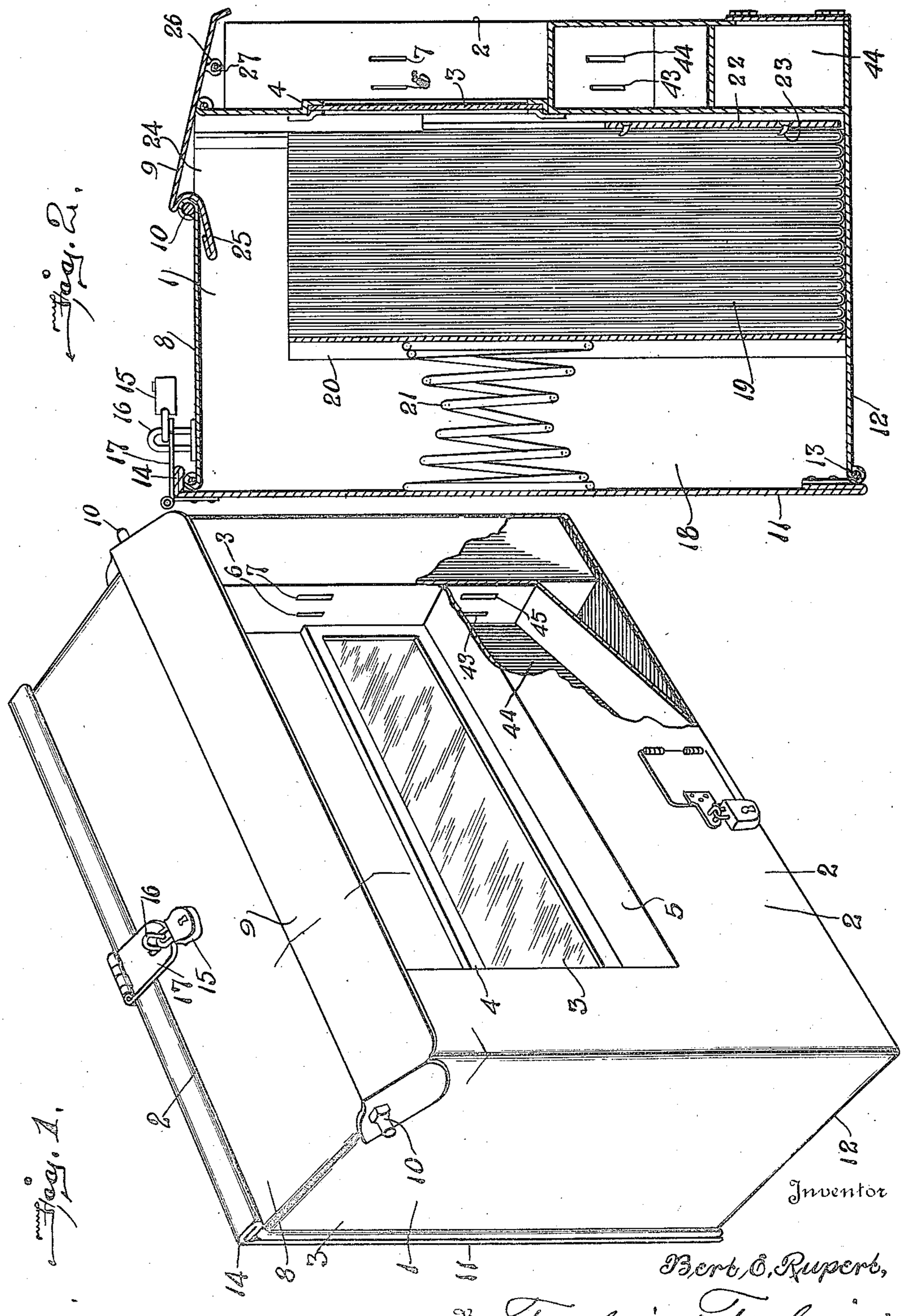
Nov. 18, 1924. 1,516,121

B. E. RUPERT

VENDING MACHINE

Filed March 30, 1922 3 Sheets-Sheet 1



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B. E. RUPERT

