

W. H. H. BOWERS.
Check-Valve.

No. 160,869.

Patented March 16, 1875.

Fig. 1.

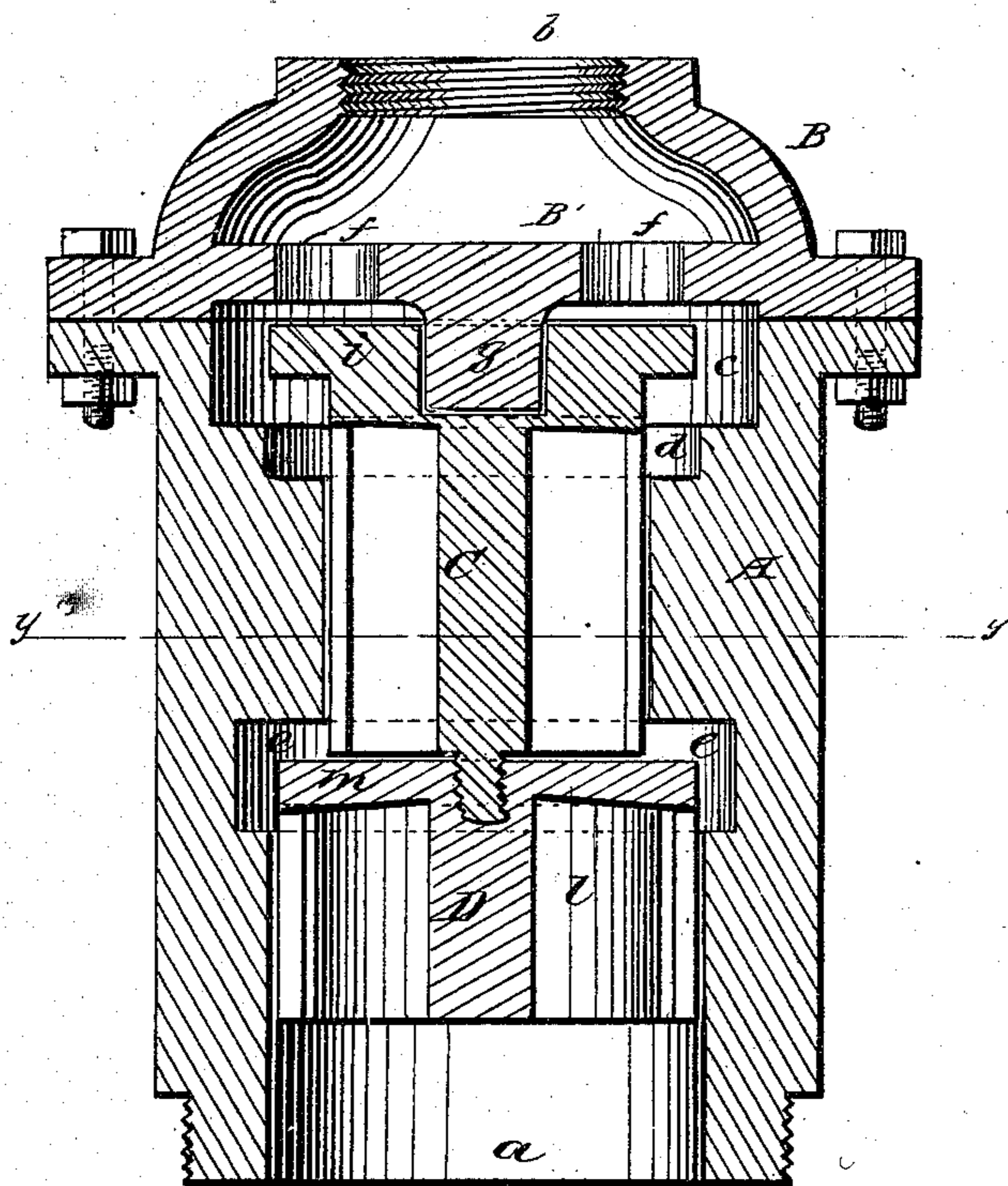


Fig. 2.

