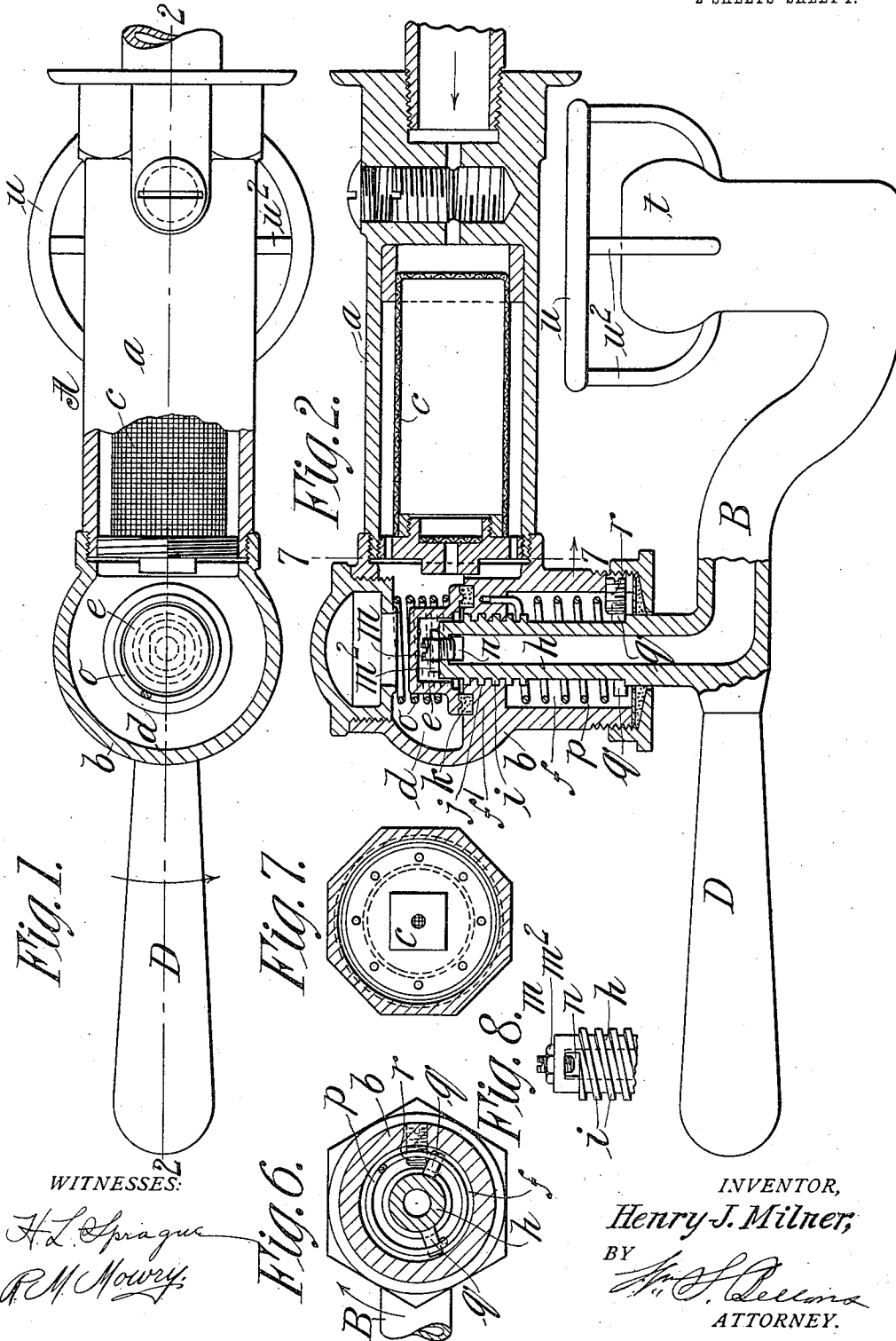


H. J. MILNER.
 SANITARY DRINKING FOUNTAIN.
 APPLICATION FILED APR. 26, 1911.

1,075,433.

Patented Oct. 14, 1913.

2 SHEETS—SHEET 1.



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2 SHEETS--SHEET 2.



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Fig. 4.

UNITED STATES PATENT OFFICE.

