C. A. MELCHERT.

VENDING MACHINE.

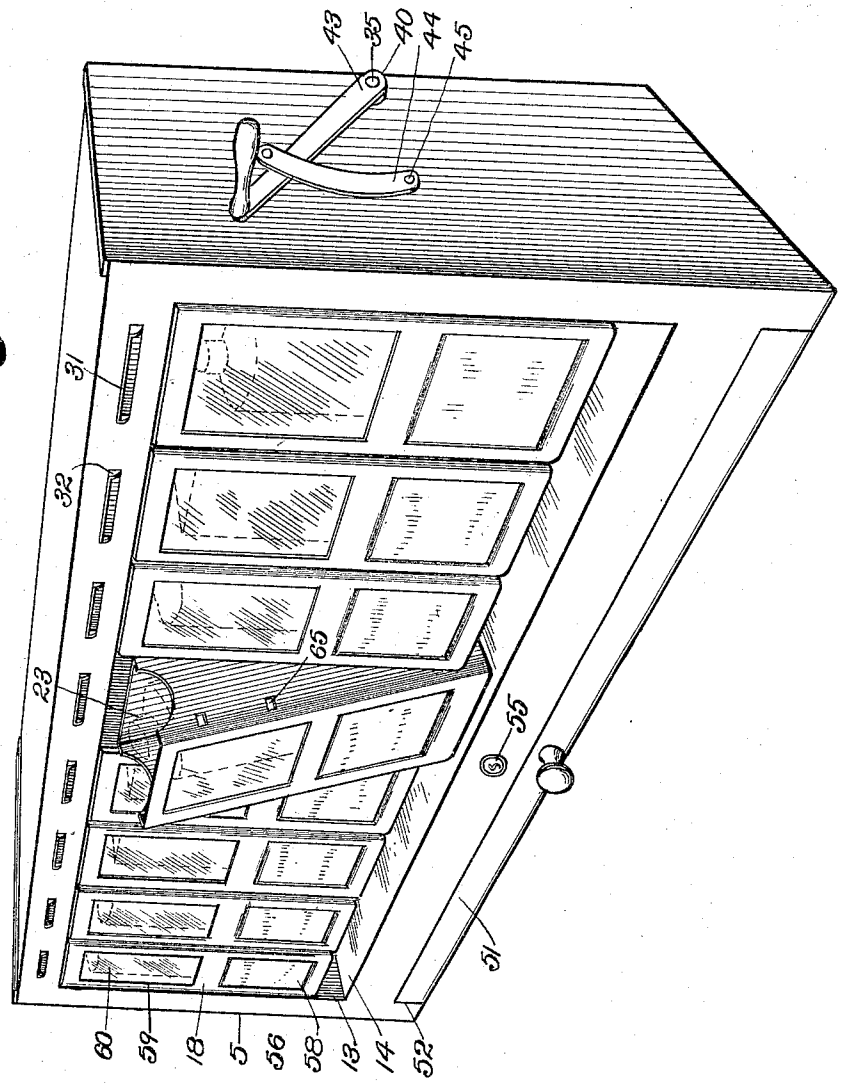
APPLICATION FILED JAN. 19, 1914.

1,219,657.

Patented Mar. 20, 1917.

4 SHEETS—SHEET 1.

Fig. 1.



