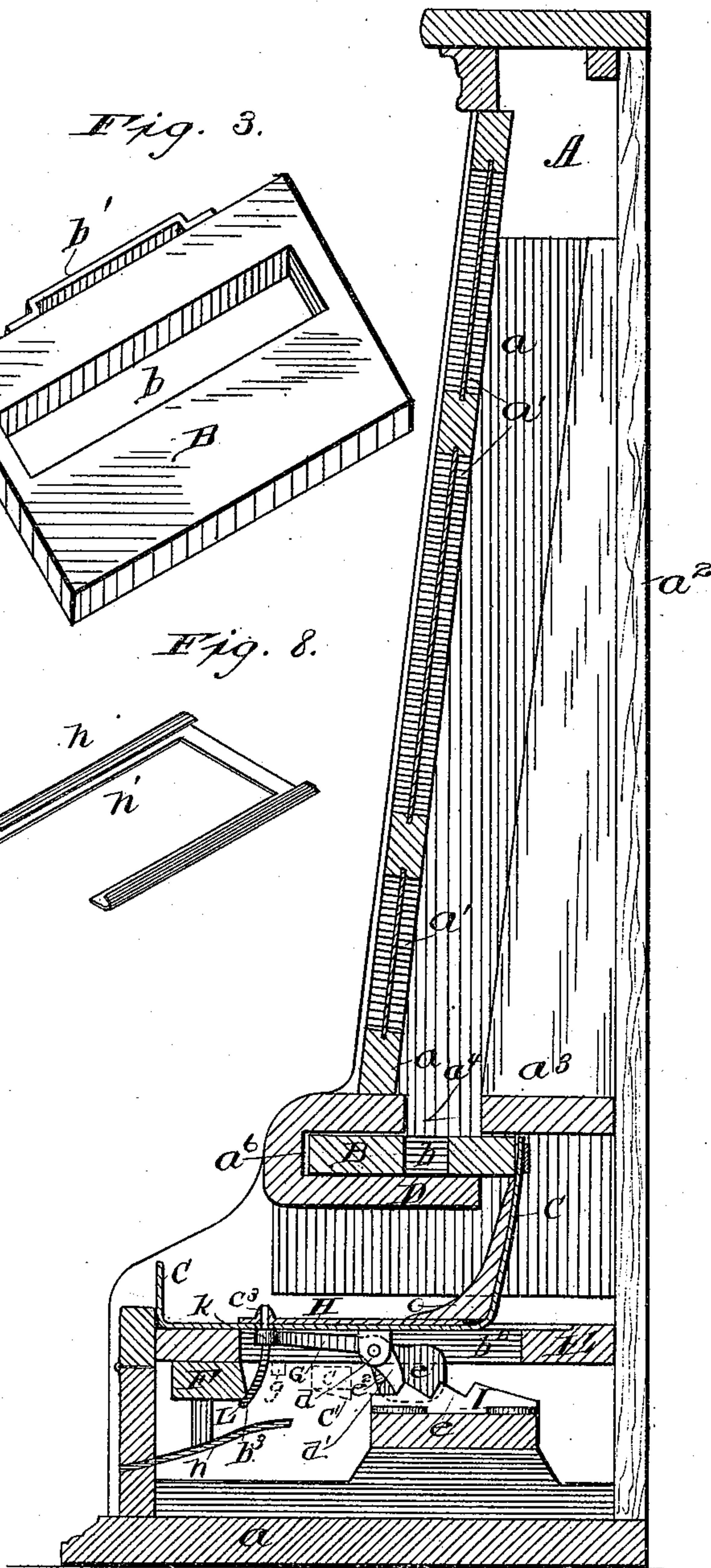
