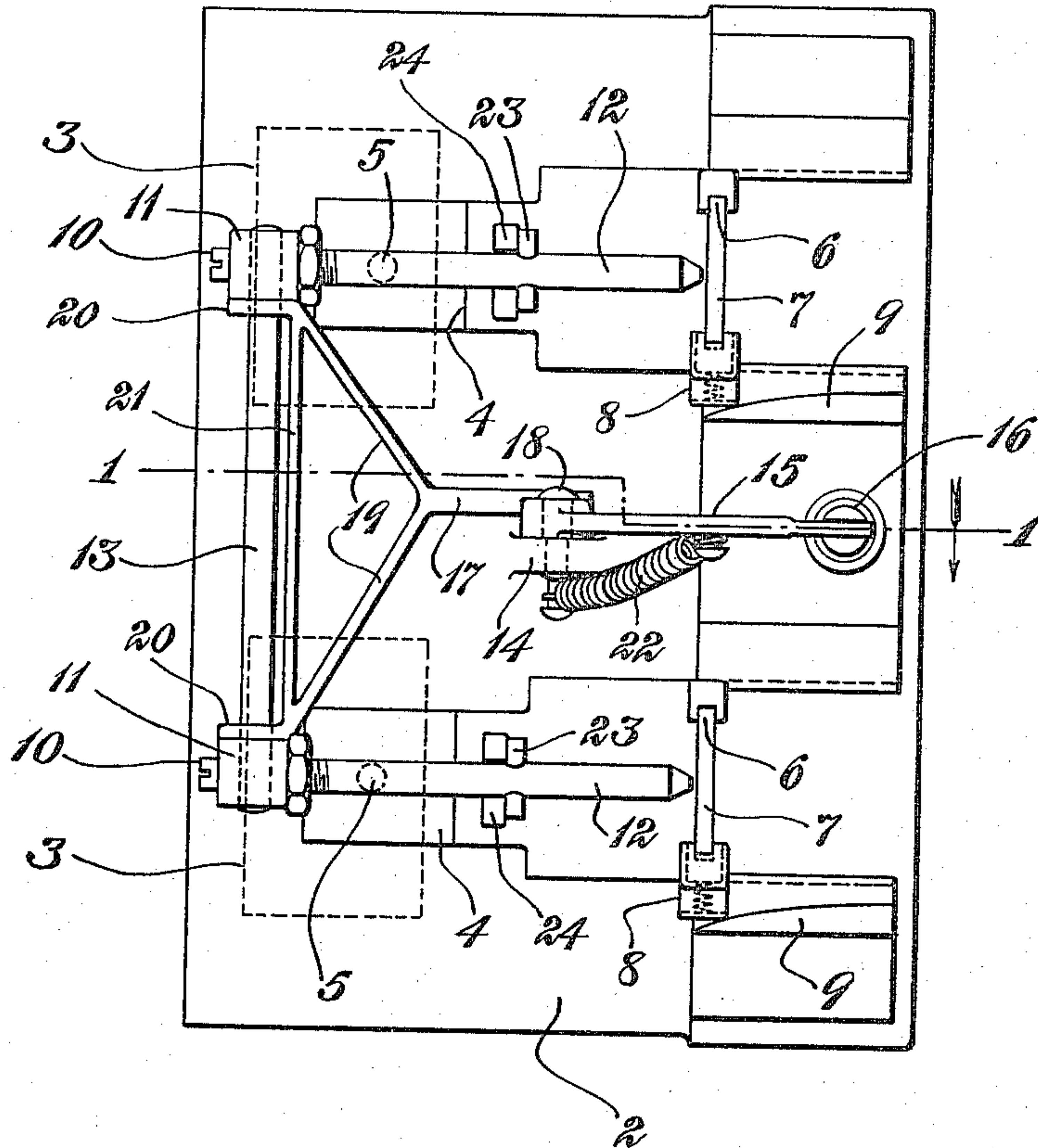