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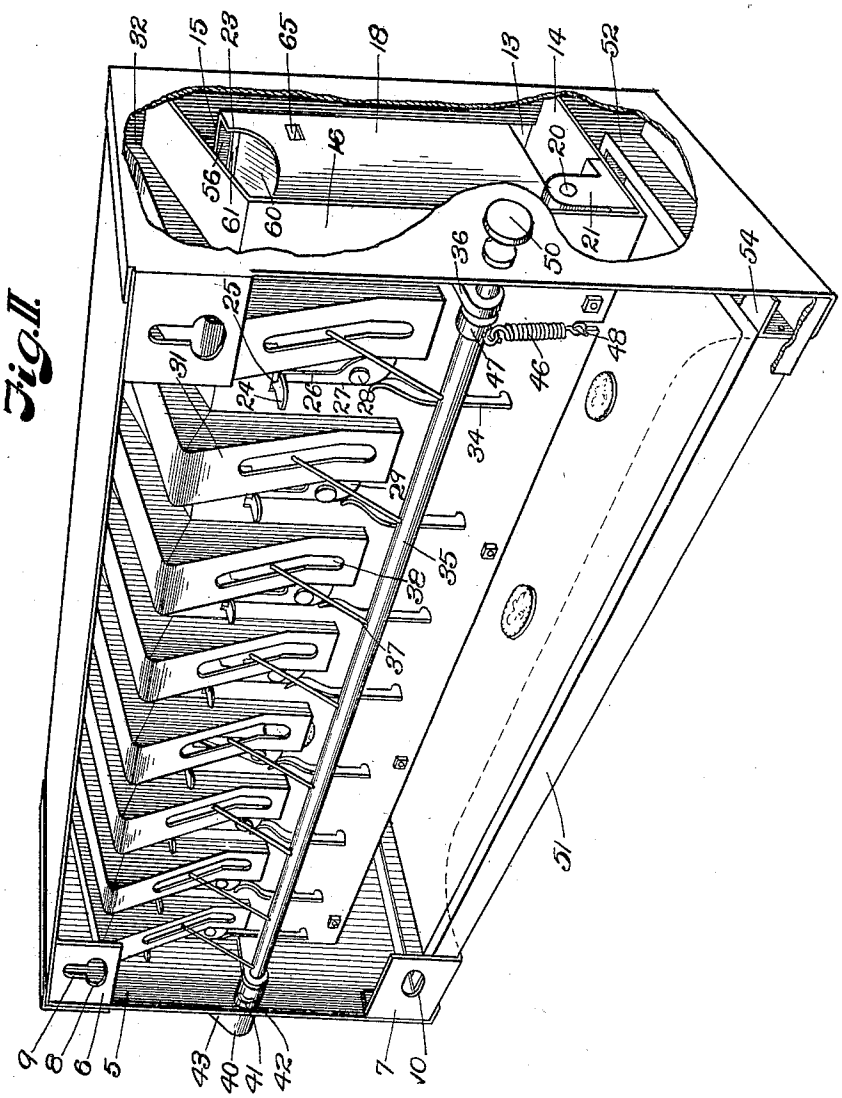
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4 SHEETS—SHEET 2.

Fig. II.



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4 SHEETS—SHEET 3.

Fig. III.

