Aug. 19, 1924. 1,505,725

N. OBRADOVITS

VENDING MACHINE

Filed March 16, 1922 2 Sheets-Sheet 1

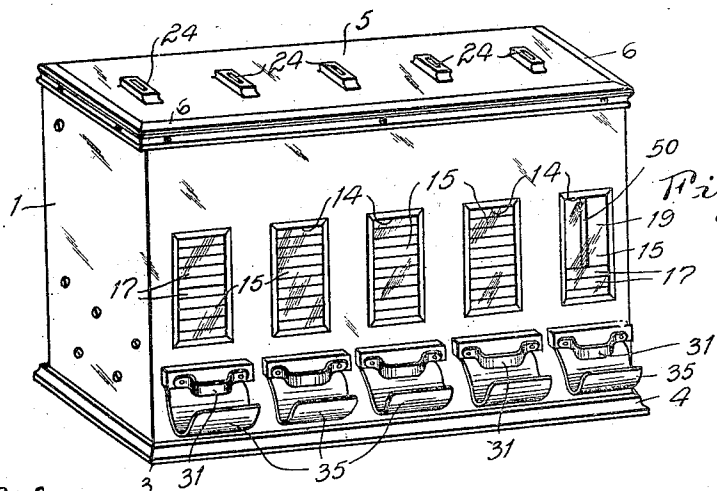


Fig. 1.

Fig. 2.

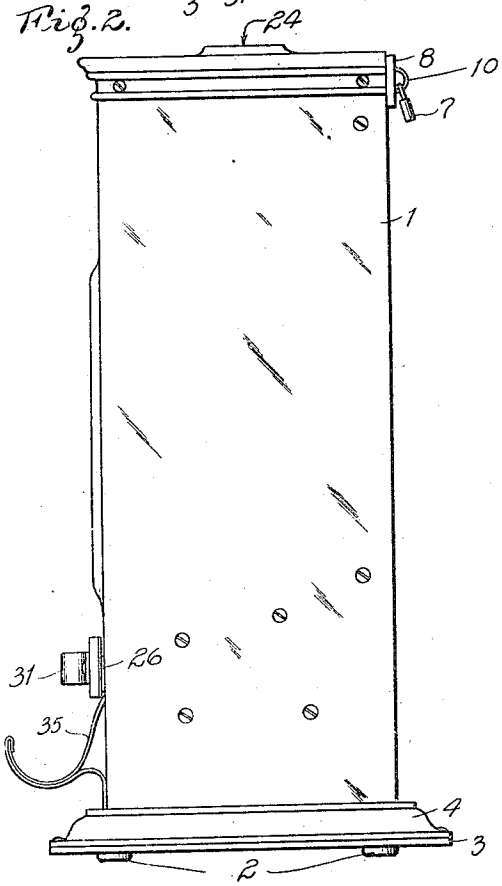
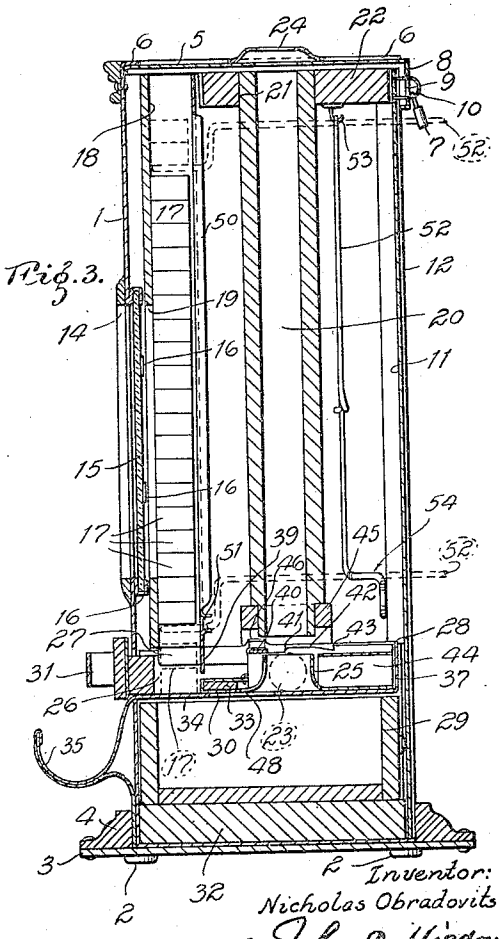


Fig. 3.



