



(No Model.)

T. S. WHEATCROFT.  
VENDING MACHINE.

2 Sheets—Sheet 2.

No. 530,216.

Patented Dec. 4, 1894.

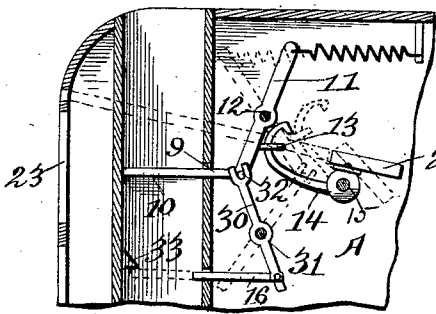


Fig. 5-

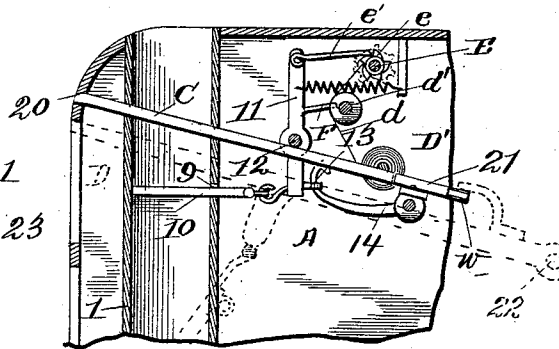


Fig. 7-

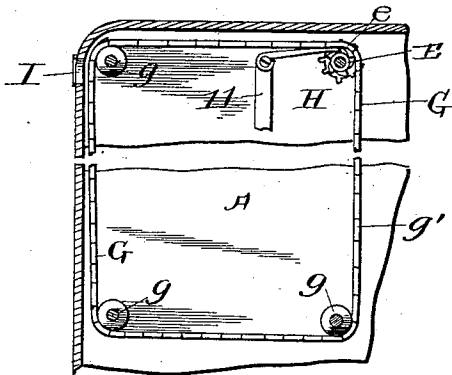


Fig. 6-

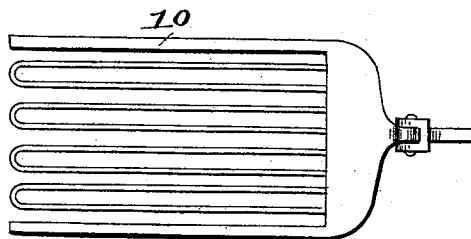


Fig. 8-

WITNESSES

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# UNITED STATES PATENT OFFICE.

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## VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 530,216, dated December 4, 1894.

Application filed September 20, 1893. Serial No. 485,998. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS S. WHEATCROFT, a citizen of the United States, residing at Rush, in the county of Susquehanna and State of Pennsylvania, have invented certain new and useful Improvements in Vending-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates more particularly to certain new and novel improvements in automatic vending machines, commonly called nickel-in-the-slot machines; and it consists essentially in the peculiar construction and arrangement of the various parts constituting the mechanism for automatically vending the article, and also in combining with said mechanism a device indicating the number of sales made; a device displaying advertisements, and, in case the apparatus is employed as a peanut vender, a roasting machine, as will be hereinafter more fully described and specifically set forth in the claims.

The principal object of the invention is to produce an apparatus, of the character above mentioned, for vending, automatically, irregular shaped articles such as all kinds of nuts, confectionery, &c., and the mechanism by which I accomplish this object is illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of my improved vending machine, with a peanut-roaster attached thereto; Fig. 2, a longitudinal vertical section of the same, showing the sale indicating and advertising mechanisms in side elevation; Fig. 3, a front elevation of the machine, showing the roaster attached; Fig. 4, a transverse vertical section of the machine, looking from the rear; Fig. 5, a modification of the vending-mechanism; Fig. 6, a detail of the advertising mechanisms; Fig. 7, an enlarged detail of the upper slide or gate, its operating mechanism, and the sales indicating mechanism, and Fig. 8 a plan of the upper gate.

For convenience, I will describe the detailed construction and operation of the several mechanisms under the following heads, viz:—vending-mechanism; sale-indicating

mechanism, and display-advertising mechanism.

In the drawings, like letters and numerals of reference indicate like parts throughout the several views.

The letter A indicates the receptacle within which the several mechanisms are arranged to operate, and the said receptacle may be constructed of any suitable material and of any desired shape, and is preferably mounted on wheels as shown in the drawings.

