948,838.

W. ASBURY.

VENDING MACHINE.

APPLICATION FILED OCT. 9, 1908.

Patented Feb. 8, 1910.

4 SHEETS—SHEET 1.

Fig. 1

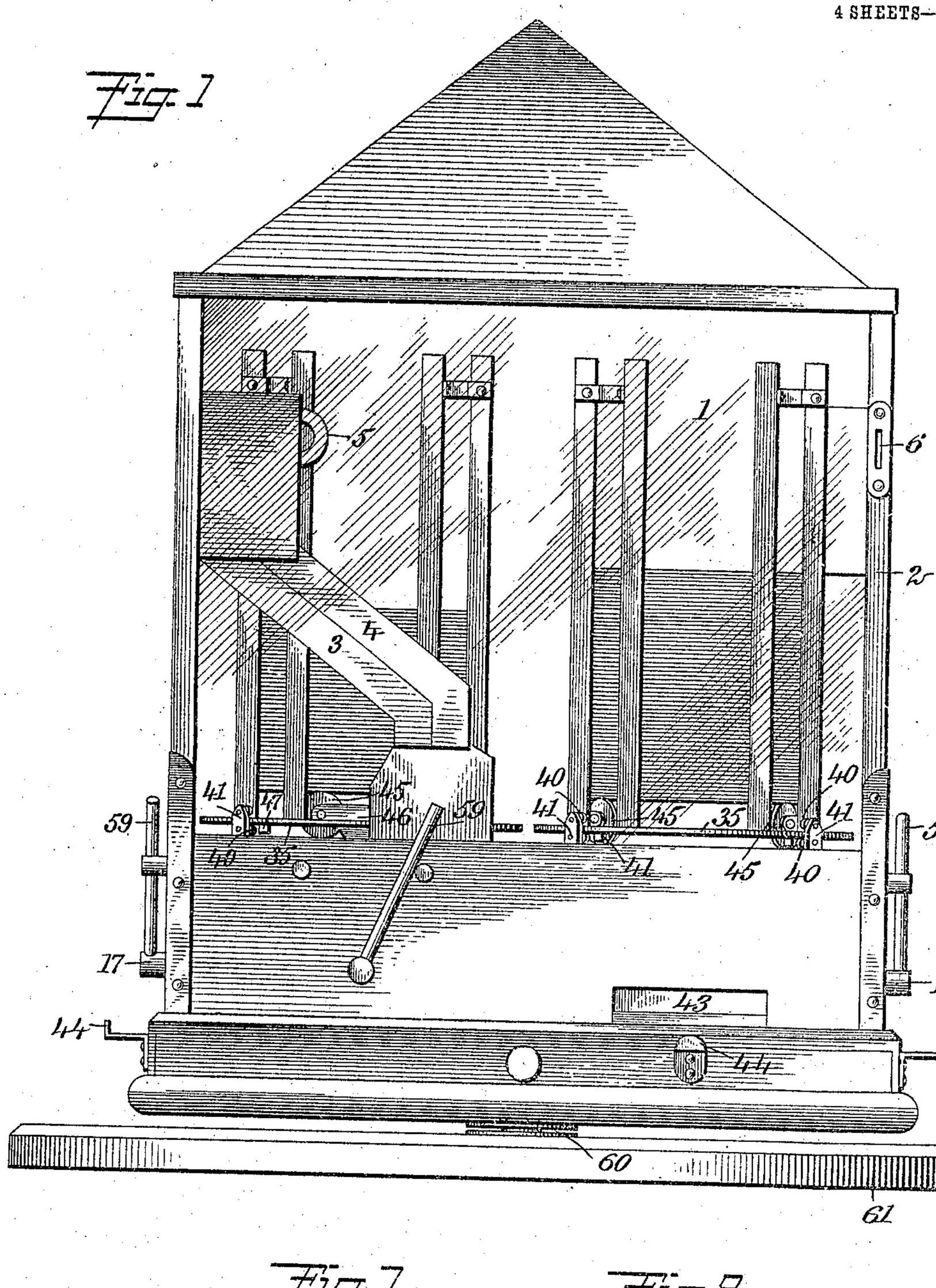


Fig. 7

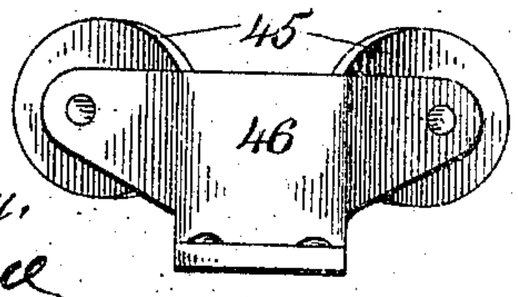
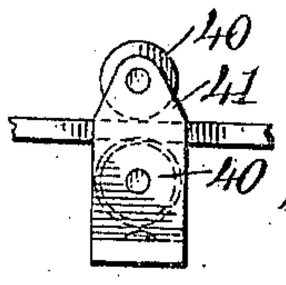