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SANITARY DRINKING-FOUNTAIN.

1,075,433.

Specification of Letters Patent.

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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 Sanitary Drinking-Fountains, of which the following is a full, clear, and exact description.

The object of this invention is to provide a sanitary drinking fountain of such improved construction as to secure advantages in respect to reliability, efficiency and convenience of operation, and one which embodies, especially, a novel and unusually desirable valve construction, the operating means therefor being integrally comprised in the water delivery pipe.

Other objects are attained in and by the constructions and arrangements hereinafter described and as will be hereinafter rendered apparent.

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

In the drawings:—Figure 1 is a plan view of the drinking fountain with a movable portion thereof shown as in its normal position,—that of disuse, the portion of the casing in which the valve is contained being in horizontal section. Fig. 2 is a substantially central vertical section on line 2—2, Fig. 1; Fig. 3 is a view similar to Fig. 2 but showing the movable pipe swung horizontally to its water delivery position and the valve opened, and also showing the water pressure regulator in opened position; Fig. 4 is a sectional view through the delivery end portion of the delivery pipe, on a somewhat larger scale, and showing the pressure regulator valve closed and also showing a modification to be hereinafter pointed out; Fig. 5 is a horizontal cross sectional view on line 5—5, Fig. 3; Fig. 6 is a horizontal cross sectional view on line 6—6, Fig. 3; Fig. 7 is a vertical cross section on line 7—7, Fig. 2; Fig. 8 is a side elevation of the upper end portion of the vertically thread-provided member of the water delivery pipe.

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

In the drawings, A represents a chambered casing comprising a horizontal cylindrical portion *a* and the axially vertical por-

tion *b* coupled thereto. The water is in constant pressure through the portion *a* in which a strainer or filter *c* is comprised, the chamber in the casing *a* having communication with the chamber *d* in which the valve *e* is located.

The portion *b* of the casing has an intermediate wall *f* which divides the chamber *d* thereabove from the chamber *f* therebelow.

B represents the water delivery pipe having a delivery nozzle or mouthpiece at its one extremity and having its other extremity angular to the main approximately horizontal portion of the pipe and vertically extended.

The portion of the vertical limb *h* of the pipe near, but still slightly below, its upper end is provided with external screw threads *i* which screw engage through the correspondingly threaded opening *j* in the aforementioned wall *f* of the valve casing, the upper surface of which wall has a ring *k* of compressible material which is set in a groove therefor and upon which the base of the cup shaped valve *e* made with a depending annular rib, seats. The upper end portion of the vertical limb of the water delivery pipe protrudes upwardly into the chamber *d*, and has its upper end closed by the adjustable screw plug *m* for which a lock nut *m*² is provided; and it has one or more sidewise opening water inlet ports *n* as shown in Figs. 2, 3 and 8.

The valve *e*, understood as of metal and of an inverted cup or hat shape entirely incloses the protruding extremity of the threaded pipe which has the port *n* therein so that when the water delivery pipe is in its normal position, as indicated in Figs. 1 and 2, the valve will be seated and shut off communication between the water supply and the port *n* of the water delivery pipe; but when the pipe is swung through half a revolution from the position shown in Figs. 1 and 2 to that shown in Fig. 3, the pipe by reason of its screw thread engagement in the casing derives a bodily rising movement so that its upper end, or the screw plug which forms an adjustable member for such end, engages the inverted cup shaped valve and lifts it away from its seat against the water pressure and also against the pressure of the valve spring *o* when such spring is employed, thereby permitting the flow of water

for delivery to be drunk at the nozzle or mouthpiece extremity.

It is to be perceived on reference to Fig. 2 that there is the capability of a slight degree of lost motion between the upper end of the plug and the adjacent portion of the valve so that the valve opening means forms no impediment to the most perfect seating by its base of the valve upon the compressible ring even although the parts having engagement for the absolute closure may become worn.

The spring p inclosed in the lower chamber of the portion b of the valve casing by reason of its connection with the casing and with the vertical limb h of the pipe, in a usual manner of applying such springs for torsional action is effective for revolvably moving or returning the water delivery pipe to its normal position wherein the guard and mouthpiece provided delivery nozzle is disposed beneath the horizontal portion a of the valve casing; and in this connection it is pointed out that the vertical pipe limb has two stops q q arranged for coaction with the abutment r which is constituted by a screw plug threading through the wall of the lower valve case chamber and protruding into the latter.

