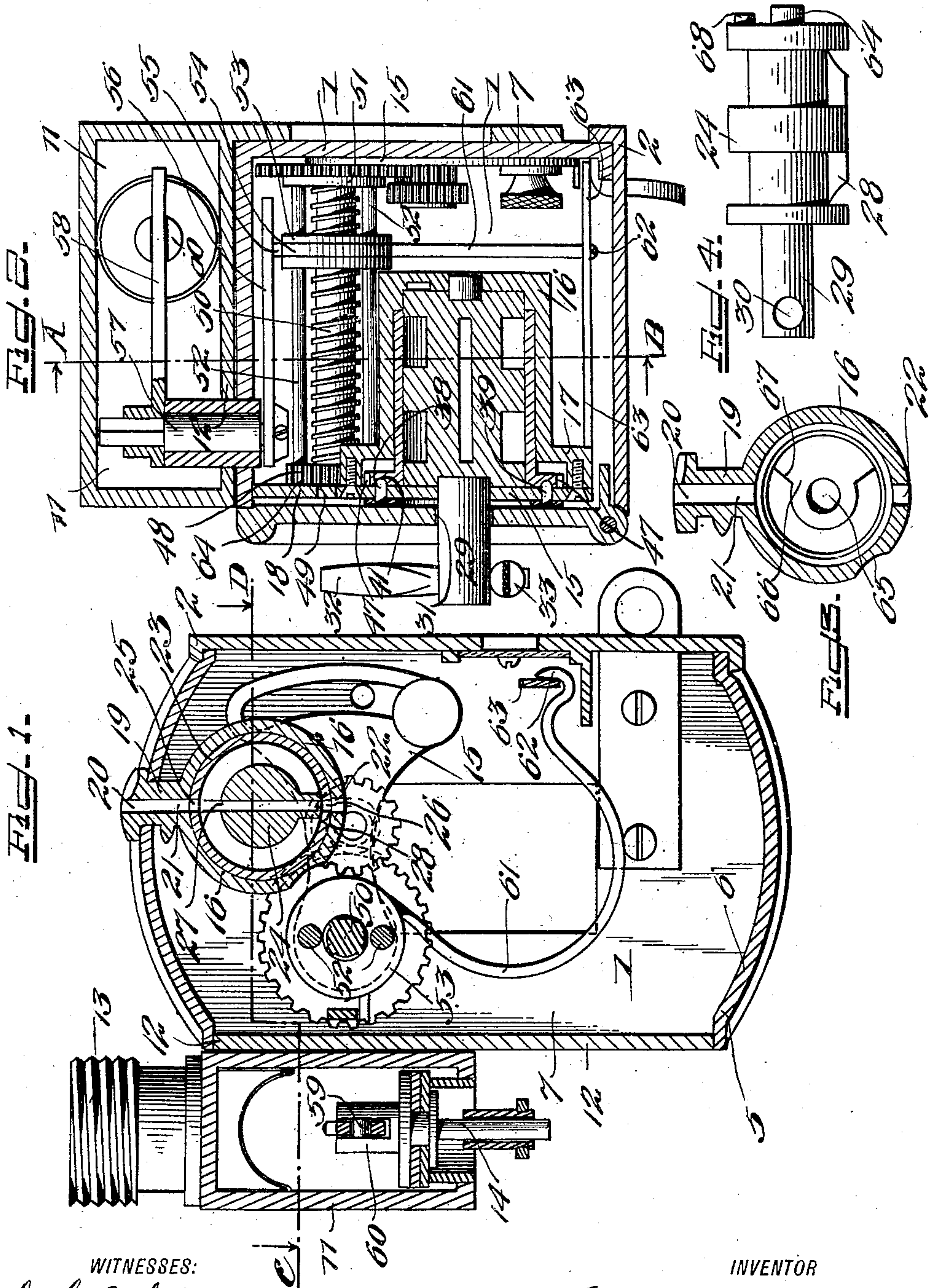


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PREPAYMENT METER.  
APPLICATION FILED MAR. 2, 1908.