Fig. 8



WITNESSES

E. G. Bromley,

E. B. Marshall

INVENTOR

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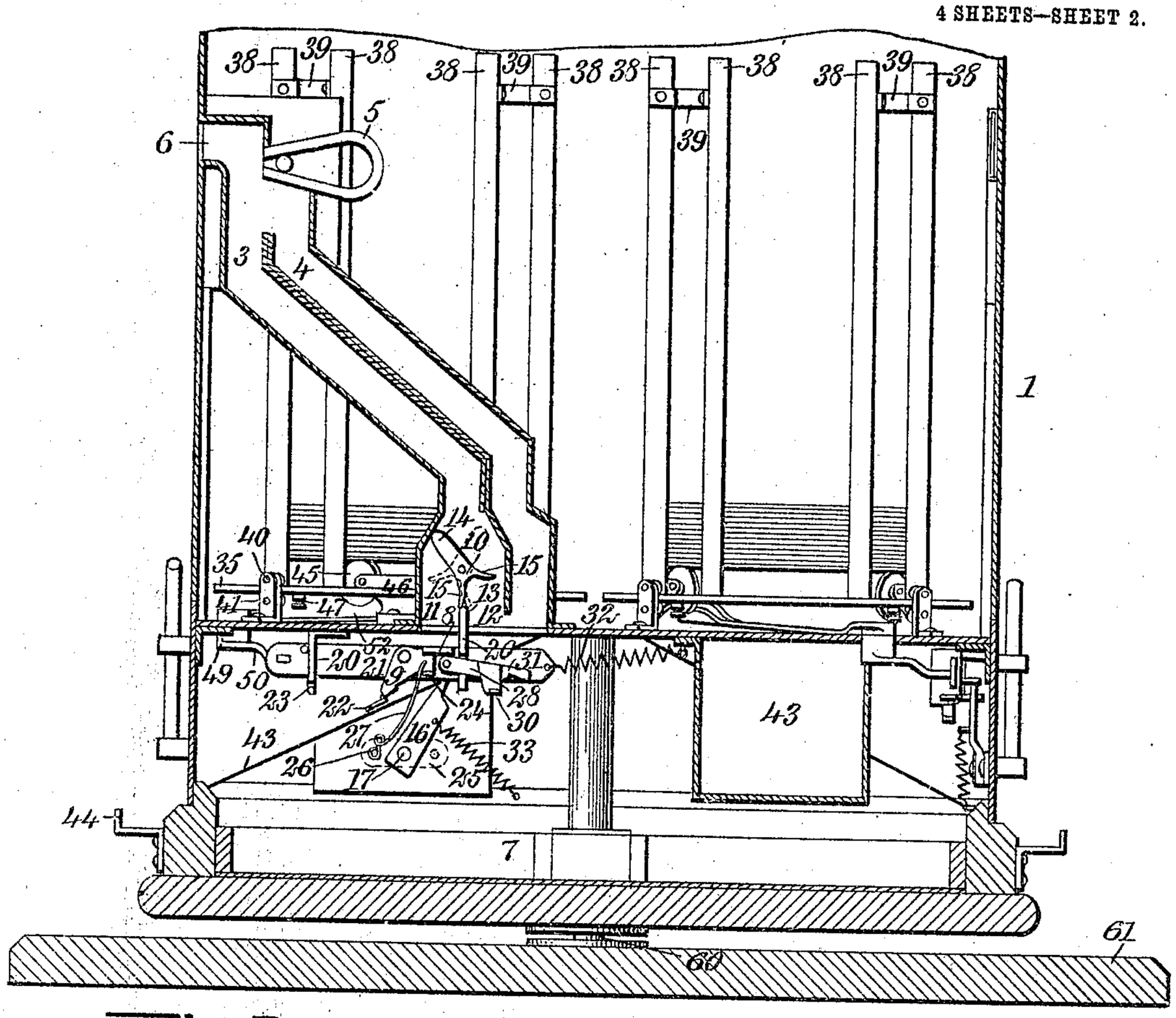

Fig. 2

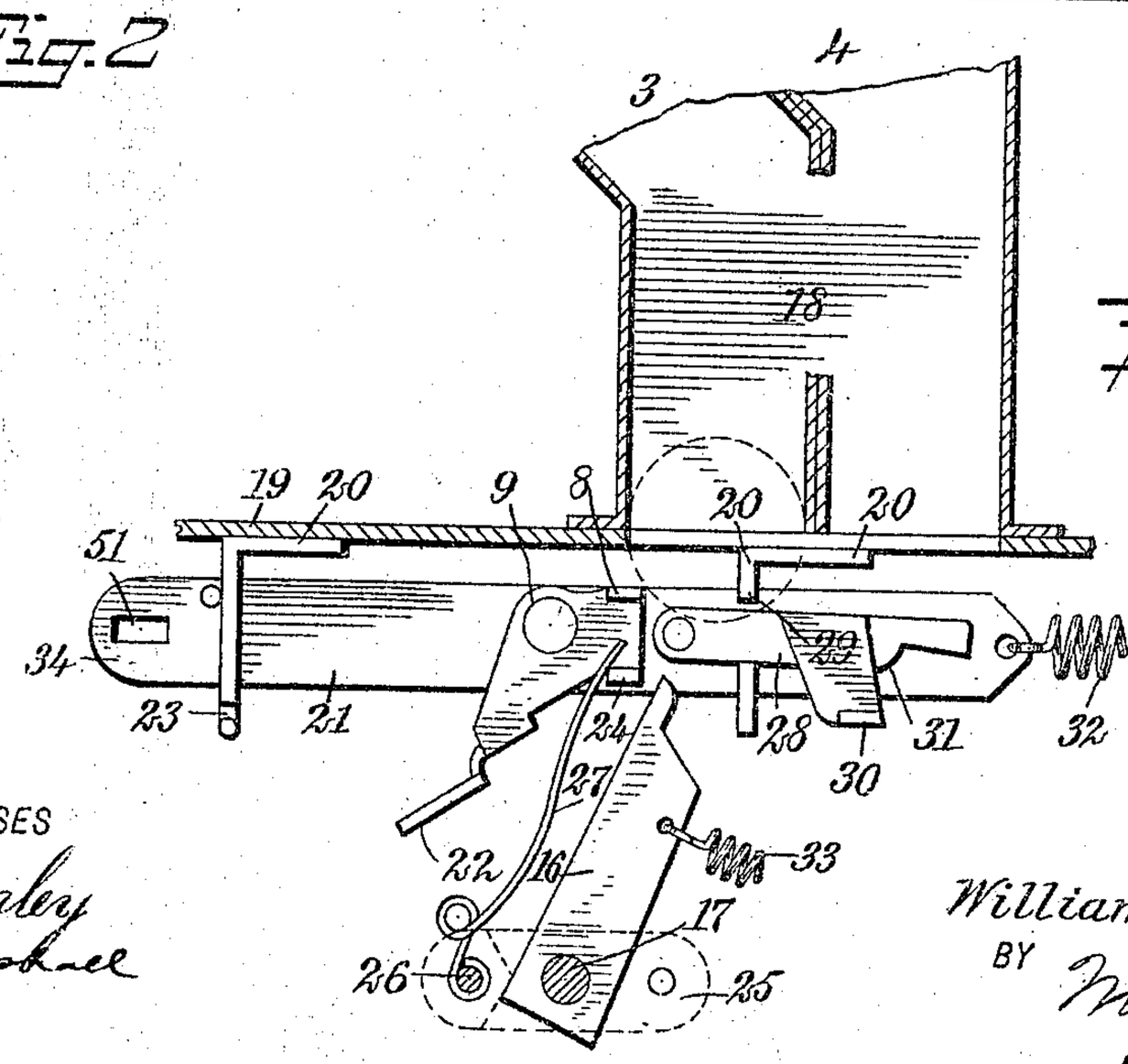

Fig. 10

WITNESSES

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4 SHEETS—SHEET 3.

