

PATENT SPECIFICATION



Application Date: Aug. 17, 1931. No. 23,114/31.

388,371

Complete Left: May 17, 1932.

Complete Accepted: Feb. 17, 1933.

PROVISIONAL SPECIFICATION.

Improvements in Coin-freed Apparatus for providing Amusement.

I, WILLIAM SMITH, a British Subject, of 109, Queen Anne Avenue, Bromley, Kent, do hereby declare the nature of this invention to be as follows:—

5 My invention relates to games of skill, in which various numbers of coins or articles may be obtained from the machine by the player using sufficient judgement in operating.

10 This usually consists of the aiming of a coin or missile at a target, guiding or rolling a coin down a shoot or past obstacles, and no variation of the game is provided for.

15 In my invention I give a variation of the game to the player, also an opportunity of regaining certain coins held back in the machine during play. The skill being required in my invention to stop a visible revolving dial under the operator's control, in a position as indicated by another similar but stationary dial which can change its position each time the machine is operated.

20 A pointer is provided for each dial and a counter showing the number of coins to be obtained by the player if successful. An opening allows the coins to be taken from the machine after ejection. A lever operates the mechanism following the insertion of a coin, and the act of lifting this lever stops the revolving dial. The machine only delivers if the two dials correspond relative to the pointers.

35 In carrying out my invention I use a casing to house my improved apparatus, having a front with suitable openings to show the dials necessary for playing, and an opening for the removal of coins or articles after ejection.

40 Suitably arranged on a main plate of frame is the mechanism for working the apparatus. This consists of two visible dials preferably both having similar markings or figures thereon, each dial being fixed to its own shaft, and mounted in bearings. One dial is made to spin through a spring tensioned rack and pinion arrangement, by the operator moving a lever down. A ratchet and pawl allowing a free wheel action. The other dial takes up a new position relative to

the last through the same lever movement.

55 The stopping of the revolving dial is by a brake tripped on by lifting the operating lever. This lever is held down at the bottom of its stroke by a catch and is automatically released after the machine has completed its cycle of operations. The handle end of the lever is jointed and has a limited movement and acts as a catch or trigger which engages with another lever controlling and working other essentials. Particular attention is called to the novel method employed to cause the machine to eject the coin or coins only if the two dials are in the correct position relative to each other. This is accomplished in the following way.

60 An arm positively rotating with the revolving dial shaft and carrying a plunger that can move in axial alignment with the said shaft, a fixed hinged plate or lever so shaped and mounted about the plunger arm that any movement imparted to the plunger in one direction at any point in its rotary path will be given to the hinged plate or lever, which in turn operates the coin ejection mechanism. A second arm is mounted backwards and forwards and capable of revolving in the same plane and on the same axis as the plunger arm.

65 This arm is controlled in its rotary movement by a chain or other positive gearing connecting the stationary or indicating dial, so that any rotary movement given to the one will be transmitted to the other. If the two arms are in line and the arm controlled by the indicating dial is moved towards the plunger until contact is made, any further movement in the same direction will move the plunger, and in turn the hinged lever and coin ejection mechanism.

70 A system of spring driven gearing governed by a friction driven flywheel depending on centrifugal force gives the motion and power for ejecting the coins. Sufficient energy is imparted to the machine by the player, and utilised through springs, gears and levers to complete the cycle of operations necessary

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for the functioning of the apparatus.

A hinged container is provided for holding the coins ready for ejection, and a guide operated by a ratchet and cam faces allows certain coins to be held back in the machine for the use of same. There a visible counter showing number of coins or articles ready for ejection, and a means for returning same to zero after ejection of coins.

A two way check is provided, consisting of a trip ratchet and pawl to prevent tampering or sudden jumping back of operating lever. Also a coin freeing mechanism and a means for preventing more than one coin operating at a time,

consisting of a lever system worked from the coin slot by the inserting of a coin, and in another instance by the mechanism during one cycle of operations.

I may vary the arrangement of the mechanism and use revolving pointers or hands, and stationary dials. If desired I may use the ejecting mechanism for packet goods and not coins, by substituting a pile of packets to be pushed out one or more at a time, or I may cause a number of articles, for instance cigarettes, to be deposited one or so at a time in a container and ejected in place of coins.

Dated the 12th day of August, 1931.

WILLIAM SMITH.

COMPLETE SPECIFICATION.