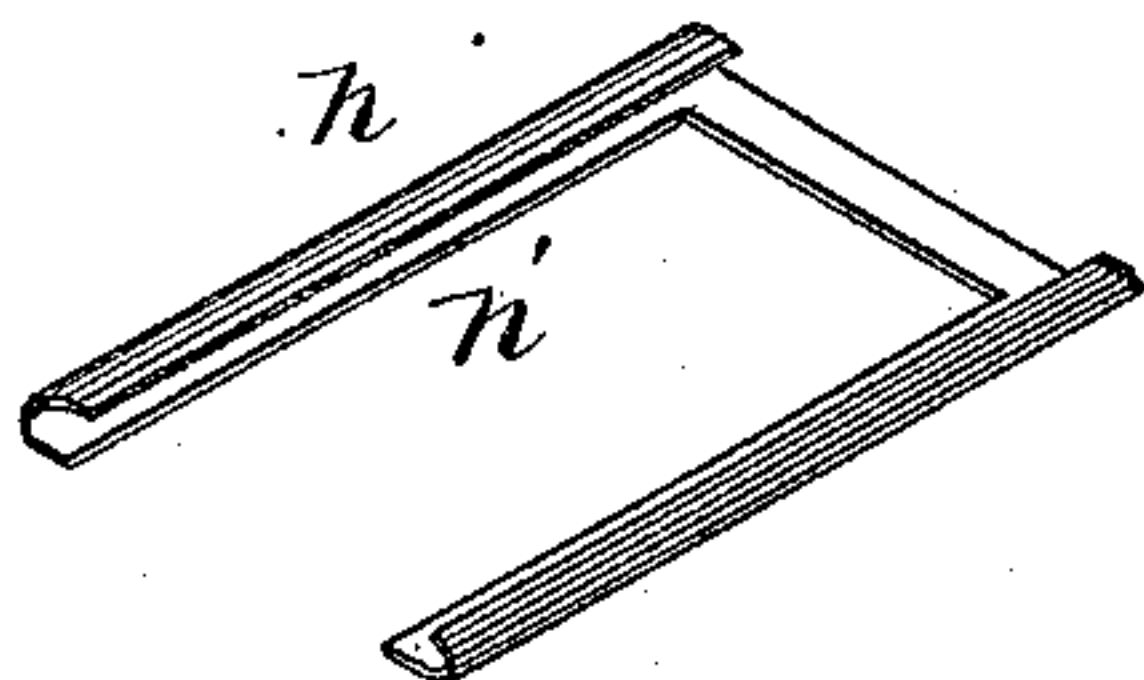


