H. FORSMAN.

FAUCET.

APPLICATION FILED DEC. 18, 1907.

943,346.

Patented Dec. 14, 1909.

2 SHEETS—SHEET 1.

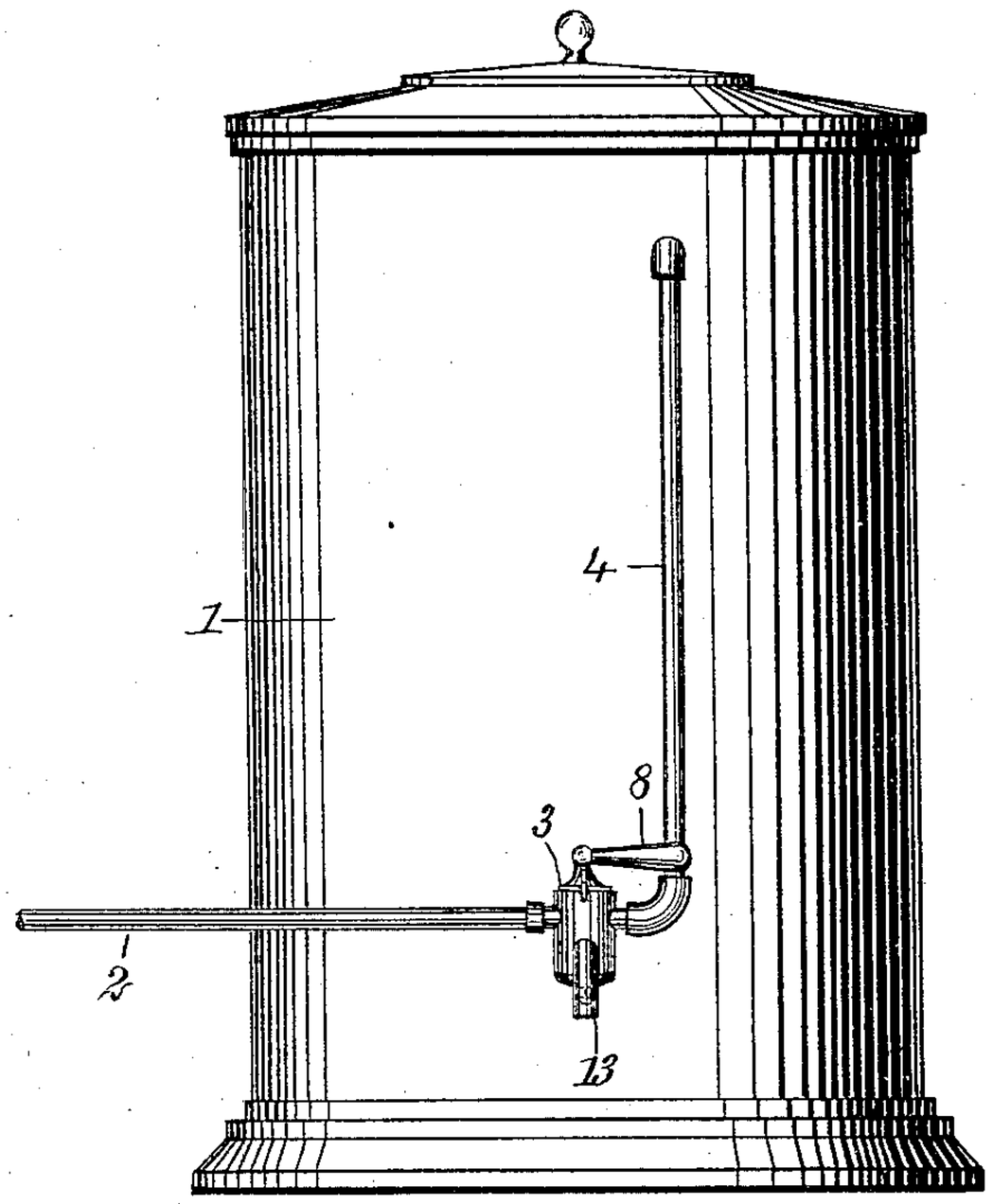

Fig. 1.

