PATENT SPECIFICATION

346,696

Application Date : Jan. 4, 1930. No. 398/30.

Complete Left : Nov. 4, 1930.

Complete Accepted : April 7, 1931.

PROVISIONAL SPECIFICATION.

Improvements in and relating to Coin-freed Amusement Machines.

We, WESTON MONTAGUE, trading as THE BRITISH AMERICAN NOVELTY COMPANY, and VICTOR HAYDON, both British Subjects and both of 49, Fetter Lane, London, E.C. 4,

do hereby declare the nature of this invention to be as follows:—

This invention relates to coin-freed shooting machines of the kind in which a captive pistol is provided to shoot balls at a target comprising a plurality of pivoted objects which fall when struck by a ball and are replaced by a hand setting lever.

The object of the present invention is to provide an improved construction of shooting machine of the kind referred to in which two players can enter into a competition of marksmanship.

According to this invention a shooting machine of the kind referred to preferably comprises two coin-freed pistols of known kind and two separate sets of targets each consisting of the same number of pivoted objects which fall when struck by a ball from the corresponding pistol.

The targets may for example each consist of five pivoted objects such as the representation of five cats on a wall, while one or more obstacles, such as representations of chimney stacks, trees or the like, are arranged so as to more or less mask one or more of the cats or other objects to be shot at, thus calling for the exercise of skill and ingenuity to hit the partly masked objects.

The two sets of targets and also the two pistols are preferably arranged side by side in a suitable case and separated by a glass partition so that the balls from the respective pistols can only be directed to the corresponding targets, while each player can see the results obtained by the other as the match proceeds.

A separate coin slot is provided for each player so that on insertion of the coins the pistols are primed and supplied in known manner with a predetermined number of balls which are discharged at the targets by the players who seek to knock down all the objects comprised in their respective targets.

The two players may fire off their alloted number of rounds simultaneously at their respective targets, and the one who succeeds in knocking over the whole group of objects comprised in his target may recover his own coin and that of his competitor while if either player succeeds in knocking over one less than the entire group he may recover his own coin, the other coin being retained by the machine.

If neither player succeeds in knocking over a sufficient number of objects both coins are retained by the machine.

As each object of the target group falls it releases a spring plunger from engagement with a spring-controlled latch bar, and when a sufficient number of objects in one group, say four cats, have been knocked over the latch bar is released so that it operates a gate which permits one of the coins to escape from a coin hopper into a return coin chute, and if all the objects, say five cats, in one target group are knocked over the spring plunger operated by the fall of the fifth object effects a further release of the latch bar so that it operates a second gate which permits the coin of the opposing player likewise to escape into the return coin chute in readiness for delivery to the successful player when the hand lever is operated for the purpose of releasing the coins from the coin chute and resetting the targets.

The objects of the two target groups are each mounted upon spring-controlled pivoted levers which rotate on their pivots when the respective objects are struck by a ball fired by the pistol.

As the target object falls back with its pivoted lever it depresses a spring-controlled plunger, the lower end of which is bent so as to engage a slot in the spring-controlled latch bar.

If four successive target objects are knocked over the four plungers individual thereto are released from the spring-controlled latch bar so that the latter can move sufficiently to open a coin gate and allow a coin from the receiving coin chute to escape into the corresponding return coin chute.

If the fifth object of the target group is also knocked over the corresponding plunger is released from the spring-con-

trolled latch bar so that the latter can make a further movement sufficient to open a second coin gate and allow the coin from the second receiving coin chute to escape into the corresponding coin chute.

The external hand lever is mounted upon a rotatable spring-controlled rod which is furnished with cams through which the targets are reset when the hand lever is operated, and is also furnished with a coin stop or stops that project into the return coin chutes so as to prevent return of the coins until the hand lever is operated.

The operation of the hand lever rotates the rod against the action of its controlling spring and causes certain of the cams carried thereon to lift pivoted spring-controlled resetting bars which return the fallen target objects and their levers to the normal vertical positions, while another cam or cams return the spring-controlled latch plates to their original positions in which the latch plates are retained by the spring plungers that return to their normal positions when the target objects are reset.

The rotation of the spring-controlled rod to reset the machine also withdraws the coin stops connected thereto from the return coin chutes, and simultaneously opens doors or slides in the receiving coin chutes. Thus any coin or coins in the return coin chutes are returned to the successful players while coins retained in the receiving coin chutes where the players are unsuccessful pass into the till of the machine.

After the hand lever has been operated to rotate the spring-controlled rod the latter is returned to its original position by the reaction of its controlling spring, the return movement of the rod bringing back the cams carried thereon to their normal positions and likewise closes the doors or slides in the receiving coin chutes and resets the coin stops in the return coin chutes in readiness for further play.

Dated this 1st day of January, 1930.

ELT & Co.,
Chartered Patent Agents,
14, Bedford Row, London, W.C. 1,
Agents for the Applicants.

COMPLETE SPECIFICATION.

Improvements in and relating to Coin-freed Amusement Machines.

We, WESTON MONTAGUE, trading as THE BRITISH AMERICAN NOVELTY COMPANY, and VICTOR HAYDON, both British Subjects and both of 49, Fetter Lane, London, E.C. 4, 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 shooting machines of the kind comprising two separate captive weapons and two similar target groups, which are adapted for operation by two players and require two coins to free the mechanism so as to enable the players to enter into a competition of marksmanship.

According to this invention in a shooting machine of the kind referred to two captive pistols are provided to project shots at the two similar target groups, while two separate coin-freed mechanisms are employed for controlling a common operating lever which is interconnected with the mechanism for resetting the two targets, and with mechanism for loading each of the pistols with a predetermined number of shots, the target objects being pivoted so that they can be knocked down when struck by shots from the corresponding pistol in order to operate coin-release mechanism by which a coin or coins is or are returned to the successful player.

The two separate sets of targets may, for example, each consist of five pivoted objects such as the representations of five cats on a wall, while one or more obstacles, such as the representations of chimney stacks or the like may be arranged to more or less mask one or more of the target objects, thus calling for the exercise of skill and ingenuity to hit the partly masked objects.

The two sets of targets and also the two pistols are preferably arranged side by side in a suitable case and separated by a glass partition so that the balls from the respective pistols can only be directed to the corresponding group of targets, while each player can see the results obtained by the other as the match proceeds.

A separate coin slot and coin-freed mechanism is provided for each set of targets which are also provided with corresponding coin release and re-setting mechanism which, together with the mechanism for priming the two pistols, are interconnected to a common operating hand lever.

By inserting a coin in each of the coin chutes the hand lever is freed so that it can be operated to set the targets and supply the two pistols with a predeter-

mined number of balls. The pistols are then discharged by the players who seek to knock down the objects comprised in the two groups of targets. The player who succeeds in knocking down all the target objects may recover his own coin and that of his competitor, while if either player succeeds in knocking down one less than the entire number of target objects he may recover his own coin; the other coin being retained by the machine. If neither player succeeds in knocking down a sufficient number of target objects both coins are retained by the machine.

An embodiment of the invention is illustrated diagrammatically in the accompanying drawings wherein similar references indicate corresponding parts.

Figure 1 is a front view of the machine, and Figure 2 a plan view thereof drawn to an enlarged scale with parts removed for clearness of illustration.

Figure 3 is a front sectional view taken on the line III—III (Figure 2) and drawn to an enlarged scale.

Figure 4 is a detailed view of parts of the coin-freed mechanism presently referred to.

Figure 5 is a rear sectional view taken on the line V—V (Figure 2) and drawn to an enlarged scale.

Figure 6 is a detailed plan view drawn to an enlarged scale of parts shown in Figure 5.

Figure 7 is a cross-sectional view on the line VII—VII (Figure 2) and drawn to an enlarged scale.

Figures 8, 9 and 10 are detailed views drawn to an enlarged scale of the pistol priming mechanism presently referred to.

A indicates the case of the machine, B and C the two separate coin slots and D and E the two captive pistols by means of which balls are projected against the two corresponding targets F and G each consisting of five displaceable objects representing cats on a wall, the two targets being arranged above a platform H and separated by a glass partition J mounted in the frame of the machine, as indicated at Figures 2 and 5.

b and *c* (Figure 3) are two coin chutes which receive the coins inserted one in each of the slots B and C in order to operate the mechanism for freeing lever K so that the same can be operated to release any coin retained in either of the two coin chutes, reset the two targets and prime each of the two captive pistols with the alloted number of balls.

The lever K is mounted fast on a shaft L that journals in a bearing carried by a bracket M secured to the underside of the platform H (see Figure 7), and is operated by means of an external handle N mounted on the front of the machine (see Figure 1).

The handle N is secured to the outer end of a spindle *n* journalled in the front of the machine case A, the inner end of which spindle carries a forked lever O that engages a pin *p* secured in the lower end of the lever K.

The lever K is furnished with a pivoted spring-controlled pawl *q* which works over a fixed segmental rack Q so as to ensure in known manner that the lever K moves a complete forward stroke before it can be returned.

The lever K is locked until a suitable coin is inserted in each of the coin chutes *b* and *c* by means of two detents 1 and 2 pivoted one behind the other on a fixed pin 3 so as to normally engage a stop 4 on the back of lever K (see Figures 3 and 4).

5 and 6 are two armed levers pivoted one on each of the coin chutes *b* and *c*, so that the arms 5*a*, 6*a* of the respective levers project into their corresponding coin chutes while the other arms 5*b*, 6*b* thereof carry counterweights 7 and 8 and are connected one to each of the detents 1 and 2.

The arm 5*b* of the lever 5 carries a pin 7*a* that engages a slot 1*a* in the detent 1, while the arm 6*b* of the lever 6 is bent down so as to engage a pin 2*a* mounted on the detent 2 (see Figure 4).

