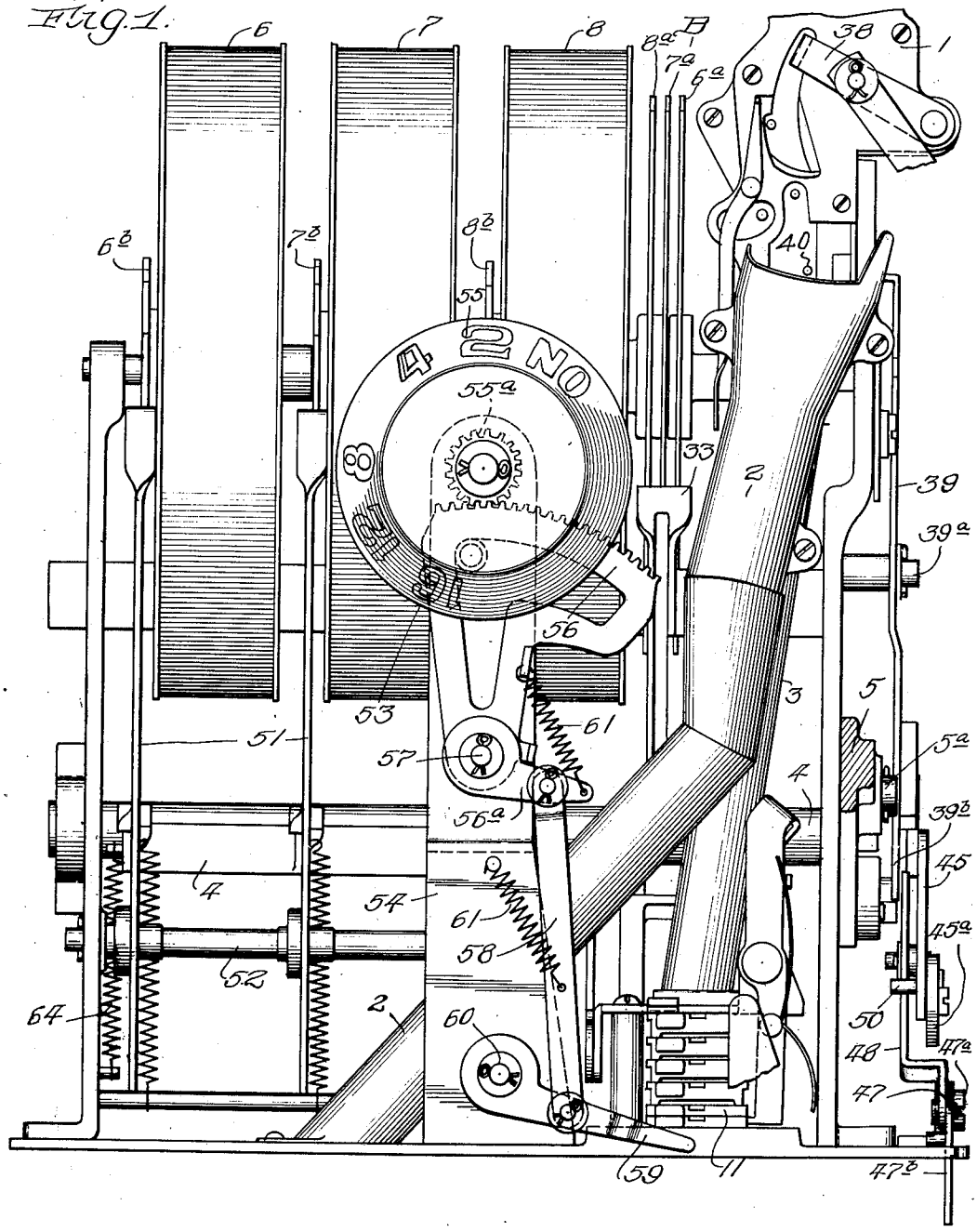
May 25, 1926. 1,586,455

F. L. MILLS

COIN CONTROLLED MACHINE

Filed Nov. 15, 1924 5 Sheets-Sheet 1

Fig. 1.