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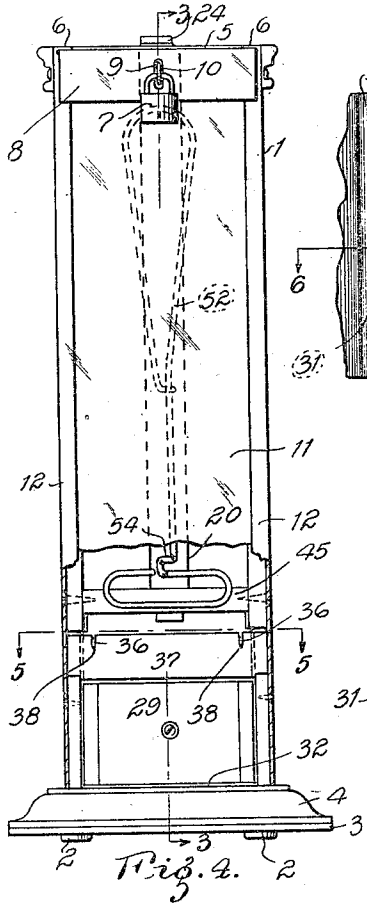


Fig. 4.

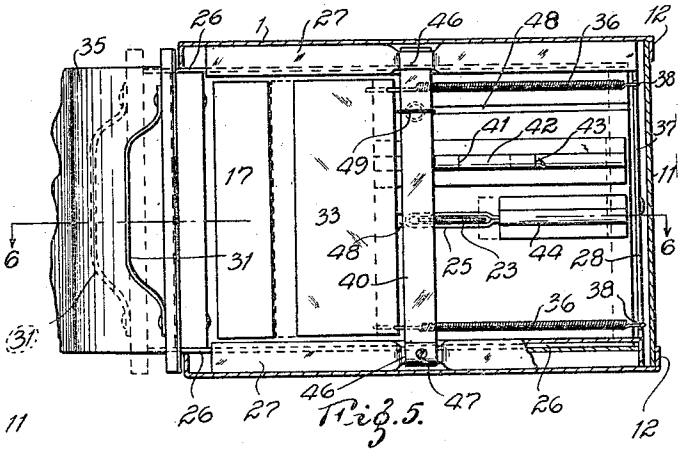


Fig. 5.

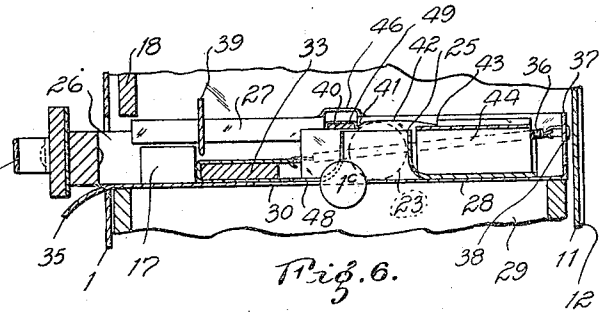


Fig. 6.

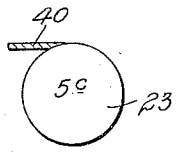


Fig. 8.

