

No. 696,742.

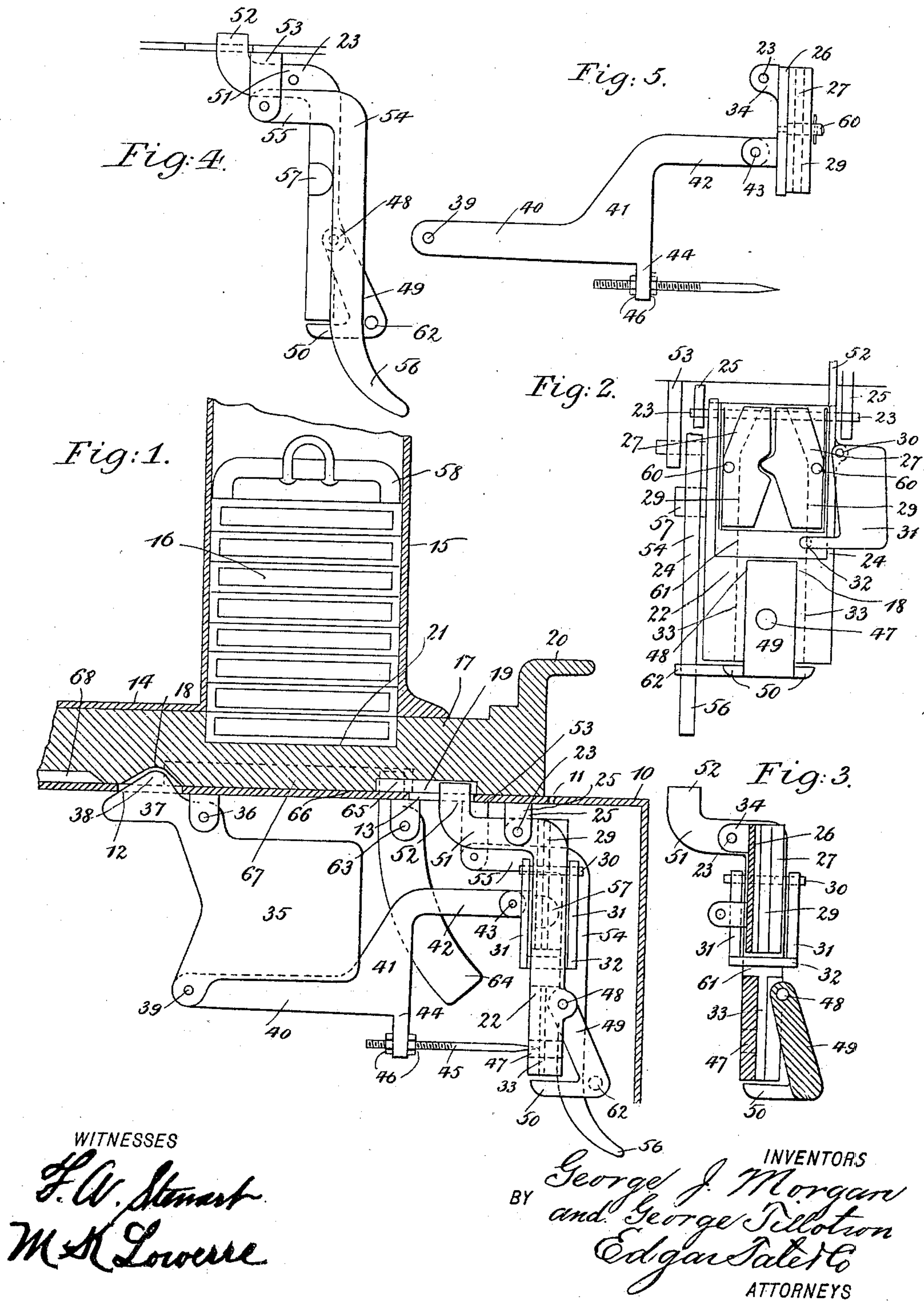
Patented Apr. 1, 1902.