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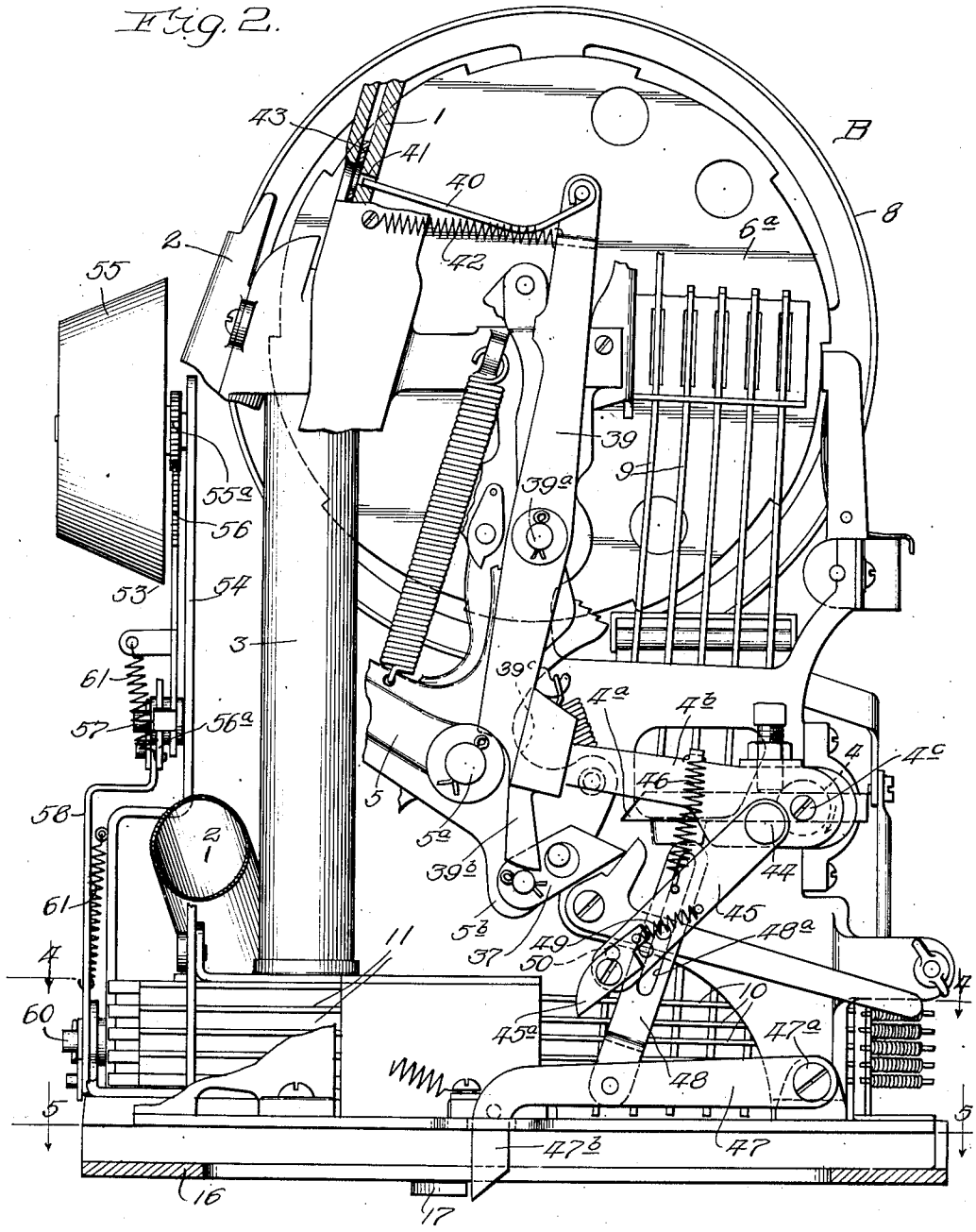
May 25, 1926. 1,586,455

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COIN CONTROLLED MACHINE

Filed Nov. 15, 1924 5 Sheets-Sheet 2

Fig. 2.