914,706.

Patented Mar. 9, 1909.

4 SHEETS—SHEET 1.



WITNESSES:  
*C. L. Ashley*  
*Robert Ashley*

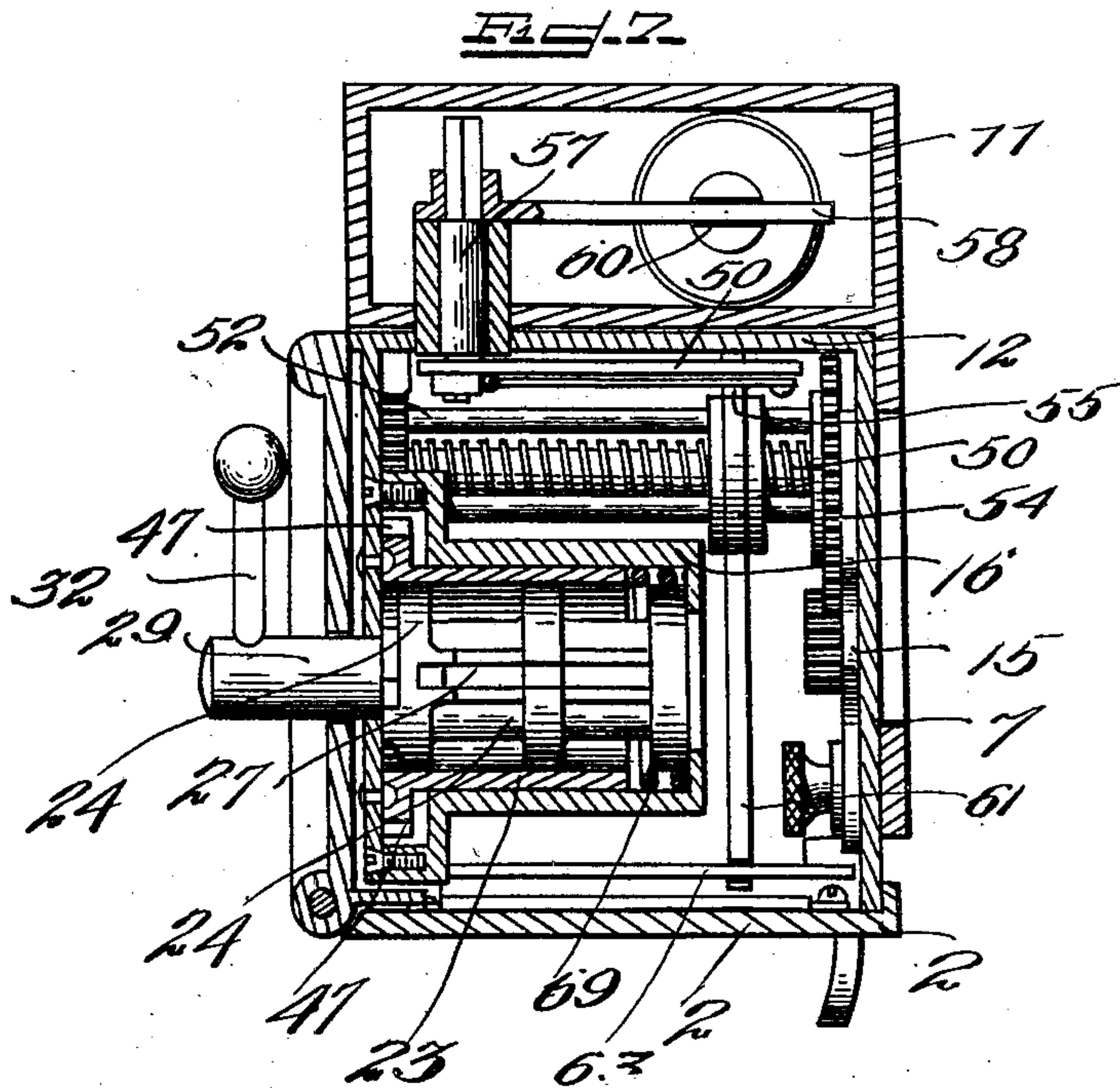