Improvements in Coin-freed Apparatus for providing Amusement.

I, WILLIAM SMITH, a British Subject, of 109, Queen Anne Avenue, Bromley, Kent, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to coin freed apparatus for providing amusement. The primary object of the invention is to provide such apparatus in the use of which no chance or hazard enters, whilst allowing full play to the user's skill. The apparatus consists broadly of a means for providing amusement, comprising a master indicator in the form of a dial, pointer, scale, or its equivalent, hereinafter called the master indicator which may be moved in a predetermined manner step-by-step at each successive cycle of operations, and a similar secondary indicator which is set into motion by the operator, and afterwards arrested by him, skill being directed to arresting the secondary indicator's motion at a point coinciding with that shown on the master dial, which if effected then releases the coin or coins held in the interior of the apparatus.

In one constructional form of the invention, hereinafter described in detail as an example, the apparatus comprises a suitable casing within which is housed a main plate carrying in its upper part bearings and spindle attached to a master indicator, whilst below this in the lower portion of the apparatus a similar indicator is incorporated on an independent spindle. The front of the apparatus therefore shows two dials, whilst also at the right hand side there is the operating handle, and provision for inserting coins

is provided by a slot near the top of the casing, and an opening is provided at the lower part of the apparatus for returning coins to successful users, as shall be hereinafter described.

An understanding of the main outline of the mechanical arrangement of the various parts may be had by referring to the action that takes place in the use of the apparatus.

In one particular form of the invention the top or master indicator comprises a dial carrying around its periphery a series of numbers or markings, whilst the lower dial is similar. After inserting a coin in the slot the operator depresses a handle at the side which by means of a spring acting on a rack and pinion and through a pawl drive, causes the lower dial to revolve which continues to spin for a few seconds. At a favourable moment as judged by the operator, the operating lever is then tripped upwards which at once arrests the dial's motion, and brings into operation a slowly acting member which explores a limited area around the edge of the lower dial mechanism. Should the lower dial have been arrested at a point corresponding to that shown by the master dial, the slowly moving member encounters a projecting plunger and moves it forward, thereby opening the coin container, which allows the coins therein to fall into the opening at the front for the operator to take.

Should the operator misjudge the dial position or fail to arrest the dial at the coincident spot, the cycle of operations is completed and the coin used is retained by the apparatus.

A predetermined portion of all coins inserted by unskilful users are per-

manently held in the machine for the owner's profit, upkeep, etc. Apart from this all coins inserted by unskillful users are temporarily retained until released by the next successful operator. This is effected by use of a deflecting member which guides the coins into one of two separate compartments, depending on whether they are to be held temporarily, or to be permanently retained by the apparatus; whilst to prevent the pool of coins held temporarily from reaching too high a figure, the deflecting member may be caused to guide the coins away from the pool.

It is obvious as the success of operating the apparatus depends on the skill with which the moving dial is arrested and on that alone, some practice enables an operator to obtain a high percentage of accurate settings, and therefore in cases where it is desired to make the operation more difficult, this may be effected by the provision of an extra number of symbols or figures on the dials, or by obscuring part of the dial. Alternatively instead of arranging that the machine functions and releases coins etc. when the two dial positions coincide, it may be provided that the numbers or symbols may bear any other suitable relation between one another, for instance, it may be arranged that the number or numbers on the master dial plus the number or numbers on the lower dial have to read to a certain sum which would be mentioned on the front of the machine, this and many other methods for numbering and lettering the dials will be obvious.

A further method whereby the apparatus may be made to demand greater or less skill on the part of the operator is provided for by making the head on the exploring member of lesser or greater area so that a greater or lesser degree of accuracy in setting the lower dial is demanded of the operator, as will be hereinafter more fully described and explained.

Referring now to the drawings which illustrate diagrammatically the apparatus:—Fig. 1 illustrates the front view showing the dials and mechanism of front portion of main plate.

Fig. 2 shows the rear view of the main plate with its associated mechanism.

Fig. 3 shows the end view from the right hand side in relation to Fig. 2.

