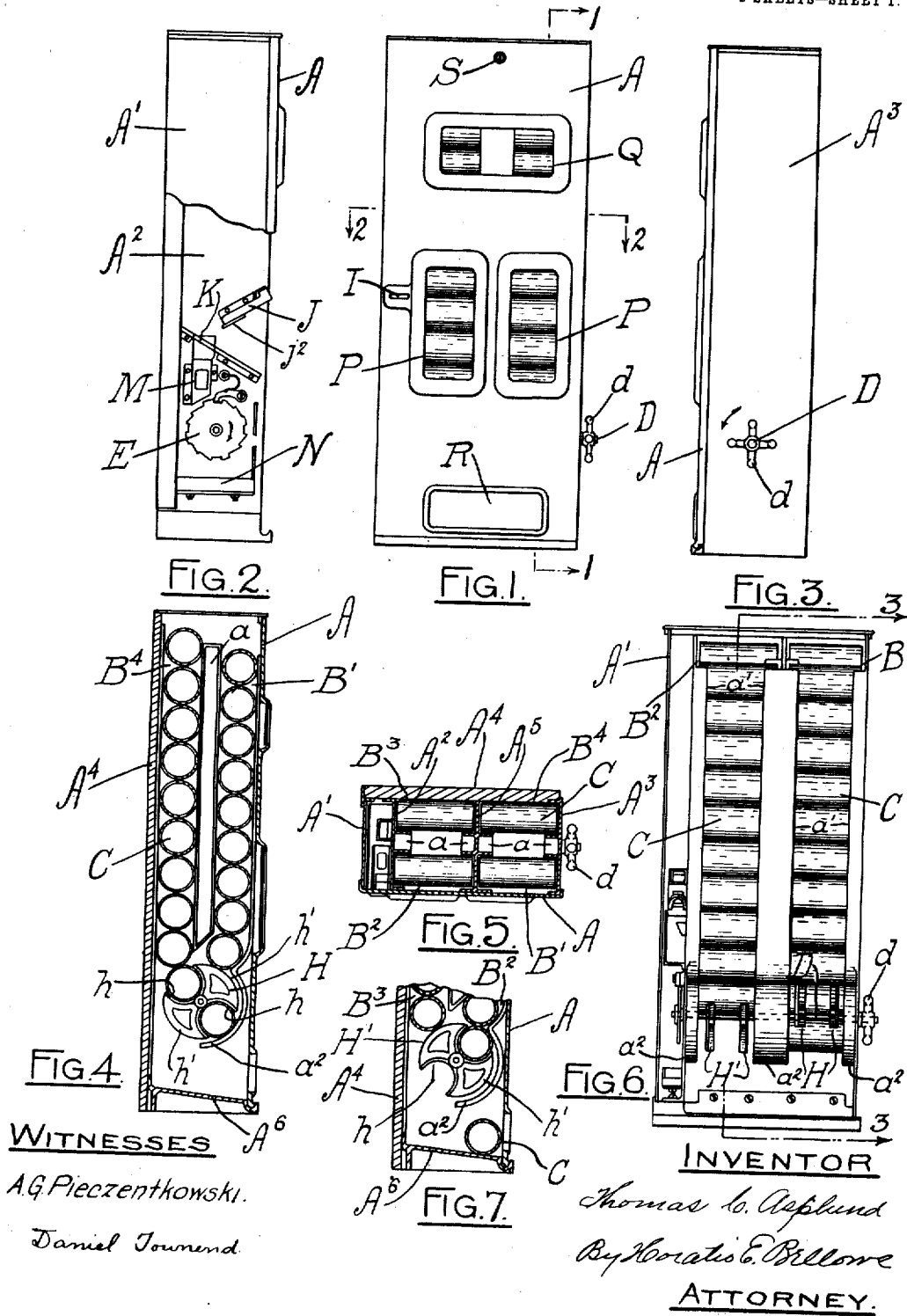


No. 829,245.

PATENTED AUG. 21, 1906.

T. C. ASPLUND.
VENDING MACHINE.
APPLICATION FILED FEB. 24, 1906.

2 SHEETS—SHEET 1.



UNITED STATES PATENT OFFICE

THOMAS C. ASPLUND, OF PROVIDENCE, RHODE ISLAND.