The levers 5 and 6 are partly tripped by the coins falling in the chutes *b* and *c*, so that the counterweighted arms 5*b* and 6*b* of such levers are raised and thus lift the detents 1 and 2 against a pivoted stop plate 9 (Figure 3), while the coins rest upon the lever arms 5*a*, 6*a*. The raised detents 1 and 2 clear the stop 4 on the lever K and thus enable the latter to be operated through the external handle N.

The upper arm of lever K is furnished with a nose-piece *k* while its lower arm carries a pin k^1 that projects from the back thereof so as to engage a lever R mounted behind the rack Q on a pivot pin *r* and controlled by a spring r^1 that is secured to the lower end of the coin chute *c*.

The upper arm of the lever R is connected by a link S to a lever T pivoted at the lower end of the coin chute *b*, while its lower arm is connected by a link S^1 to a corresponding lever T^1 pivoted at the lower end of the coin chute *c*.

As lever K is moved forward its nose *k* deflects the pivoted stop plate 9, and the inclined face 4*a* of its stop 4 lifts the detents 1 and 2, together with the arms 5*b*, 6*b* of the levers 5 and 6 connected thereto, while the pin k^1 turns lever R against the resistance of its spring r^1, thus turning the levers T, T^1 pivoted on the coin chutes.

The upper arms *t*, t^1 of the levers T, T^1

project into their respective coin chutes *b* and *c*, while their lower arms carry shutters U, U[1] which normally close the bottoms of the coin chutes *b* and *c*, as indicated at Figures 3 and 7.

When the levers T, T[1] are operated through the lever K the arms *t*, *t*[1] thereof enter the coin chutes *b* and *c* and intercept the coins released from the arms 5*a*, 6*a* of the levers 5 and 6 as the latter are rotated by the lever K, while the shutters U, U[1] are withdrawn from the lower ends of the coin chutes *b* and *c* and allow coins retained after a previous unsuccessful attempt in either of the chutes *b* and *c* to drop into the till of the machine through the hoppers V.

On the return stroke of lever K lever R is returned by its spring *r*[1] which restores levers T, T[1] to their normal positions shown at Figure 3 so that the coins drop to the bottom of the chutes *b* and *c* and rest upon the shutters U, U[1] as indicated at Figure 7, while the levers 5 and 6, together with the detents 1 and 2 also return to their normal positions indicated in Figure 3.

The operating shaft L which carries the lever K carries a loose lever 10 which operates the mechanism for priming the two pistols D and E, and is also provided with an arm 11 which operates the mechanism for resetting the two targets F and G.

The arm 11 is pivoted to one end of an inclined link 12, the opposite end of which is pivoted to a lever 13 mounted fast upon a shaft 14 that journals in brackets W secured to the underside of the platform H (see Figure 7).

The shaft 14 is connected through a lever arm 15 and links 16 to a corresponding lever arm 17 carried by a second shaft 18 that journals in brackets X secured to the platform H (see Figure 2).

The shafts 14 and 18 each carry a cam 19 that bears upon a roller 20 carried by corresponding levers 21 which serve to reset the targets F and G.

The objects *f* to *f*[4] and *g* to *g*[4] of the two targets F and G are each pivoted by a hinge 22 to a support 23 mounted on the platform H, and are supported by corresponding links 24 controlled by springs 25 each secured at one end to long brackets 26 mounted on the underside of the platform H.

The upper end of each link 24 is connected to the back of its target object by a short link 24*a*, while its lower end is pivoted to one end of a transverse link 27 which engages a recessed latch bar 28 and is pivoted on a fixed rod 29 mounted in the frame of the machine.

The spring-controlled link 24 of each target object is recessed in one of its longitudinal edges, as indicated at 30 (Figure 7), so that when the target object is raised the recess engages a stop 31 mounted on the platform H which is slotted as indicated at *h* to afford a passage for each of the spring-controlled links 24.

Each of the latch bars 28 is controlled by a spring 28*a* (Figure 5) so that both latch bars tend to move in the same direction, as indicated by the arrow.

The latch bars 28 are each prevented from moving by the transverse links 27 which engage corresponding recesses 28*b* in such bars, until the target objects *f* to *f*[3] or *g* to *g*[3] connected therewith are knocked down. When the four objects *f* to *f*[3] or *g* to *g*[3] comprised in either of the targets are knocked down, the corresponding latch bar 28 is released by the links 27 which fall with the target objects, so that such latch bar can move under the influence of its spring until an elongated recess 28*c* therein engages the transverse link 27 connected to the target objects *f*[4] or *g*[4]. On one or other of these latter being knocked down the corresponding link 27 is released from the recesses 28*c*, thus freeing the latch bar 28 so that it can move further under the influence of its spring.

The movements of each of the latch bars 28 operate the coin return mechanism through rods 32 and 38. Such rods are respectively supported at their rear ends in brackets 33, 33*a* (see Figs. 5 and 7) and at their front ends in the frame of the coin chutes *b* and *c*. The rear ends of the rods 32 and 38 are cranked downwards so that the cranked end 34 of the rod 32 is engaged by pins 35 mounted one on each of the latch bars 28 when either of the latter is released by the fall of the four target objects *f*—*f*[3], *g*—*g*[3], while the cranked end 39 of the rod 38 is engaged by pins 35*a* mounted one on each of the latch bars when either of the latter is released by the fall of the target objects *f*[4] or *g*[4] as presently explained.

The front end of the rod 32 carries an arm 36 on which is mounted a pin 37 that forms a gate in the return coin chute *b*[1] connected to the coin chute *b* (see Figure 7). When either of the latch bars 28 is released by the fall of the corresponding group of target objects *f*—*f*[3] or *g*—*g*[3] the consequent movement of the latch bar brings its pin 35 against the cranked end 34 of the rod 32, thus turning the latter sufficiently to withdraw the gate pin 37 from the return coin chute *b*[1], thereby releasing the coin which returns to the external coin cup A[1] (see Figs. 1 and 2).

When the latch bar 28 already released by the fall of its corresponding target objects is further released by the

fall of the remaining target objects f^4 or g^4 as the case may be, the further movement of the latch bar brings its pin 35*a* against the cranked end 39 of the rod 38, thus operating the latter. The front end of the rod 38 carries an arm 40 on which a gate pin 41 is mounted to control the return of the coin from the coin chute *c*; that is to say, when the rod 38 is operated by the further movement of the latch bar the gate pin 41 is withdrawn so as to release the coin from the chute *c* to the return coin chute c^1, from which it passes to the external cup A^1.

The objects of the two targets F and G are simultaneously reset on the forward stroke of the lever K which turns its shaft L and the arm 11 carried thereon so that the latter turns the shafts 14 & 18 through the connecting links and levers, thus bringing the cams 19 mounted one on each of such shafts into engagement with the rollers 20 on the corresponding pivoted resetting bars 21, thereby raising such bars so that they lift the links 27 and 24 and thus reset the target objects.

The cams 19 are furnished with extensions 19*a* which are adapted to engage arms Z carried one on each of the latch bars 28 so that when either of such bars has been displaced by the fall of the corresponding group of target objects it is restored to its normal position by the engagement of the corresponding cam extension 19*a* with its arm Z, so that the cam 19 can lift the transverse links 27 into engagement with the recesses 28*b* in such bar.

The cams 19 and the shafts 14 and 18 are returned to their normal positions on the return stroke of the lever K and the arm 11 on the operating shaft L.

The loose lever 10 on the operating shaft L is connected to the pistol priming mechanism through a rock shaft 50 which journals in a bearing 51 mounted at the back of the coin chutes *b* and *c*. Such rock shaft carries two arms 52 mounted fast one on each end thereof (see Figures 3 and 9), and carries an intermediate arm 53 which engages one arm 10*a* of the loose lever 10 mounted on the operating shaft L, the other arm 10*b* of which lever is engaged by the cranked end 54*a* of a lever 54 which is pivoted in a bracket 55 mounted in the frame of the machine (see Figure 5).

The lever 54 is slotted at 54*b* and is connected by a pin 56 to the arm 11 carried by the operating shaft L so that the movements of the latter are transferred to the pivoted lever 54. On the forward stroke of the lever K, operating shaft L and arm 11, the lever 54 is carried over by the arm 11 so that its cranked end 54*a* deflects and passes the arm 10*b* of the loose lever 10. On the return stroke of the arm 11 the cranked end 54*a* of the lever 54 engages the arm 10*b* of the loose lever 10 and rotates the same on the shaft L so that its arm 10*a* is depressed and turns the rock shaft 50 through the arm 53 mounted thereon.

The arms 52 turn with the rock shaft 50 against the resistance of springs 52*a*, and project through slots H^2 in the platform H so that each arm 52 engages an arm 57 carried by a lever 58 pivoted at 59 on the upper surface of the platform H and controlled by a spring 60.

One arm of the lever 58 is pivotally connected to a sliding lever 61 and carries a pivoted lever 62 which is controlled by a spring 63 anchored to the platform H.

The sliding lever 61 forms a gate to a ball tube 64 which is fixed on the platform H in alignment with a pivoted tubular guide 65 that leads to one of the pistols.

The balls for the pistols collect in the grooves or runways 66 formed on the upper surface of the platform H and pass into the ball tubes 64 in which they are normally retained by the gate levers 61.

When the lever 58 carrying the gate lever 61 and pivoted spring controlled lever 62 is turned by the arm 52 against the tension of its controlling spring 60, the gate lever 61 and the pivoted lever 62 are displaced laterally so that the end of the lever 62 enters the lateral slot in the ball tube 64 and separates a predetermined number of balls, while the gate lever opens the end of the ball tube 64.

