

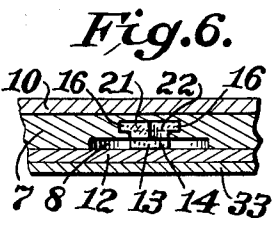
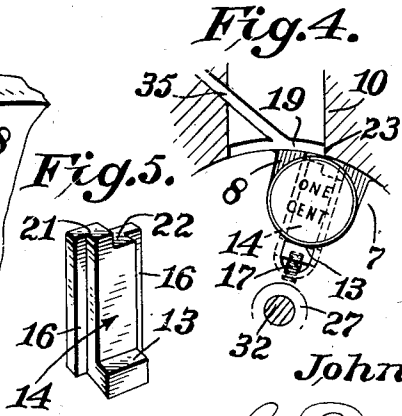
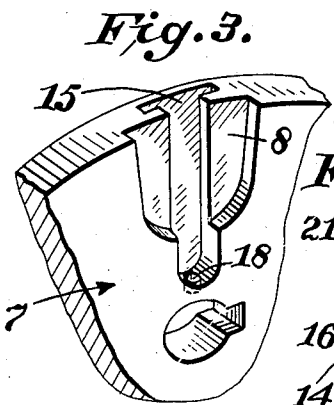
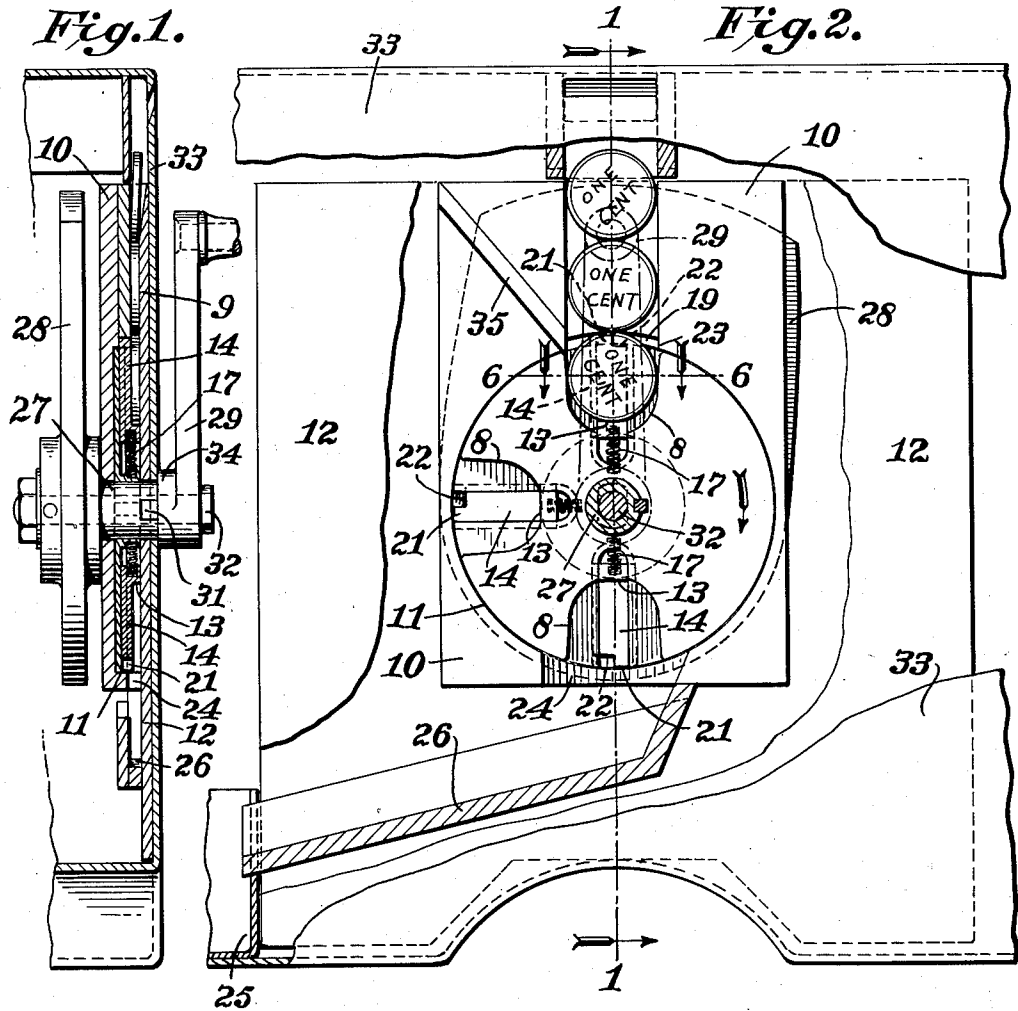
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2,002,123

COIN CONTROLLED MECHANISM

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COIN CONTROLLED MECHANISM

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5 Claims. (Cl. 194—70)

This invention relates to coin controlled mechanisms in which the deposition of one or more prescribed coins is necessary to accomplish manipulation of the mechanism.

