Sept. 2, 1924 **1,506,813**

N. CAMELO ET AL

VENDING MACHINE

Filed Sept. 6, 1921 2 Sheets-Sheet 1

Fig. 1.

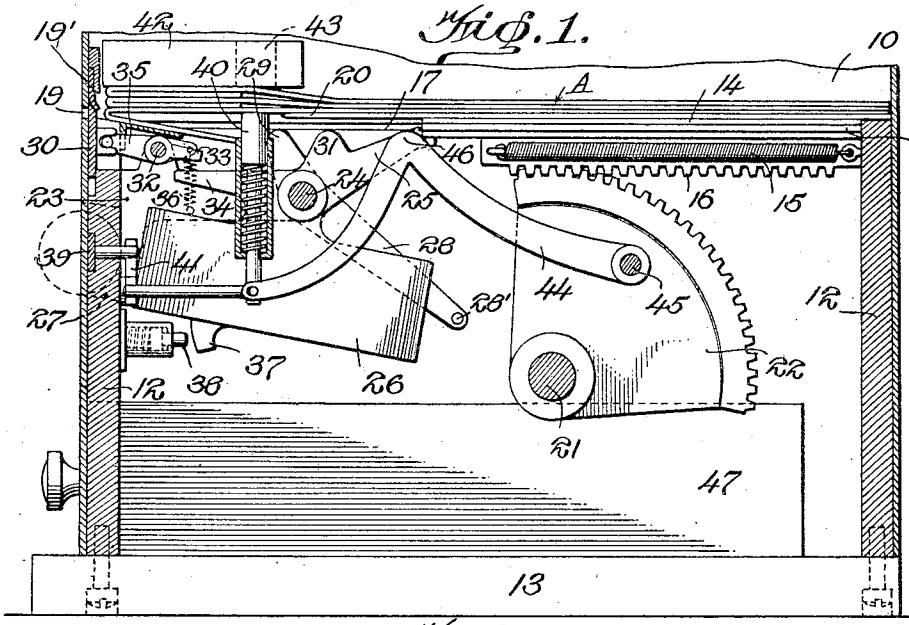
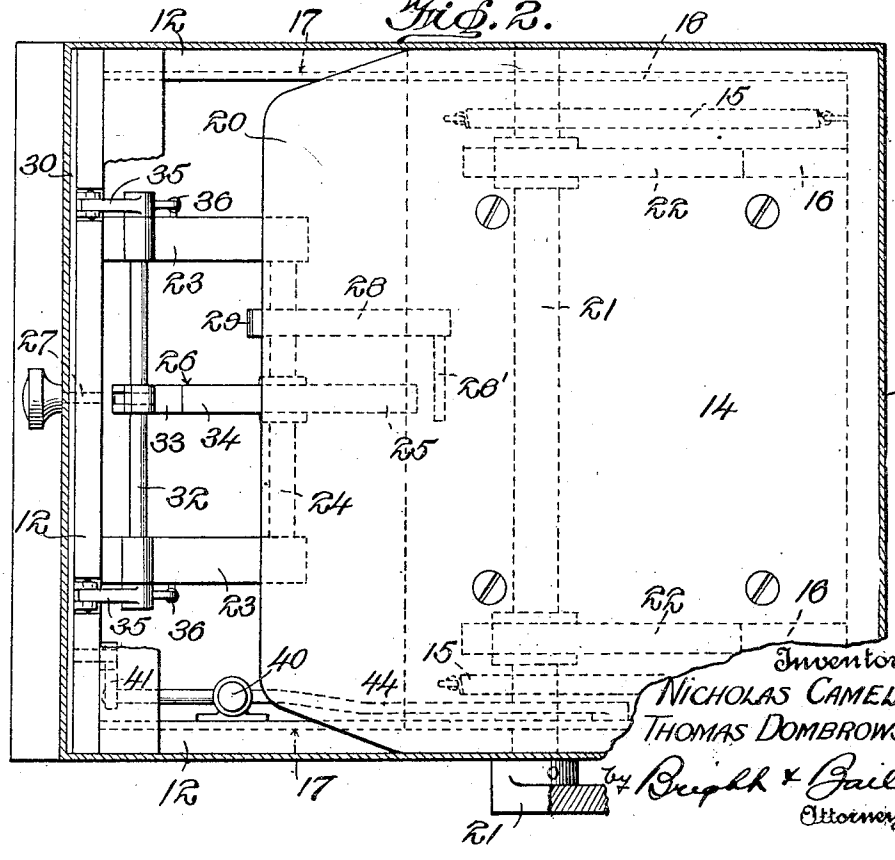


Fig. 2.



