M. L. WILLIAMS.

COIN CONTROLLED MECHANISM.

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1,410,635.

Patented Mar. 28, 1922.

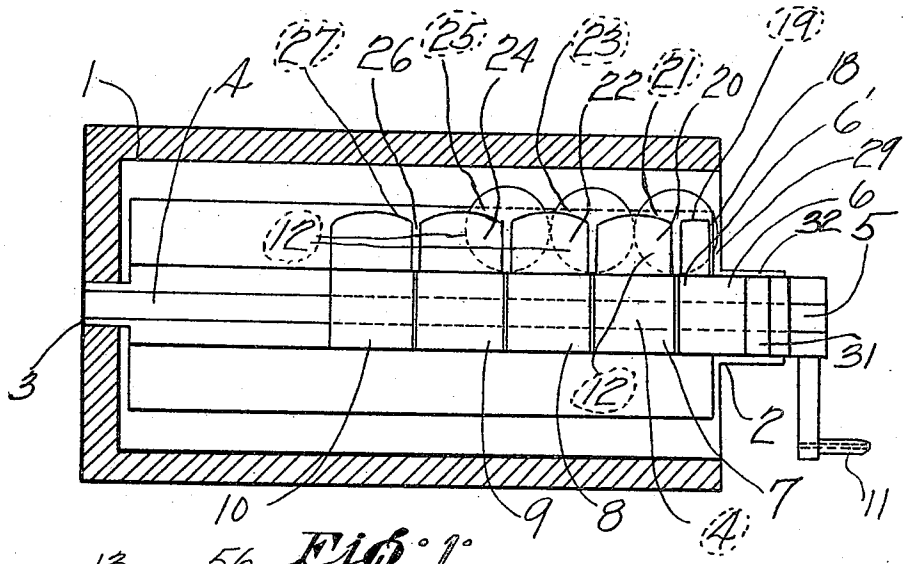


Fig. 1.

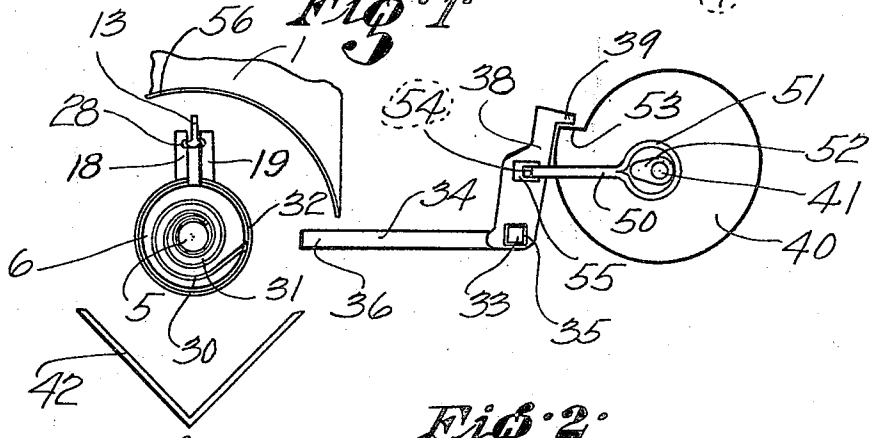


Fig. 2.

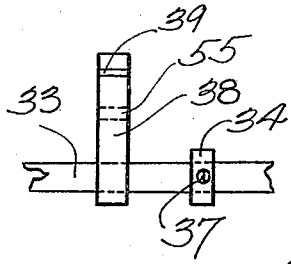


Fig. 3.

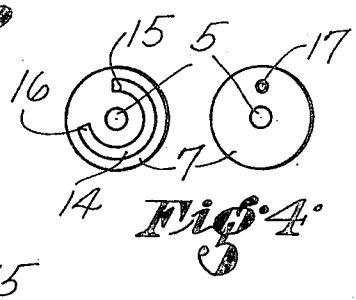


Fig. 4.

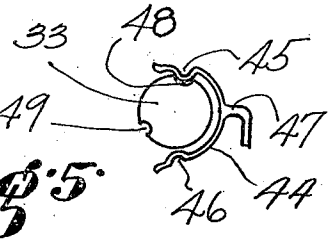


Fig. 5.

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COIN-CONTROLLED MECHANISM.

1,410,635. Specification of Letters Patent. Patented Mar. 28, 1922.

Application filed January 10, 1921. Serial No. 436,308.

To all whom it may concern:

Be it known that I, MASON L. WILLIAMS, a citizen of the United States, residing in the city of Weleetka and State of Oklahoma, have invented new and useful Improvements in Coin-Controlled Mechanisms, of which the following is a specification, reference being had to the accompanying drawing.

This invention pertains to coin controlled mechanisms, and the object is to provide a relatively simple mechanism for this purpose, and which will be at the same time efficient for the purpose intended.

Another object is to provide such mechanism in a form which may be readily set or adjusted to be operable by the insertion of one, two, three or more coins, as desired.

