PATENT SPECIFICATION

317,136

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PROVISIONAL SPECIFICATION.

Improvements in Apparatus for Games of Skill for Amusement.

I, GRANVILLE BRADSHAW, of 5, Beauchamp Place, London, S.W. 3, Engineer and British Subject, do hereby declare the nature of this invention to be as follows:—

My invention relates to an improved apparatus for a game of skill or it may be made as an automatic machine and one of its principal objects is to provide an apparatus for a game in which a player shall succeed or fail to a degree almost entirely in proportion to the amount of skill that he exercises.

Games of skill are frequently employed that have some element of chance so as to prevent the player who is very skilful winning continuously from the proprietors, but according to my invention I make it impossible for a player, however skilful, to win (on the average) more than approximately the amount expended and I still retain the element of skill as the deciding factor of success or failure.

Made according to my invention, I provide a target or targets or other game-scoring device which change in regular order devoid of any element of chance and which may sometimes show a number of value and sometimes one of no value. The player may play any game of skill as may shoot or spin a coin or may project a missile at a target and when he successfully hits the target he may receive a prize or no prize according to the pre-determined value that has been placed upon that target. These targets may be spaced round a wheel, which wheel may move step by step and the total number of targets may bear a pre-determined relation to the aggregate amount that may be won on all those targets that show a value.

Thus, for example, there may be 40 targets spaced round the wheel and amongst these 40 targets there may be one that has a value marked 8, two that have values marked 6, three that have values marked 4 and four that have values marked 2, the total value of all these targets being 40, the number of targets of value being 10 and all the remaining 30 targets being ones of no value. The targets of value are preferably spaced in some irregular manner amongst the targets of no value and owing to this arrangement of targets it will be seen that the game to be played by the player is one in which skill can be the predominant element without risk of loss to the proprietor.

If a player were extremely skilful and if he paid a penny for every game, he would spend exactly 40 pennies in playing one complete revolution of the wheel and if he made no mistake throughout this sequence he would win his 40 pennies back, therefore the games to him would be free but should he fail to hit any one target he would lose one penny which would be profit to the proprietors.

I preferably arrange so that a target does not move to the next target until a previous one has been hit, therefore should a target of value be missed, the player can have one or more further shots until he does succeed.

The following is a description of one method of applying my invention, but it is given purely as an example and I do not bind myself to the one described, as many methods of using my invention may be employed.

The player may stand in front of a horizontal or inclined table and a spring-loaded gun may be adjustably mounted on this table. This gun may have a slot or aperture into which a coin may be inserted and it may carry a trigger which controls a hammer which hammer is so arranged that when the trigger is pulled and (or) released, the hammer may hit the coin preferably, but not necessarily, some distance away from the centre and so that the coin is projected forward and preferably caused to spin rapidly at the same time. Thus gyroscopic force is given to the coin and this enables the coin to be shot forward with a greater degree of accuracy.

The gun may be adjustable (with or without limitations) so that the player can direct the shot and any means of regulating the position of the hammer and (or) the strength or otherwise of the blow may be provided either automatically or by the player or attendant (observed or unobserved) at any time and for any purpose desired.

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At the end of the table away from the player I may provide a wheel with the 40 targets already referred to, but these targets may be of any number as may be desired. Known means may be provided for maintaining torque upon the wheel, but rotation may be prevented by the target and the wheel may be released on the target being struck, and I preferably arrange so that this release only enables the wheel to move through one space to the next target. The whole of the targets may be visible to the player, but preferably only one or a few targets are made visible.

When the player commences to play he may see a blank target, but he will be induced to pay by the knowledge that (from no element of chance) targets of value will positively appear in a prearranged order. Thus he is merely using his coins as missiles, he is storing them up for two or three or more games and he will definitely receive them back again in accordance with the amount of skill that he is able to exercise.

These coins may be returned to him automatically, in which case the machine would preferably, but not necessarily, be enclosed and would come under the heading "Automatic Machines", or an attendant may hand him the number of coins he has won back as and when he is successful and a shoot may be provided to convey the coins to the player.

Electrical contacts may be applied for any purpose such as ringing a bell or illuminating numbers or the like after each successful hit or any other known means of attracting and increasing the fascination of the game may be utilised.

