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Patented Apr. 17, 1900.

F. A. LANGWITH.
COIN CONTROLLED APPARATUS.

(Application filed Oct. 19, 1899.)

(No Model.)

Fig. 1.

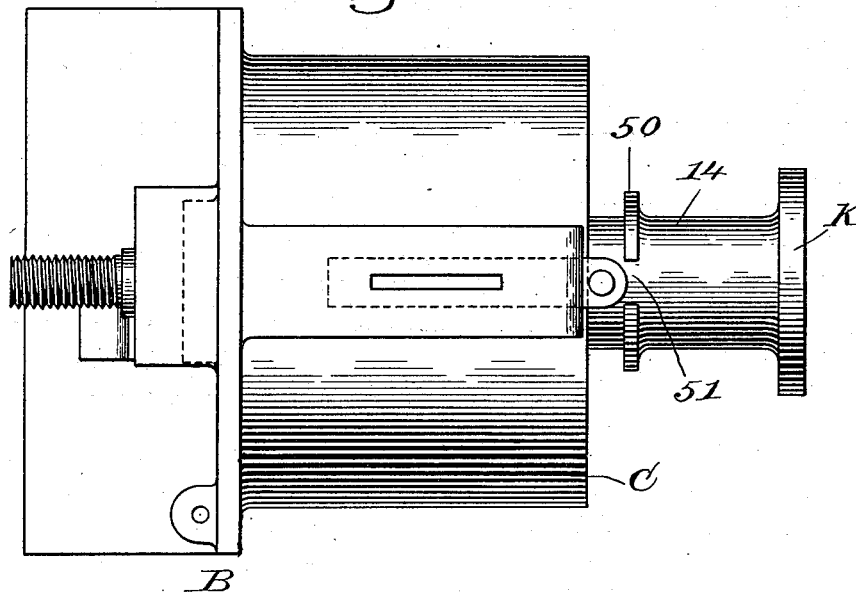
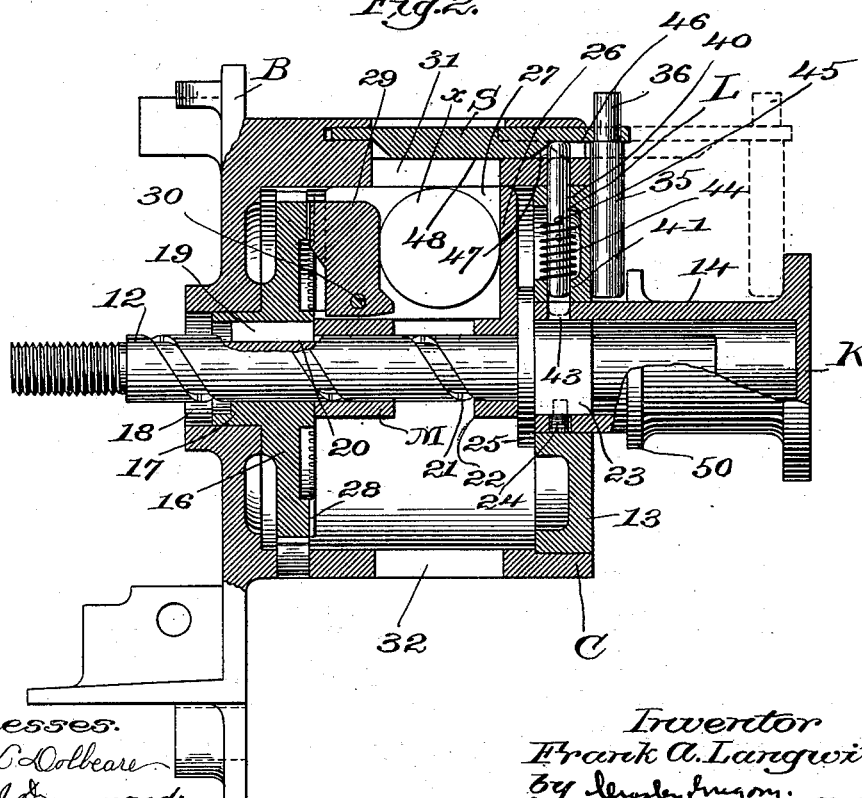


Fig. 2.



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UNITED STATES PATENT OFFICE.

FRANK A. LANGWITH, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE NEW HAVEN NOVELTY MACHINE COMPANY, OF NEW HAVEN, CONNECTICUT.

COIN-CONTROLLED APPARATUS.