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May 25, 1926. 1,586,455

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COIN CONTROLLED MACHINE

Filed Nov. 15, 1924 5 Sheets-Sheet 3

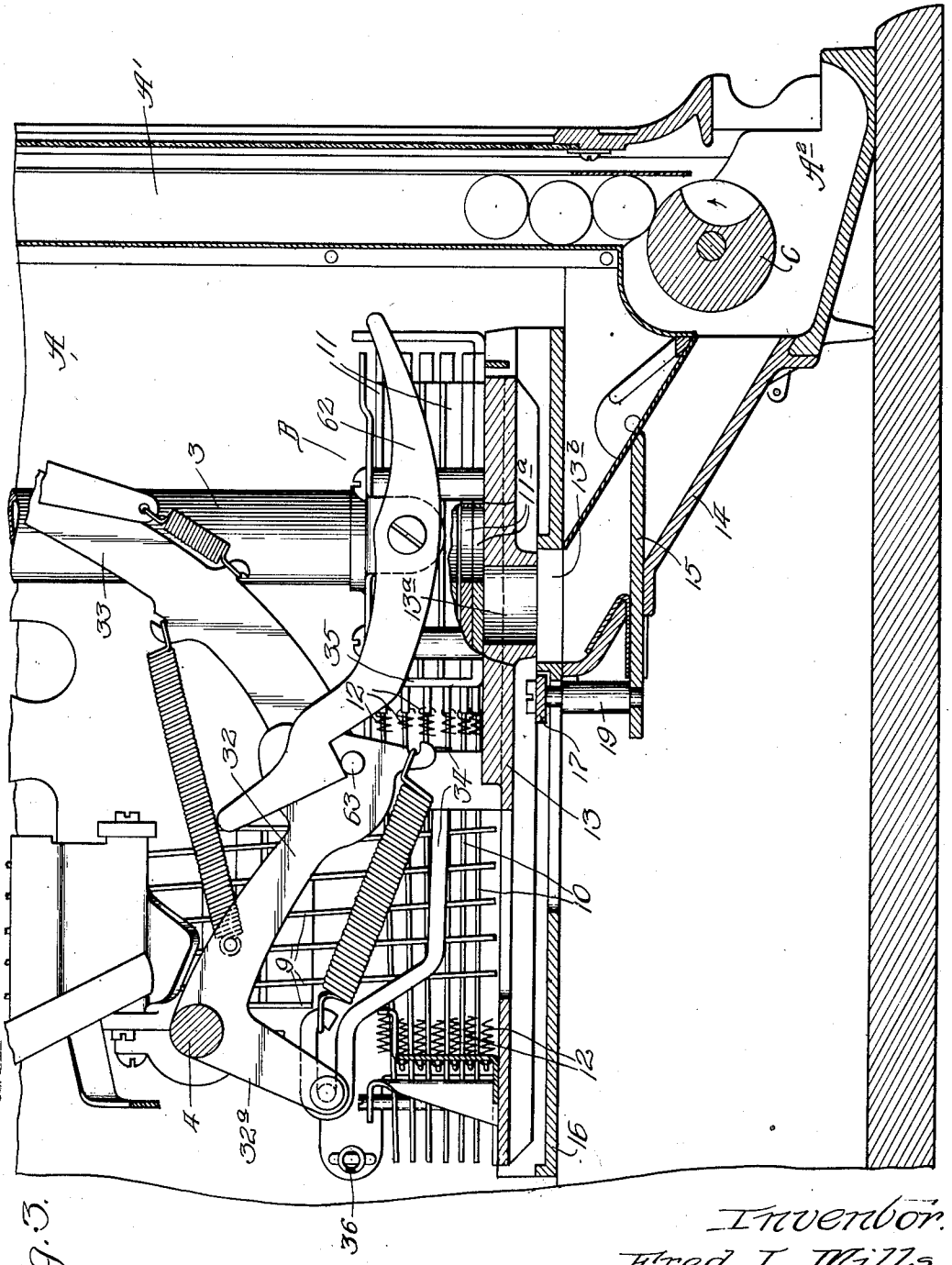


Fig. 3.

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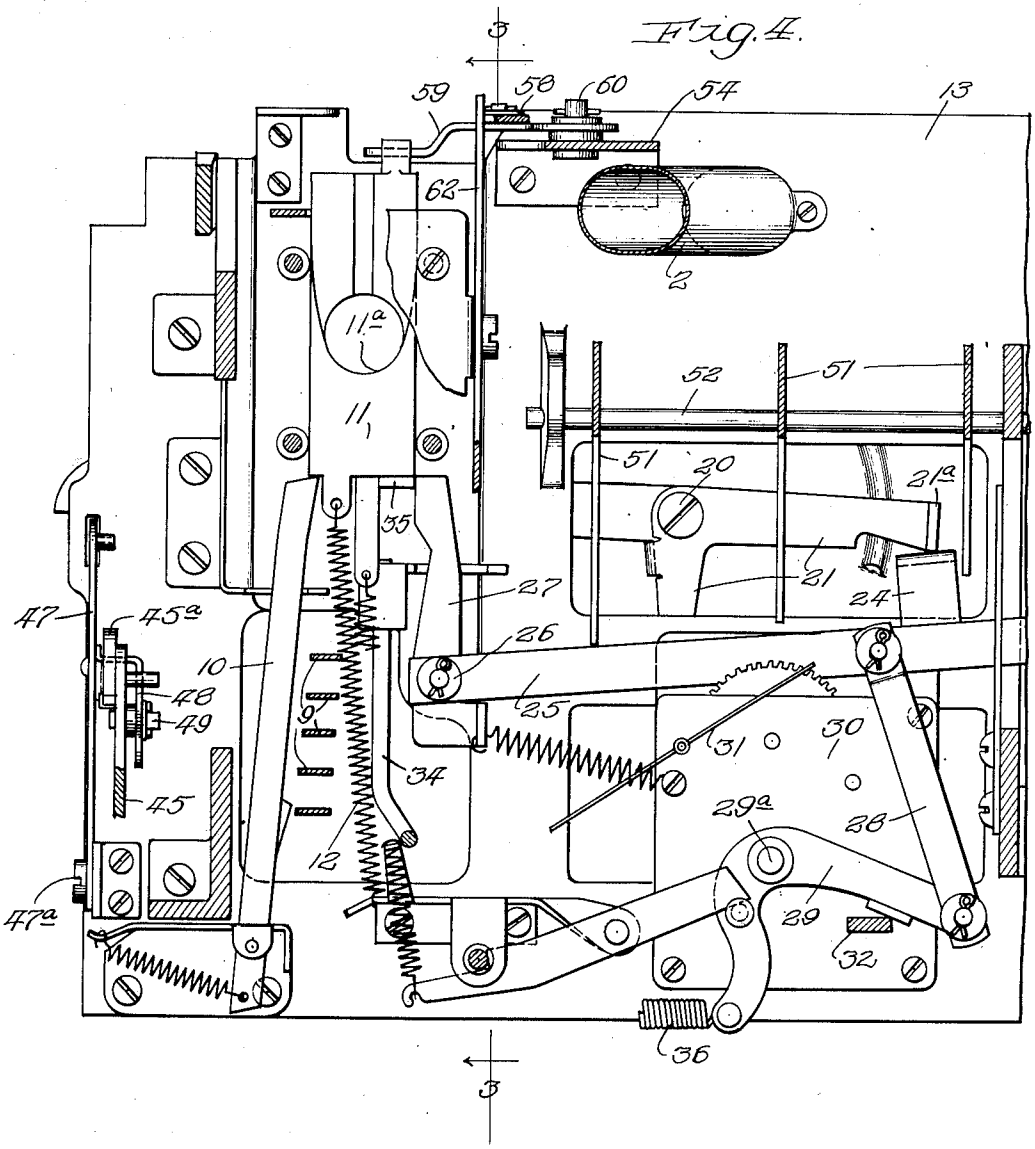
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COIN CONTROLLED MACHINE

Filed Nov. 15, 1924 5 Sheets-Sheet 4

Fig. 4.



