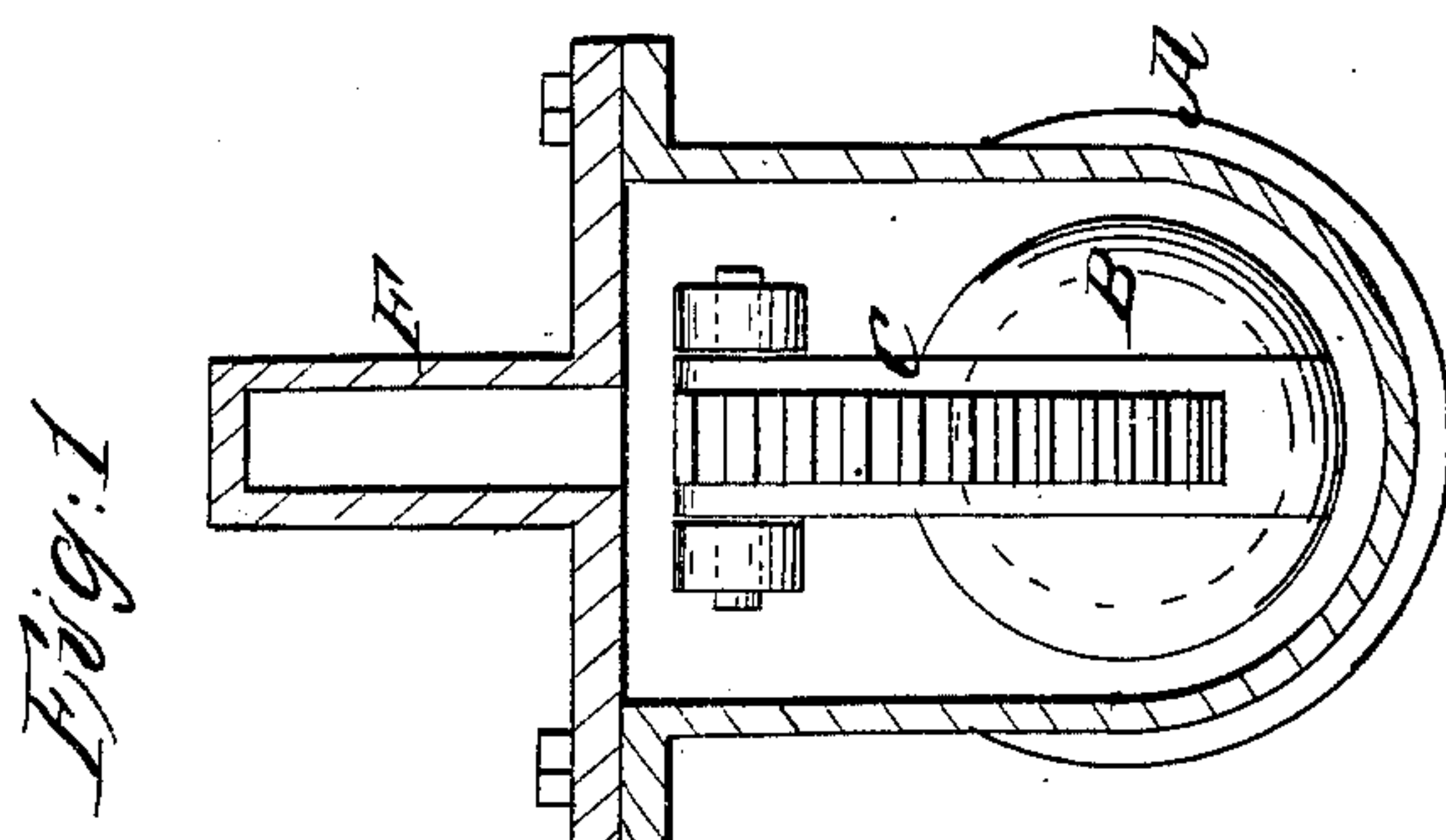
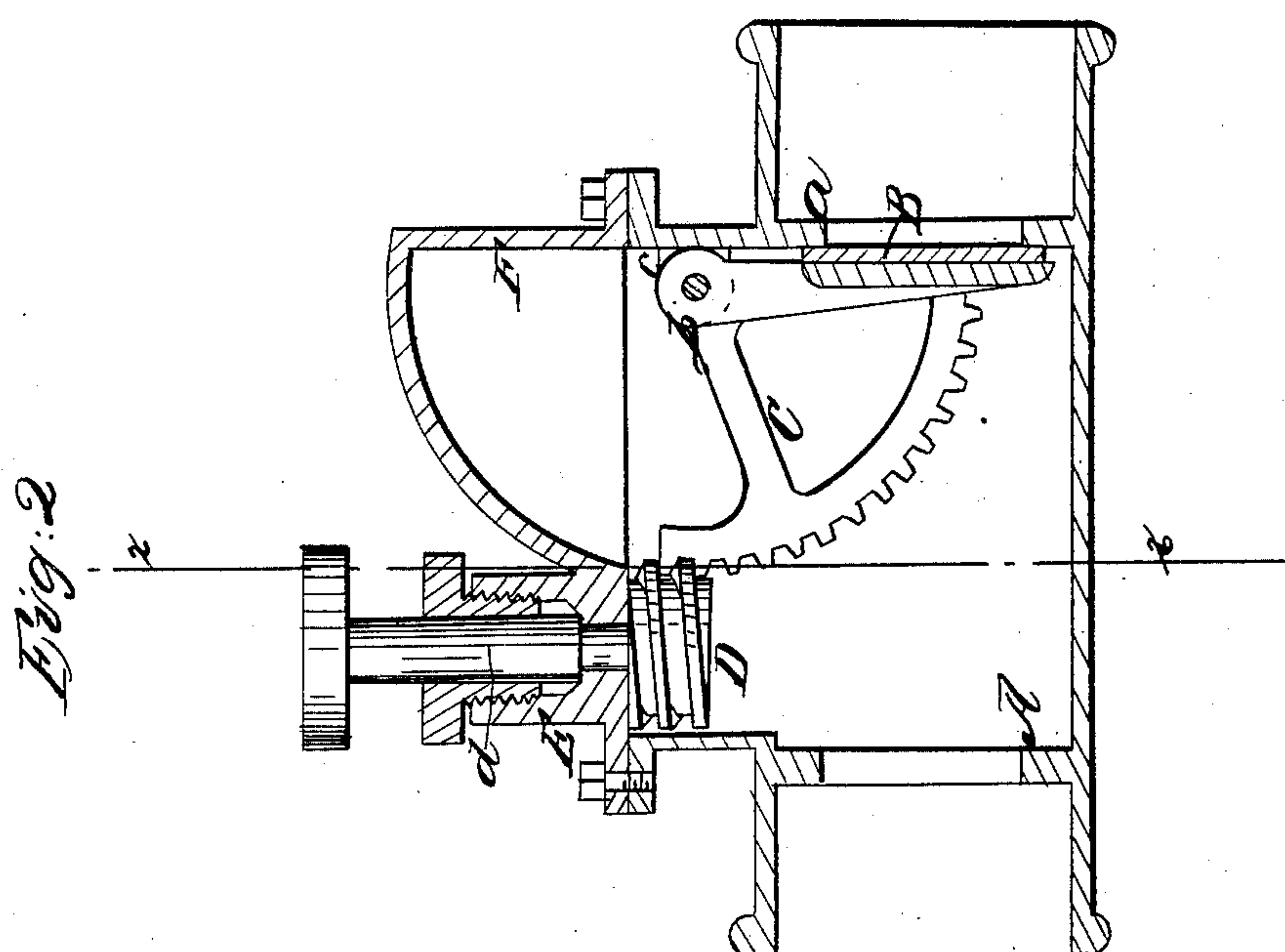


