

B. M. DAVIS.
COIN CONTROLLED MECHANISM.
APPLICATION FILED JAN. 11, 1909.

931,574.

Patented Aug. 17, 1909.

3 SHEETS—SHEET 1.

Fig. 1.

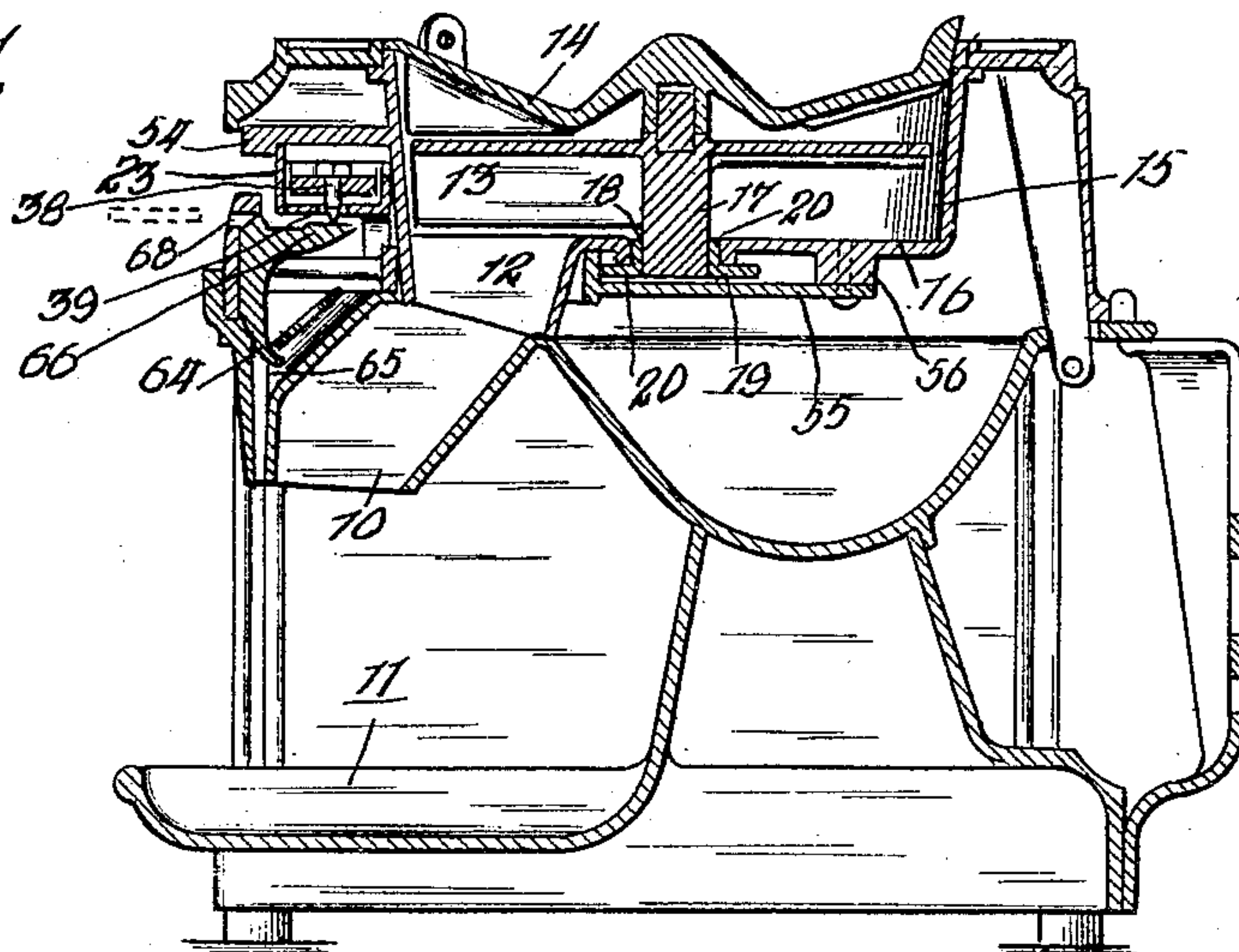
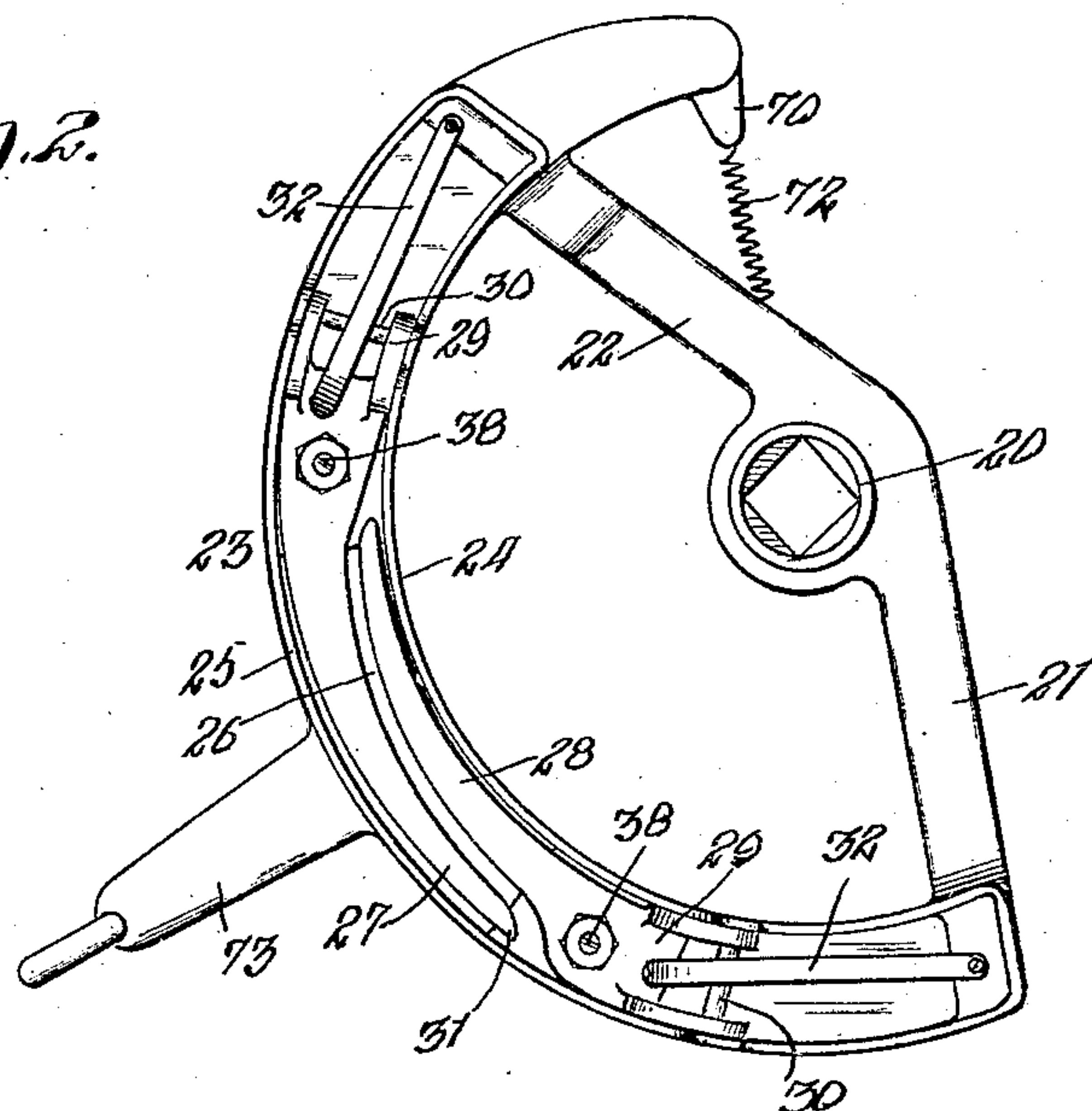


