

May 21, 1929.

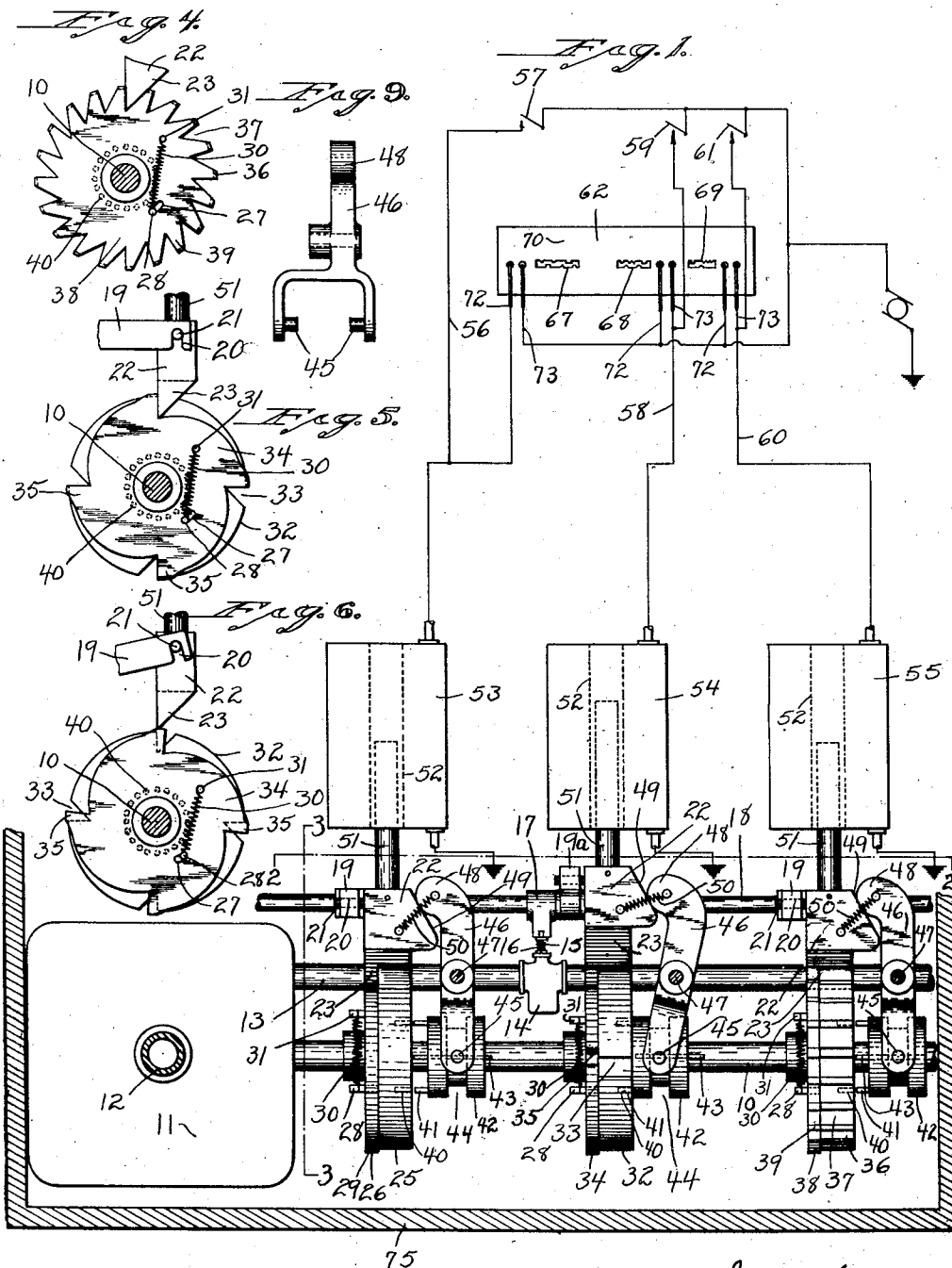
S. B. ROCKWELL

1,714,447

APPARATUS FOR DISPENSING GASOLINE AND THE LIKE

Filed Sept. 13, 1927

2 Sheets-Sheet 1



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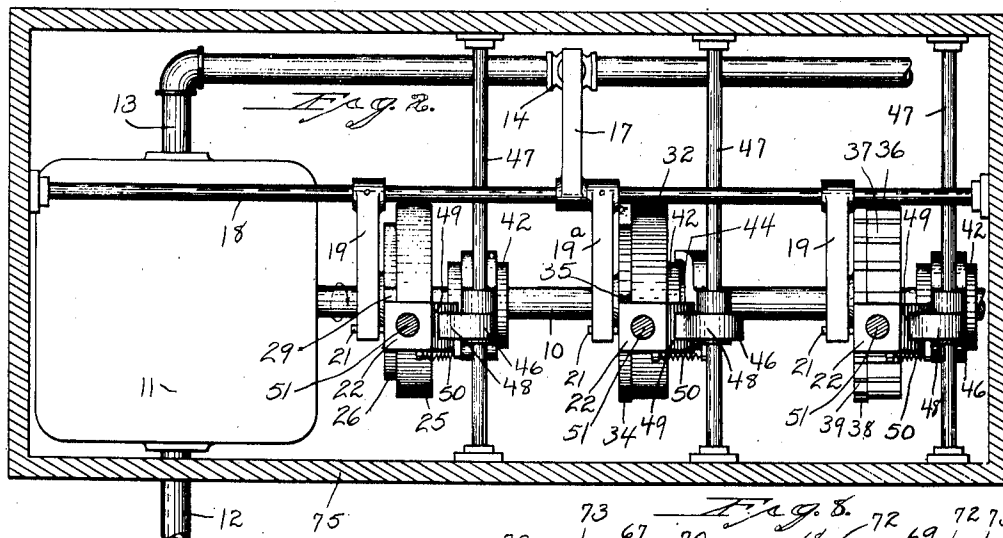
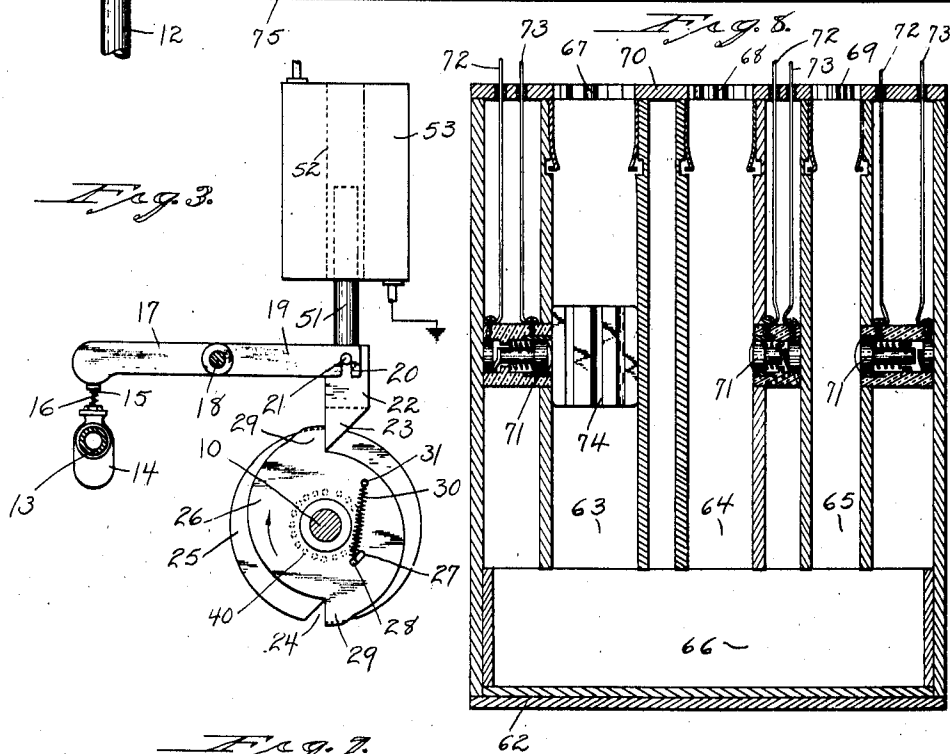
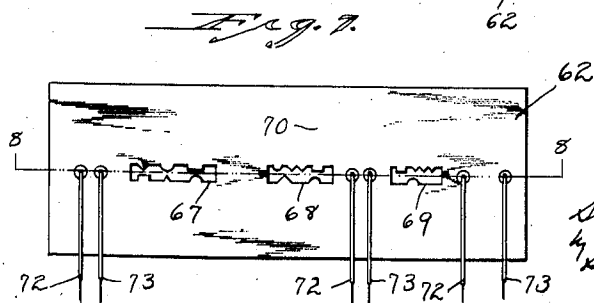
S. B. ROCKWELL

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APPARATUS FOR DISPENSING GASOLINE AND THE LIKE

Filed Sept. 13, 1927

2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR DISPENSING GASOLINE AND THE LIKE

Application filed September 13, 1927. Serial No. 219,236.