Fig. 8.



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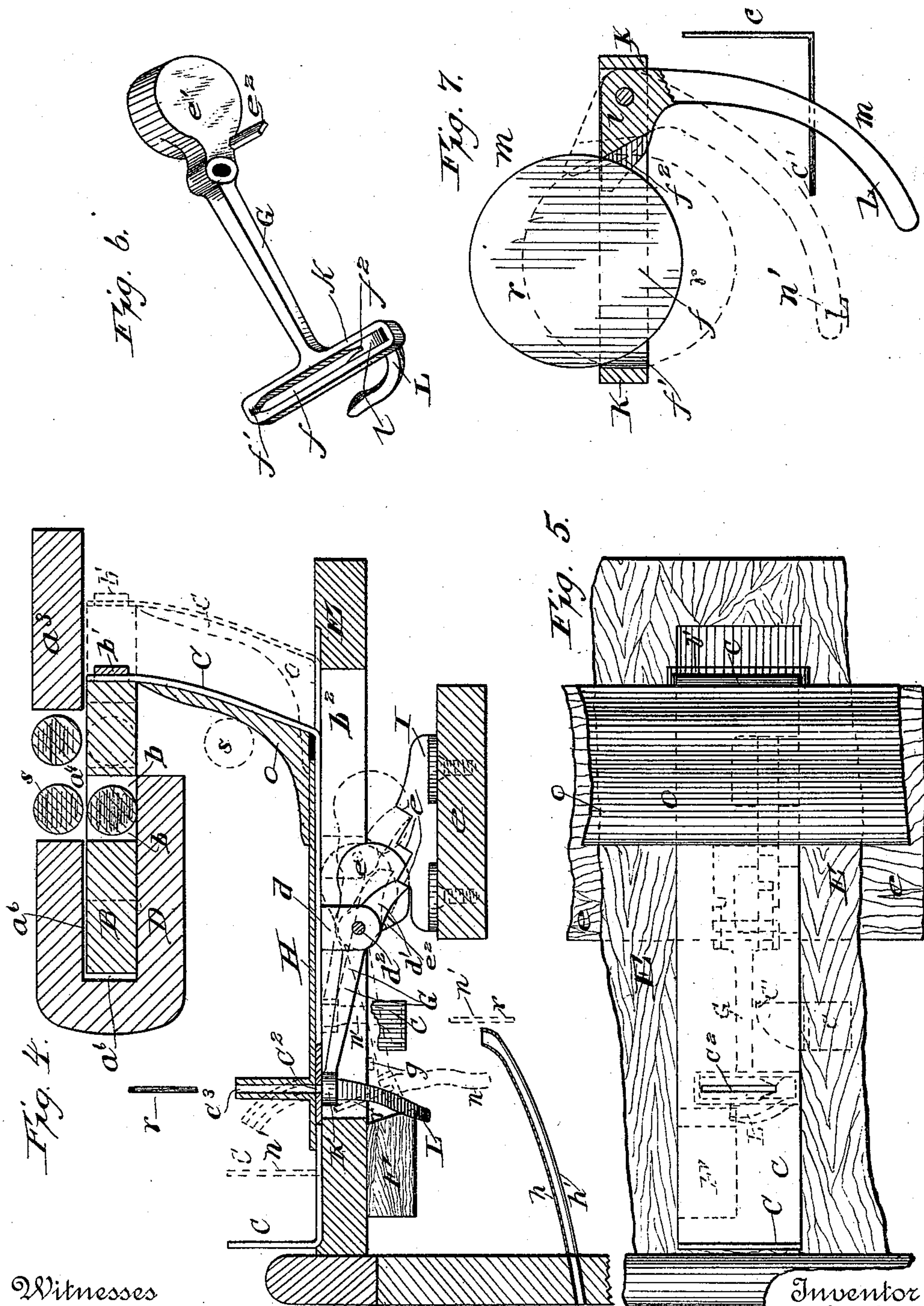
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*Chas. E. Gorton*  
*Ruth E. Gorton*

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By his Attorney *Chas. C. Tillman*



# UNITED STATES PATENT OFFICE.

ORRIN A. WHEELER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE AMERICAN CIGAR VENDER COMPANY, OF SAME PLACE.

## VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 447,037, dated February 24, 1891.

Application filed October 27, 1890. Serial No. 369,506. (No model.)

*To all whom it may concern:*

Be it known that I, ORRIN A. WHEELER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

My invention relates to certain new and useful improvements in coin-controlled vending-machines, and is more especially adapted to that class of such machines to be used for vending cigars and other articles; and it consists in the peculiarities of the construction, the novel arrangement, and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The objects of my invention are, first, to afford a machine for automatically vending articles of various values, which shall be simple and inexpensive in construction and effective in operation; second, to afford such a machine in which the operation of delivering the article sold is done and controlled by coins having certain weights, circumferences, and thicknesses, and, third, a machine which will receive and retain without delivery of goods all spurious coins or those of less value than is required to purchase the article, but which will return to the purchaser a coin of the proper value which, by reason of long usage, has been worn thin and lost in weight and has been deposited by mistake by the purchaser.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a front view of my machine, showing one compartment only, and having the lower portion thereof broken away to show the operating mechanism. Fig. 2 is a side sectional view thereof. Fig. 3 is a detail view of the delivery-regulating piece or slide. Fig. 4 is an enlarged detail view of the lower portion of the casing of the machine, showing the operating mechanism and the manner of delivering the articles purchased. Fig. 5 is a plan view of the operating mechanism as it appears when ready for use. Fig. 6 is a perspective view of the controlling-lever de-

tached. Fig. 7 is an enlarged detail view of the trigger on one end of the lever, and Fig. 8 is a perspective view of a coin-chute.

