

Sept. 15, 1925.

1,553,299

L. C. ADAMS
FAUCET ATTACHMENT

Filed Sept. 16, 1924

FIG. 1,

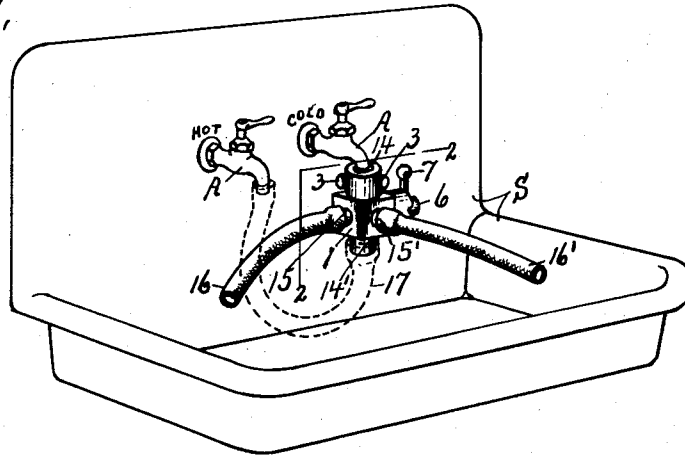


FIG. 2,

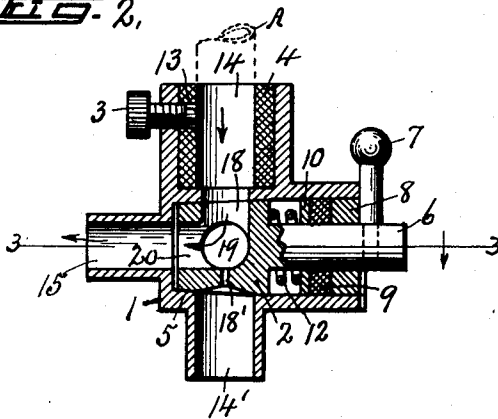


FIG. 3,

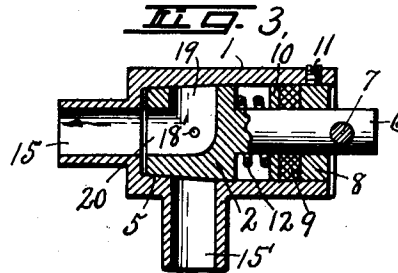


FIG. 5,

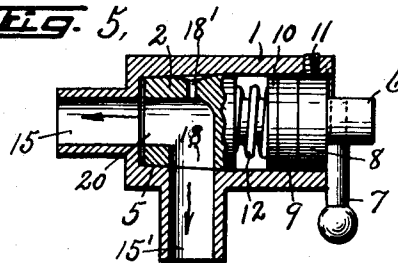


FIG. 4,

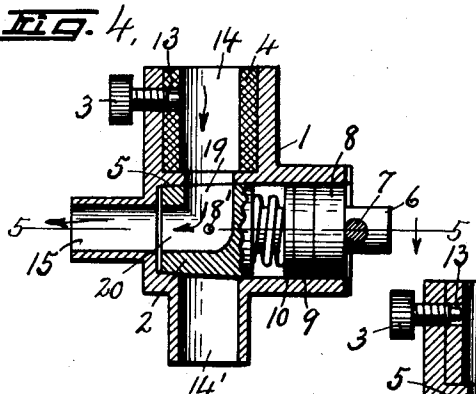


FIG. 7,

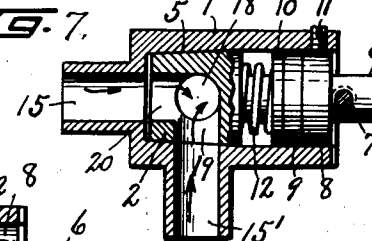
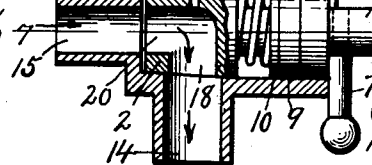


FIG. 6,



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Patented Sept. 15, 1925.