The number and amounts of the targets of value may be more or less than the total number of targets for any desirable reason, thus the game may be extremely simple so that even people who are unskilful may achieve a large number of wins, therefore instead of returning an aggregate of 40 in one complete revolution of the wheel the values may be varied so that this aggregate may, for instance, be only 38, therefore in this case there is a definite and fixed profit to the proprietors of two coins per complete revolution of the target wheel. Alternatively, the aggregate may be more than 40 and the game made more difficult.

Recording meters may be applied to the target wheel and gun so as to form a check upon the takings and suitable guards, shoots, slots and the like may be provided to direct or control the coins after they have been projected at the target and (or) rebounded and so as to convey them to any receptacle for collection or delivery or for any purpose desired. The wheel which carries the targets may be provided with a number of holes equal in number to the number of targets and the holes in the wheel, which disclose the targets may vary in size in accordance with the value of the target or otherwise or for any other purpose desired.

Attached to the back of the wheel I may provide pins or projections or contacts of different radial or axial length or position for the purpose of operating mechanism in order to produce varying results in accordance with the number of the target or for any other purpose.

Means may be provided to enable any player to pre-determine the next appearing target or targets and (or) all future targets and the order of their appearance.

Dated this 14th day of May, 1928.

GRANVILLE BRADSHAW.

COMPLETE SPECIFICATION.

Improvements in Apparatus for Games of Skill for Amusement.

I, GRANVILLE BRADSHAW, late of 5, Beauchamp Place, London, S.W. 3, and now of Dorland House, 14, Regent Street, London, S.W. 1, a British Subject, 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 apparatus for an improved game of skill or to an automatic machine, and one of its objects is to provide an apparatus for a game in which a player shall succeed or fail to a degree almost entirely in porportion to the amount of skill that he exercises.

Games of skill are frequently employed that have some element of chance so as to prevent the player who is very skilful winning continuously from the proprietors, but according to my invention I make it impossible for a player, however skilful, to win (on the average) more than approximately the amount expended and I still retain the element of skill as the deciding factor of success or failure.

According to the present invention I provide apparatus for playing a game of skill in which coins, discs or tokens may be returned to the player if the latter is

successful in playing the game, and comprising targets arranged in a predetermined order and caused to appear in a predetermined sequence after each successful game, some of said targets having no value in order that the player can accumulate coins, discs or tokens which will be returned to him if and when he is successful in playing at a subsequent target of numerical value.

The apparatus is so arranged that a target will not move out of its position until the player has been successful in playing at it, whereby if the player is unsuccessful in playing at a target of value it will still remain in position to be played at, thereby giving the player further opportunity of recovering coins, discs or tokens which he has accumulated in successfully playing at preceding targets of no value.

When the player commences to play he may see a target of no value, but he will be induced to play by the knowledge that (from no element of chance) targets of value will positively appear in a prearranged order. Thus, he is merely using his coins as missiles, he is storing them up for two or three more games and he will definitely receive them back again in accordance with the amount of skill that he is able to exercise.

These coins may be returned to him automatically, in which case the machine would preferably, but not necessarily, be enclosed and would come under the heading "Automatic Machines", or an attendant may hand him the number of coins he has won back as and when he is successful and a shoot may be provided to convey the coins to the player.

One constructional embodiment of the present invention is shown, by way of example, on the annexed sheet of drawings, whereon:—

Fig. 1 is a sectional elevation of the apparatus;

Fig. 2 is a section on the line A—B in Fig. 1;

Fig. 3 is a plan view of the trigger of the coin-projecting device;

Fig. 4 is a plan view of the coin-projecting device; and

Fig. 5 is a fragmentary sectional view of the coin trunk, showing the lever which is operated by the falling coin to release the coin-holding wheel for rotational advance.

Referring to the drawings:—

The apparatus comprises a casing 1 within which is rotatably arranged a coin-holding wheel 2 provided with a plurality of radial coin-slots 3 and radial teeth 4. The inclination of each coin-slot and the provision of a shoulder 5 within it ensures that when the slot is above a horizontal plane passing through the axis of the shaft 6, the coin shall be retained within the wheel but allowed to fall therefrom when the slot is in a certain position below the said plane. The arrangement will be quite clear from an inspection of Fig. 1. The wheel 2 and shaft 6 are operatively connected to a disc 7 by means of a toothed wheel 8 mounted on the shaft and engaging with a toothed pinion 9 provided on a shaft 10 to which said disc is fixed. The disc is provided with a number of radial slots 11 formed in a flange 12 of the disc arranged to move in close proximity to a partition 13 in the casing which is provided with a rectangular slot 14 sufficiently large to permit a coin to pass easily through it in its upright position.