Similar letters refer to like parts throughout the different views of the drawings.

A represents the main frame or casing of my machine, which incloses the mechanism and articles to be sold, and is made of suitable material and of proper size and form with as many different compartments as may be desired. The back of the case is closed by a board or solid piece  $a^2$ , which may be removed when it is desired to remove any of the parts for repairs, and the front thereof is provided with a hinged door  $a$ , having glass panels  $a'$ , upon which may be placed signs and instructions for operating the device, and through which may be seen the articles for sale, and in case of cigars the United States internal-revenue stamps, which are required by law to be conspicuously displayed.

The lower portion of the case A is enlarged, as seen in Fig. 2, which form affords a pedestal or foundation for the upper part and furnishes room for the operating mechanism and delivery of goods.

Just below the bottom of the door  $a$  the case A is provided with a floor or bottom  $a^3$ , through which is formed an opening  $a^4$  for the escapement of the articles to be sold to the delivery-platform E, from which they are taken by the purchaser.

Directly beneath the floor  $a^3$ , in the sides of the case A, are formed horizontal grooves  $a^6$ , which extend from the front to the rear portion of the case A, and in which fits and may freely slide backward and forward the delivery-regulating piece or slide B, which is provided with one or more slots or openings  $b$  (through which the articles of purchase may pass) and at the rear of the slide with a catch  $b'$  to engage with the push or operating-piece C, as will be presently explained. Just below the lower surface of the slide B, when in the grooves  $a^6$  and between the sides of the case, is a floor D, which extends from the front of the case back till within a vertical line with the rear portion of the opening  $a^4$  of the floor  $a^3$ , as is clearly seen in Fig. 2 of the drawings.

At a proper point below the floor D, be-



tween the sides of the case A and extending from the front to the rear portion of the case, is secured a floor E, having a slot  $b^2$  or rectangular guideway for the piece C, extending 5 from near the front to the rear portion of the floor. On and to the under surface of the floor E and near the front portion thereof is secured a piece F, which has its rear end slightly beveled, and extends a little beyond 10 a vertical line drawn from the front part of the opening  $b^2$ , as is shown at  $b^3$ , and will be clearly understood by reference to Figs. 2 and 4, and the purpose of which will soon be explained. At a proper point to the lower sur- 15 face of the floor E and at one side of the opening  $b^2$  and in rear of the front portion of said opening is placed and secured a trip  $c$ , which is preferably made of a flat piece of metal bent down at an angle, so that its free end 20 will extend to near the middle of the slot  $b^2$ , yet a short distance beneath the under surface of the floor E, and has its free end cut away toward the rear of the opening  $b^2$ , as at  $c'$  in Fig. 5.

25 The push, handle, or operating-piece C is made of suitable material and of proper length and width to extend over the opening  $b^2$ , which opening acts as a guideway for said piece, as well as to allow the free movement 30 back and forth of the operating-lever G, which is secured to the under side of the piece C. As shown in the drawings, each end of the piece C is bent upward, the front end to form a handle and the rear end to engage with the fasten- 35 ing or catch  $b'$  on the rear of the slide-piece B, as is apparent by reference to Figs. 2 and 4. Near the front end of the piece C is provided therein a transverse slot  $c^2$ , into and through which the coin is inserted and passes 40 when it is desired to purchase one or more of the articles offered by the device for sale. This slot is made transversely through the piece C, and at such a point that when the said piece is in its normal position it will be 45 directly over the rear end of the piece F, which piece prevents the withdrawal of a coin by means of a string attached to it.

Above the piece C and secured to the top surface of the floor E is a flat plate H, which 50 has near its front end, as a proper point to be in alignment with the slot  $c^2$  when the piece C is in its normal position, a slotted tube  $c^3$ , which may be either straight or slightly curved, as shown by dotted lines in Fig. 4, 55 the object in sometimes having the tube curved being to prevent a coin of lighter weight than that of the requisite value to operate the machine being forced down through the tube with such force as to operate the lever 60 G, the curve in the tube retarding to some extent the passage of the coin, as will be readily understood.