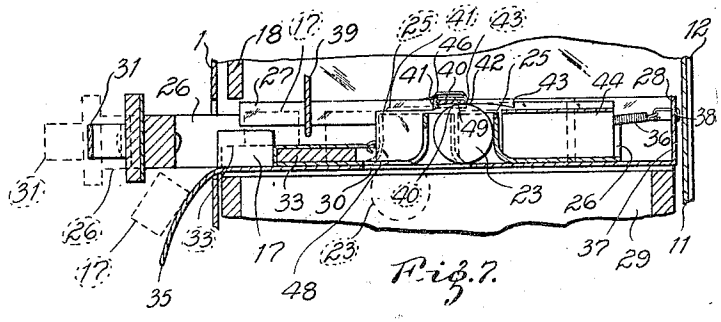


Fig. 7.

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Patented Aug. 19, 1924. 1,505,725

UNITED STATES PATENT OFFICE.

NICHOLAS OBRADOVITS, OF ST. LOUIS, MISSOURI.

VENDING MACHINE.

Application filed March 16, 1922. Serial No. 544,067.

To all whom it may concern:

Be it known that I, NICHOLAS OBRADOVITS, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Vending Machines, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention consists in the novel construction and disclosure hereinafter particularly described and distinctly claimed.

The primary object of my invention is to provide a simple and easily operated vending-machine, of low cost; but which shall be capable of delivering one, or a number of different kinds of packages of chewing-gum or other material, upon the deposit of a 5¢ coin for each package, before the latter is delivered; and which machine shall deliver any number of packages (up to the capacity of the machine) consecutively, upon the deposit of a like number of 5¢ (or other valued) coins at one time, in the coin-chute of the machine.

A further object of my invention is to provide an improved vending-machine which cannot be defrauded by the use of coins, washers, or slugs, having a smaller diameter than that of the legitimate coins required to be deposited in the machine before packages or merchandise are delivered to customers.

In the drawings,

Fig. 1 is a perspective view of the exterior of a vending-machine casing, containing five separate and independent vending-machines, for delivering several kinds or flavors of chewing-gum, in wrapped packages, upon deposit of the proper coins.

Fig. 2 is a side-elevation of a machine constructed in accordance with my invention, but limited to the delivery of one flavor or brand of chewing-gum or other merchandise.

Fig. 3 is a vertical section, taken centrally of the single machine shown in Fig. 2, on the line 3—3 of Fig. 4.

Fig. 4 is a rear elevation, partly in section, of the single machine that is shown in Figs. 2 and 3.

Fig. 5 is an enlarged detail horizontal section of the same machine, taken on the line 5—5 of Fig. 4.

Fig. 6 is a fragmentary sectional side-elevation, the section being taken on line 6—6 of Fig. 5, showing the delivery-slide adjusted for rejecting and discharging a 1¢ coin, or a slug having too small a diameter.

Fig. 7 is a view similar to the last, but showing the delivery-slide in the act of being released by a 5¢ coin, or by a coin having the proper diameter, and

Fig. 8 is a detail view of a proper coin, in position to raise and release the yielding locking-bar, to permit a delivery-movement of the delivery-slide.

The numeral 1 designates the casing of the machine, preferably made of sheet-metal and rectangular in shape, and supported upon rubber feet or disks 2, depending from the underside of a heavy base-plate 3, around the upper edge of which are heavy metallic moldings 4, that hold the machine securely in position upon the store-counter, table-top, or other supporting surface, in cigar-stores, drug-stores, railway-stations, restaurants, and in any other location where chewing-gum and similar merchandise are sold.

Said casing 1 is provided with a removable cap or top 5, which slides in horizontal guides 6, so that said top can be removed by sliding same rearwardly, after first detaching the lock 7, or by unlocking any other form of lock that is used in detachably fastening said top in a closed position.

In the present case, the said sliding top 5 has a downwardly-extending locking-flange 8 formed integral with its rear end or edge, and in this flange is a staple-opening 9, through which extends a staple 10 whose legs are fixed to the adjacent upper portion of the upwardly detachable sliding back-plate 11 of said casing 1.

Said detachable back-plate 11 is securely held against removal rearwardly, by the opposite flanges 12, Fig. 5, which extend vertically at the rear of said casing 1.