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May 25, 1926. 1,586,455

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COIN CONTROLLED MACHINE

Filed Nov. 15, 1924 5 Sheets-Sheet 5

Fig. 5.

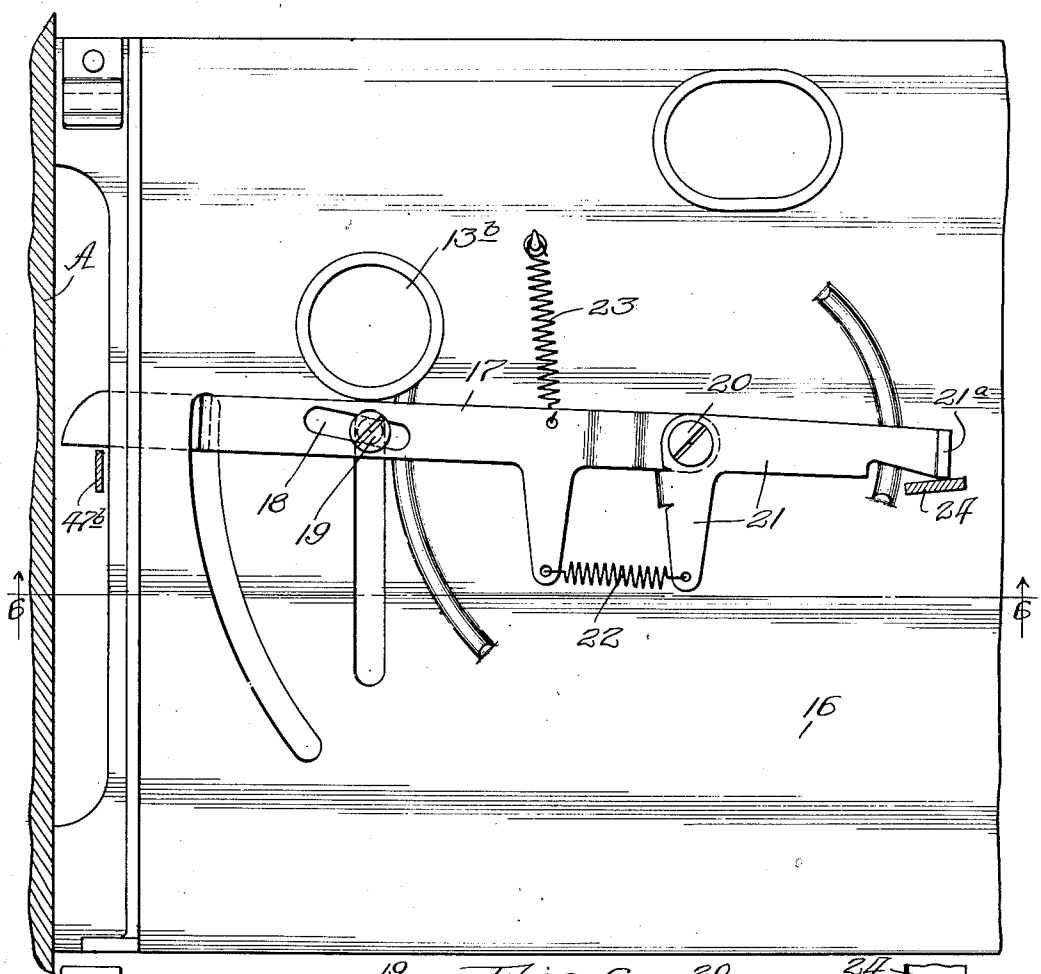
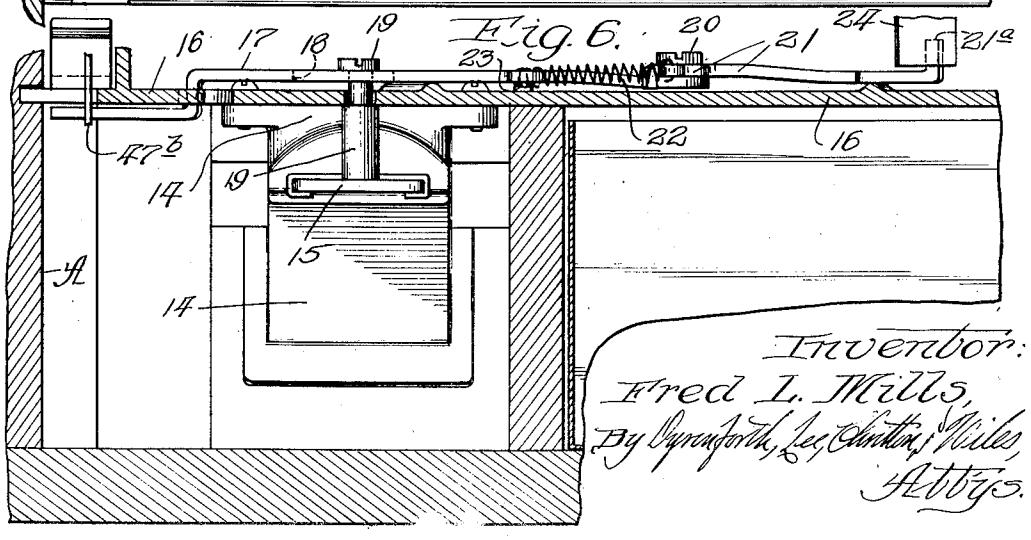