*The vending-mechanism.*—The numeral 1 indicates a tube which is situated in the front central part of the receptacle. The upper end of this tube is provided with a suitable hopper, 2, by means of which said tube may be readily filled or supplied with the articles to be vended. A cover or door, 3, is hinged to the hopper, and any suitable locking device may be employed to secure said cover, and thereby prevent unauthorized persons from attaining access to the contents of the tube. The tube is divided into two compartments, *a*, and *a'*, which, for convenience, I will designate and hereinafter refer to as the supply and measure compartments, respectively. A third compartment *a*<sup>2</sup>, designated a package compartment, is arranged immediately beneath the tube 1, but, in this case, the front wall of the compartment is flush with the front wall of the receptacle and is provided with a knob. The package compartment is fitted with a false bottom, 5, which is provided at each corner with a pin 6. Each pin projects through a vertical slot, 7, made in said compartment, and to each pin is attached one end of a spiral spring, 8, the other end being secured to the upper end of the compartment, the purpose of which will be hereinafter explained.

Between the supply and measure compartments, a transverse slot 9 is made in the rear wall of the tube, through which slot a gate, 10, is caused to reciprocate in suitable transverse guides made in the side walls of said tube. The rear end of the gate is hinged to a spring-actuated lever, 11, fulcrumed on a shaft, 12, journaled in bearings made in or secured to the side walls of the main receptacle. The gate is preferably constructed with a flat oblong base, from one edge of which projects double tines, as shown in Fig.

8. The advantage of this form of gate is obvious. The rear edge of lever 11, near its lower end, is provided with an eye, 13, through which passes the end of a curved arm, 14, secured to rock-shaft, 15, journaled in bearings made in or secured to inner side walls of the main receptacle.

Between the measure and package compartments, through a suitable opening, is arranged another gate 16, which is secured to a rod, 17, pivoted in brackets secured to the walls of the tube, and said gate is provided with a rearward extension, 18, carrying a lateral arm, 19, to be hereinafter more fully explained.

The letter C indicates a slot-way, supported in any convenient manner, and extends in an inclined position from the front of the main receptacle to near the rock-shaft 15. The upper end of this slot-way registers with a slot, 20, made through the front wall of the receptacle and the lower end with a short tube, 21, rigidly secured upon said rock-shaft, the purpose of which will presently appear.

Pivoted on a shaft, 22, is one end of an operating-lever, D. The other end of said lever extends through a vertical slot, 23, made in the front wall of the main receptacle, and is provided with a handle, 24. Rigidly attached to the upper side of the operating-lever, in close proximity to the short tube 21, is a hook, 26, and between the center and outer end of said lever is secured one end of a spring, 27, the other end of said spring being secured to the upper wall of the main receptacle. The under side of the lever is provided with a lug, c, which engages the arm 19 of the gate 16.

The mechanism for maintaining the package-compartment in locked position until a sale is made, consists of the following mechanism, viz:—Fulcrumed on a rod, x, is a catch-lever, L, held in contact with a keeper, k, by a spring, s, a stop, Z, serving to limit the movement of the catch-lever. One end of a spring, S, is secured to each corner of the package-compartment (only two shown) and the other end to suitable posts p, p. A curved spring, S', is secured to the floor of the main receptacle with its curved end pressing against the inner end of the compartment, the purpose of which will be explained later on.

The operation of the above described mechanism is as follows: Assuming the parts to be in the position shown in Fig. 2, and the supply-compartment filled with, say, peanuts, when the requisite coin is dropped in the slot it will immediately slide down the inclined slot-way, and passing into the short tube 21, will be caught and held by the hook 26, in the position shown, i. e., with a portion of its diameter within the short tube, the remaining portion being engaged by the said hook. In this position the coin forms a rigid connection between the two parts, in other words, it locks the said parts together. To enable the person who has dropped the coin into the

