May 8, 1928. 1,669,167

V. H. KELLEY

DISPENSING DEVICE

Filed April 2, 1927 2 Sheets-Sheet 1

Fig. 2.

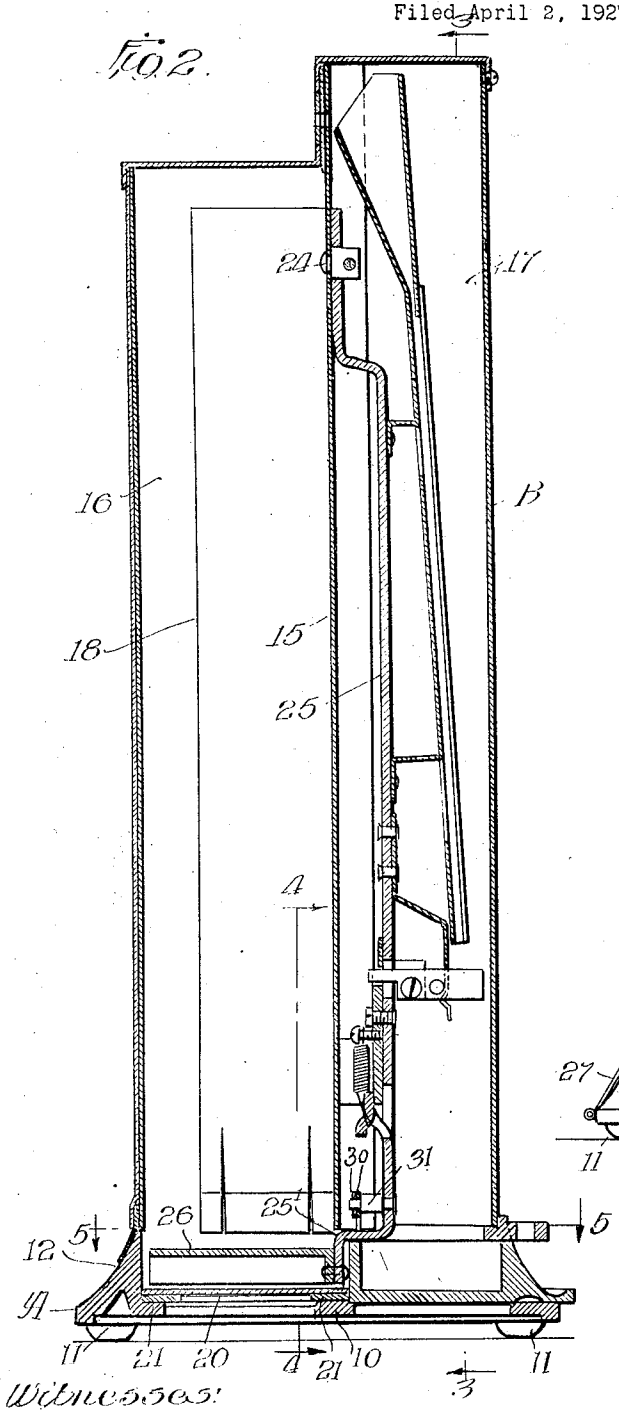
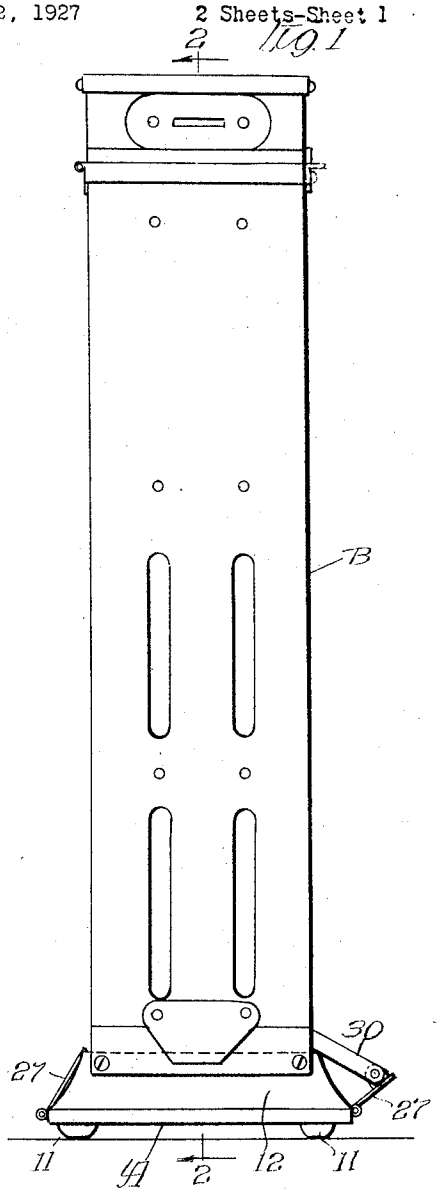


Fig. 1.



