

W. CRAIG.
CHECK VALVE.

Patented Dec. 9, 1890.

Fig. 2.

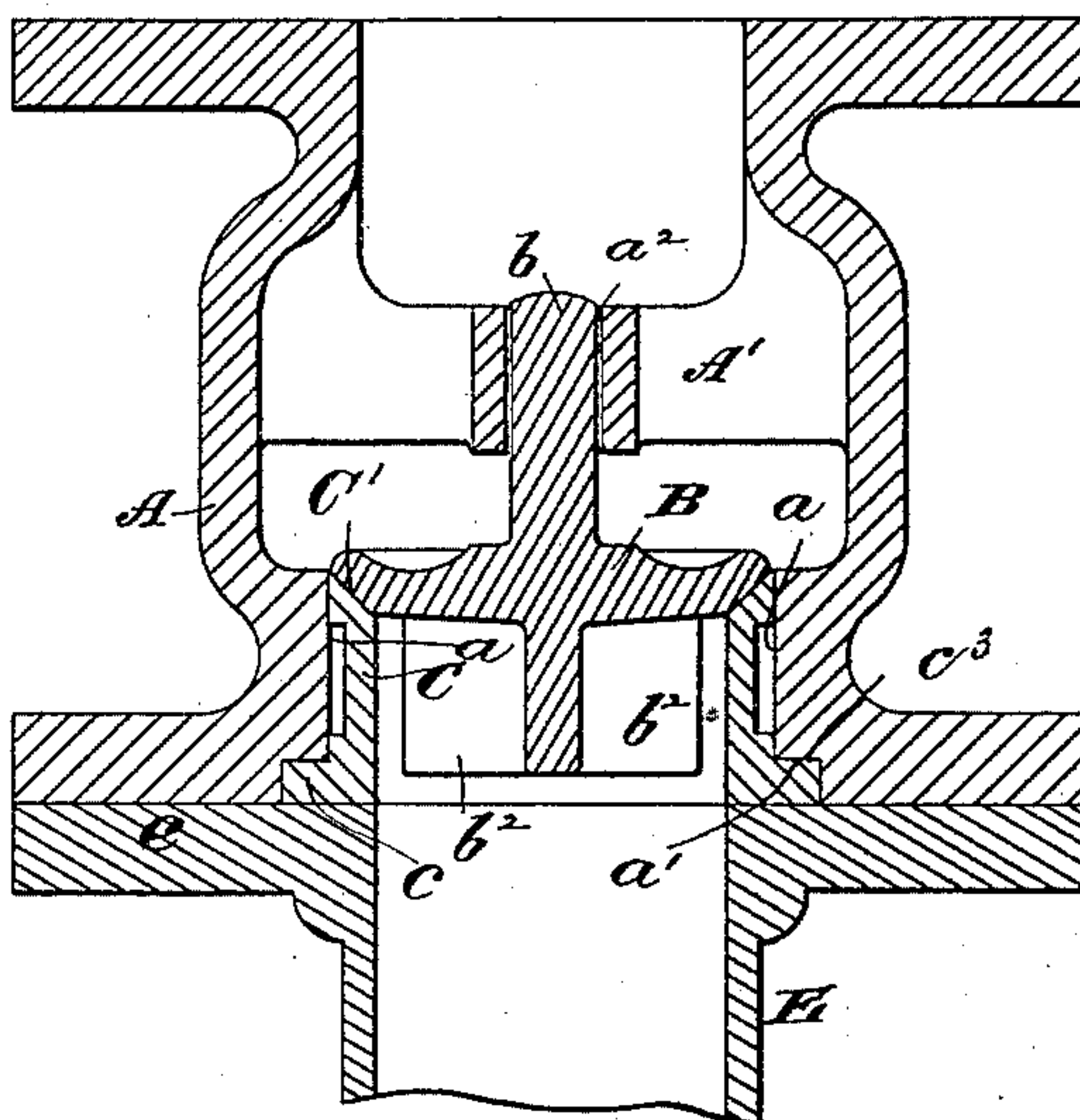
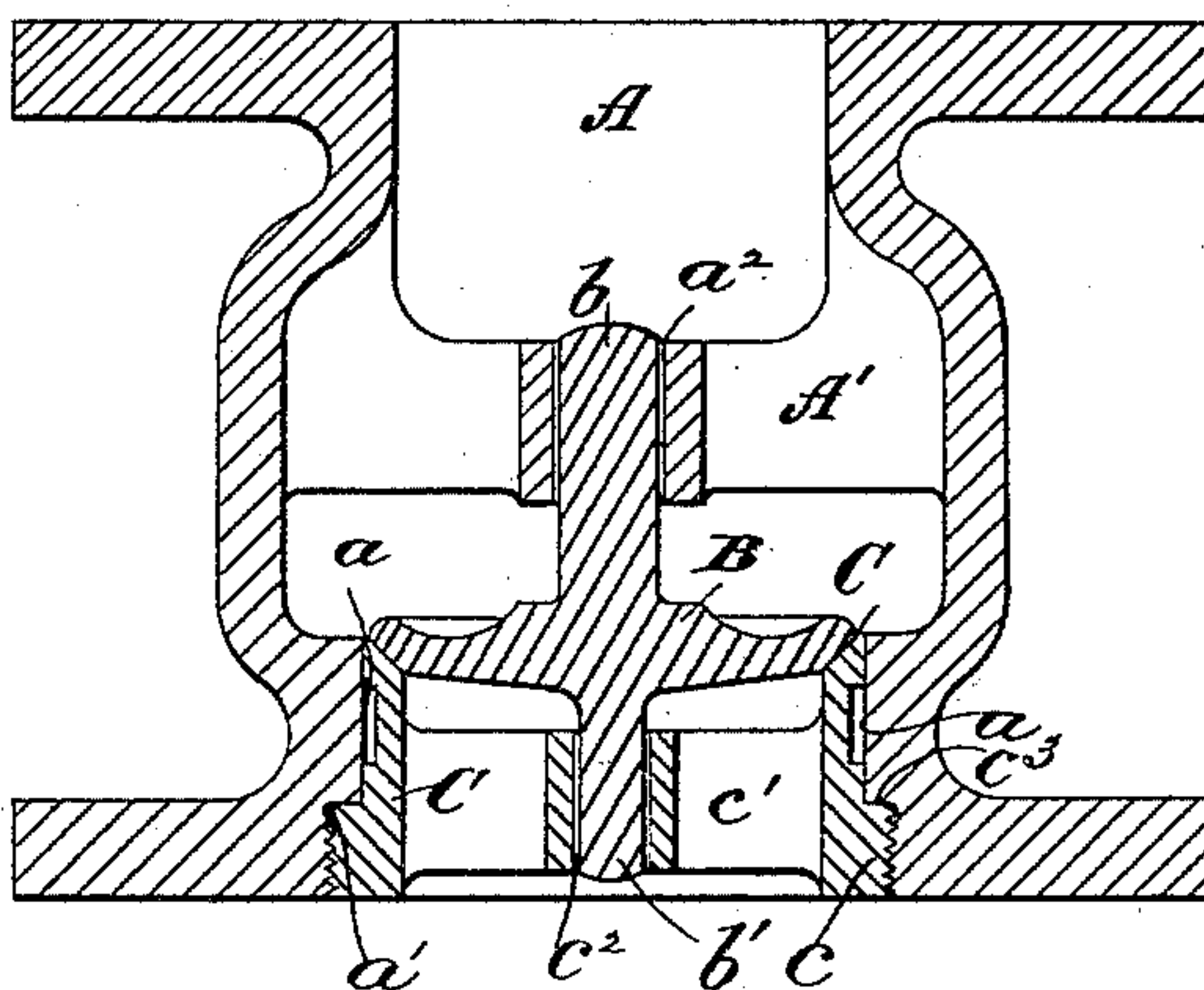