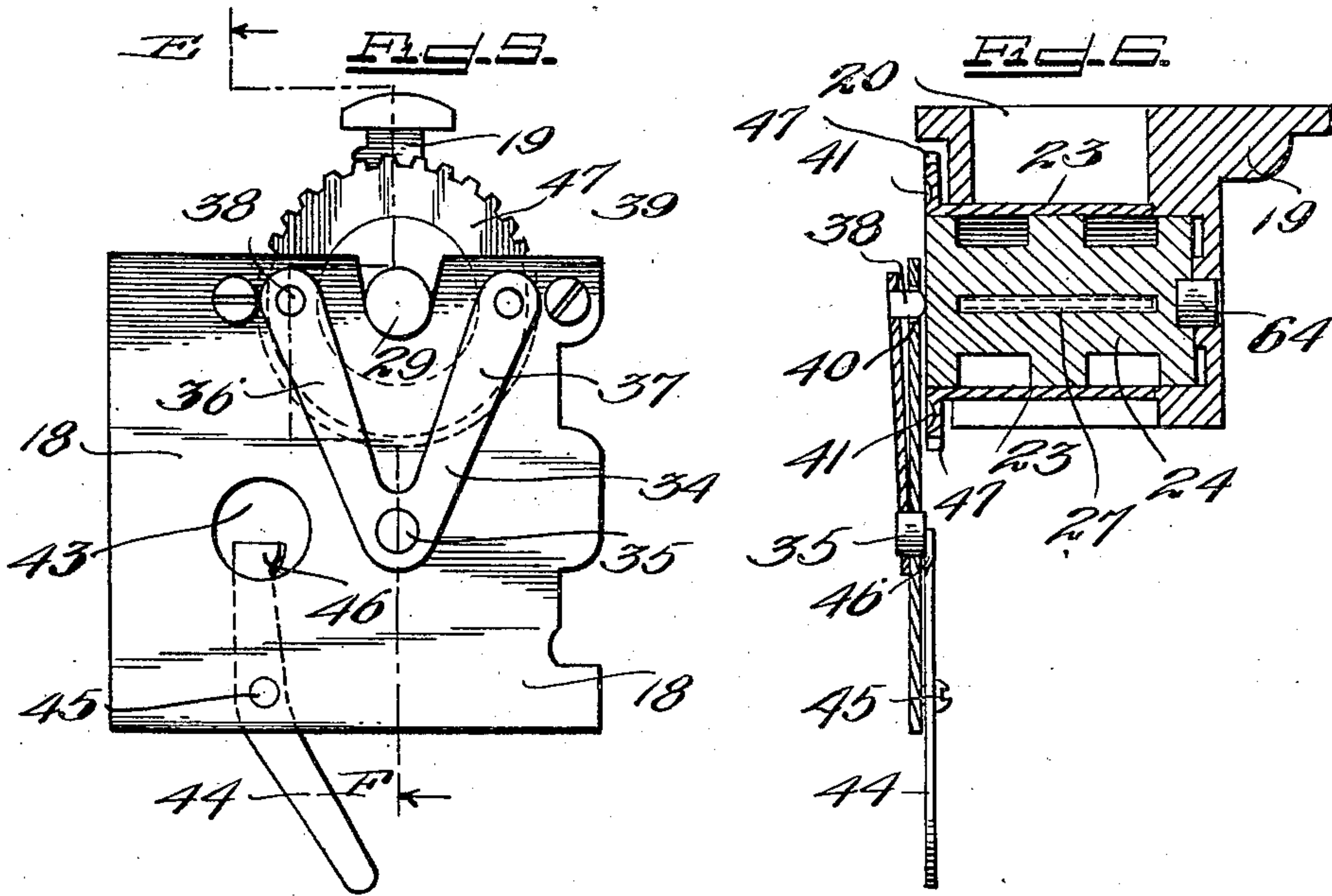
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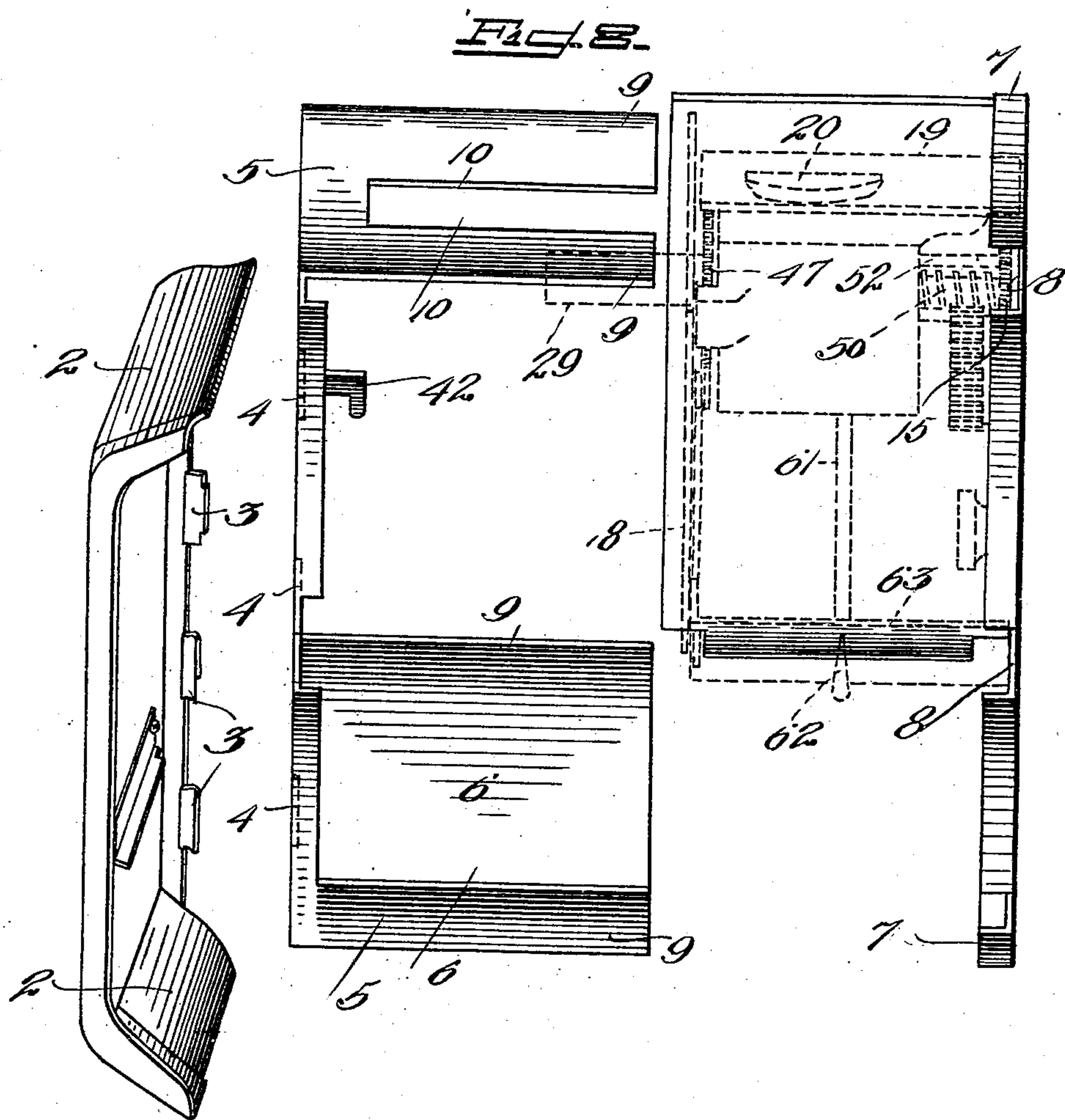
Witnesses:  
C. S. Ashley  
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Inventor  
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By his Attorneys  
Wastick & Jones



