

No. 777,156.

PATENTED DEC. 13, 1904.

W. R. THOMPSON.  
AUTOMATIC VENDING MACHINE.

APPLICATION FILED SEPT. 30, 1903.

NO MODEL.

Fig. 3.

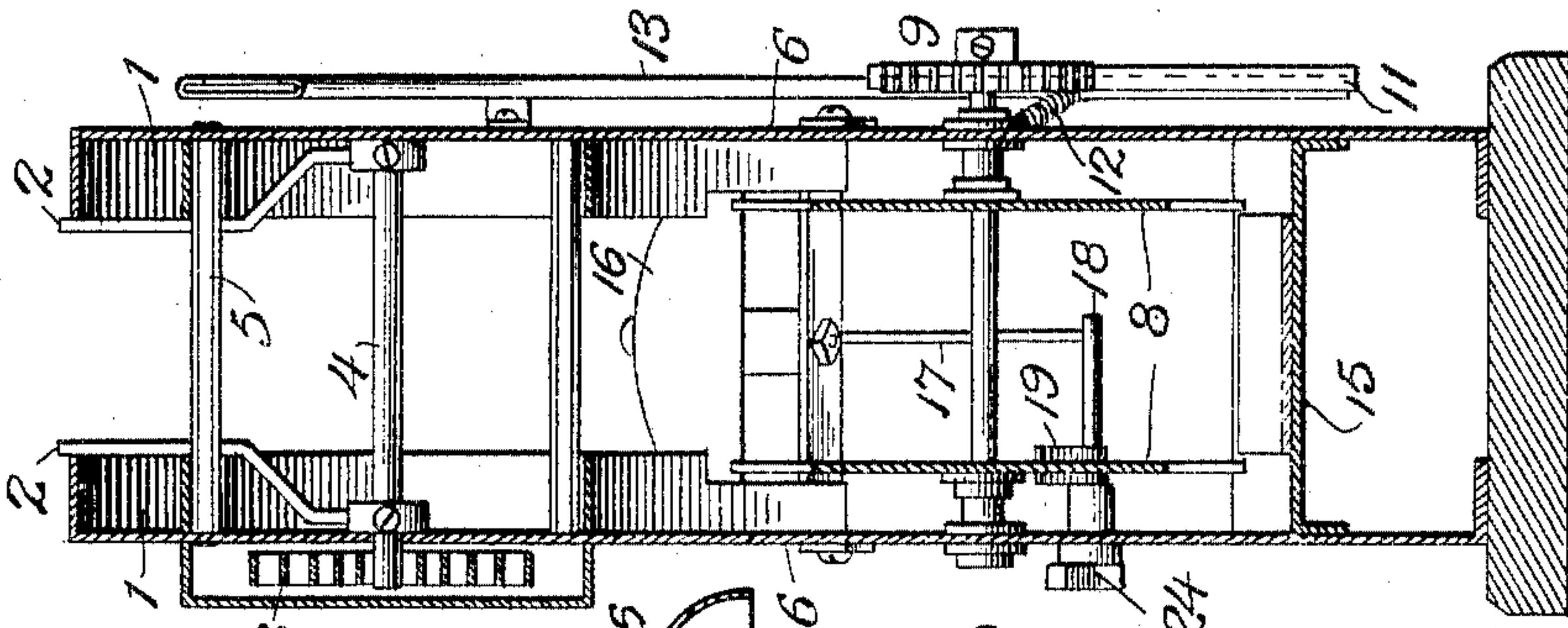


Fig. 2.