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Fig. 3.

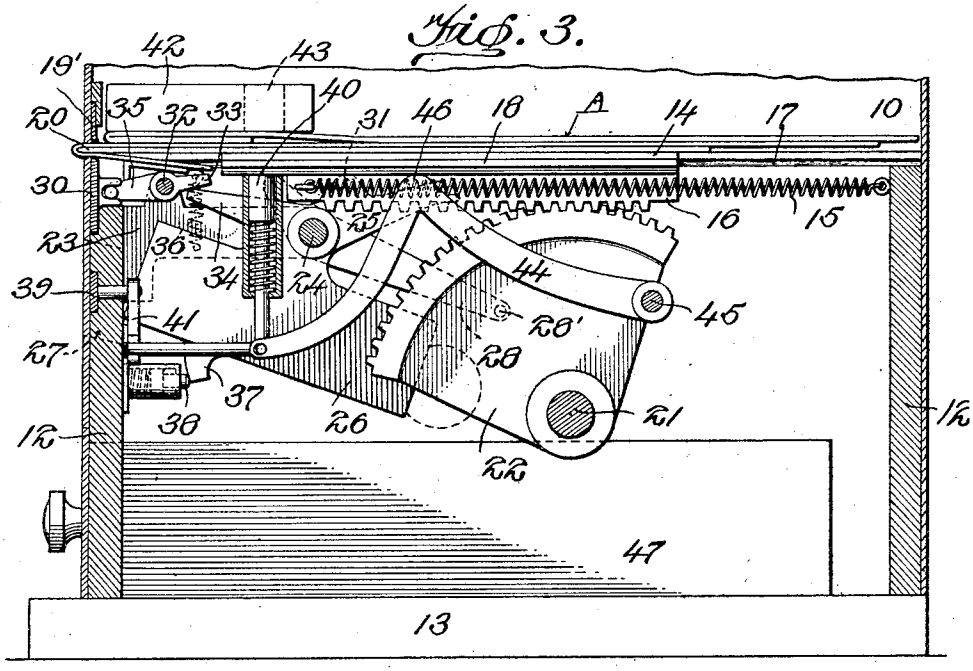
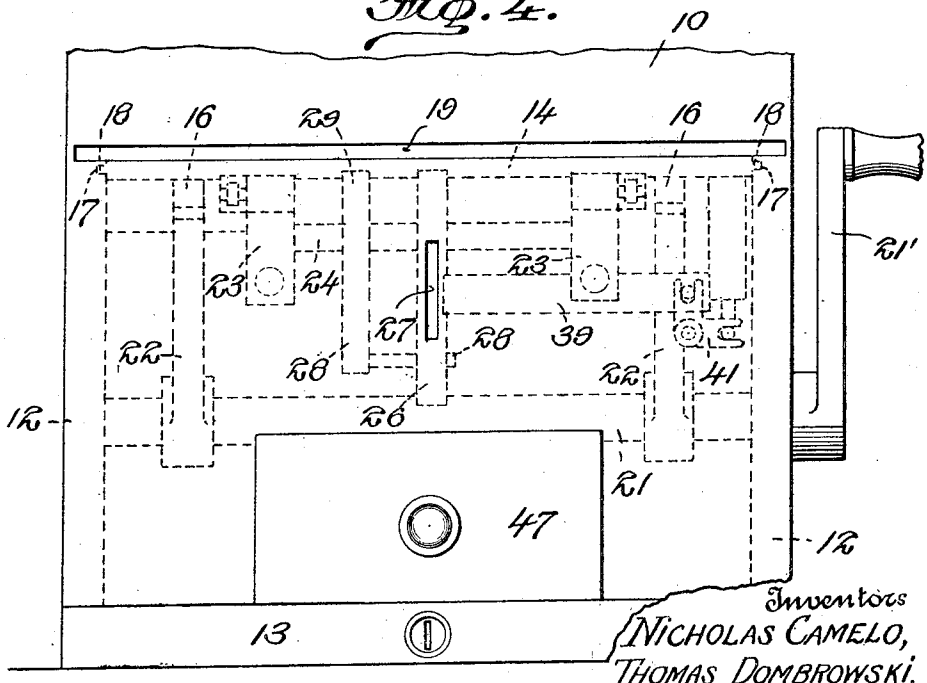