As the turning movement of the lever 58 is continued the arm 52 of the rock shaft 50 escapes the arm 57 of the lever 58 and bears against one arm of the pivoted lever 62, thus turning the latter against the resistance of its spring 63, so that it pushes the balls through the open end of the ball tube 64 into the pivoted tubular guide 65 which delivers the balls to the pistol in known manner.

As the return stroke of the arm 11 is completed the arms 52 and the levers 58, 61 and 62 are returned to their normal positions by their respective controlling springs.

In order to guide the balls into the ball grooves or runways of the targets, inclined sheet metal or other suitable guides 70 are arranged behind and in front of the targets upon the platform H, which latter is inclined from the targets F & G towards the pistols D and E.

The improved mechanism for controlling the delivery of the balls to the captive pistols ensures that the latter are only primed with the predetermined number of balls, while it enables an excess number

of balls to be placed in the machine so as to compensate for any balls which may not return to the runways.

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

1) A coin-freed shooting machine of the kind referred to, comprising two separate captive pistols adapted to project shots at two similar groups of pivoted target objects, and two separate coin-freed mechanisms for controlling a common operating lever that is interconnected with mechanism for resetting the two target groups and with mechanism for priming each of the pistols with a predetermined number of shots, said target objects when knocked down being adapted to operate coin release mechanism so as to return a coin or coins to the successful player, substantially as described.

2) A coin-freed shooting machine according to Claim 1 in which the mechanism for priming a captive pistol comprises a sliding gate and a pivoted spring-controlled separating lever which are carried on a pivoted operating lever and adapted to coact with a fixed ball tube so as to separate a predetermined number of balls and deliver the same to a pivoted guide tube from which they pass to a corresponding captive pistol, substantially as hereinbefore described and illustrated in Figures 8, 9 and 10 of the accompanying drawings.

3) A coin-freed shooting machine of the kind referred to, constructed, arranged and adapted to operate substantially as and for the purposes hereinbefore described and illustrated by way of example in the accompanying drawings.

Dated this 4th day of November, 1930.

ELT & Co.,
Chartered Patent Agents,
14, Bedford Row, London, W.C. 1,
Agents for the Applicants.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1931

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Fig. 1.

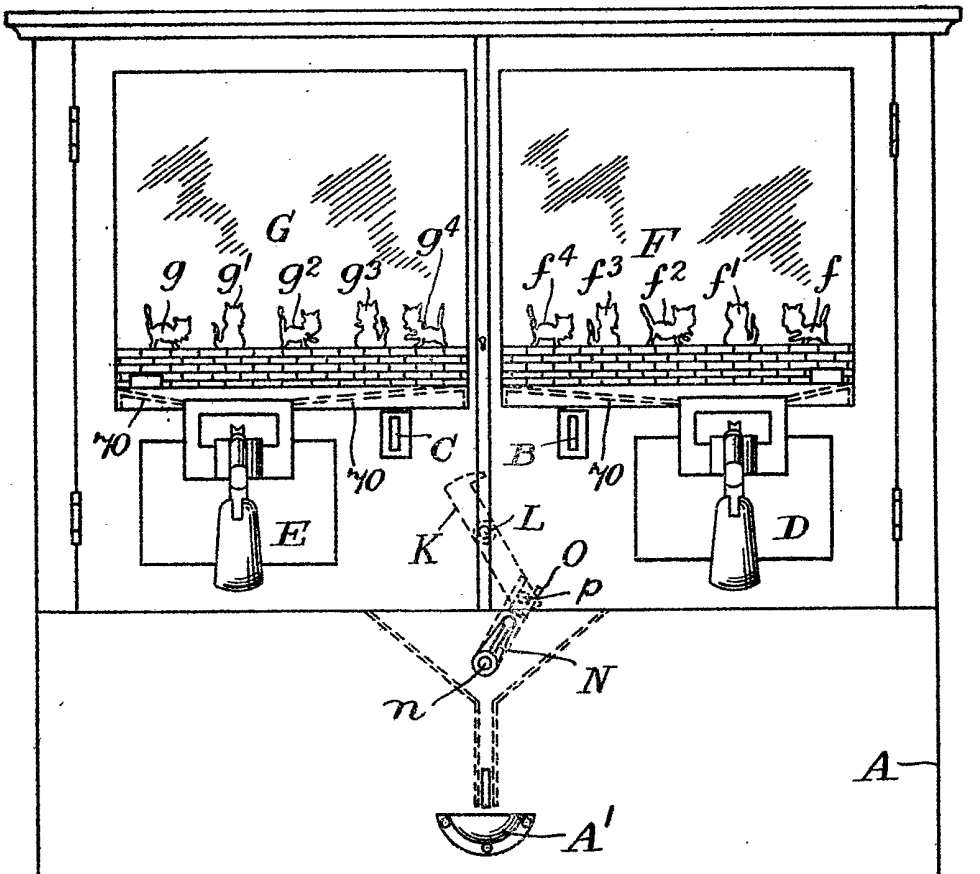

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Fig. 2.

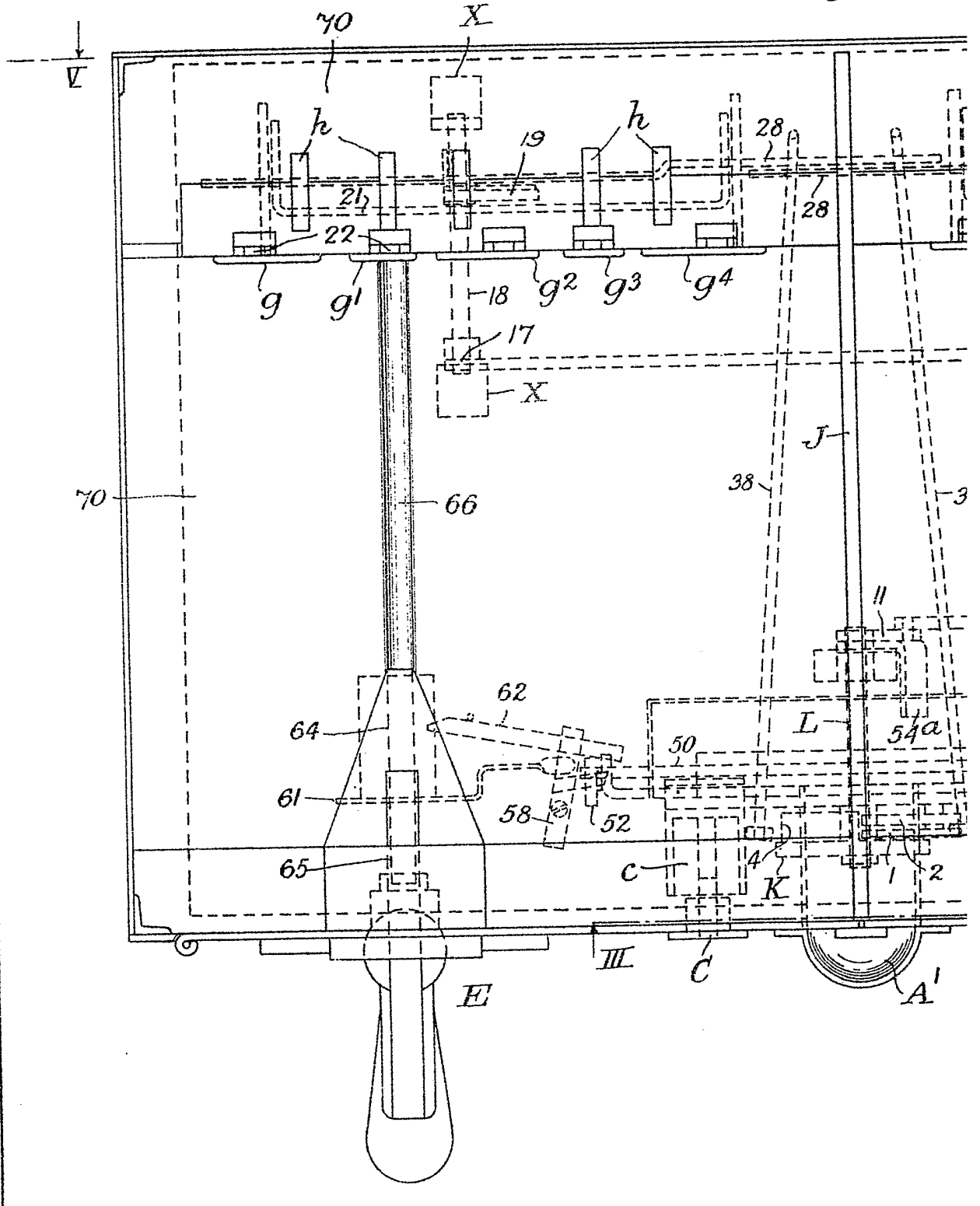

Fig. 2.