1,553,299

UNITED STATES PATENT OFFICE.

LEO C. ADAMS, OF SYRACUSE, NEW YORK.

FAUCET ATTACHMENT.

Application filed September 16, 1924. Serial No. 733,089.

To all whom it may concern:

Be it known that I, LEO C. ADAMS, a citizen of the United States of America, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Faucet Attachments, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to a faucet attachment for filling and emptying laundry tubs and other liquid-containing receptacles and involves the use of a four-way valve case and a four-way valve rotatable therein for controlling the ways or ports of the valve case.

The main object is to provide a comparatively light and inexpensive device of this character whereby a plurality of tubs or other receptacle may be simultaneously filled or simultaneously emptied by simply adjusting the valve rotarily to different positions without removing the device from the faucet.

Another object is to permit the same device to be used for supplying liquids of different kinds or temperatures to one or more receptacles when desired.

A further object is to provide means for clamping the device to faucets of different sizes without liability of leakage at the connecting joint.

Other objects and uses relating to specific parts of the device will be brought out in the following description.

In the drawings:—

Figure 1 is a perspective view of the sink fixture showing cold and hot water faucets with the device forming the subject matter of this invention attached to the cold water faucet.

Figure 2 is an enlarged longitudinal vertical sectional view of the detached valve showing a portion of the faucet by dotted lines.

Figure 3 is a horizontal sectional view taken in the plane of line 3—3 Figure 2 the valve being adjusted for supplying cold water to one receptacle.

Figure 4 is a longitudinal vertical sectional view of the same device adjusted for supplying water to two tubs simultaneously.

Figure 5 is a horizontal sectional view taken in the plane of line 5—5 Figure 4.

Figure 6 is a vertical sectional view of the device shown in Figure 3 adjusted to with-

draw the water from two tubs simultaneously in which the valve is utilized as an inspirator to produce the desired siphon action.

Figure 7 is a horizontal sectional view of the same device taken in the plane of line 7—7 Figure 6.

This device is preferably attached to a cold water faucet —A— of a sink —S— which is also equipped with a hot water faucet —A'— in more or less close proximity to the cold water faucet —A— although it is evident that the two faucets may be connected and provided with a single discharge nozzle to which the filling and emptying device may be attached in substantially the same manner as shown in Figure 1 thus permitting cold water or hot water to be supplied from the same nozzle. The attachment forming the subject matter of this invention comprises a valve case —1— and a rotary valve —2—, together with suitable means as thumb screws —3— for clamping the attachment to one or the other of the faucets and a packing ring —4— of soft rubber or equivalent yielding material capable of filling the joint between the faucet and attachment against leakage.

The valve case is provided with tapered bore —5— for receiving a correspondingly tapered portion of the valve —2— which latter is provided with a stem —6— extending laterally through one side of the case and is provided with an external hand piece —7— whereby the valve may be rotated in its seat. The bore —5— extends through the side of the case in which the valve stem —6— is located and is of sufficient size to permit the endwise removal and insertion of the valve and also serves to receive suitable means for closing its open end together with means for urging axially the valve —2— in the direction of its taper to form a water tight joint with the tapered bore —5—.

The means for closing the open end of the bore consists of a metal collar —8—, a packing —9— and a metal disc or washer —10— arranged in sequence from the outer end inwardly, the collar —8— being secured in place by a setscrew —11— Figs. 3, 5 and 7 the packing —9— being preferably formed of rubber or other suitable yielding material and is interposed between the collar —8— and the washer —10—.

The means for urging the valve axially

in the direction of its taper preferably consists of a coil spring —12— interposed between the washer —10— and adjacent end face of the valve —2—.

5 The packing —4— preferably consists of a soft rubber gasket inserted in an opening in the upper end of the valve case —1— and is provided with radial openings —13— for receiving the inner ends of the setscrews
10 —3—, which latter are arranged in uniformly spaced relation circumferentially and are engaged in threaded apertures in the adjacent portions of the valve case for tightening and loosening said case upon and from
15 the faucet —A—.

