(No Model.)

C. J. BÜHRING

FILTER.

No. 413,021. Patented Oct. 15, 1889.

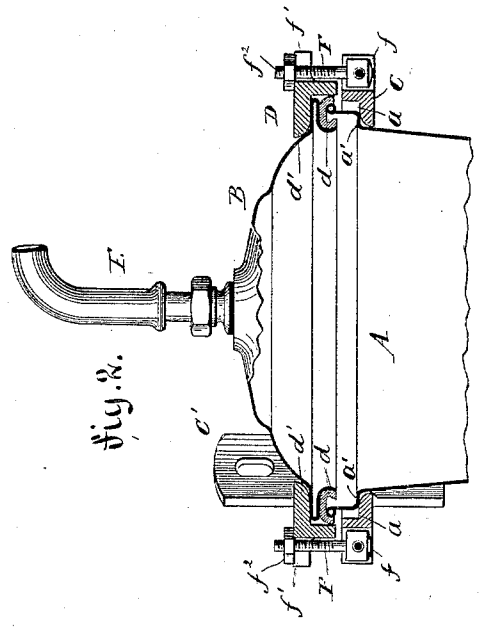


Fig. 2.

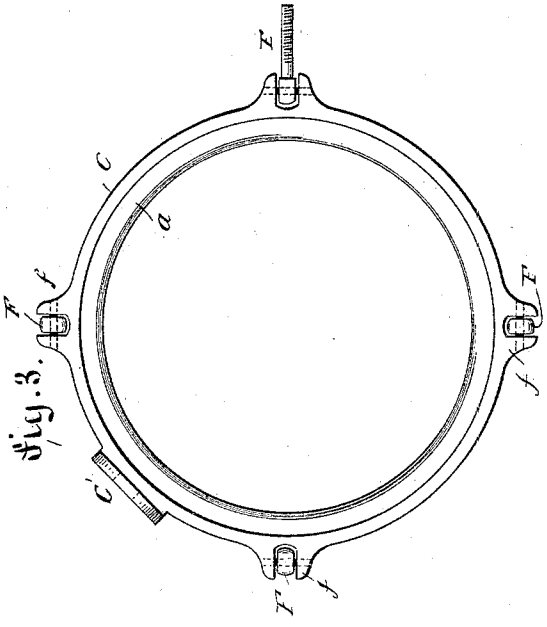


Fig. 3.

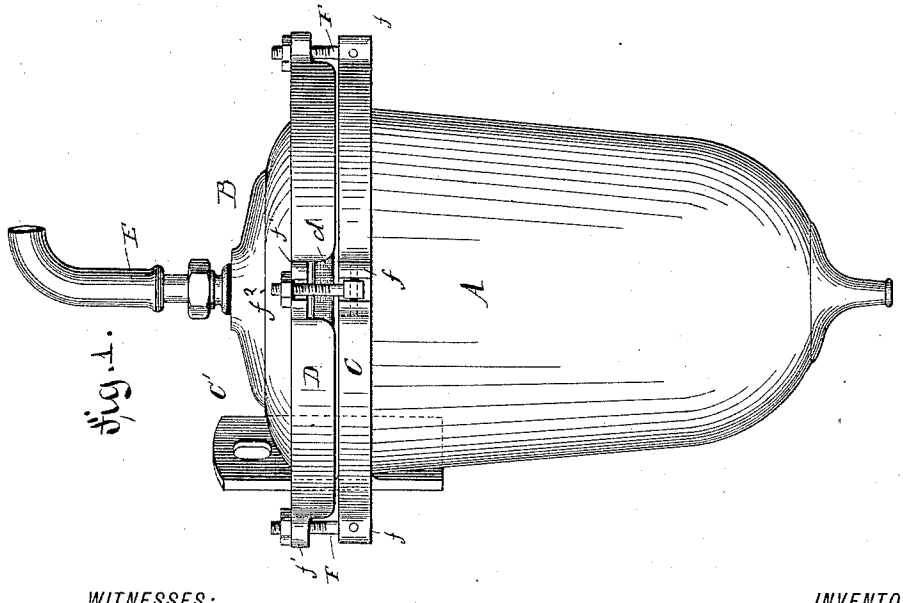


Fig. 1.