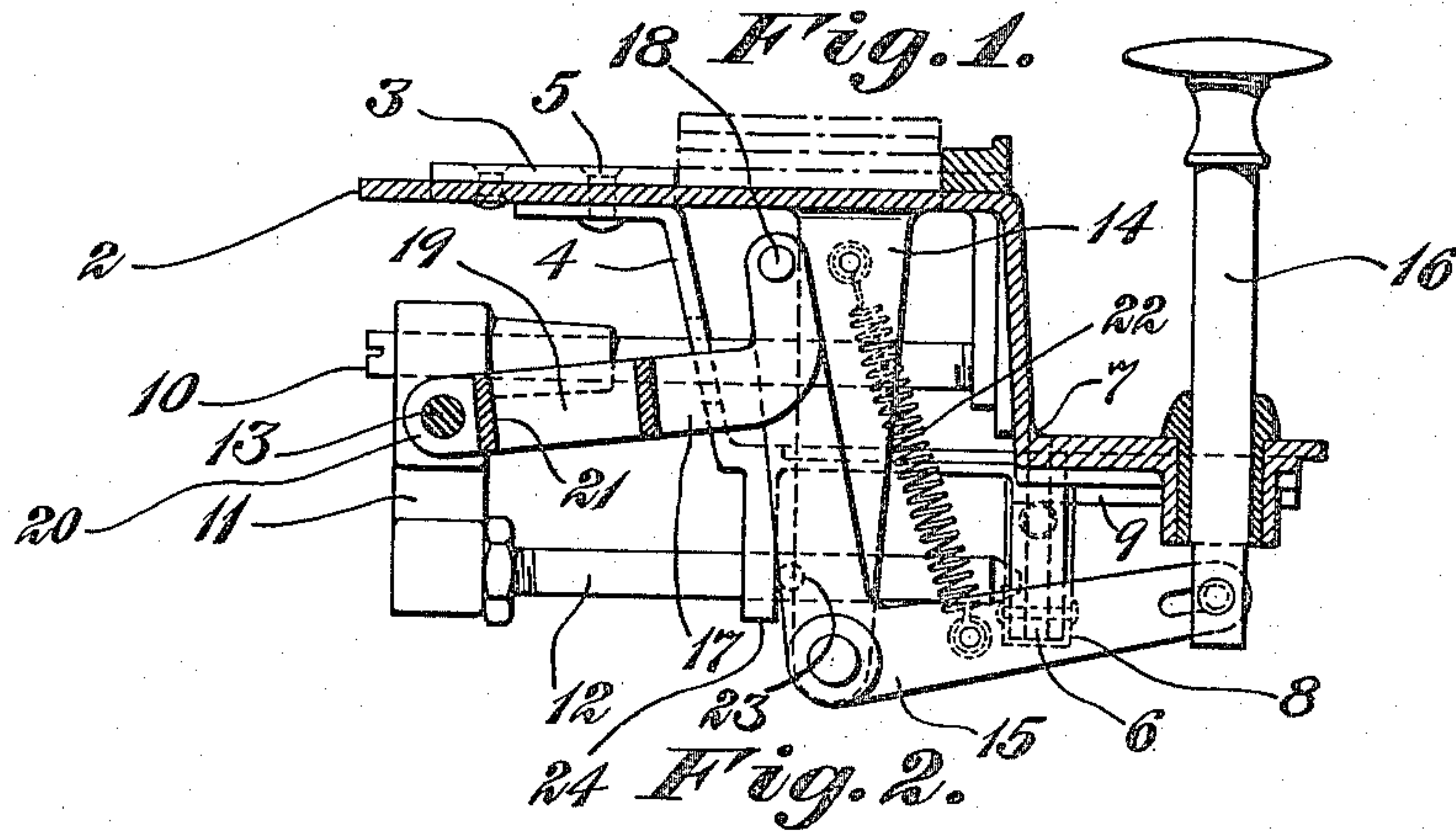


