C. M. LINDE & F. C. FRANKE.

COIN CONTROLLED DELIVERY MECHANISM FOR VENDING MACHINES.

APPLICATION FILED APR. 15, 1908.

960,356. Patented June 7, 1910.

Fig. 1.

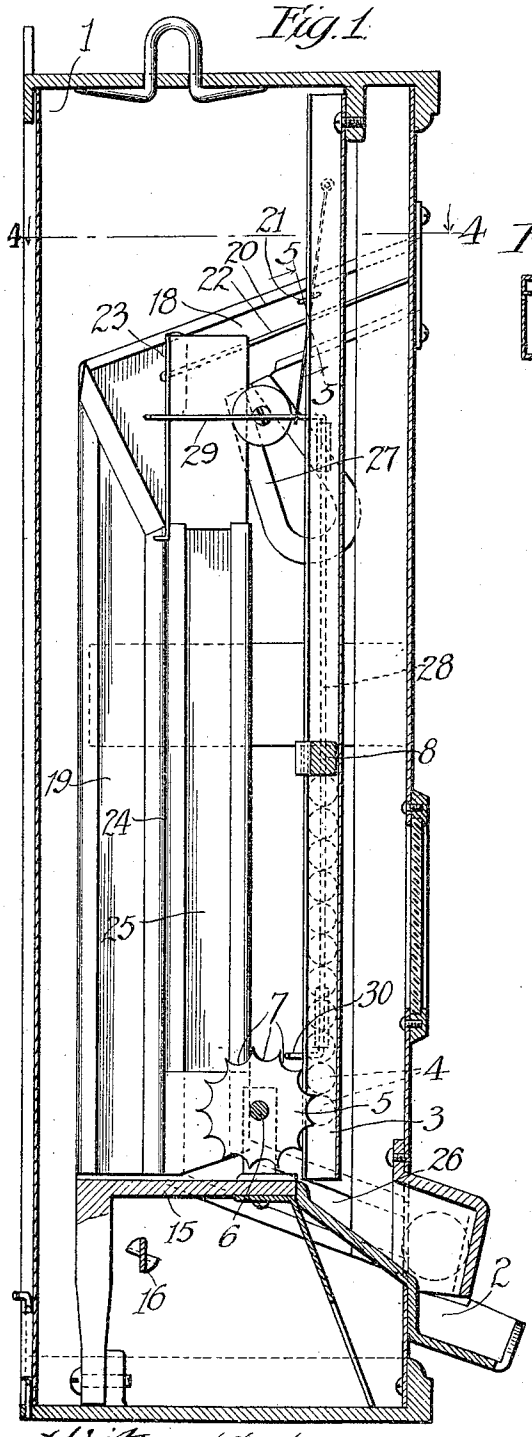


Fig. 2.

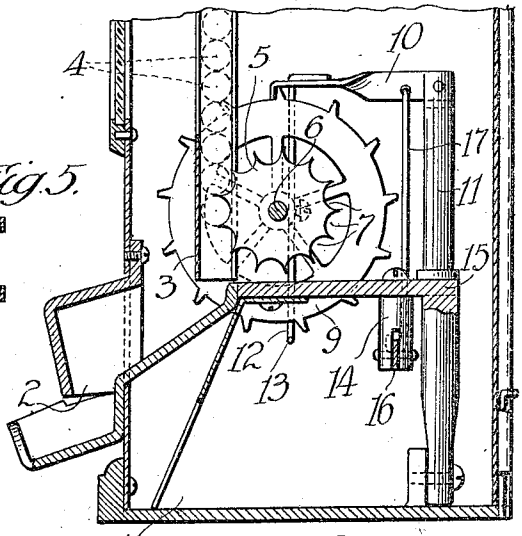


Fig. 5.

Fig. 3.