Fig. 2.



Witnesses:

Wm. P. Bond

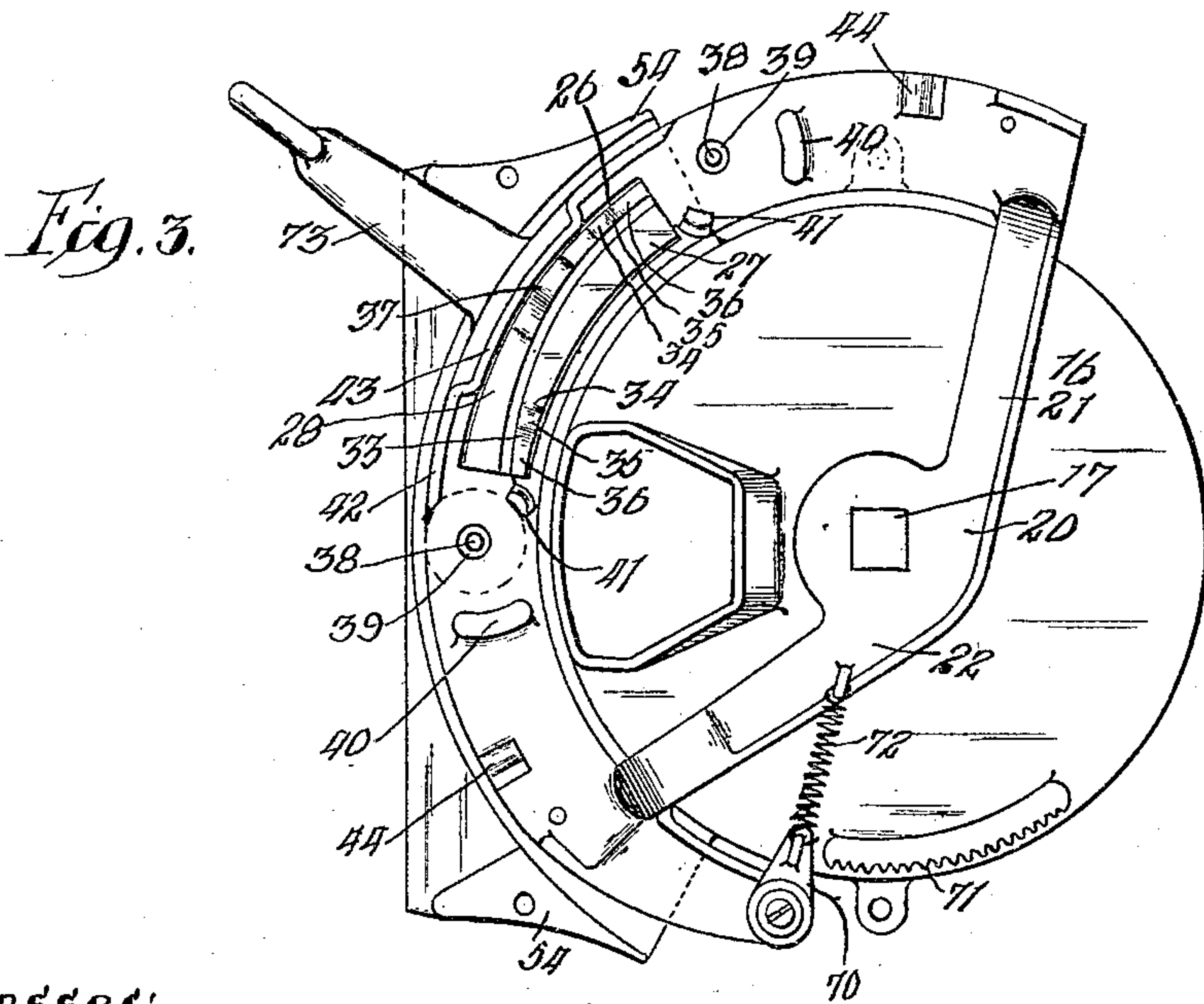
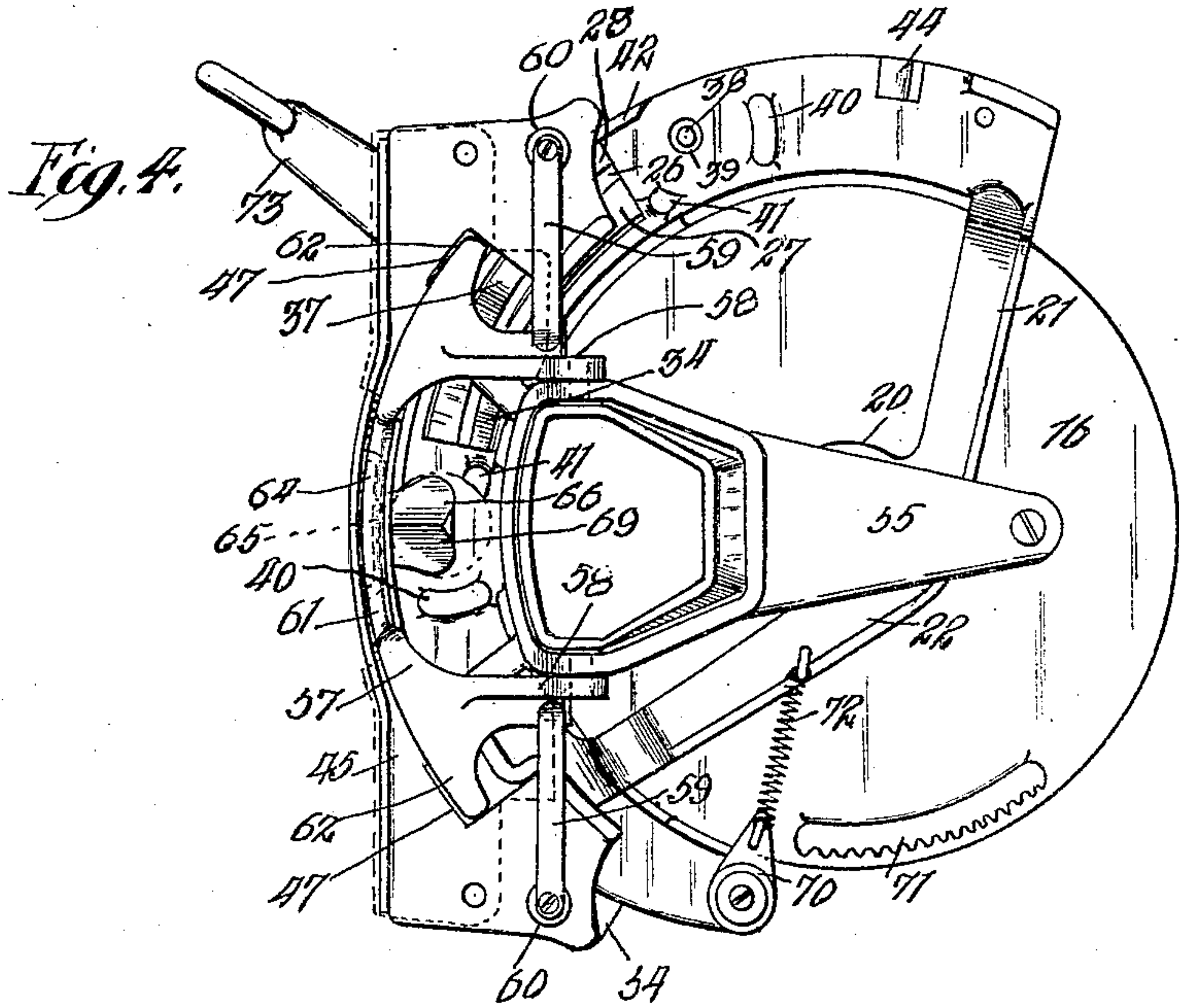