An ordinary pad-lock 7 engages the said staple 10, on the rear side of said locking-flange 8, and thereby locks both the said top 5 and the back-plate 11 securely in place, without the necessity of more than one lock. Fig. 3.

Of course, the above described locking-means is but one of many well-known ar-

rangements for locking the casings of vending-machines, and it may therefore be changed or replaced by any other locking-means.

Said detachable back-plate 11 extends the full height of the casing 1, and upon its removal ready and convenient access can be had to the interior of the casing, throughout the height of the latter, in placing the packages of chewing-gum or other merchandise in the machine, and in inspecting and repairing the various parts thereof.

In continuing this description, I will confine it to a single vending-machine mechanism, with the understanding that when it is desired to locate a plurality of them in a single large casing 1, mere duplication of the said vending-machine mechanism will be necessary, as all are preferably alike in all essential particulars. Please see Fig. 1 for an illustration of the proposed duplication, wherein five separate and independent vending-machines are arranged within a single large casing.

In the front of the casing 1 is a sight-opening 14, in the rear of which is a glass plate 15 supported in suitable holding-devices 16, so that a clear view of the superimposed packages 17 contained in the machine may be had by a person in front of the same.

In the present form of the machine, there is a vertical package-chute or chamber 18, in which the packages are superimposed and visible through a sight-opening 19 formed in the front wall of said chute, and directly in the rear of the glass 15 of the said casing sight-opening 14.

Said vertical package-chute 18 is rectangular in shape and of sufficient length to extend from said top 5 of the casing downwardly a sufficient distance to contain twenty of the well-known rectangular packages of chewing-gum now on the market, and an additional distance, to provide space in said chute for several "hold over" packages, which might be found unsold in the chute at the time the supply of twenty additional packages is put in it. Fig. 3.

Said package-chute 18 is inserted from the top, and may be removed thereat, by merely removing the locked top 5 of the casing, and pulling said chute out.

The upper and lower ends of the said package-chute 18 are freely open, for the insertion of packages at the upper end, and for the delivery of packages consecutively at the lower open end of said chute, in the manner described hereinafter in detail.

A straight vertical coin-chute 20 has its upper end mounted or held in a bearing 21 formed in a thick horizontal top-support 22, Fig. 3, that is fixed within the casing 1 closely adjacent the said casing top 5.

The upper and lower ends of said coin-chute 20 are open, so that one or more coins preferably 5¢ pieces 23, may be inserted at a coin-slot 24 located centrally in said top 5, and pass therethrough to the open upper end of said coin-chute, which is immediately beneath said coin-slot.

Said coin-chute 20 extends downwardly to a point a slight distance above the open upper end or edge of a coin-pocket 25 that is carried by a horizontal delivery-slide 26, and which coin-pocket is normally located directly beneath the lower open end of said coin-chute, in position to receive the coins consecutively delivered by said chute. Figs. 3 to 7.

Said delivery-slide 26 has its opposite vertical walls mounted to slide in horizontal guides 27 of a horizontal slide-holder 28 that is fixed in the lower portion of said casing 1 immediately above a money-till or coin-box 29.

A coin-slot 30 is formed in the bottom of the said slide holder 28, at a point just in advance of the said coin-pocket 25, so that when the said delivery-slide 26 is pulled out by its handle 31 to a coin-delivery position, in which it is shown in Figs. 6 and 7, the lower open end of the said coin-pocket 25 will register with the said coin-slot in the bottom of said slide holder, and thereby permit the coin that is in said pocket to drop through said slide-holder coin-slot, and fall into the underlying coin-box 29, which latter is removably supported upon an internal base 32, at the lower end of the machine.