My invention relates to an improvement in apparatus primarily designed for dispensing gasoline at filling-stations but not so limited, the object being to produce, at a relatively low cost for manufacture, a simple, compact, conveniently-operated and reliable apparatus preferably constructed so as to be electrically started and mechanically controlled during the remainder of one cycle of its operation.

With these ends in view, my invention consists in an apparatus for dispensing gasoline, and kindred fluids, characterized by its adaptation to being mechanically controlled during a cycle of its operation after having been once started, whether electrically or manually.

My invention further consists in an apparatus characterized as above and having certain details of construction and combinations of parts as will be hereinafter described and pointed out in the claims.

In the accompanying drawings:

Fig. 1 is a view in front elevation of one of the forms which an apparatus embodying my invention may assume, the coin-box thereof being, for convenience, shown in plan and the wiring being shown diagrammatically;

Fig. 2 is a view thereof in horizontal section on the line 2—2 of Fig. 1;

Fig. 3 is a view thereof in vertical transverse section on the line 3—3 of Fig. 1;

Fig. 4 is a detached view in elevation of the one-gallon measuring-disk, together with its guard-disk and a portion of its complementary measuring-finger;

Fig. 5 is a similar view of the five-gallon measuring-disk, together with its guard-disk;

Fig. 6 is a view corresponding to Fig. 5 with the measuring-finger retracted from one of the notches of the five-gallon measuring-disk and the guard-disk thereof in its guard position;

Fig. 7 is a detached plan view of the coin-box on a somewhat enlarged scale;

Fig. 8 is a view thereof in vertical longitudinal section on the line 8—8 of Fig. 7; and

Fig. 9 is a detached view in side elevation of one of the operating levers.

For the illustration of my invention I have shown an apparatus for dispensing gasoline by specially designed "tokens" having the grooved character of pin-tum-

bler-lock keys and designed also to be operated, if desired, by push-buttons. The apparatus illustrated provides for dispensing one, five or ten gallons of gasoline in one cycle of its operation, depending upon which of the three of its measuring-units is initially started, but, of course, the amount of gasoline, or other fluid, dispensed may be varied as desired by mere mechanical changes in the measuring-units.

The apparatus herein illustrated, which may be operated by push-buttons or plug-like "tokens," comprises three measuring-units, all installed upon a drive-shaft driven by a flow-meter or fluid-motor of any approved construction and not calling for detailed description more than to say that it is provided with an inlet or supply-pipe 12 connected with a source of gasoline under pressure, and an outlet or service-pipe 13 which ultimately leads to a hose or nozzle (not shown) for filling the gas-tank of an automobile. In the service-pipe 13 is interposed a valve 14, the reciprocating stem of which is encircled by a spring 16, by means of which the valve is normally maintained in its closed position. The said valve-stem 15 is depressed against the tension of the spring 16 for opening the valve and permitting the flow of gasoline, through the flow-meter 11 and service-pipe 13, by its engagement with the lower face of a valve-operating arm 17 mounted on a rock-shaft 18 journaled at its opposite ends in the end walls of the housing 75 of the apparatus.

An operating-arm 19 on the rock-shaft 18 is formed in its forward end with a downwardly-opening notch 20 receiving a coupling-pin 21 laterally offsetting from a measuring-finger 22 having a triangular nose 23 for co-action with either one of two diametrically-arranged V-shaped measuring-notches 24 formed in the periphery of a ten-gallon measuring-disk 25 loosely mounted upon the shaft 10 aforesaid. The said notch 20 and pin 21 form, in effect, a one-way driving-connection between the several measuring-fingers 22 and the valve 14, in so far as the measuring-fingers 22 can move the arms 19 upward, but the arms cannot so move the measuring-fingers.