The actuating lever 1, with the pivoted coupling handle 2 engages with lever 3 which is adapted to move a train of gears 4 through the medium of the rod 5, lever 3 also on its downward motion extends a biasing spring 6 and a driving spring 7. The handle 2 is pivoted at 72 on the

lever 1 and is limited in movement between stops. A projection 73 on handle 2 can make contact with the lever 3 if the handle is pressed down. A rack strip 8 arranged between two guides 8a 8b is limited in action by the stop 9. A pivoted catch 10 falls into a notch on the rack strip 8 and rests therein when the machine is at rest position. On the lower part of the rack strip 8 teeth are cut which engage with the pinion 11 floating on the lower dial spindle 12 to which is fixed the flywheel 13 carrying a pawl 14 to engage with the pinion 11. A brake arm 15 pivoted on a pin 16 and a spring 17 tends to hold the brake against the flywheel. Lever 3 is held closely against the main plate and pivots from a pin 18, a further steadying support is provided by the bridge 19 which carries a notched face into which engages a pawl 20 on lever 3. The pawl 20 being arranged to ensure that the lever completes its full stroke before the return movement. A coin inserted in the slot at 21 travels down a channel 22 and rests in the pocket formed in a pivoted stepped face cam 23 which normally prevents lever 3 from movement by engaging with the projecting face on the latter. A certain amount of play is in evidence between the cam 23 and the lever 3 until the operating coin rests in the cam pocket. On a coin of the correct size resting in the pocket of cam 23 the edge of the coin projects sufficiently to prevent the coin end of lever 3 from engaging the stepped face cam at 31. The downward motion of lever 3 gives a partial rotary movement to the cam 23 so releasing the coin which drops between the main plate and the lever 3 through a channel 24. On the return of lever 3 a spring 25 returns the cam 23 to its normal position against its stop 26.

The released coin is guided by a plate 27 capable of turning over a limited area over the sloping platform 28. The position of the guiding plate 27 is controlled by a forked rod 29 engaging with an extension on the plate 27. The forked rod 29 moves on a fixed spindle 30 which also carries the pivoted cam 23; the forked rod 29 is linked to a driving lever 32 which is carried over the top of the machine and pivots from a fixed pin on the front of the main plate at 33. Spindle 34 which is free to revolve carries at one end the master dial 35 and at the other end the sprocket wheel 36 which engages by means of a chain 37 a similar sprocket wheel 38 freely mounted on the lower spindle 12. The sprocket chain and wheels are moved a step at a time through the ratchet and pawl members 39, 40, 41

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the ratchet wheel 39 being fixed to the spindle 34. The motion actuating the curved lever 41 is derived from the lever 44 which is moved by the pin 42 in the 5 main operating lever 3, this pin projecting through an aperture in the main plate. Lever 44 moves on the pin 78 and carries a pawl 45 engaging a toothed wheel 46 carrying pins 47 which in turn operate 10 lever 32. The pins 47 engage the tip of a pivoted member 48 on the lever 32 and the position of the pins relative to the teeth of the wheel 46 govern the movement left or right of the lever 32. A further pawl 49 locks wheel 46 against the 15 turning motion of spring 50. When not in engagement with a pin at 47, the lever 32 and its associated parts are returned by a spring to its opposite position as shown 20 in dotted lines.

To the sprocket wheel 38 is fixed the radial arm 51 carrying a boss 52, this arm is freely connected to the rocking lever 53 supported by a bracket 62. The lever 25 53 is moved by crank and connecting rod 54 from the train of gears 4 which free-wheel in one direction through the pawl 55 and a one tooth ratchet wheel 56. The plunger 57 carried by the flywheel 13 is fixed at the same radius from the spindle 30 centre 12 as the boss 52.

A hinged member 58 covers the area described by the plunger 57, the member 58 being further extended to the rear of 35 the coin till 59 where it can engage with a catch 60 holding the till in position. The tongued extremity 61 closes the till. The rod 76 connected to 58 operates lever 40 63 and releases pawls 49 and 45 each time the till 59 is operated allowing the notched wheel 46 to return to starting position by spring 50.

Catch 64 keeps lever 1 and 3 at bottom position until handle 2 is moved upwards. 45 A further catch member 77 on the opposite side of the main plate governs the working of catch 64. A lug 65 on lever 3 releases catch 10 at the correct period of operation while an extension 66 operates 50 brake arm 15. Carried on spindle 12 is the lower dial 67 which carries around its periphery numbers, similar numbers being shown on the master dial 35.

55 Coins released from the till 59 by the catch 60 fall down the chute 68 into the front aperture 69. Coins not intended for the till 59 are guided by the member 27 into the cash box 70.