A trunk 15 is secured in the interior of the casing 1 with its upper end, or mouth, in close proximity to the rear surface of the flange 12, said trunk comprising a rectangular passage 16 adapted to permit the coins to pass through the trunk. The bottom, or exit, end 17 of the trunk is arranged in close proximity to the rear surface of the coin-holding wheel 2, whereby a coin passing through the trunk can fall therefrom into whichever of the coin-slots 3 is opposite to it. A coin chute 18 is arranged within the casing 1 with its upper, or entrance, end 19 close up to the rear surface of the wheel 2 and its lower, or exit, end opening out into a trough 20 arranged partly within and partly outside the casing. A shaft 21 is rotatably arranged within the casing near the upper part of the wheel 2 and is provided at one end with an escapement 22 and at its other end with an arm 23, the outer end of which projects through a slot 24 into the interior of the trunk 15 and normally lies slantwise across the passage 16. A trip plate 25 is pivoted eccentrically on the flange of a bearing 26 supporting one end of the shaft 6 and is adapted to be moved relatively to the coin-holding wheel 2 by means of a plurality of stops adjustably secured to the wheel, one of said stops being shown at 27 in Fig. 1. The said trip plate is thus moved eccentrically by the stops in such a manner that its turned-over part 28, which contacts with one or other of said stops, travels inwards towards the centre of the wheel 2 and, in a certain position in the rotation of the latter, disengages the stop. The trip plate is returned backward under the action of a spring (not shown) until it strikes another stop 27 provided on the wheel 2. As will be apparent from Fig. 1, the trip plate 25 prevents the coins falling out of the coin-

slots 3 at the bottom of the wheel as long as it moves in company with the latter but allows coins to fall from some of the coin-slots when moved backwards relatively to the wheel. The number of coins allowed to fall from the wheel depends upon the distance the trip plate is allowed to move backward and, therefore, upon the position of the stops 27 on the wheel.

The casing 1 is provided with a forwardly projecting platform 30 provided with a curved coin track 29 and formed at its inner end with a slot 31 which is in alignment with the coin-slot and sufficiently large to allow a coin to fall through it into the interior of the casing. The coin-projecting device is arranged on the platform 30 adjacent the outer end thereof, said device, see Figs. 1, 3 and 4, comprising a casing 32 provided with a coin slot 33. A trigger 34 is slidably arranged in the casing and comprises two jaws 35 and 36 which are pivoted at 37 and are terminated, respectively, by finger grips 38 and 39. The side walls of the casing 32 are slotted as shown at 40, Fig. 1, in order to permit the jaws 35 and 36 to open when finger pressure is applied to the finger grips 38 and 39 and the trigger is pulled towards the player. An arm 42 is fixed to a transverse shaft 43 rotatably arranged in the said casing, the arm being normally held in a vertical position against a stop (not shown) by means of a spring 44 anchored at one end to an arm 45 on the shaft 43 and at the other end to a pin 46 fixed in the casing 32. The latter is arranged to pivot as a whole about its rear end by means of a stud 47 which is passed through a hole 48 in the bracket 30 and provided with a nut 49. A glass plate 50 is arranged to extend from the casing 32 to the partition 13 and prevents access to the space 51, Fig. 1, through which the coins are projected.

In using the apparatus, the player inserts a coin 52 through the coin slot 33 in the casing 32, said coin pivoting the arm 42 slightly to the left, as viewed in Fig. 1, against the action of the spring 44. The coin passes through the slot 54 formed between the arms 35 and 36 of the trigger 34 and rests upon the bottom wall 55 of the casing. The player holds the finger grips 38 and 39 and "sights" the projecting device until it appears to him that the longitudinal slot 56 in the casing 32 is in line with the opening 14 in the partition 13. He then draws the trigger 34 towards him, the coin being thus drawn in the same direction by the trigger, the latter pivoting the arm 42 towards the left and still further extending the spring 44. The pressure of the player's fingers on the finger grips 38 and 39 causes the jaws 35 and 36 to pivot outwards about the pivot 37 up to the point when the opening between the in-turned ends 57 and 58 of the jaws is wider than the thickness of the coin. The latter is thus no longer held by the ends 57 and 58 against movement out of the trigger and is therefore propelled towards the partition 13 by the arm 42 acting under the pull of the spring 44. The said arm strikes slightly above the centre of the coin, thereby imparting a rolling movement to the coin which tends to keep it running forwards in a straight line. Further, owing to the fact that the coin track 29 is curved, the centrifugal force of the coin in traversing the track causes the coin to press hard against the track and maintain the rolling action. The trigger is re-set by being pushed forwards in the casing away from the player.