VENDING MACHINE

Filed March 30, 1922 3 Sheets-Sheet 2

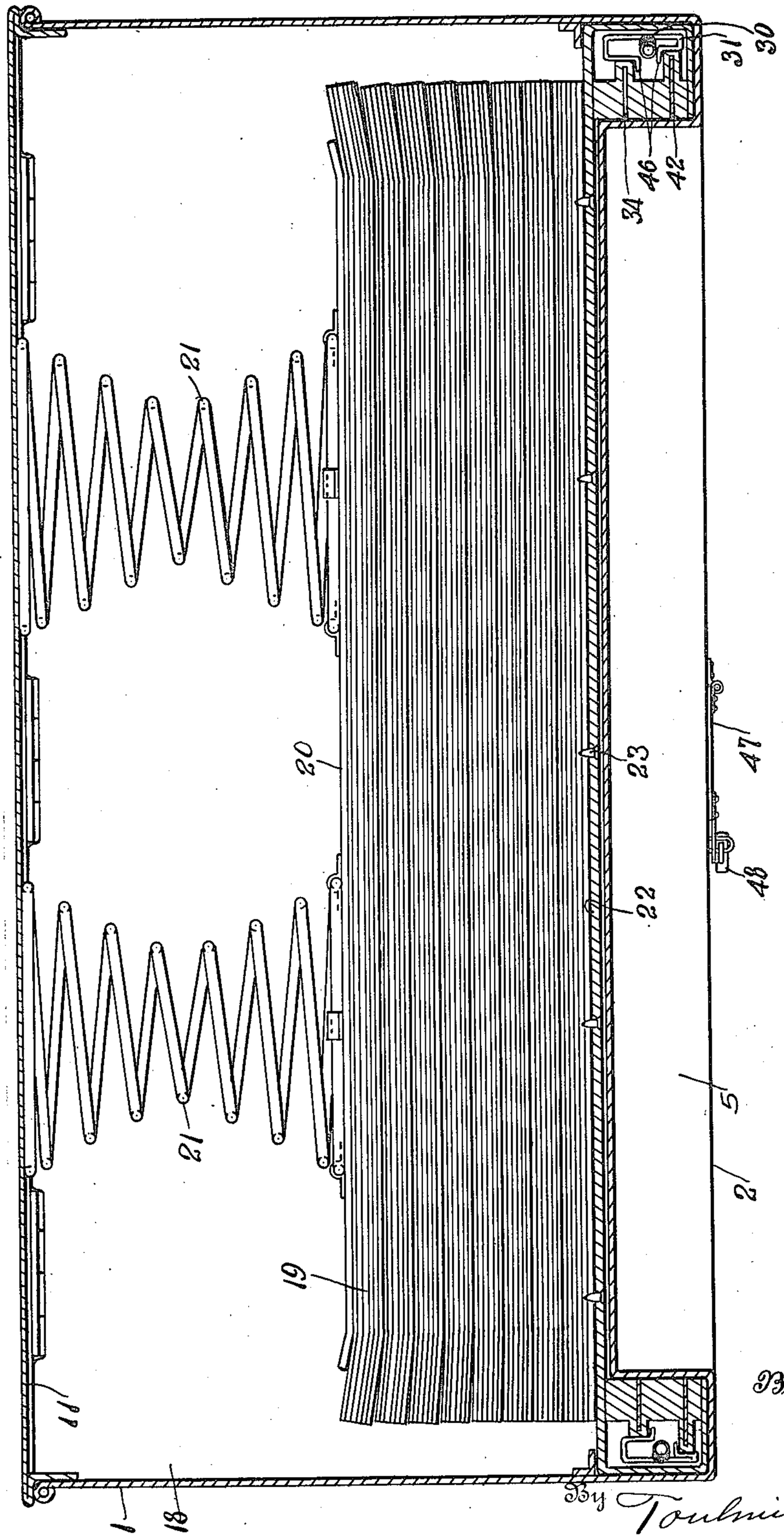

Fig. 3.

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Fig. 4.

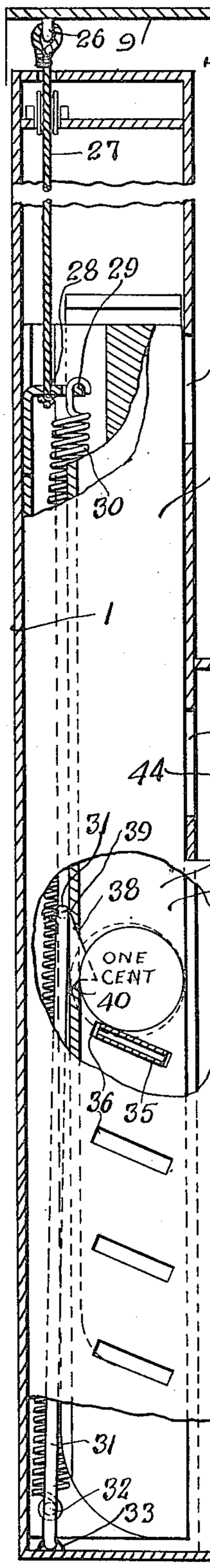


Fig. 5.

