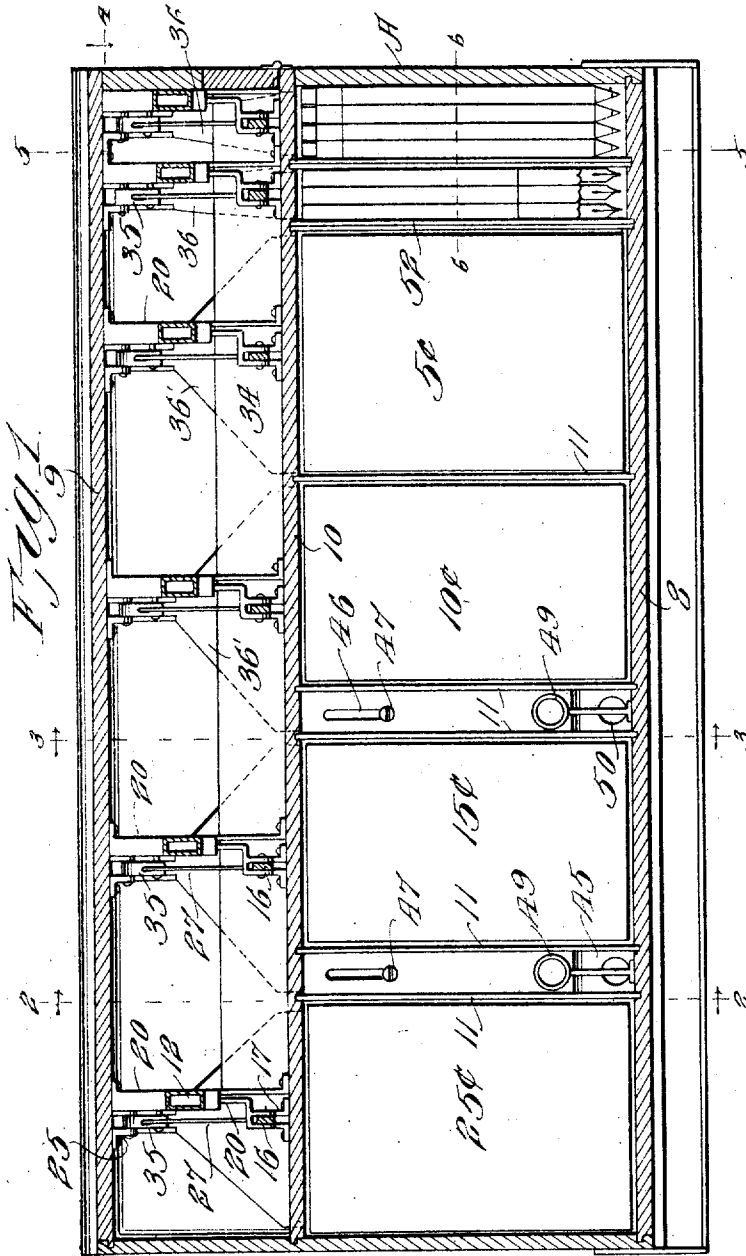


I. F. HARRIS.
VENDING MACHINE.
APPLICATION FILED JAN. 8, 1910.

973,939.

Patented Oct. 25, 1910.

3 SHEETS—SHEET 1.



Witnesses
Frank Cough
Wm. Bagger.