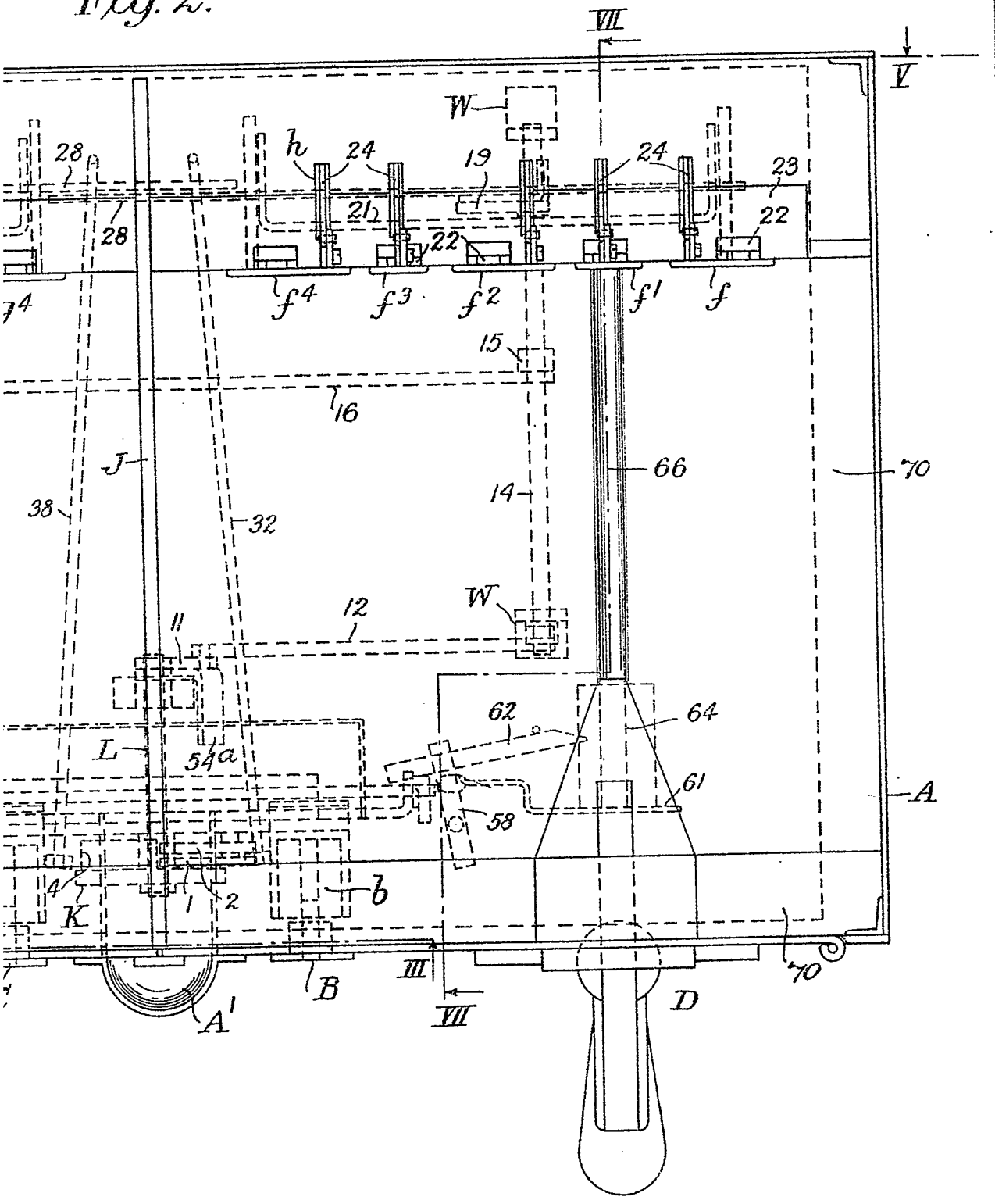

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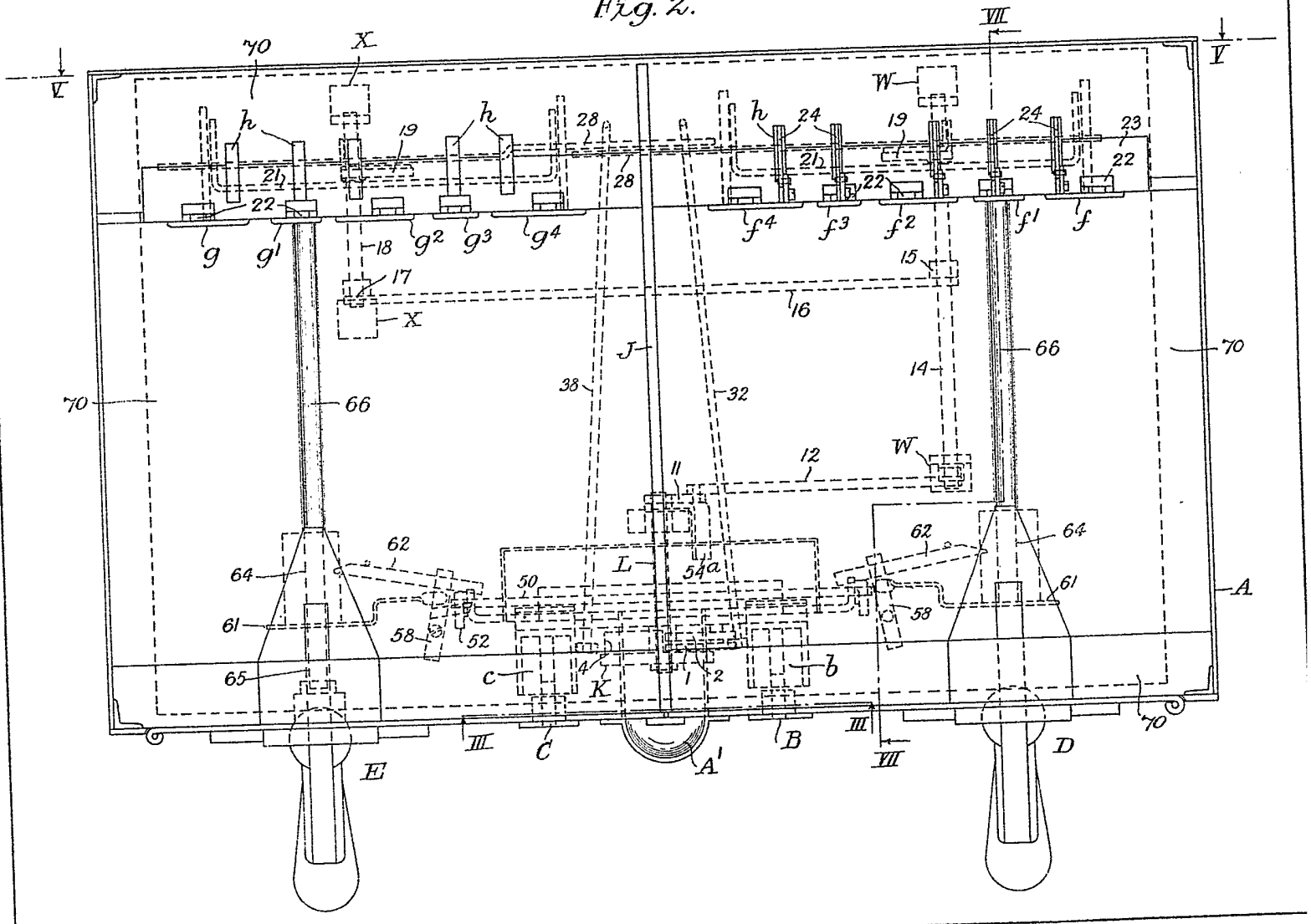
Fig. 2.