Fig. 4.



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UNITED STATES PATENT OFFICE.

NICHOLAS CAMELO AND THOMAS DOMBROWSKI, OF ROME, NEW YORK, ASSIGNORS TO ONEIDA SANI-SEAT COMPANY, INC., OF ROME, NEW YORK, A CORPORATION OF NEW YORK.

VENDING MACHINE.

Application filed September 6, 1921. Serial No. 498,641.

To all whom it may concern:

Be it known that we, NICHOLAS CAMELO and THOMAS DOMBROWSKI, citizens of the United States, and residents of Rome, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Vending Machines, of which the following is a specification.

Our invention relates to vending machines and has particular reference to improvements in machines of this character for vending folded sheets of various kinds such as sanitary toilet seat covers and the like, which seat covers, due to their relatively large size, are usually folded one or more times upon themselves for the benefits of compactness and convenience in handling and distribution, and it is particularly for the purpose of vending such sheets that our present machine has been devised, the same consisting of a receptacle and means including a projectile and retractible member engageable with the sheets between the folds thereof for effecting delivery of the same from the receptacle. Our machine, however, is not limited in its use to the vending of the articles mentioned, but is equally as well adapted for vending various other kinds of sheets so long as they are initially folded in a predetermined manner corresponding substantially to the manner in which said seat covers are folded, and therefore the foregoing mention of the purpose of our machine is not to be construed in any manner as a limitation of its range of possible utility, particularly since some of the features of novelty herein disclosed may be beneficially incorporated in different types of machines designed for vending various other articles.

With the foregoing and other purposes in view, our invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings and claimed.

In the drawings, wherein like characters of reference denote corresponding parts in the different views:—

Fig. 1 is a vertical section of a vending machine including the novel and essential characteristics of our invention and showing the normal relation of the operating parts thereof;

Fig. 2, a horizontal section showing the operating parts in top plan;

Fig. 3, a view similar to Fig. 1 showing the operating parts actuated to sheet projecting position; and

Fig. 4, a front elevation of our machine as illustrated in the preceding figures.

Referring now to the drawings in detail, 10 designates a vertically disposed rectangular receptacle adapted to receive the folded sheets A to be dispensed. This receptacle is preferably formed of substantial sheet metal and at its upper end is provided with a cover (not shown) whereby the sheets may be placed therein. Also it is preferably provided with a sight opening (not shown) whereby without removing the cover, it may be determined whether or not sheets to be dispensed are contained therein. Preferably the lower portion thereof is reinforced by interiorly arranged front, rear and side upright pieces 12, while the bottom thereof is permanently closed by a base board 13.

A plate 14 is slidably mounted in any suitable manner within the receptacle for projectile and retractible movement with respect to the front thereof, being maintained normally retracted by one or more coil springs 15 connecting it with the rear upright piece 12. Two springs 15 are shown in the present instance and these are secured at their forward ends respectively to a pair of rack bars 16 rigidly carried by the under face of said plate, whereby the desired normal retraction thereof is obtained. Said plate is preferably guided in its sliding movement by a pair of channels 17 formed respectively in the side uprights 12 near the upper ends thereof, which channels receive ribs 18 formed on opposite side edges of the plate.