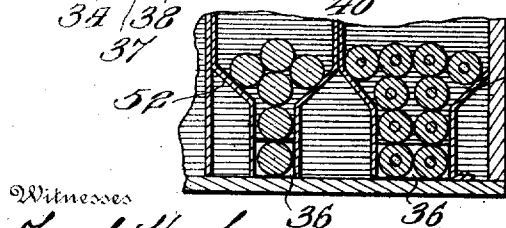
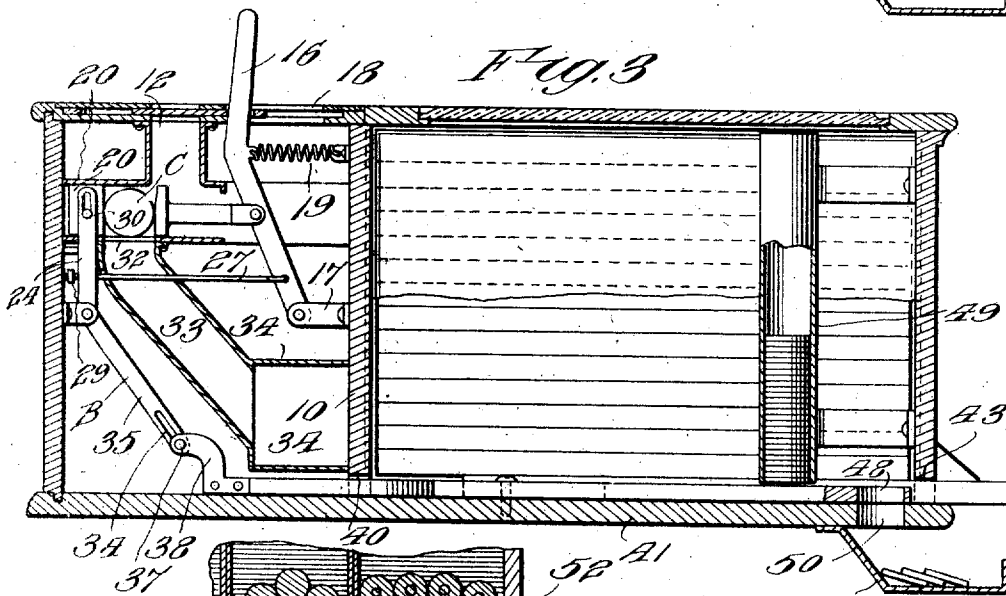
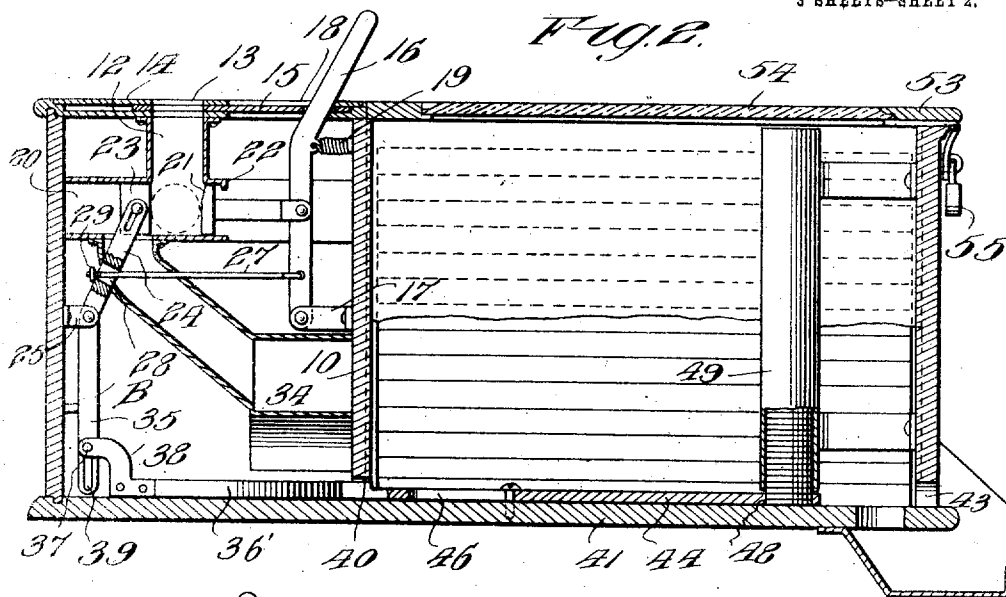
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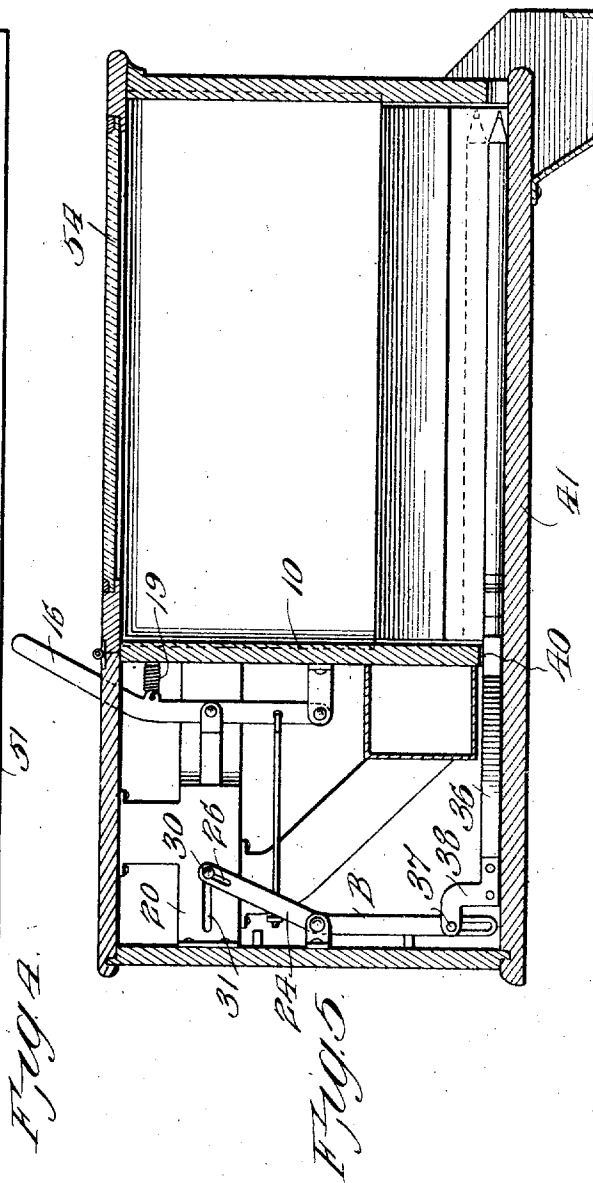
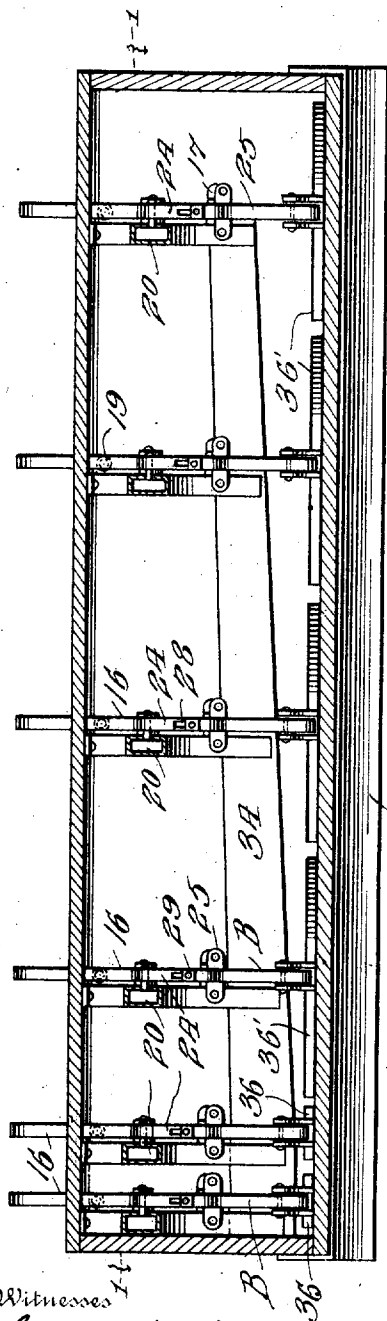
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3 SHEETS—SHEET 3.