The handle D formed as a horizontal extension of the water delivery pipe constitutes a convenient means for forcing the pipe revolvably to its valve opening position and for holding it there for such time as the fountain is to be used for drinking purposes.

The upturned outer extremity of the water delivery pipe B is provided with a nozzle piece s surrounded by an upwardly open basin shaped mouthpiece t and the latter is surrounded by a guard ring u supported by the arms u^2 . The upstanding free extremity of the water delivery pipe is made enlarged, chambered and provided with communicating ports, ducts and passages to make an automatic pressure regulating device in the delivery pipe below or to the rearward of the nozzle; and with specific reference to the drawing the pipe enlargement has an upper chamber v therein with an opening v^2 through the bottom wall v^3 of the upper chamber, another chamber w below the chamber v which has a port w^2 which forms communication between the lower chamber w and the passage in the water delivery pipe B .

Duplicated passages x form within the wall of the pipe enlargement connect the upper and lower chambers v and w ; and y represents a piston in the upper chamber having a depending stem carrying a valve y^2 which extends with a close fit through the aforementioned opening v^2 and has an opening and closing relation to said port w^2 .

z represents a spring in compression between the passaged nozzle piece s and the

piston y ; and the tension of this may be regulated by turning the nozzle piece in its screw engagement in the supporting part therefor so that it will be adjustably positioned upwardly or downwardly.

In Fig. 1, the closed position of the regulating valve is shown as transpires under the same conditions as insures the closing of the valve e , while in Fig. 3 both the valve e and the regulating valve are represented in their opened positions; and on reference to Fig. 3 it is to be understood that the water open through the pipe B exerts a pressure against the valve y^2 to force it upwardly to open the port w^2 and give entrance of water into the chamber w , whence it flows through the passages x into the upper chamber above the piston.

The area of the upper chamber is greater than that of the port w^2 whereby there would be a greater water pressure above than below the piston; but this pressure is very much relieved by reason of the passage s^2 through the nozzle piece; and the spring becomes effective under the tension imposed thereon, as the occasion requires, for regulating the resistance of the piston.

In Fig. 3, the basin or mouthpiece t is represented as integral with the axially vertical enlargement of the metallic water delivery pipe; but in Fig. 4 it is represented as separately made and confined in place by the bushing s^3 ; and this separately made mouthpiece t is understood as composed of flexible rubber or equivalent material, and is so made that young persons whose idea of a joke may be to force the head of a drinker downwardly may not cause injury to the latter by the breaking of his teeth in contact against the mouthpiece.

Although the apparatus, and appliances comprised therein, have been described as in positions and relations which they are most commonly intended to have, there may be inversions or reversals of the relations of parts, as well also as certain minor changes of structural character of details, without departing from my invention.

I claim:—

1. In a sanitary drinking fountain, a chambered casing having a water inlet, a pipe having a delivery nozzle at its one extremity and having its other extremity threaded and screw engaged in the casing, bodily movable on the line of the axis of its screw threaded part under the revoluble movement of such part, having its end portion protruding into the chamber in the casing, and having a water inlet opening at such protruding part, an inverted cup shaped valve inclosing the protruding extremity of the threaded pipe and seating on a wall of the casing for closing communication between the casing chamber and the water inlet in the pipe, and a member adjustable on

the protruding end portion of the pipe and having a lost motion relation to the cup shaped valve.

2. In a sanitary drinking fountain, a
5 chambered casing having a water inlet, a pipe having a delivery nozzle at its one extremity and having its other extremity angularly and vertically extended, formed with threads and screw engaged in the casing, having its end portion protruding into
10 the chamber in the casing, having a water inlet port opening at the side of such protruding part, and having a screw plug ad-

justably engaged in its upper end, an inverted cup shaped valve inclosing the protruding extremity of the threaded pipe and seating on a wall of the casing for closing communication between the casing chamber and the said port in the pipe, and a spring for downwardly forcing the valve. 15

Signed by me at Springfield, Mass., in presence of two subscribing witnesses. 20

HENRY J. MILNER.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."