H. E. ERWIN & F. A. BOWERS.

DISPENSING APPARATUS.

APPLICATION FILED JULY 10, 1914.

1,127,215.

Patented Feb. 2, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

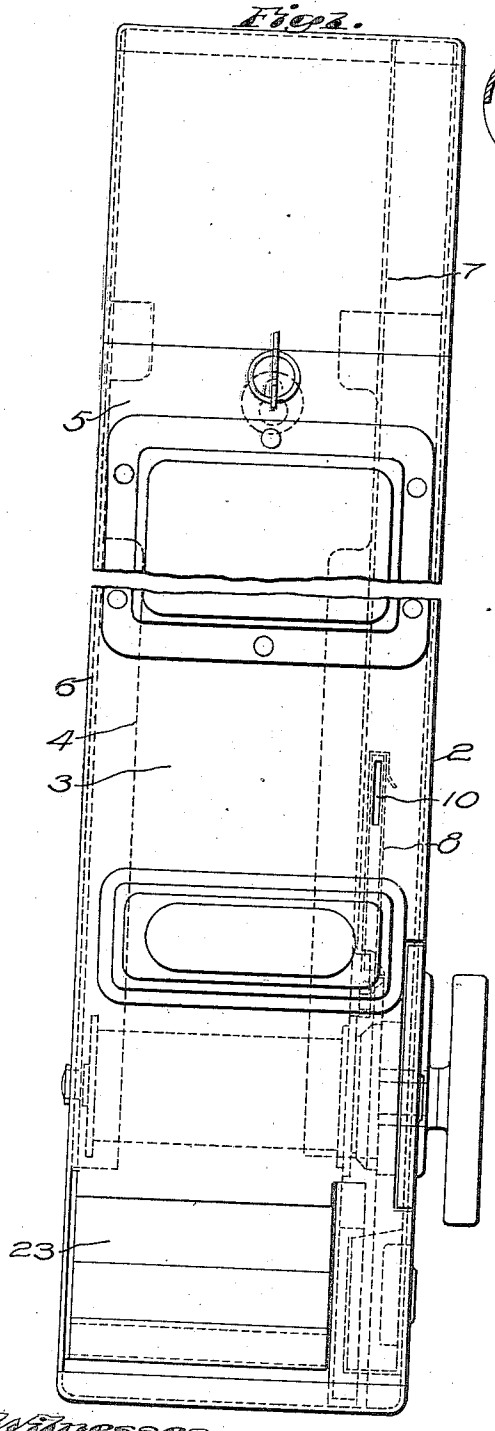


Fig. 5

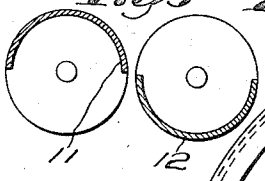


Fig. 2.

Witnesses
Adolph C. Kaiser.
L. L. Markel.

Inventors
H. E. Erwin
F. A. Bowers
by Church & Church
Attys.

H. E. ERWIN & F. A. BOWERS.

DISPENSING APPARATUS.

APPLICATION FILED JULY 10, 1914.

1,127,215.

Patented Feb. 2, 1915.

2 SHEETS—SHEET 2.

Fig. 3.