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 Attorney

UNITED STATES PATENT OFFICE.

IRVIN F. HARRIS, OF FORRESTON, TEXAS.

VENDING-MACHINE.

978,939.

Specification of Letters Patent.

Patented Oct. 25, 1910.

Application filed January 8, 1910. Serial No. 536,998.

To all whom it may concern:

Be it known that I, IRVIN F. HARRIS, a citizen of the United States of America, residing at Forreston, in the county of Ellis and State of Texas, have invented new and useful Improvements in Vending-Machines, of which the following is a specification.

This invention relates to coin-operated vending machines, and it has among its objects to provide a casing or cabinet of simple and improved construction from which writing tablets, pens, pencils, and similar supplies may be delivered upon the insertion of a coin of the proper denomination, means being also provided whereby change will be delivered along with the article sold when a coin of a predetermined denomination is inserted.

Further objects of the invention are to simplify and improve the general construction and operation of a machine of the character outlined above.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claim.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention may be resorted to when desired.

In the drawings,—Figure 1 is a horizontal sectional view of a vending machine constructed in accordance with the invention, said section being taken on the plane indicated by the line 1—1 in Fig. 4. Figs. 2, 3, 4, 5 and 6 are sectional views taken on the planes indicated by the lines 2—2, 3—3, 4—4, 5—5 and 6—6, respectively, in Fig. 1, Figs. 2, 3, 5 and 6 being shown on a larger scale. Fig. 7 is a perspective detail view of a plunger used in connection with the device.

Corresponding parts in the several figures are denoted by like characters of reference.