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Witnesses:
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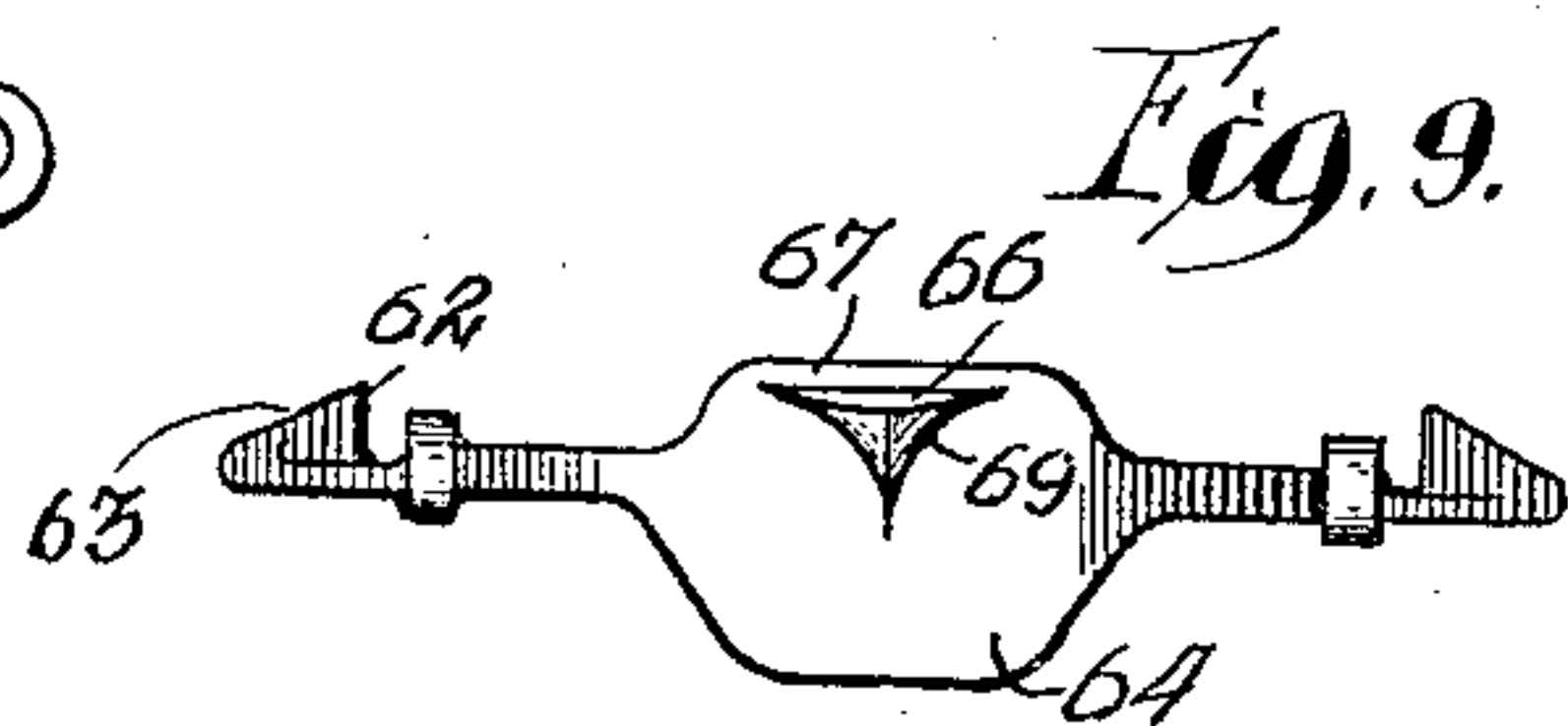
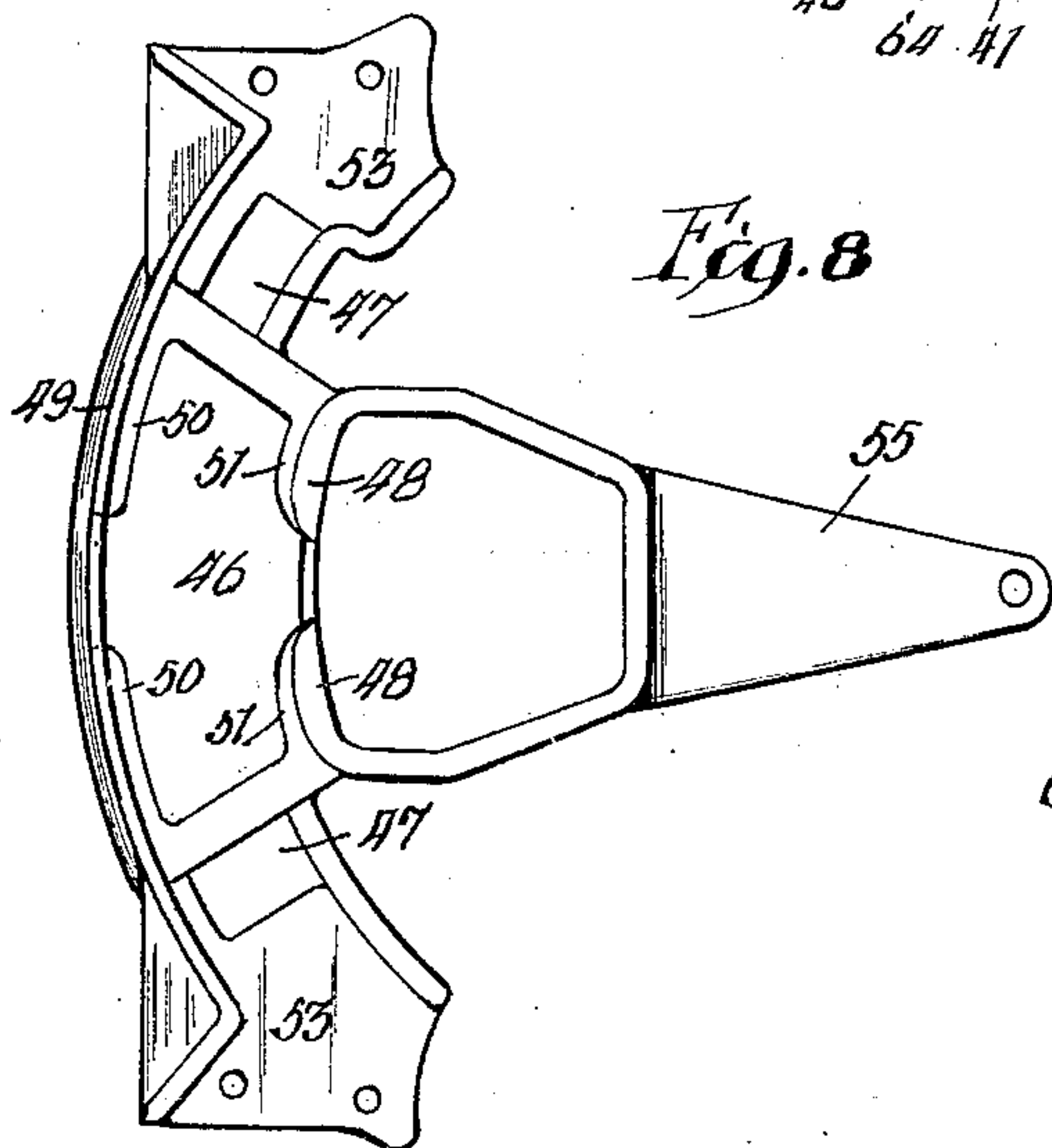
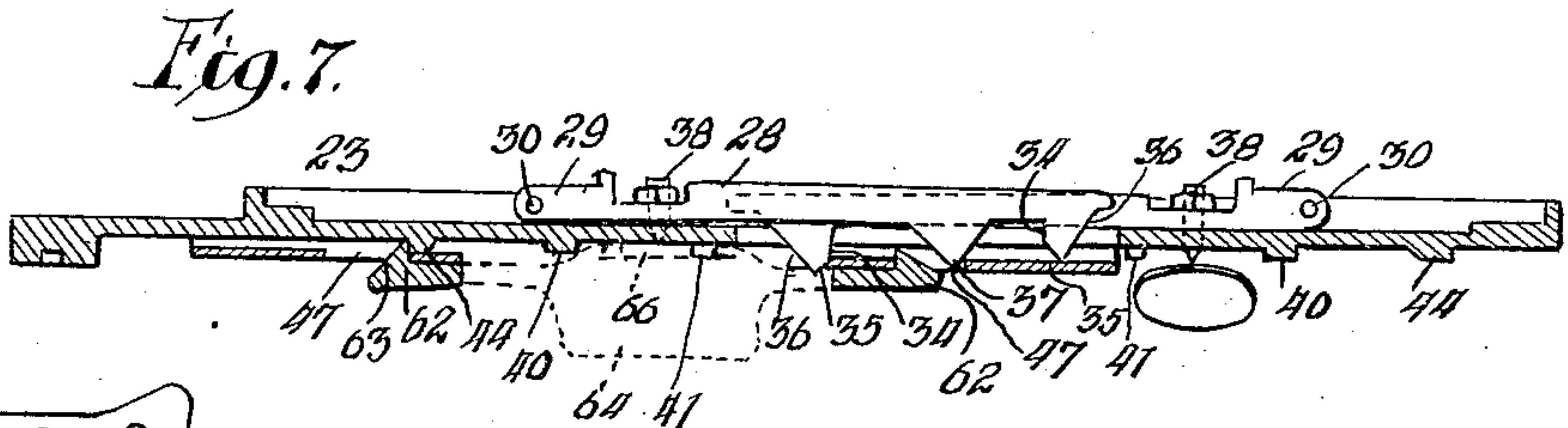