Fig. 3

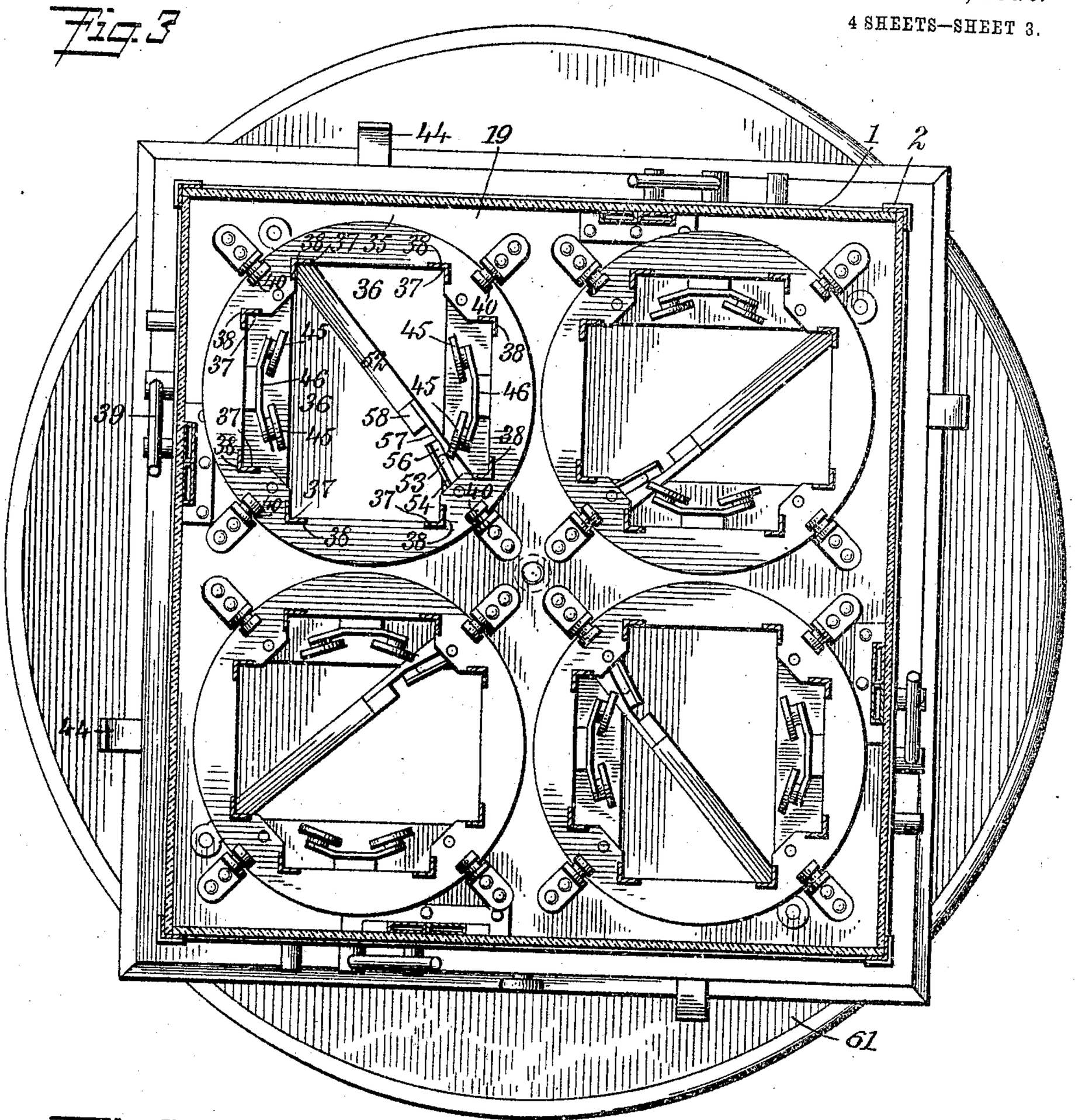


Fig. 9

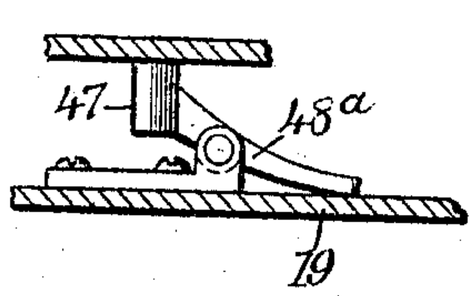
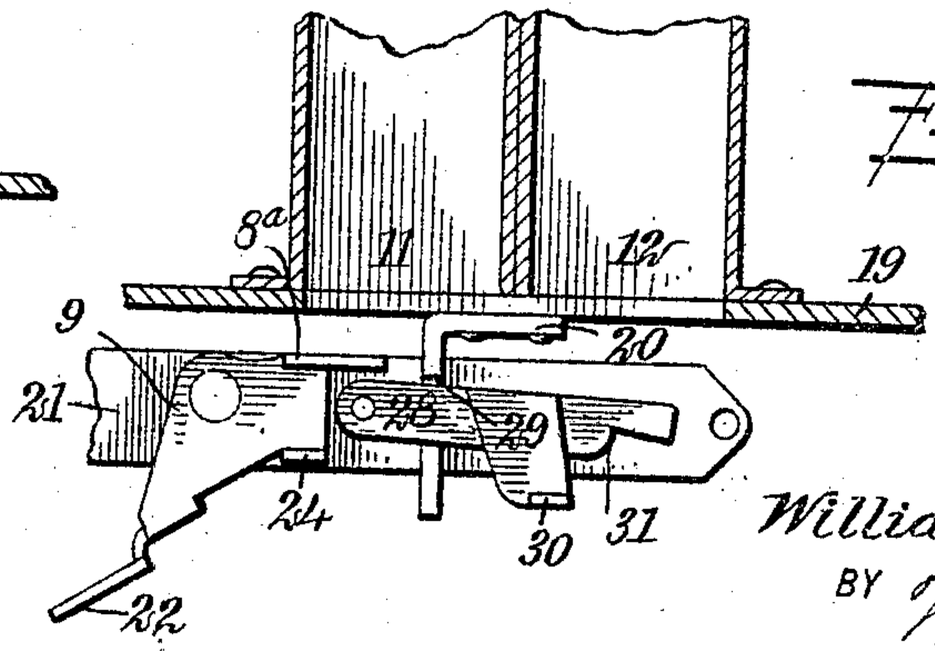


Fig. 6



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4 SHEETS—SHEET 4.