G. J. MORGAN & G. TILLOTSON.
COIN OPERATED VENDING MACHINE.

(Application filed Dec. 7, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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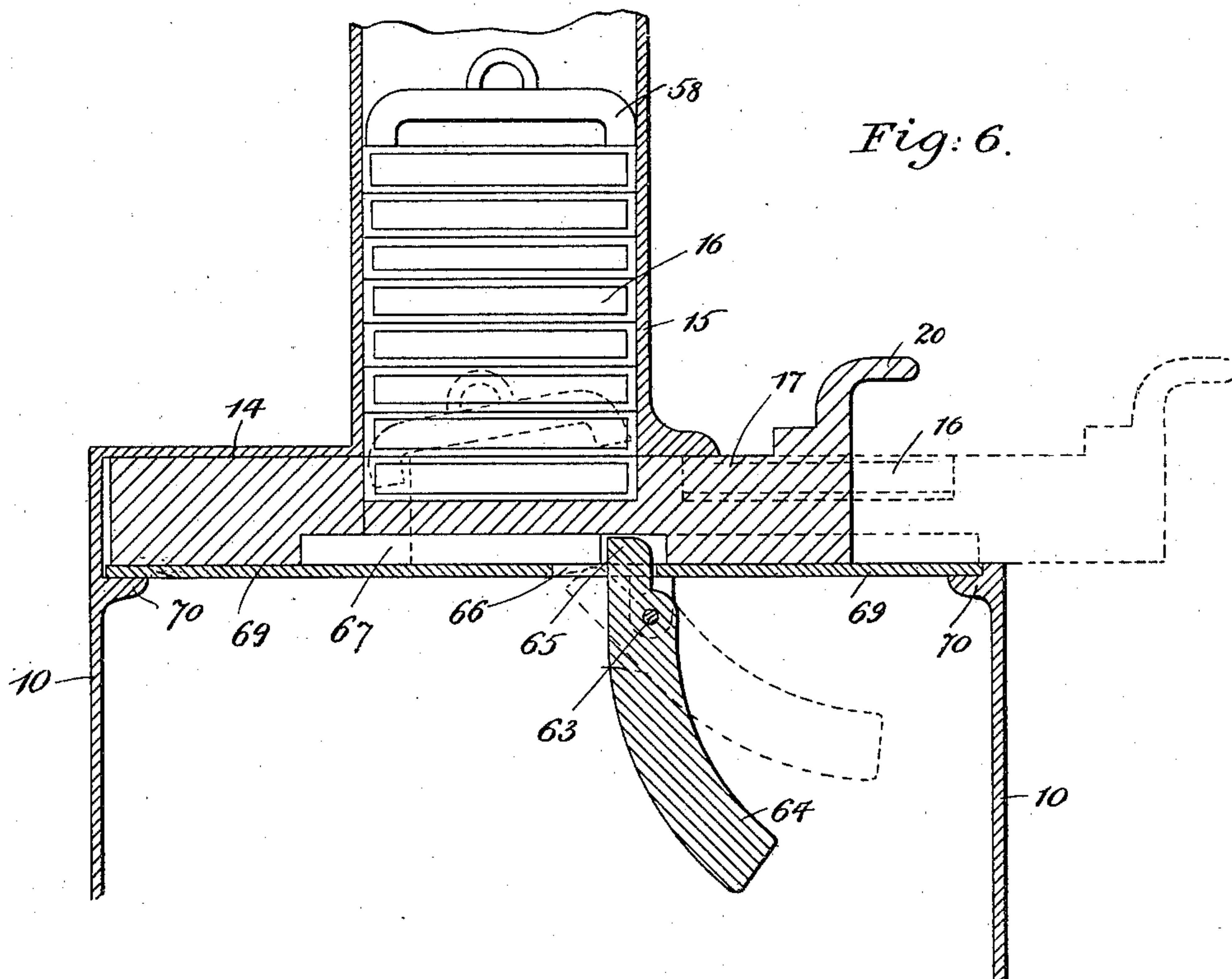
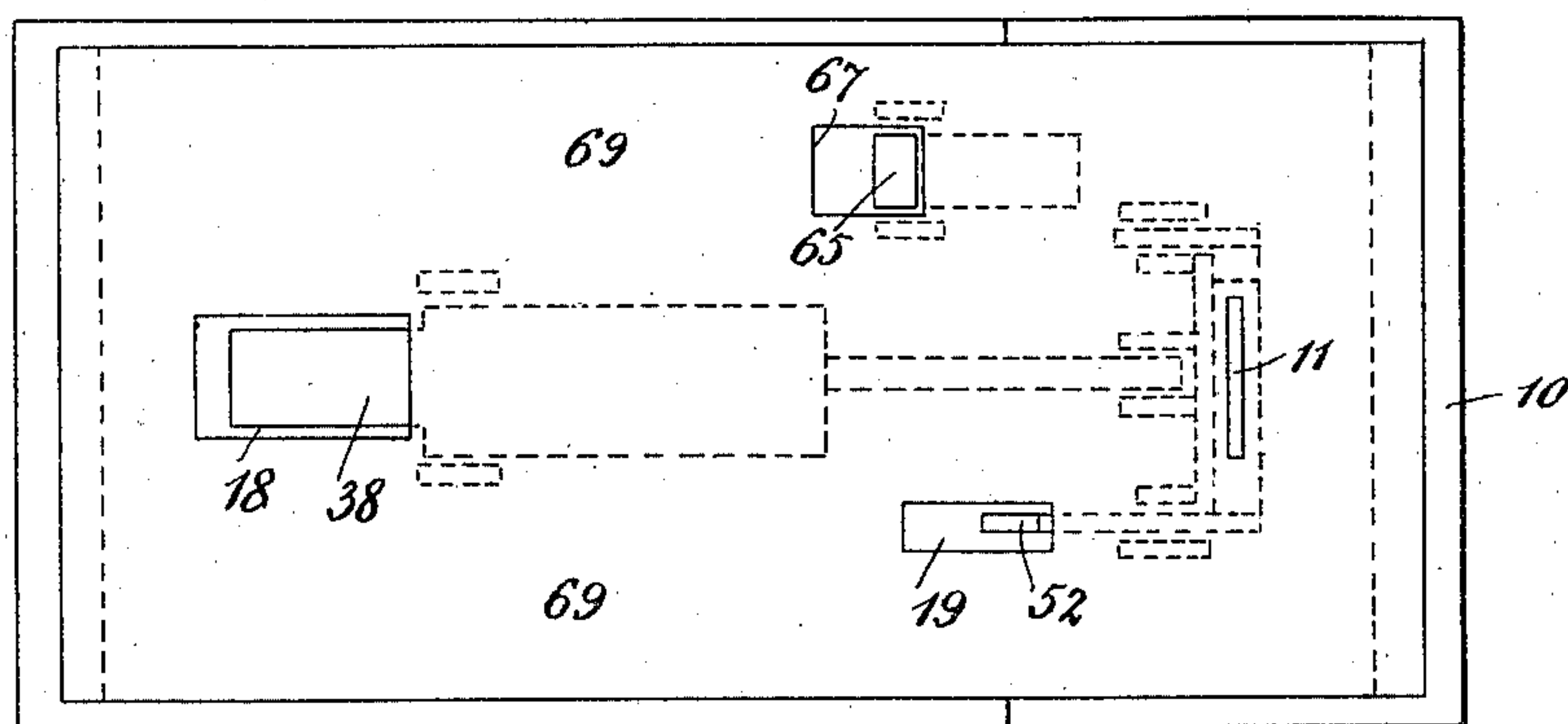