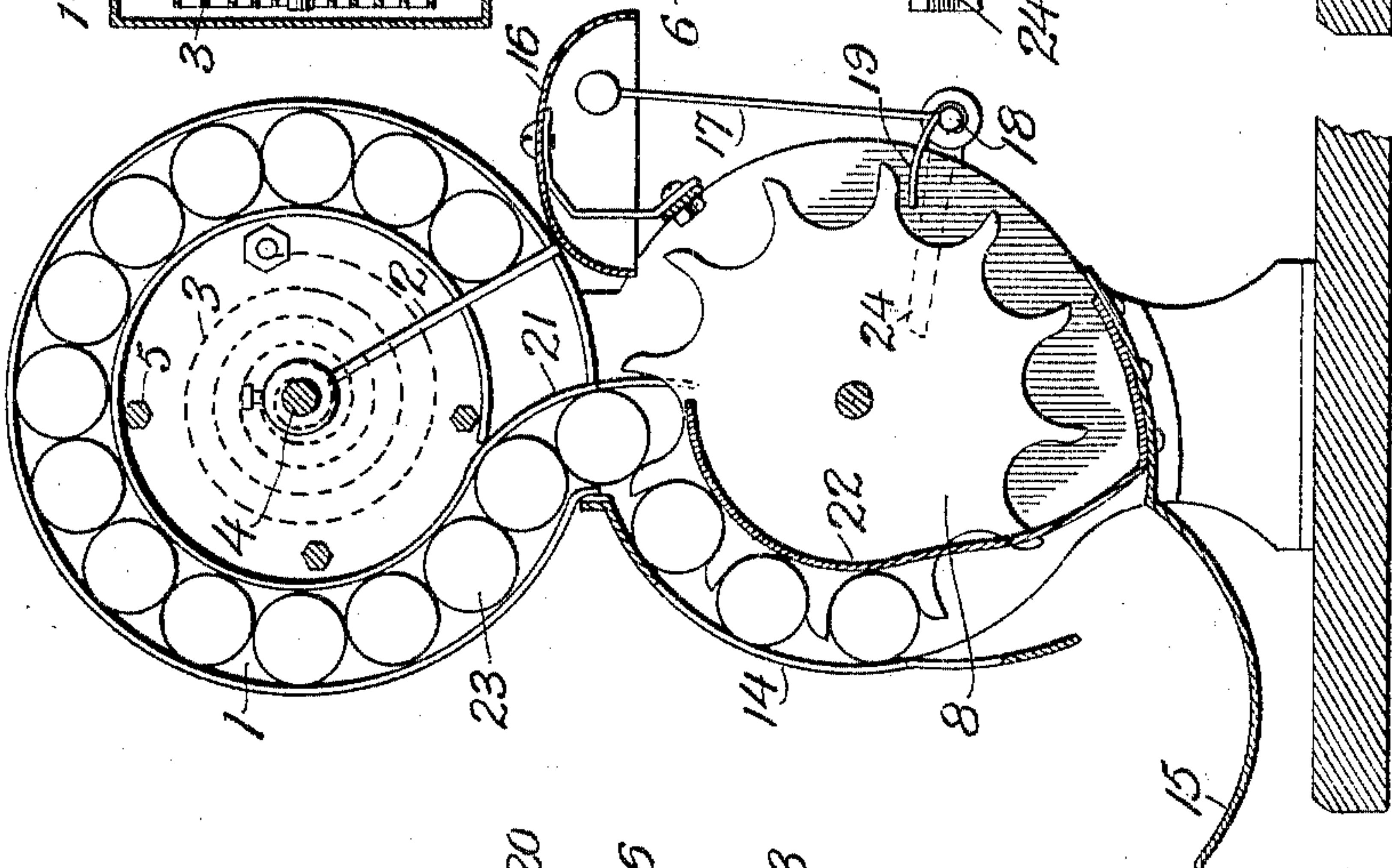
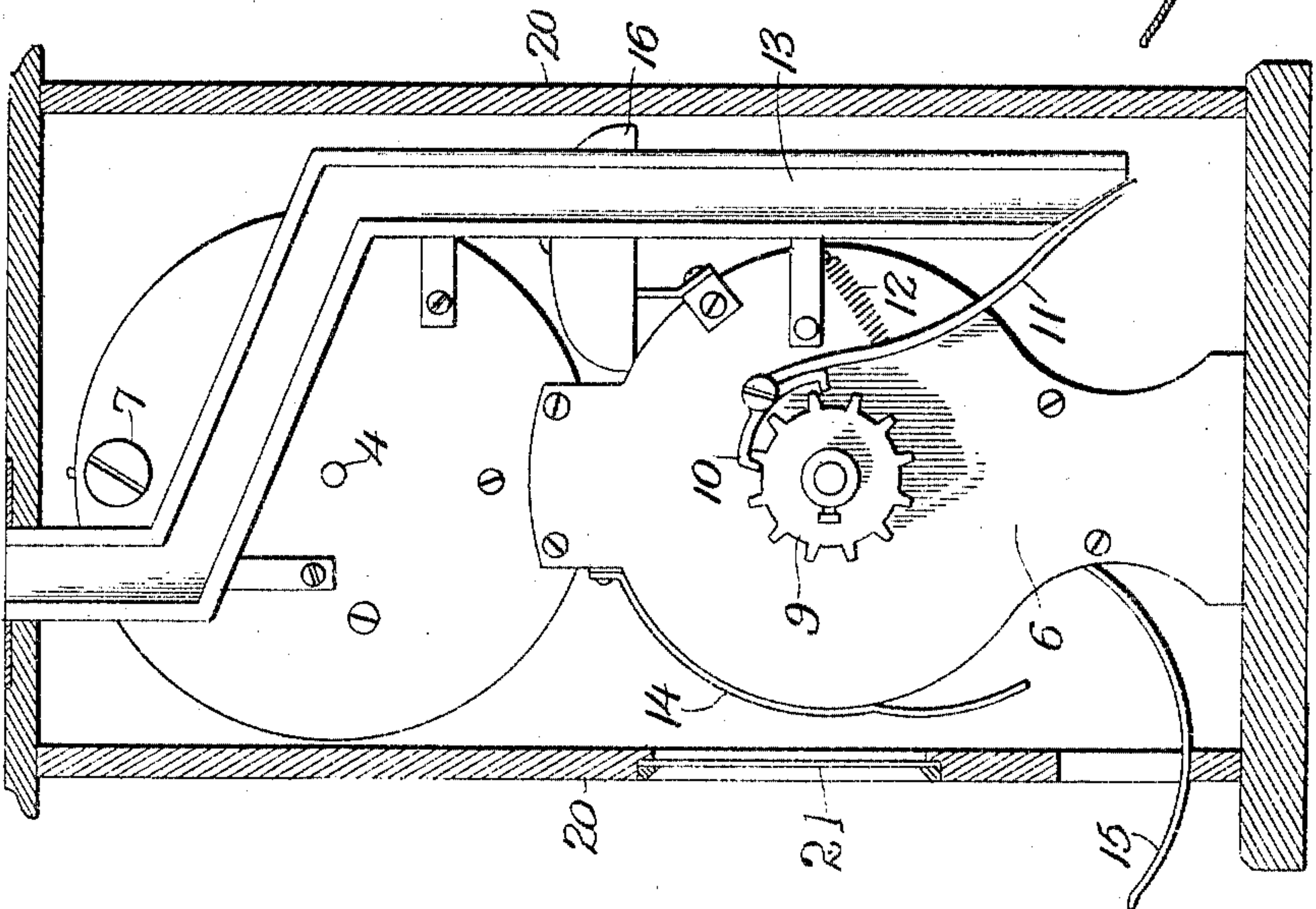