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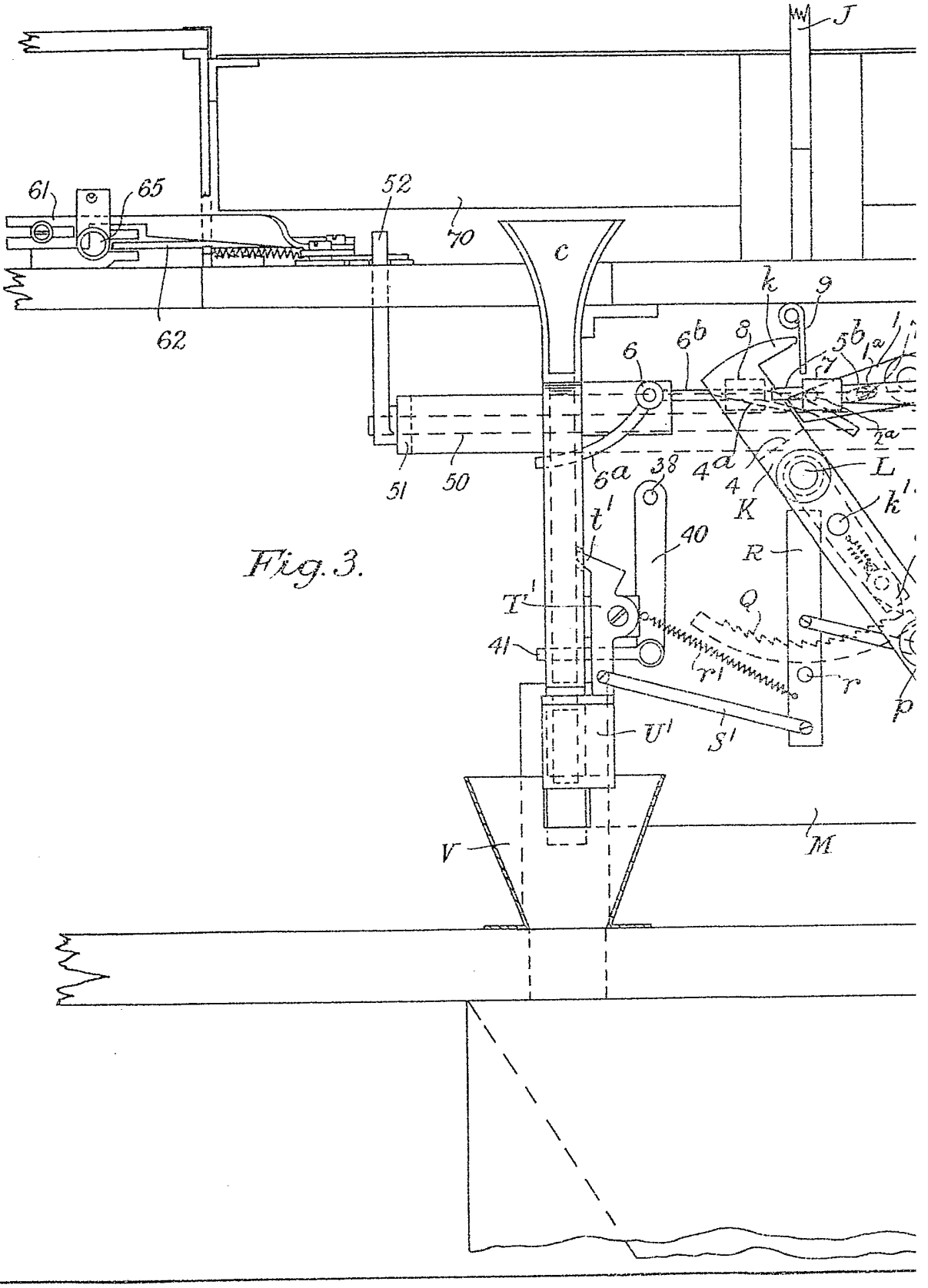
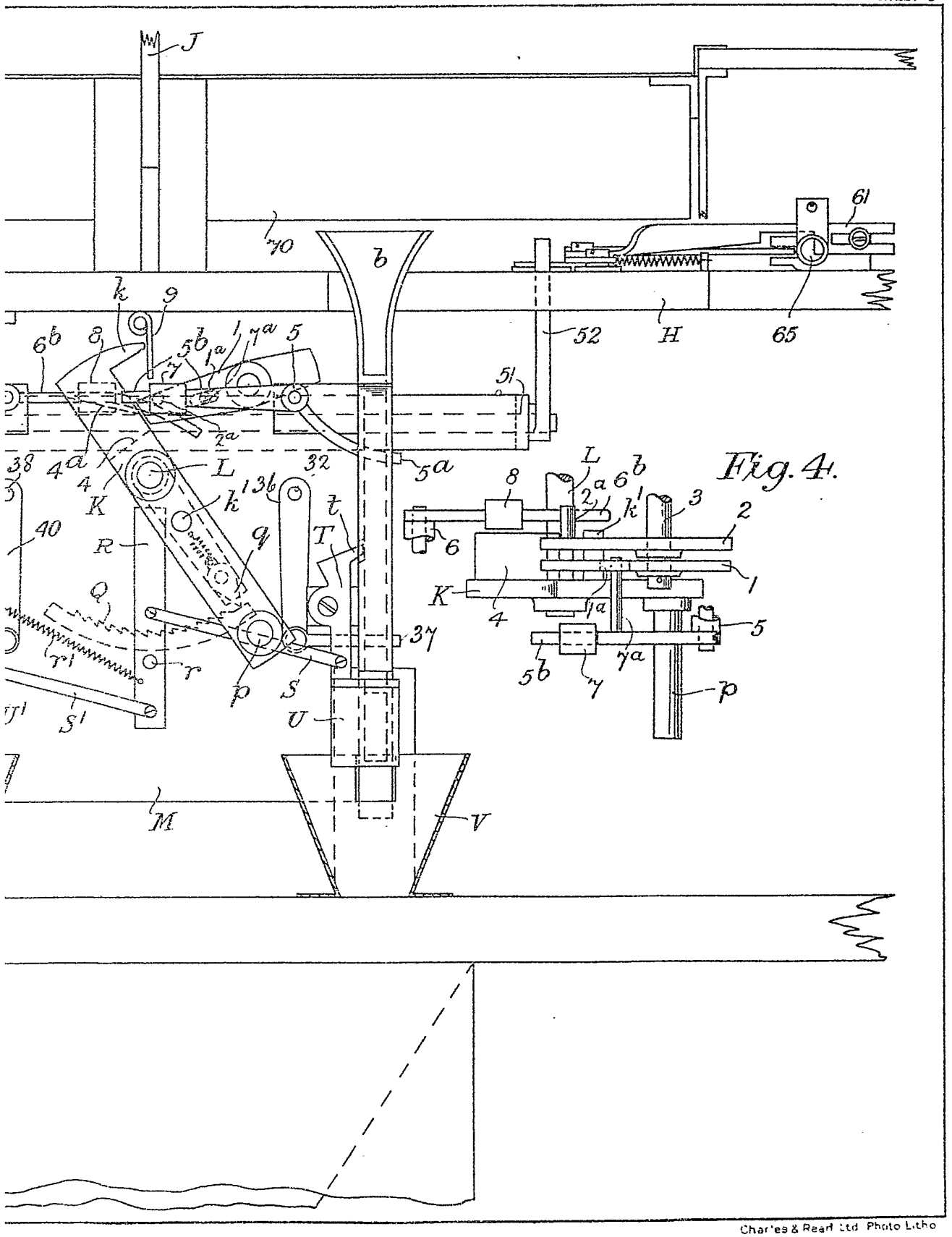


Fig. 3.



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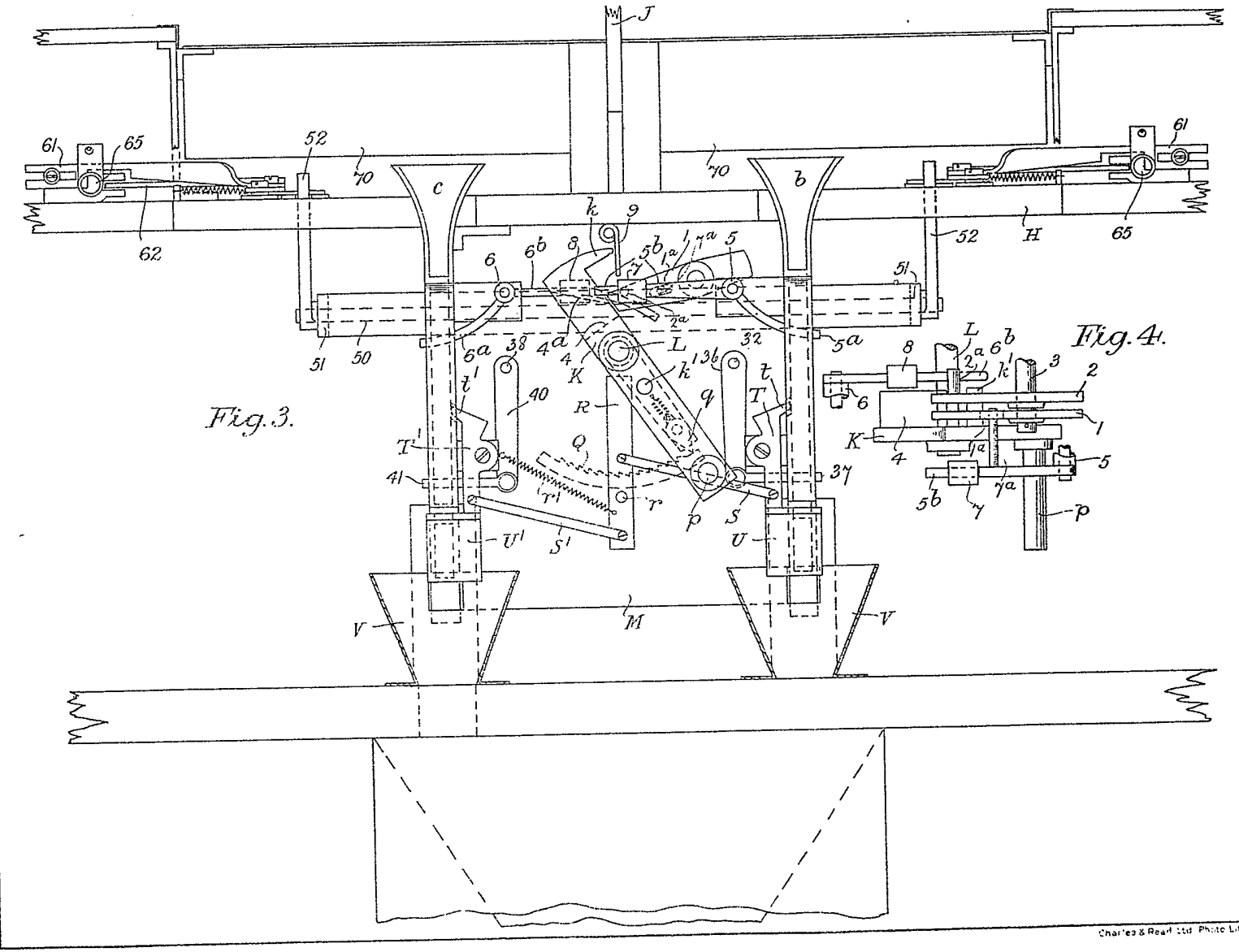

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Fig. 5.