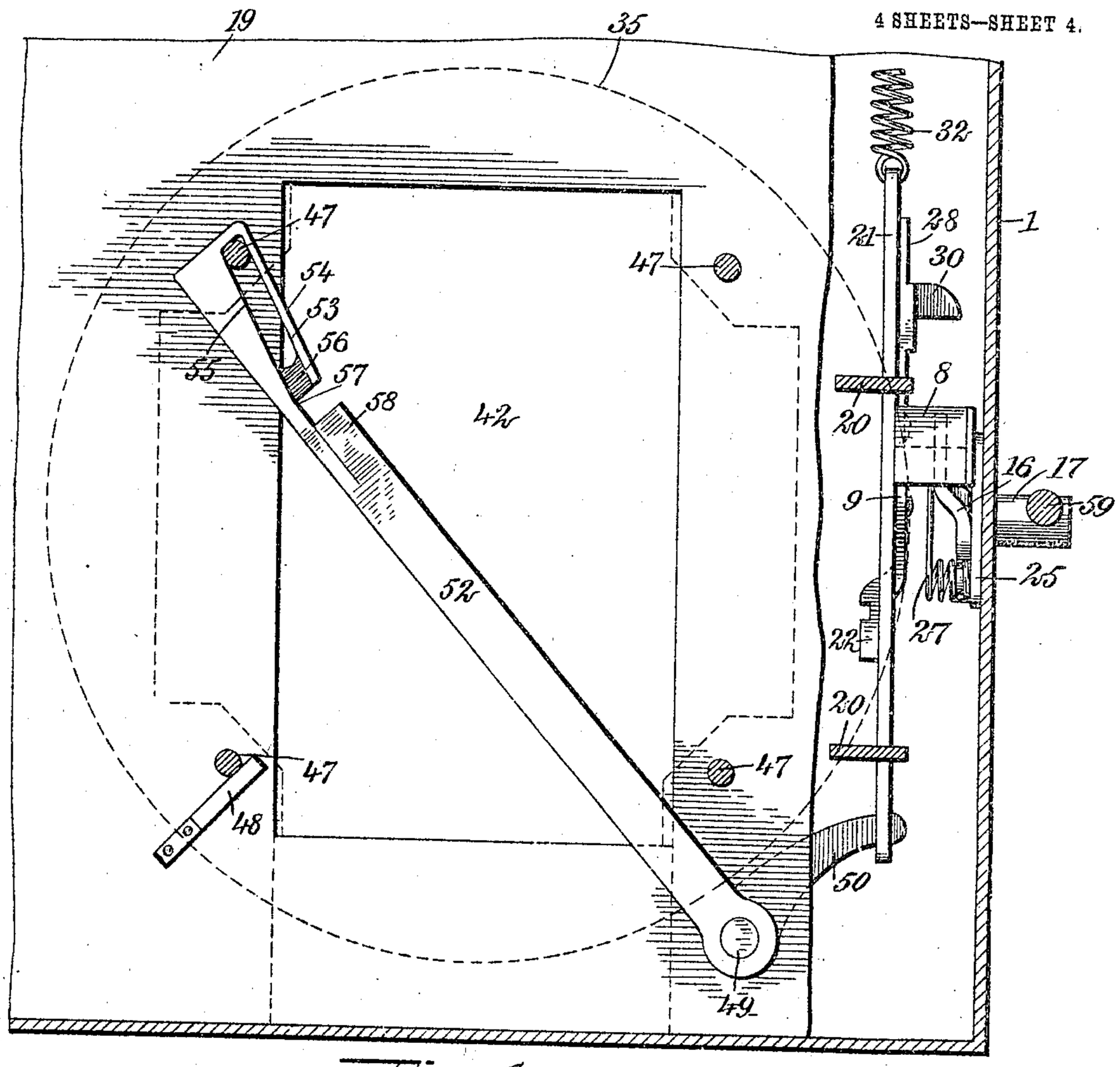

Fig. 4

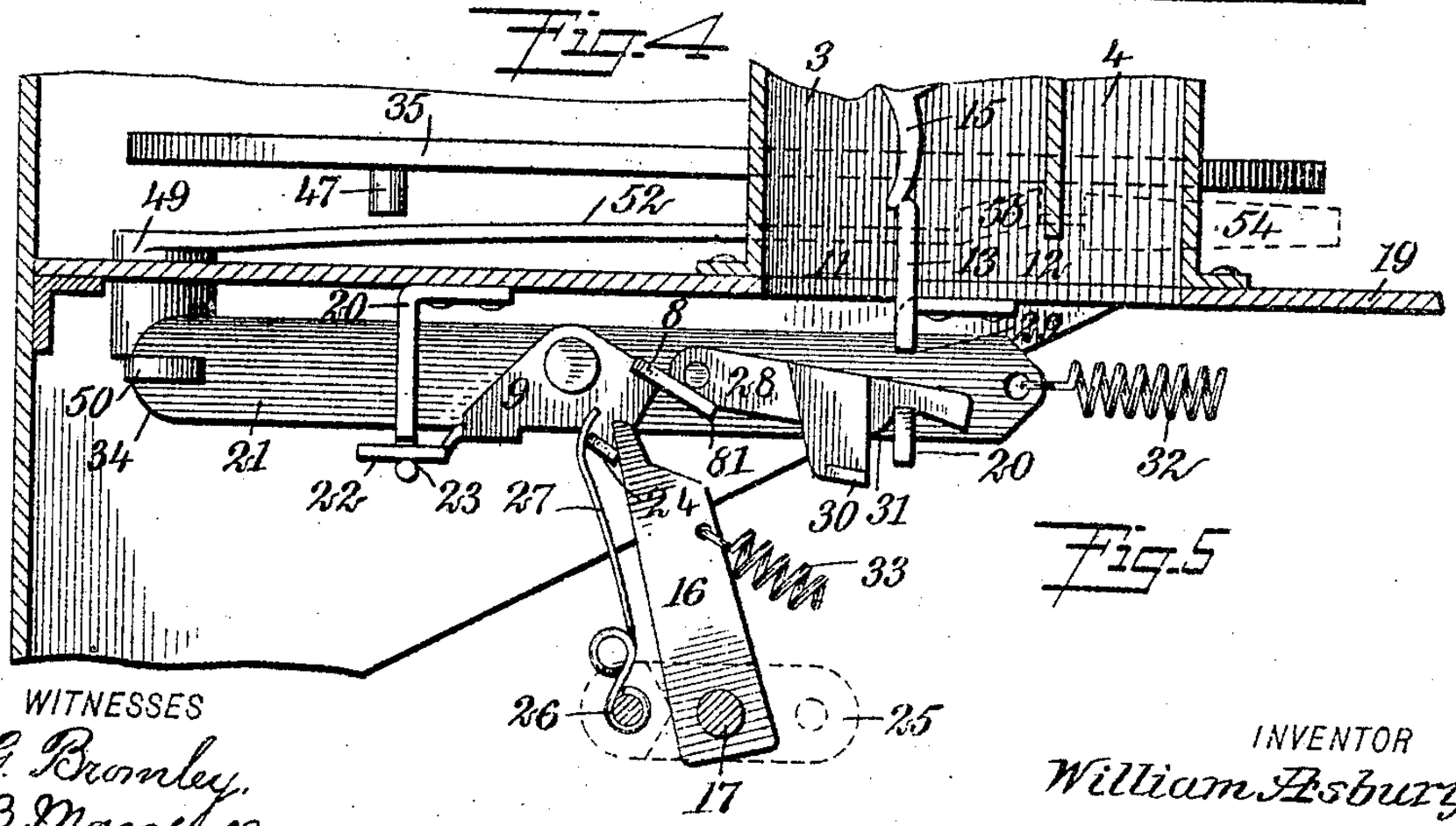

Fig. 5

WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM ASBURY, OF NEW YORK, N. Y., ASSIGNOR TO SQUARE DEAL MACHINE CO., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

VENDING-MACHINE.

948,838. Specification of Letters Patent. Patented Feb. 8, 1910.

Original application filed May 9, 1908, Serial No. 431,779. Divided and this application filed October 9, 1908. Serial No. 456,868.

To all whom it may concern:

Be it known that I, WILLIAM ASBURY, a subject of the King of Great Britain, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Vending-Machine, of which the following is a full, clear, and exact description, this application being a division of the application filed by me on May 9, 1908, Serial No. 431,779.

The object of my invention is to provide a vending machine with mechanism by the means of which a practical two coin machine is produced.

Another object of the invention is to provide means by which a coin will bring a lever into operative position to be actuated by an arm secured to a shaft by the means of which the ejecting mechanism may be actuated.

Another object of the invention is to provide means by which the coins are alternately directed in different paths.

Still another object of the invention is to provide a plurality of chutes which unite at their upper terminals, a magnet being disposed so that its lines of force are nearer one of the chutes than to its companion.

Another object of the invention is to provide a mechanical method of selling postal cards and postage stamps at a profit.

Still other objects of the invention will appear in the following complete description.

In this specification I will describe my preferred form of the machine, but I do not limit myself thereto as I consider myself entitled to all forms and embodiments of the invention which may be held to fall within the scope of the appended claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, in which—