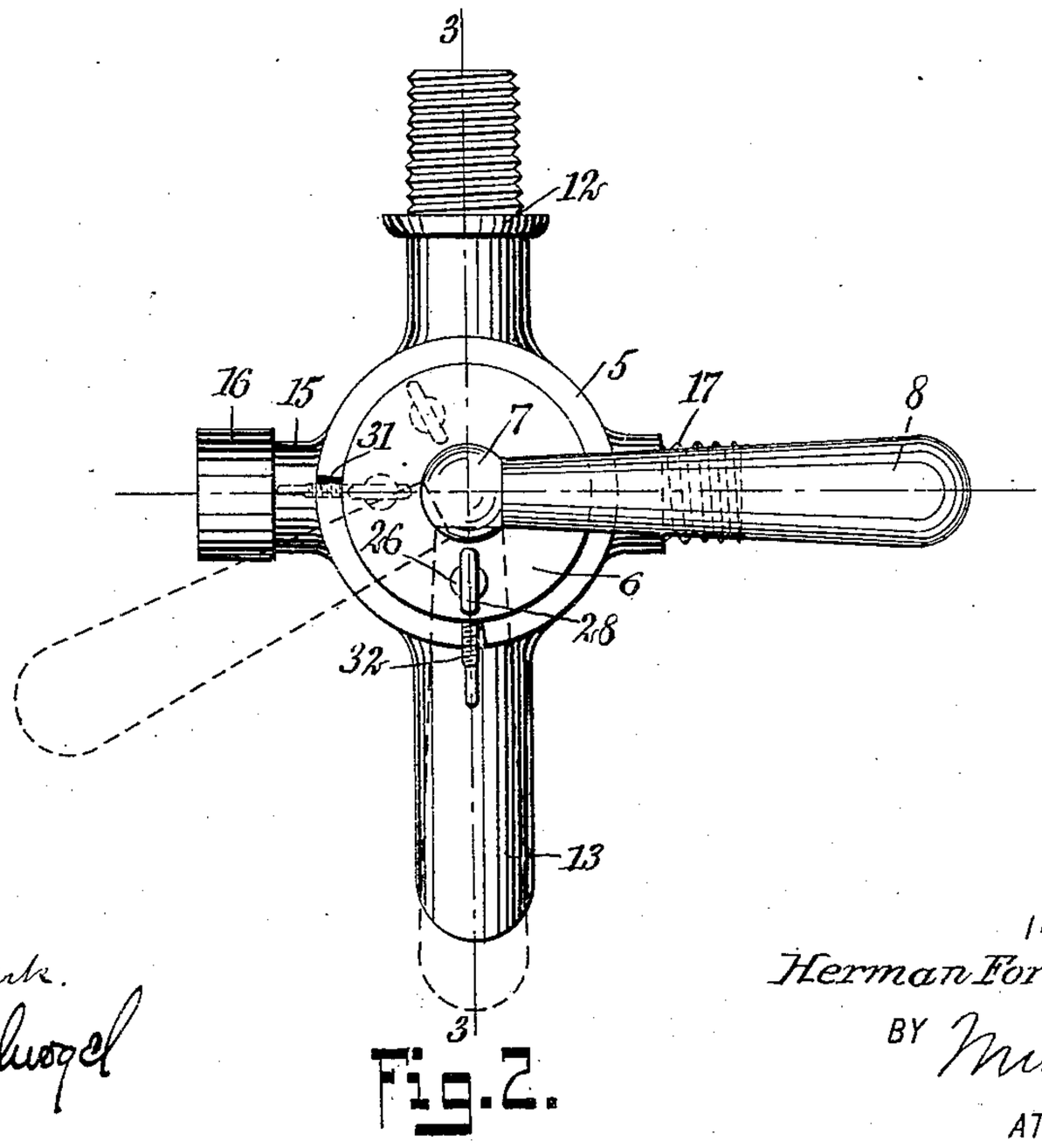

Fig. 2.