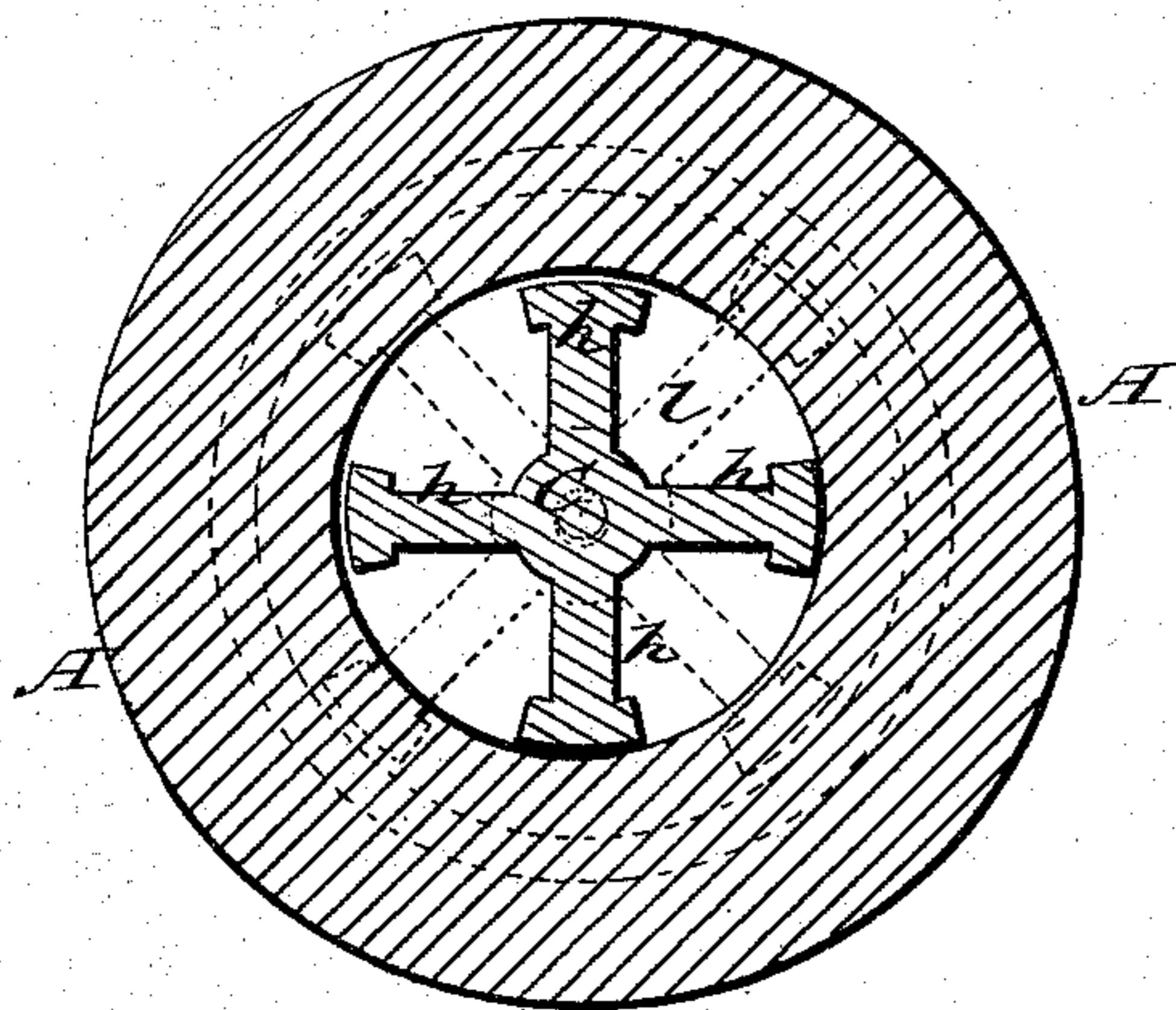
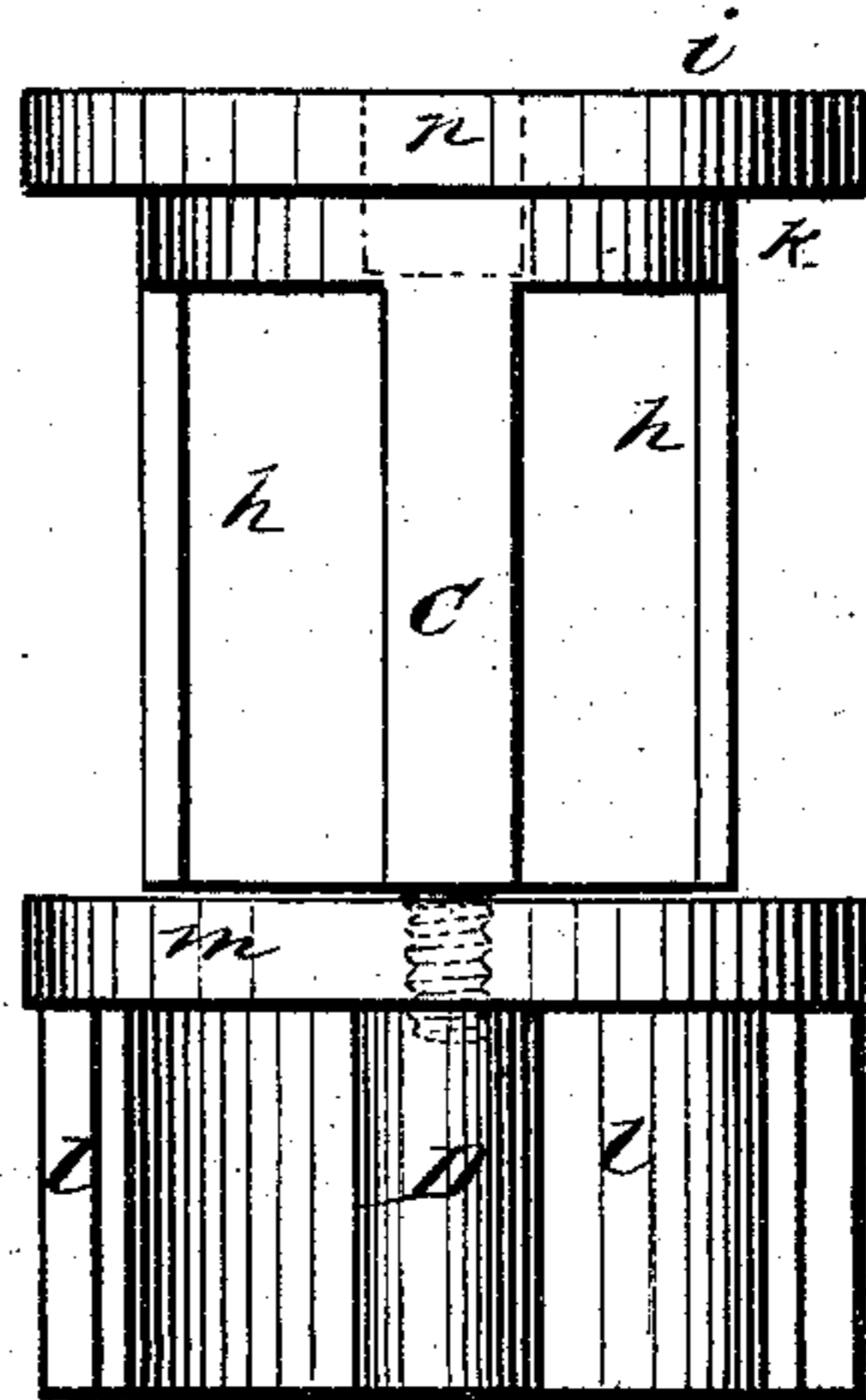