Fig. 6.



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UNITED STATES PATENT OFFICE.

FRED L. MILLS, OF OAK PARK, ILLINOIS, ASSIGNOR TO MILLS NOVELTY COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

COIN-CONTROLLED MACHINE.

Application filed November 15, 1924. Serial No. 750,087.

This invention relates particularly to coin-controlled vending machines, and especially machines of the type having in combination with vending mechanism a plurality of legend-displaying wheels which are adapted to be driven by actuating the machine, and which will, when they come to rest, display a combination of legends, or symbols, as for the purpose of telling fortunes, or for other purposes.

The primary object of the invention is to provide improved vending means in a machine of this type and to advantageously combine said vending means with the coin-controlled mechanism which controls the operation of the legend-displaying wheels and the vending operation.

A machine of this character may be equipped with a premium-coupon magazine containing a column of annular checks, or coupons, which may be dispensed by the machine according to any predetermined plan for supplying premium-coupons to customers. When such checks, or premium-coupons are delivered to the customer, it is desirable to prevent the use of such checks for operating the regular vending mechanism of the machine, or for operating the payout slides which serve to deliver the premium-coupons. The primary object of the present invention is to provide suitable means for preventing the use of premium-coupons, or checks, for actuating the machine.

The present invention constitutes an improvement upon the machine described in my pending application No. 738,831, filed in the United States Patent Office, September 20, 1924. The invention is illustrated in its preferred embodiment in the accompanying drawings, in which—

Fig. 1 is a front elevational view of the main mechanism of a machine of the type referred to; Fig. 2, a broken side elevational view of the same; Fig. 3, a broken vertical sectional view taken as indicated at line 3—3 of Fig. 4; Fig. 4, a plan sectional view taken approximately as indicated at line 4—4 of Fig. 2; Fig. 5, a plan sectional view taken as indicated at line 5—5 of Fig. 2; and Fig. 6, a broken sectional view taken as indicated at line 6—6 of Fig. 5.

The improved machine comprises a main casing A which is equipped at its front portion with a series of vertical compartments A′ for merchandise, such as rolls of mints, or the like, and below said compartments with a tray, or trough, A^2 which is adapted to receive articles of merchandise and checks, or merchandise-coupons; the main mechanism B mounted within the casing and comprising the legend-displaying reels and the coin-controlled mechanism; and a rotary ejector C disposed beneath the receptacles A′ and having a shaft which projects through one side of the casing and is equipped with a knob (not shown) by means of which the shaft may be rotated when released by the operation of the coin-controlled mechanism.

The mechanism B is provided with a coin-chute 1, through which coins may be passed to a tube 2 which may lead to a cash box (not shown). The mechanism is further equipped with a premium-coupon magazine 3, which may be charged with coupons, in any suitable manner. In the illustration given, the coupons may be fed into the magazine through the coin-chute 1 without actuating the main mechanism, as will be explained presently.

For the purpose of the present application, it will be unnecessary to explain the machine in its entirety, and the accompanying drawings illustrate only sufficient portions of the mechanism to enable the present invention to be understood.

The mechanism B is equipped with a main transverse rock shaft 4 which has secured near one end thereof an actuating arm 4^a, and adjacent thereto a second arm 4^b. The main actuating arm 5 of the mechanism is journalled on a pivot 5^a. The arm 5 is adapted to be actuated by a lever mounted on the casing of the machine, this lever not appearing in the drawings, however. The arm 5 can only be actuated to turn the rock shaft 4 when a coin is employed to release a suitable locking device (not shown).

The mechanism B is equipped with a series of legend-displaying reels 6, 7 and 8 wihch are provided with telescoping tubular shafts equipped, respectively, with ratchet disks 6^a, 7^a and 8^a, in a known manner. Co-acting with the ratchet wheels is a series of levers 9 which control, in a known manner, a series of locking levers 10.

The slide locking levers 10 control the retraction of the pay-out slides 11, in a known

manner, it being understood that the pay-out slides are drawn rearwardly by springs 12 when the locking levers are released from engagement with the slides.

As shown in Fig. 3, the slides 11 are provided with perforations 11^a which normally register with the lower end of the coupon-magazine 3, so that the openings 11^a will contain coupons. The base portion 13 of the frame of the mechanism is provided with a discharge passage 13^a, into registration with which the perforations 11^a may come when the slides are retracted by springs 12. The passage 13^a registers with the rear upper end of an inclined discharge chute 14 which leads beneath the ejecting device C to the tray A^2.