The said disk 25 is provided with a guard-disk 26 bearing against one of its faces, loosely mounted upon the drive-shaft 10 and having oscillatory movement with respect to the disk 25, such movement being

limited by a segmental slot 27 formed in it and receiving a stop-pin 28 carried by the measuring-disk 25. The said guard-disk 26 is formed with two diametrically-opposite complementary guard-fingers 29 which are snapped under the point of the nose 23 of the measuring-finger 22, at the moment the said nose is lifted out of either one of the notches 24, by means of a helical spring 30 extending between the said stop-pin 28 and a pin 31 carried by the guard-disk, whereby the nose 23 is prevented from re-entering the given notch 24 before the same has, in the rotation of the measuring-disk 25, been carried clockwise forward out of line with the nose.

The measuring-disk 25, its guard-disk 26, the measuring-finger 22, the arm 19, an armature 51, and a solenoid such as 53, 54 or 55, constitute what, for convenience, I have designated as a "measuring-unit." The particular measuring-unit being described is located next adjacent to the flow-meter 11 and is flanked on the opposite side therefrom by two corresponding measuring-units, from which it differs only in the number of the measuring-notches in its measuring-disk 25 and the number of guard-fingers in its guard-disk 26. Thus, the disk 25 has two measuring-notches for dispensing ten gallons of gasoline for each measuring-cycle (a half revolution) of its operation, while the measuring-disk 32 of the intermediate measuring-unit has four measuring-notches 33 and its guard-disk 34 four guard-fingers 35, this intermediate unit being designed for dispensing five gallons of gasoline for each measuring-cycle (a quarter revolution) of its operation. The measuring-disk 36 of the remaining unit is formed with twenty measuring-notches 37, while its guard-disk 38 has twenty complementary guard-fingers 39, the disk 36 being thus adapted to dispense one gallon of gasoline for each measuring-cycle (a twentieth revolution) of its operation. The other parts of the five-gallon and one-gallon measuring-units respectively duplicate the parts of the ten-gallon measuring-unit, are correspondingly numbered, and do not, therefore, call for individual description.

Each of the three measuring-disks 25, 32 and 36 is formed upon its outer face with a circular series of twenty equally-spaced coupling-sockets 40, any pair of which is adapted to receive a pair of coupling-pins 41 projecting laterally from a spool-like clutch 42 mounted on the drive-shaft 10 upon which it is keyed by a feather-key 43 with freedom for axial movement thereupon. The clutch 42 is formed with a groove 44 receiving two pins 45 extending inwardly toward each other from the forked lower end of an operating-lever 46 (Fig. 9) rocking upon a horizontally-arranged shaft 47,

of which there is one for each of the three operating-levers 46. The upper end of each of the said levers is formed with a cam-head 48 co-acting with a cam-surface 49 formed upon one face of each of the measuring-fingers 22 at a point diametrically opposite the coupling-pin 21 therein. Helical springs 50 connecting the respective measuring-fingers 22 and operating-levers 46 provide for maintaining the said cam-heads 48 and cam-surfaces 49 in contact. The parts above described are the same for each of the measuring-units and will be correspondingly numbered.

Each of the measuring-fingers 22 is mounted upon the lower end of a solenoid armature or core 51 extending upward into the concentric passage 52 of a solenoid, of which there are three, namely, 53, 54 and 55. The solenoid 53 is connected with a circuit-wire 56 controlled by a push-button 57; the solenoid 54 is connected by a circuit-wire 58 with a push-button 59; while the solenoid 55 is connected by a circuit-wire 60 with a push-button 61.

Having thus described the organization of my improved apparatus, I will now proceed to describe one cycle of its operation, choosing for such descriptive illustration its use for dispensing five gallons of gasoline, for which purpose the measuring-unit comprising the measuring-disk 32 is employed.

To electrically start the unit in question, the vendor operates the push-button 59 whereby the solenoid 54 is energized with the effect of lifting its armature 51 and hence its measuring-finger 22 out of the measuring-notch 33 of the disc 32 into which it was, at the time, entered. The described withdrawal of the finger 22 from the notch 33 permits the spring 30 to move the guard-disk clockwise, whereby the adjacent guard-finger 35 is snapped under the nose 23 of the measuring-finger 22, so that the same is prevented from dropping back into the notch 33 from which it has just been lifted. Simultaneously with the action described, the cam-surface 49 of the measuring-finger 22 operates through the cam-head 48 of the rocking-lever 46 to rock the same and so effect the insertion of the coupling-pins 41 of the clutch 42 connected with it into a pair of sockets 40 in the outer face of the measuring-disk 32, whereby the same is coupled with the drive-shaft 10 for clockwise rotation therewith. Simultaneously also with the lifting of the measuring finger 22, its pin 21 lifts the arm 19 and depresses the arm 17 so as to open the valve 14 in the service-pipe 13. Gasoline instantly starts to flow through the flow-meter 11, with the effect of driving the shaft 10 and so rotating the measuring-disk 32 for a quarter-turn, when its next succeeding measuring-notch 33 will be brought under the measur-