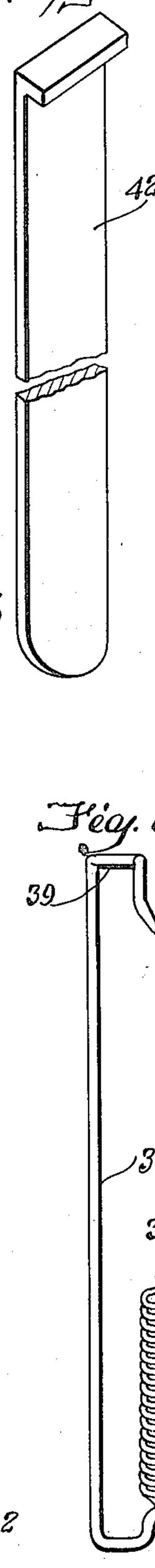


Fig. 6.

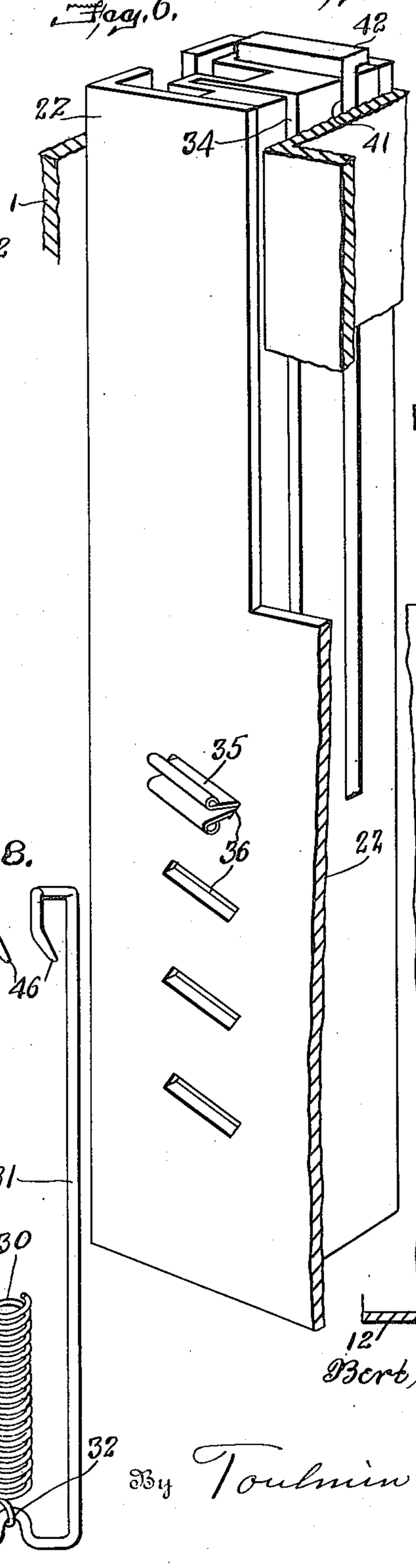
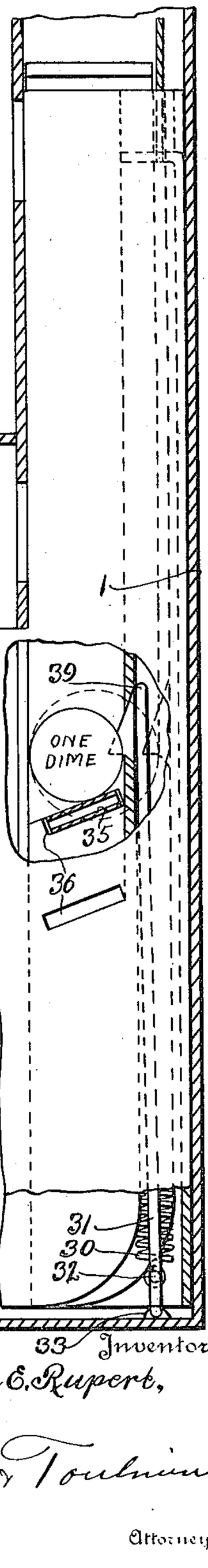


Fig. 7.



