L. X. SOMERS.

VENDING APPARATUS.

APPLICATION FILED AUG 30, 1910.

994,882.

Patented June 13, 1911.

2 SHEETS—SHEET 1.

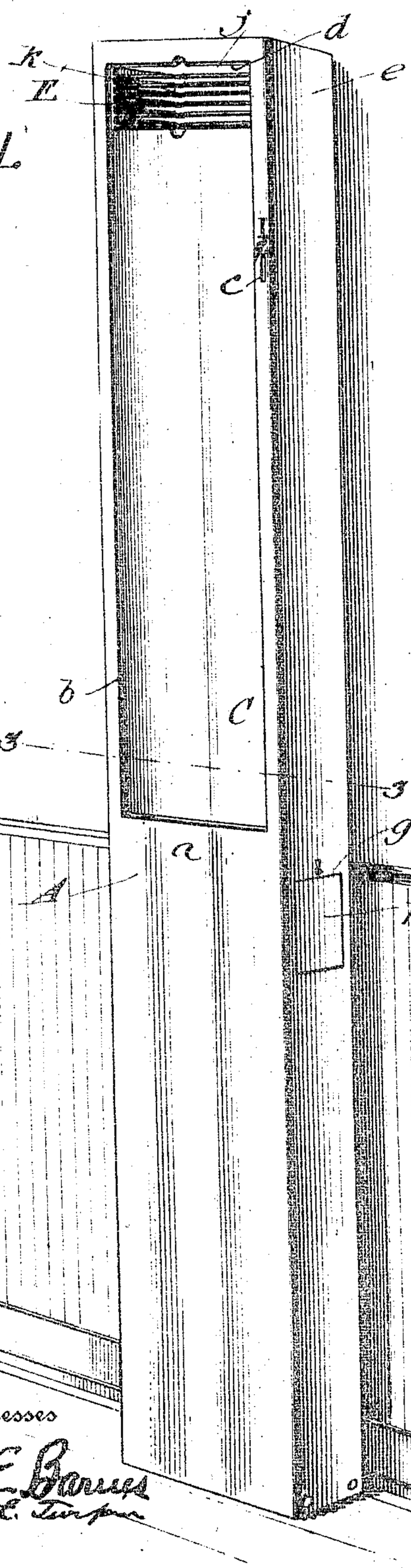

Fig. 1.