ing-finger 22 which then drops by gravity into it. Concurrent with the described descent of the measuring-finger 22, the rocking lever 46 is rocked by its spring 50 to retract the coupling-pins 41 of its associated spool-like clutch 42 from the sockets 40 in the outer face of the measuring-disk 32, with the effect of uncoupling the same from the drive-shaft 10. Concurrently, also, with the described descent of the given measuring-finger 22, the valve-spring 16 asserts itself to lift the valve-stem 15 and hence the valve 14 and so stop the flow of gasoline through the service-pipe 13, which stops the rotation of the flow-meter 11 and the rotation of the drive-shaft 10 after it has made a quarter-turn. All this takes place as soon as five gallons of gasoline have been allowed to pass through the service-pipe 13. The apparatus, as shown and described, is so organized that the shaft 10 makes but one complete revolution for the dispensation of twenty gallons of gasoline.

In the same manner, the use by the vendor of the push-button 57 energizes the solenoid 53 and starts the ten-gallon measuring-disk in rotation for the dispensation of ten gallons of gasoline. The shaft 10 then makes one-half of one revolution before it is stopped. In the same manner, the vendor, by operating the push-button 61, energizes the solenoid 55 and starts the measuring-disk 36, which will be stopped after the shaft has made one-twentieth of one revolution and has dispensed one gallon of gasoline.

It will be seen from the foregoing description that although the apparatus is electrically started, thereafter it is mechanically controlled and stopped at the conclusion of one cycle of its operation, irrespective of the length of that cycle, which will depend upon the amount of gasoline to be dispensed.

If desired, the push-buttons may be supplemented or even replaced by coin-controlled switches such as shown herein, the term "coin," as used, being designed to cover coins, tokens, or special plugs made on the principle of the grooved keys of pin-tumbler locks. The coin-box 62 is formed with three vertical coin-passages 63, 64 and 65 opening at their lower ends into a till 66. The upper ends of these passages terminate in conformed coin-slots 67, 68 and 69 formed in the top plate 70 of the box 62. Normally projecting into one wall of each of the passages 63, 64 and 65 I locate a spring-pressed reciprocating switch-plunger 71, which serves to connect the wires 72 and 73 when a suitable grooved-coin or token 74 is dropped into the slot 67, 68 or 69, as the case may be.

Without going into the details of the wiring, it is obvious that when a coin 74 falls through the passage 63, it closes the circuit

of the solenoid 53. Similarly, the dropping of a coin through the passage 64 closes the circuit of the solenoid 54, and also similarly the dropping of a coin through the passage 65 closes the circuit of the solenoid 55.

My invention has been shown and described as an improved electrically-started dispensing apparatus, which is its preferred form, but, obviously, the advantages proceeding from its mechanical construction and organization would be present if manually started, as might be readily done by the lifting of the measuring-finger of the respective measuring-units by hand. I would, therefore, have it understood that my invention comprehends in its scope manual starting, if desired.

I claim:

1. An apparatus for dispensing fluids, comprising a fluid-motor driven by the fluid to be dispensed; a pipe connected with the said motor; a valve controlling the flow of fluid through the said pipe and motor; a measuring-disk; a stop-notch formed in the said disk; a measuring-finger co-acting with the said disk and adapted to enter the said notch; electro-magnetic means for moving the said measuring-finger out of the said stop-notch; means connecting the said finger and valve for opening the said valve when the said finger is moved out of the said notch; a driving-connection between said fluid-motor and disk; whereby, when the measuring-finger is moved out of the stop-notch, the said valve is opened and the said motor started for driving the said disk; and a guard-member co-acting with the said measuring-finger for temporarily barring the re-entry of the same into the said stop-notch until the measuring-disk has been moved by the said motor.