To the under surface of the piece C is secured a hanger  $d$ , to which is fulcrumed the 65 lever G. This hanger is preferably bifurcated in form and receives and retains the lever G and pawl  $d'$  between its forks, each of which

is provided with holes at the proper point, through which is passed a pin  $d^2$  for pivotally 70 securing the hanger, pawl, and lever together, so that when in position the edges of the piece C will rest on the sides of the opening  $b^2$  and allow the hanger and lever to extend downward to a proper distance to engage by 75 means of the pawl which the lever carries with a ratchet I, which has a number of teeth  $e$ , and is secured to the bottom of the case A or to a raised piece  $e$  secured thereto. The lever G is formed at its rear end with an en- 80 largement  $e'$  of sufficient weight to counterbalance the weight of the coin required to purchase the article, and one side of this enlargement with a laterally-projecting lug  $e^2$ , upon which rests the under side of the pawl 85  $d'$ , and which disengages the pawl from the ratchet when a coin, by reason of its weight, presses the front end of the lever downward, which front end is formed or provided with a 90 laterally-extending arm K, through which is formed a slot  $f$ , which slot has at one end a V-shaped ending  $f'$ , which shaped end of said slot, together with a similarly-shaped ending 95  $f^2$  in the trigger, is adapted to allow coins lacking in thickness but having the proper or a larger circumference than coins of the requisite value to pass through the slot  $f$  without causing delivery of the article.

To the end of the arm K, on the same side of the lever as the projection  $e^2$ , is pivotally 100 secured a trigger L, which is slightly deflected to the front of the case when in position, as seen in Fig. 4, and has its front side beveled, as shown in Fig. 6, the bevel and deflection thereof causing the trigger to rise and drop the coin when it strikes against the cut-away 105 portion  $c'$  of the piece  $c$ . The upper end of the trigger L is provided with an arm  $l$ , which extends into the slot  $f$ , and when in its normal position rests flush with the top surface of the arm K, and has its free end formed V- 110 shaped, as at  $f^2$ , similarly and for a like purpose to the V-shaped end of the slot. To the under side of the floor E, and at a proper point between the front end of the opening  $b^2$  thereof and the piece  $c$ , is secured a piece 115  $g$ , similar in form to the piece  $c$  in every respect except that it is somewhat smaller and does not extend downward quite so far. This piece is designed to trip the trigger at this point and to cause the coin to drop into the 120 chute  $h$  below when a coin of the requisite value has been deposited in the slot, but by reason of long usage has lost in weight yet retains its proper circumference and substantially its correct thickness. As shown in Figs. 125 1 and 2, the chute  $h$  has an opening in the front of the casing, so that such a coin may be returned by its inclined position to the depositor, and is formed with a longitudinal slot or opening  $h'$ , of such dimensions as to allow 130 coins of less circumference than those required to pass through the said opening.

It will be understood that when a coin of proper weight, circumference, and thickness



is deposited in the slot  $c^3$  it will assume the position in the slot  $f$  of the arm K shown by the continuous lines  $m$  in Fig. 7, and by reason of its weight will tip the nicely-adjusted lever G till it reaches the position shown by dotted lines, as at  $n$  in Fig. 4, which position will be retained till, by sliding the piece C toward the rear, the trigger L strikes the trip  $c'$ , when the coin will be liberated and dropped to the floor, as shown by the posture of the parts indicated by dotted lines  $n'$  in Figs. 4 and 7. It is apparent that when the front end of the lever is pressed down by the weight of the coins the pawl  $d'$  will be disengaged from the ratchet-teeth  $e$ , through the lug  $e^2$ , and that the piece C, carrying the lever G, may be slid backward till the coin is dropped and the delivery of the article is made to the upper portion of floor E. In order to have the article thrown toward the front of floor E in delivery, a piece  $o$ , curved as shown in Fig. 4, is placed and secured to the piece C back of the plate H. When a coin of correct weight is deposited, the front end of the lever G, having the arm K, will be pressed down, so that the arm K will pass beneath the piece  $g$ ; but when a coin of the correct value but lacking in weight is deposited the arm L will strike the piece  $g$  and the coin be liberated and dropped to the chute  $h$ , from and by which it is returned to the depositor. In the drawings the coins are represented by the figures marked  $r$ , and the articles to be sold, which in the present instance are supposed to be cigars, by the letter  $s$ .