Fig: 7.



WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE JENKINS MORGAN AND GEORGE TILLOTSON, OF SHIPLEY, ENGLAND.

COIN-OPERATED VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 696,742, dated April 1, 1902.

Application filed December 7, 1900. Serial No. 39,015. (No model.)

To all whom it may concern:

Be it known that we, GEORGE JENKINS MORGAN and GEORGE TILLOTSON, subjects of the Queen of Great Britain, residing at Shipley, in the county of York, England, have invented certain new and useful Improvements in Fraud-Preventing Devices for Coin-Controlled Machines, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to coin-operated vending-machines; and the object thereof is to provide an improved machine of this class which is simple in construction and comparatively inexpensive and which possesses many safeguards against the fraudulent operation thereof and which is not liable to get out of order nor frequently need repairs.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of our improvement are designated by the same reference characters in each of the views, and in which—

Figure 1 is a sectional side elevation showing the operative parts of our improved coin-operated vending-machine, only a part of the main bottom box or case being shown. Fig. 2 is a front view of a part of the operative mechanism removed from the casing. Fig. 3 is a vertical section of Fig. 2, showing details of the construction represented in said figure. Figs. 4 and 5 are side views of other details of the construction. Fig. 6 is a sectional side elevation with the coin-operative mechanism removed, showing method of detaching and replacing the plate carrying the said coin-operating mechanism; and Fig. 7, a plan view of the machine, part of the construction being indicated in dotted lines.