60 The operation of the machine is as follows:—On placing a coin in slot 21 it travels via channel 22 into pocket 23, the handle 2 is then pulled downwards, which engages the lever 3.

65 Through the medium of the edge of the

coin the notched face of 23 is prevented from locking. Simultaneously springs 6 and 7 are extended by means of the lever 3. The arm 44 is moved by the pin 42, causing pawl 45 to progress one step, 70 whilst the master dial 35 moves a step through its connection with lever and pawl 40 and 41. The radial arm member 51 is also moved the same amount by 75 being chain geared to sprocket 37 on master dial spindle.

Near the bottom of the stroke the lug 65 releases catch 10 and allows the rack strip 8 to progress downwards while the 80 brake 15 is taken off the flywheel by the extension 66 thus allowing the flywheel to spin. The motion of the rack is accelerated by the spring 7. During the downward motion of lever 3 the rod 5 sets the gear train 4 through the medium of 85 pawl 55 and one tooth ratchet 56 so that on the return stroke the gear train will revolve.

The downward motion of handle 2 and lever 3 is then ended and the coin falls 90 into the till or cash box determined by the pins in the notched wheel 46 governing the coin guide 27. The levers 1 and 3 are held down at the bottom of the stroke by catch 64 having been released 95 by the stop catch 77 which is moved by the extension 71 on 3. On lifting the handle 2 lever 3 is released and commences to return by the spring 6 and allows the brake 15 to act on flywheel 13 100 also returns the rack by the lug 65 and through the push rod 5 sets the train of gears in motion causing the crank disc 74 to turn and move through the lever 53 the member 38 along the spindle 12 105 in the direction of the plunger 57 and back again.

Should the plunger 57 be in alignment with the projection 52 as shown in drawing Fig. 3, its forward motion would 110 move the plunger 57 towards the member 58 which in turn moves and depresses the catch 60 thereby allowing the hinged coin holder 59 to fall open and release coins to the player via the chute 68 and 115 aperture 69.

A coiled spring 75 at back of member 58 returns same and closes coin holder 59 by the tongued extension 61 on 58 a spring returning catch 60 to support coin 120 holder.

The pawls 49 and 45 are released by the rod 76 and lever 63 moved by the member 58 each time the coin till is operated thereby allowing the notched 125 wheel 46 to return to its starting position by the spring 50. The catch 64 is released by lever 3 at 79 just before it returns to its normal position thereby allowing lever 1 to return. This com- 130

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pletes the cycle of operation.

It is obvious the invention is also adaptable to the delivery of packet goods in the place of coin, by the substitution of a modified arrangement at the till end of the apparatus, and the invention is intended to cover this alternative method.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1.—Coin-freed apparatus for providing amusement comprising a master indicator which may be moved to pre-determined positions at each successive cycle of operations, and a similar secondary indicator which is set into motion by the operator and afterwards arrested by him, skill being directed to arresting the indicator's motion at a point coinciding with that shown on the master indicator, which if effected then releases coins held in the interior of the apparatus.

2.—Apparatus for providing amusement as claimed in claim 1, in which an exploring member follows any movement of the master indicator.

3.—Apparatus for providing amusement as claimed in claims 1 or 2, in which a coin releasing member follows any movement of the secondary indicator.

4.—Apparatus for providing amusement as claimed in claim 1 in which coin is released by the coincidence of an exploring member and a coin releasing member, as claimed in claims 2 and 3.

5.—Apparatus for providing amusement as claimed in claims 1, 2, 3 or 4, in which the number of coins to be released to the operator upon successful setting is determined by a deflecting member which guides such coins not intended for play into a compartment where they cannot be returned to the operator.

6.—Coin-freed apparatus for providing amusement comprising a master indicator, a rotating indicator, a brake adapted to act on same, an exploring member, a coin releasing member acting together to release coins, a pay-out till, a deflecting member to guide coins either to a pool or a cash box, a train of gears acted upon by the main operating lever and caused to work the coin releasing mechanism, means for holding levers at bottom of stroke, and trip handle for releasing same constructed, arranged and adapted to be operated substantially as described with reference to the annexed sheets of drawings.

Dated the 17th day of May, 1932.
WILLIAM SMITH,

FIGURE. No. 1.

[This Drawing is a reproduction of the Original on a reduced scale.]