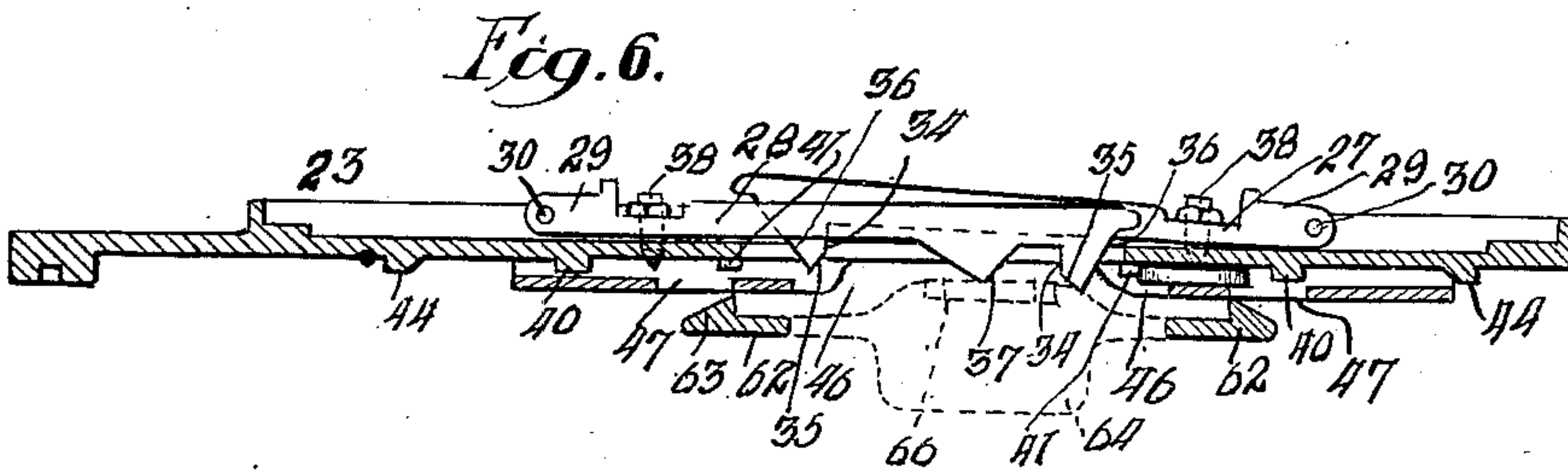
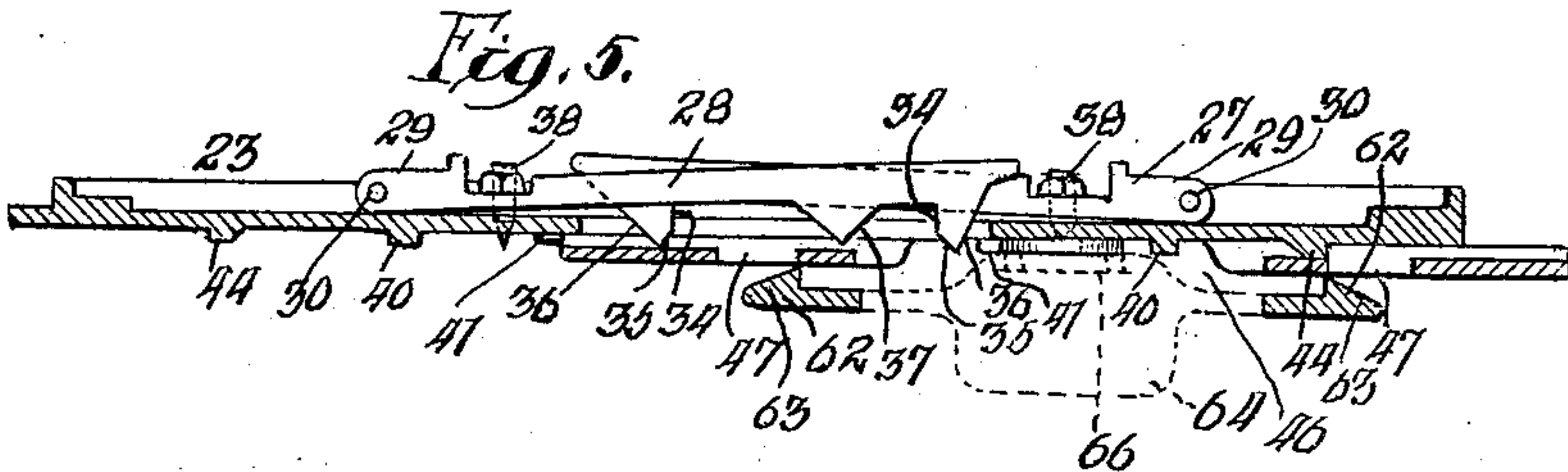
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