The bore —5— and valve —2— are coaxial and extend horizontally at substantially right angles to the axis of the tubular packing —4— which forms a part of the
20 case —1— and is provided with a main inlet passage or way —14— radial to the axis of the valve —2— and adapted to be connected directly to the faucet —A—.

The valve case —1— is also provided with
25 a main discharge passage —14'— and two additional lateral passages —15— and —15'—, the passage —14'— being located at the lower side of and radial to the valve —2— and coaxial with the main inlet —14—
30 so as to form a direct passage through the valve case when the valve is adjusted to certain position presently described.

The lateral passage —15— is located at the end of the valve opposite the valve stem
35 —6— and coaxial with the axis of the valve and therefore at right angles to the ways —14— and —14'— while the passage or way —15'— is located at one side of the valve radial to and preferably in the same
40 horizontal plane as the way —15— and also at right angles to the axis of the ways —14— and —14'—.

The ways —14— and —14'— and —15— and —15'— all communicate with the valve
45 chamber and are of relatively smaller diameter than the adjacent portions of the valve, the ways —15— and —15'— being preferably of equal size while the way —14'— is of relatively larger size to permit the simultaneous filling and siphoning of both tubs
50 therethrough in a manner hereinafter described.

The ways —15— and —15'— are provided with flexible leads —16— and —16'— adapted
55 to be connected to a corresponding number of tubs or other receptacles to be filled or emptied and in case it is desired to fill one or both tubs with hot water the passage-way —14'— may be connected to the
60 hot water faucet —A'— by means of a flexible hose —17— shown by dotted lines in Figure 1.

The valve 2—2 is also provided with diametrically opposite radial passage-ways
65 —18— and —18'—, additional radial pas-

sage-way —19— and an axially extending passage-way —20—.

The passage-way —18'— is relatively small and constitutes what may be termed an inspirator or siphon-jet to be used in one
70 position of the valve as shown in Figures 6 and 7 for directing a jet of water from the faucet downwardly through the passage-ways —18— and —14'— and thereby creating suction in the passage-ways —15— and
75 —15'— for withdrawing the water from the tubs connected thereto and discharging it through the passage-way —14'—.

It is now evident that the passage-ways —18— and —18'— and —19— are movable
80 into and out of registration with the passages —14—, —14'— and —15'— in the valve case as the valve —2— is adjusted angularly to different positions, and that the axial passage —20— is always in communication with the passage —15— in the valve
85 case in all positions of adjustment of the valve to connect the various angular passage-ways of said valve with the axial passage —15—.

Operation.

Assuming now that the valve case —1— is clamped to the faucet —A— in the manner shown and that it is desired to fill a
95 single tub in which case the valve —2— will be adjusted to the position shown in Figures 1, 2, and 3 to register the passage-ways —18— and —18'— with the ways —14— and —14'— in the valve case at which time
100 the ways —19— and —15'— will be closed as shown in Figure 3 thus permitting the water to pass from the faucet —A— through the ways —14—, —18—, —20— and —15—
105 and thence through the flexible tube —16— to the tub or other receptacle to be filled with cold water.

Again if two tubs or other receptacles are to be filled with cold water the valve —2— will be adjusted to the position shown in
110 Figures 4 and 5 thereby closing the ports —14'— and —18'— and permitting the water to flow from the faucet through the passages —19—, —20— and —15— to one tub and also through the passages —18— and —15'—
115 to the other tub through the medium of the flexible connections —16— and —16'—.

Now, if it is desired to withdraw the water from both tubs the valve —2— will be adjusted to the position shown in Figures 6 and
120 7 thereby registering the valve ways —18'— and —18— with the ways —14— and —14'— respectively and also registering the passage-way —19— with the way —15'— as shown
125 in Figure 7 thus permitting the water from the faucet to pass directly through the restricted way —18'— and thence downwardly through the registering ways —18— and —14'— for producing the desired suction in the passage-ways —15— and —15'— for
130

withdrawing the water from the tubs by inspiration.