WITNESSES:

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CARL JOHAN BÜHRING, OF HAMBURG, GERMANY.

FILTER.

SPECIFICATION forming part of Letters Patent No. 413,021, dated October 15, 1889.

Application filed May 10, 1889. Serial No. 310,212. (No model.) Patented in England March 14, 1887, No. 3,848.

To all whom it may concern:

Be it known that I, CARL JOHAN BÜHRING, of the city of Hamburg, in the Empire of Germany, and a citizen of Germany, have invented certain new and useful Improvements in Filters, (for which Letters Patent were granted to me in England, No. 3,848, dated March 14, 1887,) of which the following is a specification.

This invention relates to an improved casing for filters for water and other liquids, said casing being so constructed that the cover may be readily detached from the casing for the purpose of replacing the filtering material contained in the casing when the same is spent by use; and the invention consists of the combination of a water-filter casing having a shoulder at its upper edge, a cover fitting on the top edge of the casing, a packing-ring between the edge of the cover and the top edge of the casing, a ring-shaped frame having an interior shoulder for supporting the casing, a flanged top ring fitting over the lid, and clamping-rings pivoted to lugs of the shouldered ring and applied to recessed lugs of the top ring by means of screw-nuts. The lower ring-shaped frame is provided at one side with a vertical plate, which is made integral with the ring, and which serves for supporting it when attached to the wall.

In the accompanying drawings, Figure 1 represents a side elevation of my improved filter. Fig. 2 is a vertical transverse section of the same, showing the connection of the casing of the filter with the cover of the same, parts being broken out; and Fig. 3 is a detail top view of the lower supporting-ring shown detached from the filter.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the casing of my improved filter; B, the cover of the same, and C a supporting-ring having an interior shoulder *a*, on which rests an outwardly-projecting shoulder or flange *a'* at the top edge of the casing A. Between the top edge of the casing A and the interiorly-flanged edge of the cover B is interposed an elastic packing ring or gasket *d*, by which the tight connection between the casing and cover B is obtained. To the cover B is coupled a water-supply pipe E, through which the water to be filtered is conducted to the interior of the casing A, which contains any suitable filtering medium. The tight connection between the casing A and cover B is produced by a top ring D, which is provided with an interior flange *d'*, said flange binding over the edge of the cover and pressing the same tightly on the elastic packing or gasket *d* by means of a number of clamping screw-bolts F, which are pivoted at their lower ends to recessed lugs *f* of the lower ring C, while the upper ends are applied to recessed lugs *f'* of the upper ring D and retained thereon by screw-nuts f^2, that are applied to the upper ends of pivoted screw-bolts F. The lower ring C is preferably provided with a vertical supporting-plate C', which is cast integral with the ring C and provided with slotted openings for screws, by which the ring is attached to the wall or other object of support. The supporting and clamping rings C and D of the filter have the advantage that, by loosening the screw-nuts and detaching the pivoted screw-bolts from the top clamping-ring, the top clamping-ring and cover can be removed and the casing then refilled with filtering material in a quick and convenient manner without detaching the lower supporting-ring C from the wall, while the rigid connection of the clamping-rings by the connecting screw-bolts and the tight compressing of the intermediate packing or gasket between the casing and cover form the tight and hermetical sealing of the cover and casing, so that none of the water under pressure can pass through the joint and cause the leakage of unfiltered liquid.

I have shown but not claimed in my pending application, Serial No. 247,421, filed August 20, 1887, substantially the construction covered by the claim in this case.

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

The combination of a casing having a shoulder at its top edge, an interiorly-shouldered ring for supporting said casing, a vertical plate made integral with said supporting-ring,

a cover fitting on the top of the casing, an elastic washer or gasket interposed between the top edge of the casing and the cover, a flanged top ring on the cover, screw-nuts pivoted to recessed lugs of the supporting-ring and engaging recessed lugs of the top ring, and screw-nuts applied to the upper ends of said screw-bolts, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in the presence of two subscribing witnesses.

CARL JOHAN BÜHRING.

Witnesses:
A. JÖRSS,
GEO. HENNINGS.