BETHUEL M. DAVIS, OF MORRIS, ILLINOIS, ASSIGNOR TO JOSEPH G. COLEMAN, OF CHICAGO, ILLINOIS.

COIN-CONTROLLED MECHANISM.

No. 931,574.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed January 11, 1909. Serial No. 471,625.

To all whom it may concern:

Be it known that I, BETHUEL M. DAVIS, a citizen of the United States, residing at Morris, in the county of Grundy and State of Illinois, have invented certain new and useful Improvements in Coin-Controlled Mechanism, of which the following is a specification.

The coin controlled mechanism of the present invention, in the embodiment shown, is applied to a peanut vending machine, although the mechanism is adapted for general use. The mechanism is controlled and the vendible commodity delivered by the movement of a handle or lever; and the principal object of the invention is to so construct the mechanism that it will deliver with each forward and return movement of the lever. In order to effect this result, the coin controlled devices are arranged in duplicate so as to secure the same operation with each movement of the lever, regardless of direction.

The invention relates to the mounting for the parts, whereby such duplicate members are combined together within a very limited space and are capable of being alternately brought into register with the coin slot after each actuation of the machine.

The invention further relates to the means provided for returning under-weight coins to the purchaser; to the means provided for guarding the mechanism against fraudulent manipulation; and to the means for detecting slugs or false tokens.

Further objects will appear from a detailed description of the invention, which consists in the features of construction and combination of parts hereinafter described and claimed.

In the drawings Figure 1 is a sectional elevation through the base of a peanut vending machine from front to rear thereof, showing the mechanism of the present invention; Fig. 2 a top or plan view of the swinging coin carrier bar; Figs. 3 and 4 inverted plan views of the carrier bar and associated portions of the casing; Figs. 5, 6 and 7 longitudinal sectional views of the coin carrier bar as the same would appear if straightened out, and showing the coin detecting and locking devices; Fig. 8 a top or plan view of the guide plate which coöperates with the swinging coin carrier plate; and Fig. 9 a detail showing the pivoted gate for guarding the coin slot.

The mechanism of the present invention is mounted within a casing of suitable configuration having a discharge chute 10 mounted upon a dished base plate 11 and in convenient position to deliver peanuts, or a similar commodity, to the hand of the purchaser. The discharge chute communicates with a delivery passage 12 adapted to receive the commodity from a pocketed feed wheel 13, which is located below a shield 14 provided with suitable openings, not shown, for permitting the delivery of peanuts from a suitable receptacle conveniently located on the base. The present invention is not concerned with the construction of the pocketed feed wheel and associated parts, and further description of these features is deemed unnecessary.

The feed wheel operates within a cylindrical chamber 15 having a floor 16 with a flanged opening near the front side, which constitutes the discharge passage 12 previously referred to. The pocketed feed wheel is provided with a hub 17 which outwardly projects through a flanged opening 18 in the center of the floor 16. The projecting end of the hub is squared to receive an operating head 19 which has on its inner face an annular flange 20 which bears against the flanged opening 18 and serves to provide a mounting for the operating head. The latter has connected therewith a pair of bracket arms 21 and 22 which connect with a swinging coin carrier plate 23, which is curved to closely embrace the front side of the cylindrical chamber 15. The coin carrier plate is in the form of a half ring and is provided on its upper or nonacting face with inner and outer marginal flanges 24 and 25 respectively, as shown in Fig. 2. The coin carrier plate is provided near its center with an elongated slot or opening 26, at the ends of which are pivoted oppositely disposed inner and outer latch levers 27 and 28 respectively. Each of the latch levers, at its pivoted end, is enlarged and is provided with rearwardly extending tongues 29 through which, and the marginal flanges, is entered a pin 30, which hinges the parts together. The free end 31 of each of the latch levers is carried forward to engage the opposite end edge of the slot against which it is normally held by the action of a flat spring 32 which bears against the face of the lever just in front of its pivotal point.

Referring particularly to Fig. 3, each of

the latch levers, near its free end, is provided with a catch finger 33 which is formed to have an abrupt shoulder 34 at its inner edge back of which the finger is beveled to form a short inner cam face 35 and a long outer cam face 36 which come together at an apex, as shown in Figs. 5, 6 and 7. The inner and outer latch levers are uniform as regards the formation of the catch fingers, but the outer latch lever is provided, in addition, with a beveled tooth 37, intermediate the catch finger and the pivotal mounting for the lever. Each of the levers is further provided with an adjustable pin 38 which is entered through the lever, near its pivotal point, and through a hole 39 in the carrier plate, projecting slightly beyond the under surface of the plate and in position to bear against the top face of an inserted coin. The arrangement is one whereby the insertion of a coin will serve to raise the lever sufficiently to lift its catch finger away from normal locking position. The projecting point of each of the adjustable pins is located adjacent to an outer bearing lug 40, an inner stop lug 41, and the end of a flange 42, the center portion 43 of which is slightly offset toward the center of the carrier plate, as shown in Fig. 3. The position occupied by the inserted coin is indicated in Fig. 3 by the dotted lines, which show that the coin occupies a position in engagement with the stop lug 41 and the end of the flange 42, in which position it will be carried around in front of said lug and flange, depending upon the direction of movement given to the carrier plate. It will be understood in referring to Fig. 3, that the latter is an inverted face view of the carrier plate, and that the coin will lie under and not upon said plate. The carrier plate is further provided near each end with shouldered catch lugs 44, for initially locking the carrier plate against movement.

The swinging carrier plate coöperates with an underlying stationary guide plate 45, best shown in Figs. 4 and 8. The guide plate is cut away in its center to provide an elongated slot or opening 46 at each end of which are holes 47. The upper or acting face of the guide plate is provided, adjacent to the elongated opening, with inner lugs 48 and an outer flange 49, leaving inner and outer ledges 50 and 51 respectively, which ledges are suitably spaced to permit a coin of the proper denomination to bridge the gap between them, but are narrow enough to permit a slug or token of less diameter to fall through the guide plate to be thrown out from the discharge chute of the machine. The guide plate terminates in wings 53, which are bolted or otherwise suitably secured to projecting lugs 54 formed on the front side of the cylindrical center chamber 15. The guide plate is further provided with an inwardly extending tongue 55 which

underlies the end of the hub 17 of the feed wheel and is secured by a screw or otherwise to a boss 56 formed on the under face or floor 16 of the chamber 15. The tongue 55 is cut away at its point of connection with the guide plate, to embrace the discharge opening 12.