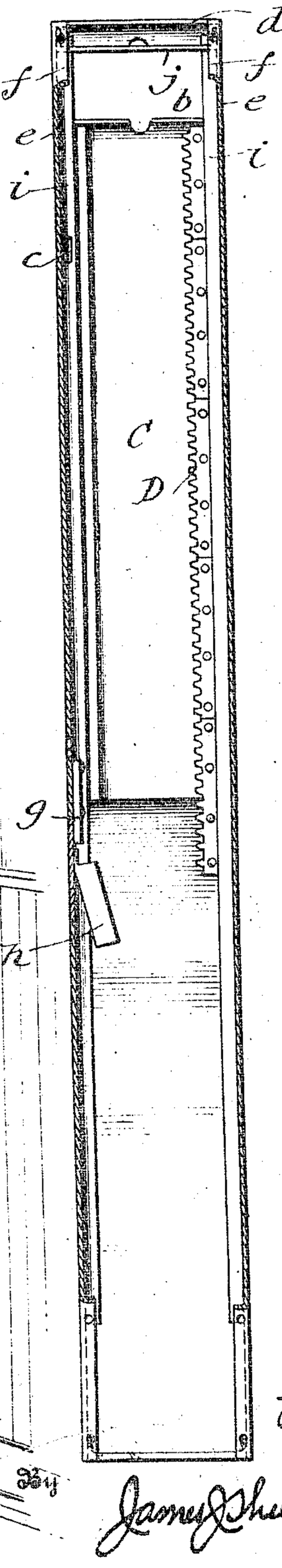

Fig. 2.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

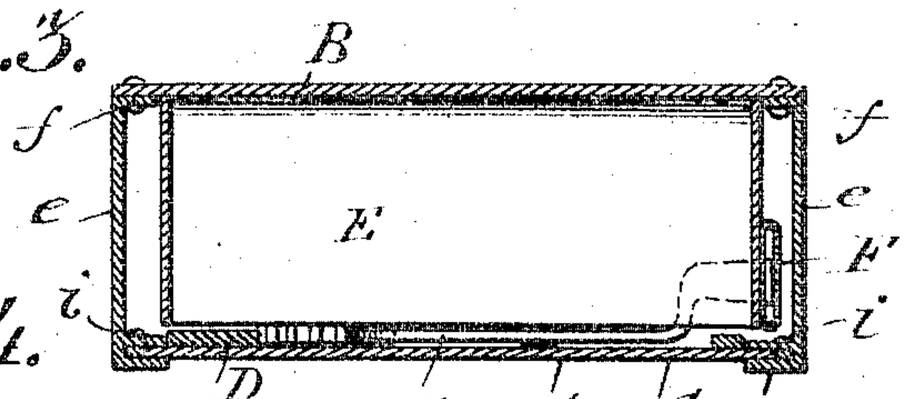


Fig. 4.

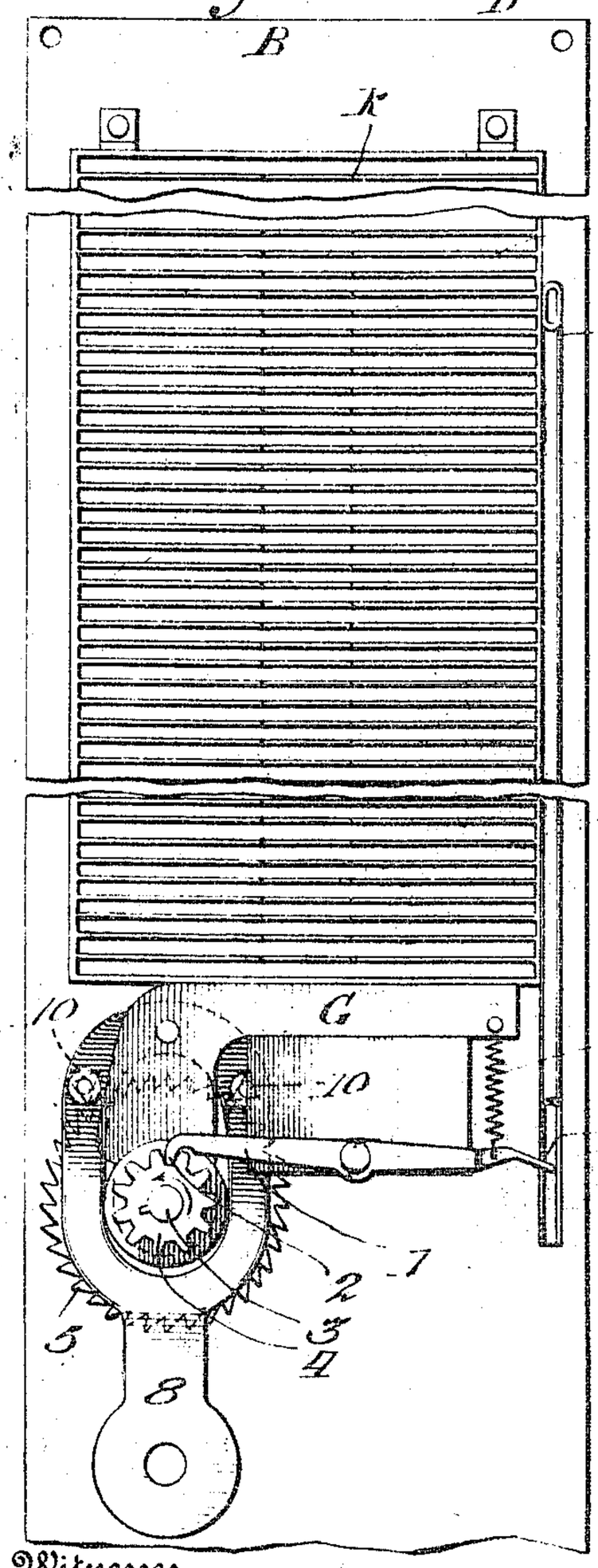


Fig. 6.

