

JOHN C. SCHNELL.

Improvement in Combined Rectifiers and Filters.

No. 114,610.

Patented May 9, 1871.

Fig. 1

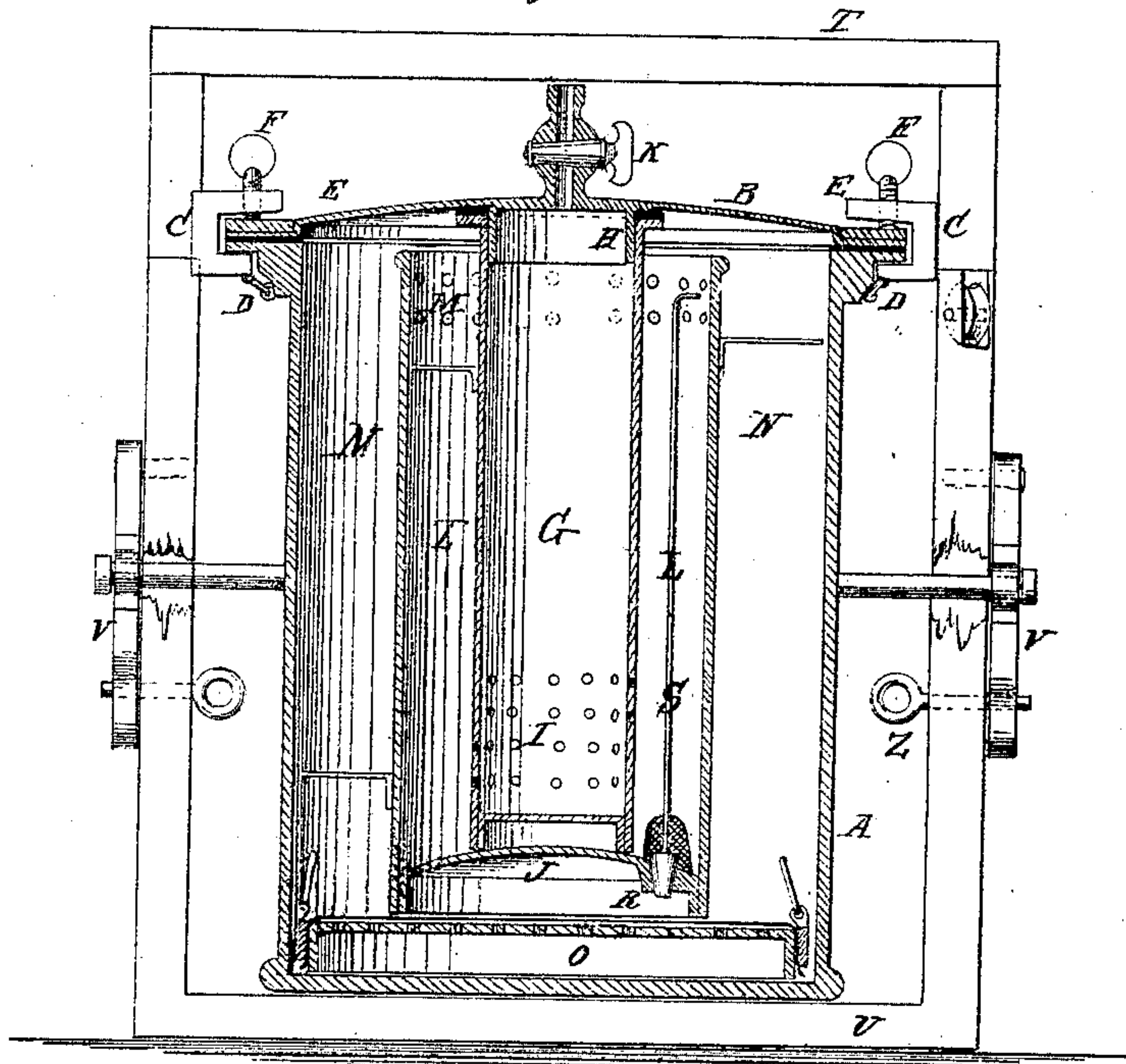