The discharge chute 14 is normally closed by a slide, or cut-off device, 15. This device will be retracted to permit discharge of any coupons which may be supported above it when a coin is employed for operating the mechanism. If, however, an annular check, or coupon, is employed, the slide 15 will not be retracted, and no premium-coupons will be delivered.

The casing A of the machine has fitted therein some distance above its bottom a horizontal plate 16, upon which is mounted, as shown in Figs. 5 and 6, a lever 17 which is provided with a slot 18 engaged by a stud 19 which extends upwardly from the cut-off device 15, as shown in Fig. 3. The lever 17 is connected with the plate 16 by means of a pivot 20. On the same shaft is supported a bell-crank lever 21 which may turn independently of the lever 17, and which may serve to actuate the lever 17 through the medium of a spring 22. The lever 17 is returned to its normal position by a spring 23 when the bell-crank lever 21 is permitted to return to the position shown in Fig. 5. The plate 16 is provided with a perforation 13^b which registers with the passage 13^a and with the upper rear end of the discharge chute 14.

The bell-crank lever 21 has its long arm provided with an upturned extremity 21^a which is adapted to be engaged by a member 24 carried by a lever 25 which is mounted at the upper side of the bottom plate 13 of the frame of the mechanism B. The lever 25 is connected with a pivot 26 which pivot also supports a bell-crank lever 27 (Fig. 4) which serves to engage the pay-out slides in their forward position. This lever 27 serves to advance the slides 11 slightly beyond the position shown in Fig. 4, thus relieving the pressure on the front ends of the locking levers 10, so that the throw out levers 9 (when permitted to act by the disks 6^a, 7^a and 8^a) may easily disengage the locking levers from the slides. Just before the end of the cycle of operations, the lever 27 is withdrawn from engagement with the slides. The lever 25 is connected by a link 28 with a lever 29 which is rigidly fixed to a shaft 29^a of a gear-train 30, which gear-train serves to actuate a regulating vane 31, in a well known manner.

The lever 29 is adapted to be actuated by an arm 32 carried by the rock shaft 4, in a known manner.

The rock shaft 4 has connected therewith a bell-crank lever 32, one arm of which has connected with it a device 33 for actuating the reels in a known manner. The bell-crank 32 has a short arm 32^a with which is connected a device 34 which serves to move the pay-out slides forward to their normal position, the front end of the member 34 being adapted to engage an upstanding arm 35 with which the lower pay-out slide is equipped and which is adapted to abut against the rear ends of the superposed pay-out slides. A spring 36 serves to return the lever 29 to the position shown in Fig. 4, this being the normal position of rest. In this position the bell-crank lever 27 is disengaged from the pay-out slides, and the pay-out slides are free to be drawn rearwardly by their springs 12, when permitted by the locking levers 10.

The arm 5 which is actuated by the operating lever carried by the sidewall of the casing has an extension 5^b upon which is mounted a pawl 37 which is adapted to engage the arm 4^a of the rock shaft 4 and thus turn the rock shaft in the direction indicated by the arrow in Fig. 2, when the machine is actuated. As shown in Fig. 1, the lever 38 is employed to force the coins downwardly through the coin-chute and effect release of the locking device (not shown) which normally locks the mechanism, the member 38 being actuated from the arm 5 in a well known manner.

Mounted on the frame of the mechanism B is a lever 39 which is supported on a pivot 39^a. The upper end of this lever is equipped with a pivotally mounted rod 40 which is adapted to extend through a perforation 41 in the coin-chute 1, as shown in Fig. 2. A spring 42 tends to move the upper end of the lever 39 forwardly. When a coin is in front of the plunger 40, the lever 39 cannot be moved by the spring 42. If, however, an annular check, or coupon, 43 is employed in an effort to actuate the machine, the plunger 40 will pass through the perforation in the coupon and permit the lever 39 to swing on its pivot. The lever 39 carries a depending projection 39^b which is adapted to prevent the actuation of the cut-off slide 15 in a manner which will now be explained. The lever 39 is equipped, also, with a cam 39^c normally engaged by the arm 4^b, as shown in Fig. 2. This serves to hold the lever 39 in the position shown. In the operation of the machine the arm 4^b rises to a position above the cam 39^c, thus allowing the

lever 39 to be actuated by the spring 42 in the event that a coin does not obstruct the path of the plunger 40. A suitable escapement device (not shown) ordinarily is employed to regulate the passage of coins through the coin-chute 1. The coin, or coupon, in front of the plunger 40 is forced downwardly by a fresh coin in the next operation of the machine.

The arm 4^b is rigidly secured to the end of the rock shaft 4, as by means of a screw, or bolt, 4^c. The arm 4^b carries a pivot 44 upon which is supported an arm 45 which is connected by a spring 46 with the arm 4^b. The arm 45 carries a pawl 45^a which forms a part of the means for effecting release of the ejecting device C. Such means forms no part of the present invention, however.

