The purpose of this invention is to simplify the construction of the operating valve of pipe cleaners particularly used for cleaning beer coils by providing a device that may be directly attached to a water faucet and connected by hose to the coils through the taps, thereby eliminating the hose from the faucet to the device, and also from the device to the drain.

The invention is a valve member having vertical inlet and outlet connections with side connections in which the valve member may be rotated to connect either of the side connections with the inlet or outlet connections. The device is also provided with transparent receptacles and screen members for observing a sponge used as a cleaning agent, and also for preventing the sponge passing through the valve member into the drain or discharge.

This application is an enlargement upon a prior application with the Serial No. 673,866 which was allowed and permitted to become abandoned.

Many devices of this type have been provided for cleaning beer coils; however, it is necessary to set these devices upon the counter, or mount them in some manner, whereas this device may be screwed upon the end of the water tap, and supported therefrom, while it is operated to clean the coils. Many other devices have been provided with vertical cylindrical transparent chambers and more or less complicated connecting means; however, it is desired to provide means for connecting the ends of the tubes from the beer coils directly to a water tap providing a comparatively straight passage from the tap to the coil and back.

The object of the invention is, therefore, to provide a simplified construction for valves normally used for this purpose by arranging the parts of the valve casing so that the casing may be screwed upon the end of a water tap, and also so that the ends of the beer coils may be directly connected by hose to side connections adapted to communicate with the inlet and discharge.

Another object is to provide a valve member through which water may be supplied directly from a tap to beer coils in which the parts thereof are positioned to facilitate connecting the hose thereto.

A further object is to provide means for connecting the ends of beer coils to a water tap so that one coil may be cleaned at a time.

And a still further object is to provide an operating valve for cleaning beer coils from a water tap which is of a simple and economical construction.

With these ends in view, the invention embodies a relatively small simple casing, having vertically positioned inlet and outlet connections and horizontally positioned side connections, said side connections having glass tubes therein with strainers at the inner ends thereof, and also having projecting nipples over which the ends of hose may readily be clamped.

Other features and advantages will appear from the following description taken in connection with the drawing, wherein:

Figure 1 is a front view of the device with part broken away on one side of the center, showing the interior thereof.

Figure 2 is a plan view also with part broken away, showing the device in section.

Figure 3 is a cross section on line 3—3 of Figure 1, showing the glass tube, the holding means thereof, and the screen.

Figure 4 is a detail showing an alternate means for connecting the device to a faucet in which it is connected by a short piece of hose instead of a threaded union or coupling.

Figure 5 is a diagrammatic view with the parts on a relatively small scale, and showing the auxiliary or special connection which provides means for cleaning one coil at a time.

Figure 6 is a plan view with part broken away showing a device of an alternate construction in which all of the connections are formed in a horizontal plane.

Figure 7 is a section through the device shown in Figure 6.

In the drawing the device is shown as it may be made, wherein numeral 1 indicates the body of the valve member, numeral 2 the nipple for the inlet connection, numeral 3 the outlet connection, and numerals 4 and 5 the side connections.

The valve body 1 may be of any size, shape, or design, however it is preferred to make it of a somewhat rectangular shape with a horizontal tapering cylindrical opening 6 extending therethrough in which a valve member 7 is rotatably mounted. The valve member 7 is provided with a handle 8 at one end and a threaded shank 9 at the opposite end upon which a nut 10 may be threaded to engage the end of a spring 11 which resiliently holds the valve member 7 in engagement with the opening 6. The valve member 7 is provided with a diagonally positioned web 12 providing openings 13 and 14 at the sides thereof, and these openings are so positioned that with the handle in the horizontal position shown in Figure 1, the opening 13 will communicate with the inlet connection 2, and the side connection 14, whereas the opening 14 will communicate...
with the side connection 5 and the outlet nipple 3. When the handle is turned to the upright or vertical position so that it passes through an angle of 90 degrees, the web 12 will also be turned through an angle of 90 degrees, and the opening 13 will provide a communicating passage between the inlet nipple 2 and the side connection 5, whereas the opening 14 will provide a passage from the side connection 4 to the discharge connection 3.

It will be understood, however, that these passages may be arranged in any other manner and the handle may also be provided at any other angle.

The side connections 4 and 5 are formed in bosses extending from the member 1 with flanges 15 and 16 at the ends thereof, and these flanges are provided with recesses 17 in which perforated discs 18 forming screen members may be placed as shown, and as both sides are the same, the same reference numerals are used to designate the respective parts. The ends of the glass tube 19 are held in the recesses 17 and packing washers 20 may be used between the ends of the tubes and the discs 18, and the opposite ends of the glass tubes may be held in recesses 21 in flanges 22 or fittings 23, and these connections may also be provided with packing washers 24 at the ends of the tubes. The fittings may be held to the valve body by a plurality of bolts 25 extending through the flanges as shown, however, it will be understood that these members may be arranged in any other manner and held by any means. The fittings extend outward and are turned at right angles forming L's with their outer ends extended to form nipples 26 over which the ends of hose 27 may be held by clamps 28. It will be understood, however, that any other means may be used for securing the ends of the hose to the outer ends of the side connections, and the fittings 23 may also be held to the valve body in any other manner. This construction provides means for connecting the device directly to a faucet or tap by a union or coupling 29 on a sleeve 30 which may be screwed in the nipple 2, and with the member 25 screwed on the faucet or tap which is indicated by the numeral 31. Packing washers 32 and 33 may also be used in this connection to prevent leakage. It will be noted that this coupling is formed by the sleeve or bushing 30 which is screwed on the nipple 2, however it will be understood that the end of the nipple may be provided with a ring or ridge, as indicated by the numeral 34, and located at the end of the member 30 so that the member 30 may be eliminated. It will also be understood that any other means may be used for directly attaching this device to the end of a faucet by screwing it directly to the faucet. It will be understood that the entire coupling with the member 30 may be removed and the device directly attached to the faucet by a short piece of hose 35 with clamps around the ends, as shown in Figure 4, or by any other means.