Witnesses:

Harry R. L. White.

Inventor:

Victor H. Kelley

By Fisher, Towle, Clapp & Soans Attys.

May 8, 1928. 1,669,167

V. H. KELLEY

DISPENSING DEVICE

Filed April 2, 1927 2 Sheets-Sheet 2

Fig. 3.

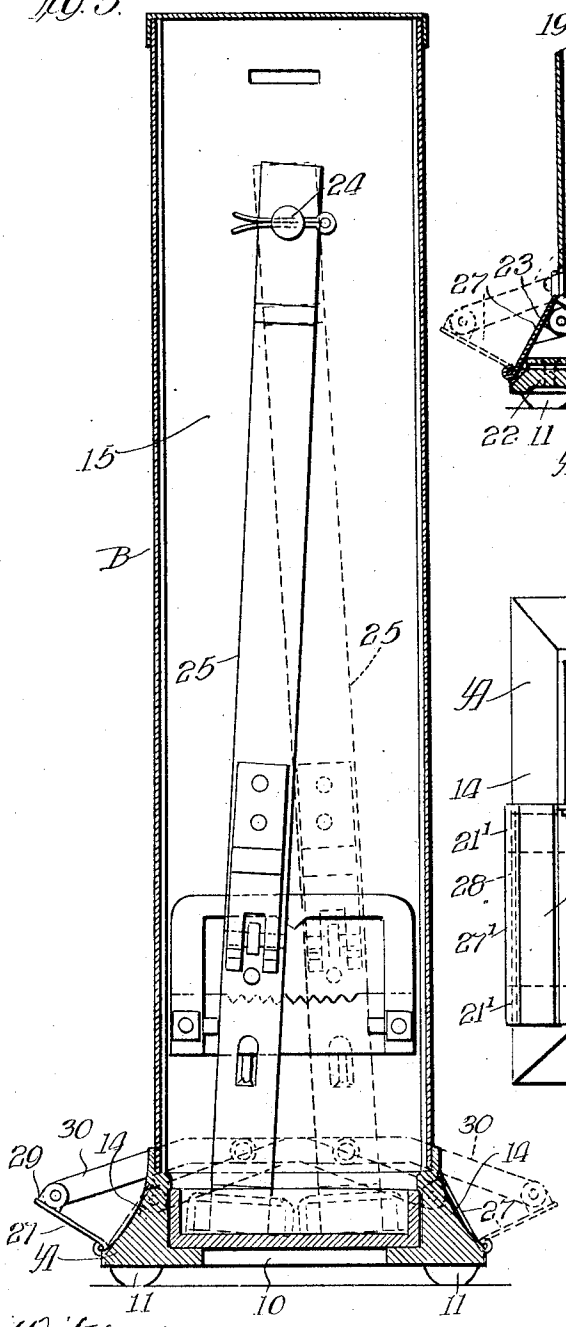


Fig. 4.

