(No Model.)

R. WALSH & S. J. MARTIN.

CUT-OFF OR WASTE VALVE.

No. 335,404. Patented Feb. 2, 1886.

Fig. 1

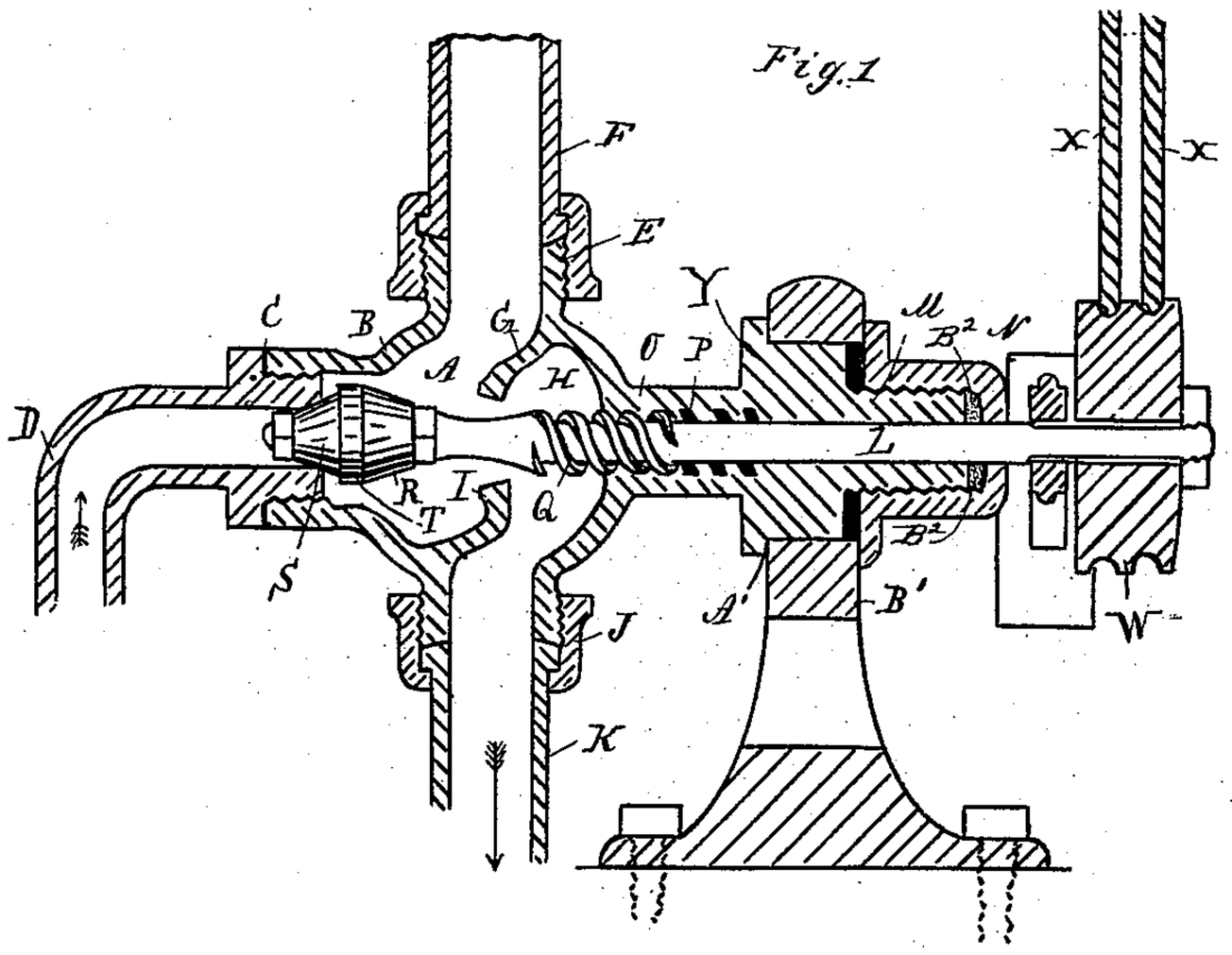
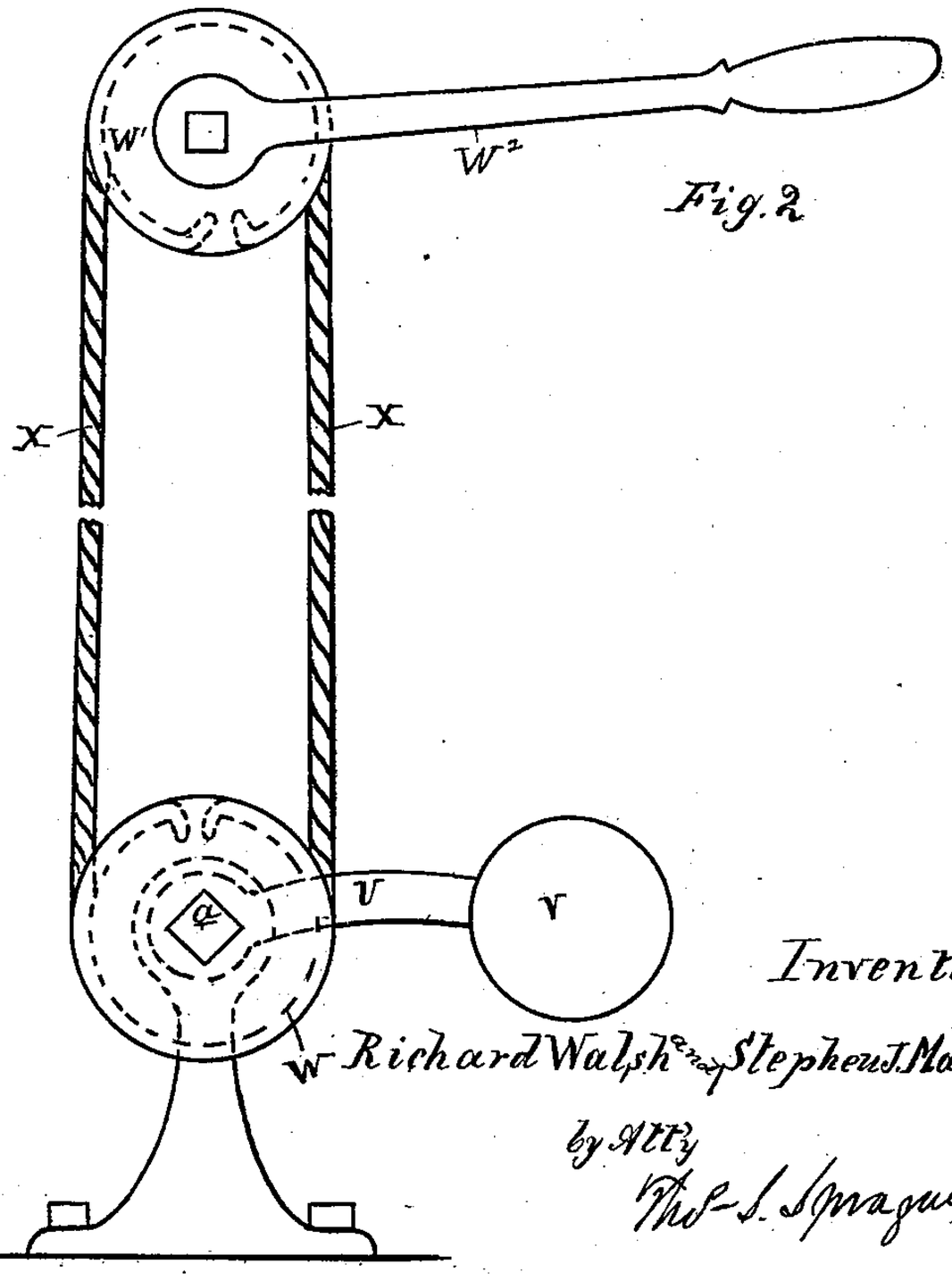