2. An apparatus for dispensing fluids, comprising a fluid-motor driven by the fluid to be dispensed; a pipe connected with the said motor; a valve controlling the flow of fluid through the said pipe and motor; a measuring-disk; a stop-notch formed in the said disk; a measuring-finger co-acting with the said disk and adapted to enter the said notch; electro-magnetic means for moving the said measuring-finger out of the said stop-notch; means connecting the said finger and valve for opening the said valve when the said finger is moved out of the said notch; a clutch also operated by the said electro-magnetic means for coupling the said measuring-disk to the said motor; and connecting-means between the said clutch and measuring-finger; whereby, when the measuring-finger is moved out of the stop-notch, the said clutch is operated to connect the said motor and measuring-disk, the said valve is opened, and the said motor started for driving the said disk.

3. An apparatus for dispensing fluids,

comprising a fluid-motor driven by the fluid to be dispensed; a pipe connected with the said motor; a valve controlling the flow of fluid through the said pipe and motor; a measuring-disk; a stop-notch formed in the said disk; a measuring-finger co-acting with the said disk and adapted to enter the said notch; electro-magnetic means for moving the said measuring-finger out of the said stop-notch; means connecting the said finger and valve for opening the said valve when the said finger is moved out of the said notch; a clutch also operated by the said electro-magnetic means for coupling the said measuring-disk to the said motor; connecting-means between the said clutch and measuring-finger; whereby when the measuring-finger is moved out of the stop-notch, the said clutch is operated to connect the said motor and measuring-disk, the said valve is opened and the said motor started for driving the said disk; and a guard-member co-acting with the said measuring-finger for temporarily barring the re-entry of the same into the said stop-notch until the measuring-disk has been moved by the said motor.

4. An apparatus for dispensing fluids, comprising a fluid-motor driven by the fluid to be dispensed; a pipe connected with the said motor; a valve controlling the flow of fluid through the said pipe and motor; a plurality of measuring-disks; a stop-notch formed in each of the said disks; a measuring-finger co-acting with each of the said measuring-disks and adapted to enter the stop-notch therein; electro-magnetic means for moving the said measuring-finger out of the said stop-notch for opening the said valve; a one-way-drive connection for coupling each of the said fingers to the said valve; and driving-connections between the said fluid-motor and the said disks; whereby, when any one of the said measuring-fingers is moved out of the stop-notch of its complementary measuring-disk, the said valve is opened and the said motor started for driving the said disk without affecting the other measuring-disks and fingers.

5. An apparatus for dispensing fluids, comprising a fluid-motor driven by the fluid to be dispensed; a pipe connected with the said motor; a valve controlling the flow of fluid through the said pipe and motor; a plurality of measuring-disks; a stop-notch formed in each of the said disks; a measuring-finger co-acting with each of the said measuring-disks and adapted to enter the stop-notch therein; means connecting the said valve and each of the said measuring-fingers for opening the valve when a given finger is moved out of the notch in its disk; a one-way-drive connection for coupling each of the said fingers to the said valve; driving-connections between the said fluid-

motor and the said disks; whereby, when any one of the said measuring-fingers is moved out of the stop-notch of its complementary measuring-disk, the said valve is opened and the said motor started for driving the said disk without affecting the other measuring-disks and fingers; and a guard-member co-acting with each of the measuring-fingers for temporarily barring the re-entry of the same into the stop-notch of its complementary measuring-disk until the said measuring-disk has been moved by the said motor.

6. An apparatus for dispensing fluids, comprising a fluid-motor driven by the fluid to be dispensed; a pipe connected with the said motor; a valve controlling the flow of fluid through the said pipe and motor; a plurality of measuring-disks; a stop-notch formed in each of the said disks; a measuring-finger co-acting with each of the said measuring-disks and adapted to enter the stop-notch therein; electro-magnetic means for moving the said measuring-finger out of the said stop-notch for opening the valve; a one-way-drive connection for coupling each of the said fingers to the said valve; a clutch also operated by the said electro-magnetic means for coupling each of the said measuring-disks to the motor; and connecting-means between each clutch and one of the said measuring-fingers; whereby, when any one of the said measuring-fingers is moved out of the stop-notch of its complementary measuring-disk, the said valve is opened and the said motor started for driving the said disk without affecting the other measuring-disks and fingers.

