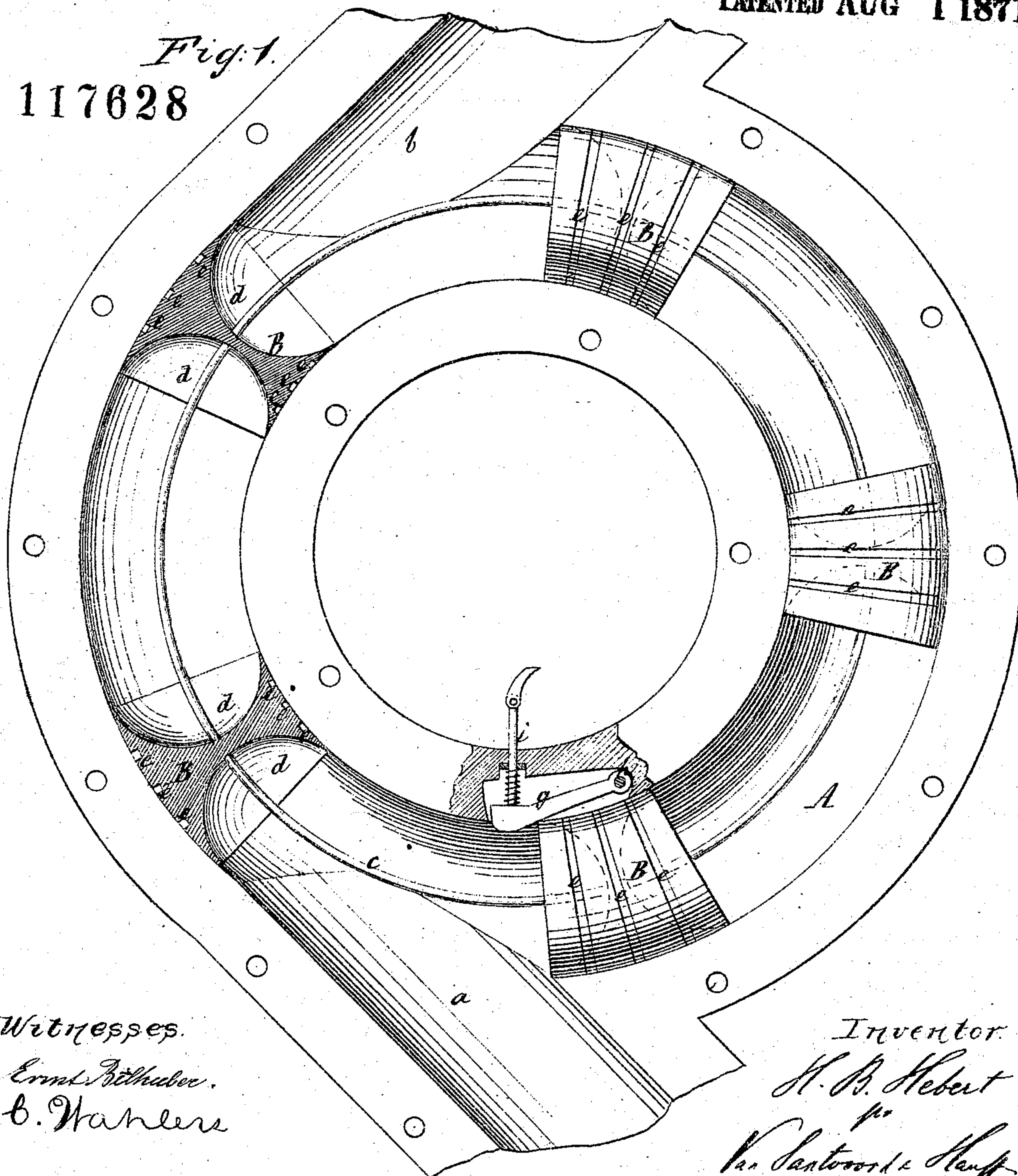


# H.B. Hebert's *Imp'd* Fluid Meter.

PATENTED AUG 1 1871

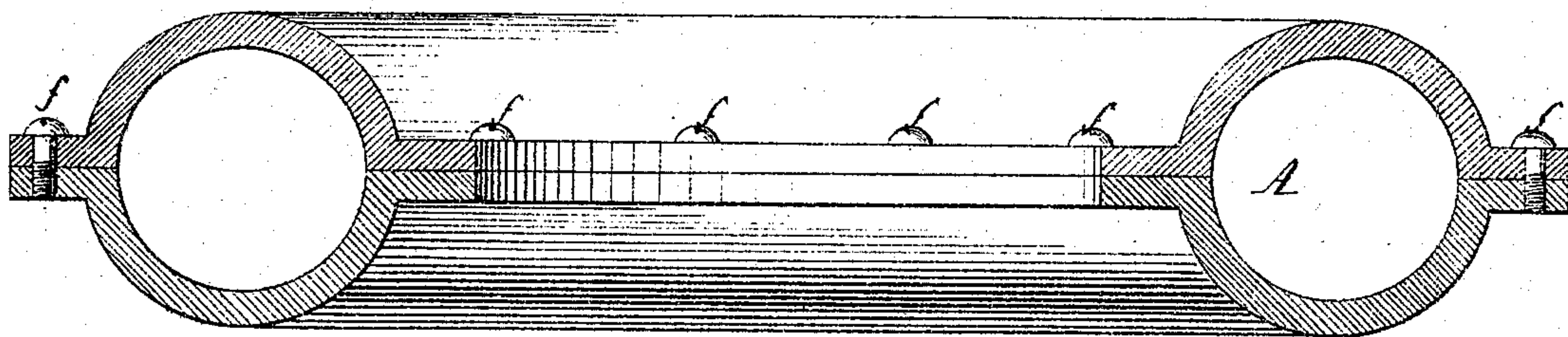
Fig: 1.  
117628



Witnesses.  
Ernest R. Huber.  
C. W. H. H. H.

Inventor.  
H. B. Hebert  
per  
Van Santvoord & Hens  
Attys

Fig: 2.





# UNITED STATES PATENT OFFICE.

HENRY B. HEBERT, OF NEW YORK, N. Y.

## IMPROVEMENT IN FLUID-METERS.

Specification forming part of Letters Patent No. 117,628, dated August 1, 1871.

*To all whom it may concern:*

Be it known that I, HENRY B. HEBERT, of the city, county, and State of New York, have invented a new and Improved Fluid-Meter; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a sectional plan of this invention. Fig. 2 is a transverse section of the same.

Similar letters indicate corresponding parts.

This invention relates to a fluid-meter composed of an annular cylinder, in which works a series of pistons, and which is provided with an inlet and with a discharge-opening, and also with a tappet projecting into the hollow space of the cylinder, and connected to an arm or pawl which acts on the registering mechanism in such a manner that, by the action of the fluid passing through the cylinder when both its inlet and discharge are open, the pistons are caused to travel round in said cylinder, and whenever one of the pistons passes the tappet the registering mechanism is actuated and the quantity of fluid passing through the meter is measured. The pistons are connected by a wire so that the same are retained at uniform distances apart, and said pistons are constructed with double concaves so that their sharp edges are pressed up by the action of the fluid against the inner circumference of the cylinder, and leakage is prevented. In the circumference of each piston are one or more annular grooves to form a liquid packing.

In the drawing, A designates an annular cylinder, the transverse section of which is seen in Fig. 2. This cylinder is provided with an inlet, *a*, and with a discharge, *b*, and in its interior is fitted a series of pistons or buckets, B, so that when water is admitted through the inlet *a* and allowed to pass out through the discharge *b* said pistons are caused to travel round in the cylinder. In order to keep the pistons B at uniform distances apart and to compel them to move together they are connected by a wire, *c*, and said pistons are, by preference, constructed with double concaves *d*, as shown in Fig. 1, so that the pressure of the liquid will keep the thin edges thereof in close contact with the inner surface of