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4 SHEETS—SHEET 3.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

WILLIAM T. DREW, OF NEW YORK, N. Y., ASSIGNOR TO NEW YORK IMPROVED METER COMPANY, A CORPORATION OF NEW YORK.

## PREPAYMENT-METER.

No. 914,706.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed March 2, 1908. Serial No. 418,629.

*To all whom it may concern:*

Be it known that I, WILLIAM T. DREW, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Prepayment-Meters, of which the following is a specification.

The invention relates to improvements in coin controlled delivery apparatus, and the invention is particularly applicable for use in connection with different kinds of delivery mechanism designed particularly for use in connection with mechanism for the delivery of gas upon the prepayment of the coin.

In the following is described in connection with the accompanying drawings one embodiment of the invention, the features thereof being more particularly pointed out hereinafter in the claims.

In the drawings Figure 1 is a vertical sectional view of the apparatus on the line A—B of Fig. 2; Fig. 2 is a transverse sectional view on the line C—D of Fig. 1; Fig. 3 is a vertical cross sectional view of the stationary coin barrel; Fig. 4 is a side elevation of the interior or movable coin barrel; Fig. 5 is a detail side elevation of the coin barrel supporting plate, illustrating in connection therewith the means for resisting the turning of the coin barrels, and means for releasing a coin from the interior recesses of the movable coin barrel; Fig. 6 is a longitudinal sectional view on the line E—F of Fig. 5; Fig. 7 is a transverse sectional view of the delivery apparatus showing in connection therewith the reverted position of the stationary and movable coin barrels in connection with mechanism for operating the gas inlet valve; Fig. 8 is a perspective view of the knockdown casing for the prepayment mechanism; and Fig. 9 is a plan view of said knockdown casing.

Similar numerals of reference indicate similar parts throughout the several views.

In the drawings 1 designates a casing designed to inclose the actuating parts of the apparatus, said casing being adapted to be secured to the exterior surface of a gas meter by any suitable means, the lower part of the casing serving as a till or coin receptacle. Access may be had to the interior of said casing by means of door 2 which is provided

with slightly curved lugs 3 adapted to engage reception holes 4 in removable side and top casing 5. The coin till or receptacle is formed in the lower end of said casing 5 by means of a solid convex cup 6.

7 indicates the opposite side of the casing provided with openings 8 adapted to receive the various projections 9 on the inner side of casing 5, the mechanism of said prepayment mechanism, which will be hereinafter described, being preferably fastened to or mounted on side casing 7, and the projections 9 and reception slots 10 being adapted to engage corresponding surfaces in the actuating mechanism.

11 is an auxiliary compartment fastened to the back 12 of knockdown parts 2, 5 and 7 and contains gas inlet pipe 13 and the inlet valve 14 which controls the flow of fluid into the meter.

Secured in any suitable manner to brackets or plates on the walls of casing 8 is a plate 15.

16 designates a cylinder provided with outwardly flaring lugs 17 to which supporting plate 18 is secured, said casing constituting a housing for the coin carrier.

19 is a coin receiving chute provided with a slot 20 therein of sufficient width to permit the passage of a coin freely therethrough, said coin chute being preferably formed with casing 16 but it may be fastened thereto by means of screws or other suitable means. Said coin chute passes through the top of the casing into reception slot 10 and is preferably flanged, as shown, to interlock with the upper surface of said casing. The housing 16 is provided with diametrically opposite slots 21 and 22 in direct alinement with slot 20, as is clearly shown in Figs. 1 and 3 of the drawings.