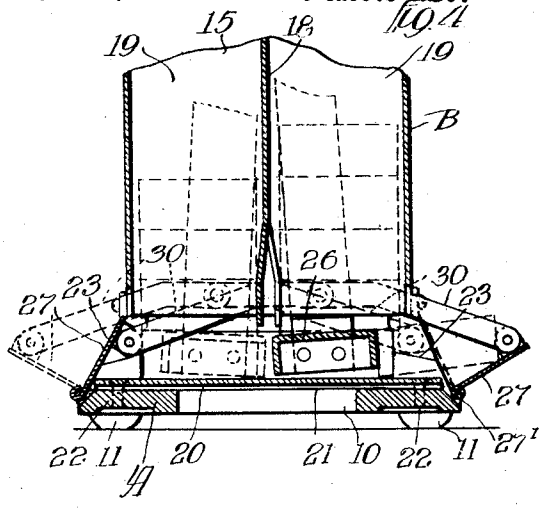
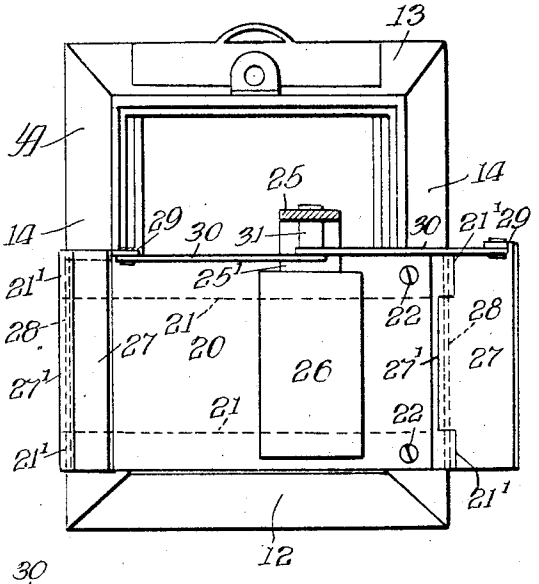


Fig. 5.



Witness:

Harry C. White

Inventor:

Victor H. Kelley.

By Fisher, Towle, Clapp & Soans Attys.

Patented May 8, 1928. 1,669,167

UNITED STATES PATENT OFFICE.

VICTOR H. KELLEY, OF MADISON, WISCONSIN.

DISPENSING DEVICE.

Application filed April 2, 1927. Serial No. 180,408.

This invention relates to devices for dispensing small articles of merchandise such as are commonly put up in packages of uniform size and shape. Devices of this character are commonly known as vending machines, and are equipped with means for dispensing the articles one at a time, such means being controlled as to its operation by a coin-operated locking and releasing mechanism.

Devices of this character in order to prevent theft require to be equipped with means for preventing unauthorized manipulation of the machine commonly known as "picking"; and to that end various means have heretofore been proposed to guard the package delivery opening or openings of the machine against access at all times except when a package is being discharged therefrom.

The present invention relates to that type of dispensing devices wherein the packages are piled up in a pair of upright storage compartments or bins disposed side by side with side openings at their lower ends, and are discharged through said openings alternately from the two compartments by a horizontally movable ejector which also functions to alternately support the two stacks of packages as the lowermost package is pushed out, the movement of the ejector as it discharges the lowermost package of one stack simultaneously permitting the lowermost package of the other stack to drop to a position in which it will be discharged on the next movement of the ejector.

The principal object of the present invention is to provide, in a dispensing device of this character, an improved means for guarding each side opening against unauthorized extraction of a package therefrom when the ejector has discharged a package through the opposite side opening, at which time the ejector itself functions as a guard for the latter opening. Another object is to provide a guard mechanism of simple and inexpensive construction and of superior efficiency to prevent theft or "picking" of the machine.

Other objects and attendant advantages of the invention will be apparent to persons skilled in the art as the same becomes better understood by reference to the following detailed description, taken in connection with the accompanying drawings in which I have illustrated a simple and practical embodiment of the invention, and wherein—

Fig. 1 is a front elevation of the device;

Fig. 2 is a vertical section on a larger scale taken on the line 2—2 of Fig. 1;

Fig. 3 is a vertical section, in a plane at right angles to that of Fig. 2, taken on the line 3—3 of Fig. 2 and looking from the rear;

Fig. 4 is a vertical section through the base and lower portion of the casing taken on the line 4—4 of Fig. 2 and looking from the front;

Fig. 5 is a horizontal section taken on the line 5—5 of Fig. 2.

Referring to the drawings, A designates as an entirety a base and B a rectangular sheet-metal casing mounted on said base, the whole constituting a hollow upright structure in which are housed the articles to be dispensed and the dispensing mechanism. The base A, in the form shown, is a skeleton casting formed with a bottom frame 10, feet 11, low front and rear walls 12 and 13, and low side walls 14, to the upper edge of which walls the lower end of the casing B is secured. The casing B is interiorly divided by a vertical partition 15 into front and rear compartments 16 and 17 (Fig. 2), and the front compartment is in turn divided by a vertical partition 18 into a pair of twin storage compartments or bins 19 (Fig. 4) for the articles to be dispensed, such, for example, as boxes or packages of matches indicated in Fig. 4.