In the practice of our invention we provide a casing 10, which forms the bottom of the machine and which is designed to receive the coin by which the machine is operated, and which also contains most of the operating mechanism, and in Fig. 1 of the drawings only a portion of this casing is shown, said portion being the top and front thereof.

In the top of the casing 10 and near the front end thereof is the coin-slot 11 of just

such dimensions as to admit of the passage of the coin by which the mechanism of the machine is operated, and rearwardly of the coin-slot 11 and preferably in line therewith is another slot or opening 12 in the top of the casing 10. Rearwardly of the coin-slot 11, but one on each side thereof, are two other slots or openings 13 and 66 in the top of the casing 10.

Mounted on the casing 10 in line therewith and inclosing the slots or openings 12 and 13 and 66 is a supplementary casing 14, having a vertical hollow column or receptacle 15, which communicates with the interior of the casing 14 and in which in practice are placed the packages 16 to be vended, and placed in the supplementary casing 14, which is open at its front, is a slide 17, which projects forward and rests on the top of the casing 10, and in the bottom of the slide 17 is a rear cavity or recess 18 and two front oblong rectangular cavities 19 and 67, the top of the cavity 18 being inclined from both sides upwardly, as clearly shown in Fig. 1. The slide 17 is also provided at its forward end with a finger-piece or handle 20 and in the top thereof with a recess 21, designed to receive one of the packages 16. A coin-holder 22 is also provided, said coin-holder being pivoted at 23, and said coin-holder hangs vertically from its pivotal support within the casing 10 and comprises in its construction side portions 24, the upper ends of which are projected backwardly and pivoted at 23 to hangers 25, connected with the top of the casing 10. Placed within the upper portion of said coin-holder is a plate 26, (best shown in Figs. 3 and 5,) which is also pivoted at 23 between the side 24 of the coin-holder 22, and pivoted at 60 on the plate 26 are two jaws 27, the adjacent sides of which are provided one with a recess and the other with a lug or projection 28, designed to enter said recess, and in which are formed a coin-chute, (indicated by dotted lines 29 in Fig. 2,) and this coin-chute 29 in the jaws 27 is directly under the coin-slot 11 in the casing 10. The upper ends of the jaws 27 are projected inwardly, and the lower ends of the said jaws 27 are adapted to swing inwardly, so that on the insertion of a coin between the upper ends of the said jaws it opens

the upper ends thereof and closes the lower ends of the said jaws.

The coin-chute 29 is so shaped in its course down each rocking jaw 27 and the parts are so balanced that immediately the coin passes the upper end of the jaws the said jaws revert to their original position, allowing the free passage of the coin down into the chute 33.

In Fig. 2 a front view of the coin-holder is given, with all the parts connected therewith, while Fig. 3 is a sectional elevation of Fig. 2.

On one side of the coin-holder and pivoted to the upper portion thereof at 30 is a tilting or weighing device 31, provided with a transverse pin or projection 32, which fits in the opening 61, and the normal position of the tilting device 31 is that shown in Fig. 2, in which the transverse pin or projection 32 rests partially beneath the coin-chute 29, as indicated in Fig. 2, and the object of this tilting device will be hereinafter described.

The plate 26 is provided at its upper end with backwardly-directed lugs or projections 34, by means of which the pivoted connection at 23 is made, and we also provide a weighted lever 35, which is pivoted beneath the top of the casing 10 at 36 and which is provided with a backwardly-directed arm 37, having an upwardly-directed lug or projection 38, which passes through the slot or opening 12 in the top of the casing 10 and enters the cavity or recess 18 in the slide 17, and pivotally connected with the lower side of the weighted lever 35, and preferably substantially under the pivoted support of said lever at 38, as shown at 39, is an arm 40, provided with a head 41, having an extension 42, which is pivotally connected with the plate 26 at 43, and said head 41 of the arm 40 is provided with a downwardly-directed projection 44, through which passes a pin 45, provided with set-nuts 46, by means of which its position in its support may be adjusted.