Referring to the drawings, A designates a suitably constructed casing or cabinet, the same being preferably of rectangular form and provided intermediate its front and rear walls 8 and 9 with a vertically disposed transverse partition wall 10; the space in front

of said partition wall being divided into compartments for the merchandise to be sold and auxiliary compartments for the change-making slides or plungers, partitions 11 of sheet metal or other suitable material being used to subdivide the space in front of the partition wall 10 into compartments of the desired size. It is desired to be understood at the outset that the casing or cabinet may be provided with any desired number of sub-compartments for the reception of merchandise, but for the purpose of illustration I have shown six separate merchandise compartments, four of which are adapted to receive writing tablets intended to be sold each at 25 cents, 15 cents, 10 cents and 5 cents, respectively, while the two remaining compartments are adapted to receive pen holders intended to be sold at five cents each and pencils intended to be sold at the rate of two for five cents. It is further to be understood that the delivery mechanism for the pencils, penholders and for the five cent tablets is to be operable in each instance upon the insertion of a proper coin, namely, a five cent piece, while the delivering mechanism of the tablets to be sold at ten cents, fifteen cents and twenty-five cents each is to be operable only upon the insertion of a twenty-five cent piece; means being provided whereby the proper change, namely, fifteen cents or ten cents, as the case may be, is to be delivered along with the ten cent and fifteen cent tablets, respectively, the change being delivered in the form of three or two five cent pieces, respectively. Change mechanism has, therefore, been shown in connection with the compartments adapted to contain the ten cent and fifteen cent tablets, it being understood that the change-making principle may be adapted to merchandise intended to be sold at various prices and that coins of other denominations than those referred to may be used when the construction has been properly modified. It is also desired to state that the change-making mechanism of this invention is substantially the same as that shown in an application for Letters Patent, Serial No. 530,162, filed by me on the 27th day of November, 1909, and co-pending herewith, and that such mechanism will, therefore, be only briefly described.

In the space of the cabinet or casing intermediate the rear wall 9 and the partition 10 is supported a plurality of coin-operable delivery devices, one for each merchandise

compartment, and said coin-operable devices being of identical construction, the description of one will suffice.

Each of said devices, then, includes a vertically disposed chute 12 of suitable dimensions to receive a coin inserted edgewise through a slot 13 in the top 14 of the casing, said slot being normally unobstructed, but adapted to be obstructed by a slide 15 connected with and operated by a lever 16 which is fulcrumed upon a bracket 17 on the partition wall 10, said lever extending through a slot 18 in the top of the casing, and said lever being normally retracted by a tension spring 19 connecting it with the partition wall 10. The entrance chute 12 communicates at its lower end with a flat horizontally disposed tube 20 of rectangular cross section, said tube being of proper dimensions to contain the inserted coin edgewise. A plunger 21 movable in the tube 20 is connected at its forward end with and is actuated by the lever 16, the forward movement of the plunger being obstructed by a flange 22, and the parts being so arranged and proportioned that the passage of the coin from the chute 12 into the tube 20 will not be obstructed. Movable in the rear end of the tube 20 is a slide 23 which is suitably connected with an upwardly extending arm 24 of a lever B fulcrumed on a bracket 25 upon the rear wall of the casing. The lever arm 24 lies adjacent to the side of the tube 20 and is provided with a slot 26 engaging a stop 30 projecting through a slot 31 in the side wall of the tube, being thus connected with and operable by said slide.

The upwardly extending lever arm 24 is connected with the operating lever 16 by a link 27, said link being pivotally connected with the lever 16, while it extends loosely through a slot 28 in the lever arm 24, said link being provided with a stop member, such as a nut 29, which is adjustable thereon in order that the plunger 21 and the slide 23 may be properly spaced for the reception of the coin. The stop member 29 of the link 27, however, is capable of being moved rearwardly of the lever arm 24, as will be best seen in Fig. 4 of the drawings.

The tube 20 has a slot 32 in the bottom thereof communicating with the upper end of an inclined chute 33, the lower end of which communicates with a coin receptacle 34 which is supported in an inclined position transversely of the cabinet, as clearly shown in Fig. 4, so as to facilitate the removal of coins. The downwardly extending arm 35 of the lever B is connected with the delivery plunger 36 by means of a pin 37 extending transversely through a bracket 38 upon the rear end of the plunger and through a slot 39 adjacent to the lower end of the lever arm. The delivery plunger 36 is adapted to operate through a slot 40 in the partition

wall 10 adjacent to the bottom 41 of the casing and to communicate through said slot with the lower end of the proper compartment, said delivery plunger being of suitable width and thickness to operate upon the lowermost member of a stack of merchandise supported in the compartment.