In the drawings:

Figure 1 is a side elevation of the coin receiving element, the casing being shown in longitudinal section.

Figure 2 is an end view of the coin receiving and trigger elements.

Figure 3 is a side elevation of the trigger elements.

Figure 4 embodies end views of one of the spools, showing the annular recess cut in one end and the pin in the other end.

Figure 5 is a detail, showing the method of frictionally holding the trigger shaft to either of its two positions into which it may be rocked.

The invention consists of a suitable frame or case 1, within which is journaled, between the points 2 and 3 a shaft 4, one end 5 of which projects outside the case 1. A plurality of spools 6, 7, 8, 9, 10 of equal diameter are rotatably mounted in alignment upon the shaft 4. The outer spool 6 is sufficiently long to afford a suitable journal through the case at the point 2, and to the end thereof is rigidly joined the hand lever 11. The inner end 6′ of the spool 6 extends within the case a distance substantially one-half the width of the coins 12 to be used in operating the mechanism. The lengths of the other spools 7, 8, 9, 10 are each substantially equal to the full width of the coins 12. As positioned in the drawings all of the spools except the outer spool 6, carries an annular recess or notch 14 upon its right hand end which extends substantially two-thirds the distance around, so as to leave the shoulders 15 and 16 at each end of the recesses; and each of the spools except the inner spool 10 carries a pin 17 upon its left hand end adapted to play into and slidingly engage the recess of the spool at its left, and to lock against the shoulders 15 and 16 thereof as the spools are rotated back and forth on the shaft 4. Two coin fingers are rigidly mounted upon each spool, and are represented at 18—19, 20—21, 22—23, 24—25, 26—27 respectively. These fingers are slightly less in width than the lengths of the spools so as to allow the spools to rotate freely, while the fingers 18—19 are about half the width of the others, and all are equally spaced apart so as to freely receive the coins 12. These fingers are so aligned relative to the shoulders 15 that when the pins 17 are all turned back anti-clockwise against these shoulders 15, the coin fingers will all stand in perfect alignment so as to permit the coins 12 to be slid straight through to the last set of fingers 26—27. The fingers are shorter than the width of the coins 12 so as to leave the coins protruding beyond the ends of the fingers, and the inner faces of the fingers are notched as shown at 28 so as to engage and hold slidingly in place an adjustable coin stop 13 adapted to slide back and forth along the fingers. A coin slot 29 is cut through the case 1 in alignment with the coin fingers. A coil spring 30 is set within an annular recess 31 formed in the outer end of the spool 6 and engages the bearing 32 outwardly and the said spool 6 inwardly, and thus normally turns and holds all the spools back with the pins 17 against the shoulders 15 and the coin fingers and slot 29 all in alignment, ready for the insertion of the coins 12. A stationary curved guard 56 is mounted over the coin fingers and extended downwardly to the right, as shown in Figure 2.

A trigger shaft 33 is journaled in the case 1 to the right of and parallel to the spool shaft 5. This trigger shaft is square in cross section intermediate of its journals, and a trigger arm 34 is slidingly mounted on this squared shaft through the correspondingly squared hole 35, and the free end 36 thereof is extended over immediately adjacent the row of spools aforesaid, and adapted to be engaged by any of the coins 12 deposited in the coin fingers. Thus as one, two, three or four coins may be deposited and slid along into the aligned coin fingers, the trigger arm 34 may be moved along the shaft 33 until it is immediately opposite the innermost coin and so operable only by that

coin as it is rotated or turned down to the right. The arm 34 may be locked in any position on the shaft 33 by a set screw 37. At any convenient point on the shaft 33 is permanently mounted a lever 38 carrying a pawl 39 adapted to engage the ratchet 53 of the wheel 40 on the shaft 41. At the outer end of the shaft 41 is attached an operating lever (not shown), and this lever, ratchet wheel and shaft control the movements of any attached mechanism or machine. A coin chute 42 is mounted underneath. A ratchet and pawl mechanism (not shown) prevents the shaft 41 being turned backward or anti-clockwise.

A curved, flat spring 44, with studs 45 and 46 at its ends, is mounted at 47 over a rounded part of the shaft 33 carrying the shallow friction cups 48 and 49, the cups being so positioned that as the arm 34 is rocked up or down thus engaging or releasing the pawl 39 the studs will alternately engage the cups and so frictionally hold the arm in either position until it is forcibly rocked to its other position. Any of the coins 12 serve to rock the arm 34 downward by engaging the end 36; but it is rocked upward by means of a rod 50 having its inner end formed into a loop 51 which slidingly engages the cam 52, disposed oppositely to the ratchet 53 while the outer end is formed into a hook 54 which engages the transverse slot 55 in the lever 38. Thus when the trigger arm 34 is depressed the pawl 39 is clear of the ratchet 53 and the wheel 40 may be rotated clockwise one revolution; but this same revolution causes the cam 52 to draw the hook 54 and lever 38 inwardly and so again locks the pawl 39 into the ratchet 53.