23 and 24 are cups set concentrically within housing 16, said cups constituting together the coin carrier. These cups are made cylindrical, the latter cup 24 fitting snugly within the former so that it may rotate without friction. The outer cup 23 is provided with diametrically opposite slots 25 and 26 adapted to be brought alternately into register with the slots 21 and 22 in outer casing or housing 16. The inner cup 24 is provided with a slot 27 extending diametrically thereof but not entirely therethrough, leaving at its lower end a web 28 closing the bottom of



said slot. Slot 27 in cup 24 is of less depth and the outer diameter of cup 23 is equal to or less than the diameter of a coin, so that when the parts are in the position shown in Figs. 1 and 2 of the drawings the slots 20, 21, 27, 26 and 22 are in alinement and a coin dropped into the slot 20 will descend through the respective slots and rest upon web 28 of the interior coin cup; the coin being of greater diameter than the depth of slot 27 and of the same or slightly less diameter than the outer diameter of the cup 23, will project into the slot 25 and its edge will bear against the edge or wall of said slot 25. When in this position the result is that when a rotary movement is imparted to the inner cup 24, the bearing surface effected by the edge of the coin against the wall of the slot 25 will cause a rotary movement to be imparted to cup 23 and this movement is utilized to effect the opening of the gas valve through the mechanism hereinafter described.

The inner cup 24 is made in the form of a casting and in order to make it light and save metal it may have recessed portions cut throughout its body. This, however, is not essential as the same may be made in the form of a solid cylindrical barrel. Extending from one end of cup 24 is a shaft or spindle 29 provided with a reception hole 30 adapted to project through the openings 31 in the casing 5, said hole 30 having mounted therein a handle 32 provided at one end with a lock-nut 33 adapted to hold said handle in said shaft. When there is no coin within the coin cups the device may be rotated at will being free to turn in both directions within the outer housing of said coin cups, but the mere movement of said handle will not effect or actuate the inlet valve actuating mechanism; when a coin is inserted in the coin cups the limit of rotation is in an arc of 180 degrees. The mechanism for preventing the further movement of said coin carrier in the same direction comprises a flat spring 34 rigidly fastened to plate 18 as at 35. The upper arms 36 and 37 of said spring are provided with lugs 38 and 39 projecting through holes 40 in said casing 18 and when the machine is in its normal position engaging sockets 41 formed in the outer end of cup 23.

42 indicates a lug mounted on the interior surface of the casing 5 and is adapted to project through hole 43 in plate 18.

44 is a lever pivotally mounted on the interior surface of plate 18 as at 45 and provided at its upper end with a beveled head 46 adapted to engage the nose end of lug 42 when the respective parts of the casing are assembled.

The above described means assures a ready device for temporarily locking the knockdown portions of the meter casing together.

Coin cup 23 is normally locked, that is it

has no independent movement of its own and is capable of movement in one direction only when interlocked with interior coin cup 24 through the medium of a coin. Said cup 23 is shown as extending only part way in the housing 16 and has formed thereon at its outer end a gear 47, said gear 47 being adapted to engage pinion 48 free to rotate about the journals 49 of a worm 50, the ends of the shaft or the journals 49 find bearing in plate 18 at one end and casing 1 at its other end. Encircling said worm 50 at the end opposite pinion 48 is a plate 51 carrying rods 52, the whole constituting a frame rotatable about said worm 50. Rods 52 support a circumferentially grooved wheel or carriage 53 which may be provided with a follower engaging the worm 50 or it may be interiorly screw threaded as shown in the drawings. Seated in the groove of the wheel or carriage 53, so as to be advanced thereby longitudinally of the worm 50 but not partaking of the rotary movement of said carriage 53, is a band or yoke 54 having integral therewith or secured by any suitable means thereto a projecting pin 55 which engages the underside of a rocker arm attached to or mounted on rock shaft 57, said shaft 57 finding its bearing in the rear wall of casing 1 and extending into compartment 11 containing the gas inlet valve. Upon the end of shaft 57 projecting into said compartment 11 is an arm 58, the lower end of said arm having formed therein a hole adapted to receive pin 59 carried by stem 60 of the gas inlet valve 14.