Assuming that the player has been accurate in his aim and that the blow imparted to the coin has been sufficiently strong, the coin will run in a straight line over the track 29, jump the opening 31 and pass through the slot 14 in the partition 13 and through one of the slots 11 in the flange 12 of the disc 7. Thence, the coin passes downwards through the bore 16 of the trunk 15 and in its descent therethrough strikes the arm 23 fixed to the shaft 21, which, together with the escapement 22, is turned in a clockwise direction as viewed in Fig. 2. A projection 59 provided on the escapement is disengaged from the straight face 60 of the tooth 4 on the coin-holding wheel 2, while the coin continues in its movement down the bore 16 of the trunk 17 having, in the meantime, however, caused a projection 61 at the other end of the escapement to engage with the sloping face 62 of one of the other teeth 4 and to exert pressure thereon tending to turn the wheel in the direction indicated by the arrow in Fig. 2. The coin falls from the end of the bore 16 into one of the coin slots 3 where it is held against further movement by the shoulder 5. The weight of the coin, assisted by the pressure of the projection 61, causes the wheel 2 to move forward in the direction indicated by the arrow and the wheel is prevented from further movement by the engagement of the projection 59 on the escapement with the straight face of the tooth 4 immediately following the one which it previously engaged, the arrangement of the escapement, shaft 21 and arm 23 being such that the escapement will always return to its normal position, as shown in Fig. 2, after the coin has passed beyond said arm in the bore 16.

Even although the player has been successful in projecting the coin through the slot 14 and through one of the slots 11 in the flange 12 of the disc 7, he will not necessarily be successful in having returned to him one or more coins from the wheel 2. As previously mentioned, the release of coins from the wheel depends upon the relative movement of the trip plate 25 and the wheel. At certain positions in the rotation of the wheel the trip plate 25 which, up to that point, has been moved in company with the wheel by reason of the engagement of its part 28 with a stop 27, will, in view of its eccentric mounting, disengage the stop. The trip plate is then moved backwards relatively to the wheel 2 under the action of its spring, thereby uncovering one or more of the coin-holding slots 3 and permitting the coin or coins to fall therefrom into the chute 18, whence they pass into the trough 20. The backward movement of the trip plate 25 continues until it strikes the stop 27 immediately following that which it has previously disengaged. It will be observed that the coin-holding wheel 2 and the disc 7 are advanced through a definite and predetermined step every time a coin falls from the bore 16 of the trunk 17 into a coin-slot, the escapement 22 being released temporarily from engagement with one of the teeth 4 of the wheel and engaged with the next tooth as the wheel advances. The stops 27 are fixed in predetermined positions on the wheel and disengage the trip plate 25 at predetermined positions in the rotation of the wheel, whereby the return of coins to the player follows a predetermined and definite order.

It will be understood that coins which do not pass through the slots 11 will fall into the interior of the casing 1 to be retained therein until the casing is opened.

For the purpose of keeping a check on the number of times the apparatus has been used, the shaft 43 is operatively connected in any desired manner to a counting device 64, Fig. 1 while the number of steps through which the coin holding wheel 2 is advanced is recorded by means of a recording device 65 operatively connected to the shaft 6.

Although the invention has been described specifically with reference to a constructional form thereof in which coins are propelled at target slots, it will be understood that the invention is not restricted to such an arrangement.

The player may either propel a coin or the like at the target or a ball which could be released, for playing or propelling at the target, on the insertion of a coin into the machine. Instead of the coins or the like being automatically returned to the player, they could be handed to him from the machine, as and when he is successful, by an attendant.

Electrical contacts may be applied for any purpose, such as ringing a bell or illuminating numbers or the like after each successful game, or any other known means of attracting and increasing the fascination of the game may be utilised. Thus, projections could be fitted on the disc 7, so that when a target is struck and the disc revolves, the projection would close an electric circuit to ring a bell or light a sign.

The number and amounts of the targets of value may be more or less than the total number of targets for any desirable reason, thus the game may be extremely simple so that even people who are unskilful may achieve a large number of wins.

