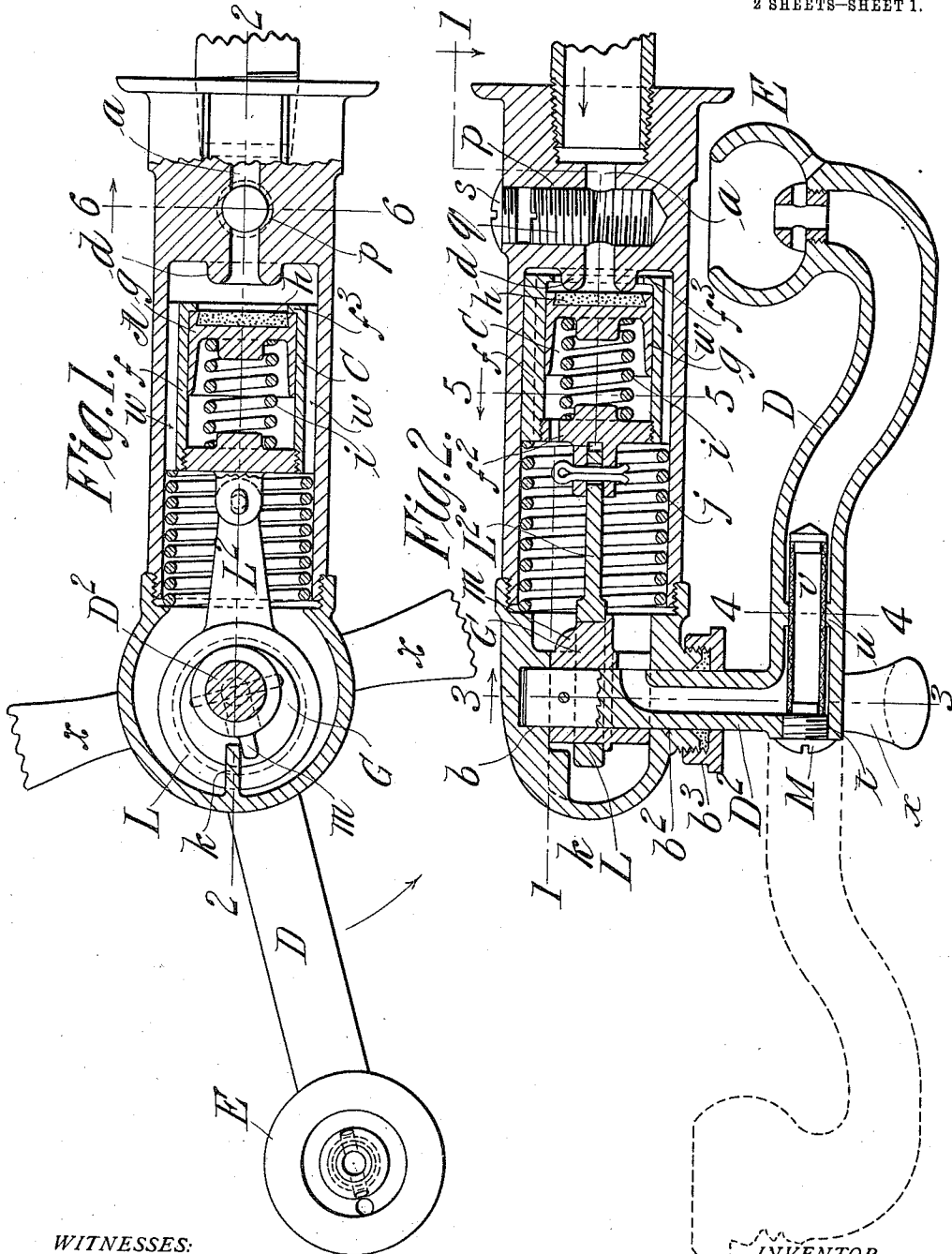


H. J. MILNER.
DRINKING FOUNTAIN.
APPLICATION FILED OCT. 13, 1910.

998,585.

Patented July 18, 1911.

