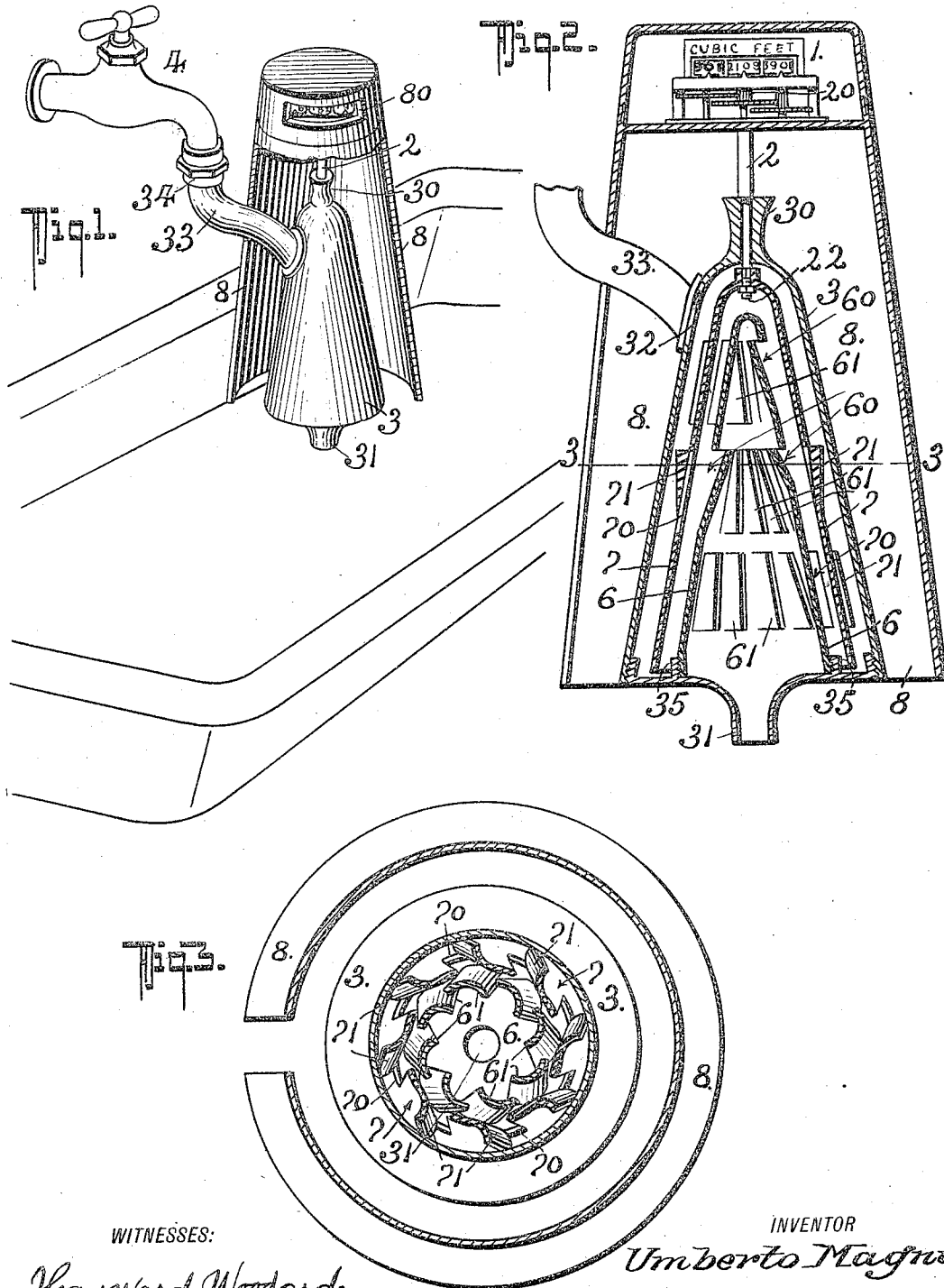


U. MAGNI.
 COMBINED VALVE AND WATER METER.
 APPLICATION FILED MAY 17, 1911.

1,045,865.

Patented Dec. 3, 1912.



WITNESSES:

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UNITED STATES PATENT OFFICE.

UMBERTO MAGNI, OF SAN FRANCISCO, CALIFORNIA.

COMBINED VALVE AND WATER-METER.

1,045,865.

Specification of Letters Patent.

Patented Dec. 3, 1912.

Application filed May 17, 1911 Serial No. 627,676.

To all whom it may concern:

Be it known that I, UMBERTO MAGNI, residing at San Francisco, in the county of San Francisco and State of California, have invented a new and Improved Combined Valve and Water-Meter, of which the following is a specification.