Fig. 1.



WITNESSES:

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## AUTOMATIC VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 777,156, dated December 13, 1904.

Application filed September 30, 1903. Serial No. 175,137. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM R. THOMPSON, a citizen of the United States, residing at South Norwalk, Fairfield county, Connecticut, have  
5 invented certain new and useful Improvements in Automatic Vending-Machines, of which the following is a clear, full, and exact description.

My invention relates to automatic vending-machines; and my object is to improve and  
10 simplify their construction and to attain superior results.

My invention will be defined in the claims.

A preferred embodiment of my invention  
15 is shown in the accompanying drawings, in which—

Figure 1 is a side elevation of my device with the inclosing box in section. Fig. 2 is  
20 a sectional side elevation through the operating parts, and Fig. 3 is a sectional front elevation.

In the drawings, 1 is a storage reservoir or chamber for the goods to be sold, said reservoir being in the form of a channel formed  
25 by opposed channel-sections which are each adapted to receive an end of the articles to be vended, which articles are preferably of a shape resembling a cylinder or any other form which may be conveniently held and  
30 operated in such a storage-chamber. Preferably these channel members are circularly disposed about an axis, preferably a horizontal axis, as is shown. The storage channel or chamber thus formed has a discharge-opening, preferably at or near its lowermost point,  
35 and the articles are discharged therefrom by advancement through the storage-channel all in the same direction. In other words, those lying to one side of the discharge-opening are  
40 raised upward by suitable mechanism until they reach a point where they may be discharged by gravity.

As a raising means I preferably employ an arm or arms 2, which are pivoted within the  
45 circle of the storage-channel. These arms are actuated, preferably, by a weight or spring, a spring 3 being herein shown as secured to an axis 4, upon which the arms are carried. These arms lie within the space between the

two channel members which form the storage  
channel or chamber. A stop 5 is shown in the form of a rod connecting opposite frame members or sides 6 6, which limits the movement of the arms 2 in their upward direction.

In filling the storage chambers or channels  
55 the arms 2 are pushed back as the articles are inserted. A convenient method of insertion is through an opening 7 in one side of the frame opposite the upper part of the chamber. As the two channel members are separated,  
60 it is easy to push the arms back by directly taking hold of them or by pushing back the articles after insertion.

The storage-chamber, as above described, discharges into the delivery mechanism. This  
65 comprises a toothed wheel, preferably composed of two separated plates 8, as herein shown, the same being adapted to receive a single article between adjacent teeth. This wheel has a limited storage capacity. It is controlled  
70 by an escapement device which permits a single-tooth movement at a time. I have shown such a movement as consisting of the toothed wheel 9, mounted upon the same axis as the toothed feed-wheel, and the escapement-pawl  
75 10. The escapement-pawl is controlled by the insertion of a coin of the proper denomination. A simple and preferred means for doing this is shown, which consists of an arm 11, carried by the escapement-pawls 10 and extending  
80 beneath the open end of the coin chute or channel 13, so that when struck by a coin descending through said chute it will trip the pawl and permit a single-tooth movement of the feed-wheel 8. This lever may be counterweighted  
85 to hold it in proper position; but I prefer to use a slight spring, as 12.

