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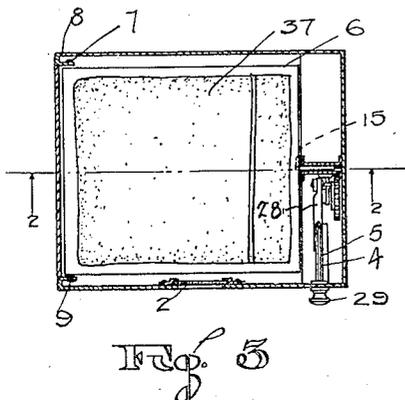
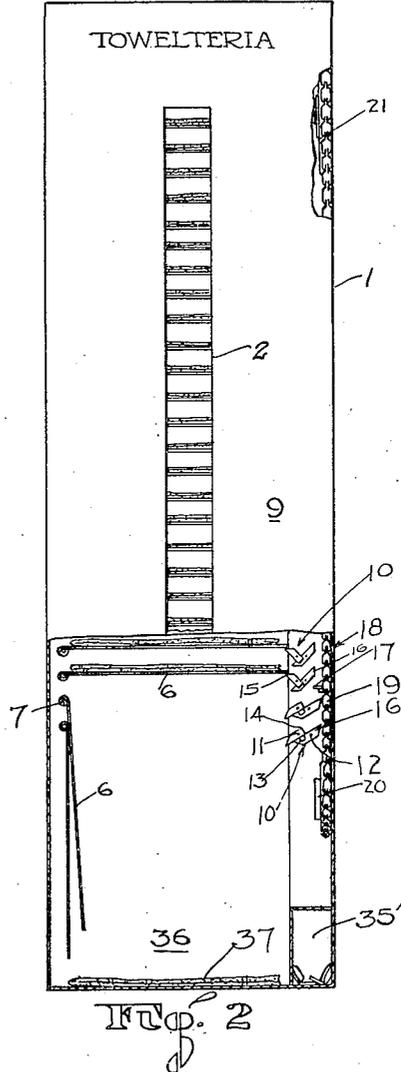
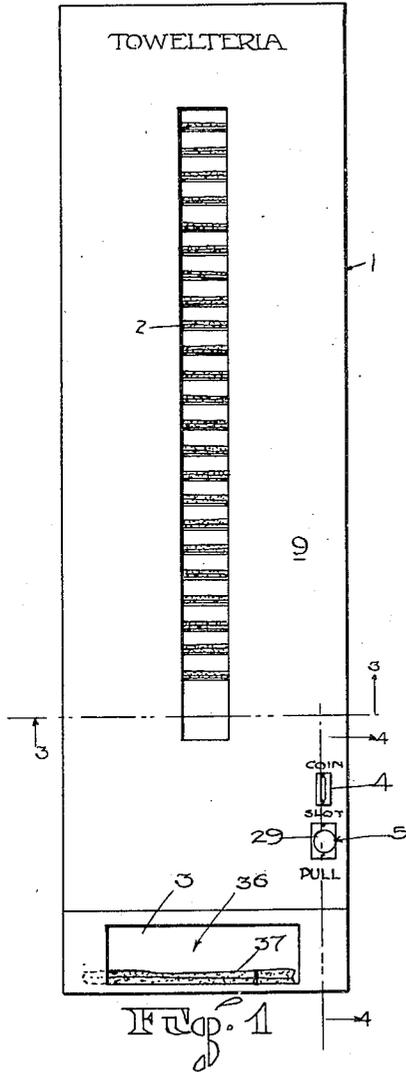
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O. M. BLAIR ET AL