H. D. HINCKLEY.  
 VENDING MACHINE.  
 APPLICATION FILED DEC. 13, 1913.

1,155,312.

Patented Sept. 28, 1915.



**Witnesses:**

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# UNITED STATES PATENT OFFICE.

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## VENDING-MACHINE.

1,155,312.

Specification of Letters Patent.

Patented Sept. 28, 1915.

Application filed December 13, 1913. Serial No. 806,423.

*To all whom it may concern:*

Be it known that I, HENRY D. HINCKLEY, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

This invention relates to vending-machines, among the objects of the invention being the provision of an article of this character which is simple in construction, easy to operate and the moving parts of which can be shifted back and forth in a proper manner without binding.

In the drawings accompanying and forming part of the present specification I have shown in detail one of the several convenient forms of embodiment of the invention, which to enable those skilled in the art to practice the same will be set forth fully in the following description. I do not limit myself to this disclosure; I may depart therefrom in several respects within the scope of the invention defined by the claims following said description.

Referring to said drawings: Figure 1 is a sectional view on the line 1—1 of Fig. 2, looking in the direction of the arrow, of a vending-machine involving my invention. Fig. 2 is a bottom plan view of the same.

Like characters refer to like parts throughout the several figures of the drawings.

A machine possessing my invention, comprises preferably a plurality of plungers adapted to be connected through the intervention of coins of proper denominations or otherwise with article-ejectors, by virtue of which when the plungers are advanced said article-ejectors provided there be coins deposited, can be moved forward to push articles from the machine. The parts in question may be of any desirable kind. In the drawings, however, I have shown article-ejectors, coin carriers and plungers such as illustrated in my contemporaneously-pending application filed January 29, 1913, Serial No. 744,848. I will briefly describe these parts in order to indicate the nature of the improvements. In connection with the "plungers" as I have termed them, there is

a manually-operable device such as a lever, to which is connected as by pivoting, a link, the link or the body thereof having outwardly diverging branches connected with the respective plungers in some desirable manner, as for instance to a shaft connecting the respective plungers. The branches mentioned are for strength, preferably connected by a cross piece, strut or brace.

With the foregoing general description I will now describe in detail what is shown in the drawings.

The numeral 2 designates a plate having upper and lower horizontal portions and a connecting vertical portion, the upper horizontal portion constituting a suitable support for the articles to be vended as shown by dotted lines in Fig. 1 and which are pushed one at a time from the respective stacks by ejectors as 3, slidable upon the upper horizontal portion of the plate 2 and through a slot in the casing (not shown) of the machine. Against the under side of said upper horizontal portion, are fitted slidable members 4 connected with the respective ejectors 3 by rivets as 5 extending through elongated slots in the upper horizontal portion of the plate 2. The bodies of the slidable members 4 are equipped with coin-carriers 6 to receive coins passed through slots 7 in the lower horizontal portion of the plate 2. If there be no coins in the coin-carriers 6 and if the plungers hereinafter described, be advanced, these plungers will pass through the respective coin carriers without accomplishing anything. If, however, there be coins in the coin carriers, the plungers will engage the coins and thereby advance the slidable members 4 to move the ejectors 3 forward to push articles from the stacks on the plate 2. If there be only one coin, only one article will be obtained, as will be obvious. The coins are temporarily held in the coin carriers by spring-actuated latches 8 supported thereby and which are tripped at a predetermined point in the advance of the respective parts, by fixed cam devices 9 on the under side of the plate. Extending rearwardly from the vertical portion of the plate 2 are parallel, horizontally disposed guide rods 10 which receive for sliding movement, the two blocks



11 which as shown depend from said guide rods. Rigidly connected with the respective blocks 11 and extending forwardly therefrom are rods 12, constituting suitable plungers. As will be inferred should there be a coin in a coin carrier 6 and should the plungers 12 be advanced, a plunger will engage said coin and will therefore, advance the coin carrier and the various parts connected therewith. Should there be no coin in the other carrier the plunger will move through the coin carrier without moving said coin carrier therewith.

The foregoing is a description of what is illustrated in my prior application. It will be clear that in using my improvements it is not essential that I associate them with mechanism such as already described, as they can be used with equal advantage in other connections.

The blocks 11 are shown as connected by a shaft 13 rigidly united with said blocks in any desirable manner; for instance the terminal portions of the shaft can be driven into bores in the two blocks. The presence of this shaft 13 causes the two blocks to move forward and backward in an absolutely true direction and prevents their lateral motion on the supporting rods 10.

On the under side of the upper horizontal portion of the plate there is shown a depending bracket or hanger 14 which constitutes a suitable support for a lever as 15. As shown the lever 15 is of angle or elbow form, being pivoted at its angle to the lower end of the bracket 14, one of its arms being forwardly disposed, while the other is upwardly disposed. While the lever 15 may be operated in any desirable manner, the push rod 16 is shown for this purpose, said push rod extending through an opening in the lower horizontal portion of the plate, and its lower end being shown as connected with the forwardly disposed arm of the angle lever for example by a pivotal joint. As will hereinafter appear this push rod 16 is common to both plungers 12, being situated as illustrated practically centrally between the two.

The lever 15 is linked to both plungers 12, the link 17 being shown for this purpose, and the body thereof being approximately in angular form, the upwardly extending portion of said body being pivoted as at 18 to the upright branch of the angle lever 15. From the body of the link there extends rearwardly the outwardly-diverging branches 19 having offset portions 20 in parallelism practically with the body of the link and perforated to pivotally receive the connecting shaft 13. By virtue of a link of such construction the plungers 12 can be advanced and retracted in parallelism and squarely without undue binding or rubbing of the parts. For additional strength the branches

19 are connected by the cross piece 21 located as illustrated, adjacent the shaft. The link mentioned may be made in any desirable manner; I find that I can make it in one piece by casting.