The coin-holder 22 is provided in its lower end with a transverse opening 47, through which the pin 45 is adapted to be projected, and this opening is clearly shown in Fig. 2.

Pivotally connected with the front side of the coin-holder at 48 is a swinging plate or device 49, provided with backwardly-directed side fingers 50, which normally project beneath the coin-holder 22 just at the opposite sides of the coin-chute 33, as indicated in Figs. 2 and 3, and the tilting plate or device 49 is provided on the left-hand side thereof with a projecting pin 62.

One side of the upper end of the coin-holder 22 is provided with a backwardly-directed arm 51, having an upwardly-directed extension 52, which passes upwardly through the slot or opening 13 in the top of the casing 10 and enters the oblong rectangular cavity or recess 19 in the slide 17, and rearwardly of the pivotal support 23 of the coin-holder 22 is a hanger 53, to which is pivoted an arm 54, having a backwardly-directed ex-

tension 55 at its upper end, by means of which its connection with the hanger 53 is made. The arm 54 extends downwardly adjacent to the sides of the coin-holder 22, and the said coin-holder 22 has a projecting lug 57, on the front of which the arm 54 normally rests, as shown in Fig. 4. The arm 54 is also provided at its lower end with a forwardly-directed projection 56, which is adapted to operate the tilting plate or device 49 by coming in contact with the pin 62 of the said tilting plate or device 49.

The tilting or weighing device 31, hereinbefore described, is preferably made in one piece and is adapted to be passed over one side 24 of the coin-holder 22, the object of this construction being to secure a bearing on both sides of said coin-holder, as clearly shown in Fig. 3, thereby causing the tilting device 31 to swing freely.

Pivoted at 63, as shown in Fig. 6, is a claw or catch 64, counterweighted so as to cause the upward projection 65 of the said claw 64 to normally rest against the end of the slot 66 in the top of the casing 10 and projecting into the oblong rectangular cavity 67 in the bottom of the slide 17.

The operation of the machine will be readily understood from the foregoing description when taken in connection with the accompanying drawings and the following statement:

In the position of the parts shown in Fig. 1 the machine is ready for use. In practice the weight 58 is preferably placed on the packages 16 to be vended. When it is desired to remove one of the packages 16, a coin of requisite size and dimension is passed downwardly through the slot 11 in the top of the casing 10. The coin first passes between the upper ends of the jaws 27 and passes downward into the chute 33 until it rests upon the fingers 50 of the swinging plate 49. The coin is now directly in line with the transverse opening 47, through which the pin 45 is adapted to be projected. The slide 17 is then drawn outwardly, and this operation forces down the arm 37 of the weighted lever 35 and the arm 40 is forced forward until the pin 45 comes in contact with the coin, when the coin-holder 22 is also moved forward, thereby causing the backward and upward extension 52 of the coin-holder 22 to be moved downward clear of the cavity or recess 19 in the bottom of the slide 17. The slide 17 is then free to be drawn outwardly until the end of the oblong cavity or recess 67 in the bottom of the slide 17 comes in contact with the upward projection 65 of the claw 64, thereby preventing the slide 17 being removed beyond the normal extent of its movement. The package 16 is then clear of the supplementary casing 15, as shown in dotted lines in Fig. 6, and may be removed. The forward motion of the coin-holder 22 by means of its projecting lug 57 carries with it the arms 54, the lower end of which engages with the pin