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Patented Nov. 18, 1924. 1,516,121

UNITED STATES PATENT OFFICE.

BERT E. RUPERT, OF DAYTON, OHIO.

VENDING MACHINE.

Application filed March 30, 1922. Serial No. 548,090.

To all whom it may concern:

Be it known that I, BERT E. RUPERT, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Vending Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to vending machines and in particular to a machine for vending articles such as newspaper, magazines and the like.

The object of my invention is to provide a vending machine that will issue each one of the articles, such as newspapers, one at a time positively when the machine is unlocked and that such unlocking may take place when a suitable coin has been inserted in the machine. A coin or other token may be used.

It is a further object of my invention to provide a self sealing and self locking vending machine which can only be unlocked for the purpose of vending one article, will not vend more than one article and after so vending an article will become locked and remain locked until another coin or token is inserted.

It is a further object to provide a vending machine that may be quickly charged so that in the case of a newspaper or magazine vending machine, where the time of the persons charging the machine is very limited and the charging must be done very rapidly this can be accomplished. This is particularly true of newspapers where editions of papers must be distributed to vending machines from trucks with great rapidity in order to serve the public suitably over large areas as such vending machines are usually located in outlying districts.

It is a further object to provide a separate locked coin box for the coins or tokens apart from the locked magazine so that the distributing agent may have a key to the magazine but no key to the coin box which will be reserved for the auditing department of the user of these vending machines.

It is an additional object to provde a vending machine which may be adjustable as desired for varying types of coins or tokens in order that the same machine may be adjusted to vending articles of different value.

The machine is also adjustable to different thicknesses of articles to be vended so that newspapers, magazines and the like may be vended and so that varying thicknesses of editions of newspapers may be handled without any adjustment of the mechanism.

Referring to the drawings:

Fig. 1 is a perspective of the closed machine with a portion of the bottom cut away to show the coin chute and coin receptacle;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Fig. 3 is a plan view of the box with the upper portion cut away on the line 3—3 of Fig. 1;

Fig. 4 is a section through a portion of the casing and tilting lid showing the interlocking connections between the coin chute, the coin guide and the locking finger;

Fig. 5 is a perspective of the plug used to seal one of the coin guides to prevent its being used in case the denominations of coins handled by that particular coin guide are not to be employed;

Fig. 6 is a perspective of the coin chute with the apertures for the coin clips disclosed with one of the coin clips in place. The casing is shown in section;

Fig. 7 is a side elevation in the reverse direction from Fig. 4 showing a coin in place in the coin chute and coin guide;

Fig. 8 is a detail view of the spring locking finger.

Referring in detail to the drawings, 1 represents the sides of a casing having a front 2 in which is installed a glass or other transparent window material 3 to form a window in the frame 4. This front is recessed adjacent the window as at 5 so that in one of the walls of the recess coin slots 6 and 7 may be inserted for the unlocking of the vending machine. The case is provided with a top that is stationary as at 8 and a supplementary top as at 9 pivoted at 10. When this top is opened one of the articles is vended and ejected. The back 11 is pivoted to the bottom 12 at 13 in any desired manner. The top of this back is bent over at 14 so that it will form a tight seal with the top 8 and permit of its being locked by the padlock 15 in conjunction with the staple 16 and hasp 17. Within the back 11 and beneath the top 8 and above the bottom 12 is a compartment 18 known as the magazine. In this magazine are stored the

articles to be vended such as newspapers, designated 19. The discharging apparatus before discharging the articles 19 from the magazine 18 consists of a discharging plate 20 and discharging spring 21. Either the spring may be attached to 11 or it may be attached to 20 although I prefer to attach it to 20, and have it free from 11 so that when the back 11 is open the spring and discharging plate may be quickly lowered, a charge of articles 19 installed and the receptacle again locked.