The articles delivered to the toothed feed-wheel are retained for a time, so that normally there is a plurality of such articles carried  
90 within the teeth of said wheel. It therefore acts in an auxiliary storage capacity. The articles are retained by a retaining member or guard, such as the bar or plate 14, which curves about a segment of the wheel.  
95 The weight of the articles themselves is then utilized to actuate the feed-wheel. Upon reaching a certain point the articles clear the



retaining member or guard 14 and are dropped upon an apron 15 or other suitable device, which conducts them outside the case, where they may be picked up. It will be noticed  
 5 that one of the cylinders or analogous articles 23 which is about passing from the storage-channel 1 into one of the recesses between teeth of the feed-wheel wedges into place behind a tooth and in front of the curved  
 10 guide bar or plate 21 in such manner as to lock the feed-wheel against backward turning. The plate 21 extends downward between the plates forming the toothed feed-wheel.

An alarm may be provided which will sound  
 15 at the delivery of each article. I have shown such a device consisting of a bell 16, which is engaged by a striker or hammer 17, pivoted at 18 and having connected therewith an arm 19, which is in the path of and is struck  
 20 by the teeth of the feed-wheel 8. This is preferably counterbalanced by an arm, as 24, so that it automatically returns to a position clear of the bell.

The coin-chute may be of any suitable or  
 25 preferred form and may be provided with such fraud-preventive features as desired or necessary.

A casing is preferably placed about the operating parts. I have shown a simple box  
 30 structure 20 as inclosing the device. This may be made of any design desired. It is preferably provided with a window 21, through which it is possible to see when the device becomes empty.

Evidently many of the parts may be varied  
 35 from the structure here shown without essentially changing the invention. I do not, therefore, wish to be limited to the exact construction herein shown and described, but to claim  
 40 any construction which falls within the scope of the following claims.

What I claim is—

1. An automatic vending device having a storage-channel for the articles to be vended  
 45 circularly disposed about a horizontal axis, and means for discharging said articles from the lower part of said channel and by movement in one direction only about said axis.

2. An automatic vending device having a  
 50 storage-channel adapted to hold the articles in a row disposed about a horizontal axis, and to discharge from one direction only, and means for lifting the articles which will not of themselves discharge by gravity to such a point  
 55 where they will discharge by gravity.

3. An automatic vending-machine having a storage-channel adapted to contain the articles to be vended without overlapping, said channel having a part from which the articles may

be discharged by gravity and a part from 60 which they will not discharge by gravity, and means for lifting the articles in said latter part of the channel to the point from which they will discharge by gravity.

4. An automatic vending-machine having a 65 storage-channel circularly disposed about a horizontal axis, and provided with a discharge in its lower part, a spring and means whereby said spring may act upon the articles therein upon one side of the discharge-opening to 70 raise them to the top of said channel from whence they may be discharged by gravity.

5. An automatic vending-machine having a storage-channel circularly disposed about an axis, an arm mounted upon said axis, and 75 adapted to engage the articles in said channel and a spring actuating said arm to advance the articles.

6. An automatic vending-machine having a storage-channel circularly disposed about a 80 horizontal axis, and provided with a discharge near its lower part, an arm adapted to engage the articles in said storage-channel to lift those upon one side of the discharge to the top of the channel, and a spring acting upon said arm to 85 raise it.

7. A storage device for automatic vending-machines comprising two channel-like members having their open sides facing and opposite each other said members extending cir- 90 cularly about a horizontal axis, and means for raising those articles therein which are at one side of the discharge-opening to the top of the channel.

8. An automatic sales device having a chan- 95 nel adapted to individually deliver the objects to be sold, a delivery-wheel having peripheral recesses for the individual reception of said objects, and means for checking the forward rotation of said wheel in position with one of 100 the objects to be sold between one wall of a recess in the wheel and a wall of the said channel whereby the wheel is locked against backward rotation.

9. A storage device for mechanical-deliv- 105 ery machines comprising oppositely-facing channeled bars adapted to receive the ends of the articles to be delivered and means for advancing the articles in the receiving-channel thereby formed, one of said bars having a 110 hole in its outward surface through which the articles may be endwise inserted.

Signed at South Norwalk, Connecticut, this 25th day of September, 1903.

WILLIAM R. THOMPSON.

Witnesses:

A. C. KNORR,  
 E. H. EVORY.