It is obvious that this device may be attached to the hot water faucet for supplying hot water to one or both tubs or for withdrawing the water from both of the tubs in a manner similar to that previously described for supplying and withdrawing cold water.

Or the device may remain attached to the cold water faucet and by closing said faucet either of the flexible pipes —16— or —16'— may be attached to the hot water faucet and the latter opened to supply hot water through the other flexible pipe to the corresponding receptacle by adjusting the valve to the positions shown in Figures 4 and 5.

Or with the device attached to the cold water faucet and adjusting the valve to the position shown in Figures 6 and 7 the passage-way —14'— may be connected by an additional flexible hose —17— to the hot water faucet to fill both of the receptacles with hot water by simply opening the hot water faucet and leaving the cold water faucet closed.

The particular construction of the valve described together with the various adjustments thereof greatly increase the range of usefulness of a device of this character particularly in filling and emptying laundry tubs and the like and in the use of hot water or cold water in one or both tubs or a mixture of hot and cold water all of which may be accomplished by simply adjusting the valve to its different positions as described.

It will be evident that from the foregoing description when the water is withdrawn from the tubs by the passage of the jet of water through the restricted passage —18'— Figures 6 and 7, it will be discharged through the passage —14'— and into the sink and thence to the waste pipe.

It will be observed that the discharge passage —14'— is somewhat larger than the other passages in the valve case to compensate for the increased volume of liquid passing through when emptying both tubs.

What I claim is:—

1. A valve attachment for faucets, comprising a four-way valve-case and a four-way valve rotatable in the case and having one of its ways registering with one of the ways of the case in all positions of adjustment and its remaining three ways registrable with the remaining three ways of the case as the valve is rotated, one of the valve-ways being relatively restricted as compared with the other ways of the valve and case to form a siphon-jet when registered with a certain one of the ways of the case and means for attaching the valve-case to a faucet with one of its ways registered therewith.

2. A valve attachment for faucets, comprising a four-way valve-case and a four-way valve rotatable in the case and having one of its ways registering with one of the ways of the case in all positions of adjustment and its remaining three ways registrable with the remaining three ways of the case as the valve is rotated, one of the valve-ways being relatively restricted as compared with the other ways of the valve and case to form a siphon-jet when registered with a certain one of the ways of the case and means for attaching the valve-case to a faucet with one of its ways registered therewith, three of the valve-ways being adapted to register with three of the case-ways when the restricted way is registered with the case-way registering with the faucet.

3. A valve attachment for faucets comprising a valve-case having a valve chamber and a rotary valve in said chamber, said valve-case being provided with a passage-way through one side thereof coaxial with the axis of the valve and also provided with passage-ways at diametrically opposite sides of the chamber, said valve being provided with an axially extending passage-way through one end thereof registering with the first named passage-way in the valve-case and also provided with diametrically opposite passage-ways communicating with the axial passage-way and movable into and out of registration with the radial passage-ways in the valve-case, one of the radial passage-ways of the valve being of relatively small size as compared with the other passage-ways.

4. A valve attachment for faucets comprising a valve-case having a valve chamber and a rotary valve in said chamber, said valve-case being provided with a passage-way through one side thereof coaxial with the axis of the valve and also provided with passage-ways at diametrically opposite sides of the chamber, said valve being provided with an axially extending passage-way through one end thereof registering with the first named passage-way in the valve-case and also provided with diametrically opposite passage-ways communicating with the axial passage-way and movable into and out of registration with the radial passage-ways in the valve-case, one of the radial passageways of the valve being of relatively small size as compared with the other passage-ways, said valve-case and valve being provided with additional radial passage-ways communicating respectively with the valve chamber and with the axial passage-way of the valve.

In witness whereof I have hereunto set my hand this 3d day of September 1924.

LEO C. ADAMS.