Means, such as a replica of the disc 7, may be provided at the exterior of the machine, to enable any player to predetermine the next appearing target or targets and (or) all future targets and the order of their appearance.

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. Apparatus for playing a game of skill in which coins, discs or tokens may be returned to the player if the latter is successful in playing the game, and comprising targets arranged in a predetermined order and caused to appear in a predetermined sequence after each successful game, some of said targets having no value in order that the player can accumulate coins, discs or tokens which will be returned to him if and when he is successful in playing at a subsequent target of numerical value.

2. Apparatus for playing a game of skill comprising targets arranged in a predetermined order and caused to appear in a predetermined sequence after each successful game, some of said targets being of no value, the arrangement being such that a target will not move out of its position until the player has been successful in playing at it, whereby if the player is unsuccessful in playing at a target of value it will still remain in position to be played at, thereby giving the player further opportunity of recovering coins, discs or tokens which he has accumulated in successfully playing at preceding targets of no value.

3. Apparatus as claimed in claim 1 or 2, comprising means for playing or propelling missiles at said targets, and mech-

anism operated by skilfully played or propelled missiles for allowing the targets to be moved and permitting the operation of means controlling the return of coins to the player.

4. Apparatus for playing a game of skill, comprising means for propelling coins, a number of targets, a coin-holding member adapted to receive skilfully propelled coins, means interposed between said targets and coin-holding member which, when operated by the coin, releases said member and targets for forward movement, and means operated by the coin-holding member for permitting a predetermined number of coins to fall therefrom at predetermined positions in its advance.

5. Apparatus for playing a game of skill, comprising a rotatable member, a plurality of coin-slots formed therein, means for guiding coins into said slots, a plurality of target-slots rotatable in juxtaposition to one end of said guiding means, a device for propelling coins at said target-slots, mechanism, operated by coins passing through said target-slots and guiding means, for permitting said rotatable member and the target-slots to advance and ensuring that their advance shall be predetermined, and means operated by the rotatable member for permitting predetermined quantities of coins to fall from the rotatable member to be returned to the player at predetermined positions in its rotation.

6. Apparatus as claimed in claim 5, in which the coin-propelling device is separated from said target-slots by means of a partition or the like provided with a slot forming a target at which the coins propelled from said device are aimed by the player.

7. Apparatus as claimed in claim 5 or 6, in which a coin successfully propelled by the player through one of said target-slots operates escapement mechanism and releases the coin-holding member for rotational advance said mechanism further acting to limit the rotation of the coin-holding member.

8. Apparatus as claimed in any of claims 5 to 7, in which the advance of the coin-holding member is caused by the weight of the coin engaging in one of the coin-slots in said member.

9. Apparatus as claimed in any of the preceding claims 5 to 8, in which a trip plate, movable relatively to the coin-holding member and operable thereby in a definite and predetermined manner controls the release of coins to be returned from said member to the player.

10. Apparatus as claimed in any of the preceding claims 5 to 9, wherein the coin-propelling device comprises a trigger having movable jaws which retain the coin in position in the trigger until the latter is pulled towards the player, and a spring-pressed member which propels the coin from the trigger when the latter is released for forward movement.

11. Apparatus as claimed in claim 10, in which the trigger is arranged to strike the coin slightly above its centre in order to start it rolling.

12. Apparatus as claimed in claim 10 or 11, in which the coin is made to travel towards the target over a curved track so that the centrifugal force of the coin in passing over the track causes the coin to press against the track and maintain its rolling action.

13. Apparatus as claimed in any of the preceding claims 4 to 12, in which the target is propelled or advanced as the result of one side of the coin-holding member being filled with or containing coins while the other side thereof is empty.

14. Apparatus for playing a game of skill, substantially as described with reference to the annexed sheet of drawings.

Dated the 14th day of March, 1929.

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Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1929.

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

Fig. 2.