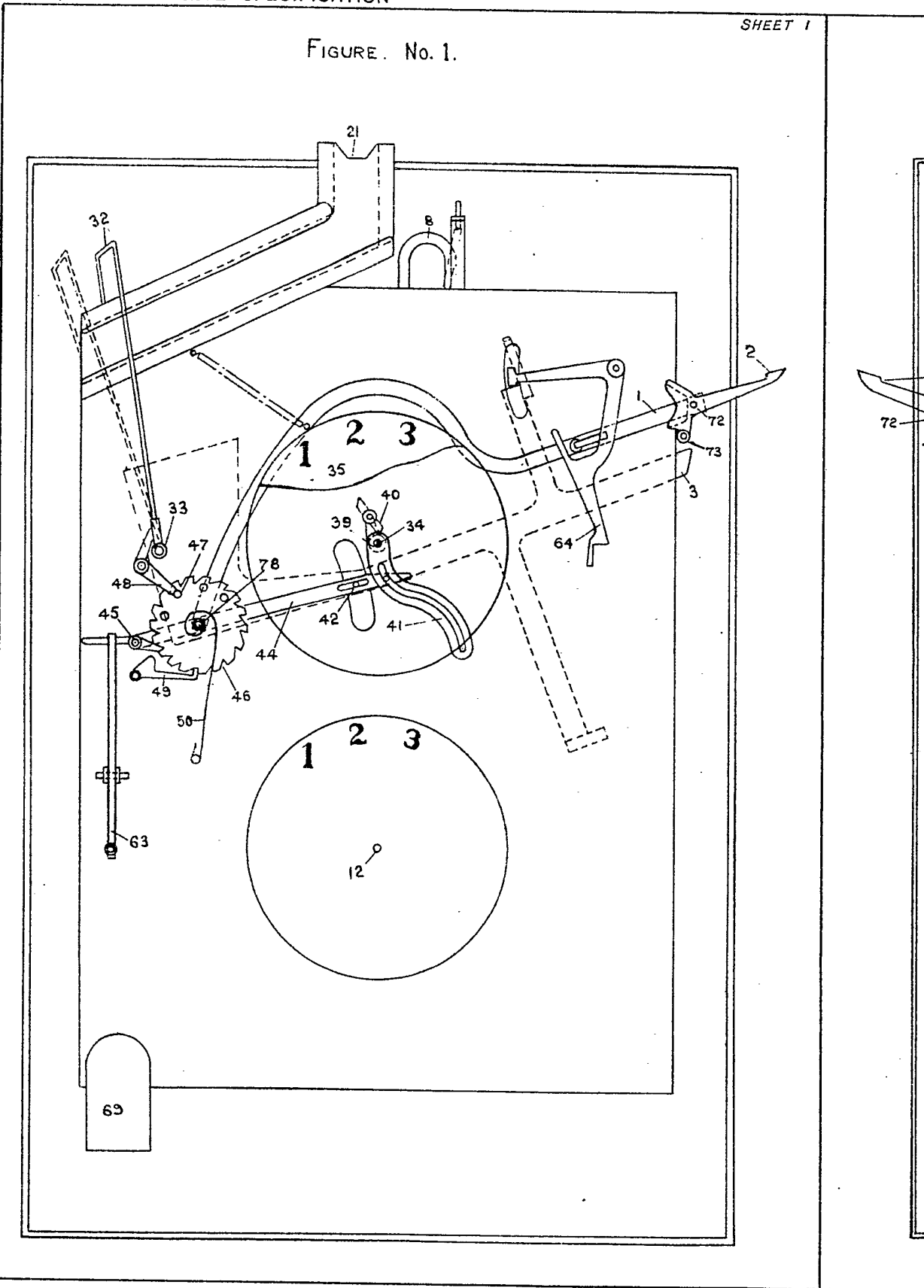


FIGURE . No. 2.

