

J. A. JOYCE.
VENDING MACHINE.

APPLICATION FILED APR. 19, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

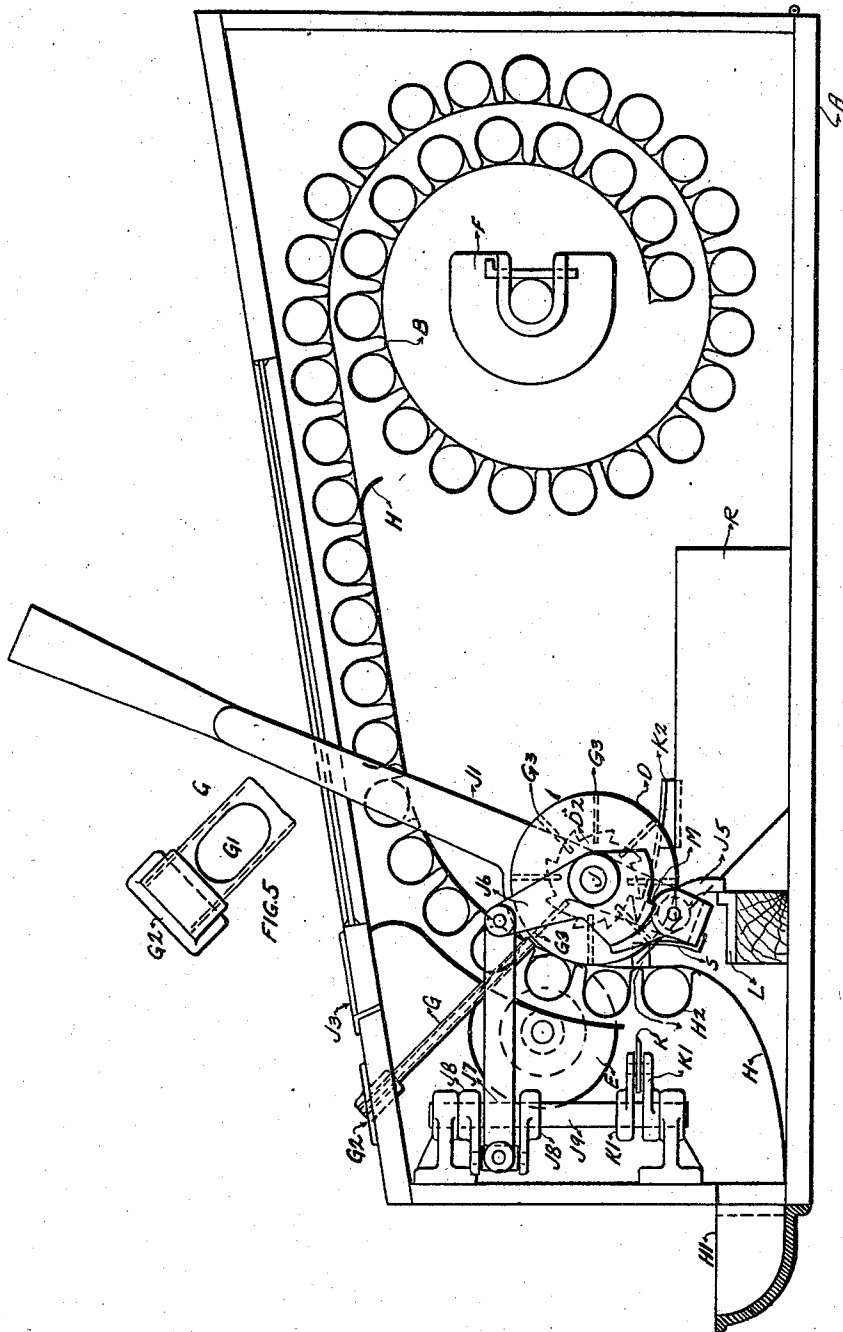


FIG. 1.

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Edna L. Joyce

James A. Joyce INVENTOR.

No. 724,187.