The guide plate furnishes a mounting for the locking member 57 of yoke formation provided with inwardly extending arms 58 which are pivoted on opposite sides of the tongue 55, as shown in Fig. 4, which arms are recessed to receive the free ends of flat springs 59 which are mounted upon bosses 60 formed on the wings 53. The arms are connected by a cross head 61 which is curved to lie within the flange 49 of the guide plate, and the ends of the cross head are provided with upwardly projecting shouldered stops 62 beveled on their upper faces 63, as best shown in Fig. 9, which shouldered stops, when the mechanism is in normal position and without an inserted coin, will project through the holes 47 in the guide plate, and will engage with the lugs 44 on the swinging carrier plate so that the latter will be locked against movement. The cross head is provided on its front side with a depending tongue 64 which enters the mouth of a coin discharge chute 65 which is located within the commodity discharge chute 10. The cross head is further provided with a shoe 66 which extends inwardly into the center of the opening 46 in the guide plate and, when in normal position, projects its upper or acting face slightly above the plane of the ledges 50 and 51, and the surface of the plate over which the coin is adapted to travel. Immediately forward of the shoe the cross head is provided with a flange 67 which is beveled on its outer face and adapted to lie across a coin slot 68 formed in the center of the curved wall of the guide plate. The under side 49 of the shoe is of sloping formation toward each side of the shoe, the edges of which are sharp. The arrangement is one which serves to deflect a coin or slug if it is sought to carry the same back under the flat face of the shoe after it once has been carried forwardly therefrom. The swinging plate is provided at one end with a pivoted dog 70 adapted to ride over and engage the teeth of a rack 71 on the under side of the floor 16 of the chamber 15, and a spring 72 is connected with the dog and with the arm 22 in order to hold the dog under tension against the rack as the swinging carrier plate is moved. The latter is adapted to be operated by means of a handle 73 which outwardly projects from the center of the plate.

The parts will be in normal condition when the swinging carrier plate has been swung to the limit of its movement in either direction. With the parts in the position shown in Figs. 3 and 4, one of the pins 38 will be brought

into register with the coin slot. Until a coin is inserted, however, it will be impossible to swing the coin carrier plate by reason of the fact that it will be held locked by the engagement of the shouldered stop 62 with the lugs 44 on the carrier plate. The stops will thus lock the carrier plate against movement. The upper face of the shoe 66 will project slightly above the level of the coin slot, which will be closed by the beveled flange 68, as shown in Fig. 1. As a coin is inserted it will ride over the beveled flange and onto the upper or flat face of the shoe, which movement depresses the shoe and with it the hinged locking member, and this movement serves to retract the shouldered stops sufficiently to disengage them from the lugs 44, whereby the swinging coin carrier will be unlocked for its initial movement.

With the parts in the position shown in Fig. 3 the inserted coin will lie immediately beneath the depending point of the pin 38 on the outer hinged latch lever and in contact with the lug 41 and the end of the flange 42. The position of the levers when the coin is first inserted is indicated in section in Fig. 5. As the handle 73 is swung around the shouldered catch finger of the latch lever which is in commission will be brought into register with the adjacent hole 47 of the guide plate. As the shouldered stop finger registers with the hole, the coin will be carried over the flat floor of the guide plate, just sufficient space being afforded between said floor and the overlying face of the swinging coin carrier plate to accommodate a coin of proper thickness. With the coin carried between these co-acting surfaces, the pin 38 will be elevated, thereby raising the pivoted latch lever, and with it the shouldered finger, so that the latter will clear the edge of the adjacent hole 47. If, however, the coin or slug be of reduced thickness, the pin will not be lifted to the extent necessary to cause the shouldered catch finger on the latch lever to clear the edge of the hole 47, so that the mechanism will be locked against further movement. When so locked, if it be moved back to the starting point, the coin will be carried back and deflected by the sloping under surface of the shoe and will fall into the coin discharge chute or runway 65 and be returned to the user. In this way thin coins of the proper denomination will be returned to the user. When the coin carrier has been revolved sufficiently to bring the coin into position to elevate the pin against which it rests, a return movement of the mechanism will be prevented by the engagement of the dog 70 with the rack 71, so that the operating lever must thereafter be thrown to its extreme limit of movement before it can be returned.

The construction is one which will throw out all perforated slugs or tokens which will fail to actuate the machine by reason of the

fact that no surface will be afforded in the center of the slug for the engagement of the depending pin. Soft metal slugs will be dented or depressed by the point of the pin without possessing sufficient hardness to lift the same. Slugs of reduced diameter will fail to ride over the ledges 50 and 51 and will fall through the hole 46 and pass out of the coin discharge chute. By providing two locks for the swinging coin carrier, the operating handle will be held against movement in the first instance, and will be given a limited movement only, in case a slug or thin coin be received. This gives opportunity to clear the machine and return the slug or coin to the customer, so that the danger of throwing the machine out of commission will be greatly reduced. The arrangement is one which reduces the movements necessary in operating the machine, and enables a discharge to be made with each swing of the operating lever, so that spring, or similar mechanism for returning the parts to initial position after a movement of the lever, can be dispensed with and the construction correspondingly simplified. The arrangement of the hinged locking member is one which prevents the manipulation of a wire through the coin slot, or manipulation of the machine by means of a coin with a string attached to it. The latter method of manipulation will be impossible by reason of the fact that the commodity will not be discharged until the operating lever has been thrown fully, at which point the coin that will fall toward the coin receptacle cannot be brought back save by a return swing of the carrier plate, which will be prevented by the action of the dog.

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

1. In coin controlled mechanism, the combination of a swinging coin carrier plate of curved formation, discharging mechanism connected therewith and adapted to be actuated by a swing thereof in either direction, a slotted member adjacent to the coin carrier plate and adapted to permit insertion of a coin to one of two coin receiving positions on the coin carrier plate, and coin controlled locking means adapted to normally engage the coin carrier plate in either of two coin receiving positions and adapted to be moved by the insertion of a coin to release the coin carrier plate, substantially as described.

2. In coin controlled mechanism, the combination of a swinging coin carrier plate of curved formation, discharging mechanism connected therewith and adapted to be actuated by a swing thereof in either direction, a slotted member adjacent to the coin carrier plate and adapted to permit insertion of a coin to one of two coin receiving positions on the coin carrier plate, and coin controlled locking means having catch members adapted to engage and lock the coin carrier plate in

either of two coin receiving positions, and being further provided with a beveled flange adapted to be engaged by the edge of a coin when inserted for moving back the locking member to releasing position, substantially as described.