The band or yoke 53 is provided with a downwardly projecting arm 61, said arm being formed at its outer end to constitute a pointer 62 passing in front of index plate 63, supported in the interior of stationary casing 7 and visible through a transparent plate fastened upon door 2. Said plate is divided into any number of equal parts, indicating the amount of gas paid for and still to the credit of the user, as hereinafter described.

Inner coin barrel 24 described as having a shaft or spindle 29 on one end thereof has formed on its other end a lug 64 adapted to rest within bearing 65 in housing 16. The inner surface of said housing 16 has formed thereon a shoulder 66 provided with diagonally inclined edges 67 adapted to receive stop 68 mounted on the inner surface of inner coin barrel 24. The object of the above is the providing of means for limiting the movement of the inner coin barrel 24 and cup 23 after a coin has been inserted in slot 27.

Referring to Fig. 7 of the drawings spring 69, mounted in housing 16 and bearing against the inner edge of cup 23, may be substituted for or used in connection with flat spring 34 attached to plate 18. Said spring 69 assists in the discharging of the coin after the inner coin cup 24 is moved to the limit of its rotating stroke. Arm 56 when in its



normal position is set in a downwardly diagonal position, the inner end 64 thereof being adapted to rest upon pin 55 and when said parts are in this position the valve is closed.

5 When a predetermined number of coins is fed into the coin cups and the same actuated, carriage 53 travels transversely on said worm 50 and gradually lifts said arm 56 and opens valve 14. When said valve 14 is open and  
10 gas is being used, the passage of the gas through the operating parts thereof causes carriage 53 to travel in its reverse direction, and when gas to the amount registered on the index 63 is used, carriage 53 is returned  
15 to its normal position, the result being that valve 14 will close and prevent the further passage of gas through said compartment 11. Spring 34 described as being provided with lugs 38 and 39 engaging sockets 41 in coin  
20 cup 23 causes a slight friction, and when handle 32 is thrown completely round or upon traveling in an arc of 180 degrees the coin cups cannot be further actuated without the insertion of another coin, the parts  
25 being set at normal by means of turning in a reverse direction handle 32. Then the coin barrels are ready to receive another coin which may be inserted, the mere turning thereof in the direction as above described  
30 constituting the means of opening valve 14 a greater distance. The device as shown and described is designed to receive four coins, that is it permits a person to insert four coins and open the valve for the passage of  
35 gas therethrough to its fullest extent. Furthermore spring 34 acts as a means of assisting or compelling the coin to drop in the coin receptacle after the party manipulating the device has turned the handle half way  
40 round, causing web 28 to register with slot 21 in chute 19 and permitting the coin to pass out of slot 27 in inner coin cup 24 through slot 25 in cup 23 and slot 22 in housing 16 into the coin receiving receptacle.  
45 Referring to Figs. 7 and 8 of the drawings the device as shown illustrates the manner in which the several sections of the casing are assembled. The prepayment mechanism is fastened rigidly to said casing 7 and back 12  
50 which is provided with a plurality of slots adapted to receive the edges of removable section 5, said section 5 constituting the top and side of the casing and the coin receptacle. Door 2 has suitably formed at one side thereof  
55 of a plurality of tongues adapted to engage reception slots in the side of section 5. Said door 2 has cut therein a slot or opening adapted to register with an eyelet fastened on the side casing 7 and constitutes at that  
60 point means for locking said door and also means for holding the several parts together.

The device as shown and described may be varied in many ways without departing  
65 from the spirit of the invention.

What I claim and desire to secure by Letters Patent of the United States is:—

1. A device of the character described comprising a casing, a rotative coin carrier, a gas inlet valve, an arm associated with said  
70 valve, a pin and means for moving the same against said arm to effect the opening of said valve, an auxiliary support for said coin carrier, and means mounted on said auxiliary support adapted to control the movement of  
75 said coin carrier.