In order to discharge each article one by one, I have provided a forward discharging plate 22 having sharp points or prongs 23 mounted on the base thereof and preferably projected upwardly so that as the plate 22 is lifted these points come in contact with the article to be vended and ejected through the opening 24, closed by the tilting lid 9 which pivots on 10. This lid 9 is provided with a guard 25 so that when it is lifted it will prevent the person securing the article that is being vended from putting his hand through the opening 24 or any other instrument and securing an additional article for which he has not paid by depositing a coin. The plate 22 is elevated by the lifting by the operator of the swinging lid 9 to which is attached an eye 26 and a cable 27. This cable 27 at the other end is attached at 28 to the top of the plate 22, the upper part of which forms an ejector guide, or it may be attached to the coin chute. The ejector guide coin chute, cable and top 9 are restored to the closed position due to the tension of the spring 30 which is also attached to the plate 22 at the top thereof, as at 29, and is attached at the bottom to either the casing or as in the present instance to the equivalent of the casing, the bottom of the locking fingers 31 at 32. These locking fingers at the bottom are soldered at 33 to the bottom 12 of the casing.

Thus when the lid 9 is elevated after the ejector guide or plate 22 and the coin chute 34 have been unlocked, a single article will be vended and no other articles can be extracted until the lid 9 is lowered for the pins or points 23 on the plate 22 to engage with another article, but as soon as these pins or points are lowered to that point for re-engagement with the second article, the mechanism becomes locked a second time and the lid cannot be opened until another coin is inserted to unlock the locking apparatus.

To effect this unlocking through the deposit of a coin or token a coin is inserted through the openings 6 or 7. The opening 6 may be used for one cent pieces and the opening 7 for five cent pieces.

Taking the instance of depositing a penny in order to secure a newspaper, the penny is inserted through 6 and travels in the coin chute 37 down into the passage way 34 until it rests upon a coin clip 35 inserted in one of the clip apertures 36 in the wall of the coin chute 37. This stops the coin from further downward passage and stops it just opposite to the locking opening 38 in the wall of the ejector guide 22. The coin therefore rests in such a position as to approximately seal the lower portion of the opening 38. Normally, if there was no coin present and any one attempted to lift the ejector guide and the coin chute the locking finger 31 through its locking head 39 would engage in 38 and prevent any further upward movement and prevent any vending of the article. But when the operator has placed the penny in the position shown in Fig. 4, the locking head at 39 will slide over the beveled edge of the opening as at 40 not being able to pass into the coin chute and into the passage way 34 and thus allow the ejector guide and the coin chute to be elevated through the agency of the cable 27 and the top 9 which is being raised by the operator after the deposit of the coin. The coin chute 37 is movable up and down, the cable 27 causing the upward movement and the spring 30 returning it to normal position.

It was heretofore stated the parts were restored to their former position by the spring 30.

If it is desired to have two cents necessary before an article can be vended then the coin clip will be placed in the second opening from the top and one coin upon the other will place the second coin in the position shown in Fig. 4.

If it is desired to have any variation of the amounts, such as using a one-cent piece and a five-cent piece, the coin chute as at 41 can be employed by removing the plug 42 which has been inserted in the chute while it was in its inoperative state to prevent coins from being placed therein accidentally.

When the ejector guide and chute are elevated they will correspondingly lift the coin or coins until opposite the exit opening 43 through which the coin or coins will pass into the coin receptacle compartment 44. A similar opening for the larger coins is at 45.

The insertion of separate coins of different dimensions in the coin chutes which are arranged to take the coins of the desired size will prevent the locking fingers from engaging with the coin chutes and preventing the elevation of the chutes.

It will be understood that the plug 42 acts in the same way as a coin when in the coin chute to prevent the head 39 of 31 engaging with the aperture 38 or the shoulder 40 thereof.

The spring fingers yieldingly engage against the coin chute so that their ends will snap into the cutaway portions on the

coin chutes to lock them from elevation unless this locking position is prevented by the presence of a coin or coins. When the spoke 42 prevents one of these locking fingers from operating it does not effect the other finger, because both fingers are firmly fastened to the bottom of the case and act independently of one another.

The points 46 of 31 adjacent 39 are for the purposes as will be seen in Fig. 3 of maintaining in position 31.

47 is a door fastened by the lock 48 giving access to the interior of the coin receptacle 44.

It will be understood that there may be these coin chutes and guideways and coin entrance openings and coin exit openings communicating with the coin receptacle on either side of the vending machine.

The clips 35 are placed in the openings 36 diagonally in order to form an inclined track for the coins to cause them to roll through 43 into 44.