Pivotally connected with the frame of the mechanism B is a lever 47 which is supported on a pivot 47^a and has a downturned front end 47^b which normally is disposed back of the adjacent end of the lever 17, as will be understood from Figs. 2 and 5. The lever 17 cannot be actuated to withdraw the cut-off slide 15 unless the lever 47 is raised to permit this action. The lever 47 has connected therewith a link 48 which is provided with a slot 48^a which engages a stud 49 with which the arm 45 is equipped.

When the rock shaft 4 is turned in the direction indicated by the arrow in Fig. 2 in the actuation of the machine, the arm 4^b serves, through the medium of the spring 46, to raise the arm 45 and eventually the stud 49 will engage the upper end of the slot 48^a and, through the medium of the link 48, will lift the stop lever 47 out of the path of the lever 17 which actuates the cut-off slide 15. However, if, in the actuation of the machine, the plunger 40 is permitted to move forwardly, as by the plunger passing through an annular check in the coin-chute, then the extension 39^b carried by the lever 39 gets in the path of a laterally projecting stud 50 carried by the arm 45, as will be understood from Figs. 1 and 2. When this occurs, the spring 46 will yield during the continuation of the action, and the link 48 will not be lifted; hence, the depending projection 47^b will remain in the path of the lever 17 and prevent the actuation of the cut-off slide, or closer 15.

The reels are shown equipped with star wheels 6^b, 7^b and 8^b which are adapted to be engaged by locking pawls 51 mounted on a rock shaft 52. This device is of well known construction.

Associated with the pay-out slides 11 is an indicator 53 which serves to indicate in advance the number of premium-coupons which will be delivered to the purchaser of the commodity vended from the compartments A'. The device 53 comprises a standard 54 upon which is journalled an indicating disk 55 which is equipped with a pinion 55^a. The pinion 55^a is engaged by a segmental rack 56 mounted on a pivot 57 and equipped with an arm 56^a. The arm 56^a is connected by a link 58 with a lever 59 which is journalled on a pivot 60. A spring 61 tends to lift the link 58. The arm 59 projects beneath the pay-out slides 11, as shown in Fig. 1. The lowermost pay-out slide is always actuated when a coupon is to be transferred to the discharge passage 13^a, and one or more such superposed pay-out slides may be actuated with the lowermost slide. As the pay-out slides are moved out of the path of the arm 59, that arm rises and permits the rack 56 to actuate the indicator disk 55. The device is so adjusted that the indicator will show how many coupons, or checks, will be delivered to the customer at the next actuation of the machine. At each actuation of the machine, a lever 62 is actuated by a stud 63 on the bell-crank lever 32. That is, the rear end of the lever 62 is elevated and the front end depressed. The front end of the lever 62 strikes the lever 59 and depresses it, thus bringing the lever 59 below the level of the pay-out slides 11, to permit the pay-out slides to be advanced and to then hold the lever 59 against actuation, as shown in Fig. 1.

In operating the machine, a coin is introduced through the coin-chute 1 and is forced downwardly by the lever 38 when the machine is actuated, the coin serving, in a well known manner, to unlock the lever 5 after it has made the initial movement which the mechanism permits. The lever 5 then serves to actuate the rock shaft 4 against the force of a spring 64 (Fig. 1). When the rock shaft is thus actuated, it elevates the pawl device 33, and on the return movement the reels are caused to spin. Also, when the rock shaft is actuated in the direction indicated by the arrow in Fig. 2, the arm 32 carried by the rock shaft actuates the gear-train 30 and also actuates the lever 25. The member 24 carried by the lever 25 actuates the bell-crank lever 21, causing force to be transmitted through the spring 22 to the lever 17. If the stop lever 47 remains in depressed position, the lever 17 is prevented from moving, and thus the coupon-delivering device 15 will not be actuated. When a coin is employed in the operation of the machine, however, the lever 39 will be held by the coin in the position shown in Fig. 2 so that the extension 39^b will not engage the stud 50 on the lever 45. Therefore, the lever 45 will be raised far enough to lift the stop lever 47 through the medium of the link 48. This will permit the lever 17 to be actuated so that any coupons supported on the cut-off slide 15 will be discharged through the chute 14 and de-

livered to the customer. If an annular check be employed in an attempt to operate the machine, as illustrated in Fig. 2, the plunger 40 will meet no obstruction, and the spring 42 will throw the upper end of the lever 39 forwardly, and thus the extension 39b will be placed in the path of the stud 50 on the lever 45, and therefore the stop lever 47 will not be actuated to release the lever 17 which serves to retract the shutter, or cut-off device, 15 which controls the discharge of premium-coupons through the chute 14.

From the foregoing, it will be understood that the stop lever 47, associated with the spring connected levers 17 and 21 which control the withdrawal of the slide 15 will serve to prevent the discharge of premium-coupons through the chute 14 whenever the plunger 40 is permitted to move forwardly in the actuation of the machine.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, but the appended claims should be construed as broadly as permissible, in view of the prior art.

What I regard as new, and desire to secure by Letters Patent, is:

1. In a machine of the character set forth, the combination with a rock shaft, coin-controlled mechanism for actuating said rock shaft, a coupon-magazine, and pay-out mechanism for delivering coupons from said magazine, of a device guarding the discharge from said pay-out mechanism, a lever actuated by said rock shaft, a second lever serving to actuate said device, a spring connecting said levers, a stop lever controlling the movement of said second-mentioned lever, means for actuating said stop lever, and coin-controlled means controlling the actuation of said stop lever.

