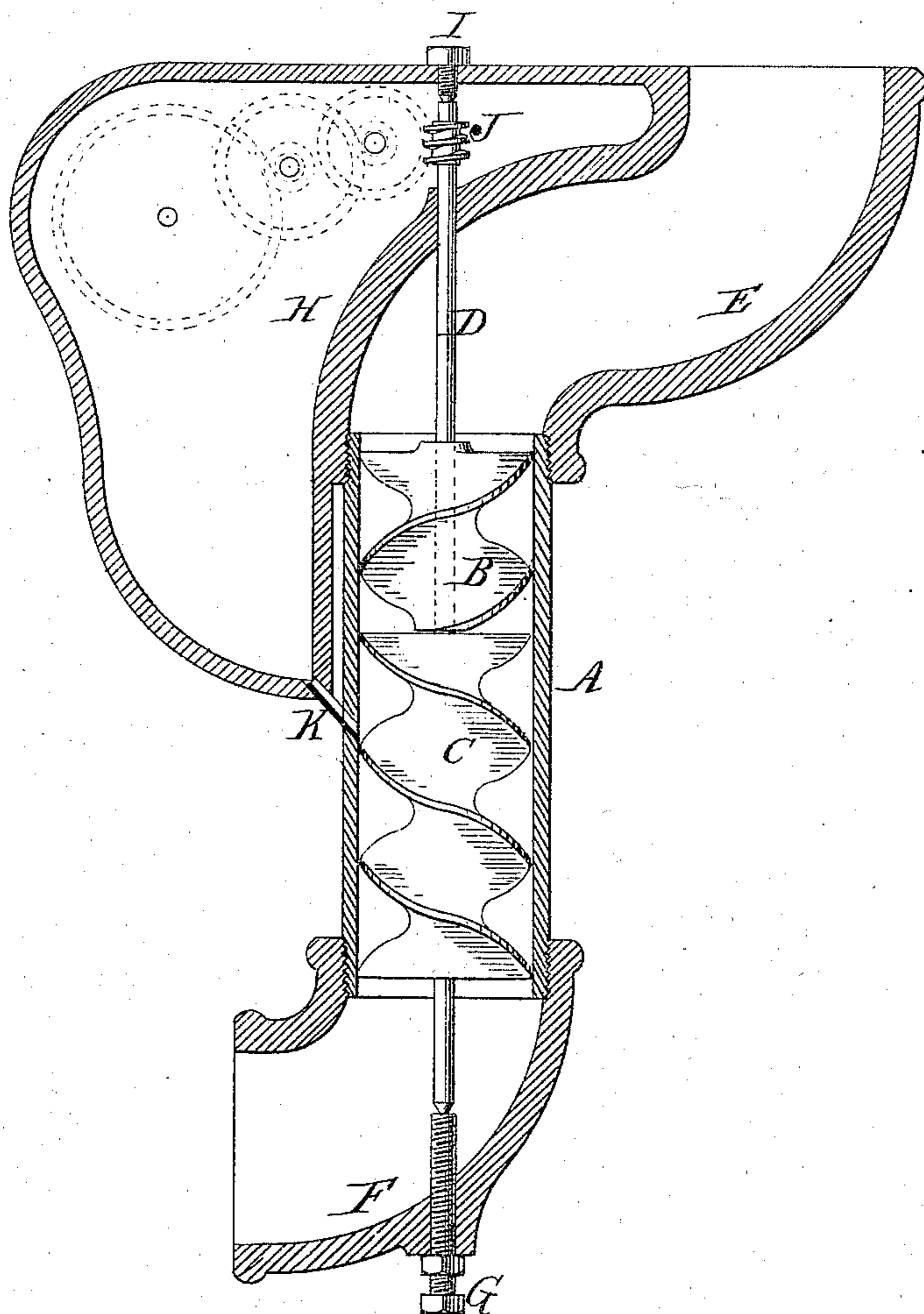


J. O. JOHNSON.

Fluid Meters.

No. 138,657.

Patented May 6, 1873.



Witnesses.  
C. Hakters.  
Ernst Bilhuber.

Inventor.  
John O. Johnson  
By  
Wm. Santwood & Hark  
Attors

# UNITED STATES PATENT OFFICE.

JOHN O. JOHNSON, OF NEW YORK, N. Y.

## IMPROVEMENT IN FLUID-METERS.

Specification forming part of Letters Patent No. 138,657, dated May 6, 1873; application filed March 20, 1873.

*To all whom it may concern:*

Be it known that I, JOHN O. JOHNSON, 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, which drawing represents a vertical section of my meter.

This invention consists in the combination of two auger-shaped screws—one of which is stationary while the other revolves in the interior of a pipe, through which the fluid to be measured flows, the revolving screw being provided with a shaft which connects with a registering mechanism inclosed in a case that is cast with or otherwise firmly secured to the fluid-supply pipe in such a manner that the fluid on striking the stationary screw is set in a whirling motion, whereby the movable screw is compelled to revolve, and the quantity of fluid passing through the meter is correctly indicated by the registering mechanism. The arbor of the revolving screw extends freely through a hole in the supply-pipe, and any fluid which leaks past said arbor into the chamber of the registering mechanism, drops back upon the revolving screw through a small channel leading from the lowest point of the registering-chamber into the pipe inclosing the screw.

In the drawing, the letter A designates a pipe, which is bored out perfectly true, and which may be lined with glass or other non-corrosive material according to the nature of the fluid to be measured. In this pipe are fitted two auger-shaped screws, B C, the screw B being stationary and bored out to admit the arbor D, on which is mounted the screw C. The pipe A screws at one end into an elbow, E, which connects with the feed-pipe, and the other end of said pipe screws in an elbow, F, which connects with the delivery-pipe. Through this last-named elbow extends a

screw, G, the inner end of which forms the step for the arbor D, while the elbow E is provided with a hole through which said arbor passes freely, no stuffing-box being used so as to reduce friction. To the elbow E is firmly secured a case, H, which incloses the registering mechanism, and through this case extends a screw, I, with a pointed end that catches in the center of the arbor D, and by these means said arbor, together with its screw C, are enabled to revolve with the least possible friction. On the arbor D is secured a worm, J, which transmits the motion of the screw C to the registering mechanism. From the lowest point of the case H extends a small channel, K, into the pipe A, so that any fluid which may find its way into the registering-chamber has a chance to flow back upon the screw C. The fluid which is admitted through the supply-pipe first strikes the stationary screw B, which imparts to the same a whirling motion, and as the fluid strikes the movable screw C it imparts to the same a revolving motion, which, being transmitted to a registering mechanism, serves to indicate the quantity of the fluid that passes through the meter.

I do not broadly claim the employment of movable and stationary auger-shaped screws in connection with a fluid-meter for such are old and well known.

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

The case H for containing the registering mechanism and the worm-wheel of the arbor D connected with the elbow E in combination with each other and with the movable and stationary auger-shaped screws B C, pipe A, screw G, and elbow F, all constructed and arranged as herein shown and described.

This specification signed by me this 13th day of March, 1873.

JOHN O. JOHNSON.

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.