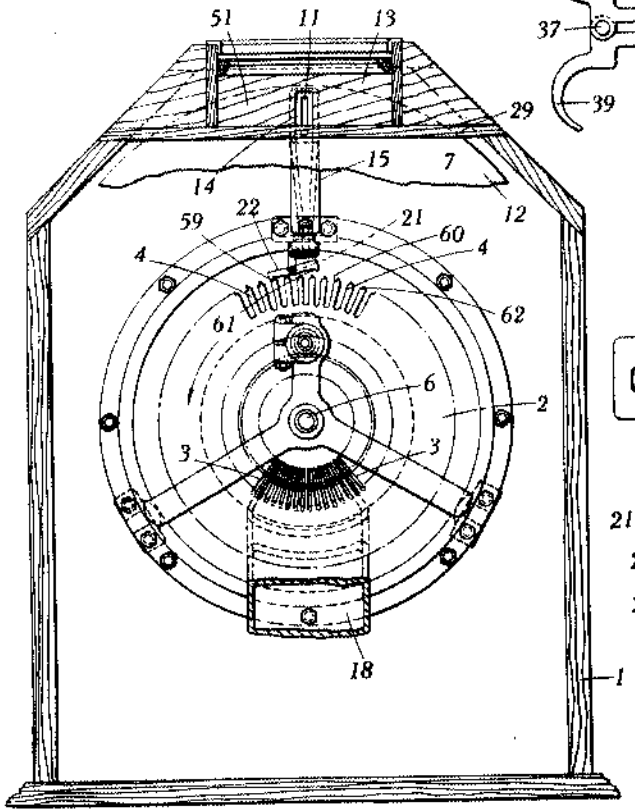


Fig. 3.

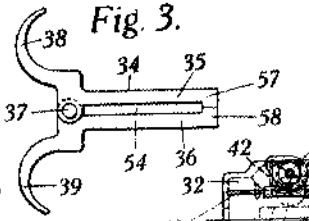


Fig. 1.

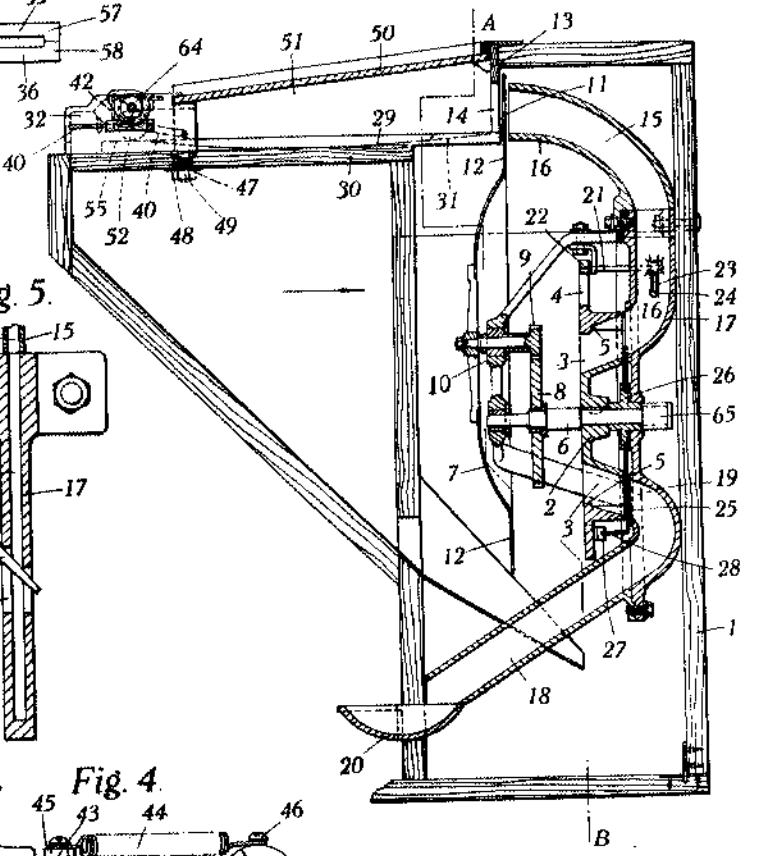


Fig. 5.

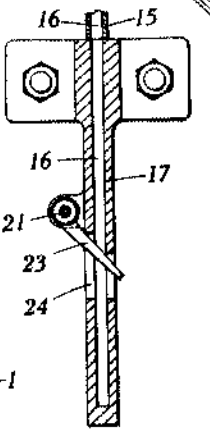
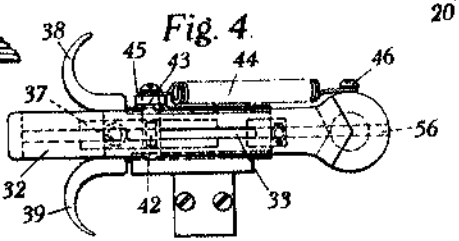


Fig. 4.



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