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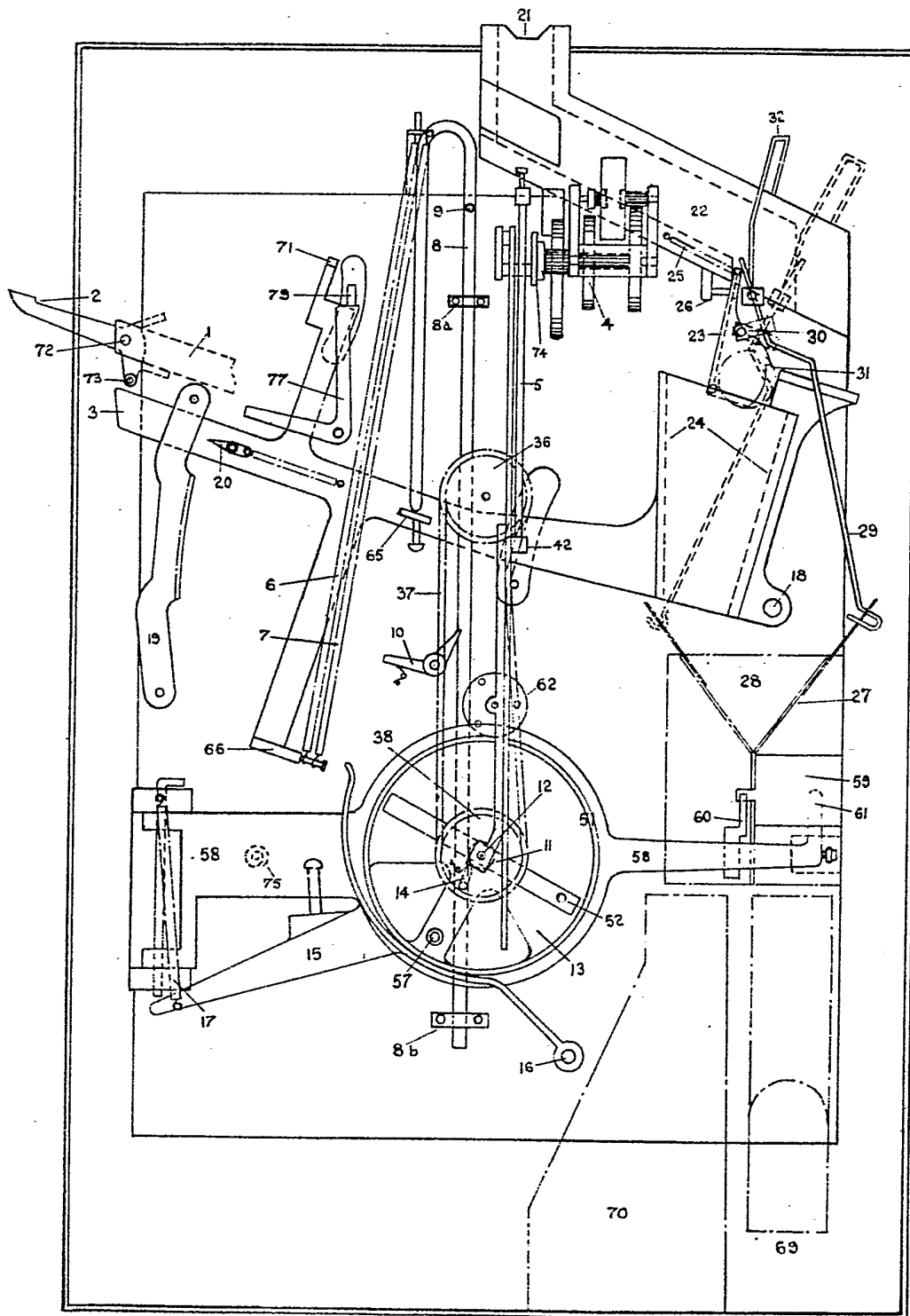
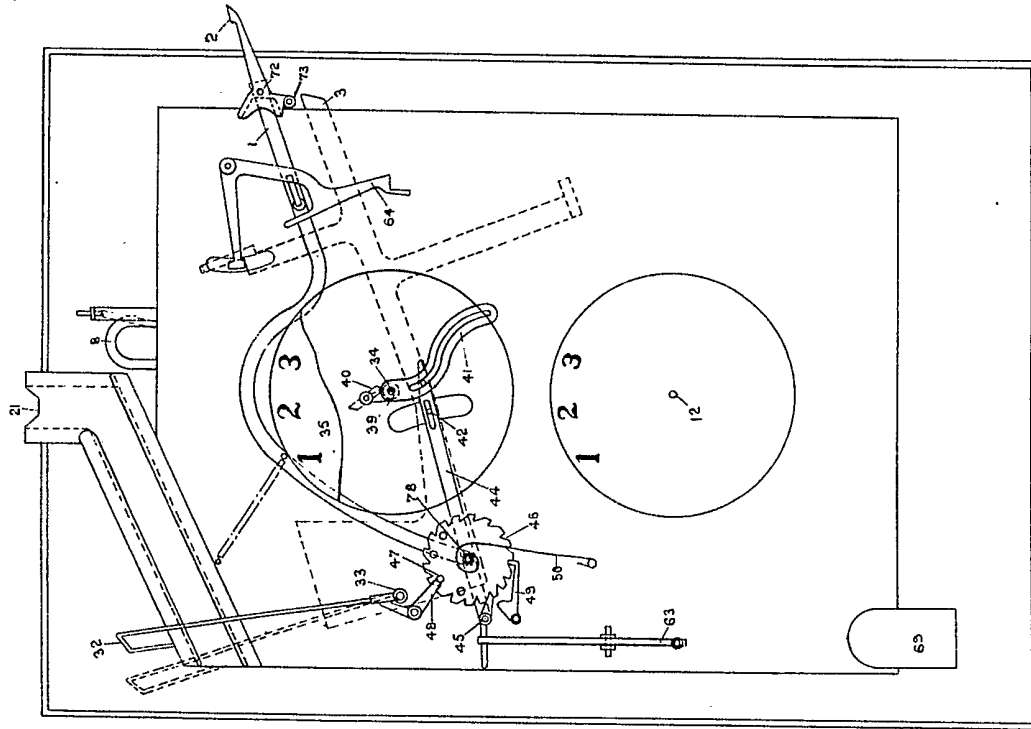