TOWEL VENDING DEVICE

Filed Nov. 8, 1926

2 Sheets-Sheet 1



INVENTORS
ORVILLE M. BLAIR
WILLIAM E. WILLIAMS:
BY *Ernest Griffith*
ATTORNEY

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2 Sheets-Sheet 2

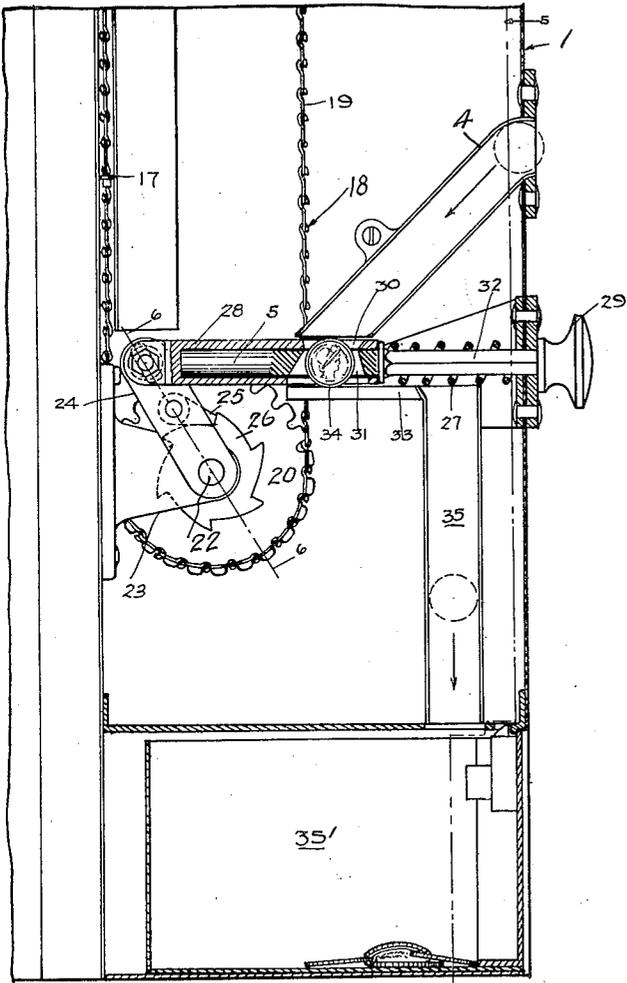


Fig. 4

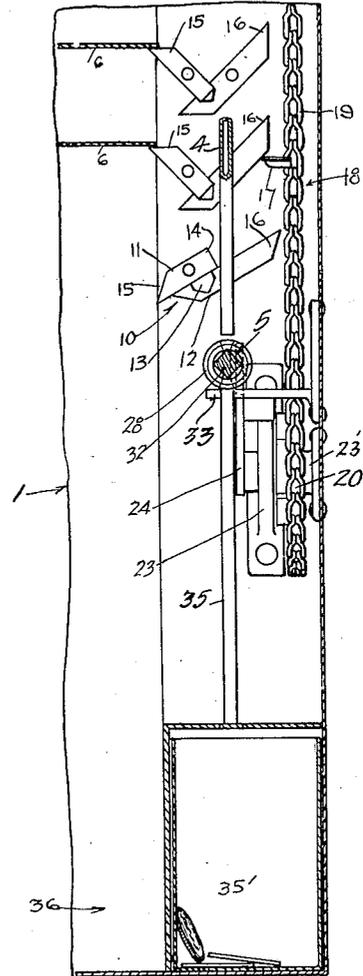


Fig. 5

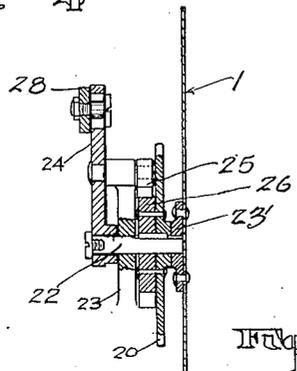


Fig. 6

INVENTORS.
ORVILLE M. BLAIR
WILLIAM E. WILLIAMS.
BY
James J. Giblin
ATTORNEY

UNITED STATES PATENT OFFICE.

ORVILLE M. BLAIR AND WILLIAM E. WILLIAMS, OF SAN FRANCISCO, CALIFORNIA;
SAID ORVILLE M. BLAIR ASSIGNOR TO MINNIE BLAIR, OF SAN FRANCISCO, CALIFORNIA.

TOWEL-VENDING DEVICE.

Application filed November 8, 1926. Serial No. 146,908.

This invention relates in general to improvements in article vending machines, and more particularly to that type adapted to the delivery of a towel upon the insertion of a coin into a chute for the actuation, through tripping, of its delivery mechanism.

A primary object of the present invention is the provision of a simple and efficient coin-controlled apparatus adapted, upon the insertion of a coin into its coin mechanism, to deliver to the operator an individual towel.

An additional object of the invention is the provision of a towel vending apparatus having a novel magazine arrangement providing a plurality of hinged shelves each adapted to carry a towel and having means for tripping these shelves in succession to deliver a towel to an open receptacle for the convenience of the individual being served.

Other objects and advantages will be observed as this specification progresses and be more fully brought out in the claims hereto appended.