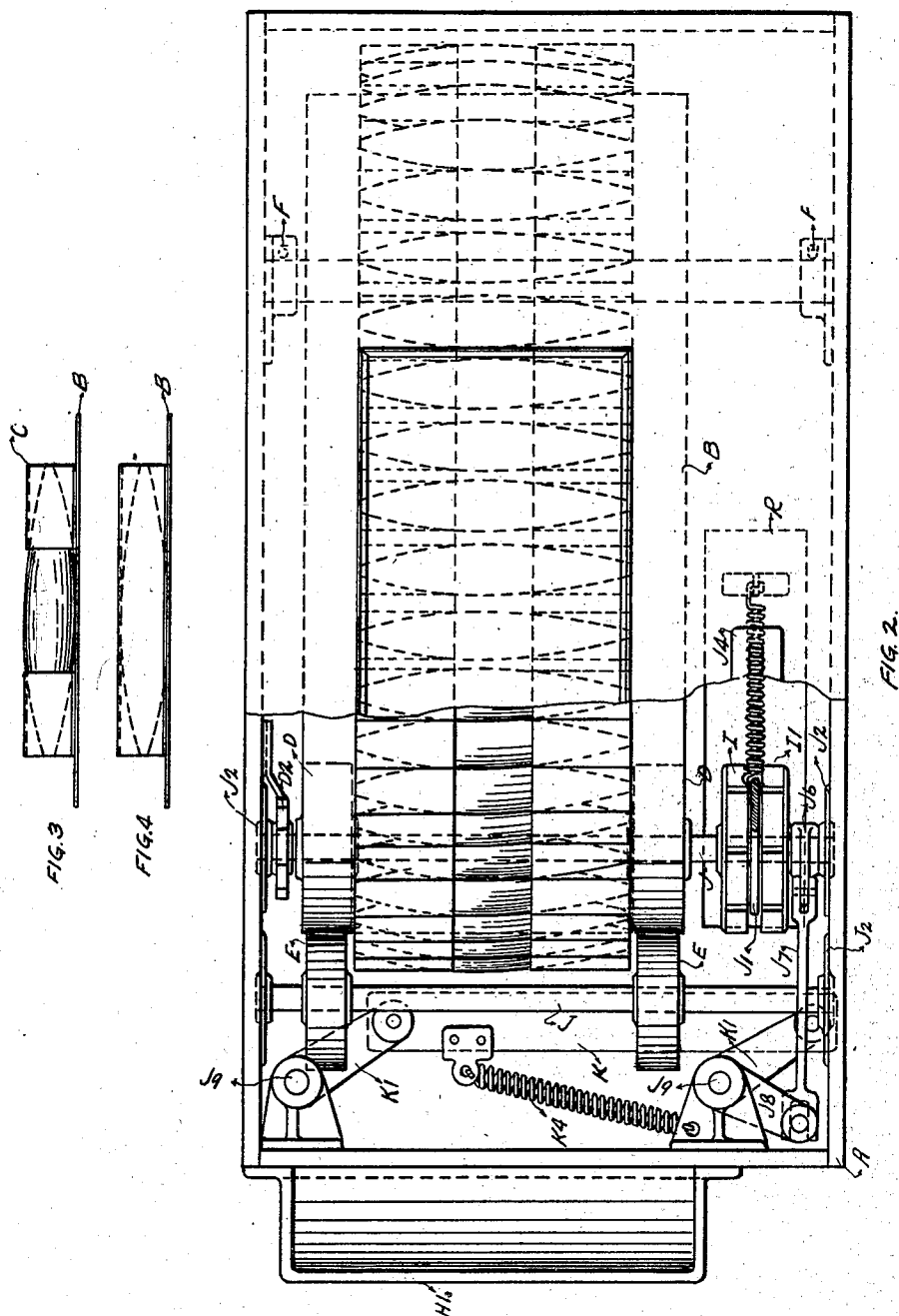
PATENTED MAR. 31, 1903.

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UNITED STATES PATENT OFFICE.