WITNESSES

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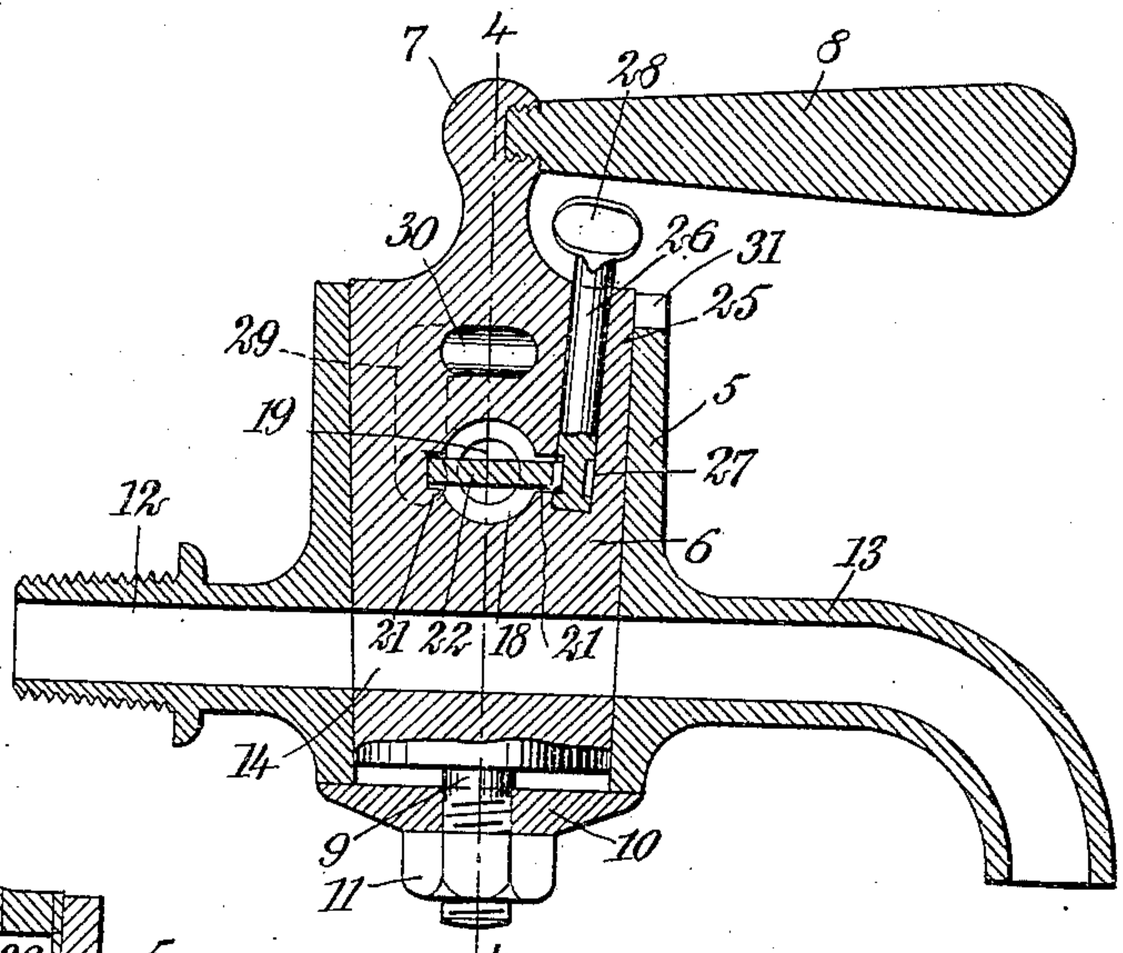

Fig. 3.

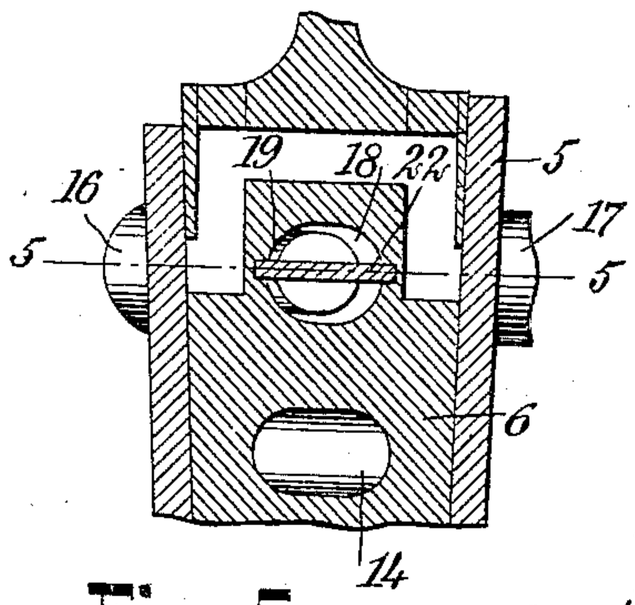

Fig. 6.