On the bottom frame 10 of the base is mounted a flat sheet-metal bottom plate 20 resting at its front and rear edge portions on a pair of hinge straps 21, the plate 20 and straps 21 being secured to the base frame by screws 22. In the opposite side walls 14 of the base are formed a pair of horizontally aligned delivery openings 23 slightly larger than the articles to be dispensed.

To the back of the partition 15 is pivoted at 24 (Fig. 2) a depending pendulum bar 25, the lower end of which is bent forwardly and then downwardly as shown at 25′ and has attached thereto an ejector 26 preferably taking the form of a hollow sheet-metal member having the general shape of, but slightly smaller than, the articles to be dispensed. This ejector 26 is supported by its

stem 25 slightly above the bottom plate 20 and is adapted to swing over the latter between the side openings 23 and across the lower ends of the compartments 19. As clearly shown in Fig. 4, when the ejector 26 is at either extreme of its movement it underlies and supports the packages in one compartment and permits the lowermost package in the other compartment to drop onto the bottom plate 20, and when the ejector is swung to the other extreme of its movement it ejects said lowermost package through one of the side openings 23 at the same time sliding beneath and supporting the remaining packages in that compartment and permitting the lowermost package in the other compartment to drop onto the bottom plate 20.

Referring now to the means for actuating the ejector 26 and guarding the openings 23, wherein the present invention chiefly resides, 27 designates each of a pair of guard plates that are hinged at their lower edges substantially in or slightly below the plane of the bottom plate 20. The specific means for pivoting these guard plates herein shown consists of knuckles 21′ formed on the ends of the hinge straps 21, a central knuckle 27′ formed on the lower edge of each guard plate 27, and a hinge pintle 28 extending through said knuckles. On the rear upper corner of each guard plate 27 is an inwardly bent lug 29 to which is pivoted a link 30. The inner ends of the two links 30 are pivotally mounted on a stud 31 (Fig. 2) that is mounted in the pendulum bar 25. The links 30 are of such length that when one of the guard plates 27 is in a position closing its opening 23, as shown at the left in Fig. 4, the other guard plate 27 is open to permit the ejector 26 to deliver a package through its opening 23, as shown at the right in Fig. 4. That is to say, a fully closed position of either guard plate is always accompanied by a fully opened position of the other guard plate. The device is actuated by merely exerting a push with the finger on the open guard plate. As it is thereby swung to closed position, the ejector is actuated and at the same time the opposite guard plate is opened by the thrust transmitted through the two links 30.

As above stated, machines of this character are almost universally equipped with coin-operated mechanism for locking and releasing the ejector device, and in Figs. 2 and 3 I have indicated the presence of such mechanism, but the same is not herein described since it constitutes the subject-matter of an earlier application filed by me on the 17th day of August, 1925, Serial No. 50,854, allowed March 10, 1927, and forms no part of the present invention.

I claim—

1. In a dispensing device of the character described, the combination of a hollow upright structure comprising a base having a flat bottom plate and a casing mounted on said base containing storage compartments disposed side by side, there being opposed openings in the side walls of said structure above said bottom plate, an ejector movable over said bottom plate across the lower ends of said compartments, hinged guards controlling said openings, and actuating connections between said ejector and both of said guards adapted, when either of said guards is swung to closed position, to open the other.

2. An embodiment of claim 1 wherein the guards controlling the openings take the form of plates hinged at their lower edges on the base opposite said openings.

3. In an article dispensing device of the character described, the combination of a base having a flat bottom plate, side walls, and article delivery openings in said side walls, a casing mounted on said base containing storage compartments disposed side by side, a bar suspended from a wall of said casing, an ejector on the lower end of said bar movable across the lower ends of said compartments between said openings, guard plates hinged at their lower edges to said base opposite said openings, and connections between said bar and said plates through which, when either of said plates is swung to closed position, the other is swung to open position and the ejector is actuated to discharge an article onto the open guard plate.

4. In an article dispensing device of the character described, the combination of a base having a flat bottom plate, side walls, and article delivery openings in said side walls, a casing mounted on said base containing storage compartments disposed side by side, a bar suspended from a wall of said casing, an ejector on the lower end of said bar movable across the lower ends of said compartments between said openings, guard plates hinged at their lower edges to said base opposite said openings, and links pivotally connecting said bar to said plates, said links being of such length that when either of said plates is swung to closed position the other is opened sufficiently to allow said ejector to discharge an article through the opening guarded thereby.

VICTOR H. KELLEY.