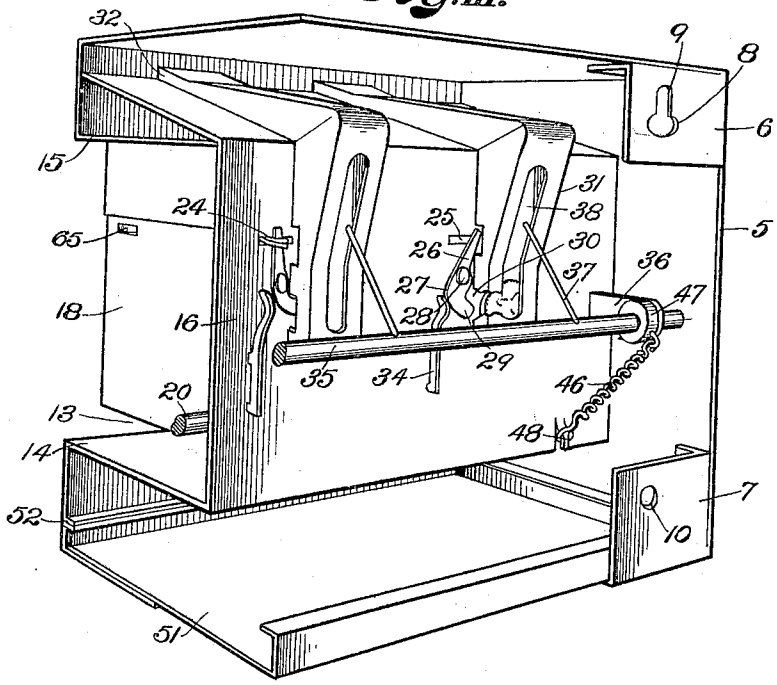
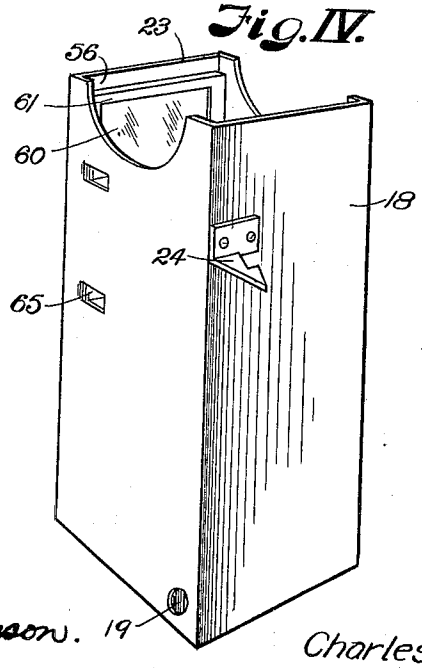


Fig. IV.



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4 SHEETS—SHEET 4.

Fig. V.

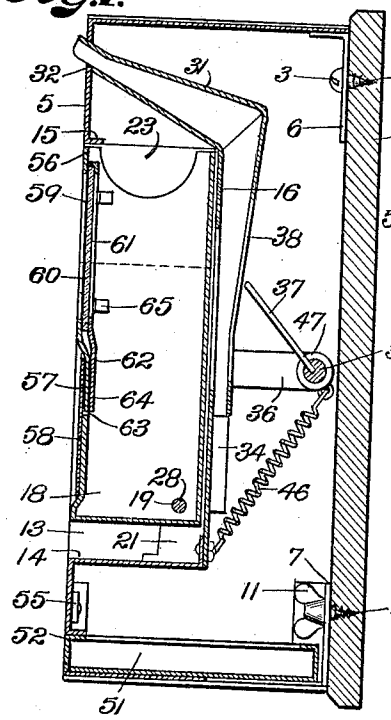


Fig. VI.

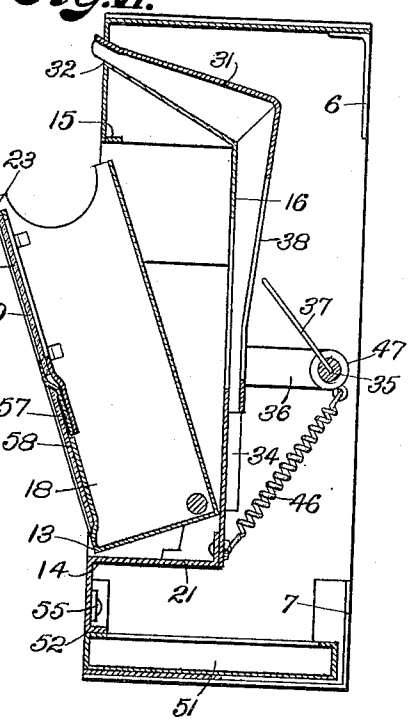


Fig. VII.