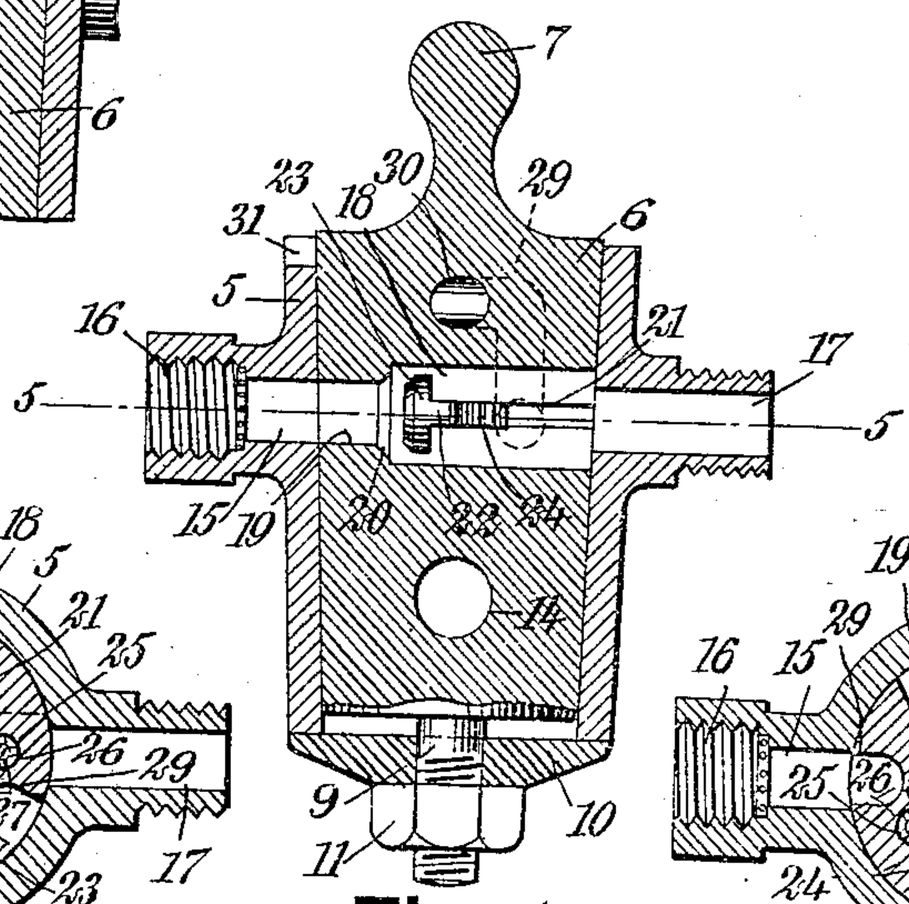

Fig. 4.

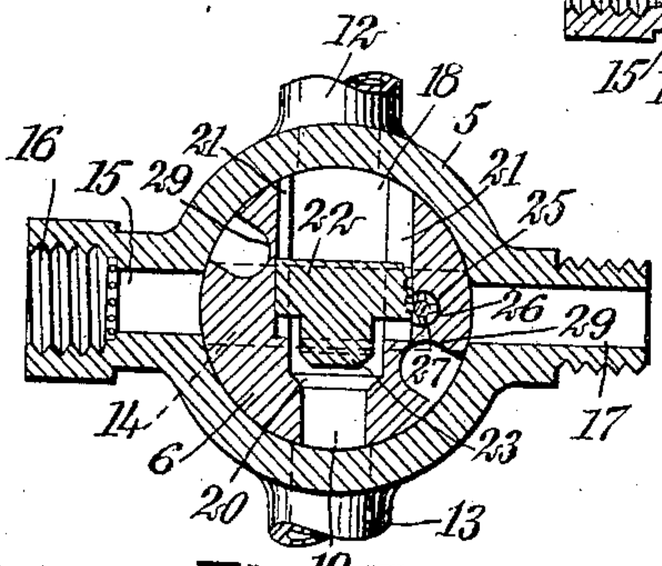

Fig. 7.