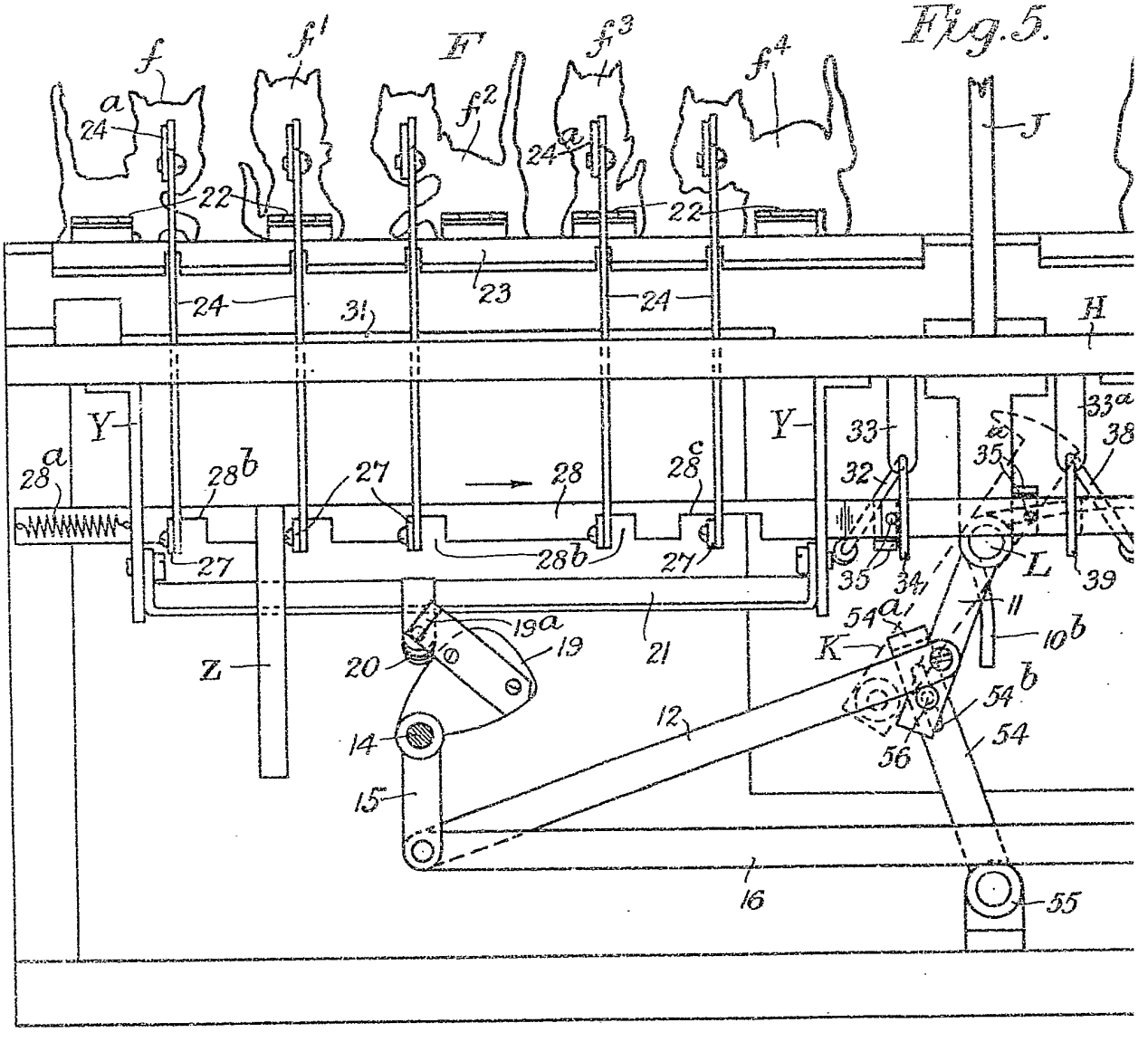

Fig. 6.

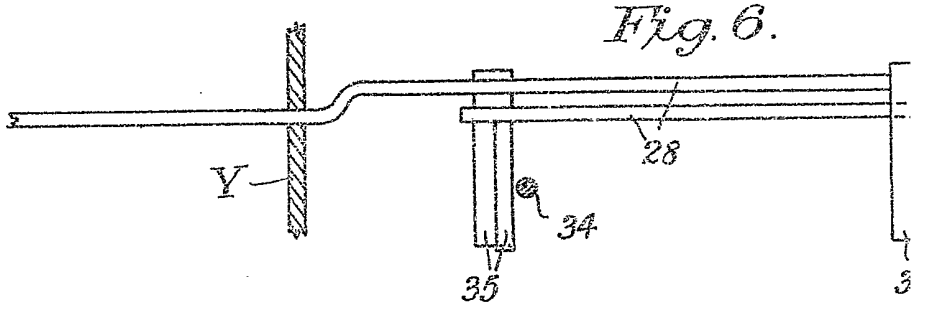

Fig. 5.

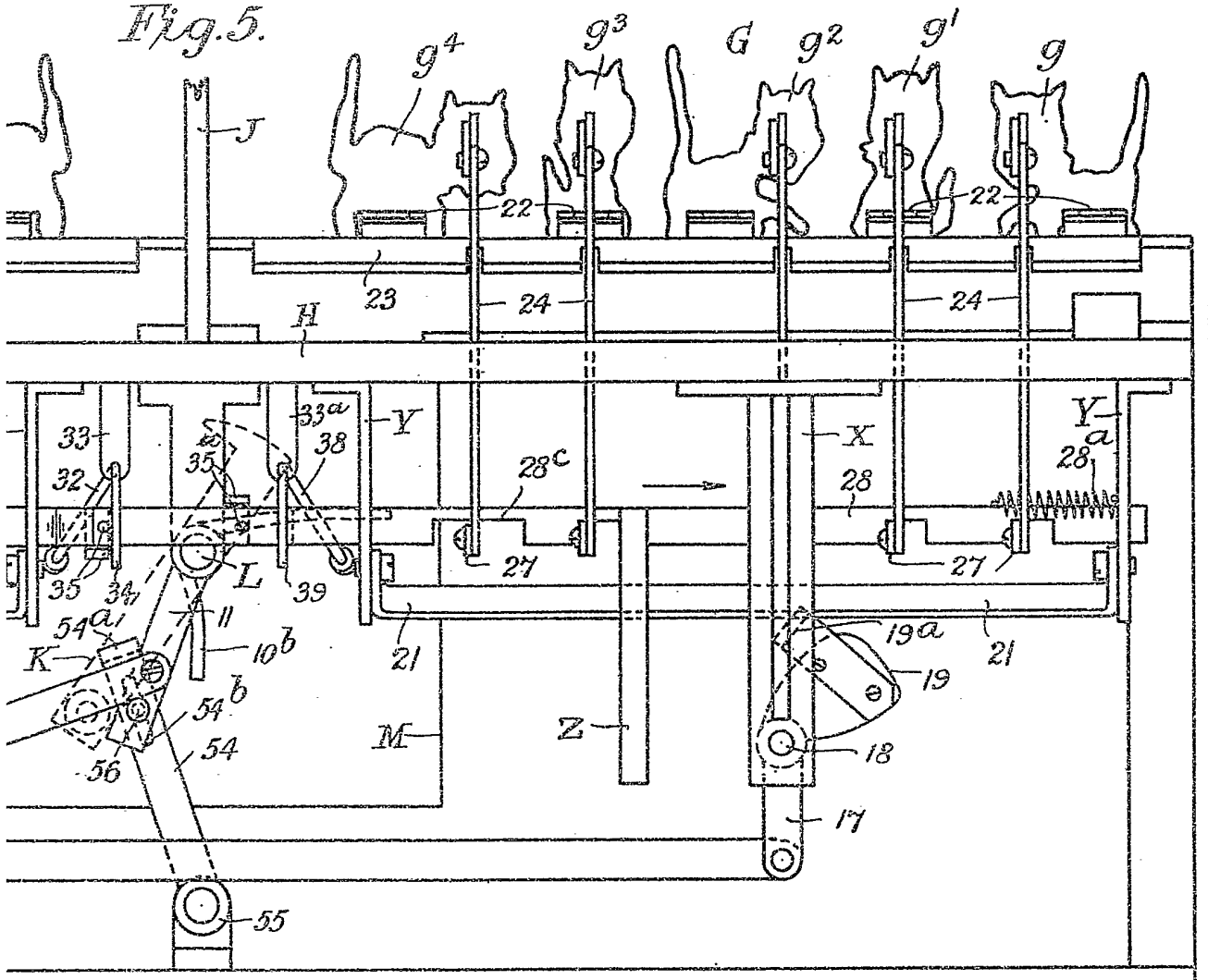

Fig. 6.

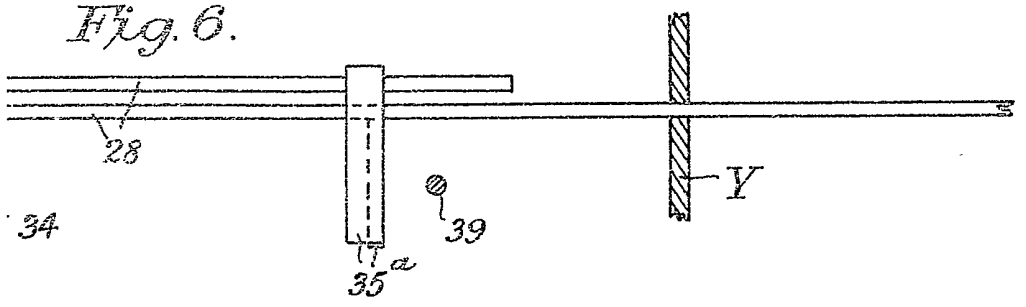

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Fig. 5.