Figure 1 is an elevation of the invention; Fig. 2 is a sectional elevation of the invention showing the principal working members of the machine; Fig. 3 is a sectional plan view showing the commodity receptacle and the means by which it is supported in a position for rotation; Fig. 4 is an enlarged sectional plan view taken on a line just below one of the commodity receptacles; Fig. 5 is an enlarged sectional view showing the inner or lower terminal of the two penny coin chutes with the trip mechanism operated and the lever attached to the rock shaft throwing the slide to operate the ejecting mechanism; Fig. 6 is a similar view showing the penny mechanism which is in position to be actuated by a penny introduced in the slot; Fig. 7 is an enlarged view showing the rollers for supporting the commodity in the commodity receptacle; Fig. 8 is an enlarged view showing the roller supports for the commodity receptacle; Fig. 9 shows a modified means by which a backward movement of the commodity receptacle is prevented; and Fig. 10 is an enlarged sectional view showing the inner or lower terminal of the five cent coin chute of the trip mechanism in position to be operated by a coin.

By referring to the drawings it will be seen that the machine is provided with a casing 1, which I prefer to make with the corner posts 2, of metal, to which are secured glass plates on the four sides, permitting the mechanism of the machine to be seen by purchasers. The drawings show a machine in which four commodity receptacles are supported with a respective operating mechanism and coin chutes. In this specification I will describe only one of the commodity receptacles with its operating mechanism and coin chute, it being understood that the other commodity receptacles and their mechanisms are constructed in the same manner. Each of the coin chutes extends horizontally over a short distance, then vertically and then obliquely until it is nearly to the operating mechanism. Each of the coin chutes 3 has a companion 4, the companion chute 4 being provided to direct slugs and other foreign matters away from the operating mechanism. As is seen in Fig. 2 the coin chute 3 with its companion 4 unite near their upper terminals and over the companion chute 4 is disposed a magnet 5. By this arrangement, when a slug is introduced in the coin chute entrance 6, it will be attracted by the magnet and also because of its weight it will be directed to the com-