2. In a machine of the character set forth, the combination with, a coupon-magazine, pay-out mechanism associated with said magazine, a coupon-discharging device associated with said pay-out mechanism, and coin-controlled mechanism controlling the actuation of the pay-out mechanism, of a lever actuated by said coin-controlled mechanism, a second lever serving to actuate said coupon-discharge device, spring connections between said levers, and a stop lever controlling the movement of said second-mentioned lever and actuated by said coin-controlled mechanism.

3. In a machine of the character set forth, the combination with a coupon-magazine, pay-out mechanism associated with said magazine, a coupon-discharging device associated with said pay-out mechanism, and coin-controlled mechanism controlling the actuation of the pay-out mechanism, of a lever actuated by said coin-controlled mechanism, a second lever serving to actuate said coupon-discharge device, spring connections between said levers, a stop lever controlling the movement of said second-mentioned lever and actuated by said coin-controlled mechanism, and a coin-controlled lever controlling the actuation of said stop lever.

4. In a machine of the character set forth, the combination with a discharge-chute, of a cut-off slide controlling the discharge through said chute, a lever adapted to actuate said slide, a lever having spring connection with said first-named lever, a stop device controlling the movement of said first-named lever, coin-controlled mechanism adapted to actuate said second-mentioned lever and said stop device, and a coin-controlled lever controlling the actuation of said stop device.

5. In a machine of the character set forth, the combination with a rock shaft, coin-controlled mechanism serving to actuate said rock shaft, a coupon-magazine, pay-out mechanism associated with said magazine and controlled by said rock shaft, of a coupon-discharge device associated with said pay-out mechanism, a member adapted to actuate said coupon-discharge device, a stop device controlling the movement of said member, yielding means connected with said rock shaft and serving to actuate said stop device, a coin-controlled lever controlling the actuation of said last-named means, and a lever actuated by said rock shaft and having yielding connection with the member which actuates the coupon-discharge device.

6. In means of the character set forth, the combination of a discharge-chute, a cut-off slide associated therewith, a compound lever having spring connection between its members and adapted to actuate said cut-off slide, coin-controlled mechanism adapted to actuate said compound lever, a stop device controlling the movement of the member of said compound lever which directly actuates the cut-off slide, and a coin-controlled lever controlling the movement of said stop device.

7. In a machine of the character set forth, the combination with a coupon-magazine, a series of pay-out slides associated therewith, coin-controlled mechanism controlling the actuation of said pay-out slides, and a discharge-chute associated with said pay-out slides, of a cut-off slide associated with said discharge-chute, a compound lever actuated by said coin-controlled mechanism and adapted to actuate said cut-off slide, and a coin-controlled stop device controlling the movement of the member of said compound lever which directly actuates the cut-off slide.

8. In a machine of the character set forth, the combination of a casing, commodity compartments at the front portion of the casing,

an ejecting device beneath said compartments, a tray beneath said ejecting device, a coupon-magazine disposed back of said compartments, pay-out slides disposed beneath said magazine, a discharge-chute associated with said pay-out slides and extending beneath said ejecting device to said tray, a cut-off slide associated with said discharge-chute, a pair of spring connected levers, one of which is directly connected with said cut-off slide, coin-controlled mechanism serving to actuate the other lever, a stop device controlling the movement of the lever which is connected with the cut-off slide, and coin-controlled mechanism controlling the actuation of said levers and said stop device.

9. In a machine of the character set forth, the combination of a coupon-magazine, pay-out slides associated with said coupon-magazine, a discharge-chute associated with the pay-out slides and leading to the lower front portion of the machine, coin-controlled mechanism including a rock shaft controlling the actuation of said pay-out slides, a lever actuated by said rock shaft at each actuation thereof, a second lever having spring connection with said first-named lever, a cut-off slide actuated by said second-mentioned lever, a stop lever controlling the movement of said second-mentioned lever, an actuating device for said stop lever, including a spring connected with an arm on said rock shaft, and a coin-controlled lever controlling the actuation of said stop lever.

10. In a machine of the character set forth, the combination of a coupon-magazine, coupon-delivering means, a coupon-transferring device for transferring coupons from said magazine to said coupon-delivering means, coin-controlled mechanism for actuating said coupon-transferring device and said coupon-delivering means, a coin-chute associated with said coin-controlled mechanism, and means associated with said coin-chute for preventing the actuation of said coupon-delivering mechanism when an annular coupon from the machine is fed into said coin-chute and permitting such actuation when a coin is fed into said coin-chute.

11. In a machine of the character set forth, the combination of a coupon-magazine, pay-out mechanism associated with said magazine, a coupon-discharging device associated with said pay-out mechanism, a device for actuating said coupon-discharging device, coin-controlled mechanism controlling the actuation of said last-named device and said pay-out mechanism, a coin-chute associated with said coin-controlled mechanism, and a device associated with said coin-chute and controlling the actuation of said coupon-discharging device and operative to prevent actuation thereof when it is sought to actuate the machine through the medium of a coupon from said machine fed into said coin-chute.

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