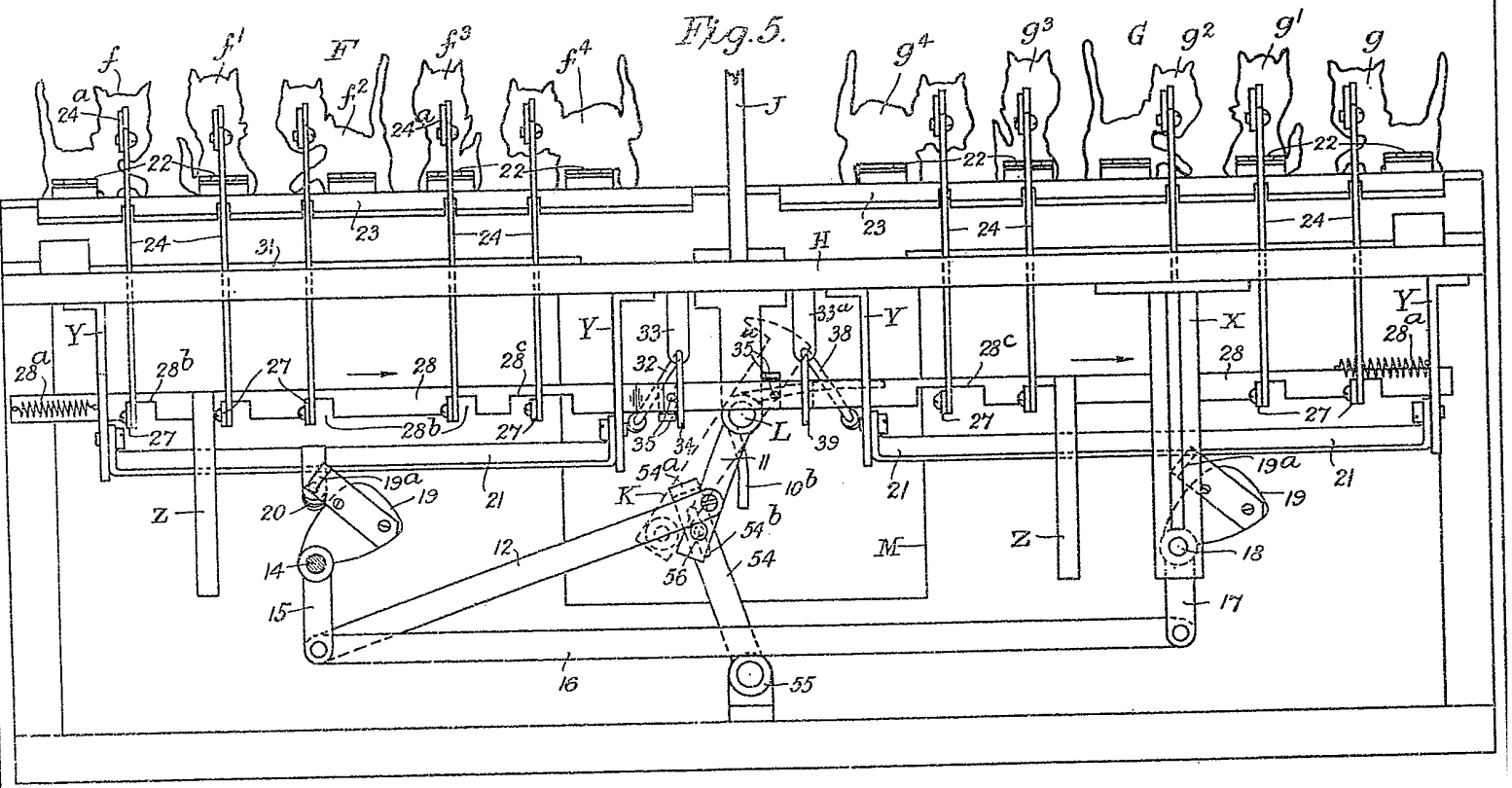

Fig. 6.

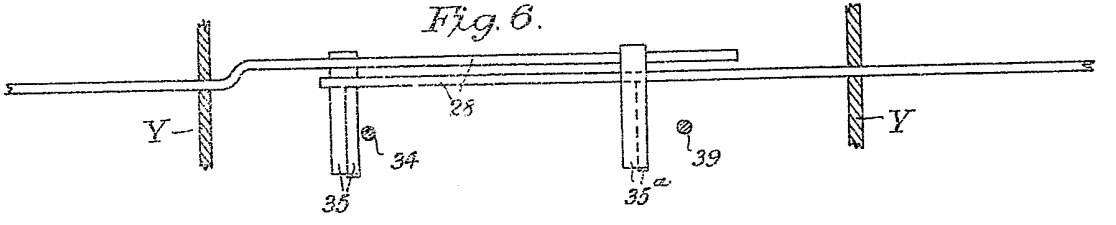

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Fig. 7.

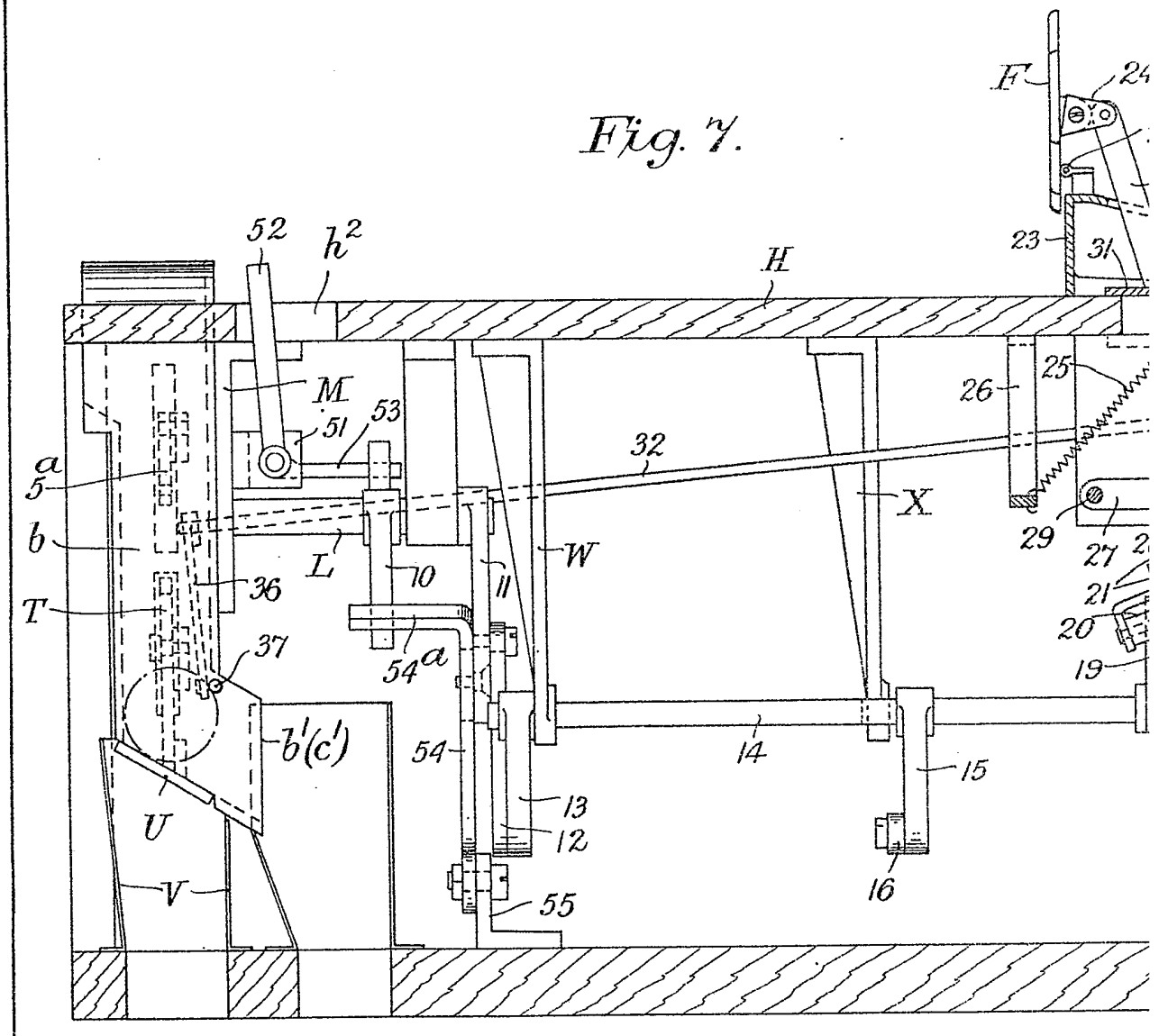


Fig. 9.

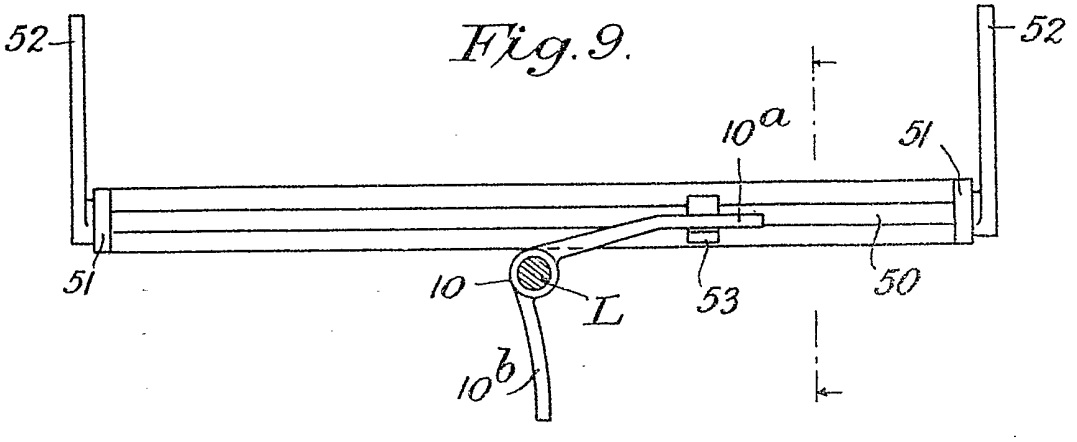


Fig. 8.