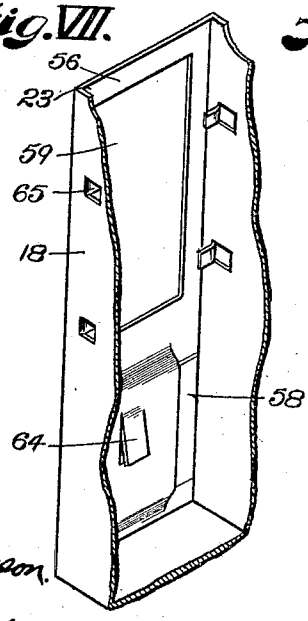
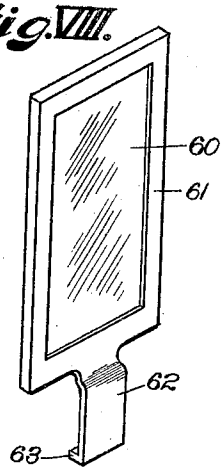


Fig. VIII.



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UNITED STATES PATENT OFFICE.

CHARLES A. MELCHERT, OF KANSAS CITY, MISSOURI, ASSIGNOR TO AUTOMATIC MACHINE MANUFACTURING CO., OF KANSAS CITY, MISSOURI, A CORPORATION OF MISSOURI.

VENDING-MACHINE.

1,219,657. Specification of Letters Patent. Patented Mar. 20, 1917.

Original application filed May 2, 1913, Serial No. 764,987. Divided and this application filed January 19, 1914. Serial No. 812,929.

To all whom it may concern:

Be it known that I, CHARLES A. MELCHERT, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Vending-Machines; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to vending machines, and more particularly to a machine for containing vendible articles and exposing same so that they may be removed by a purchaser, when trip mechanism, that ordinarily retains the machine locked, has been released by a suitable coin; the present invention being a division of my pending application filed May 2, 1913, and serially numbered 764,987 and relating particularly to the article containing bins and their housing.

In order to define the objects of the present features of the invention, and explain the construction and operation of the mechanism whereby the objects are accomplished, I have illustrated a complete operative structure and referred to the drawings by numerals corresponding to those in the application heretofore mentioned.

In the accompanying drawings:

Figure I is a perspective view of a vending machine constructed according to my invention, showing one of the bins tipped so that its contained article may be removed by a purchaser.

Fig. II is a rear perspective with the back plate removed, and a part of the end broken away to illustrate the interior construction.

Fig. III is a rear perspective of part of the machine taken from the end opposite that of Fig. II.

Fig. IV is a detail perspective of one of the bins.

Fig. V is a cross-section of the machine on a line running through one of the bins and showing the bin in locked position.

Fig. VI is a similar view showing the bin in position for exposing its contents.

Fig. VII is an interior perspective of one of the bins, with the glass removed.

Fig. VIII is a detail perspective of one of the bin glasses in its frame.

The present machine is particularly adapted for use in hotels, or like places, where the machine may be mounted on the wall of a hall or room, so that guests may purchase toilet articles from the machine without the necessity of leaving their rooms or the hotel when such articles are required, and in order to conveniently mount the machine I provide same with a back board 1 which may be nailed or otherwise secured to the wall, and is provided with upper screws 2 having heads 3 spaced from the front face of the board, and having lower threaded studs 4.

The machine proper comprises a casing 5 which is preferably open at the back so that access may be had freely to the interior parts, and is provided with upper corner plates 6 and lower corner plates 7, the former being provided with apertures 8 having upwardly directed slots 9, and the latter with apertures 10.

In mounting the casing on the back board, the upper corner plates are applied to the projecting screws so that the heads may pass through the apertures 8 and hold the casing to the board when the former is lowered, so that the shanks of the screws are located in the slots 9.

With the casing supported on the upper corner plates, wing nuts 11 are applied to the studs 4 from the front of the machine so as to hold the casing firmly to the back board.

The casing is preferably rectangular and provided with an opening 13 in its front face which may be formed by stamping the material, of which the casing is formed, back into the interior to provide a flooring 14 which may comprise the lower part of a housing within which the commodity bins are located; the upper edge of the opening having a back-turned flange 15 for finishing the upper part of the recess.