While I have shown and described certain features as constituting my invention, it will be understood that parts have been shown for purposes of illustration only, and that I do not desire to be limited to such details, as obvious modifications will occur to a person skilled in the art.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In combination, in a vending machine, a magazine to hold a plurality of articles, an ejector to eject said articles, a locking mechanism adapted to be unlocked by a coin and the like to permit of the ejection of one of the articles, a movable lid to seal the point of ejection when the mechanism is in its locked position and to be swung aside when the mechanism is unlocked, and means when the lid is open for the delivery of an article to prevent the extraction of another article.

2. In combination, a case containing a magazine for articles to be vended, an ejector, a self feeder to feed the articles one by one to the ejector, means to lock the ejecting mechanism to prevent it being actuated, means to actuate the ejecting mechanism, said locking mechanism being coin-controlled, whereby when a coin is inserted the actuating means and the ejecting means may be operated to eject an article, the remainder of the articles being fed forward for the ejection of the next article, said actuating means consisting of a closing lid to close the aperture in the case where the article is ejected and having connected therewith a supplementary lid to partially close the opening to prevent the extraction of more than one article at a time.

3. In combination in a vending machine, a case, a magazine compartment, a self feeder interposed between the articles in said magazine and one wall of the case, said self feeder upon the opening of the case being adapted to be readily removed, a hinged lid adapted to seal an opening in said case through which the articles contained is said magazine are ejected one by one, means connected to said lid to elevate the ejecting mechanism, an ejecting mechanism, means to normally hold in locked position the ejecting mechanism and hold the lid in closed position over the ejecting aperture, said locking means adapted to be unlocked when a coin is inserted therein.

4. In combination in a vending machine, a case, a magazine compartment, a self feeder interposed between the articles in said magazine and one wall of the case, said self feeder upon the opening in the case being adapted to be readily removed, a hinged lid adapted to seal an opening in said case through which the articles contained in a magazine are ejected one by one, means connected to said lid to elevate the ejecting mechanism, an ejecting mechanism, means to normally hold in locked position the ejecting mechanism and hold in closed position the lid over the ejecting aperture, said locking means adapted to be unlocked when a coin is inserted therein, and a receptacle to contain the coins inserted in said locking mechanism.

5. In combination, in a vending machine, a case, a magazine compartment in said case to contain the articles to be ejected, means to feed said articles one by one to ejecting mechanism, an ejecting mechanism, a lid adapted to seal an opening in the case through which the articles are ejected, means connected to said ejecting mechanism and said lid normally locked in closed position, locking means adapted to maintain this locking position, means to permit of the insertion of an unlocking means so that when the lid is elevated the locking means will not engage and the ejector will simultaneously be elevated to eject an article and means to elevate the unlocking means so inserted and to eject them into a receptacle.

6. In combination, in a vending machine, a magazine, an ejector, said magazine having an aperture through which an article is ejected, a lid adapted to seal said aperture, said lid being connected to said ejector and also connected to a coin-controlled locking apparatus consisting of a coin container, means to position said coin adjacent the locking mechanism between the coin container and the locking member, a locking member, whereby when the coin containing member is elevated with the ejector and the lid, the locking member will not lock but will slide over the coin.

7. In combination, in a vending machine, a magazine, an ejector, an aperture in said

magazine through which the article is ejected, a lid adapted to seal said aperture, said lid being connected to said ejector and also connected to a coin-controlled locking apparatus consisting of a coin container, means to position a coin adjacent the locking mechanism between the coin container and the locking member, a locking member, whereby when the coin containing member is elevated with the ejector and the lid, the locking member will not lock but will slide over the coin, and means to adjust the position in said coin containing member at which the coin will finally rest.

8. In combination, in a vending machine, a magazine, an ejector, an aperture in said magazine through which the article is ejected, a lid adapted to seal said aperture, said lid being connected to said ejector and also connected to a coin-controlled locking apparatus consisting of a coin container, means to position a coin adjacent the locking mechanism between the coin container and the locking member, a locking member, whereby when the coin containing member is elevated with the ejector and the lid, the locking member will not lock but will slide over the coin, and means to permit of the exit of the coin from the coin containing member into a receptacle.