slot to obtain his purchase, the operating lever must be pushed down. As this lever descends, the rear end of the short tube, owing to its locked connection with the hook 26, is caused to tilt downward, and as said tube is rigidly secured to the shaft 15, the latter is caused to turn in its bearings at the same time. As the shaft 15 turns its curved arm 14 exerts a pulling force on the lower end of the lever 11, drawing it back and with it the forked gate. At the same time said gate is being drawn back the gate 16 is being raised to receive the nuts, which will be permitted to descend from the supply compartment as the gate 10 moves backward. The rising of gate 16 is effected by the pressure of the operating-lever and its lug c on the arm 19 of said gate. It will thus be seen that the backward movement of the gate 10 and the upward movement of gate 16 begin simultaneously, but immediately after each has reached the limit of its movement, the coin will have been entirely withdrawn from the short tube 21, which freed of its engagement with the hook 26 will be instantly returned to its normal position by the action of the spring-actuated lever 11. At the same time the gate will be forced forward through the nuts to its normal position, and the requisite quantity of nuts is separated from the supply. In the meantime the operating-lever, through its lug c, has been holding the gate 16 in its horizontal position, but as soon as said lever reaches the limit of its downward course and is released, the spring 27 will instantly return to its normal position, and the gate 16 being relieved of its pressure will drop back into its normal position, letting the nuts drop into the first of a nest of packages supported upon the false bottom within the package compartment. To enable the purchaser to obtain his package, he pulls on the compartment-knob, overcoming the pressure of the springs, and takes out his package. As soon as he lets go of the knob the said springs will return the compartment to its locked position, the unlocking of which has been accomplished in the following manner, viz: An arm W, depending from the operating-lever contacts with the rear end of the catch-lever L, pressing down said end and raising the other end out of engagement with the keeper k, and immediately the disengagement takes place the spring S', which exerts a pressure slightly stronger than the pull of springs S, will push the compartment out just a sufficient distance to prevent the catch-lever re-engaging the keeper before the purchaser has obtained his package. As soon as the knob is released the tension of the spring S, will pull inward with sufficient force to lock the compartment.

It will be observed that the depending arm is so arranged that it does not contact with the catch-lever until after the upper gate has been returned to its position to cut off the supply of nuts.

The rear end of the short tube is slotted as

shown at *w*, Figs. 2 and 7, so that the hook 26 may play freely up and down, should the operating-lever be, at any time, pushed down when a coin is not present.

In the modification shown in Fig. 5, the gate 16, therein employed is a reciprocating one, the same as gate 10, and it is hinged to the lower end of a lever, 30, fulcrumed on a shaft, 31. The upper end of said lever terminates in a slotted yoke, which is adapted to receive the lower end of the lever 11, and a loose connection is formed between the two levers by a pin, 32, passing through the end of lever 11 and working in the slots of the yoke. The front wall of the measure compartment is provided with an inclined offset 33 to lessen the size of the opening in the direction of travel of gate 16 so that it may close the opening before the gate 10 is fully withdrawn from the tube. The operation of this mechanism is obvious. The normal position of the gates is that shown in the drawings. As gate 10 is drawn backward gate 16 is forced forward, and the opening closed before gate 10 is completely withdrawn. As soon as the coin is forced from the short tube, in the manner heretofore described, the spring-actuated lever will cause the short tube to assume its normal position; force the gate 10 forward through the nuts, as in the first described operation, and, at the same time, withdraw gate 16 by forcing the yoke end of lever 30 forward. In using this form of mechanism, I prefer to make gate 16 like gate 10 to prevent cracking or mashing of the nuts or other articles.

*The sales indicating mechanism.*—The letter *D'* indicates a reel carrying a paper tape, *d*. The free end of said tape, passes over a roller, *d'*, and is secured to a shaft, *E*. Mounted on said shaft is a ratchet wheel, *e*, which is engaged by a pawl, *e'*, pivoted to the spring-actuated lever 11. A marking or cutting-die, *F*, is rigidly secured to said lever at a point directly opposite the roller *d'*, and said die may carry any character that will indicate on the paper tape a sale made.

The operation is as follows:—When the proper coin is passed into the slot and is engaged by the short tube 21 and hook 26, locking the two together, and the operating-lever pushed down to withdraw the gate 10, as soon as the coin is forcibly withdrawn from the short tube the spring-actuated lever will assume its normal position, and, in doing so, the die will strike the tape and record the sale, but before the impression or cut is made the pawl *e'* will have pushed the ratchet-wheel one turn.

*The display advertising mechanism.*—An endless band *G* is passed over the shaft *E* and rollers *g, g, g*. Attached to each side edge of the band is a chain, *g'*, which passes over sprocket-wheels *H, H*, mounted on said shaft. A given number of advertisements are printed on the band and are displayed through an opening *I* in the front of the main receptacle.