the cylinder and leakage is prevented. Furthermore, said pistons are provided with annular recesses *e*, which, when the meter is in operation, fill with liquid and form a liquid packing, and by these means the pistons are rendered tight with the least possible friction. The cylinder A is constructed of two parts which are united by screws *f*, and in practice each half of the cylinder will be provided with flanges on the inside and outside to receive said screws, as shown in the drawing. In the interior of the cylinder I apply a tappet, *g*, which swings on a pivot, *h*, (see Fig. 1,) and from which extends a rod, *i*, through the inner side of the cylinder, which may be provided with a suitable stuffing-box through which said rod passes so as to prevent the liquid or fluid from leaking past said rod. The tappet is so constructed that its face extends down into the annular space of the cylinder so that the pistons in passing the same will raise it up, and that by the motion thus imparted to the rod *i* the registering apparatus can be actuated. For this purpose I propose to attach to the inner end of said rod a pawl to engage with a ratchet-wheel, the motion of which is transmitted by suitable cog-wheels to the registering apparatus. After a piston has passed the tappet the latter is returned to its original position by a spring or by its own inherent gravity. The loose end of the tappet also acts as a stop to prevent the pistons moving in the wrong direction.

By these means a fluid-meter is obtained which is very simple in its construction, and which will give a correct account of all the liquid or fluid passing through the cylinder, since no particle of fluid can pass without moving the pistons.

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

The fluid-meter, consisting of the annular cylinder A, the tappet *g*, and the double concave pistons B, hung upon the circular wire C, and formed with sharpened edges and with exterior grooves *e*, as herein set forth and shown, for the purpose specified.

This specification signed by me this 5th day of May, 1871.

HENRY B. HEBERT.

Witnesses:

W. HAUFF,  
E. BILHUBER.