In the design shown in Figure 5 the member 1 is shown directly attached to a faucet with one side connection connected to a tap 36, and the other connected by an auxiliary connection 37 to a valve 38 which has been removed from a barrel or keg 39 which is normally connected by a connection 40 to a coil communicating with the tap 36, thereby making it possible to clean the coil of the tap 36 while another tap, which is indicated by the numeral 41, may continue to operate. It will also be understood that this connection may be made in any other manner.

In the design shown in Figures 6 and 7, a device is shown that may be placed upon a counter, however, it will be noted that all connections are in the same plane and resiliently positioned. In this design the valve body 42 is provided with a base 43, forming a stand, and the valve member 44 is held therein by a nut 45. This member is also provided with openings similar to the openings 13 and 14 communicating with the side connections, indicated by the numerals 46 and 47 and adapted to connect either of the side connections with an inlet connection 48 or with the discharge 49. In this design the side connections are provided with members 50 and 51 having glasses 52 and 53 therein, and the inner ends are provided with screens 54. In this design the glass members are held in place by nuts 55 and 56 and packing washers may also be used at the ends of the tubular glass members. It will be noted that the valve members and also the side connections may be of any type or design.

It will be understood that other changes may be made without departing from the spirit of the invention. One of which changes may be in the use of any other means for attaching the device to the tap or faucet, another may be in the use of other means for holding or mounting the glass members in the device, and still another may be in the use of other means for making the hose connections to the device.

The construction will be readily understood from the foregoing description. In use the device may be directly attached to a faucet having a thread on the end thereof, as shown in Figure 1, by the member 29, and when it is secured in place the beer taps may be connected to the members 23 at the sides and the opposite ends of the beer coils connected together. With the apparatus connected in this manner the water may be turned on and the lever 8 turned from the horizontal to the vertical position so that the water may be run first through one coil, and then through the other, and where a sponge is used the apparatus is indicated by the numeral 47 and shown in Figure 7, may be placed in the connection at the lower ends of the coils so that it will pass through one coil and up to the tap, and when the direction of the water is reversed it will pass back through both coils and up to the other tap. The sponge may, therefore, be run back and forth as many times as may be desired by turning the lever 8. It will also be understood that the Fuller ball and carriage may be removed from the tap if desired, so that the sponge will pass through the tap and up to the screen 20 at the inner ends of the glass member. However, with this apparatus, it is not necessary to remove the Fuller ball and carriage or any part of the tap or apparatus. It will also be understood that a plurality of rubber or fibrous balls, as indicated by the numeral 58, may also be used if desired. Any cleaning device may, therefore, be run back and forth through the coils or only water or any solution may be used as may be desired.
back and forth through the coil without disturbing the other coil.

Having thus fully described the invention, what we claim as new and desire to secure by Letters Patent, is:

A pipe cleaning apparatus comprising a valve housing having four radially extending openings with two of said openings flanged and horizontally positioned, providing a horizontal passage through said housing, and two of said openings vertically positioned, providing a vertical passage extending through said housing intersecting said horizontal passage, said housing being provided with a tapered cylindrical opening at the intersection of said vertical and horizontal passages, the lower end of said vertical passage having a threaded nipple extending downward from said housing and the upper end of said passage also having a threaded nipple providing an inlet connection to said housing, a bushing with a collar at the upper end threaded on said inlet connection, and a coupling member slidable on said bushing and adapted to connect said housing to a water tap, a conical shaped valve member rotatable in the conical shaped cylindrical opening at the intersection of said passages in said valve housing having a handle on one end and means resiliently holding said valve member inward at the opposite end, said valve member having diagonally opposite recesses corresponding with the horizontal and vertical passages, and adapted to be turned through an angle of 90° to divert fluid from said inlet connection to either of said horizontal passages and at the same time connect either of said horizontal passages with the lower vertical passage forming a drain; a frame secured to the flanges at the ends of the horizontal openings and positioned adjacent each of said horizontal openings, said frames having transparent windows therein and being provided with water tight securing means, elbows forming the outer ends of said frames having threaded nipples extending outward at right angles thereto, and integral with said elbows, the horizontal and vertical passages in said housing and frames being in the same vertical plane, one of said frames being adapted to contain a loosely mounted material for contacting and cleaning the walls of a beer pipe when carried there-through by flowing water entering said inlet connection, screens in each of said frames positioned adjacent the inner ends thereof, said nipples at the outer ends of said elbows being adapted to be connected in circuit with a beer coil, whereby fluid entering said inlet connection passes through the frame and nipple at one end, through said coil, and enters said housing through the nipple and frame at the opposite end, and passes out of said lower vertical connection to the drain.

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