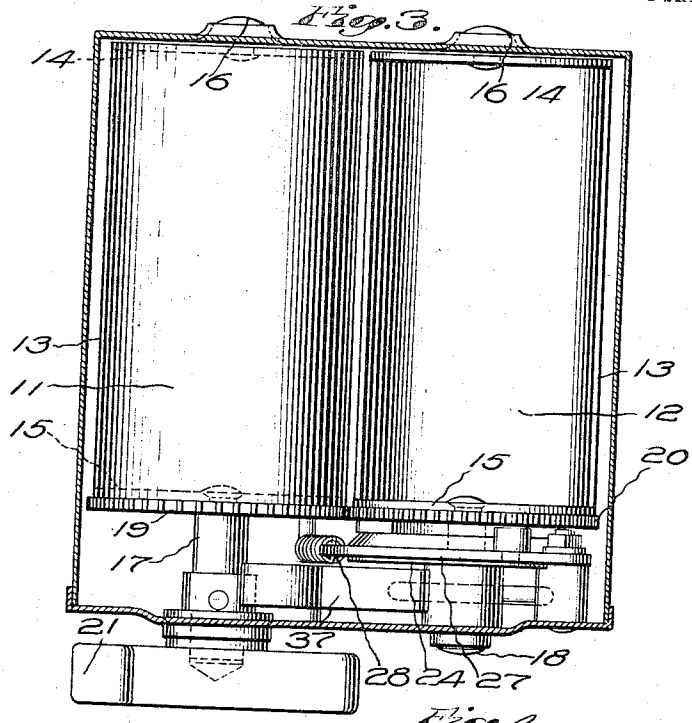
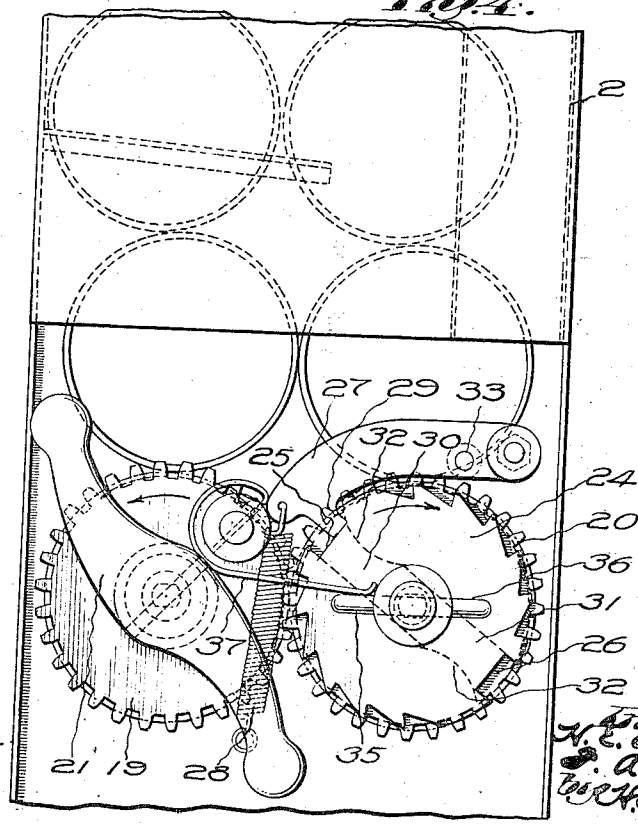


Fig. 4.



Witnesses
Adolph C. Nissen
L. L. Markel

Inventors
H. E. Erwin
F. A. Bowers
by H. Lutherland
Atty.

UNITED STATES PATENT OFFICE.

HERBERT E. ERWIN AND FRANKLIN A. BOWERS, OF NEW BRITAIN, CONNECTICUT, ASSIGNORS TO THE NEW BRITAIN MACHINE COMPANY, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

DISPENSING APPARATUS.

1,127,215. Specification of Letters Patent. Patented Feb. 2, 1915.

Application filed July 10, 1914. Serial No. 850,124.

To all whom it may concern:

Be it known that we, HERBERT E. ERWIN and FRANKLIN A. BOWERS, citizens of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Dispensing Apparatus, of which the following is a specification.

This invention relates to dispensing apparatus, the object of the invention being the provision of a device of this character which is simple in construction, easy to operate and by which the discharge of the articles can be properly governed.

In the drawings accompanying and forming part of the present specification we have shown in detail one of the several convenient forms of embodiment of the invention, which to enable those skilled in the art to practice the same will be set forth fully in the following description. We do not restrict ourselves, however, to this disclosure; we may depart therefrom in several respects within the scope of the invention set forth by the claims following said description.

Referring to said drawings: Figure 1 is a front elevation of a dispensing apparatus involving our invention. Fig. 2 is a side elevation of the same. Fig. 3 is a horizontal section, taken just above the article-supporting means and looking in a downward direction. Fig. 4 is an elevation as seen from the right in Fig. 1, with a cover plate constituting part of the casing, removed. Fig. 5 is a detail of article-supporting members.

Like characters refer to like parts throughout the several views.

Dispensing apparatus involving our invention can be used with advantage in many different connections. In the present case it is constructed for receiving articles in the form of packets. The shape of these packages may vary. As shown they are cylindrical, although as will be inferred, they can be of any other form. There is means for supporting these packets or equivalents and for effecting their delivery individually, and the supporting means will vary in construction to conform to the particular shape of the article to be received and vended. The supporting means in the organization set forth hereinafter consists of two rollers arranged side by side. The control of the article supporting means may be of any desirable character. We prefer, however, to govern the action of the supporting means through coin-controlled mechanism, from which it will be evident that before an article can be obtained, it is necessary to insert a coin of proper denomination or an analogous device, into the machine. The check-controlled mechanism may vary radically as to character, although we will hereinafter describe means which have been found satisfactory in this particular.

With the foregoing general observations, it is now desirable to refer more in detail to what is illustrated in the drawings.