JAMES A. JOYCE, OF CLEVELAND, OHIO.

VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 724,187, dated March 31, 1903.

Application filed April 19, 1902. Serial No. 103,717. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. JOYCE, a citizen of the United States, residing at Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Machine for Vending Cigars, Cigarettes, Candy, and, in fact, any Small Article, of which the following is a specification.

My invention has for its object to provide a coin-controlled vending-machine that will retail cigars, cigarettes, and similar articles, my novel mechanism being especially adapted to retail cigars and cigarettes from the original package, for the reason that the internal-revenue law requires that cigars and cigarettes be retailed from the original package.

With these ends in view my invention consists, broadly, in a certain construction and combination of parts whereby cigars, cigarettes, and other small articles may be retailed from the original package, and, furthermore, in certain coin-controlled mechanism whereby the vending-machine is actuated, and, furthermore, in certain devices by which coins of under size are rejected by the machine and caused to pass out without actuating the vending mechanism, thus providing a machine which can only be operated by a coin of proper size.

In order to accomplish the desired results, I have devised the novel mechanism for vending from the original package which I will now describe, referring to the accompanying drawings, forming part of this specification, and using reference characters to designate the several parts, in which similar letters indicate corresponding parts in all the views.

Figure 1 shows a side view of the machine with one side wall removed. Fig. 2 shows a top view of the machine with part of the top removed. Fig. 3 shows a section of the strip forming the roll, *c* being the loop to hold the articles to the strip. Fig. 4 shows how a wide loop may be used for securing the articles to the strip. Fig. 5 shows a view of the coin-conductor, showing hole in bottom to let coins of under size pass out.

A denotes a box or case, which may be of any size or shape to suit the particular machine and may be constructed to open in any preferred or convenient manner. For example,

the top or end may be hinged and provided with lock and key or one side may be removable, it being simply necessary to have convenient access to all the parts and to put in new rolls and that the case be made to be securely locked. The case is adapted to support the various parts of the machine.

I wish it understood that my invention is not limited to any style of box or supports for the various parts, as it is evident that several different styles of boxes may be used. It is desirable to have a glazed opening in the box, so that the goods that are to be vended may be displayed. The goods which are to be vended are put up in the shape of a roll, the roll being formed by a long strip made to accommodate the particular goods to be vended. This strip B is made enough wider than the particular article to be vended to pass between the feeding-roll D and the idle roll E, and the article to be vended is fastened to this strip with loops C, Fig. 3, or it may be put on with one wide loop, Fig. 4, and after it is fastened to the strip it is rolled up to form a circular roll, and in the case of cigars or cigarettes requiring an internal-revenue stamp the stamp is put upon the roll before it leaves the factory where it is manufactured. The roll is then shipped in a shipping-case to the vending-machine. The goods to be vended may be shipped on a straight flat strip and rolled after it is delivered to the vending-machine, or for some kinds of goods it may be put in the machine without being rolled up. In this case I have shown and described a case of using the machine with the strip rolled in a circular roll. I do not wish to confine myself to the roll, as it is evident that the rolled strip is only one form of using the machine and it seems preferable to use the rolled strip. In the center of the roll is placed an axle upon which the end of the strip is fastened, and the articles to be vended are rolled up around the axle, the axle being made to fit the bearings F, which are provided with a small tight-fitting spring-key, which gives a little pressure on the axle to prevent its unrolling too fast or getting loose in the machine. The roll, with its goods to be vended, is placed in the machine and the edges of the strip started in between the feed-roller D and the idle roller E, and this