Fig. 3.



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UNITED STATES PATENT OFFICE.

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CHECK-VALVE.

SPECIFICATION forming part of Letters Patent No. 442,284, dated December 9, 1890.

Application filed June 7, 1890. Serial No. 354,574. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM CRAIG, of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Improvement in Check-Valves, of which the following is a specification.

I will first describe my invention with reference to the accompanying drawings, and then point out its novel features in the claim.

Figures 1, 2, and 3 are central vertical sectional views of three slightly-differing examples of valves suitable for check-valves or pump-valves embodying my invention.

Similar letters of reference designate corresponding parts in all the figures.

A represents the box or casing, consisting of a single casting, having its inlet at the bottom and its outlet in the upper part, and having cast in it a bridge A' some distance below the outlet.

B is a puppet-valve, and C a removable bushing, at the inner end of which is formed a seat C' for said valve.

The box or casing A is bored out around its inlet-opening in the bottom and counterbored to form a shoulder a' . The bushing C is provided below the valve-seat with an external flange c , forming a shoulder c^3 , corresponding with the shoulder a' in the counterbore of the casing. The bridge A' is bored centrally to receive and guide the upper stem b of the valve B, but is open at the sides of the said stem for the passage of water, steam, or other fluid. The said bridge constitutes also a permanent stop, which limits the opening of the valve without interfering with the free flow of the fluid past the valve at any time.

In the example of my improvement shown in Figs. 1 and 3 the bushing C is also provided with a bridge c' , having a corresponding bore c^2 for the reception of the lower or inner stem b' of the valve.

In the examples as shown in Figs. 2 and 4 the valve B has provided on its inner face

wings b^2 of ordinary construction for guiding it in the bushing, and which, together with the stem on the outer side thereof, serve to guide the valve at all times. The valve can be fitted and ground to its seat before its insertion. The bushing after having been inserted is held against longitudinal displacement in one direction by the flange or shoulder c coming against the shoulder c^3 of the casing A and in the other by the flange e of a pipe E bolted to the casing. Where it may not be convenient to utilize the flange of a pipe for this purpose the bushing C may be screwed to its place in the casing, as is shown in Fig. 3.

By making the valve box or casing of a single casting containing the bridge C, arranged as described to constitute a guide for the valve and also as a stop therefor without interfering with the free flow of the fluid past the valve, and by also providing for the insertion and removal of the valve-seat and valve together at the bottom, I obtain a valve for pumps and other uses which is of very inexpensive construction, and I also provide for an easy removal and replacement of the valve and its seat whenever necessary.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, with a box or casing A, consisting of a single casting having an inlet at the bottom and an outlet at the upper part, and having cast in it below the outlet a bridge constituting both a stop and a guide for a valve, of a bushing constituting a valve-seat inserted in it and removable from the bottom of said box or casing, and a valve fitted to said valve-seat and provided with a stem passing through said bridge, substantially as herein described.

WILLIAM CRAIG.

Witnesses:

FREDK. HAYNES,
F. GEORGE BARRY.