or projection 62¹ of the tilting plate 49 and is so shaped as to cause the lower end of the said tilting plate to be moved farther than the lower end of the coin-holder 22, thereby withdrawing the fingers 50 from beneath the coin-chute 33. The coin-holder 22, the arm 54, and the tilting plate 49 are retained in these relative positions on the slide 17 being drawn outwardly by the upwardly-directed extension 52 of the said coin-holder 22 engaging with the bottom side of the slide-plate 17 rearwardly of the cavity 19. The slide 17 having been drawn outward until the cavity 68 in the bottom of the slide 17 is coincident with the upwardly-projecting lug 38 of the weighted lever 35, the said weighted lever 35 and the arm 40 revert to their original position, withdrawing the pin 45 from contact with the coin, and the coin, no longer having the support of the fingers 50 of the tilting plate 49, as hereinabove described, falls into the receptacle. If by inserting a light disk a fraudulent operation is attempted, said disk not being of sufficient weight to displace the tilting device 31 is retained in the chute 29 of the slotted jaws 27 by the transverse pin or projection 32 of the tilting device 31, whereupon the slide 17 being drawn outwardly in the attempt to obtain a package 16 the lug 38 of the weighted lever 35 is forced downward, as hereinbefore described, moving forward the arm 40 and its extension 42, which is pivotally connected at 43 with the plate 26, thereby moving forward the said plate with the jaws 27 clear of the transverse pin 32 of the tilting device 31, allowing the disk to fall into the receptacle without operating the freeing mechanism, the cavity 19 in the bottom of the slide 17 being of such dimensions as to allow the slide 17 to be drawn outwardly sufficiently to perform the operation as above described. If after inserting one light disk in the jaws 27, which is retained therein by the transverse pin 32 of the tilting device 31, it is attempted to insert another disk before the removal of the first, such operation is prevented by the said first disk preventing the closing of the lower ends of the jaws 27, and therefore preventing the opening of the upper and contracted part of the chute 29 in the jaws 27. If an attempt is made to operate the machine by means of a washer, the pin 45 will pass through the hole in the washer, striking the tilting device 49, withdrawing the fingers 50 of the said tilting device 49, and allowing the washer to fall onto the pin 45 and holding the same until the pin 45 is withdrawn, which is done when the slide 17 is moved backward to its original position. The washer not having the support of the fingers 50 of the tilting device 49 falls into the receptacle without operating the mechanism.

If an attempt is made to operate the machine by means of a coin of too small dimensions, said coin passes down the chute 33 be-

tween the fingers 50 of the tilting device 49 and not being retained thereby falls into the receptacle.

The mechanism including that which controls the freeing of the delivery mechanism by the insertion of a coin or coins, as well as that which detects thin and light disks and washers when such are inserted, and thereby exercises an automatic selective agency in favor of the coin or coins of the proper bulk and weight, as well as the counterweighted claw which controls the length of the movement of the slide, are all mounted preferably on one plate 69, which can be dropped in place onto suitably-disposed lugs or supports 70 in the casing 10. This is only shown in Figs. 6 and 7, and instead of fastening the said plate 69 by its being screwed or bolted into position it may simply be held in its operative position by the slide 17, which operates the mechanism, such slide 17 being kept from removal beyond its normal extent of slide by automatically-acting counterweighted claw or catch lever 64, operating from within the lock-mechanism-containing chamber, said catch-lever 64 being withdrawable from within said chamber, but not otherwise. By these means the parts of the coin-freed locking and unlocking mechanism are all mounted on said removable plate 69 and can be also held in relatively adjusted position and yet can all be removed and replaced or another set substituted in place thereof without the tedious and inconvenient operation of unbolting or unscrewing. By the simple tilting of the counterweight of the automatic slide 17 may be withdrawn from the casing 14 and the plate 69 lifted out.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A machine of the class described provided with a tilting device 31, a coin-holder and plate pivoted in the top thereof and provided with pivot-jaws 27, said parts being adapted to operate as a fraud-preventive, substantially as shown and described.

2. In a machine of the class described, a pivoted coin-holder 22, a plate 26, pivoted at the top thereof and provided with pivoted jaws 27, a tilting device 31 pivotally connected with said holder, another tilting device 49 pivotally connected with the lower portion of said holder and provided with fingers or projections 50, a lever 54 pivotally supported at one side of said holder and adapted to operate the tilting device 49, the said holder being also provided at its upper end with a backwardly and upwardly directed extension 52, substantially as shown and described.

3. In a machine of the class described, a pivoted coin-holder, a plate pivoted to the top thereof and provided with pivoted jaws 27, a tilting device pivotally connected with said holder, a second tilting device pivotally connected with the lower portion of said

holder and provided with projecting fingers,
a lever pivotally supported at one side of
said holder and operating in connection with
the last-named tilting device, said holder be-
5 ing also provided with a backwardly and for-
wardly directed extension, substantially as
shown and described.

In testimony that we claim the foregoing

as our invention we have signed our names,
in the presence of the subscribing witnesses, r
this 23d day of November, 1900.

GEORGE JENKINS MORGAN.

GEORGE TILLOTSON.

Witnesses:

WILFRID SENIOR,

ARTHUR ROBINSON.