This invention relates to means for measuring the quantity of fluid that passes through a supply pipe, and it more particularly has for its object to provide a simple and economical construction of combined faucet and meter adapted for the ordinary domestic purposes, and in which the meter actuating devices are so designed that an accurate and positive registration of the fluid used is obtained.

My invention also has for its object to provide an improved construction of a combined faucet and meter, that can be used with any of the ordinary arrangements of fluid supply pipes and the said invention consists in the peculiar construction and novel arrangement of parts, all of which will be hereinafter fully described, specifically pointed out in the appended claim and illustrated in the accompanying drawings, in which:—

Figure 1, is a perspective view of my improved faucet and meter, parts being broken away. Fig. 2, is a vertical section thereof, the registering devices being indicated in side elevation. Fig. 3, is a horizontal section thereof on the line 3—3 on Fig. 2.

In carrying out my invention, I employ a registering mechanism or meter 1, of any of the well known types, that includes a rotary driven spindle 2 that carries a pinion 20 for transmitting the motion to the train of gears that constitute the actuating means of the registering mechanism. The spindle 2, in my construction, (see Fig. 2) is journaled in a bearing 30 in the upper end of a bell shaped casing 3, the lower end of which has a discharging nozzle 31, its upper end having a fluid inlet 32 to which is joined a tubular neck 33, that carries a union coupling 34, for conveniently attaching to the threaded end of the ordinary faucet 4, as is clearly shown in Fig. 1. The bell shaped casing, which is held stationary when the device is attached to the faucet, has its bottom formed with an upwardly projected flange 35 that is threaded to receive the lower threaded end of an inner bell shaped

member 6, that is rigidly held, with respect to another bell shaped member 7, located between the member 6, and the outer casing and it is supported on the lower end 22 of the spindle 2, to turn therewith, in the manner presently explained. The rotative and the fixedly held bell shaped members each have a series of impacting blades or vanes, and they are relatively so arranged that the fluid, as it passes from the faucet through the valve and meter mechanism creates a centrifugal force that is transmitted to the spindle 2, revolves it and in consequence actuates the meter or registering devices.

The coöperative arrangement of the blades or vanes on the members 6 and 7, is best shown in Figs. 2 and 3, by reference to which it will be noticed, the outer or rotative member 7 has a series of rectangular slots or openings 70 that are inclined with respect to the vertical axis of the said member and the cut out portions are bent outwardly to form vanes or blades 71, it being understood from the drawings the blades, by reason of their inclination, receive the direct impact of the fluid as it passes downwardly from the faucet, it being also clear that by reason of the impact force of the fluid, the member 7 is caused to rotate with its spindle 2 and in consequence actuate the registering devices mounted on the spindle. The inner bell shaped member 6 is likewise formed with elongated apertures 60 that incline downwardly with respect to the upward inclination of the openings in the outer member and the cut portions of the members 6 are bent inwardly to form rigid abutments 61 that act to deflect the fluid that passes through the openings in the outer member 7 back against the inner wall of the said member 7, which fluid again deflects the downwardly working fluid inwardly through the openings in the member 7 whence it passes off through the discharge in the bottom thereof.

By reason of the peculiar arrangement and construction of the inner and outer members 6 and 7, the fluid as it enters the bell-shaped casing is given a centrifugal force and is so whirled that the impelling or rotation of the outer bell-shaped member is effected not only under the direct impact force of the water but also from the reactionary force of said water, by reason of the same throwing back from the inner bell

member and at a tangent thereto and to the inner wall of the outer bell, which receives the benefit of the striking force of the fluid and which by reason of the peculiar cooperative arrangement of the openings in the blades on the members 6 and 7 continuously whirls through the two members 6 and 7 as it passes to the discharge.

8 designates a sheet metal casing that incases the registering devices and the inner and outer bell members 6 and 7 and it has a sight opening 80 in line with the indicator dials or disks, of the registering mechanism so the amount of water used may be readily ascertained.

While I have described my present invention as especially designed for registering the amount of water used, the same may be readily adapted for measuring quantities of beer or other liquids drawn off or poured into kegs or other vessels.

What I claim is:—

In a fluid measuring means of the character described, a bell shaped casing having a bearing portion at the upper end, a plug secured in the lower open end of said bell shaped casing and having a discharge mouth, a bell shaped inner fixed turbine member secured to said plug, a bell shaped movable turbine member fitted over said fixed turbine member and mounted between said fixed turbine member and said casing, a shaft mounted in said bearing and pendantly and rotatably supporting said movable turbine member, a registering device connected with said shaft, and means for conveying water into said casing to actuate said movable turbine member.

UMBERTO MAGNI.

Witnesses:

GEO. F. CAVALLI,
EDGAR KÜNZLY.

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