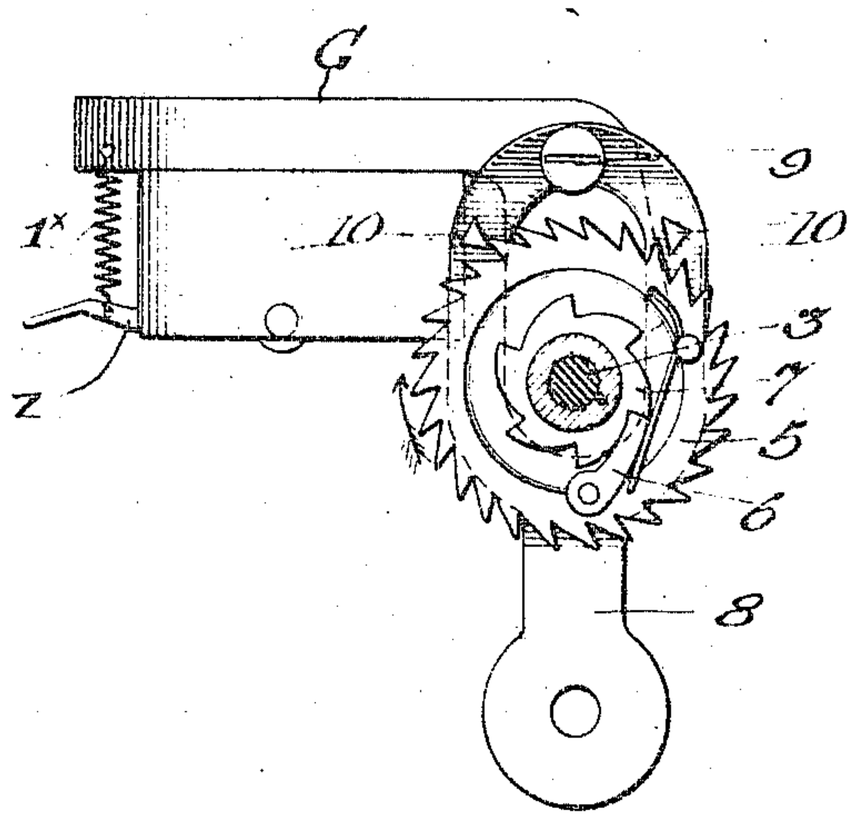
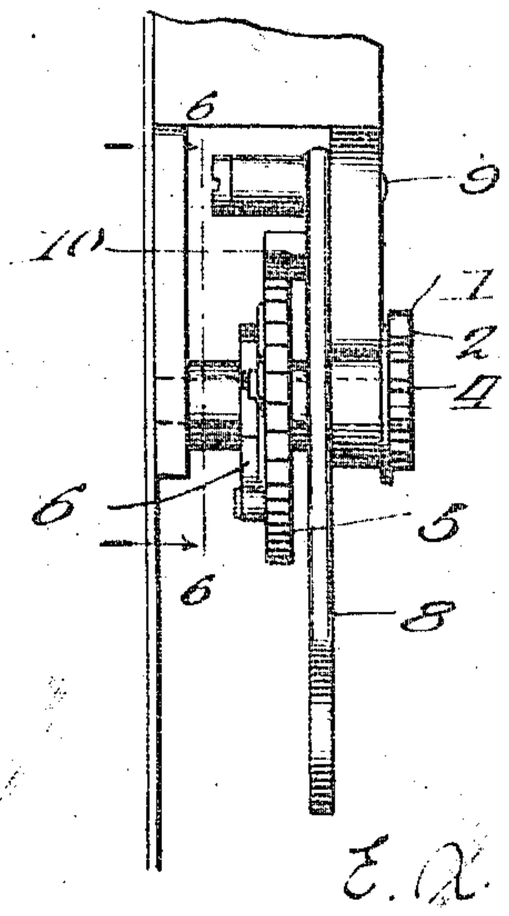


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

EVERETT X. SOMERS, OF ST. JOHNSBURY, VERMONT, ASSIGNOR TO AMERICAN NEWS-VENDING MACHINE CO., OF ST. JOHNSBURY, VERMONT.