Fig. 3.



WITNESSES:

P. C. Dietrich
H. B. Scott

INVENTOR:

Wm. H. H. Bowers

per. C. H. Watson & Co.
ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM H. H. BOWERS, OF FRANKLIN, KENTUCKY.

IMPROVEMENT IN CHECK-VALVES.

Specification forming part of Letters Patent No. **160,869**, dated March 16, 1875; application filed March 4, 1875.

To all whom it may concern:

Be it known that I, WM. H. H. BOWERS, of Franklin, in the county of Simpson and State of Kentucky, have invented certain new and useful Improvements in Check-Valves; 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 which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to check-valves to be used in air, steam, or fluid, having for its object to improve the construction of the same in simplicity, and providing a valve in which a cushion is provided in the up and down stroke; and it consists in the construction and combination of parts, as will be hereinafter more fully set forth, and pointed out by the claims.

In the accompanying drawing, Figure 1 represents a vertical section of a device embodying my invention. Fig. 2 is a transverse section on line *y y* of Fig. 1, and Fig. 3 is a side elevation of the valve.

A represents the valve-box, having inlet *a* and outlet *b*, and having interior recesses *c d e*. B represents the cap, the lower portion forming plate B', which is provided with openings *f*, and having a stem, *g*, working in a recess in the upper portion of the valve C. This valve C is provided with wings *h* and annular upper portion *i*, having offset *k*, and the lower portion of the valve is formed by the part D, and is also provided with wings *l* and a cap or flange, *m*, which is recessed with a screw-threaded perforation, and the lower portion of the valve C is provided with a screw, by which means the parts C and D are detachably connected.

In use all valves heretofore having a lap

have to exert a pressure in the pump greater than that they are pumping against in proportion as the lap is greater than the opening below the seat of the valve in the cage. In order to overcome this difficulty I attach a second flange, *m*, to the bottom of the valve, working in lower portion of the valve-box, the diameter of which is equal to the top flange or lap *i*, in order to allow the substance being pumped to pass the flange *m* without resistance in the recess *e* as the valve is raised from its seat.

The upper portion of valve C is provided with a recess, *n*, equal in depth to the stroke of the valve, and the part B' has a stem, *g*, of equal length, so that when the valve is raised from its seat a cushion is formed between the top of the valve in recess *n*, thus dispensing with all rubber seats and packing.

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

1. The valve C, having wings *h*, and recess *n* in the top, in combination with the part B', having stem *g*, and the valve-box A, with recesses *c d*, substantially as and for the purpose specified.

2. The valve C, in combination with lower detachable portion D and the valve-box A, with recess *e*, substantially as and for the purpose described.

3. The valve C, with wings *h* and recess *n*, in combination with the part B', with stem *g*, lower portion D, and the valve-box with recesses *c d e*, as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

WILLIAM H. H. BOWERS.

Witnesses:

C. H. WATSON,
H. C. SCOTT.