SPECIFICATION forming part of Letters Patent No. 647,849, dated April 17, 1900.

Application filed October 19, 1899. Serial No. 734,044. (No model.)

To all whom it may concern:

Be it known that I, FRANK A. LANGWITH, a citizen of the United States, residing at Newark, county of Essex, State of New Jersey, have invented an Improvement in Coin-Controlled Apparatus, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention relates to a coin-controlled device; and the object of the invention is to provide an improved article of this character; and it involves, broadly, as one of its essential features an actuator and a member adapted to be operated thereby, a casing having a coin-receiving slot, a shutter governing the introduction of a coin through said slot, and a locker for said actuator controlled by the shutter, and these several parts may be of any suitable kind and employed with any type of coin-controlled apparatus, though they are represented in combination with a gas-prepayment attachment for meters of the kind illustrated in Letters Patent No. 637,730, granted to Charles Luke on October 24, 1899.

In the present case the actuator consists of a knob adapted to operate a shaft from which the gas-supply mechanism is controlled, and the shutter is in the nature of a slide movable across the coin-receiving opening and adapted to throw a locking-bolt into engaging relation with the knob, so that said knob, and consequently the shaft, cannot be rotated or turned when the bolt is set.

In the drawings, Figure 1 is a plan view of a coin-controlled apparatus constructed in accordance with my invention and showing the same in a simple embodiment thereof, and Fig. 2 is a vertical central sectional elevation of the same.

The improvements to be hereinafter described are not limited to their application to any sort of a dispensing apparatus; but for the purpose of illustrating their peculiar functions I have represented them as applied to a prepayment attachment for gas-meters wherein a coin of a certain denomination is inserted to secure the supply of a proportionate amount of gas.

I will now proceed to briefly describe the

parts of the prepayment attachment illustrated and will afterward set forth the construction and peculiar advantages of my improved mechanism.

A prepayment attachment for meters involves in its organization a valve, which is not shown; but I have illustrated a portion of the controlling or operating mechanism for opening said valve, and the same involves in its organization a spirally-grooved shaft 12, extending substantially centrally through the casing C. The face-plate of said casing is denoted by 13, and it has a central opening to receive for turning movement the substantially-cylindrical portion 14 of the knob K. The casing C, which is of cylindrical form, extends perpendicularly from the boxing or housing B, in which certain of the operating mechanism (not shown) is inclosed. The left-hand end of the worm-shaft passes through the coupling-wheel 16, the hub 17 of which is journaled in the opening 18 in the boxing or housing B. Said coupling-wheel is provided with a key 19, adapted to enter the groove 20, extending longitudinally along the worm-shaft, so that by advancing the wheel the shaft 12 will be rotated, and through the medium of a fixed pin (not shown) adapted to fit within the spiral groove 21 the shaft will be moved to the left, whereby through the agency of intermediate mechanism (not shown) a valve or other device can be operated.

A money-carrier is shown at M, and it has a cylindrical body portion 22 loose upon the worm-shaft, said body portion being provided with a hub or boss 23, fitted within the inner end of the cylindrical portion 14 of the turning knob K, constituting an actuator.

The money-carrier M and the knob are adapted to turn in unison, and they are conveniently secured together by means of the set-screw 24. The money-carrier is provided with a flange 25, adapted to fit against the inside face of the front plate or disk 13, which is tightly fitted within the front end of the casing. It will be understood, therefore, that the knob serves to operate or advance the coin-carrier, and said coin-carrier will be connected intermittently through the intervention of a coin with the coupling-wheel 16, whereby upon rotating the knob K the wheel

16 will be rotated to effect the rotation of the worm-shaft 12 and the consequent advance of the latter through the medium of the fixed pin previously referred to, but not illustrated.

5 The money-carrier M has the radial projection 26, grooved, as at 27, to receive a coin of proper denomination, as *x*, the coin represented being a quarter and serving when introduced into the groove 27 to actuate a pawl or like device to engage the teeth 28 upon the adjacent face of the coupling-wheel 16. The pawl may be of any kind. That represented is denoted by 29, and it is of a gravity type, it being pivoted, as at 30, below and to the left of its center of gravity, so that it will normally fall away from engagement with the cooperating teeth upon the coupling-wheel.

The pawl 30 is disposed in the path of a coin and is adapted to be operated thereby to cause its working portion to enter the space between two adjacent ratchet-teeth 28. When the pawl thus engages the teeth, the turning of the knob, as previously stated, will result in the rotation of the worm-shaft 12.

