A. JENSEN.

CHECK VALVE.

APPLICATION FILED JAN. 4, 1910. RENEWED JUNE 21, 1911.

1,029,931. Patented June 18, 1912.

Fig. 1.

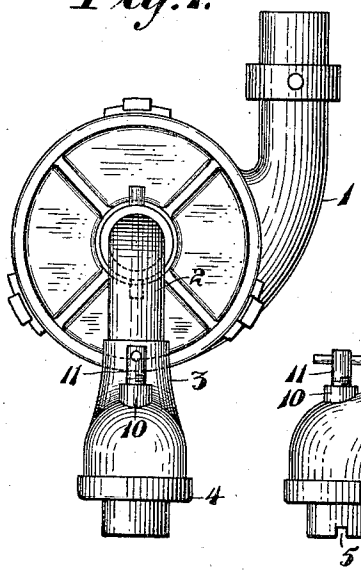
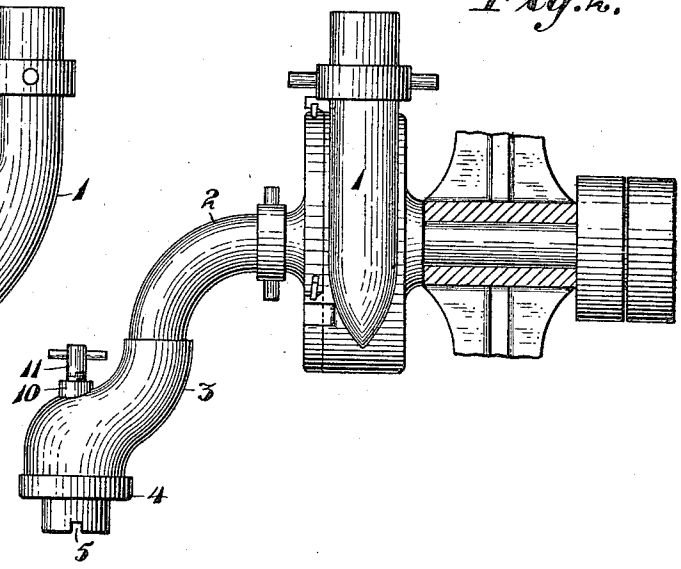


Fig. 2.



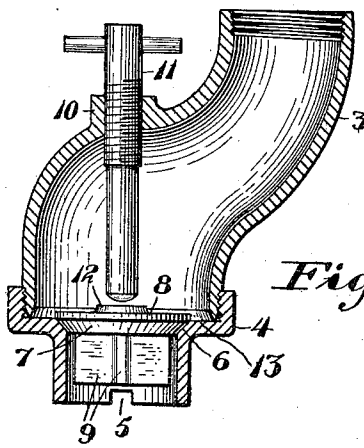
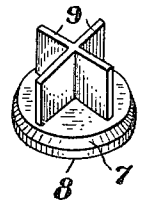


Fig. 3.

Fig. 4.



WITNESSES:

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AAGE JENSEN, OF EUREKA, CALIFORNIA.

CHECK-VALVE.

1,029,931. Specification of Letters Patent. Patented June 18, 1912.

Application filed January 4, 1910, Serial No. 536,402. Renewed June 21, 1911. Serial No. 634,452.

To all whom it may concern:

Be it known that I, AAGE JENSEN, a citizen of the United States, residing at Eureka, in the county of Humboldt and State of California, have invented new and useful Improvements in Check-Valves, of which the following is a specification.

The present invention relates to an improved check valve, especially adapted for use for controlling the supply of a fluid to a pump, and especially to a centrifugal pump.

The object of the invention is to provide a valve of this character which will control the flow of liquid with great accuracy, and which can be readily taken apart and cleaned to maintain it in a sanitary condition, thus fitting it for use with pumps for pumping liquid food such as milk, wine, or the like.

In the accompanying drawing, Figure 1 is an end view of a centrifugal pump showing the valve in use therewith; Fig. 2 is a side view of the same; Fig. 3 is a sectional view of the valve casing detached; Fig. 4 is a perspective view of the valve proper.

Referring to the drawing, 1 indicates a centrifugal pump, with which my device is especially adapted to be used, and 2 indicates a conduit leading upward to said pump. To the lower end of said conduit 2 is connected the upper end of the upper tubular valve casing section 3, the central or axial line of which has an ogee curve. Upon the lower end of the upper casing section is screwed the lower casing section 4, open at the bottom. The casing thus formed is adapted to be submerged in the receptacle containing the liquid to be pumped, the lower casing section having diametrically opposite notches 5 formed in its lower edge, serving, not only to facilitate the screwing of the section, but also as inlets for the liquid. Upon a beveled circular seat 6 formed upon said lower section rests the lower face plate 7 of a valve 8 formed with vertical ribs 9 at right angles to each other, said ribs extending downward and guiding the check valve in the cylindrical wall of the lower section. Through a boss 10 formed upon the upper section and threaded on the inside is screwed an adjusting screw 11. The lower end of said screw extends to a point in close proximity with a boss 12 formed at the center of the upper face of the check valve 8 and limits the upward movement of said valve. The size of the opening past the check valve, and consequently the rate of supply of liquid to the pump, is dependent upon the distance between the lower end of said adjusting screw and the upper surface of said valve, and may thus be varied, as desired, by screwing said screw in or out. The upper casing section has a sharp lower edge 13, which, when the lower section is screwed firmly upon the same, makes a close contact with the plate 14 of said lower section upon which is formed the valve seat, thus dispensing with the necessity of gaskets or the like.

In use, the lower end of the valve is submerged in the liquid to be pumped, and, so long as the centrifugal pump is operated, the check valve is, by the suction of the pump, maintained in a raised position in contact with the adjusting screw. As soon as the pump stops and said suction ceases, the valve drops to its seat, and keeps the pump primed for future use.

The valve casing is made in the offset form for convenience of operating the adjusting screw 11, which, if submerged, may be operated by a long handle without the necessity of dipping the hands into the liquid. The lower portion of the upper section is enlarged and offset to one side of the upper portion, its form is such that a brush can readily be passed therethrough from the bottom to the top and can be brought into contact with the entire surface of its interior to clean the same.

The advantages of this construction are that, by adjusting the screw 11, the speed capacity of the pump may be regulated without having to directly adjust the speed of the pump itself. A further advantage resides in the ease in which the device can be taken to pieces, all of which are easily cleaned, as none of them contain surfaces or recesses which are not readily accessible to a brush or the like.

It will readily be understood that the device may also be used in a horizontal position, if desired.

I claim:—

In a check valve, an upper casing section, the central line of which has an ogee curve, a lower casing section, said lower section being formed with a cylindrical upper portion for attachment to the upper section, a mediate portion forming a valve seat and a reduced lower portion, formed in its lower

edges with notches for facilitating the screwing of said section and the entrance thereinto of liquid, a valve on said valve seat having a beveled face and depending vertical ribs adapted to engage the reduced portion of the lower section to guide the valve in its movement to and from said seat, the upper section being formed with an apertured boss in line with the axis of the lower section and the center of the valve seat, and a screw stop for the valve, screwed in said aperture, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

AAGE JENSEN.

Witnesses:
J. M. NISSON,
FRANK NAZRO.