In operation the adjustment stop 13 is adjusted upon the coin fingers so that only the predetermined and desired number of coins can be slid into the aligned coin fingers, as may be required to operate the mechanism; and the trigger arm 34 is adjusted to meet the innermost coin of the number inserted. If it is desired that the mechanism be operable through the insertion of only one coin, as a penny, the coin stop 13 is moved outwardly along the coin fingers to a point admitting of the insertion of only one such coin and the trigger arm 34 is adjusted to meet that coin as it is turned down to the right. This first coin would span the first set of coin fingers 18—19 and extend halfway into the second set of fingers 20—21, thus locking all these fingers so they will rotate together. On turning the handle 11 clockwise, the coin is turned down to the right and strikes the trigger arm 34, rocking it back and releasing the ratchet 40 so that the shaft 41 may be rotated by any suitable means, such as a lever. Similarly the mechanism may be adjusted for operation by two, three or more coins, by setting the stop 13 and trigger arm 34 accordingly, it being understood that the trigger arm is operated always by the innermost coin. When the coin fingers are turned down past the trigger arm 34 the coins drop into the chute 42 and the coin fingers are automatically returned to their original aligned position by the action of the spring 30. The arm 34 however is held in its downward position by the stud 45 in the cup 48, until the lever is rotated.

It will be noted that by virtue of the first two coin fingers 18—19 being half the width of the coins 12, while the others are the full width of the coins, as said coins are slid into place between the aligned fingers, said coins will successively overlap the fingers, so that each coin will engage two sets of fingers and lock them for joint rotation as the lever 11 is turned clockwise. The purpose of such arrangement is to force the insertion of the required number of coins to operate the mechanism. As the coins are inserted they interlock the fingers and spools so that they all rotate together and the innermost coin engages the trigger arm. Should less than the required number of coins be inserted, they would not interlock the necessary number of fingers, and would not extend to the trigger arm, and hence turning the lever 11 would merely result in rotating the spools without actuating the mechanism.

This mechanism may be adapted for use upon any machine operable through the deposit of coins; and while I have herein described a certain specific method of constructing and assembling the elements of my invention, it is understood same may be varied in minor details, not departing from the spirit of my invention as defined in the appended claims.

I claim:

1. A coin controlled mechanism comprising a case; a coin slot therein; a shaft journaled in the case in alignment with the coin slot; a plurality of spools journaled on the shaft, same being substantially the width of the coins used, the outer spool having an outwardly extended end, and the spools being so mounted that the coins flatwise will overlap the joints thereof; a handle at the end of the extended spool; coin fingers mounted on each spool in alignment with the coin slot; a coin stop slidingly mounted on the fingers; resilient means for holding the spools in alignment but permitting their being turned in a clockwise direction; and trigger mechanism adapted to engage the coins as same are moved sidewise.

2. A coin controlled mechanism, comprising a case; a coin slot therein; a shaft journaled in the case in alignment with the coin slot; a plurality of spools journaled on the shaft of the width of the coins used, the end spool extending out through the case as a

handle, and inwardly half the width of the coins; aligned coin fingers on the spools; means for stopping the coins at any desired point; resilient means for holding and returning the spools in alignment with the coin slot, though permitting their being turned in a clockwise direction; and adjustable trigger mechanism which may be set to be tripped by the innermost coin in the coin fingers as same is turned sidewise.

3. In a coin controlled mechanism, a shaft; a series of spools journaled thereon; coin fingers on the spools; and co-acting recesses and pins on the adjacent ends of the spools, permitting their rotation in one direction but interlocking them against rotation in the other direction.

4. In a coin controlled mechanism, a shaft; a series of spools rotatably mounted thereon of the width of the coins; a set of spaced coin fingers on each spool; a coin stop slidingly mounted on the coin fingers; coacting recesses and pins on the ends of the spools, permitting their clockwise rotation but limiting their anti-clockwise rotation; and resilient means for returning the spools after their clockwise rotation.

5. In combination with an adjustable trigger mechanism, a coin controlled mechanism to trip the trigger, same comprising a case; a coin slot therein; a shaft in the case aligned below the coin slot; a series of spools on the shaft of the width of the coins, the end spool extending through the case below the coin slot to form a handle and extending inwardly half the width of a coin; a set of spaced coin fingers on each spool; a coin stop slidingly mounted on the fingers; co-acting recesses and pins on the ends of the spools permitting their clockwise rotation but limiting them against anti-clockwise rotation beyond the point of alignment of said fingers and coin slot; and resilient means for returning the spools after their clockwise rotation.

6. In a coin mechanism a shaft; slotted spools journaled thereon for receiving the coins, the spools being so arranged that each coin will engage two spools; means for limiting the number of coins to be inserted; and resilient means for holding the coin slots in alignment.

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Witnesses:
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