It will be seen that upon the insertion of a coin of the proper denomination through the chute 12, said coin will constitute a link or connecting member between the plunger 20 and the slide 23, as will be best seen in Fig. 2 of the drawings. When the lever 16 is actuated against the tension of the spring 19, the coin C, together with the slide 20, will be moved in a rearward direction until the coin is supported between the plunger and the slide directly above the slot 32 communicating with the chute 33. When the coin is in this position it will be clamped between the slide and the plunger, and the stop member 29 of the link 27 will be projected rearwardly of the lever arm 24. Upon releasing the lever 16 it will be retracted by the spring 19, and the plunger 20 will be moved forwardly, thus releasing the coin and permitting it to drop into the chute 33 before the link 27 retracts the lever arm 24. By the rocking movement of the lever B, the delivery plunger will be projected through the slot 40, thus projecting the lowermost member of the stack of merchandise through a suitable slot or opening 43 in the front of the casing, enabling such article to be grasped by the fingers of the operator and removed from the cabinet, the remaining members of the stack dropping by gravity as soon as the delivery plunger is retracted by the lever B operated by the spring-actuated lever 16 and the link 27.

The plungers operating in the merchandise compartments for which auxiliary change-making compartments are provided, and which have been specially designated 36', and one of which has been illustrated in Fig. 7 of the drawings, are provided each with a forwardly extending arm 44 disposed to operate between the side walls of the proper change-making compartment 45, said arms having guide slots 46 engaged by pins 47. Each arm 44 is provided at its forward end with a circular opening 48 adapted to receive the desired number of change coins, said coins being stacked in a tube 49 disposed vertically adjacent to the front end of the compartment 45. The change is in the nature of coins of a predetermined denomination, such as five cent pieces, and each arm 44 is made of suitable thickness to enable the opening 48 to hold the desired number of coins over one upward. In Figs. 2 and 3 of the drawings, the change-making arms 44 are adapted to hold 2 and 3 such coins, respectively, but the dimensions may, of course, be varied to any extent desired.

When the apparatus is in normal condition, that is to say, when the plunger is retracted, the opening 48 will be disposed directly below the change tube 49, enabling the desired number of coins to pass into the opening and to rest upon the bottom of the casing. When the plunger is projected in a forward direction, by the insertion of a proper coin into the receiving chute and by the operation of the hand lever 16, the opening 48 will be brought into registry with an opening 50 in the bottom of the casing adjacent to the front wall of the latter, thus permitting the change coins to drop into a receiving tray 51 provided for the purpose.

As hereinbefore stated, the various compartments may be adapted to hold merchandise of any description that will enable it to be suitably projected by the plunger means herein described; such compartments as are intended for pen holders, pencils and the like being preferably made in the form of hoppers, as shown in Fig. 6 of the drawing.

To afford convenient access to the interior of the casing for the purpose of replenishing the stock of merchandise and of change coins, a lid 53 is hingedly supported upon the top of the casing, said lid being preferably provided with a sight opening protected by glass or other transparent material, as shown at 54, and a locking device, such as a padlock 55 being provided. It is also obvious that a suitable door is to be provided through which access may be had to the coin receptacle 34.

From the foregoing description, taken in connection with the drawings hereto an-

nexed, the operation and advantages of this invention will be readily understood.

The construction of the improved vending device is simple, and it is thoroughly efficient for the purpose for which it is provided.

Having thus described the invention, what is claimed as new, is:—

In a vending machine, a coin-receiving chute, a horizontally disposed tube connected with the lower end thereof and having a bottom slot which is out of alinement with the receiving chute, a coin receptacle, an inclined chute connecting said receptacle with the bottom slot, a plunger operating in the horizontally disposed tube, a spring-retracted lever connected with and actuating said plunger, a slide movable in the horizontally disposed tube, a suitably supported lever having an upwardly extending arm connected with the slide to operate the latter, a link connecting the upwardly extending lever arm with the spring-retracted lever, said link being slidably and adjustably connected with the lever arm, a merchandise compartment, a plunger operating in the bottom of said compartment, and suitable means connecting said plunger with the downwardly extending arm of the lever to project the plunger when the spring-retracted operating lever is manipulated against the tension of the retracting spring.

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

IRVIN F. HARRIS.

Witnesses:

L. B. GRIFFITH,
JOE BARNETT.