panion chute 4 so that there will be no danger of it reaching the operating mechanism and the slug will fall directly into the money drawer 7. When the machine is to be used as a one coin machine, the coin will fall direct to the offset or trip 8 of the trip lever 9, and when the device is used as a two coin machine, it will first come in contact with the coin director 10, which is pivoted in the coin chute 3 at a place where the coin chute is doubled in width to provide two coin passages 11 and 12, with a partition 13 therebetween. The coin director 10 has a long arm 14, which is adapted to come in contact with the diverging walls of the coin chute 3, and the coin director 10 also has tappets 15 which are adapted to come in contact with the partition 13, when the coin director 10 swings on its pivot. By this construction it will be seen that when the coin director is in its proper position as shown in Fig. 2, the first coin introduced in the coin chute will fall into the passage 12, throwing the coin director 10 to the position shown by the dotted lines, so that when the next coin is introduced in the coin chute it will fall on the offset or trip 8 of the trip lever 9, throwing the trip lever 9 in position to be operated by the arm 16 which is secured to the rock shaft 17. When the machine is used as a one coin machine this coin director 10 is omitted, and in cases where the merchandise is to be sold for one cent, the inner and lower terminal of the coin chute is constructed as shown in Fig. 6, in which the coin passage 11, which is a continuation of the coin chute 3, leads direct to the trip 8^a of the trip lever 9, while the passage 12 is a direct continuation of the companion coin chute 4, which is provided to direct slugs &c, direct to the coin drawer 7, without their coming in contact with the trip 8^a of the trip lever 9. When the machine is to be used as a five cent piece machine, the lower terminal of the coin chute is constructed as is shown in Fig. 10, in which the coin chute 3 and its companion chute 4 are disposed in the same way as with the one cent machine, except that there is an opening between the coin chute 3 and its companion chute 4, which opening is in direct alinement with the obliquely disposed portion of the coin chute 3, so that the pennies and other coins, other than five cent pieces, will pass through the said coin chute 3, through the said opening which I have designated 18, into the companion chute 4 so that only five cent pieces will fall on the offset or trip 8 to operate the trip lever 9. It will be seen that in the one cent machine the trip 8^a has a larger body than the offset or trip 8 in the five cent machine, but it will be understood that the size of the trip may be regulated to be actuated by coins of different size and widths to obtain the best results.

To the frame 19 of the machine, to which the lower terminals of the coin chutes are secured, are fastened slide guides 20 which are adapted to support the slide 21 and permit it to move at right angles to the lower terminals of the coin chutes. To this slide 21 is pivoted the trip lever 9 having the offset or trip 8, which is adapted to have more or less of its body disposed under the coin chute 3 when the mechanism is in operative position. The other arm 22 of the trip lever 9 is constructed so that it is adapted to engage a slot 23 at the lower end of one of the slide guides 20. The trip lever 9 not only has an offset or trip 8 or 8^a which is disposed so that it will be adapted to engage a coin introduced into the slot, but it also has an offset 24, which is adapted to be so disposed that when the trip 8 is operated by a coin, it will be in the path of the arm 16 which is secured to the rock shaft 17. This rock shaft is journaled in a plate 25 which is secured to the frame of the machine, and to this plate 25 is also fastened a spring holder 26 to which a wire spring 27 is secured, this wire spring 27 being adapted to bear slightly on the offset 24, to make certain that the offset or trip 8 will be properly disposed to be actuated by the coin introduced in the coin chute. There is also pivoted to the slide 21, an arm 28, which is adapted to move in an opening 29 in one of the slide guides 20, the said arm 28 having an offset 30 which is adapted to engage with the arm 16 secured to the rock shaft 17, and the arm 28 also has a shoulder 31 which is adapted to engage with the opening 29 in the slide guide 20. Secured to the slide 21 is a spring 32, which is adapted to hold the slide so that the trip will be disposed under the coin chute, the wire spring 27 being adapted to engage the offset 24, so that the offset or trip 8 will be held at the proper angle relatively to the coin chute. A spring 33 is also provided, this spring being adapted to hold the arm 16 away from the offset 24. As it will be hereinafter described the end 34 of the slide 21 is secured to the mechanism by which the commodity receptacle is rotated to eject the postal cards or other commodity.

Referring now to one of the commodity receptacles, the others being constructed in the same manner, it will be seen that the frame 19 is in effect the bed plate of the machine which supports the commodity receptacles, the trip mechanism being disposed therebelow. Each of the commodity receptacles is composed of a plate 35, which has a cruciform opening 36 therein. To the outer corners 37 of this cruciform opening 36 in the plate 35 are secured angle irons 38 which are disposed vertically, the said angle irons being connected in pairs at their outer terminals, by frame members 39. The plate 35

of the commodity receptacle is supported by rollers 40 which are disposed above and beneath it so that it will be held firmly in place. These rollers are journaled in roller supporters 41 which are secured to the frame of the body plate 19 of the machine. In the drawings I show four sets of these rollers for each of the commodity receptacles, but it is understood that any number of pairs of the rollers may be used and that they may be disposed at the top as well as at the bottom of the commodity receptacle. There is an oblong opening 42 in the body plate 19 of the machine, and the commodity receptacle is so disposed thereover that when it reaches a predetermined position in its rotation it will present an opening in alinement with the opening 42 and of approximately the same size, so that any commodity contained in the commodity receptacle, which is in alinement with the opening, will pass through the opening 36 in the plate 35 of the commodity receptacle and also in the opening 42 in the frame 19, and will then fall on the commodity chute 43, down which it will slide in an opening in the machine until it is stopped by the check 44, from which it may be taken by the purchaser. The commodity which is not in alinement with the said openings in the plate 35 of the commodity receptacle and in the frame 19 respectively, is supported by commodity supporting rollers 45, which are disposed at right-angles to the ends of the opening 42 in the frame plate 19 and are supported on the said frame plate. I propose to so mount the rollers 45 in pairs that they will offer the least resistance to the commodity which they support, when the commodity receptacle is being rotated. The rollers 45 are mounted in a frame 46 which is secured to the frame plate 19. Underneath the plate 35 of the commodity receptacle are fastened studs 47, the studs being four in number and being disposed at equal distances apart and also an equal distance from the center of the said plate. To the frame of the machine is secured a spring 48 with which the studs 47 are adapted to engage when the commodity receptacle is rotated, this spring 48 being adapted to prevent any return movement of the commodity receptacle. In Fig. 9 at 48[a] is shown a ratchet, which I may use in place of the spring 48 to engage with the studs 47 and prevent the return movement of the commodity receptacle. On the frame 19 of the machine is journaled a short shaft 49 having an arm 50 secured thereto, the arm 50 being disposed below the frame plate 19 and being adapted to engage the slide 21 at its end 34, and as shown in the drawings this engagement is secured by having the arm 50 extend through an opening 51 in the slide 21. The other arm 52 which is secured to the short shaft 49 above the frame plate 19 has, near its outer terminal a slot 53, which is disposed at a slight angle to the main body of the arm 52 with an offset 54 at one side of the said slot 53 and a curved surface 55 on the other side, the arm 52 also being provided with a tapering surface 56 and a lateral opening 57 with a shoulder 58. The slot 53 of the arm 52 is adapted to engage the studs 47, and when the mechanism which operates the arm 52 is actuated, the arm 52 in connection with the studs 47 is adapted to rotate the commodity receptacle, giving it a one-quarter revolution at every movement of the operative mechanism. As shown in the drawings a plurality of commodity receptacles, with their respective operating mechanism and coin chutes, may be disposed in the frame 1 of the machine, and I propose to mount the machine on a pedestal 60 so that it may rotate, permitting the purchaser to bring before him the commodity receptacle containing the goods which he desires to purchase, with its respective operating mechanism and coin chute. The money drawer 7 is bifurcated, permitting it to slide on either side of the pedestal 60, which is supported on a base plate 61.