In Figs. 1 and 2 of the drawings I have shown my machine arranged for and illustrating only one compartment; but it is obvious that I may have as many different compartments as may be required or desired, and that the delivery of the number of articles sold for one coin may be regulated by the number of slots or openings  $b$  in the slide B—that is, if two articles are designed to be delivered for one coin the slide will have two slots therein, and if more than two for one coin a slot for each additional article. In the case of a number of articles to be delivered on the deposit of one coin, it is evident that the ratchet I must have a greater number of teeth or be longer than if only one article is to be delivered, and that the coin will not be deposited and the delivery made until the pawl has passed to the rear of the ratchet-teeth, the trip  $c$  being placed at such a point as to trip the trigger at such a time.

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

1. In a coin-controlled vending-machine, the combination of the casing A, having the

floor  $a^3$ , having the opening  $a^4$ , the floors D and E, said floor E having the opening  $b^2$ , the piece C, having the slot  $c^2$ , the regulating-slide B, having the opening  $b$  and catch  $b'$ , the lever G, fulcrumed to the piece C and having the lug  $e^2$ , arm K, having the slot  $f$ , pawl  $d$ , trigger L, having the arm  $l$ , the piece  $c$ , secured to the floor E, and the ratchet I, having the teeth  $e$ , all constructed, arranged, and operating substantially as and for the purpose set forth.

2. In a coin-controlled vending-machine, the combination of the casing A, having the floor  $a^3$ , provided with the opening  $a^4$ , the floors D and E, said floor E having the opening  $b^2$ , the pieces  $c$ , F, and  $g$ , with the piece C, having the slot  $c^2$ , the regulating-slide B, having one opening  $b$  and catch  $b'$ , the lever G, fulcrumed to the piece C and having the lug  $e^2$ , and arm K, having the slot  $f$ , the pawl  $d$ , trigger L, having the arm  $l$ , the ratchet I, having the teeth  $e$ , and the chute  $h$ , all constructed, arranged, and operating substantially as shown and described, and for the purpose set forth.

3. In a coin-controlled vending-machine, the combination of the casing A, having the floor  $a^3$ , provided with the opening  $a^4$ , the floors D and E, said floor E having the opening  $b^2$ , the pieces  $c$  and F, the piece C, having the slot  $c^2$ , the regulating-slide B, having one opening  $b$  and catch  $b'$ , the lever G, fulcrumed to the piece C and having the lug  $e^2$ , arm K, and slot  $f$ , the latter having the V-shaped end, the pawl  $d$ , trigger L, provided with the arm  $l$ , having the V-shaped end, and the ratchet I, having the teeth  $e$ , all constructed, arranged, and operating substantially as and for the purpose set forth.

4. In a coin-controlled vending-machine, the combination of the case A, having the floor  $a^3$ , provided with the opening  $a^4$ , the floors D and E, said floor E having the opening  $b^2$ , the pieces  $c$ , F, and  $g$ , the piece C, having the slot  $c^2$ , the regulating-slide B, having one opening  $b$  and catch  $b'$ , the lever G, fulcrumed to the piece C and having the lug  $e^2$ , and arm K, having the V-shaped end  $f'$ , the pawl  $d$ , the trigger L, having the V-shaped end  $f^2$ , the ratchet I, having the teeth  $e$ , the chute  $h$ , and the plate H, having the slotted tube  $c^3$ , all constructed, arranged, and operating substantially as shown and described, and for the purpose set forth.

In testimony whereof I have hereunto set my hand and affixed my seal this 21st day of October, 1890.

ORRIN A. WHEELER. [L. S.]

In presence of—

CHAS. C. TILLMAN,  
H. HARRISON.