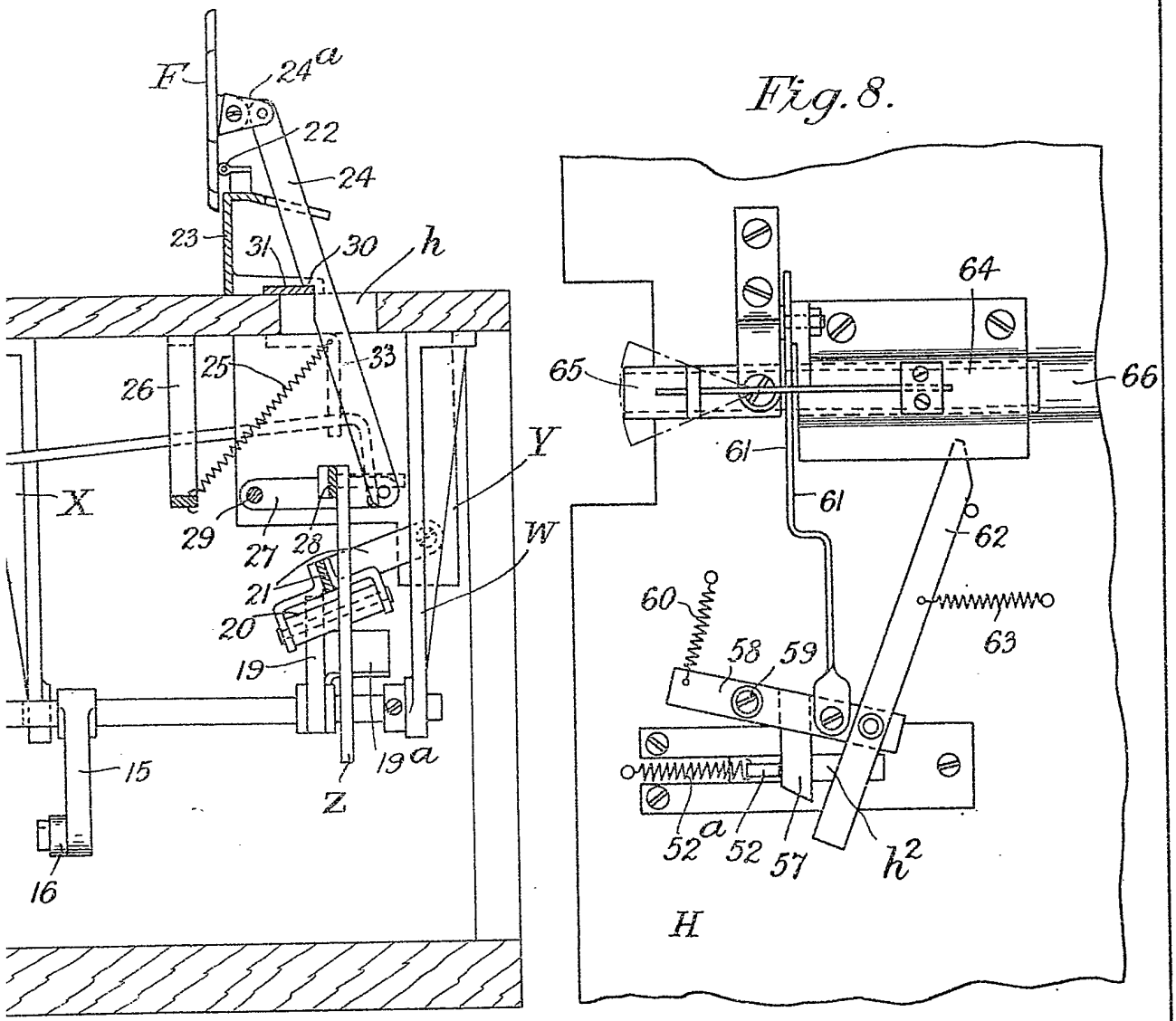
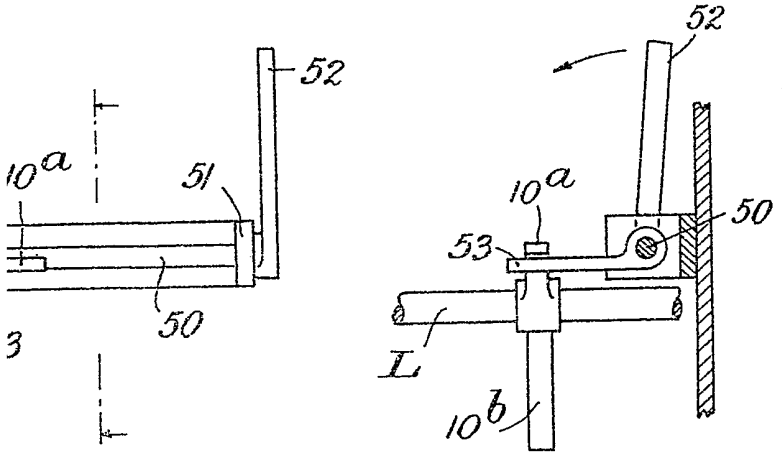


Fig. 10.



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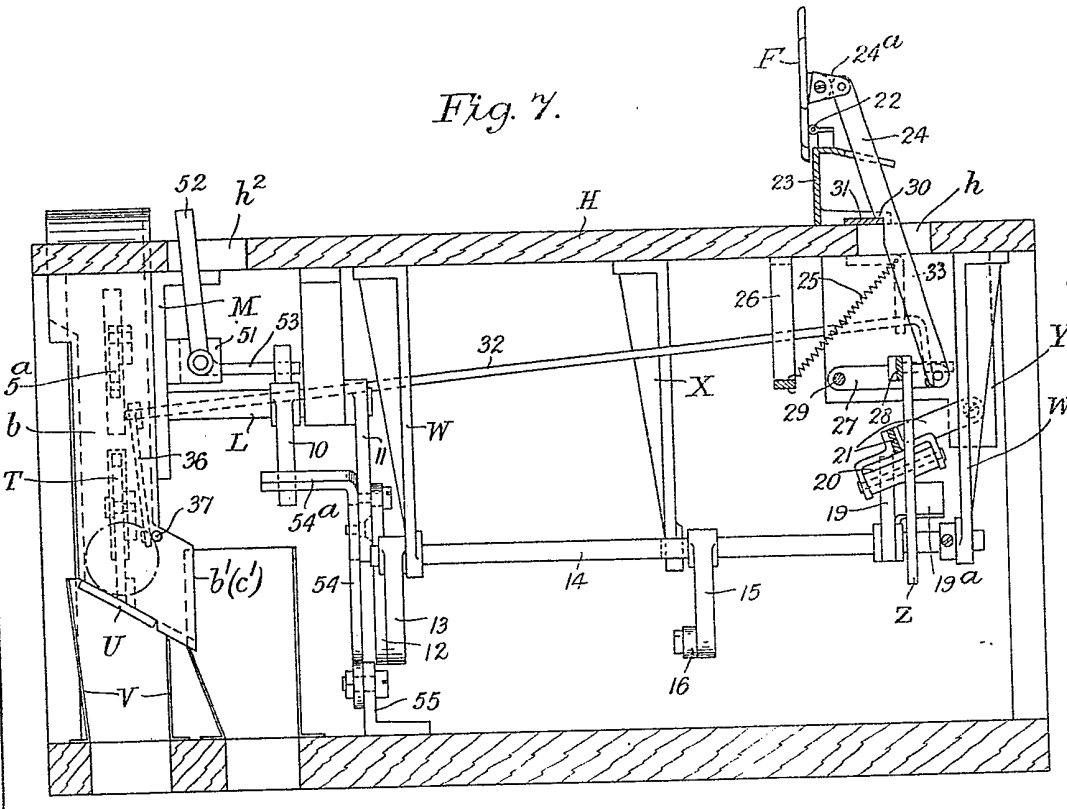


Fig. 8.

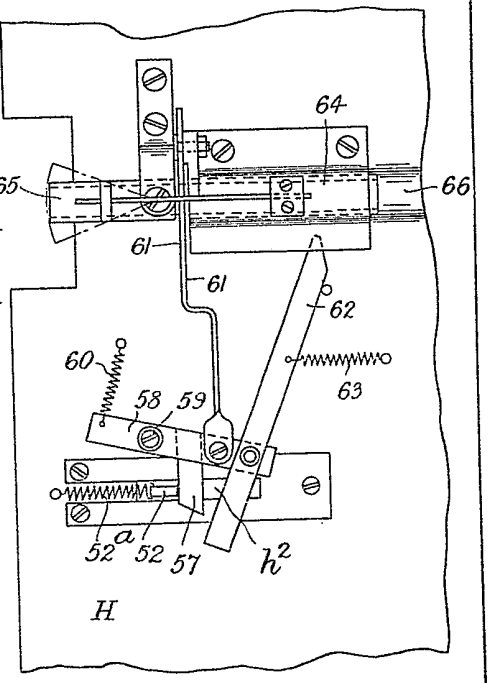
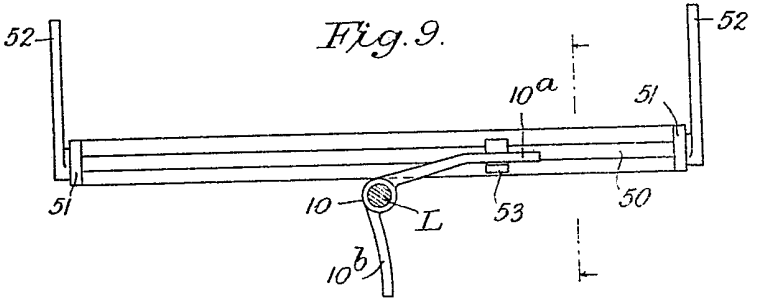


Fig. 9.



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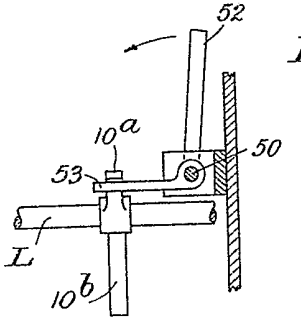

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