VENDING APPARATUS.

994,882. Specification of Letters Patent. Patented June 13, 1911.

Application filed August 30, 1910. Serial No. 579,631.

To all whom it may concern:

Be it known that I, EVERETT X. SOMERS, citizen of the United States, residing at St. Johnsbury, in the county of Caledonia and State of Vermont, have invented new and useful Improvements in Vending Apparatus, of which the following is a specification.

My present invention pertains to vending apparatus of the type characterized by a plurality of compartments arranged in an upright series and each adapted to hold an article to be vended, and a gravitating guard adapted to be released by the deposit of a check or coin or other means and so governed that following its release, it will descend a distance corresponding to the height of a compartment—*i. e.*, sufficiently far to uncover the open forward side of the compartment and permit of the ready removal of an article therefrom.

The object of the present invention is to provide in a vending apparatus of the kind set forth, simple, compact, durable and reliable means for governing the descent of the gravitating guard and for assuring the effectual locking of the guard after it makes the downward movement necessary to uncover the particular compartment next below its upper end.

The invention will be best understood by reference to the following description when taken in connection with the accompanying illustration of one specific embodiment thereof, while its scope will be more particularly pointed out in the appended claim.

In the drawings: Figure 1 is a perspective of my novel apparatus with the gravitating guard at an intermediate point in its traverse. Fig. 2 is an elevation, partly in section, showing the gravitating guard and the vertical rack thereon, in the front section of the casing. Fig. 3 is a horizontal section taken in the plane indicated by the line 3—3 of Fig. 1, looking downward. Fig. 4 is an enlarged broken front elevation showing the back section or plate of the casing and the parts carried by said plate at the forward side thereof. Fig. 5 is a detail elevation taken at a right angle to Fig. 4 and showing the mechanism for governing the descent of the gravitating guard. Fig. 6 is a vertical section taken in the plane indicated by the line 6—6 of Fig. 5, looking in the direction indicated by the arrow.

Similar letters and numerals designate corresponding parts in all of the views of the drawings, referring to which:

A is the front section of the casing comprised in the apparatus, and B is the back plate of said casing. The front section comprises a front wall *a* in which is a large opening *b* and a check or coin slot *c*, a top wall *d*, and side walls *e* having inturned flanges *f* at their rear ends. In one of the side walls *e* is an opening *g* in which a check or coin receptacle *h* is removably secured in approved manner. It will also be observed that vertical guideways *i* are fixed to the rear side of the front wall *a*, at opposite sides of the large opening therein, and that a sub-wall *j* is fixed in the section A immediately above said large opening *b*.

The back plate B of the casing is arranged between the side walls *e* of section A and immediately opposed to the flanges *f* thereon and is suitably connected in a fixed manner to said flanges.

C is the gravitating guard which is movable vertically back of the front wall *a* of section A and in the guideways *i*, and D is a vertical rack fixed to and movable with the said guard.

As before stated, the back plate B forms a fixed part of the casing which is necessary since said back plate carries the superposed compartments E and the coin chute F as well as the mechanism for governing the step by step descent of the guard C. The compartments E are open at their forward ends and are designed to be exposed one by one through the large opening *b* as the guard C descends. It will also be noted that the horizontal walls of the compartments are notched, as indicated by *k* in order to enable a patron to readily take hold of and withdraw an article in an uncovered compartment. The coin-chute F is fixed to one side of the series of compartments E,

and its upper end is registered with the coin slot *c* while its lower portion is provided with a vertical slot *l* disposed in the direction of the width of the apparatus.