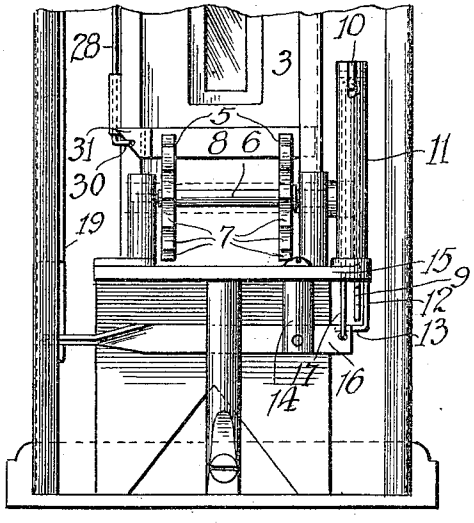
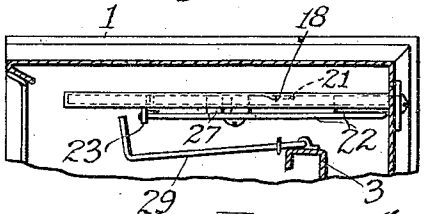


Fig. 4.



Witnesses

Henry R. L. White

R. A. White.

Inventors

Charles M. Linde

Frederick C. Franke

By Rudolph & Sons Attys

ANDREW B. GRAHAM CO., PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES M. LINDE, OF FULLERSBURG, AND FREDERICK C. FRANKE, OF CHICAGO, ILLINOIS, ASSIGNORS TO HILO GUM COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

COIN-CONTROLLED DELIVERY MECHANISM FOR VENDING-MACHINES.

960,356. Specification of Letters Patent. **Patented June 7, 1910.**

Application filed April 15, 1908. Serial No. 427,115.

To all whom it may concern:

Be it known that we, CHARLES M. LINDE, residing at Fullersburg, Dupage county, and FREDERICK C. FRANKE, residing at Chicago, in the county of Cook, both in the State of Illinois, citizens of the United States, have invented certain new and useful Improvements in Coin-Controlled Delivery Mechanism for Vending-Machines; and we do hereby 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.

This invention relates to a novel construction in a vending machine, particularly adapted for vending gum, the object being to provide a simple and efficient device of this character in which the merchandise discharge mechanism is actuated by the weight of said merchandise and is released by means of the deposited coin.

The invention consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings illustrating this invention: Figure —1— is a vertical section of a vending machine constructed in accordance with the invention. Fig. —2— is a similar fragmentary section looking in the opposite direction. Fig. —3— is a fragmentary rear elevation, the rear wall being removed. Fig. —4— is a fragmentary detail plan section on the line 4—4 of Fig. —1—. Fig. —5— is a fragmentary detail section on the line 5—5 of Fig. —1—.

The present invention is a further development of the device forming subject of our application for Letters Patent filed August 21, 1907, Serial No. 389,550 and has for its object to provide more efficient means for preventing the passage of coins of incorrect denomination or of slugs into the machine to actuate the vending mechanism and further to provide more efficient vending mechanism.

The machine comprises a suitable casing —1— provided with a discharge spout —2— so arranged that the merchandise takes a zig-zag course in passing out of the machine, thereby serving to prevent tampering with the operating mechanism by the insertion of fingers or wires. The said discharge spout —2— communicates with the lower end of a vertical chute —3— within the casing in which the packages —4— of gum or other merchandise are held, said packages being preferably cylindrical and of equal size. Projecting into the path of said packages —4— are two parallel wheels —5— rigidly disposed on a horizontal shaft —6— and which are provided in their peripheries with semi-circular recesses —7— which travel successively through said chute —3— as said wheels revolve and successively receive and discharge the said packages —4—, said wheels —5— and shaft —6— being rotated by the weight of said packages and a weight —8— disposed upon the uppermost of said packages. The said shaft —6— carries the escapement wheel —9— at one end which is normally engaged by the pawl —10— pivotally mounted at one end on the upper end of the post —11— and which carries a depending dog —12— having a projection —13— at its lower end which is adapted to pass into the path of the teeth of the escapement wheel —9— at the same time that said pawl —10— is raised to release the latter, said projection passing behind a tooth so as to permit the said wheel to rotate through an arc equal to the distance between two of said teeth. The said teeth correspond in number with the recesses —7— of the wheels —5—.