FIGURE. No. 1.



[This Drawing is a reproduction of the Original on a reduced scale.]

FIGURE. No. 2.

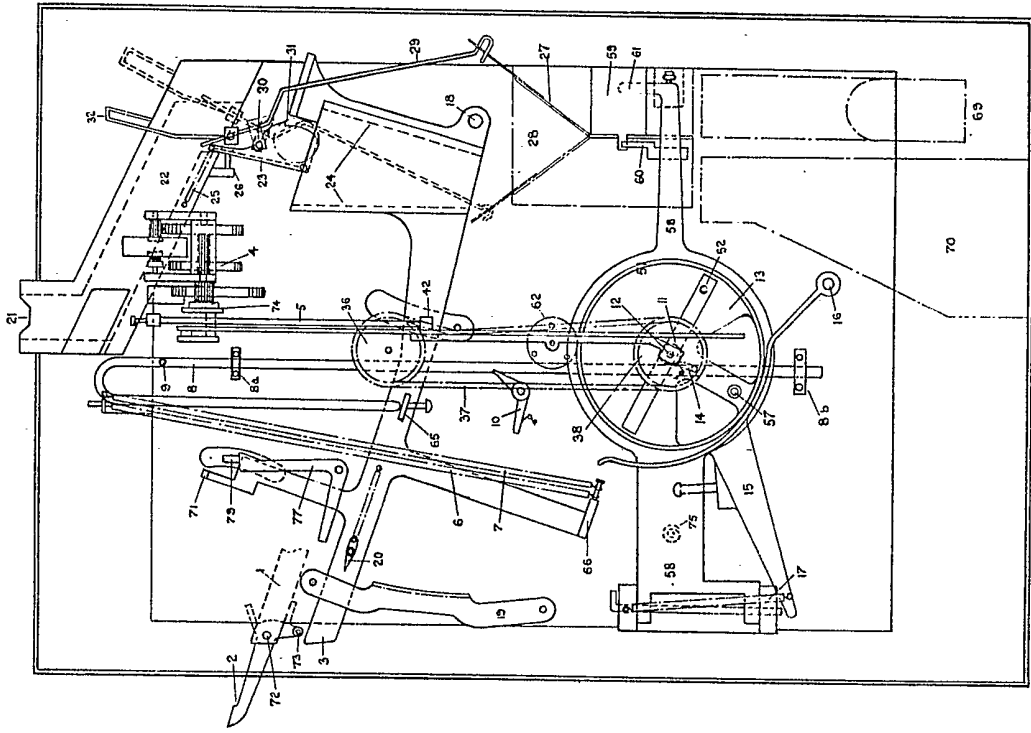


FIGURE. No 3.

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