VENDING-MACHINE.

No. 829,245.

Specification of Letters Patent.

Patented Aug. 21, 1906.

Application filed February 24, 1906. Serial No. 302,684.

To all whom it may concern:

Be it known that I, THOMAS C. ASPLUND, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to that class of vending-machines which are coin-controlled in action, and has for its objects the ends commonly sought in machines of this character, including compactness, simplicity, and durability; but more particularly it is sought to increase the discharging capacity with a minimum of manual effort, equalize the delivery from a plurality of stacks, and provide a mechanism which cannot be readily deranged or unsuccessfully operated by any user unfamiliar with the same.

Other advantages will be hereinafter pointed out and claimed.

To the above ends my invention consists, essentially, of the novel construction of stacks, delivery, and coin-locking mechanism hereinafter set forth, and illustrated in the accompanying drawings, wherein—

Figure 1 is a front elevation of a complete machine embodying my invention; Fig. 2, an end elevation with a portion of the casing broken away; Fig. 3, an elevation of the opposite end of the machine; Figs. 4 and 5, sections on lines 1 1 and 2 2 of Fig. 1, respectively; Fig. 6, a front elevation of the machine with the front casing plate or wall removed; Fig. 7, a partial vertical section on line 3 3 of Fig. 6; Fig. 8, an enlarged side elevation of the coin delivering and locking mechanism; Figs. 9 and 10, plan and edge elevations, respectively, of the same; Fig. 11, a section of the same on line 4 4 of Fig. 8, and Figs. 12, 13, and 14 detail views of the coin-locking mechanism in various positions of action.

Like reference character indicate like parts throughout the views.

The casing may be of any form of construction suitable for carrying the several details of mechanism. In the form thereof shown it is constructed wholly of sheet-metal plates fastened or interlocked, and comprises removable front and end plates A and A', respectively, side walls A² and A³, and a rear wall A⁴, together with a vertical partition-

wall A⁵, parallel with and equidistant with side walls. The floor A⁶ is inclined toward the front. Vertical guide-plates *a* in horizontal alinement with each other upon the walls A², A³, and A⁵, in conjunction with marginal flanges *a'* upon the front margins of the wall, divide the casing into four compartments or stacks B¹ B² B³ B⁴. The number of stacks or compartments are optional and the style of construction such that a portion only of the stacks provided may be employed. The packages employed also may be of any character; but for purposes of illustration sanitary napkins in the form of rolls C are shown.

Beneath the stacks with its axis, in alinement with the partitions *a* is mounted in the walls A² and A³ a shaft D, provided upon one end which projects beyond the casing with a manually-operative wheel or crank-handle *d*. Upon the opposite shaft end which projects beyond the wall A² is fixed a ratchet-wheel E, having rectangular recesses *e* at intervals of ninety degrees from each other, intermediate which recesses are the usual inclined ratchet-teeth *e'*. Upon the inner face of the ratchet, near its margin, are a series of inwardly-directed pins, certain of these pins *e²* being in diametrical alinement with the recesses *e*, while the remaining pins of the series *e³* are circularly disposed and nearer the periphery of the ratchet than are the pins *e²*. The pins *e²* are so interspaced with the pins *e³* as to permit therebetween somewhat less than the semicircumference of a coin. Pivoted to the wall A² adjacent the upper portion of the ratchet-wheel is a pawl F, having an inwardly-directed lateral lug *f* upon its free end, which pawl is normally pressed into contact with the ratchet by a flat curved spring G, fixed to the wall at one end by a screw *g* and whose operative end rests in a notch *g'* in the upper portion of the ratchet. The shaft D is provided intermediate its length with carriers H H and H' H', arranged in pairs, one pair beneath the compartments B¹ and B⁴ and another pair beneath the compartments B and B³, the number of pairs being increased when the number of stacks of the case is greater. In detail each carrier is a circular disk provided with two semicircular recesses, *h*, diametrically opposite each other, and extending from the periphery nearly to the hub of the disk, whereby is produced two oppositely-directed segmental arms *h'*. The

arms of each pair of carriers are set upon the shaft D at an angle of ninety degrees to one another.