Pivotally mounted between its ends in the lower bifurcated end of a projection —14— mounted on a platform —15— in the lower end portion of the casing —1— is a lever —16— which is connected at one end by means of a link —17— with the said pawl —10— between the ends of the latter, the other end of said lever being free and disposed in the path of a coin deposited in the coin-slot at the upper end of the casing and passing through the inclined chute —18— and vertical chute —19—, said coin striking said lever with sufficient force to throw said pawl —10— out of engagement with the wheel —9—, whereupon a package —4— is discharged from the machine. It will be noted that the said lever —16— extends transversely to the pawl —10— and that thereby I am enabled to dispose the escapement mechanism and the coin chutes at respectively opposite sides of the machine. The said inclined coin-chute —18— is provided in one side with a longitudinal slot

—20— of such width as to leave only narrow flanges bordering the same. The greatest inner depth of said chute is slightly greater than the diameter of the coin of the denomination intended to be used, the width of said chute being greater than the thickness of such coin. Within said chute is a projection —21— which is adapted to deflect the coin to cause the same to incline toward said slot —20— at its upper end. Disposed opposite the middle portion of said slot —20— and adjacent the chute is a wire or other guide —22— which at its inner end is secured to a projecting plate or flange —23— disposed in vertical alinement with the partition wall —24— between said chute —19— and an adjacent chute —25—, the latter communicating at its lower end with a discharge chute —26—. Coins or slugs of smaller diameter than the required denomination will not engage the upper wall of the slot —20— and will be deflected or tipped by said projection —21— to rest on the said wire or guide —22— and thus pass downwardly through said chute —18—. The latter communicates with the upper end of the chute —25— and as the tipped coin or slug strikes the said plate or flange —23— it will pass into the said chute —25— and be discharged. Coins of proper denomination will spring over the mouth of the chute —25— into the chute —19— and thus operate the merchandise discharge mechanism. A magnet —27— is employed to attract and retard iron or steel slugs to insure the passage into the chute —25— even though such slugs should be of the same dimensions as the coin of proper denomination used, such magnet being of insufficient power to support said slug and thus block the chute —18—.

Pivotally secured to a side wall of the chute —3— is a vertical shaft —28— provided at its upper end with an L-shaped arm —29— the free end of which is adapted, when said shaft is turned in one direction, to project into the path of coins passing from the chute —18— to the chute —19— and serving to deflect said coins into the chute —25—. At its lower end said shaft is equipped with an arm —30— which normally lies in the path of a cam-projection —31— on the weight —8—, the latter serving to turn said shaft —28— and thus throw the free end portion of the arm —29— into the path of the coin passing from the chute —18— to the chute —19— and serving to deflect said coin into the chute —25— and causing the same to be returned to the depositor. The said arm —30— is disposed adjacent the lower limit of movement of the weight —8— and is engaged by the projection —31— when all except the last package —4— has been discharged.

The device is very simple and efficient.

We claim as our invention:

1. In a vending machine, coin controlled gravity actuated package releasing means, a package chute disposed above the same, a weight traveling in the said chute and resting upon the uppermost package therein, a beveled projection on said weight, a coin chute guiding a deposited coin into actuating relation to said package releasing means, a coin return chute adjacent the same, and a coin deflecting member pivotally secured to said package chute and turning on a vertical axis and having an arm at each end, one of said arms being normally disposed in the path of said projection on said weight, the latter forcing said arm out of its path as the last package is delivered, whereby said other arm of said member is thrown into the path of the coin to deflect the latter into said return chute.

2. In a vending machine, coin controlled gravity actuated package releasing means, a package chute disposed above the same, a weight traveling in the said chute and resting upon the uppermost package therein, a beveled projection on said weight, a coin chute guiding a deposited coin into actuating relation to said package releasing means, a coin return chute adjacent the same, and a coin deflecting member pivotally secured to said package chute and turning on a vertical axis and having an arm at each end, and a spring engaging said member and normally maintaining one of said arms thereof in the path of said projection on said weight, the latter forcing said arm out of its path as the last package is delivered, whereby said other arm of said member is thrown into the path of the coin to deflect the latter into the said return chute.

In testimony whereof, we have signed our names in the presence of two subscribing witnesses.

CHAS. M. LINDE.
FREDERICK C. FRANKE.

Witnesses:
RUDOLPH WM. LOTZ,
E. L. MOORE.