25 In practice the apparatus will be provided with means for preventing back motion of the money-carrier and of the wheel 16.

The casing C has upon its upper side a coin-receiving slot 31, through which a coin can be passed to be entered in the groove 27 in the money-carrier M, so as to force the pawl into engagement with the cooperating ratchet-teeth. When this is done, the parts will be rotated until the coin can be discharged through the slot 32, located in the casing C at a point substantially diametrically opposite to the coin-receiving slot.

The apparatus represented is provided with means for stopping the money-carrier in position to receive the coin and also to discharge the same; but as these features form no part of the present invention I have deemed it unnecessary to illustrate the same.

The admission of the coin to the money-carrier through the slot 31 is governed by a shutter, and this may be of any suitable character. That represented consists of a slide S, movable across the slot to either open or close the same. The slide is supported in suitable guideways upon the fixed casing C and is provided at a point beyond the casing with the stud 35, passing through the same, the upper portion 36 of the stud serving as a convenient finger-piece by which the slide can be moved back and forth as required. The lower portion of the stud cooperates with a stop device, hereinafter more particularly described, cooperative with the knob K. When the shutter or slide is drawn back, it is essential that the knob should be prevented from movement, and I have illustrated for this purpose a locker controlled by said slide, and the locker may be of any suitable type, though for quick action I prefer to employ a spring-controlled bolt. The locker represented is denoted by L, and it is movable in a plane transverse to the axis of the shaft 12.

This spring-controlled bolt is shown as passing through openings in the inturned flanges 40 and 41 upon the front plate or disk 13, and it is adapted to be thrust into the opening 43 in the inner end of the cylindrical portion of the knob, as shown by dotted lines in Fig. 2. When the bolt is in engagement with the knob, the latter of course cannot be turned while the slide is open. The opening of the slide shoots the bolt into the opening 43, and the spring controlling said bolt returns the same to its ineffective position when the slide is fully closed. The retracting-spring for the bolt is denoted by 44, and it is of the coiled type, it bearing at its lower end against the inturned flange 41 and at its upper end being connected to the small pin or projection 45 upon the bolt, the normal tendency of the spring being to hold the bolt out of the opening 43 and with its upper end in contact with the straight under face 46 of the slide. The slide at a point back of the straight face 46 is provided with a diagonal face 47, extending downward therefrom and merging into the straight face 48 in parallelism with the straight face 46. As the slide is drawn out to the dotted-line position the beveled or oblique cam-face 47 by engaging the upper end of the bolt L will force the same downward and into the opening 43, and it will be evident that by reason of the pitch of the face in question a very slight movement of the slide will be necessary to effect the operation in question. After the oblique or beveled cam-face has passed off the upper end or head of the bolt the straight face 48 will ride in contact therewith and being in a lower plane than the face 46 will hold said bolt in its working or set position while the slide is out. When the slide is pushed back after the insertion of a coin and when the lower end of the beveled cam-face is opposite the upper end of the bolt, the coiled spring 44, as the slide moves along after this point, will force the bolt upward or to its initial position, thereby to effect the release of the knob, so that it may be freely turned, and a coin of the proper denomination being in the coin or money carrier M the money-carrier will be coupled to the shaft through the wheel 16, so that said shaft can be rotated.

The knob K, which is held against longitudinal or endwise movement, is provided in proximity to the plate 13 with the annular flange 50, the distance between the inner face of the flange and the outer face of the plate slightly exceeding the diameter of the lower portion of the stud 35, and said flange cooperates with said stud in preventing the withdrawal of the slide the instant the knob is turned. The peripheral flange 50 has upon what might be termed its "upper" side the opening 51, the width of which is slightly more than the diameter of the lower end of the stud or projection 35. This opening when the coin-carrier is in its coin-receiving position is adapted to aline with the lower part of the

stud, so that the slide S can be drawn back, and as this operation takes place the said stud will pass through the opening 50. This construction permits the free opening of the slide, and, as previously stated, the instant the slide moves the knob is locked from rotation. When, however, the slide is returned to its shut position, and after the stud 35 passes through the opening 51, the knob will be released, so that it can be turned. As soon as the knob turns the stop or flange 50 will be disposed in the path of the stud 35, so that if any attempt is made to draw back the shutter the stud upon an almost-imperceptible movement of the slide will strike the flange, thereby preventing further movement of said slide, so that the coin cannot possibly be removed after it has been introduced. When, however, the knob is returned to its initial position after the discharge of a coin, and with the groove 27 in vertical registration with the coin-receiving slot 31, the opening 51 will again be opposite the stud 35, so that the slide can be freely opened.