The flanges a' , hereinabove mentioned in conjunction with the plates a , serve as guides for the rolls C to the carrier. In Figs. 4 and 7 it will be observed that the lower extremity of the plates a are rearwardly beveled and that the flanges a' are inwardly curved at the stack-bases, whence they are continued downwardly, forming semicircular guides a^2 around the front of the carriers H H'.

The locking mechanism is controlled by a coin, and to provide for its introduction to the described locking mechanism a coin-slot I is located in the front wall A, adjacent which is fixed to the wall A² an inclined coin-chute J, provided with an opening j in its floor, against which rests a magnet j^2 , which deflects the spurious coins or slugs through the opening j , whence they fall upon a downwardly-inclined plate K, also fixed to the wall A², and descend through a vertical passage L along the margin of the wall A² and out through an opening in the base of the machine. Below the extremity of the chute J, intermediate the latter and the ratchet-wheel E, is fixed to the wall A² a vertical plate M, constituting a chute having a depth and width sufficient to slidably fit a coin and provided with a flanged upper portion m . Beneath the ratchet-wheel is a coin-receptacle N, fixed to the wall A² to receive the good coins. The front plate or wall A is provided with observation-openings P, display-frame Q, discharge-opening R, and lock S.

The operation of my machine is as follows: The coin is introduced into the chute J, which discharges the same into the flanged chute M, through which it passes until its lower margin rests upon one of the outer ratchet-pins e^2 and against the nose f of the pawl F, as shown in Fig. 8. The proximity of the lower end of the shallow chute M to the ratchet serves to maintain the coin in upright position. The ratchet through the shaft D and handle d is then turned by the operator in the direction of the arrow shown in Fig. 8 until the pawl rests in the opposite end of the recess e , whereupon, as shown in Fig. 12, the coin further descends and rests upon the tooth e^2 with its upper margin resting against the pawl. The operator then reverses the direction of the handle d , which rotates the ratchet-wheel in the direction indicated by the arrow in Fig. 13, whereby the advancing coin raises the pawl, passes beneath the same, and by gravity falls into the coin-receptacle N. Meanwhile the adjacent ratchet-teeth e'

slide beneath the pawl until the next recess e comes uppermost and locks the ratchet-wheel in original position. During the described released interval each of the carrier-pairs H and H' have been rotated a quarter-turn by which means one of the packages C falls into the recesses h of one of the carrier-pairs and the other carrier-pair discharges its package from the guide a^2 , by which it had been sustained. Thus the carrier-pair alternate in discharging a package at each quarter-turn.

What I claim is—

1. In a coin-controlled apparatus the combination with a chute, of a drive-shaft below the chute, a ratchet-wheel upon the shaft, pins upon the side of the ratchet-wheel in the vertical plane of the chute adapted to receive the coin from the chute, said pins being in circularly-disposed sets with one row nearer the periphery than is the other and a pawl engaging the ratchet-wheel and adapted to slidably contact with the coin when the ratchet-wheel is turned.

2. In a coin-controlled apparatus the combination with a chute, of a drive-shaft below the chute, a wheel provided with marginal recesses mounted upon the shaft, pins in the face of the wheel in the vertical plane of the chute adapted to receive the coin from the chute, some of the pins arranged radially opposite said recesses, and others interspaced therewith, and nearer the periphery of the wheel and a pawl mounted adjacent the wheel loosely seated in one of the marginal recesses of the wheel and in the path of coin, and adapted to be raised out of its seat by the advance of the coin.

3. In a coin-controlled apparatus the combination with a chute, of a drive-shaft below the chute, a wheel provided with interspaced marginal recesses mounted upon the shaft, pins in the face of the wheel in the vertical plane of the chute adapted to receive the coin, some of the pins arranged radially opposite said recesses, and others interspaced therewith and nearer the periphery of the wheel, a pawl in the path of the coin and seated in one of the recesses of the wheel, and means for pressing the pawl into the successive recesses after its successive releases therefrom by the coin.

In testimony whereof I have affixed my signature in presence of two witnesses.

THOMAS C. ASPLUND.

Witnesses:

HORATIO E. BELLOWES,

ALBERT G. PIECZERTKOWSKI.