puts the strip in position to be unrolled by the vending mechanism, which I will now describe. The coin-conductor G is made to fit the particular coin by which the machine is to be operated. Coins of larger size will not enter, and those of smaller size will fall out through the hole G' in the bottom and strike on the supporting-table H and pass out to the receptacle H'. The coins of the correct size to operate the machine are entered through the slot G², and they pass down the inclined coin-conductor to the coin-slot G³ in the disks I and I'. These coin-disks are provided with a plurality of coin-slots G³, eight being shown in this case; but it is plainly evident that more or less may be used, and I do not wish to confine myself to this number. These coin-disks are mounted and fixed upon axle J, and the axle J is pivotally mounted in bearings J², which are fastened to the box A. The operating-lever J' is pivotally mounted on the shaft J between the coin-disks I and I' and so arranged that when a coin is dropped in one of the coin-slots G³ the operating-lever being pulled forward presses on the coin and causes the coin-disks I and I' and feed-rollers D to revolve. The feed-rolls and coin-disks I and I' are fixed on the shaft, and when the coin-disks are revolved the feed-rolls D revolve with them. The feed-rolls press against the idle-rolls E, and when the strip carrying the articles to be vended is started between the feed-roll D and the idle-roll E it is pulled down to the cutting-knife K, when the feed-rolls are revolved. When the lever J' is pulled forward to the stop J³, the pawl J⁵ at the lower end of lever J' engages notch M at the end of lever J⁶, so that when the lever J' is pushed backward, the lever J⁶ being connected to link J⁷ and the link J⁷ being connected to levers J⁸, fixed on shaft J⁹, and shaft J⁹ having levers K' fixed to it, the said levers K' have the ends of the cutting-knife K pivotally fastened between them, and the levers K' are securely mounted on shafts J⁹, which act as a means of keeping the cutting-knife in a free cutting position, so that when the lever J' is pushed backward the cutting-knife K is made through the various levers, links, &c., to cut off a section of the strip containing what is intended to be given for the coin that actuates the whole mechanism. When the lever J' is pushed backward, it operates the cutting-knife, and just before the lever J' reaches the stop J⁴, Fig. 2, the pawl at the lower end of lever J' engages stop L, which releases the pawl from the notch M, and the spring K⁴ pulls the knife K back to its original position. The spring K⁴ is intended to hold the knife up from the cutting-bed and to allow the goods to be vended to pass before the knife comes down. The strip containing the goods to be vended is supported through the machine on the supporting-table

H, and when it is cut from the strip it falls down the incline and goes into the receptacle H'. The supporting-table H is provided with a cutting-bed H² under the knife. This cutting-bed may be removed if it becomes worn and replaced with a new one.

The pawl J⁵, which is pivotally mounted at the lower end of J', is provided with a spring S, which holds it up against the end of lever J⁶ and also forces it into the notch M, which causes the knife to be actuated.

It is desired to hold the coin-disks against going backward, and a spring-pawl K² is arranged to engage a ratchet-wheel D², which is provided on the shaft or axle, which prevents it from going backward when the lever is moved backward.

The coin-slots G³ are made to freely hold a coin, so that when it is revolved around it will drop out and into the receptacle R, which is placed under the coin-disks. This receptacle will have a hinged opening in the side of the box, which will be provided with a lock and key and be easily accessible for removing the coins from the box.

By following the various mechanical movements it will be readily seen that when a coin of proper size is put in the slot it will slide down to the coin-disks G³, that when the lever is pulled forward a section of the strip containing the article to be vended is pulled down past the cutting-knife, and that when the lever is pushed back the knife is made to cut off a section, which falls out to the receptacle. The lever may be moved forward and backward; but unless a coin of proper size is put in nothing can be gotten out of the machine.

Having thus described my invention, I claim—

1. In a vending-machine, a suitable casing, a strip, a series of loops on the strip terminating at each end inside the edges of the strip, a table over which the strip is slidable, rollers engaging the edges of the strip, whereby said strip is fed, and means for rotating the rollers and feeding the strip intermittently and a knife having suitable operating means actuated alternately with the rollers, as and for the purpose described.

2. In a vending-machine, a casing, a strip carrying the goods to be vended, a table over which the strip is fed, an operating-lever, means whereby the movement of the lever in one direction moves the strip, a pawl on the lever, a lever J⁶, independently of the operating-lever, said lever J⁶, having a heel end engaged by the pawl, a knife and connections whereby the lever J⁶, operates the knife.

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Witnesses:

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