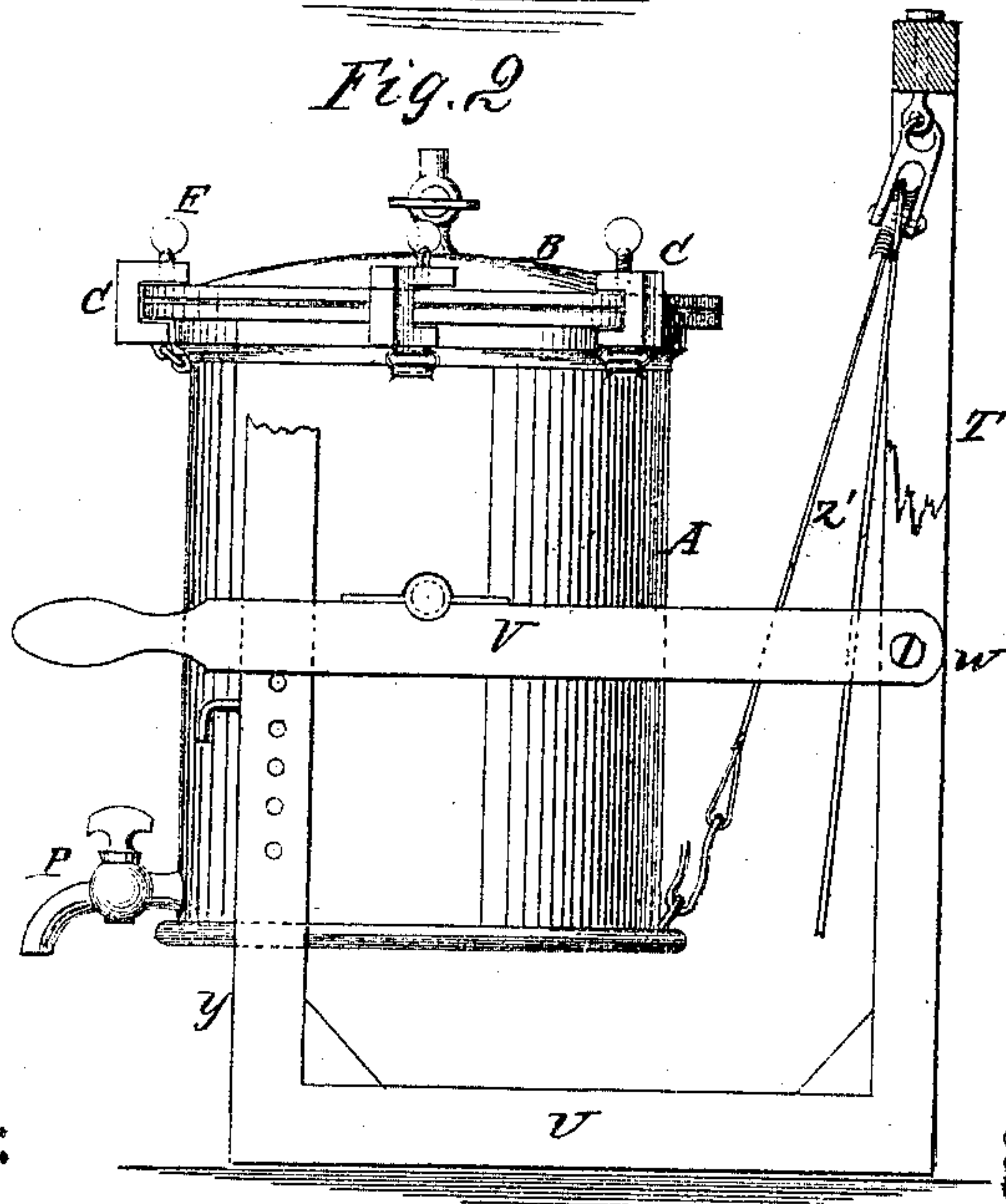


Fig. 2



Witnesses:

A. W. Almqvist
Wm. H. C. Smith.

Inventor:

J. C. Schnell.

PER

Wm. H. C. Smith

Attorneys.