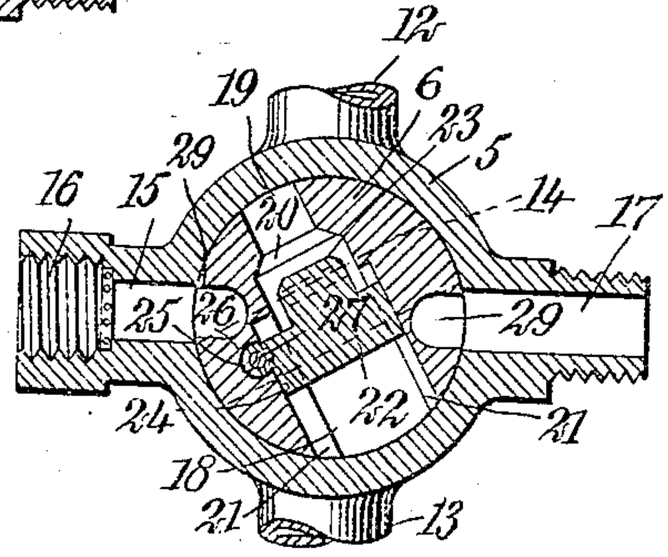

Fig. 8.

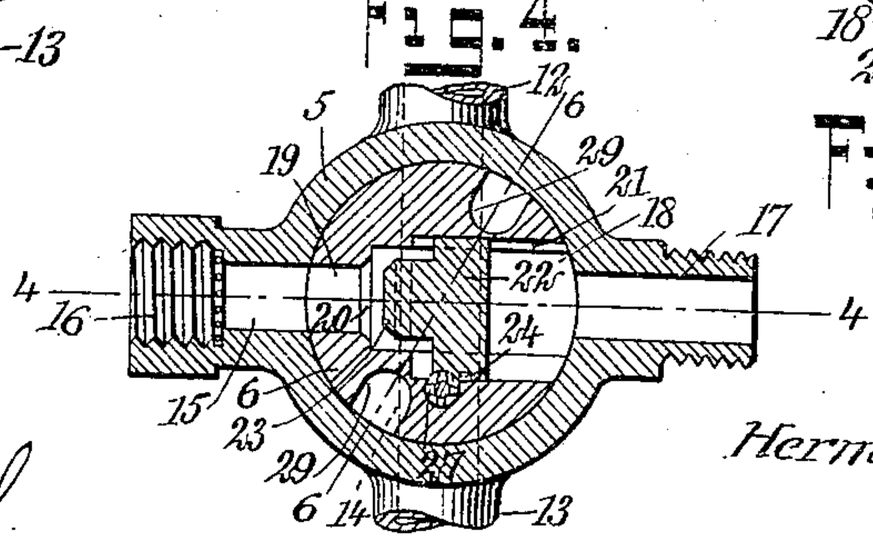

Fig. 5.

WITNESSES

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UNITED STATES PATENT OFFICE.

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FAUCET.

943,346. Specification of Letters Patent. Patented Dec. 14, 1909.

Application filed December 18, 1907. Serial No. 407,006.

To all whom it may concern:

Be it known that I, HERMAN FORSMAN, a citizen of the United States, and a resident of Fresno, in the county of Fresno and State of California, have invented a new and Improved Faucet, of which the following is a full, clear, and exact description.

This invention relates to faucets, and it is particularly useful in connection with tanks or coolers for drinking water and the like.

An object of the invention is to provide a device of the class described, by means of which fluid can be drawn from a tank or other receptacle, and which simultaneously permits the introduction into the receptacle of an amount of fluid corresponding to that withdrawn.

A further object of the invention is to provide a faucet in combination with a tank or other receptacle, which permits fluid to be withdrawn from the tank and a corresponding amount of fluid to be introduced into the tank at the same time, and which can be so manipulated that the tank can be filled with fluid without discharging any part of the contents thereof.