2 SHEETS—SHEET 1.



WITNESSES:

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R. M. Mowry

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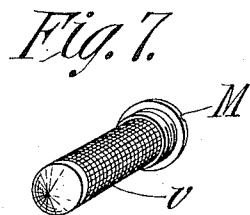
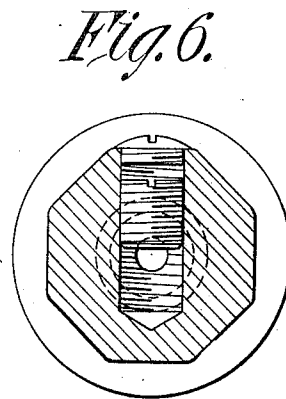
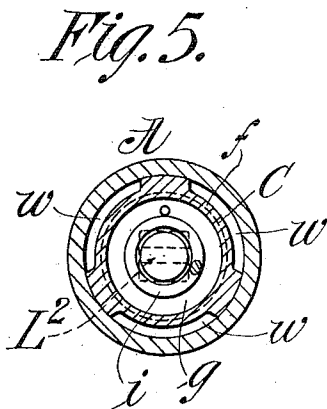
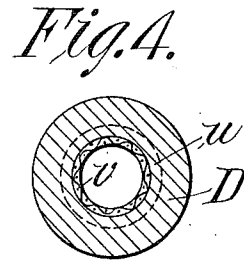
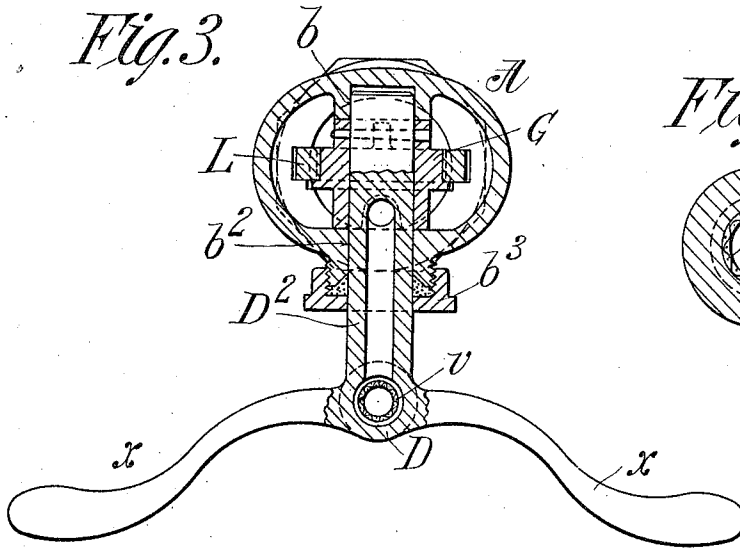
ATTORNEY.

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2 SHEETS—SHEET 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HENRY J. MILNER, OF CHICOPEE, MASSACHUSETTS, ASSIGNOR OF ONE-THIRD TO THOMAS A. MACDONALD AND ONE-THIRD TO MORRIS J. LEAHY, BOTH OF CHICOPEE, MASSACHUSETTS.

DRINKING-FOUNTAIN.

998,585.

Specification of Letters Patent.

Patented July 18, 1911.

Application filed October 13, 1910. Serial No. 536,903.

To all whom it may concern:

Be it known that I, HENRY J. MILNER, a citizen of the United States of America, and resident of Chicopee, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Drinking-Fountains, of which the following is a full, clear, and exact description.

This invention relates to improvements in drinking fountains in a class in which there is comprised a valve casing and a valve therein, and a tubular arm or pipe section carrying a mouthpiece pivotally connected to the valve casing and having water passage therethrough in communication with the water chamber in the valve casing, together with means operated by the said pipe section whereby under the swinging movement of the latter the valve is opened to give a flow of water through the device for delivery at the mouthpiece.

Objects of the present invention are to provide a drinking fountain in which the mouthpiece carrying tubular arm has normally a disposition closely and compactly beneath an axially horizontal valve casing so that when the device is in disuse the mouthpiece carrying arm will have no undesirable extension from the location of the valve casing.

Another object of the invention is to provide an improved form of valve.

Another object is to provide an improved valve operating connection.

Another object of the invention is to provide a filtering device under the apparatus which is, of itself, extremely simple, and, especially, capable of being removed and replaced without disconnecting or disarranging any of the other parts. And a further object is to generally improve, simplify and increase the efficiency of the drinking fountain.

The invention is described in conjunction with the accompanying drawings and is defined in the claims.

In the drawings:—Figure 1 is a horizontal sectional view longitudinally and centrally through the drinking fountain with the parts as in their positions of use, the valve being shown as open. Fig. 2 is a vertical central longitudinal section on line 2—2, Fig. 1, but showing the valve closed and the tubular mouthpiece carrying arm as in its

folded position closely under the valve casing. Fig. 3 is a vertical cross section on line 3—3, Fig. 2. Fig. 4 is a cross section, on a larger scale, on line 4—4, Fig. 2. Fig. 5 is a cross section on line 5—5, Fig. 2. Fig. 6 is a cross section on line 6—6, Fig. 1. Fig. 7 is a perspective view of the improved appliance comprising the filter.