UNITED STATES PATENT OFFICE.

JOHN C. SCHNELL, OF CINCINNATI, OHIO, ASSIGNOR TO HIMSELF AND
EBERHARD CAMMERER, OF SAME PLACE.

IMPROVEMENT IN COMBINED RECTIFIERS AND FILTERS.

Specification forming part of Letters Patent No. **114,610**, dated May 9, 1871.

To all whom it may concern:

Be it known that I, JOHN C. SCHNELL, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Combined Rectifier and Filter; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming a part of this specification.

This invention relates to a new and useful improvement in apparatus for rectifying and filtering liquors and other fluids or liquids; and consists in the construction and arrangement and combination of parts hereinafter described.

In the accompanying drawing, Figure 1 represents a vertical central section of the apparatus, showing the different filtering compartments or chambers, and the manner of supporting the apparatus. Fig. 2 is a side view, showing the mode of suspending and dumping or inverting the apparatus.

Similar letters of reference indicate corresponding parts.

A represents a cylindrical vessel, of suitable dimensions, provided with a removable top or cover, B, which cover is fastened by means of a flange around the top of the cylinder, and a series of screw-clamps, C, which is hinged to the vessel, as seen at D.

E is a ring, which is laid upon the rim of the cover, upon which the screws F of the clamps bear. Elastic packing may be used for securing a tight joint on the flange of the vessel.

G is a tube connected with the top B by means of a flange, as seen at H, with perforations I near its lower end. This tube rests on the curved plate J. This filtering-tube G is filled with wool, cotton, or paper, or with any other textile or fibrous material, and the liquid to be filtered is received into it, through the stop-cock K, from an elevated reservoir. The liquor, after passing down through the filtering material in G, is discharged, through the perforations I, into the annular chamber L, which is filled with pulverized charcoal. The liquor rises up through the charcoal in the chamber L to the perforation M, through which it is discharged into the outer annular chamber, N, which is also filled with charcoal. From this filtering-chamber the liquor passes down through the removable perforated false

bottom O, from whence it is discharged into a barrel or other receptacle through the faucet P.

The liquor may be discharged from the inner annular filtering-chamber, L, through the curved plate J, by means of the valve R. S is a rod extending up to near the top of the chamber, by which the valve is raised. T represents a frame and posts, supported on the platform U.

V V are levers on each side of the vessel, the fulcrums of which levers are at the points of connection W on the frame T. These levers are made adjustable by means of a series of holes in the posts y and pins h.

Ordinarily the vessel will stand upon the platform U; but when it is necessary to empty or dump out the filtering material, the vessel is raised from the platform by means of the levers, as seen in Fig. 2.

Z' is a rope attached to the bottom of the vessel, which passes up over a pulley supported from the top of the frame, by means of which the filtering-vessel is tipped and inverted for discharging the contents.

It will be understood that the reservoir or head must always be sufficient to give the necessary pressure for forcing the liquid through the filtering medium.

This apparatus is adapted for filtering water for use in hotels and other places, as well as for rectifying and filtering all kinds of liquors, and its advantages for the purposes intended must be obvious to all.

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

1. A combined rectifier and filter, with the annular filtering-chambers, as seen at L N, and with arch-plate J, valve R, and removable perforated bottom O, arranged to operate substantially as and for the purposes herein shown and described.

2. In combination with the filter, the levers V V, and mode of raising and dumping or inverting the filter, substantially as and for the purposes described.

3. The hinged clamp C, substantially as shown and described, and for the purposes set forth.

JOHN C. SCHNELL.

Witnesses:

WM. L. SPOONER,
THOS. E. HUNT.