5 Such mechanisms have a useful application in conjunction with delivery or vending machines. When used in this connection, the coin controlled mechanism prevents actuation of the machine by locking the operating handle or other member against movement. Upon insertion of the necessary coin, or coins, the mechanism may be released and continued operation may be effected.

10 Generally considered, the present invention contemplates the provision of a detent which is moved to released position through the instrumentality of an interposed coin, the detent being carried by a movable member connected with the operating handle. Movement of the operating handle is utilized to exert a depressing force on the deposited coin and thereby cause motion of the detent.

15 An object of the invention is to provide a coin controlled mechanism comprising few operating parts and one, therefore, which is unlikely to get out of order.

20 A further object is to provide a mechanism of this character which is positive in its operation, both as to preventing unwarranted manipulation or tampering, and as to insuring release upon insertion of the required coin.

25 Other objects will appear from the following description when considered in connection with the accompanying drawing, in which

30 Figure 1 is a side view partly in section on a preferred embodiment of the mechanism on line 1—1 of Fig. 2.

35 Fig. 2 is a front view with the forward plate partly broken away.

40 Fig. 3 is a fragmentary detail of the coin receiving member.

45 Fig. 4 is a detail showing the parts in an advanced position from that shown in Figs. 1 and 2.

50 Fig. 5 is a perspective view of the detent or locking element.

55 Fig. 6 is a view on the line 6—6 of Fig. 2.

The coin receiving member, here shown as a disc 7, has formed within it one or more recesses 8 opening at the periphery of the disc to receive the coins. Coins are conveyed to these recesses through the slot 9 formed in the block 10 within which the disc is rotatably mounted, the coins passing from the slot to the recesses as they come in registration upon rotation of the disc. Each coin receiving recess is as deep as a single coin,

so that one only will enter, and the coins will be distributed into the separate recesses.

The disc 7 is set within a socket 11 formed within the block 10, this socket having substantially the dimensions of the disc so that the face of the disc is nearly flush with the face of the block, and the cylindrical surface of the socket is close to the periphery of the disc. A plate 12 lying against the face of the block retains the disc within the socket and also forms an outer wall for the coin slot and coin recess.

A coin entering one of the recesses comes to rest upon a shoulder 13 projecting into the coin recess from a detent or locking element 14 carried by the disc. The detent is slidably mounted in a guideway 15 behind the recess and opening across the center of the recess. As a result, the shoulder 13, which provides the coin seat, is movable radially of the disc and toward and away from the peripheral opening of the coin recess. As here shown, the guideway is undercut to receive the winged projections 16 of the detent and insure rectilinear motion of the detent. A spring 17 seated in a bore 18 in the disc beneath the detent urges the detent outwardly and into locking engagement with a notch 19 formed in the wall of the socket at the coin slot.

In the particular embodiment of the invention shown, the dimensions of the detent 14 and notch 19 bear a definite relationship to the coins to be inserted. The extremity 21 of the locking portion of the detent is spaced from the coin seat at 13 approximately the diameter of the coin so that this portion of the detent will lie within the outline of a coin seated on the shoulder. To insure this, the upper corner of the detent may be faced off, as shown at 22. This faced off surface provides a larger area for contacting with the wall of the notch, which forms an abutment 23 to prevent movement of the disc. The notch is approximately as wide as a coin, thus permitting a limited range of movement of the disc when the detent is in outer locking position, but effectively preventing further motion.

When a coin is seated upon the shoulder 13, as the disc is rotated, the curved surface of the coin will be brought into contact with the side 23 of the notch. Continued motion of the disc will cause the coin to ride beneath the abutment formed by the side of the notch, the curved surface of the coin acting as a cam to urge the coin deeper into the coin recess. Being seated upon shoulder 13, the detent will likewise be moved radially inwardly and out of the notch. Since the coin extends beyond the outer end 21 of the

detent, the end of the detent will pass entirely clear of the side of the notch and continued motion may be imparted to the disc. The closely confining wall of the socket maintains the detent in its inner position until it has again returned to the notch. The releasing action is repeated with each coin recess into which a coin is deposited.