Fixed to the rear of the flooring 14 is a back plate 16 which extends upwardly to the level of the flange 15 and is then inclined forwardly and upwardly to the front of the casing in order to provide space for the rear upper corners of the bins when the latter are tipped and—with the flooring 14—forming the housing for containing the bins.

Each of the bins 18, of which there may be as many as may be desired in each casing, comprises a sheet metal receptacle of sufficient depth to fit snugly against the back of the housing and lie substantially flush with the front of the machine when in closed position, and has apertures 19 adjacent its lower rear corner through which a shaft 20 that is mounted on standards 21 at the inner corners of the housing projects. When there are a number of bins in each machine the single shaft may project through the apertures in all of the bins in order to facilitate the mounting and insure alinement of the front faces of the bins.

It is apparent that by placing the pivotal mounting at its lower rear corner, the bin, unless restrained, will tip forwardly so that its open upper end 23 will be exposed so that an article carried therein may be removed, and in order to retain the bin in its upright or closed position I provide same with the rearwardly facing latch tooth 24 which is adapted for projection through a slot 25 in the back plate 16 and is adapted for locking engagement with the arm 26 of a bell crank lever 27.

The lever 27 is pivotally mounted on a pin 28 carried by the back of the housing and has an arm 29 projected through a slot 30 in a coin chute 31 which extends along the back of the housing and forwardly to a slot 32 at the front of the machine over the bin 18; a spring 34 is mounted on the back plate engaging the bell crank lever to yieldingly tension the arm 26 into the chute to insure engagement therewith of a coin which may be dropped through the chute by a person wishing to purchase an article contained within the bin that is located below the slot 32.

The spring-pressed lever arm 29 is adapted for supporting a coin so that when the latter is dropped through the chute a further action must be taken in order to trip the bin, the tripping mechanism consisting of a shaft 35 which is revolubly mounted in bearings 36 that project rearwardly from the back plate 16 and has both ends projected through the ends of the machine casing, and has an arm 37 adapted for projection into the slot 38 in the rear of each coin chute and adapted for engaging a coin which is supported on the lever arm 29.

Pivotally mounted on one end of the shaft is a hub 40 having a circumferential slot 41 through which a pin 42 that is rigidly fixed on the shaft projects, so that the parts may have limited free movement relative to each other, but so that the shaft is revolved when the hub is turned by the hand lever 43, that is formed integral therewith, and the edges of the slot brought into contact with the pin 42.

The handle lever projects through a quadrant 44 on the end of the casing and is adapted for stopping engagement with the studs 45 that support the quadrant, so that the shaft may be turned through but a part of a revolution with each downward movement of the lever and against the tension of a spring 46 which is connected with a hub 47 on the shaft and with a hook 48 on the back of the housing, and which automatically returns the shaft to initial position after each tripping actuation of the hand lever.

The parts are so arranged that downward movement of the hand lever will push a coin downwardly in the chute sufficiently far to rock the bell crank lever so that the bin latch is released, and thereby releases the bin so that it may tip forwardly to expose its open upper end, the movement of the hand lever being stopped, however, before the coin has been pushed past the lever arm 29 and thereby enabling the lever arm 29 to retain the coin in the chute. This combination makes it impossible for an empty bin to be reset except by further positive actuation of the crank shaft, as the coin holds the bell crank lever out of the path of the bin latch, so that should the bin be pushed back into the housing the latch will not catch and the bin will immediately fall back into open position. This provision is made in order to obviate closing of a bin before it has been refilled by an attendant.

In order to reset a bin which has been tripped, as described, the shaft 35 is turned by a knob 50 which is carried on the end of the shaft opposite the handle lever, revolution of the knob causing the shaft to turn alone until the pin 42 has passed through the slot in the hub 40 and engages the forward end of the slot, when the handle lever is carried along with the revolving shaft; it being apparent that the arm 37 may be moved farther through actuation of the knob 50 than through actuation of the handle lever, by reason of the additional freedom provided by the slot 41. This additional freedom of the shaft is sufficient to cause the arm 37 to push the coin past the bell crank lever arm so that it may drop into a tray 51 which is located in the bottom of the casing.