A still further object of the invention is to provide a faucet by means of which fluid can be simultaneously withdrawn from a receptacle and introduced into the same, and which can be so adjusted that the amount of the fluid withdrawn from the receptacle and the amount introduced into the receptacle are substantially equal or bear any desired quantitative relation to each other.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a front elevation of a tank showing my invention applied thereto; Fig. 2 is a plan view of the faucet showing certain parts in different positions in dotted outlines; Fig. 3 is a longitudinal section on the line 3—3 of Fig. 2; Fig. 4 is a transverse section on the lines 4—4 of Figs. 3 and 5. Fig. 5 is a transverse section on the lines 5—5 of Figs. 4 and 6; Fig. 6 is a transverse section on the line 6—6 of Fig. 5; Fig. 7 is a view similar to Fig. 5, showing certain of the parts in different positions; and Fig. 8 is a similar view showing certain of the parts in still further different positions.

Before proceeding to a more detailed explanation of my invention, it should be understood that while the same is particularly useful in connection with water tanks, coolers and the like, it can also be advantageously employed in connection with other receptacles for containing fluids which it is desired to withdraw in varying quantities, and where it is necessary to refill the receptacles from time to time. My invention, obviates the necessity of providing special filling means for the tank or the introduction into the same of the liquid by hand or in any other manner. The faucet answers all the purposes of an ordinary faucet and permits the withdrawal of fluid from the tank in any desired quantity. However, it is so connected with the supply for the tank that as a quantity of fluid is withdrawn from the tank a corresponding quantity is simultaneously introduced into the receptacle, and thus the latter always contains a given or predetermined amount of liquid. In this way it is possible to avoid the complete emptying of the receptacle with consequent inconvenience or danger. For instance, if the receptacle is a water tank or cooler a supply of water will always be at hand. If the receptacle is a container for fire extinguishing liquids, there will never be any danger due to the absence of this fire extinguishing liquid when the same is needed.

Referring more particularly to the drawings, 1 represents a tank which may be of any preferred or common form. A supply conduit 2 which may consist of a pipe or any other suitable means for the purpose, connects with a faucet 3. A further conduit 4 leads from a faucet to the tank and permits the introduction of liquid into the latter. The faucet 3 comprises a hollow tapered socket 5 which may be of any preferred or common form, and has a rotatable tapered plug 6 arranged therein. The plug at the upper end has a knob 7 to which is secured a handle 8, by means of which the faucet can be manually operated. At the opposite end, the plug has a threaded stem 9 extending through a suitable opening of a cap 10 seated at the lower rim of the socket 5. A nut 11 arranged upon the threaded stem, engages the cap 10 and holds the latter against the rim of socket. The cap and the

nut serve to hold the plug within the socket and by means of the nut the fit of the plug within the socket can be adjusted.

The faucet has a discharge inlet 12 formed integral with the socket and diametrically opposed to a discharge outlet 13 comprising the usual spout or spigot. The plug 6 has a passage 14 therethrough, by means of which communication can be effected between the inlet 12 and the outlet 13, to permit the flow of fluid through the faucet. The inlet 12 has a suitably threaded end which can be arranged in the usual manner in an outlet opening of the tank or other receptacle.

Between the discharge inlet and the discharge outlet, the faucet has at one side a filling inlet 15, which has a threaded head 16, by means of which it can be suitably connected with the conduit 2 or other source of supply. Opposite to the filling inlet 15 the socket has a filling outlet 17, the end of which is suitably threaded to permit the connection thereto of the conduit 4, which communicates with the interior of the tank or other receptacle. The plug has a passage 18 therethrough, which is independent of the passage 14 and which serves to effect communication between the filling inlet and the filling outlet, to permit the flow of fluid through the faucet. The end 19 of the passage 18 is constricted to form a valve seat 20. At opposite sides the passage 18 has guides 21 in which is slidably arranged the stem 22 of a valve 23 adapted to engage the seat 20 to close the passage 18. At one side the stem 22 has formed thereon a rack 24. The plug has a longitudinal opening 25 in which is movably arranged a pin 26 having formed at the lower end thereof a pinion 27 in mesh with the rack 24. One end of the pin 26 projects from the plug and has a head 28 by means of which it can be manually operated. By means of the pin 26 the valve 23 can be moved longitudinally of the passage 18 to adjust the flow of liquid therethrough. The plug has a further passage 29 therethrough, the ends of which are at substantially the same level with the ends of the passage 18, but which has a portion 30 upwardly disposed and extending over and independently of the passage 18. The passage 29 is adapted to effect communication between the filling outlet and the filling inlet.