2. A device of the character described comprising a rotative coin carrier, a gas inlet valve, an arm associated therewith, a pin and means for moving the same against said  
80 arm to effect the opening of said valve, a knockdown casing therefor, an auxiliary support for said coin carrier, and means mounted thereon adapted to engage said coin carrier and control the movement  
85 thereof.

3. A device of the character described comprising a knockdown casing, a rotative coin carrier, a gas inlet valve, an arm associated with said valve, a pin and means for  
90 moving said pin against said arm to effect the opening of said valve, a plate adapted to support said coin carrier, and a spring mounted on said plate provided with fingers adapted to engage said coin carrier to limit  
95 the movement thereof and assist in discharging a coin therefrom.

4. A device of the character described including a casing, a gas compartment, an inlet valve, a rocking arm associated with said  
100 valve, a worm, a carriage mounted thereon, a pin mounted on said carriage adapted to bear against said arm to effect the opening of said valve, an auxiliary casing, a rotative coin carrier comprising an outer housing  
105 provided with diametrically opposite slots, a coin chute registering with one of said slots, concentrically arranged cups mounted in said housing, the outer of said cups being provided with diametrically opposite slots registering with each of said slots in said housing,  
110 and the inner of said cups being provided with a coin reception slot extending diametrically but not entirely through said cups, said slots registering with one of said slots in  
115 said outer cup, and a spring mounted on said auxiliary casing provided with fingers adapted to engage recesses in said housing to effect the movement of said cups and assist in the discharge of a coin from said coin carrier.  
120

5. A device of the character described including a casing, a gas compartment, a gas inlet valve, an arm associated with said  
125 valve, a pin, means for actuating said pin to effect the opening of said inlet valve, a rotative coin carrier comprising a housing provided with diametrically opposite slots, concentrically arranged cups mounted in said housing, the outer of said cups being provided with diametrically opposite slots  
130



adapted to register with said slots in said housing and the inner of said cups being provided with a slot adapted to register with the slots in said housing and outer cup, and means associated with said housing adapted to center said coin carrier and effect the registering of said slots in said housing and cups.

6. A device of the character described including a casing, a gas compartment, a gas inlet valve, an arm associated with said valve, a pin, means for moving said pin against said arm to effect the opening of said valve, a rotative coin carrier comprising a housing provided with diametrically opposite slots concentrically arranged cups mounted in said housing, the outer of said cups being provided with diametrically opposite slots adapted to register with said slots in said housing, and the inner of said cups being provided with a slot extending partially but not entirely therethrough, a chute registering with the slots in said housing and outer cup, an auxiliary support for said coin carrier, a spring mounted on said support provided with fingers adapted to engage sockets in said outer cup to center said coin carrier and assist the discharge of a coin therefrom.

7. In an apparatus of the character described a rotative coin carrier and means for limiting the movement of the same comprising a spring, lugs on said spring and

sockets on opposite sides of said carrier into which said lugs are adapted to take simultaneously.

8. In an apparatus of the character described a rotative coin carrier and means for limiting the movement of the same comprising a spring, lugs on said spring and sockets in said carrier diametrically disposed with reference to each other and adapted to be engaged by said lugs simultaneously.

9. In an apparatus of the character described a rotative coin carrier and means for limiting the movement of the same comprising a V shaped spring, lugs at the free ends of the spring and sockets in said carrier adapted to be engaged by said lugs simultaneously.

10. In an apparatus of the character described a rotative coin carrier and means for limiting the movement of the same comprising a V shaped spring, lugs at the free ends of said spring and sockets in said carrier diametrically disposed with reference to each other and adapted to be engaged by said lugs simultaneously.

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

WILLIAM T. DREW.

Witnesses:

C. G. LUEDER,  
ROBERT W. ASHLEY.