Similar characters of reference indicate corresponding parts in all of the views.

In the drawings, A represents an axially horizontal valve casing having a water inlet *a* leading thereinto,—*d* representing an annular rib-like valve seat surrounding the orifice of the inlet water passage which leads into the chamber in the valve casing.

C represents, in a general way, the valve having an endwise reciprocating movement in the valve casing, in which it is guided for opening and closing relatively to the valve seat opening.

D represents a substantially horizontal pipe or tubular arm having an upwardly directed mouthpiece E at its free end and provided at its other end with an angular tubular limb D² which is vertically journaled in the forward portion of the valve casing, its upper end fitting in a downwardly open journal socket *b* in the roof of the valve casing, while an intermediate portion of said tubular limb is fitted through a round hole *b*² through the bottom of the valve casing, and the adjacent lower portion of the valve casing is provided with a stuffing box *b*³.

The valve heretofore referred to by the general letter C comprises a hollow piston *f* guided longitudinally in the valve casing and having a head *f*² at its forward end removably screw engaged therein; and this piston is made, at its end toward the valve seat, open with, however, an internal flange *f*³ thereat, such flange when the valve is closed freely passing in an encircling relation to the valve seat rib *d*. The valve, furthermore, comprises a valve *g* made in the form of a cylindrical cup shaped piston or plunger having its closed end clamped with a disk *h* of leather or compressible material for closing against the valve seat, and a spiral spring *i* is provided in compression between the valve proper and the head of the piston *f*. Outside of the piston and forwardly therebeyond is a spiral spring *j* of larger size and greater power than the one *i*,

the reaction of the same being such as to force the piston toward the valve seat. The upstanding tubular limb D^2 is provided within the valve casing with an eccentric G which is affixed thereto; and L represents an eccentric strap encircling the eccentric in the usual manner and provided with an arm L^2 which connects with the piston comprised in the valve.

k represents an internal web in the forward end of the valve casing, and m represents a stop member on the eccentric, the relations of these parts being such that when the mouthpiece is swung from its position under the valve casing shown in Fig. 2 to its extended position indicated in Fig. 1, causing an opening of the valve, the valve actuating connections are prevented from attaining a dead center position in alignment with the axis of the valve casing; and because of this provision, so soon as the force for swinging the tubular mouthpiece carrying arm D to its position for use shall have been released, such tubular arm will automatically assume its closed or folded in position under the valve casing. It will be noted that in the closing of the valve the valve proper will reach the seat slightly before the piston has arrived at its extreme rightward position; and then, again, in the opening of the valve the means for imparting the initial movement to the leftward of the piston will not be effective to open the valve proper from its seat until the flange f^2 abuts against the right hand end of the valve proper to then, through the continued leftward movement of the piston, force the valve as one with it from its seat.

The above construction of valve is one which will at all times and under all conditions be reliably self-seating, and one in which, as will be observed from the construction, no screw or nut is required for the confinement of the compressible disk which directly closes against the valve seat rib.

In order to have the device adapted for employment even in situations where the water pressure is extremely high, means for the restriction of the inlet opening reduction of the pressure are included between the valve seat and the coupling end of the valve casing, and as an expedient to this end the shank or butt of the valve casing is drilled with a cylindrical hole p which is screw tapped and which intersects the inlet passage a ; and sunk into this hole is a screw plug q , the end of which may more or less restrict the inlet passage, and which screw plug may also, when desired, completely close the inlet passage, as is advantageous when the fountain is to be cut out from connection with the water supply; and the orifice of the aforementioned hole is closed by the cap screw s . The angular pipe or

tubular mouthpiece carrying arm has a screw threaded opening t at its elbow in line with one of the limbs, which latter has suitably near such opening an internal rib u , as shown in Fig. 2.

M represents a screw plug which enters into and closes the opening t which carries a cylindrical tubular filter v , an intermediate portion of which is closely fitted through the said opening surrounded by the aforesaid annular internal rib u . It will thus be seen that any water passing through the valve casing for delivery at the mouthpiece must pass through the filter; and it is further to be appreciated that for the renewal of the filter it is only necessary to unscrew and draw out the plug M , and as one therewith the filter, for the water entering the inlet when the valve is open has free way through the valve casing notwithstanding the presence therein of the piston like portion f of the valve because of the provision of the longitudinal channels $w w$ shown in Figs. 1, 2, and 5,—a somewhat well known provision in various kinds of valves. A pair of oppositely extended handles x are provided at the elbow of the angular tubular arm for convenience in the outswinging of the latter to drinking position.