9. In combination, in a vending machine, a case, a magazine therein having an aperture in the case through which ejected articles may pass one by one, means of delivering articles to an ejector in said magazine, an ejector, a lid connected therewith adapted to seal said opening through which the ejection takes place, a coin chute, an ejector guide, yielding means for returning said coin chute, ejector guide and lid, together with the ejector to their closed positions, a locking member carried by said case adapted to engage with the coin chute to prevent the movement of the lid, ejector, ejector guide and coin chute, means in said ejector guide and chute to position a coin to prevent this locking when the lid, ejector guide, coin chute and ejector are elevated to eject an article.

10. In combination, in a vending machine, a case, a magazine therein having an aperture in the case through which ejected articles may pass one by one, means of delivering articles to an ejector in said magazine, an ejector, a lid connected therewith adapted to seal said opening through which the ejection takes place, a coin chute, an ejector guide, yielding means for returning said coin chute, ejector guide and lid, together with the ejector to their closed positions, a locking member carried by said case adapted to engage with the ejector guide to prevent the movement of the lid, ejector, ejector guide and coin chute, means in said ejector guide and chute to position a coin to prevent this locking when the lid, ejector guide, coin chute and ejector are elevated to eject an article, and yielding means to return said lid, ejector guide, coin chute and ejector to their closed positions after the ejection of a single article.

11. In combination, in a vending machine, a case, a magazine therein having an aperture in the case through which ejected articles may pass one by one, means of delivering articles to an ejector in said magazine, an ejector, a lid connected therewith adapted to seal said opening through which the ejection takes place, a coin chute, an ejector guide, yielding means for returning said coin chute, ejector guide and coin chute to their closed positions, a locking member carried by said case adapted to engage with the ejector guide to prevent the movement of the lid, ejector, ejector guide and coin chute, means in said ejector guide and chute to position a coin to prevent this locking when the lid, ejector guide, coin chute and ejector are elevated to eject an article, yielding means to return said lid, ejector guide, coin chute and ejector to their closed positions after the ejection of a single article, and means on said lid to prevent the extraction of more than one article at one time.

12. In combination, in a vending machine, a case, a magazine therein having an aperture in the case through which ejected articles may pass one by one, means of delivering articles to an ejector in said magazine, an ejector, a lid connected therewith adapted to seal said opening through which the ejection takes place, a coin chute, an ejector guide, yielding means for returning said coin chute, ejector guide and lid, together with the ejector to their closed positions, a locking member carried by said case adapted to engage with the ejector guide to prevent the movement of the lid, ejector, ejector guide and coin chute, means in said ejector guide and chute to position a coin to prevent this locking when the lid, ejector guide, coin chute and ejector are elevated to eject an article, yielding means to return said lid, ejector guide, coin chute and ejector to their closed positions after the ejection of a single article, an exit opening to a coin receptacle from said coin chute and guide, whereby when the coin chute and guide with the coin is brought opposite said receptacle and opening the coin will be delivered into said receptacle.

13. In combination in a vending machine, a casing, a magazine, an ejector means of delivering articles one by one from said magazine to an ejector, an opening in said casing for the ejection of the articles, a lid to seal said opening connected to said ejector and connected to an ejector guide and chute, an entrance opening into said

coin chute, an exit opening from said coin chute into a coin receptacle, a second coin chute with an entrance opening and an exit opening, means to position coins in said openings, means adjacent said positioning means to lock said ejector guide and coin chute with its attendant mechanism in the closed position and to permit said ejector guide and coin chute to move freely when a coin is in position whereby upon the insertion of coins of various denominations an article may be ejected upon placing the suitable combinations of coins in the coin chutes and ejector guides.

14. In combination in a vending machine, a casing, a magazine, an ejector means of delivering articles one by one from said magazine to an ejector, an opening in said casing for the ejection of the articles, a lid to seal said opening connected to said ejector and connected to an ejector guide and chute, an entrance opening into said coin chute, an exit opening from said coin chute into a coin receptacle, a second coin chute with an entrance opening and an exit opening, means to position coins in said openings, means adjacent said positioning means to lock said ejector guide and coin chute with its attendant mechanism in the closed position and to permit said ejector guide and coin chute to move freely when a coin is in position whereby upon the insertion of coins of various denominations an article may be ejected upon placing the suitable combinations of coins in the coin chutes and ejector guides, and means to seal one of the coin chutes to prevent its operating.

In testimony whereof, I affix my signature.

BERT E. RUPERT.