After actuation of the shaft through the knob 50, the parts are returned to initial position, so that when the bin is again closed the latch will pass through the slot,

trip the bell crank lever and catch thereagainst when the lever moves back to its closing position under tension of the spring 34.

The tray 51 is located below the floor of the housing and covers practically the entire bottom of the casing, so that coins dropped from any of the chutes will fall thereinto, being supported on the bottom of the casing and adapted for removal through a slot 52 at the front thereof. The tray is provided with a laterally projecting strap 54 near each end for spacing it from the end walls of the casing and serving as a stop when the tray is opened in order to prevent complete removal of the tray from the casing, and is also provided with a lock 55, so that only an authorized person may have access thereto.

Each bin is preferably provided with a front face 56 having a lower part stamped backwardly and provided with open edges 57, so that a card 58 may be placed therein to designate the contents of the bin, the upper part of the front face of the bin having an opening over which a glass, or like, panel 60 may be placed, the preferred construction of the panel and bin comprising a panel frame 61 having a depending spring shank 62 having a lip 63 adapted to spring back of a hook 64 on the lower portion of the front face, the sides of the bin having lips 65 stamped therefrom and spaced from the front of the bin, so that the panel may slide between the lips and the front face.

With this construction, the glass panel may be slipped into the bin from the open mouth and locked in place by engagement of the spring hook on the panel with the stamped out hook on the lower portion of the front face of the bin.

In using the machine, presuming the parts to be constructed and assembled as described, and the casing mounted on the back plate, which has been previously fixed to the wall of a room, should a purchaser desire an article contained in one of the bins, he inserts the proper coin through the slot directly over the bin containing the desired article, and after the coin has dropped into place lowers the handle lever to operate the trip mechanism. When the handle lever is lowered its hub contacts the pin on the shaft 35 and the shaft is revolved so that the arms 37 thereon are carried forwardly and downwardly into the slots in the rear portions of the coin chutes. The arm entering the chute containing the coin engages the upper edge of the coin and forces the same downwardly against the lower arm of the bell crank lever, so that the upper arm of the lever is moved laterally out of contact with the latch tooth of the bin containing the article desired by the operator, and the bin being unlatched immediately drops forwardly of its own weight, exposing the open upper end so that the contents may be removed.

As each bin contains but a single article, when it has been tripped it remains in open position, the remaining bins, however, being retained in their normal position so that any one desiring their contents may secure same by inserting coins in the proper places and operating the machine as heretofore described, the spring 46 automatically returning the hand lever and shaft to normal position after each individual actuation.

As soon as an attendant notices that one or more of the bins has been emptied he refills the bin and turns the shaft by the knob 50, so as to eject the coin and release the holding lever, so that it may again coöperate with the bin latch to hold the bin closed; the attendant who refills the bin not necessarily having access to the coin tray, as all of the bins may be reset without requiring access to the interior of the machine.

At intervals a collector may remove coins from the receiving tray, such intervals, however, not being dependent upon the sales of the apparatus, as the sales may be continued indefinitely irrespective of the coin collection.

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

In a coin operating machine, an outer case open on its front side, a plurality of recessed stalls in said case covering the front opening thereof, a plurality of bins with top openings, one of said bins being positioned in each of said stalls, a common journal for said bins situated at the bottom rear corner of the bins and supported by said stalls, said stalls having a rear partition forming a stop for the inward swinging of the bins around the journal and said stalls also having a bottom partition forming a stop for the outward swinging of the bins permitting the complete exposure of the bin opening when each bin is being tilted forward and the bin opening being concealed when the bins are in upright or closed position; independent means for engaging with each bin to hold it in upright position, said means being mounted in the case to the rear of said partition of the stalls.

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

CHARLES A. MELCHERT.

Witnesses:
ARTHUR W. CAPS,
L. E. COATS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."