The articles, of whatever character they may be, may be disposed within a casing such as that denoted in a general way by 2, said articles being directly received within the vertically elongated compartment or chamber 3 of said casing or boxing 2 which may as shown rest on its base. The width of the compartment equals approximately the length of the articles to be vended which articles in the construction shown are of cylindrical form. The body of the casing has in its front a vertical slot or opening 4 which is widened laterally as at 5 near its upper end to receive the articles. These articles are introduced into the compartment 3 by way of the enlarged portion 5 of the slot, one at a time and fall onto the article-supporting means. The slot 4 is covered by the removable face plate 6 held normally in place under lock and key and by dismounting which access can be had to the compartment 3 for loading the same. One wall of the casing or box 2 presents one wall of the compartment or chamber 3, the other wall of said compartment consisting of the plate 7 which extends to a point below the article supporting and dispensing or delivering mechanism. Spaced between the wall or plate 7 and the adjacent wall of the box or casing 2 is a short plate 8 and between and secured to the plates 7 and 8 is disposed an inclined runway 9, the entering end of which is opposite the slot 10 in the front of the casing or boxing 2. This slot 10 initially receives the coin which rolls along the runway or chute 9 and drops from the inner end thereof onto the coin-controlled mechanism hereinafter described.

The article supporting and dispensing mechanism consists as illustrated, of the

duplicate rotary members 11 and 12 movable about parallel axes. Although the two members may be of any desirable shape, they are preferably cylindrical, each having a body or core 13 in the form of a shell approximately a half cylinder, so that each body is therefore pocketed or channeled on its operative portion, the construction being such, however, that when the pocket or cavity of one core or shell is up, the other will be down. These two members 11 and 12 present the bottom of the compartment or chamber 3, to which we have already alluded. Each of the members 11 and 12 has at its ends heads which as shown are of disk form, the heads or disks at one side of the machine being denoted by 14, while those at the other are designated by 15. The heads or disks 14 are shown equipped with journals or gudgeons 16 to rotatively fit bearing openings in one side of the boxing or casing 2, the heads 15 being equipped with shafts 17 and 18 rotatively fitting bearing openings in the opposite side of said casing. As shown the members 11 and 12 are slightly spaced or separated from each other and they are also spaced from the front and rear walls of the casing 2. When the article supporting members 11 and 12 are in either of their two normal positions, the side edges of the pockets or seats therein are approximately horizontally alined. In Figs. 3, 4 and 5 the two parts 11 and 12 are shown as occupying one of their said two normal positions, the open side of the member 12 being up, while the open side of the member 11 is down. On the introduction of the articles into the compartment 3 by way of the enlarged portion 5 of the slot 4 the first may drop directly into the pocket or seat of the member 12 or it may fall onto the upper convex side or closed side of the member 11 in which latter event it will be directed by said convex side into said pocket. The articles subsequently introduced stack up in pairs. While in the present case the supporting and vending members 11 and 12 are arranged to rotate in opposite directions and simultaneously, this is not always necessary. For effecting their simultaneous opposite rotation they may be suitably geared together. Fastened to the head or disk 15 of the member 11 is the spur gear 19 concentric with said member 11, while the head 15 of the companion member 12 has rigidly united with it a similar spur gear 20 concentric also with the said member 12, the two spur gears being in mesh with each other. The shaft 17 as illustrated projects outside the casing and is provided with an actuator such as the arm 21 pinned or otherwise suitably fastened to the projecting end of said shaft 17 and the opposite branches of which can be easily grasped to turn the shaft 17 and therefore the two supporting members 11 and 12, by virtue of the intermeshing gears between the same, provided that said members 11 and 12 be released or freed which condition in the organization illustrated, requires a coin. On each intermittent operation of the mechanism each of the members 11 and 12 is given a half turn, this being regulated through the check or coin controlled mechanism of whatever character the same may be. It will be assumed that the parts 11 and 12 are freed and that the handle 21 is given a half turn. As it is thus operated it rotates the gear 19 and through the latter the member 11 and also the member 12, through the gear 20, inverting both said parts 11 and 12 so as to bring the open or pocketed side of the member 11 up and move the pocketed side of the member 12 down. When the part 12 is reversed the article seated within it of course passes therefrom for instance onto the inclined directing plate 22 along which it rolls forward and through the opening 23 in the lower front side of the casing 2. When the upper side of the member 11 is brought up an article will at once roll into it, so that when the member 11 is inverted on a second operation, the delivery action described will be repeated provided a coin be introduced into the machine. As we have already stated there may be cases where the coin or check-controlled mechanism need not be present.