What I claim is:—

1. In a drinking fountain, in combination an axially horizontal valve casing having a water inlet therein, a valve for closing the flow of water into said casing, a tubular arm having an upwardly directed mouthpiece and provided with an angular tubular limb vertically journaled in the valve casing, such tubular arm normally having a position beneath the valve casing, and adapted to be swung in a horizontal plane from thereunder, and means between the said vertical limb and the valve for operating the latter.

2. In a drinking fountain, in combination an axially horizontal valve casing having a water inlet therein, a valve for closing the flow of water into said casing, a tubular arm having an upwardly directed mouthpiece and journal connected to the valve casing for a swinging movement in a horizontal plane from a normal position beneath the valve casing to one away therefrom, and means actuated by said tubular arm for opening the said valve.

3. In a drinking fountain, in combination an axially horizontal valve casing having a water inlet therein, a valve for closing the flow of water into said casing, a tubular arm having an upwardly directed mouthpiece and provided with an angular tubular limb vertically journaled in the valve casing, and such combined tubular arm and vertical limb having an opening at the elbow, a member entered into, and closing, said opening and carrying a filter for the

water passing to and through the tubular vertical limb, and means between the said vertical limb and the valve for operating the latter.

5 4. In a drinking fountain, in combination an axially horizontal valve casing having a water inlet therein, a valve for closing the flow of water into said casing, a tubular arm having an upwardly directed mouth-
10 piece and provided with an angular tubular limb vertically journaled in the valve casing, and in communication with the chamber thereof, such tubular arm having an internal annular rib near its elbow and a
15 screw threaded opening at the elbow, a screw plug entered into, and closing, said opening and carrying a cylindrical shaped filter, an intermediate portion of which is fitted through said annular internal rib, and means
20 between the said vertical limb and the valve for operating the latter.

5 5. In a drinking fountain, in combination, an axially horizontal valve casing having a water inlet therein, a valve for closing the
25 flow of water into said casing and having a closing spring therefor, a tubular arm having an upwardly directed mouthpiece provided at one end with an angular tubular limb vertically journaled in, and having
30 communication with, the chamber in the valve casing, and said horizontal arm normally having a position beneath such casing, an eccentric secured on a portion of said vertical tubular limb which is within the
35 valve casing, and an eccentric strap engaged about said eccentric and having a valve connecting member.

6. In a drinking fountain, in combination, an axially horizontal valve casing having a
40 water inlet therein, a valve for closing the flow of water into said casing and having a closing spring therefor, a tubular arm having an upwardly directed mouthpiece provided at one end with an angular tubular
45 limb vertically journaled in, and having communication with, the chamber in the valve casing, and said horizontal arm normally having a position beneath said casing,

an eccentric secured on a portion of said vertical tubular limb which is within the
50 valve casing, an eccentric strap engaged about said eccentric and having a valve connecting member, a stop piece provided on the eccentric and an abutment comprised as
55 an internal part of the valve casing whereby under the swinging movement of the said tubular arm the eccentric in its oscillation is prevented from attaining the dead center position of alinement with the valve.

7. In combination, a valve casing having
60 a water inlet therein and provided with an internally located valve seat surrounding the orifice of the water inlet, a valve comprising a hollow piston guided in the valve casing and a valve proper fitted in and end-
65 wise movable relatively to the cylinder, a spring in compression between the piston and said valve proper, means for limiting the movement of the valve proper relatively to the piston, a spring of greater power than
70 the first named spring exerting a force on said piston toward said valve seat and means for imparting endwise movement to the piston.

8. In combination, a valve casing having
75 a water inlet therein and provided with an internally located valve seat surrounding the orifice of the water inlet, a valve comprising a hollow piston guided in the valve casing and a valve proper fitted in and end-
80 wise movable relatively to the cylinder, a spring in compression between the piston and said valve proper, means for limiting the movement of the valve proper relatively to the piston, a spring of greater power than
85 the first named spring exerting a force on said piston toward said valve seat, means for imparting endwise movement to the piston, and adjustable means for variably restricting the inlet passage.
90

Signed by me at Springfield, Mass., in presence of two subscribing witnesses.

HENRY J. MILNER.

Witnesses:

G. R. DRISCOLL,
WM. S. BELLOWS.