Formed in the front of the receptacle is an elongated slot 19 through which the sheets to be dispensed are ejected upon projectile movement of the plate 14, ejection being effected by a forwardly extending lip 20 on the plate 14 which may be formed either integrally with the latter or as a separate piece detachably or permanently secured thereto in any preferred manner and which is adapted to engage between the folds of the sheets in the manner indicated in Fig. 3 to force them through the slot 19 as illustrated, said lip being disposed in alinement with the slot and its forward edge being active to effect ejection as is obvious.

In order to obtain the desired projectile

movement of the plate 14, a shaft 21 is journaled transversely of the receptacle below said plate and one end of the same is extended exteriorly of the receptacle and equipped with an actuating handle 21′ whereby it may be rotated. Fixed to this shaft is a pair of segmental gears 22 which are in mesh respectively with the rack bars 16. Consequently upon rotation of said handle in one direction the plate may be projected, after which the springs 15 will act to return it to normal retracted position when the handle is released.

Fixed to and projecting inwardly from the front upright piece 12 is a pair of brackets 23 which at their inner ends support a relatively short transverse shaft 24 upon which a combined coin chute and detent is mounted for slight rotative movement. The detent 25 consists of an arm extending rearwardly from the shaft 24 and having its terminal notched or otherwise suitably shaped for engagement with the forward edge of the plate 14 whereby the latter is locked against forward or projectile movement when in its retracted position until said detent is lowered and thereby removed from abutting engagement with said forward edge. The chute 26 is either formed as an integral part of the detent 25 or as a separate element and rigidly fixed to said detent whereby the two are movable in unison, and preferably the material constituting the detent and chute is so disposed with respect to the shaft 24 that it is balanced and normally assumes a position with the detent arm raised and its notched end in abutting locking contact with the forward end of the plate 14. A coin slot 27 is formed in the front of the receptacle below the ejection slot 19 and the forward end of the chute 26 is disposed adjacent to said coin slot so that a coin inserted in the latter will be received by said chute. The chute is normally disposed at a downward incline from its forward end and therefore a coin deposited in the coin slot will immediately roll to the rear thereof and through its weight act to slightly rotate the same and thereby disengage the detent from the plate 14 whereupon the latter is free to be projected by rotation of the handle 21′ in the manner previously indicated.

In order to prevent a coin deposited in the chute from rolling out of the open inner end thereof and thereby allowing the detent to return to locking position before the plate 14 has been projected, an arm 28 is rotatably mounted on shaft 24 and at one end carries a pin 28′ which is normally disposed across the inner end of the chute. The other end of this arm is formed into a cam member 29 so disposed as to be engaged by the plate 14 during forward movement of the same to thereby cause sufficient rotation of the arm to move the pin 28′ upward and out of covering relation with the chute. Thus the coin is retained in the chute and by its weight holds the detent inactive until the plate has been projected a predetermined distance, at least sufficient to prevent the detent from assuming a locking position with respect to the plate when the coin is released, which as stated occurs as soon as the plate by its engagement with the cam 29 moves the arm 28 and pin 28′ upwardly. It is also apparent that the provision of the pin 28′ serves another useful purpose inasmuch as it assures the operation of the mechanism even when coins of different denominations are deposited in the coin slot.

Only relatively slight rotation of the chute is necessary to effect release of the detent, but it is desirable to provide means for producing further rotation thereof in order that a shutter 30 which normally closed the ejection slot 19 may be moved to uncovering relation with respect to the slot somewhat in advance of the ejection of a folded sheet therethrough by projection of the lip 20. A protuberance 31 on the detent arm which is engageable by the plate 14 during projection of the latter provides a means of obtaining this additional rotation which is effected in the same manner that rotation of the arm 28 is effected. The specific means herein shown whereby such additional rotation moves the shutter to uncover the ejection slot consists essentially of a second shaft 32 rotatably carried by the brackets 23 and itself in turn carrying a short arm 33 engageable by a projection 34 on the chute when increased rotation is imparted to the latter, whereby such increased rotation of the chute imparts slight rotation to said second shaft. Also carried by shaft 32 is a pair of short arms 35 having pin and slot connections with the shuttle 30 which latter is vertically slidable in suitable guide-ways in the front upright 12, so that when said second shaft is rotated said arms act to lower the shutter and thereby uncover the ejection slot. Spring means as indicated at 36 may be provided to automatically return the shutter to cover the slot when the plate 14 is retracted.