The construction hereinbefore specified is simple in operation and quick in action, and a double or interlocking mechanism is provided, so that neither the slide nor the knob can be moved until the other one is in its initial position.

The invention is not limited to the precise details previously set forth nor to their arrangement indicated, for these points may be variously modified within the spirit of the accompanying claims, and likewise, as before stated, it can be used in combination with many other styles of machines than those for dispensing gas.

Having described the invention, what I claim is—

1. In an apparatus of the class specified, an actuator and a member adapted to be operated thereby, a casing having a coin-receiving slot, a shutter governing the introduction of a coin through said slot, and a locker for said actuator mounted for shifting movement relatively to the actuator and the shutter and controlled by the latter.

2. In an apparatus of the class specified, an actuator and a member adapted to be operated thereby, a casing having a coin-receiving slot, a shutter governing the introduction of a coin through said slot, a locker for said actuator mounted for shifting movement relatively to the actuator and the shutter and controlled by the latter, and means operative with the actuator for preventing the movement of the shutter upon the operation of the actuator.

3. In an apparatus of the class specified, an actuator and a member adapted to be operated thereby, a casing having a coin-receiving slot, a shutter governing the introduction of a coin through said slot, and a spring-controlled locker for said actuator controlled by the shutter.

4. In an apparatus of the class specified, an

actuator and a member adapted to be operated thereby, a casing having a coin-receiving slot, a shutter governing the introduction of a coin through said slot, a locker for said actuator in position to be thrown into engagement with the actuator by the shutter on the opening of the latter, and a device acting against the locker and serving to hold the same in its ineffective or retractive position when the shutter is closed.

5. In an apparatus of the class specified, an actuator and a member adapted to be operated thereby, and a casing having a coin-receiving slot, a shutter governing the introduction of a coin through said slot, a locker for said actuator controlled by the shutter, a projection upon the shutter, and a circumferential flange upon the actuator having an opening to receive the said projection when the slide is open, and being disposed, when the actuator is moving, in the path of said projection.

6. In an apparatus of the class specified, an actuator and a member adapted to be operated thereby, a casing having a coin-receiving slot, a shutter governing the introduction of a coin through said slot, a bolt in position to be operated by the shutter to engage and lock the actuator, a pin upon the bolt, and a coiled spring surrounding said bolt and adapted to bear respectively against said casing and said pin.

7. In an apparatus of the class specified, an actuator, a shutter, a locker shiftable relatively to each of said parts and movable by one of them into position to block the action of the other, a casing supporting said parts and having a coin-slot governed by said shutter and a member within the casing adapted to be controlled by said actuator.

8. In an apparatus of the class specified, an actuator and a member adapted to be operated thereby, a casing having a coin-receiving slot, a locker for said actuator, and a shutter governing the introduction of a coin through said slot, and provided with a cam-face adapted to engage and advance said locker.

9. In an apparatus of the class specified, an actuator and a member adapted to be operated thereby, a casing having a coin-receiving slot, a locker for said actuator, and a shutter governing the introduction of a coin through said slot, and provided with a cam-face adapted to engage and advance said locker, and said shutter also having a straight face back of said cam-face adapted to engage the locker to hold the same set.

10. In an apparatus of the class specified, an actuator, a shaft, coin-operated mechanism constructed to connect the shaft and the actuator, a casing inclosing the shaft and having a coin-receiving slot, a shutter governing the introduction of a coin through said slot, and a spring-retracted bolt movable in a direction transverse to the axis of said shaft and in position to be thrown into en-

gagement with the actuator on the opening of the shutter.

11. In an apparatus of the class specified, a casing having a coin-slot, a knob supported for rotation by the casing and having an opening, a bolt also supported by the casing and adapted to enter the opening in the knob when set, a shutter controlling the admission of a coin through said slot and provided with means for throwing the bolt into said opening, and a member inclosed by the casing and adapted to be operated by said knob.

12. In an apparatus of the class specified, a rotary actuator, and a member adapted to be operated thereby, a casing having a coin-receiving slot, a shutter carried by the cas-

ing and slidable forward and backward to close and open said slot, and provided with a cam-face, a spring-retracted bolt in position to be advanced by said cam-face into engagement with said actuator, and means upon the actuator for preventing the opening of the shutter upon the initial movement of said actuator.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK A. LANGWITH.

Witnesses:

HENRY G. THOMPSON,
GEORGE E. HAIGHT.