The vending machine is operated as follows: A coin is introduced into the coin slot 6 and it falls down the coin chute 3, but if a slug is introduced in the coin slot 6 it will fall down the companion chute 4 away from the operating mechanism, into the coin drawer 7. Should, however, a coin be introduced which is not attracted by the magnet 5 in the coin chute 4, it will fall down the coin chute 3 along its obliquely disposed portion, but it may still reach the companion chute 4 through the opening 18 in the companion chute 4 if the coin is not of proper size to cause it to fall in the vertically disposed inner terminal of the coin chute 3. If the coin continues in the coin chute 3 it may reach the offset or trip 8 or 8[a] direct, or if the machine is a two coin machine it will reach the coin director 10; the first coin falling in the coin passage 12 and operating the coin director 10 so that it will assume the position shown in the dotted lines in Fig. 2 of the drawings and a second coin will then fall on the offset or trip 8 or 8[a]. When the coin falls on the offset or trip 8 its weight causes the trip to bear down so that the offset 24 is in position to be engaged by the arm 16 secured to the rock shaft 17 and when the rock shaft 17 is operated by its respective handle 59 it will engage the offset 24 and will push the trip lever 9, together with the slide 21, to the left, the arm 22 of the trip lever 9 being so disposed as to engage the slot 23, and the arm 28 which is pivoted to the slide 21 will be drawn through the opening 29 in the slide guide 20 until the shoulder 31 engages the lower portion of the said opening 29. During this movement of the slide

21 the arm 50 has been operated by means of the slide 21, and has caused a rocking movement of the shaft 49, by means of which the arm 52 has been moved to the right, and as one of the studs 47 has been disposed in the slot 53 of the said arm 52, the plate 35 of the commodity receptacle to which the studs 47 are secured has been caused to rotate the stud 47 which engages the arm 52 during its rotation, moving along the slot 53 and up on the tapered portion 56 until it slips off into the lateral opening 57 at one-quarter of a revolution of the commodity receptacle. The shaft 49 is so disposed that in the one-quarter revolution of the commodity receptacle, the radius between the shaft and the stud 47 which is engaging the slot 53 is decreased so that it will travel in the said slot 53 up the tapered surface 56 and into the lateral opening 57 as has been described. When the commodity receptacle has made a one-quarter revolution the arm 52 is parallel with the sides of the opening 42 of the frame plate 19, and no longer extends across the said opening, and as there is an oblong opening in the bottom of the commodity receptacle which is in alinement with the opening 42 in the frame plate 19, any commodity in alinement with the said two openings may fall through the plate 35 of the commodity receptacle and also through the frame plate 19 of the machine into the commodity chute 43 and down to the commodity stop 44. It is my purpose to pack the postal cards or other commodity packages alternately at right-angles to each other in the commodity receptacles, so that at every one-quarter revolution a single postal card or commodity package will be brought in alinement with the opening 42 in the frame plate 19 and away from the commodity supporting rollers 45 so that it will be free to fall through the plate 35 of the commodity receptacle and the frame plate 19, as has been described, but of course, it will be understood that a plurality of packages may be placed in the machine next to each other in alinement so that any desired number of postal cards or commodity packages may be ejected from the machine by one operation of the mechanism. At each one-quarter revolution of the commodity receptacle the ratchet 48[a] engages a new stud 47 so that any return movement of the commodity receptacle is prevented. When the arm 16 is freed by the operator removing his hand from the handle 59, it is drawn back by the spring 33 striking the offset 30, thereby lifting the arm 28 and freeing its shoulder 21 from the guide 20, the slide 21 being drawn back by the spring 32, and the trip lever 9 being again disposed in its normal position by the wire spring 27.

It is my purpose to use my machine among other ways to vend postage stamps and postal cards, the stamps or postal cards being inclosed in envelops on which advertising matter is printed, or the advertising may be inclosed in the envelops with the postage stamps or postal cards.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a vending machine, a coin chute, a slide, guides in which the slide is adapted to travel, a lever having two offsets, one arm of the lever being disposed under the coin chute, an arm adapted to project in the path of the offsets so that in the operation of the lever, the offsets are adapted to strike the lever on opposite sides, and means to operate the arm.

2. In a vending machine, a coin chute, a slide, guides in which the slide is adapted to travel, a lever having two offsets, one arm of the lever being disposed under the coin chute, an arm adapted to project in the path of the offsets, so that in the operation of the lever, the offsets are adapted to strike the lever on opposite sides, means to operate the arm, and means to hold the lever yieldingly in a predetermined position.

3. In a vending machine, a slide, a lever pivoted thereto, the lever being adapted to be thrown into operative position by the contact of the coin therewith, a member having a slot, one arm of the lever being adapted for moving in the slot when the lever is in a pre-determined position, and a member adapted for engaging the lever when it is actuated by a coin.