The arrangement of the passages 14 and 18 is such that when one of the same permits the flow of fluid through the faucet the other likewise permits a flow through the faucet; that is, if the discharge inlet and the discharge outlet are connected by means of the passage 14 the filling inlet and the filling outlet are similarly connected by means of the passage 18. Thus, as liquid is withdrawn from the tank through the discharge outlet, other liquid is introduced into the tank through the filling outlet. By means of the valve 23 the amount of the liquid flowing through the passage 18 can be adjusted so that the amount passed into the receptacle exactly balances the amount withdrawn. In a certain position of the plug, both the passages 14 and 18 are closed and the passage 29 then effects communication between the filling inlet and the filling outlet. Consequently, by means of this passage 29 the receptacle can be filled with liquid without discharging any of the contents of the receptacle.

The upper rim of the socket 5 has a part cut away to form a shoulder 31. A removable screw pin 32 mounted in a threaded opening of the plug serves as a stop by engaging the shoulder 31 to limit the rotation of the plug. The arrangement is such that when the stop 32 engages the shoulder 31, the passages 14 and 18 permit the flow of liquid respectively through the discharge and filling conduits. By removing the stop 32, the plug can be further rotated to close the passages 14 and 18 and to permit the flow of liquid through the passage 29, thereby filling the receptacle without withdrawing any of the contents of the same.

Having thus described my invention I claim as new and desire to secure by Letters Patent:—

1. A faucet having a plurality of inlets, a plurality of outlets, a plug having passages adapted simultaneously to effect communication between said inlets and said outlets respectively, one of said passages having guides, a valve member slidable in said guides and adapted to regulate the flow of fluid through said passage having said guide, a rack carried by said valve member, a pinion adapted to engage said rack, and means for manually controlling said pinion from the outside of said faucet.

2. A faucet, having a filling inlet and a filling outlet, a discharge inlet and a discharge outlet, a plug having a plurality of passages therethrough, certain of said passages being adapted simultaneously to effect communication between said respective inlets and outlets, one of said passages being adapted to effect communication between said filling inlet and said filling outlet when said other passages are closed and means for limiting the movement of said plug, whereby the registering of said inlets and said outlets with said passages is insured.

3. A faucet, having a filling inlet and a filling outlet, a discharge inlet and a discharge outlet, and a plug having a plurality of independent passages therethrough, certain of said passages being adapted simultaneously to effect communication between said respective inlets and outlets when said plug is in a predetermined position, one of

said passages being adapted to effect communication between said filling inlet and said filling outlet in a second predetermined position of said plug such that said other passages are closed, and means for regulating the flow through the passage which is operative when the other of said passages are closed.

4. A faucet, having a filling inlet and a filling outlet, a plug having a plurality of passages therethrough, means for adjusting one of said passages, means for operating said means from the outside of the faucet, said passages being adapted simultaneously to effect communication between said inlets and said outlets respectively, said adjustable passage being adapted to connect said filling inlet and said filling outlet, said plug having a third passage adapted to effect communication between said filling inlet and said filling outlet when said other inlet and said other outlet are closed, and removable means for limiting the movement of said plug.

5. A faucet, having a filling inlet and a filling outlet, a discharge inlet and a discharge outlet, a plug having a plurality of passages therethrough, a valve in one of said passages, means operable from the outside of the faucet for adjusting said valve to control the flow through said passage, said passages being adapted simultaneously to effect communication between said inlets and said outlets respectively, said passage having said valve being adapted to connect said filling inlet and said filling outlet, said plug having a third passage independent of said first passages and adapted to effect communication between said filling inlet and said filling outlet when said other inlet and said other outlet are closed, and a removable stop limiting the movement of said plug, said stop preventing the movement of said plug into a position such that said third passage is operative.

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

HERMAN FORSMAN.

Witnesses:
FRANK J. BORELL,
IRA L. PONNETT.