At the front of the said delivery-slide 26, and fixed thereto, so as to move therewith, is a horizontal push-bar 33, whose outer edge engages the adjacent edge of the lowermost one of the gum-packages (or other merchandise) 17, and pushes same off of the package-supporting surface 34 of the front portion of the bottom of said delivery-slide holder 28, onto the adjacent delivery-receptacle 35 located on the front of the machine, convenient for the purchaser to grasp and remove, whenever said delivery-slide is drawn outwardly by its handle 31 to a package-delivering position, which is shown by the dotted lines in Fig. 7.

The said delivery-slide 26 is normally held in a retracted position, and is automatically returned thereto, after a delivery, by coiled (or any approved form of) springs 36 which are arranged for said work; the front ends of said springs 36 being (in the present illustration) secured to the rear edge of the said horizontal push-bar 33 of said delivery-slide, and the rear ends of said springs are fastened to the rear vertical wall 37 of said slide-holder 28, by means of suitable fastenings 38. Fig. 5.

At the lower end of the said package-chute 18, the rear wall thereof is continued downwardly to form a package-stop or fender 39,

which extends below the front wall of said chute, and terminates a short distance above the said push-bar 33, to act as a stop for the packages descending from the said package-chute, and prevents the lowermost one from traveling rearwardly with the said push-bar, while the latter is returning to its normal retracted position, as shown more clearly in Fig. 7.

When said push-bar 33 has been fully retracted, the lowermost package 17 from said chute, drops off of said bar, and rests upon said supporting-surface 34 of the said slide-holder 28, as shown in Fig. 6, ready to be pushed to delivery when said delivery-slide is again pulled out.

The delivery-slide 26 is normally locked, and no delivery can be made, until said slide has been released by the insertion of a proper coin through the said coin-slot 24, which will immediately fall through the said coin-chute 20 and come to rest in the underlying coin-pocket 25, and its periphery will project a distance above said pocket and will be brought into contact with a yielding lock-bar 40 that extends horizontally across the delivery-slide, and said lock-bar will be raised a slight distance, and permit the locking-projection 41 of said delivery-slide to pass under said lock-bar to a delivery position. See Fig. 7.

Said locking-projection 41 is located at the front end of a curved or rounded support 42, which rises from the bottom of said delivery-slide 26, and after said lock-bar has been elevated to a release-position, as just described, said bar is held elevated by said curved support, until the said slide reaches the limit of its delivery movement, when said lock-bar will again assume a locking position, by reason of said rear portion of said curved support 42 passing beneath said bar, and the outer movement of said delivery-slide will be stopped by a second locking-projection 43 at the inner end of said rounded-support coming in contact with the inner edge of said lock-bar; and thus further outward movement of said slide will be prevented.

Then the said delivery-slide will be returned to its normal position by the action of said springs 36, ready to make another delivery. Should a customer wish more than one package, he may drop into the coin-slot 24 as many proper coins as he wishes and said plurality of coins will rest superposed edgewise in the said coin-chute, ready to be fed consecutively into the said coin-pocket 25 of the delivery-slide 26 as the latter is moved out and in, and the customer will receive a package for each proper coin that he deposits in the machine, even to the full capacity of same.

When the delivery-slide 26 is at the limit of its outward movement, in making a delivery, the additional coins which may have been deposited in the coin-chute by a customer, will be supported by reason of the lowermost one of said coins resting on a horizontal coin-supporting bar 44 which is carried by said slide directly in the rear of the said coin-pocket 25, and which runs beneath the said lowermost coin as said slide is moved outwardly to a delivery position.

Upon retraction of said delivery-slide and said coin-supporting bar 44, the lowermost coin of the lot will drop into the coin-pocket 25, and so on, until all of the coins of the lot have been used in making deliveries of packages, as desired.

A cross-bar 45 is fixed in position above the said delivery-slide 26, and supports and holds the lower portion of the coin-chute 20 with its interior in alignment with the said coin-pocket, when the delivery-slide is in its normal position, so that coins will drop from said coin-chute into the open upper end of said coin-pocket 25, as before explained in part.