4. In a vending machine, a slide, a lever pivoted thereto, one arm of the lever being adapted to be thrown into an operative position by a coin, a member having a slot, the other arm of the lever being adapted for moving in the slot when the lever is thrown into an operative position, a member adapted for engaging an offset on the lever, and means to hold the first named arm of the lever yieldingly upward.

5. In a vending machine, a coin chute, a slide, guides in which the slide is adapted to travel, a lever having an offset, pivoted to the slide, one arm of the lever being normally disposed under the coin chute, an arm adapted to project in the path of and at one side of the offset, and a spring which engages the offset at the other side to hold the lever yieldingly in a predetermined position.

6. In a vending machine, a coin chute, the sides of which are parallel and the ends of which diverge downward, a pivoted coin director having an upward extending arm disposed in diverged portions of the coin chute, the coin director also having tappets, a central partition in the coin chute, the tappets being disposed to be alternately in close proximity to the partition when the machine is being operated, a slide, a lever

pivoted thereto, the lever having one of its arms disposed under the coin chute at one side of the partition, and means in connection with the lever by which the slide may be operated.

7. In a vending machine, a coin chute, the sides of which are parallel and the ends of which diverge downward, a pivoted coin director having an arm disposed in the diverged portion of the coin chute, the coin director also having tappets, a central partition in the coin chute, the tappets being adapted to be disposed alternately in close proximity to the partition when the machine is being operated, a slide, guides for the slide, a lever pivoted to the slide, the lever having an arm disposed under the coin chute, and means free from the lever and the slide adapted to engage the former to operate the latter.

8. In a vending machine, means which are adapted to be thrown into operative position by the contact of a coin therewith, and which are adapted to operate the delivery mechanism, means which are adapted to operate the first named means to operate the delivery mechanism, and independent means to hold the first named means after they have been operated until the means to operate them are released.

9. In a vending machine, a lever which is adapted to be thrown in operative position by the contact of a coin therewith and which is adapted to operate the delivery mechanism, a rock shaft, an arm secured thereto, the said arm being adapted to act on the lever to actuate the delivery mechanism, and an arm which is adapted to move with the lever, the said arm being adapted in connection with the frame of the machine to hold the said mechanism in position for the delivery of the commodity and being adapted to be released by the return of the rock shaft to its normal position.

10. In a vending machine, a lever which is adapted to be thrown in operative position by the contact of a coin therewith and which is adapted to operate the delivery mechanism, a rock shaft, an arm secured thereto, the said arm being adapted to act on the lever to actuate the delivery mechanism, an arm which is adapted to move with the lever, the said arm having a shoulder which is adapted to co-act with the frame of the machine and hold the said mechanism in position for the delivery of the commodity, and an offset on the last named arm which is adapted to be engaged by the arm on the rock shaft.

11. In a vending machine, a coin chute, a slide, a lever pivoted to the slide, the lever having an arm under the coin chute, means adapted for engaging the arm of the lever under the coin chute to actuate the slide, independent means adapted for holding the slide in an operative position, and means for holding the slide and the first named means normally in an inoperative position.

12. In a vending machine, a slide, a lever pivoted thereto, the lever being adapted to be thrown into operative position by the contact of a coin therewith, a spring adapted to assist in holding the lever in an inoperative position, means in connection with the lever by which the slide may be operated, means normally to hold the said means in an inoperative position, and independent means adapted for holding the slide in an inoperative position.

13. In a vending machine, a coin chute, a slide, guides for the slide, a lever pivoted to the slide, the lever having an arm disposed under the coin chute, means for engaging the lever to operate the slide, and means pivoted to the slide which are adapted to engage one of the guides to hold the slide in an inoperative position.

14. In a vending machine, a coin chute, a slide, guides for the slide, a lever pivoted to the slide, the lever having an arm disposed under the coin chute, means adapted for engaging the lever to operate the slide, an arm pivoted to the slide, the arm having a shoulder which is adapted to engage a guide to hold the slide in an operative position, the said arm being adapted to be engaged by the said means to free its shoulder from engagement with the guide.

15. In a vending machine, a coin chute, a slide, guides in which the slide is adapted to travel, a lever having an offset pivoted to the slide, one arm of the lever being normally disposed under the coin chute, an arm adapted to project in the path of the offset, a spring which engages the offset to hold the lever yieldingly in a predetermined position, and means for holding the arm yieldingly away from the offset.

16. In a vending machine, a coin chute, guides, a slide disposed in the guides, a lever pivoted to the slide, the lever having an arm disposed under the coin chute, an arm pivoted to the slide, the arm being disposed in a recess in one of the guides, there being a shoulder on the arm which is adapted to hold the arm extended so that the slide is disposed in an operative position, means to yieldingly hold the slide in an inoperative position, means adapted for engaging the lever for moving the slide into an operative position, the said means being adapted to move the arm so that its shoulder is freed from engagement with the recess in the said guide.

17. In a vending machine, a coin chute, a slide, guides in which the slide is adapted to travel, a lever pivoted to the slide, means to hold the lever yieldingly in a predetermined position with a predetermined limit of movement, an arm disposed under the le-

ver and free therefrom and from the slide, the arm being adapted to move across the path of the lever to engage and move it to operate the slide, and independent means adapted to hold the slide yieldingly in a predetermined position.

18. In a vending machine, a slide adapted to operate the delivery mechanism, an arm having a shoulder mounted on the slide, a frame with which the shoulder is adapted to engage, and means to lift the arm to free its shoulder from the frame.

19. In a vending machine, a coin chute, a slide, guides in which the slide is adapted to travel, a lever pivoted to the slide, means to hold the lever yieldingly in a predetermined position, and an arm disposed under the lever and free therefrom and from the slide, the arm being adapted to move across the path of the lever to engage and move it and operate the lever.

20. In a vending machine, a slide, guides therefor, a lever pivoted to the slide, the lever being adapted to be drawn into an operative position by the contact of a coin therewith, and a member having a slide, one arm of the lever being adapted for moving in the slide when the lever is in a predetermined position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM ASBURY.

Witnesses:

J. W. HANAFORD,

JOHN P. DAVIS.