3. In coin controlled mechanism, the combination of a swinging coin carrier plate of curved formation, discharging mechanism connected therewith and adapted to be actuated by a swing thereof in either direction, a slotted member adjacent to the coin carrier plate and adapted to permit insertion of a coin to one of two coin receiving positions on the coin carrier plate, coin controlled locking means having catch members adapted to engage and lock the coin carrier plate in either of two coin receiving positions, and being further provided with a beveled flange adapted to be engaged by the edge of a coin when inserted for moving back the locking member to releasing position, and a shoe on the locking member underlying the coin slot and beveled on its under or reverse face to deflect and throw down a coin or slug when brought into engagement therewith, substantially as described.

4. In coin controlled mechanism, the combination of a movable coin carrier adapted to receive a coin in either of two positions, two locking members mounted on said movable coin carrier, either adapted to be moved to releasing position by the insertion of a coin, and an adjacent member with which said locking members are adapted to engage under normal conditions, substantially as described.

5. In coin controlled mechanism, the combination of a movable coin carrier adapted to receive a coin in either of two positions, two locking members mounted on said movable coin carrier, either adapted to be moved to releasing position by the insertion of a coin, and an adjacent stationary guide plate provided with recesses therein adapted to receive the locking members save when either of said locking members is released by the insertion of a coin, substantially as described.

6. In coin controlled mechanism, the combination of a movable coin carrier, two oppositely disposed latch levers pivoted to different portions of the coin carrier, each of said levers being provided, at its free end, with a catch finger, a projection on each of the latch levers adapted to be engaged by a coin when inserted for throwing back said levers to releasing position, and an adjacent member with which the catch fingers on the levers engage, save when one of them is released by the insertion of a coin, substantially as described.

7. In coin controlled mechanism, the combination of a swinging coin carrier, two oppositely disposed latch levers pivoted to different portions of the coin carrier, each of said

levers being provided, at its free end, with a catch finger, a projection on each of the latch levers adapted to be engaged by a coin when inserted for throwing back said levers to releasing position, and an adjacent member with which the catch fingers on the levers engage, save when one of them is released by the insertion of a coin, substantially as described.

8. In coin controlled mechanism, the combination of a swinging coin carrier plate of curved formation adapted, when moved in either direction, to effect the discharge of a commodity, two oppositely disposed latch levers pivoted to different portions of the coin carrier, each of said levers being provided, at its free end, with a catch finger, a projection on each of the latch levers adapted to be engaged by a coin when inserted for throwing back said levers to releasing position, and an adjacent member with which the catch fingers on the levers engage, save when one of them is released by the insertion of a coin, substantially as described.

9. In coin controlled mechanism, the combination of a coin carrier adapted to effect the discharge of a commodity when moved in either direction, a member adjacent thereto provided with a slot for permitting insertion of a coin to one of two coin receiving positions on the coin carrier, a locking member normally engaging the coin carrier and adapted to be moved to releasing position by the insertion of a coin to initially release the carrier, and two locking members carried by the coin carrier, one of them being adapted to be released by the insertion of a coin to permit the carrier to be moved in the intended direction, substantially as described.

10. In coin controlled mechanism, the combination of a coin carrier adapted to effect the discharge of a commodity when moved in either direction, a member adjacent thereto provided with a slot for permitting insertion of a coin to one of two coin receiving positions on the coin carrier, a locking member normally engaging the coin carrier and adapted to be moved to releasing position by the insertion of a coin to initially release the carrier, two oppositely disposed latch levers pivoted to the coin carrier plate, at different positions, and provided with catch fingers, each adapted to prevent movement in a single direction, and an adjacent member with which said catch fingers are adapted to normally engage, substantially as described.

11. In coin controlled mechanism, the combination of a coin carrier adapted to effect the discharge of a commodity when moved in either direction, a member adjacent thereto provided with a slot for permitting insertion of a coin to one of two coin receiving positions on the coin carrier, a locking member normally engaging the coin car-

rier and adapted to be moved to releasing position by the insertion of a coin to initially release the carrier, two locking members carried by the coin carrier, one of them being adapted to be released by the insertion of a coin to permit the carrier to be moved in the intended direction, and a cooperating dog and rack, one of them being mounted upon the coin carrier and the other being fixedly mounted for locking the carrier against return movement when partially moved in a given direction, substantially as described.

12. In coin controlled mechanism, the combination of a coin carrier adapted to effect the discharge of a commodity when moved in either direction, a member adjacent thereto provided with a slot for permitting insertion of a coin to one of two coin receiving positions on the coin carrier, a locking member normally engaging the coin carrier and adapted to be moved to releasing position by the insertion of a coin to initially release the carrier, two oppositely disposed latch levers pivoted to the coin carrier plate, at different positions, and provided with catch fingers, each adapted to prevent movement in a single direction, an adjacent member with which said catch fingers are adapted to normally engage, and a cooperating dog and rack, one of them being mounted upon the coin carrier and the other being fixedly mounted for locking the carrier against return movement when partially moved in a given direction, substantially as described.

13. In coin controlled mechanism, the

combination of a movable coin carrier plate, a locking member pivoted adjacent thereto and normally adapted to hold the carrier plate against movement, save when released by the insertion of a coin, a member adjacent to the locking member provided with a slot for permitting insertion of a coin, for moving the locking member to releasing position, and a shoe underlying the coin carrier and adjacent to the coin slot and beveled on its under face to deflect and discharge an imperfect coin or slug after being initially carried forward by and released from the coin carrier, substantially as described.

14. In coin controlled mechanism, the combination of a movable coin carrier plate, a locking member pivoted adjacent thereto and normally adapted to hold the carrier plate against movement, save when released by the insertion of a coin, a member adjacent to the locking member provided with a slot for permitting insertion of a coin, a shoe underlying the coin carrier and adjacent to the coin slot and beveled on its under face to deflect and discharge an imperfect coin or slug after being initially carried forward by and released from the coin carrier, a coin and slug discharge chute below the locking member, and a tongue depending in said chute and adapted to deflect discharged coins or slugs thereinto, substantially as described.

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