Said yielding lock-bar 40 has one of its ends mounted in a bearing 46, which will permit that end of said bar to move up and down a limited distance, at one side of the said slide-holder 28, and the opposite end of said bar is secured to the said slide-holder by means of a screw 47. Fig. 5.

A slot 48 in the bottom of the said delivery-slide 26 permits the latter to move without interfering with a short vertical lock-bar spring 49, the upper end of which is attached to said bar at a point adjacent the end that moves in said bearing 46, and the lower portion of which spring extends through said slot 48 and is fixed to the underlying bottom of said slide-holder 28.

Said spring 49 yieldingly holds down the bearing end of said lock-bar 40.

In filling the said package-chute 18, it need not be removed from the machine, because (at the present time) the lower end of said chute is open, and if same were filled while removed from the machine, there is nothing to hold the packages at the lower end of the chute and they would slide down into the empty space in the casing, and be therein piled up promiscuously, and would prevent the insertion of said chute.

Therefore, I prefer to fill the chute 18 while it is in place in the machine, as this can be quickly accomplished by properly and symmetrically placing the packages in said chute, one at a time, through the open upper end, and temporarily supporting the growing column of packages by means of a removable wire gum- (or package) filling-holder or tool 52, which is curved laterally or offset at 54, so that the T-shaped supporting-head of said holder may be passed forward at one side of the said coin-chute 20, and enter a transverse slot 51 in the rear

wall of said package-chute, near the lower end of the latter, and thence upward to the proper location in said package-chute, to support and gradually lower the packages, until the lowermost one is near the lower end of the filled chute 18, and will drop proper side up, onto the underlying supporting-surface 34 of said slide-holder 28, upon withdrawing said T-shaped head of said filling-holder 52 by way of said slot 51, a long vertical slot 50 in the said rear wall of said package-chute permitting the upward and downward movements of the said head of said filling-holder.

The said filling-holder or tool 52, when not in use, is conveniently hung upon a filling-holder hook 53 which is fixed in the underside of the said thick coin-chute top-support 22, and depends therefrom in the space in said casing 1 between said back-plate 11 and said coin-chute 20 where it will be preserved against accidental loss or theft, and will always be readily at hand when wanted for use in filling the package-chute, as described.

The operation.

The operation of my invention will be readily apparent from the above description, and need not be further explained, except to call attention to the fact that if a penny, or a coin or slug having a less diameter than the proper coin or 5¢ piece, is dropped into the machine in an effort to defraud it, such smaller-diametered coin will, of course, drop into the coin-pocket 25, but its small diameter will prevent it from reaching up to the lock-bar 40 of the delivery slide 26, and said bar will therefore remain in its normally locking-position, and the delivery-slide cannot be withdrawn far enough to make a delivery, but the penny or other inserted illegitimate coin or slug, will be discharged downwardly through said coin-slot 30 in the bottom of the slide-holder 28, and will drop into the underlying till or coin-receptacle 29. See Fig. 6.

I claim:—

1. In a vending-machine, the combination of a casing; a vertical package-chute and a vertical coin-chute mounted parallel in said casing; a coin-receptacle in the lower portion of the casing; a delivery-slide having a coin-pocket and mounted beneath the lower ends of said package and coin chutes; a flexible lock-bar extending transversely of said delivery-slide and normally locking same and preventing its delivery-movement until said lock-bar is flexed upwardly by a coin that is located in said coin-pocket; and a horizontal coin-supporting bar carried by said delivery-slide in the rear of said coin-pocket, to support the additional coins in said coin-chute when said delivery-slide is pulled out to make a delivery.

2. The combination of parts specified in the above claim 1, with a screw which secures one end of said flexible lock-bar to said delivery-slide, and a bearing for the opposite end of said lock-bar, to permit same to move therein.

In testimony whereof, I have signed my name to this specification in presence of two subscribing witnesses.

NICHOLAS OBRADOVITS.

Witnesses:

FRANK OBRADOVITS,

HENRY L. HIGDON.