It is desirable that means be provided to effect a positive return impetus to the chute and detent to cause them to quickly assume their normal positions following projection and subsequent retraction of the plate 14. This means consists of a lug or projection 37 on the lower edge of the chute and a spring pressed plunger 38 carried by the front upright 12 and engageable by the lug so as to be depressed when the aforementioned increased rotation is imparted to the chute. Normally the lug and the plunger are slightly relatively spaced in order that the weight of a coin may be effective to ro-

tate the detent sufficiently to disengage it from the plate 14, but immediately following this relatively slight initial rotation the lug contacts with the plunger and upon increased rotation of the detent and chute, such as is imparted by engagement of the plate 14 with the protuberance 31, depresses the same against the action of its spring, whereby the latter acts through said plunger and lug to impart a return momentum to the chute and detent when the plate 14 is retracted.

Means has also been provided whereby the slot 27 is closed against the insertion of a coin when the sheets A have been exhausted from the receptacle. This means consists essentially of a slide 39 which is longitudinally movable and which is effective to cover and uncover said slot, and an upwardly spring pressed plunger 40 which is so disposed as to be normally depressed by the weight of the sheets contained in the receptacle, said plunger being so connected with the slide as by means of the bell crank arrangement 41 as to maintain the same in uncovering relation with respect to the coin slot as long as the plunger is depressed. As the weight of the last sheet A is insufficient to properly depress the plunger, use is made of a weight bar 42 which is placed upon the sheets when the receptacle is filled. The weight of this bar holds the plunger depressed until the last sheet A has been projected when the plunger under the influence of its spring rises through an opening 43 provided in the bar to permit such movement, and this rise of the plunger acting through the bell crank arrangement 41 causes the slide to be moved to cover the slot in a manner which is apparent.

As it is undesirable to allow the plunger to remain in contact with the lowermost sheet A during ejection of the latter, means has been provided which is effective under projectile movement of the plate 14 to move the plunger out of contact with said sheet. This means consists of a lever arm 44 pivoted to the casing at one end as at 45 and at its other end pivoted to the plunger 40. Intermediately it is provided with a cam 46 which is engageable by the slide to cause the end of the same which is connected to the plunger to be depressed which in turn causes depression of the plunger and as a consequence withdraws the latter from contact with sheet A, thus allowing the sheet to be projected freely.

It will be observed that we have secured to the inside of the receptacle directly above the slot 19 in slightly overlying relation to the latter a strip 19′ of soft rubber or other flexible material, the purpose of which is to prevent more than a single sheet A being delivered through the slot upon one stroke of the plate 14.

Below the chute is a lock controlled box 47 so disposed as to receive the coins as they fall from the chute.

From the foregoing description taken in connection with the accompanying drawings, it is believed that the construction, operation and advantages of our improved machine will be clearly understood, and while we have herein shown and described one specific embodiment thereof, we do not limit ourselves thereto except for such limitations as may be defined in the appended claim.

We claim:—

In a vending machine, a receptacle having a slot therein for the passage of articles to be dispensed, a projectile and retractible plunger operable when projected to effect delivery of an article through said slot, a member within said receptacle movable across said slot to open and close same, said member normally closing said slot, a pivoted tiltable member one end of which normally engages directly with said projectile and retractible plunger to lock said plunger in a retracted position, said tiltable member being adapted to be tilted and thereby released from locking position with respect to said plunger by the weight of a coin deposited in the machine, and a connection between said tiltable member and said slot closing member whereby the latter is moved to open the slot by said tiltable member in cooperation with said plunger when the locking member is tilted from its normal position and the plunger moved to deliver an article from the receptacle.

In testimony whereof we hereunto affix our signatures.

NICHOLAS CAMELO.
THOMAS DOMBROWSKI.