There is represented as connected with the forwardly-extending branch of the angle lever, one end of the coiled spring 22, the other end of said spring being connected with the bearing or bracket 14 near the upper end thereof, this spring being adapted to return the lever 15, push rod 16 and plungers 12 to their initial positions after the same have been released by the user of the machine. The two ejectors 3 can be returned to their initial positions by projections as 23 on the plungers and which are adapted for such purpose, to engage the forward sides of the pendent arms 24 of the slidable members 4, said pendent arms having openings through which the respective plungers 12 extend.

In my prior application I have shown an angle lever as 15 and a push rod as 16 for actuating the angle lever. In the present case, however, the angle lever is connected with the plungers differently from the connection shown in said application.

What I claim is:

1. The combination of a plurality of article-ejectors, plungers adapted through the intervention of coins, to operate the respective article-ejectors, a manually-operable lever, a shaft connecting the plungers, and a link pivoted to the levers, having branches freely receiving said shaft.

2. The combination of a plurality of article-ejectors, plungers adapted through the intervention of coins, to operate the respective article-ejectors, a manually-operable lever, a link pivoted to said lever, having outwardly-diverging branches, and a shaft connecting the plungers, said branches being perforated to freely receive said shaft.

3. The combination of a plurality of article-ejectors, plungers adapted through the intervention of coins, to operate the respective article-ejectors, an angle lever pivoted at its elbow, having an upright arm and a forwardly extending arm, a manually operable device to act against the forwardly-extending arm of the angle lever, and a link pivoted to the upright arm of the angle lever and extending rearwardly therefrom, said link having rearwardly diverging branches connected with the respective plungers.

4. A vending machine comprising supporting means for the articles to be vended, a slidable member provided with means for ejecting said articles, a plunger, said slidable member being provided with a carrier to hold a coin in the path of advancing movement of the plunger, a second slidable member to which said plunger is connected, a push rod, an angle lever pivoted at its angle



and against one branch of which said push rod acts, an operative connection between the other branch of the angle lever and said second slidable member, a spring for returning the angle lever to initial position after it has been operated by said push rod, and means actuated with said plunger for drawing back said first mentioned slidable member.

5. A vending machine comprising supporting means for the articles to be vended, a slidable member for ejecting said articles, said slidable member having a pendent portion, a plunger extending through said pendent portion, said slidable member having a coin carrier to support a coin in the path of advancing movement of the plunger, a second slidable member to which said plunger is connected, an angle lever pivoted at its elbow and operatively connected with said second slidable member, said angle lever on its advancing movement being adapted through said connection to advance said second slidable member, means for returning said angle lever to its initial position, and means on said plunger for engaging said pendent portion on the backward movement of the plunger for returning said first mentioned slidable member.

6. A vending machine comprising supporting means for the articles to be vended, a slidable member provided with means for ejecting said articles, a plunger, said plunger having means to support a coin in the path of advancing movement of said plunger, a slidable member to which said plunger is connected, an angle lever pivoted at its angle, a push rod acting against one branch of the angle lever, a link connecting the other branch of said angle lever with said second slidable member, a spring for returning the angle lever to initial position after it has been advanced by said push rod, and

means connected with the second slidable member for drawing back the first mentioned slidable member on the backward movement of said second mentioned slidable member.

7. A vending machine comprising an article ejector, a slidable member to which said article ejector is connected, provided with a pendent coin carrier and also with a pendent flange, a plunger, said flange having an opening to receive said plunger, said coin carrier being adapted to support a coin in the path of movement of said plunger whereby when the plunger is advanced it can engage said coin and thereby advance said slidable member and ejector, a guide rod, the slidable member having a perforation to receive said guide rod, a block slidable on said guide rod and to which said plunger is rigidly connected, and manually operable means, for moving said block in a forward direction.

8. A vending machine comprising supporting means for the articles to be vended, article ejectors provided with pendent portions, stationary guide rods, blocks slidable on said guide rods, plungers connected with and extending forward from the blocks, said pendent portions having openings for the passage of the plungers, a shaft connecting the blocks, and manually operable means acting against said shaft to simultaneously advance the blocks and thereby the plungers, the respective article ejectors having coin carriers to support coins in the respective paths of movement of said plungers.

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

HENRY D. HINCKLEY.

Witnesses:

HEATH SUTHERLAND,  
L. L. MARKEL.