Coaxial with one of the members 11 and 12, the member 12 as shown, is the ratchet wheel 24, having in its periphery the diametrically-opposite notches 25 and 26, this ratchet-wheel being suitably rigidly connected with the shaft 18 and spaced from the gear 20 for a reason that will hereinafter appear. In conjunction with this ratchet wheel or equivalent member is a locking device such as the pawl 27 pivotally mounted at one end within the casing 2. To the opposite end of the pawl 27 is connected one end of a coiled pull spring 28, the opposite end of which is united with some suitable fixed part of the casing so as to constantly maintain the tooth 29 of said pawl in operative position, said tooth being adapted to alternately enter the notches 25 and 26 of said ratchet wheel 24, being shown in the notch 25 in Fig. 4. Connected and rotary with the shaft 19 are the arms 30 and 31, constituting suitable coin-carriers and which may be made integral with each other and extend radially from said shaft in opposite directions in the space between the ratchet wheel 24 and gear 20. Each of the arms has a coin seat 32, said coin seats facing in opposite directions. On the locking element or pawl 27 and extending inwardly therefrom is a stud 33, normally opposite one or the other of the coin-seats just mentioned and serving with the same, to temporarily hold the coin of whatever denomination the same may be. The size of each of the

notches 25 and 26 is greater than that of the tooth 29 so as to permit a certain amount of lost motion between the ratchet 24 and the locking pawl 27, one wall of each notch being normally maintained in solid engagement with said tooth 29, as will hereinafter appear, so as to hold an arm (30 or 31) in proper position to receive a coin.

It will be assumed that a coin has been introduced into the machine and is traveling along the chute or runway 9 and further that the parts are occupying the positions shown in Fig. 4. As the coin leaves the discharge end of the chute or runway, it falls into the space between the pocket 32 and the stud 33 and is thus held. Owing to the fact that the tooth 29 abuts against one wall of the notch 25, the ratchet 24 can have a certain amount of lost motion. It will be supposed that there is a coin in the pocket 32 and against the stud 33 and that the pawl 27 is occupying the position shown in said Fig. 4. As the handle 21 is turned in the manner already described, the two members 11 and 12 are turned. During the initial motion of the ratchet wheel 24 that wall of the notch 25 which is spaced from the tooth 29 is approaching said tooth, the arms 31 and 30 also turning, so that the coin sustained by the arm 30 will be carried around and acting against the stud 33 will lift the pawl 27 clear of the notch 25, thereby freeing the ratchet-wheel 24 and the parts associated therewith, so that the necessary half turn of said parts can be completed. When the small amount of initial movement has been completed the coin will at once drop from the arm of the pocket 30 and will enter the money box or space in the casing 2 normally covered by the plate 34 held under lock and key. When a half turn has been completed the tooth 29 will be projected into the notch 26 to again lock the parts and they will remain in such relation until a second coin has been introduced and has tripped the pawl 27.

Rigidly connected with the shaft 18 for rotation therewith are the oppositely disposed arms 35 and 36 which can be formed by driving a pin through said shaft, said arms being adapted to coöperate in alternation with the free portion of the coiled spring 37 mounted within the boxing. Said spring presents a positioning spring being adapted as noted to alternately act against said arms 35 and 36 so as to hold the proper walls of the notches 25 and 26 against the tooth 29, and as a consequence maintain the arms 30 and 31 in alternation so that the pockets 32 will be correctly positioned to receive a coin after it passes from the runway or chute 9.

What we claim is:

1. In a machine of the class described, a plurality of article-supporting members each pocketed to receive an article, and means for turning said members simultaneously in opposite directions, to effect the discharge of the articles therefrom.

2. In a machine of the class described, a plurality of article supporting members each pocketed, the pocket of one being normally up and the pocket of the other being normally down, and intermeshing gears connected with the respective members for simultaneously causing the rotation of the same in opposite directions.

3. In a machine of the class described, a plurality of article supporting members of approximately duplicate form rotative about parallel axes and each pocketed, the positions of the pockets being constantly reversed, and means for causing positively a simultaneous opposite half rotation of said members.

4. In a machine of the class described, a plurality of article supporting members each pocketed to receive an article, and means for operating said article supporting members to cause one to release an article in the pocket thereof and the pocket of the other to be positioned to receive an article.

5. In a machine of the class described, a plurality of article supporting members each pocketed to receive an article, and means for simultaneously rotating said article supporting members in opposite directions to cause one to release an article in the pocket thereof and to bring the pocket of the other into position to receive an article.

In testimony whereof we affix our signatures in presence of two witnesses.

HERBERT E. ERWIN.
FRANKLIN A. BOWERS.

Witnesses:
ALICE J. FITZGERALD,
KATHRYN J. O'NEIL.