A.R. Ketcham,
Stop Cock,
No 18,912, Patented Dec. 22, 1857.



UNITED STATES PATENT OFFICE.

A. R. KETCHAM, OF BUFFALO, NEW YORK.

HYDRAULIC VALVE.

Specification of Letters Patent No. 18,912, dated December 22, 1857.

To all whom it may concern:

Be it known that I, ALONZO R. KETCHAM, of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in the arrangement and operation of valves to be applied to mains or sluices for regulating the flow of the water therein and also stopping the same when necessary; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which,

Figure 1, is a vertical section of my improvement, taken in the line (x) (x) Fig. 2. Fig. 2, is a longitudinal vertical and central section of the same.

Similar letters of reference indicate corresponding parts in both figures.

My invention consists in providing a chamber in connection with a water pipe or cylinder, for the purpose of affording protection to, and allowing of, a sufficient movement of a geared sector, the sector being connected with a valve, and operated by a worm or screw—the several parts being arranged to operate in relation to each other, as hereinafter more fully set forth.

To enable others skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, represents a tube or cylinder; and (a) is the valve seat within it.

B, is an ordinary flap, which is attached to sector C, pivoted at its angle (b) to a projection (c), within the tube A. The sector C, is geared or toothed, and a screw D works therein. The screw D is attached to the lower end of a rod (d) which passes through a stuffing-box E, on the tube or cylinder. A box F is also placed on the tube to allow the sector C room to work back so that the flap or valve B may be moved back sufficiently far from its seat to allow an unobstructed passage for the water through the tube or cylinder A.

It will be seen that by turning the screw D, the flap or valve B may be opened and closed, and also secured at any intermediate point between a fully opened and closed state. And it will also be seen that the flap or valve will be retained at any desired point, for the pressure of the water against the flap or valve cannot actuate the sector and screw; the flap or valve, therefore, will be retained at any desired point without any extraneous device being employed for the purpose. Hence the flap or valve will not be casually moved; and the serious damage which is now often caused by the closing of the slide valves now employed is avoided. The usual valves, in closing casually, stop the flow of the water abruptly, and the pipes are ruptured thereby.

In distributing water in pipes in the ground for the supply of a city, it frequently becomes necessary to stop the flow of water entirely in a line of pipes and at other times to allow a full flow, and at other times to allow but a given quantity to pass. The application and use of my improvement as herein described will secure all these objects, and add very much, to the convenience, effectiveness and security in the distribution and management of water, when conducted in pipes, sluices &c. for the supply of cities and towns.

I do not claim the combination of the screw D, gland sector C, and valve B, when broadly considered but—

What I do claim and desire to secure by Letters Patent is—

The arrangement of the chamber F on the pipe or cylinder A, for the purpose of protecting the sector and valve, and to allow of a proper movement thereof, the same being operated by the screw D, (or equivalent) substantially as herein described.

A. R. KETCHAM.

Witnesses:

ALBERT H. TRACY,
MICHAEL DANNER, Jr.