7. An apparatus for dispensing fluids, comprising a fluid-motor driven by the fluid to be dispensed; a pipe connected with the said motor; a valve controlling the flow of fluid through the said pipe and motor; a plurality of measuring-disks; a stop-notch formed in each of the said disks; a measuring-finger co-acting with each of the said measuring-disks and adapted to enter the stop-notch therein; a one-way-drive connection for coupling each of the said fingers to the said valve; clutches for coupling each of the said measuring-disks to the motor; connecting-means between each clutch and one of the said measuring-fingers for opening the said valve; whereby, when any one of the said measuring-fingers is moved out of the stop-notch of its complementary measuring-disk, the said valve is opened and the said motor started for driving the said disk without affecting the other measuring-disks and fingers; and a guard-member co-acting with each of the measuring-fingers for temporarily barring the re-entry of the same into the stop-notch of its complementary measuring-disk until the said measuring-disk has been moved by the said motor.

8. An apparatus for dispensing fluids, comprising a fluid-motor driven by the fluid to be dispensed; a pipe connected with the said motor; a valve controlling the flow of fluid through the said pipe and motor; a measuring-disk; a stop-notch formed in the said disk; a measuring-finger co-acting with the said disk and adapted to enter the said notch; electromagnetic means for moving the said measuring-finger out of the said notch for opening the said valve; means connecting the said finger and valve; and a driving-connection between said fluid-motor and disk; whereby, when the measuring-finger is moved out of the stop-notch by the said electro-magnetic means, the said valve is opened and the said motor started for driving the said disk.

9. An apparatus for dispensing fluids, comprising a fluid-motor driven by the fluid to be dispensed; a pipe connected with the said motor; a valve controlling the flow of fluid through the said pipe and motor; a measuring-disk; a stop-notch formed in the said disk; a measuring-finger co-acting with the said disk and adapted to enter the said notch; electromagnetic means for moving the said measuring-finger out of the said notch; means connecting the said finger and valve for opening the same when the finger is moved out of the notch; a driving-connection between said fluid-motor and disk; whereby, when the measuring-finger is moved out of the stop-notch by the said electro-magnetic means, the said valve is opened and the said motor started for driving the said disk; and a guard-member co-acting with the said measuring-finger for temporarily barring the re-entry of the same into the said stop-notch until the measuring-disk has been moved by the said motor.

12. An apparatus for dispensing fluids, comprising a fluid-motor driven by the fluid to be dispensed; a pipe connected with the said motor; a valve controlling the flow of fluid through the said pipe and motor; a plurality of measuring-disks; a stop-notch formed in each of the said disks; a measuring-finger co-acting with each of the said measuring-disks and adapted to enter the stop-notch therein; electro-magnetic means for moving the said measuring-finger out of the said notch for opening the said valve; a one-way-drive connection for coupling each of the said fingers to the said valve; and driving-connections between the said fluid-motor and the said disks, whereby, when any one of the said measuring-fingers is moved out of the stop-notch of its complementary measuring-disk by the said electro-magnetic means, the said valve is opened and the said motor started for driving the said disk without affecting the other measuring-disks and fingers.

10. An apparatus for dispensing fluids, comprising a fluid-motor driven by the fluid to be dispensed; a pipe connected with the said motor; a valve controlling the flow of fluid through the said pipe and motor; a measuring-disk; a stop-notch formed in the said disk; a measuring-finger co-acting with the said disk and adapted to enter the said notch; electro-magnetic means for moving the said measuring-finger out of the said notch; means connecting the said finger and valve for opening the same when the said finger is moved out of the said notch; a clutch for coupling the said measuring-disk to the said motor; and connecting-means between the said clutch and measuring-finger; whereby, when the measuring-finger is moved out of the stop-notch by the said electromagnetic means, the said clutch is operated to connect the said motor and measuring-disk, the said valve is opened and the said motor started for driving the said disk.

11. An apparatus for dispensing fluids, comprising a fluid-motor driven by the fluid

to be dispensed; a pipe connected with the said motor; a valve controlling the flow of fluid through the said pipe and motor; a measuring-disk; a stop-notch formed in the said disk; a measuring-finger co-acting with the said disk and adapted to enter the said notch; electro-magnetic means for moving the said measuring-finger out of the said notch; means connecting the said finger and valve for opening the same when the said finger is moved out of the said notch; a clutch for coupling the said measuring-disk to the said motor; connecting-means between the said clutch and measuring-finger; whereby, when the measuring-finger is moved out of the stop-notch by the said electro-magnetic means, the said clutch is operated to connect the said motor and measuring-disk, the said valve is opened and the said motor started for driving the said disk; and a guard-member co-acting with the said measuring-finger for temporarily barring the re-entry of the same into the said stop-notch until the measuring-disk has been moved by the said motor.