In the accompanying drawings, forming a part of the specification, and in which similar characters of reference designate like parts, throughout:

Figure 1 is a front elevation, showing an apparatus embodying the principles of our invention;

Figure 2 is a view analogous to that of Figure 1, except in that the lower end of the casing has been broken away to expose the interior arrangement of the hinged towel supports and their retaining means;

Figure 3 is a transverse sectional view, taken through the casing and illustrative of the relative arrangement of the several parts constituting the apparatus;

Figure 4 is an enlarged sectional detail of the lower end of the casing, in which are shown the coin-controlled mechanism, the towel-support tripping mechanism and the coin box, the section being indicated by the line 4—4 of Figure 1;

Figure 5 is a sectional detail taken at right angles to that of Figure 4, and is indicated by the line 5—5 of that figure; and

Figure 6 is a sectional detail, showing the clutch arrangement consisting of a pawl and ratchet mechanism used in connection with the coin and tripping mechanism, the section being taken on the line 6—6 of Figure 4.

Referring to the drawings in detail, 1, in a

general way, indicates the casing, which is constructed of light sheet-metal and is of, preferably, rectangular configuration, the front section being provided with a sight-opening 2 and a delivery-opening 3 through which the towels may be reached by the individual being served by the apparatus.

A coin-chute 4 extends through the front section of the casing, adjacent to which is a pull-lever 5, both being located at convenient points in the lower right-hand corner of the casing and to be hereinafter described.

The interior of the casing forms a towel-supply magazine provided with a plurality of superposed towel-supports 6 formed of sheet-metal, of rectangular form and individually hinged at one edge by pins 7 to the rear and front sections 8 and 9 of the casing, these supports being adapted to be maintained in parallelism and horizontal arrangement by means of a plurality of pairs of interlocking pawls 10, with one pawl of each pair engaging the under free edge of each support, as indicated in Figures 2 and 5.

The hinge-pins 7 of the towel-supports are arranged in vertical alignment, as shown, the free ends of these supports being adapted for release through the actuation of their respective pairs of pawls, their release permitting them to drop to the positions shown in Figure 2, or to nearly that of the vertical, with the one resting against the other in overlapped relation.

The interlocking pawls 10 consist of pairs of pawls 11 and 12 pivotally secured to a portion of the side of the casing 1, the pawls 12 of said pairs being provided with notches 13 into which the ends 14 of the pawls 11 are adapted to engage to normally lock the pawls of said pairs in V-shaped formation, Figures 2 and 5, the lower two pairs in Figure 2 and the lower pair in Figure 5 being shown tripped and their respective hinged towel-supports released. The pawls 11 of each pair are provided with horizontally bevelled upper edges adapted to extend slightly under and sustain the free edges of the hinged towel-supports 6, the pawls 12 being provided with extensions 16 adapted to project into the path of the lug 17 borne by the tripping mechanism 18.

The tripping mechanism 18 consists of a sprocket-chain 19 borne by a pair of vertically disposed sprocket-wheels 20 and 21 carried by the side of the casing, the sprocket-wheel

20 being mounted upon a shaft 22 borne by the brackets 23 and 23', the shaft being additionally provided with an actuating arm 24 bearing a pawl 25 adapted for successive engagements with a plurality of ratchet-teeth formed in a ratchet 26 mounted upon one face of the sprocket-wheel 20, the arm being normally retracted and held in engagement with one of the teeth of the ratchet 26 by the compression spring 27 carried by the lever 5, the throw of the arm being from the normal position shown in Figure 4 to the following tooth of the ratchet, this throw being gauged by the amount of travel required to move the lug 17 of the tripping mechanism from pawl 12 to pawl 12 of the successive pairs of pawls 10, this movement causing the engagement of the lug 17 with successive pawls 12 and their tripping, as shown in Figure 5, to release successive towel supports. The arm 24 is provided with a slot at its upper end adapted to engage a pin carried by the sleeve 28, the sleeve being slidably supported by the pull-lever 5, which projects beyond the casing and bears at its outer extremity an operating knob 29.