As the sprocket-wheels are mounted on the same shaft with the ratchet-wheel *e*, it will be obvious that at each turn of the shaft, by the pawl or ratchet, the sprocket-wheels will feed the belt with a step by step movement, and at every turn of the shaft a new advertisement will be displayed. The number of advertisements may accord with the number of sales the supply-compartment will contain. By adding one more space for the word "Empty" and arranging the band to start with the advertisement immediately following said word, the public will know when the supply of nuts or other articles has become exhausted.

When peanuts are to be vended, a roaster, *K*, may be attached to the vending apparatus, so that the nuts may be roasted and placed in the supply-compartment in a warm condition. A trough, *t*, may be employed to feed the nuts from the roaster to the hopper, when the latter is uncovered.

Various modifications may be made without sacrificing the spirit of my invention or departing from the principle thereof.

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

1. In a vending or coin-controlled machine, the combination, with a suitably supported coin-slotway, of a tube provided with a vertical slot in one end and rigidly mounted on a rock-shaft, said tube forming an extension to said coin-slotway, and a pivoted lever provided with a hook adapted to operate in the slot in the tube when no coin is present and to engage the coin, when present, to rock said shaft and tube, substantially as specified.

2. In a vending-machine, the combination, with the supply compartment and a reciprocating gate, of a spring-actuated lever having one end connected to said gate, a coin-slotway, a rock-shaft carrying a slotway extension and provided with a curved arm engaging said lever, and means for turning said rock-shaft when a proper coin is present in said slotway extension, substantially as specified.

3. In a vending machine, the combination, with the supply-compartment, a reciprocating gate, and a spring-actuated lever moving said gate in one direction, of a slot-way, a slotway extension rigidly secured to a pivoted shaft, a connection between said shaft and said spring-actuated lever, and an operating-lever for moving the gate in another direction when a coin of proper denomination is present, substantially as specified.

4. In a coin-controlled vending machine, the combination, with a supply-compartment, a gate formed with double tines and adapted to reciprocate in said compartment, and a measure-compartment having a gate arranged therein, of a spring-actuated lever having one end connected to the reciprocating gate, a coin-slotway, a rock-shaft carrying a slotway extension and provided with a curved arm engaging said lever, and a pivoted lever provided with means for engaging the gate in the

measure-compartment and means for rocking said rock-shaft when a proper coin is present in the slotway extension, substantially as specified.

5 5. In a vending machine, the combination, of a supply-compartment and a gate reciprocating therein, a measure-compartment situated beneath the supply-compartment and having a gate arranged therein, and a movable package-compartment beneath the measure-compartment and a lever arranged to operate both gates, when a coin is present in the slot-way, and deliver a measured quantity of the contents into the package-compartment, substantially as specified.

15 6. In a vending machine, the combination, with a supply-compartment, and a gate reciprocating therein, a measure-compartment and a gate arranged to operate therein, mechanism for operating both gates when a coin is present in the slot-way, a package-compartment held in locked position by a pivoted catch and released by the operating-lever, substantially as specified.

25 7. In a vending machine, the combination, with a supply-compartment and a gate reciprocating therein, a measure compartment and a gate arranged therein, and a movable package-compartment, of a slot-way, a slot-way extension rigidly secured to a rock-shaft, and a spring-actuated operating-lever provided with a hook, whereby both gates are operated when a coin is present locking the slot-way extension and operating-lever together, substantially as specified.

35 8. In a vending machine the combination,

with the supply-compartment, a gate reciprocating therein and a coin-slotway, of a rock-shaft carrying a slot-way extension and provided with a curved arm engaging said lever, a lever operating said rock-shaft when a coin is present in the slot-way extension, and a sales indicating device, substantially as specified.

9. In a vending machine, the combination, with the supply-compartment, a gate reciprocating therein, and a coin-slotway, of a rock shaft carrying a slotway extension and provided with a curved arm engaging said lever, a lever operating said rock-shaft when a coin is present in the slot-way extension, and a display advertisement mechanism, substantially as specified.

10. A machine for vending irregular shaped articles, comprising a main receptacle, a supply compartment, a measure compartment, and a movable package-compartment contained in said main receptacle, mechanism substantially as described for delivering a specified quantity to the measure compartment, mechanism substantially as described for delivering the specified quantity to the package-compartment, and mechanism for delivering the said quantity in a package to the purchaser, substantially as specified.

In testimony whereof I affix my signature in the presence of two witnesses.

THOMAS S. WHEATCROFT.

Witnesses:

E. A. PAUL,  
J. R. NOTTINGHAM.