13. An apparatus for dispensing fluids, comprising a fluid-motor driven by the fluid to be dispensed; a pipe connected with the said motor; a valve controlling the flow of fluid through the said pipe and motor; a plurality of measuring-disks; a stop-notch formed in each of the said disks; a measuring-finger co-acting with each of the said measuring-disks and adapted to enter the stop-notch therein; electro-magnetic means for moving the said measuring-finger out of the said notch for opening the said valve; a one-way-drive connection for coupling each of the said fingers to the said valve; and driving-connections between the said fluid-motor and the said disks; whereby, when any one of the said measuring-fingers is moved out of the stop-notch of its complementary measuring-disk by the said electro-magnetic means, the said valve is opened and the said motor started for driving the said disk without affecting the other measuring-disks and fingers.

13. An apparatus for dispensing fluids, comprising a fluid-motor driven by the fluid to be dispensed; a pipe connected with the said motor; a valve controlling the flow of fluid through the said pipe and motor; a plurality of measuring-disks; a stop-notch formed in each of the said disks; a measuring-finger co-acting with each of the said measuring-disks and adapted to enter the stop-notch therein; electro-magnetic means for moving the said measuring-finger out of the said notch for opening the said valve; a one-way-drive connection for coupling each of the said fingers to the said valve; driving-connections between the said fluid-motor and the said disks; whereby, when any one of the said measuring-fingers is moved

out of the stop-notch of its complementary measuring-disk by the said electro-magnetic means, the said valve is opened and the said motor started for driving the said disk without affecting the other measuring-disks and fingers; and a guard-member co-acting with each of the measuring-fingers for temporarily barring the re-entry of the same into the stop-notch of its complementary measuring-disk until the said measuring-disk has been moved by the said motor.

14. An apparatus for dispensing fluids, comprising a fluid-motor driven by the fluid to be dispensed; a pipe connected with the said motor; a valve controlling the flow of fluid through the said pipe and motor; a plurality of measuring-disks; a stop-notch formed in each of the said disks; a measuring-finger co-acting with each of the said measuring-disks and adapted to enter the stop-notch therein; electro-magnetic means for moving the said measuring-finger out of the said notch for opening the said valve; a one-way-drive connection for coupling each of the said fingers to the said valve; clutches for coupling each of the said measuring-disks to the motor; and connecting-means between each clutch and one of the said measuring-fingers; whereby, when any one of the said measuring-fingers is moved out of the stop-notch of its complementary measuring-disk by the said electro-magnetic means, the said valve is opened and the said motor started for driving the said disk without affecting the other measuring-disks and fingers.

15. An apparatus for dispensing fluids, comprising a fluid-motor driven by the fluid to be dispensed; a pipe connected with the said motor; a valve controlling the flow of fluid through the said pipe and motor; a

plurality of measuring-disks; a stop-notch formed in each of the said disks; a measuring-finger co-acting with each of the said measuring-disks and adapted to enter the stop-notch therein; electro-magnetic means for moving the said measuring-finger out of the said notch for opening the said valve; a one-way-drive connection for coupling each of the said fingers to the said valve; clutches for coupling each of the said measuring-disks to the motor; connecting-means between each clutch and one of the said measuring-fingers; whereby, when any one of the said measuring-fingers is moved out of the stop-notch of its complementary measuring-disk by the said electro-magnetic means, the said valve is opened and the said motor started for driving the said disk without affecting the other measuring-disks and fingers; and a guard-member co-acting with each of the measuring-fingers for temporarily barring the re-entry of the same into the stop-notch of its complementary measuring-disk until the said measuring-disk has been moved by the said motor.

16. An apparatus for dispensing fluids, comprising a motor driven by the fluid to be dispensed; a pipe connected therewith; a valve controlling the flow of fluid through; a measuring-unit; means for electrically releasing the said unit; and means driven by the flow of the fluid through the motor for mechanically controlling the action of and stopping the said measuring-unit, whereby the apparatus is mechanically controlled during a cycle of its operation, after having been electrically started.

In testimony whereof, I have signed this specification.

SHERBURNE B. ROCKWELL.