The sleeve 28 is provided near its outer extremity with a coin-slot 30 adapted to normally register with a coin-slot 31 formed in the pull-lever 5 intermediate its extremities, this lever being additionally provided with a squared portion 32 to prevent its turning and the consequent non-registration of the two coin-slots 30 and 31. A horizontally arranged plate 33 is mounted in the casing and positioned immediately beneath the sleeve 28, thus providing a coin-rest. A coin 34 upon insertion gravitates to and rests upon this plate and serves to lock together the sleeve 28 and the lever 5 and to be afterward carried forwardly therebetween upon the lever's being pulled outwardly, this outward movement of the lever being continued until the coin has reached the discharge-chute 35, into which it drops by gravity, thereby releasing the sleeve 28 from the lever 5, whereupon the arm 24 and the lever 5 are returned, through the urge of the spring 27, to normal position and into engagement with the succeeding notch of the ratchet 26 of the sprocket-wheel 20. The coin having completed its function drops into a lock-box 35' mounted in the lower end of one side of the casing adjacent the chamber 36, into which the towels are discharged, by the towel-supports 6, for delivery.

Assuming the coin-chute 4, the slots 30 and 31 of the sleeve 28 and the lever 5 to be in positions of normal registry and of a character to accommodate a coin of a size intended for the actuation of a particular apparatus, the operation is as follows:

Upon the insertion of a coin into the chute 4, it immediately gravitates to the plate 34, coming to rest thereupon and standing edge-

wise within the slots 30 and 31. An outward pull being now applied to the knob 29, the lever 5 and sleeve 28 are locked together by the coin and all continue to move outwardly in unison until the coin has been released and drops into the chute 35, these movements also causing the actuating arm 24 to be swung from its normal position through an arc of approximately sixty degrees and the lever 5, through the action of the pawl 25 and ratchet 26, causing a corresponding rotation to be undergone by the sprocket-wheel 20, with its equivalent vertical movement of the chain 19.

The lug 17 of the chain 19 acts to trip one of the pawls 12, bringing about the release of one of the pawls 11, thereby leaving unsupported one of the ends of one of the hinged towel-supports 6, whereupon this towel-support drops upon its hinge and delivers a towel 37 to the dispensing chamber 36.

Upon the release of the knob 29, the compression-spring 27 acts to return the lever 5, the sleeve 28 and the actuating arm 24 to their normal positions, with the pawl 25 engaging the next positioned notch in the ratchet 26, in readiness for the following towel delivery operation.

Having exhausted the towel-supply magazine, all the hinged towel-supports will be found to have been tripped and dropped; to replenish the magazine it will only require the resetting of these towel-supports and corresponding pairs 10 of pawls and individually supplying supports with freshly laundered and a properly folded towel.

Having thus described our invention, we claim, and desire to secure by Letters Patent:

1. An apparatus of the class described, comprising the combination with a casing forming an article-enclosing magazine, of a plurality of superposed article-supports carried by said casing, each of which has one edge hingedly secured thereto, pawl means mounted in said casing adapted to engage in interlocked V-shaped formation and to also engage the free ends of said supports, and a tripping mechanism coactively associated with said pawls.

2. An apparatus of the class described, comprising the combination with a casing forming an article-enclosing magazine, a plurality of superposed plates hingedly secured in said casing and forming article-retaining supports, pairs of interlocking pawls of V-shaped formation mounted in said casing and adapted to engage the free ends of each of said plates, a tripping mechanism mounted in said casing carrying means adapted for successive engagements with said pawls, and means for the actuation of said tripping mechanism.

3. In an apparatus of the class described, the combination with a casing bearing a plurality of superposed hinged supports, a plu-

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5 rality of pairs of interlocking pawls of V-shaped formation secured in said casing with the extremity of one pawl of each pair adapted for engagement with a free edge of one of
10 said supports, the said pawls being adapted to retain normally said supports, respectively, in horizontal arrangement, and means for successively tripping the free pawl of said
15 pairs to release the engaged pawl and said hinged supports and permit their downward swing upon their respective hinge-members to discharge their respective articles to be discharged.

20 4. In a vending apparatus, a casing forming an article magazine, a plurality of horizontally disposed plates hinged in said casing

and forming article-retaining supports, a plurality of sets of interlocking pawls arranged in pairs with certain pawls of each set having bevelled upper edges adapted to contact
20 the free edges of said hinged plates, a chain and sprocket mechanism mounted in said casing, and a tripping lug carried by said chain and adapted to engage the free pawls
25 of said sets and to successively trip the engaged pawls and release the free ends of said plates.

In testimony whereof we hereunto affix our signatures.

ORVILLE M. BLAIR.
WILLIAM E. WILLIAMS.