At a point diametrically across the socket from the notch, a passageway 24 is provided in the block 10 for the discharge of coins from the recesses 8. As each recess passes this point, it falls, under the action of gravity, from the coin recess and through the passageway 24 into receptacle 25. For convenience the receptacle 25 may be placed to one side and a coin chute 26 be utilized to convey the coin thereto. It will be noted that the passageway is only as deep as a coin so that a detent passing at this point is maintained by the wall of the socket in its inner position.

While the disc may be attached to the parts with which it is to be associated, in any desired manner, the present mode of attachment shows the mechanism in conjunction with the delivery mechanism disclosed in my copending application, Serial No. 659,587, filed March 3, 1933. The disc 7 may be keyed to the hub 27 projecting through the block and into the socket from the cam 28. A crank 29 disposed at the opposite side of the disc from cam 28 has a driving connection with the hub as by the interlocking lugs 31. A bolt 32 passing through the crank center, cam hub 27, and cam 28 retains these parts against axial separation.

It is further to be noted that the bolt 32 holds the entire mechanism in assembled relation. The plate 12 may be placed against a side wall 33 of the casing which encloses the mechanism, the crank center passing through an aperture in this side wall. A flanged enlargement 34 at the center of the crank bears against the exterior surface of the side wall, and a face of the cam 28 bears against the rearward surface of the block 10. The block 10, plate 12, and side wall 33 are therefore confined against each other by the securing bolt 32. Removal of this single bolt 32 permits complete disassembly of the mechanism.

In the event that an undersized object as an improper coin is inserted, the detent will not be depressed below the side 23, with the result that the device will remain locked and an article will not be delivered. To enable removal of the improper coin, a passageway 35 is formed in the block 10. This passageway is directed toward the coin recess 8 so that a rod urged forward through the passageway will push against the detent or against an object seated on the shoulder 13, and will depress the detent below the side 23 so that the disc 7 may be rotated. The improper object will drop out through the opening 24, and the device will again be in operating condition. Since the block 10 is inclosed by the casing of which the side wall 33 forms a part, access to the block 10 and the passageway 35, can only be had by an authorized person.

I claim:

1. In a coin controlled mechanism, a supporting frame, a member rotatably mounted in the frame and having a coin receiving recess opening radially and an undercut guideway opening into the recess, said guideway extending radi-

ally of the rotatable member and opening across the center of the coin recess to the periphery of the rotatable member, means for rotating said member, a locking element having reciprocatory motion within the guideway and being retained therein by the undercut formation of the guideway, said locking element having a lug projecting into the coin recess and providing a coin seat on which a coin may rest, said locking element being movable outwardly from the rotatable member into locking engagement with the frame, means for urging said element outwardly relative to the rotatable member and said frame providing a presser surface against which a coin carried on said coin seat may ride as the member is rotated to force the coin and thereby the locking element inwardly to disengage the locking element from the frame.

2. A coin controlled mechanism according to claim 1 in which the portion of the locking element projecting beyond the rotatable member is faced off at a diameter of a coin to be carried on said seat to provide a flat radially disposed striking face.

3. In a coin controlled mechanism, a supporting block having a circular socket in one face thereof, a coin slot extending along said face and opening into said socket, and a notch at the junction of the coin slot and the socket, a rotatable disc positioned in said socket and having its outer face flush with said face of the block, said disc having a coin receiving recess in its outer face for communication with the coin slot and also having a guideway opening into the coin recess, a locking element reciprocally mounted in the guideway and having a lug projecting into the coin recess to provide a coin seat, said element being movable radially outwardly with respect to the disc and into locking engagement with said notch, means for urging said element outwardly with respect to the disc said block providing a presser surface against which a coin carried on said seat may ride as the disc is rotated to force the coin and thereby the locking element inwardly to disengage the locking element from the block, a plate fitting against the outer faces of the block and disc and providing the outer wall of the coin slot, said socket, and said coin recess, and means extending through the plate for rotating said disc.

4. A coin controlled mechanism according to claim 3 in which a bolt extends through the block, disc, and rotating means to retain the parts in assembled relationship.

5. In a coin controlled mechanism, a supporting block providing an abutment, a coin receiving member movably mounted in said block, means for driving said member, a locking element carried by said member and having a coin seat, said element being movable with respect to said member into contact with said abutment to limit movement of the member, means for urging said element into contact with said abutment said abutment serving as a presser surface to contact with a coin carried on said seat and move the locking element out of contact with the abutment upon movement of said member, said block having a passageway permitting access to said locking element for vicarious manipulation of said element.

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