Fixed with respect to the back plate B, the coin chute F and the series of compartments E and arranged immediately below the latter is a frame G, and carried by the said frame is the mechanism for governing the descent of the guard D. The said mechanism comprises a vertically-swinging lever 1 fulcrumed at an intermediate point of its length and having one of its ends disposed in the slot *l* of chute F so as to be depressed by a coin moving downward through said chute, and provided at its opposite end with a depending portion 2; a shaft 3 having fixed thereon a spur pinion 4 which is intermeshed with the rack D of guard C; a comparatively-large toothed disk 5 which is mounted in a loose manner on the shaft 3 and is provided with a spring-backed pawl 6 to engage a ratchet disk 7 that is fast on the shaft 3; and a pendent lever 8, fulcrumed at 9 on the frame G in position to swing to and fro in a plane parallel to that of the toothed disk 5 and having lateral portions 10 at opposite sides of its center of movement, designed to alternately enter an interdental space in the disk 5.

The practical operation of my novel apparatus is as follows: When a coin is deposited in the slot *c*, it drops through the chute F and momentarily depresses the outer arm of the vertically swinging lever 1, after which it drops from the lower end of chute F and into the receptacle *h*. I prefer to depress the outer arm of lever 1 by the deposit of a coin as stated, but do not desire to be understood as confining myself to the same, inasmuch as the said outer arm of lever 1 may be depressed by any means without involving departure from the scope of my claimed invention. The depression of the outer arm of lever 1, raises the depending portion 2 thereof out of an interdental space in the spur pinion 4 and releases the gravitating guard C which then descends, and through its rack D turns the pinion 4, shaft 3 and toothed disk 5. The pendent lever 8 normally hangs free and hence when the disk 5 is turned as stated, the said lever is caused, by its portions 10 being engaged by teeth of the disk 5, to oscillate. This oscillation of the lever 8 effectually assures a pause or dwell in the rotation of the disk 5 and spur pinion 4 following the initial movement thereof, and the said pause or dwell enables the depending portion 2 of the lever 1 to enter the interdental space in spur pinion 4 that is back of and next to the space it formerly occupied. From this it follows that when the lever 1 is rocked by a coin, (against the action of the weak spring 1^x which pulls upward on its outer arm) to release the spur pinion 4 and permit gravitation of the guard C, the said guard will descend a sufficient distance to uncover the front of one compartment E but no more, and then the guard will be locked and will be held against further gravitation until another coin is deposited in slot *c*.

I loosely mount the disk 5 on the shaft 3 and connect the said disk with the shaft through the medium of the described pawl and ratchet, or any other suitable means, in order to assure the disk 5 turning with the shaft 3 in the direction indicated by arrow in Fig. 6, and yet permit of the guard C being raised by hand and the spur pinion 4 and shaft 3 being rotated, during said raising, in the direction opposite to that indicated without interference from the disk 5 and lever 8; it being necessary after the articles to be vended are placed in the compartments E, to raise the guard C from its lowermost position to its uppermost position by hand in order to place the apparatus in condition for operation.

It will be appreciated from the foregoing that in addition to being simple and compact in construction and reliable in operation, my novel means for governing the step by step descent of the guard C, is strong and durable and is therefore well adapted to withstand the rough usage to which vending apparatus is ordinarily subjected.

While I have shown and described one form of my invention, it is to be understood that I am not limited to the details or the form or relative arrangement of parts disclosed, but that modifications may be made therein, within the scope of the appended claim.

Having described my invention, what I claim and desire to secure by Letters-Patent, is:

In a vending apparatus, the combination of a casing, an upright series of compartments therein, a gravitating guard movable in the casing and provided with a rack, a spur-pinion mounted in the casing and intermeshed with the rack of the gravitating guard, a lever having a depending portion positioned to enter the interdental spaces of the spur pinion and also having an arm adapted to be moved, a shaft to which the spur pinion is fixed, a toothed disk loose on the shaft, means intermediate said toothed disk and the shaft for assuring rotation of the disk when the shaft is turned in one direction by gravitation of the guard and for permitting rotation of the shaft in the opposite direction independently of the disk, and

a pendent and free-hanging lever pivoted at a point above the toothed disk and in alinement with the center thereof and having, at opposite sides of the vertical center of the disk, portions adapted to alternately enter an interdental space of the disk.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

EVERETT X. SOMERS.

Witnesses:
AMOS W. SCOTT,
HENRY A. SCOTT.