Fig. 2



Attest:
John Schuman.
N. J. Sprague

Inventors:
Richard Walsh and Stephen J. Martin
by Atty
Thos. J. Sprague

UNITED STATES PATENT OFFICE.

RICHARD WALSH AND STEPHEN J. MARTIN, OF DETROIT, MICHIGAN.

CUT-OFF OR WASTE VALVE.

SPECIFICATION forming part of Letters Patent No. 335,404, dated February 2, 1886.

Application filed June 25, 1885. Serial No. 169,714. (No model.)

To all whom it may concern:

Be it known that we, RICHARD WALSH and STEPHEN J. MARTIN, of Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Cut-Off or Waste Valves; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in cut-off or waste-valves for water-pipes.

In systems of water-supply where houses are furnished through service-pipes leading from mains in the street it is necessary at times to provide means for cutting off the flow of water through the service-pipe to the house-supply pipe in order to prevent water freezing in such pipes, and when this is done means are also necessary to allow the water remaining in such house-supply pipes to escape, and thereby avoid all danger of bursting the pipes by freezing the water therein.

The object of this invention is to so construct the connections between the inlet-supply pipe from the street-service, the house-supply, and the waste-pipe that the movement of the valve in one direction cuts off the inflow of water, at the same time opening the way leading from the house-supply pipe to the waste-pipe, while a reverse motion of such valve discloses the opening leading from the service-supply pipe to the house-supply pipe and closes the opening leading to the waste-pipe.

The invention consists in the peculiar construction of the parts and their combination and operation, as more fully hereinafter described.

Figure 1 is a vertical longitudinal central section through such connection, showing the inlet and outlet ports and the valve which closes or discloses them. Fig. 2 is an end view of an elevation of that end of the device to which the controlling-weight is attached.

In the accompanying drawings, A represents a chamber inclosed within a case, B, which is provided with any suitable coupling, C, by means of which it may be attached to the inlet-service-pipe D. The case of this chamber is also provided with any suitable coupling, E, by which it is attached to the house-supply pipe F.

G is a diaphragm, extending diagonally across the chamber A, whereby said chamber is subdivided so as to form another chamber, H, and communication is had between the two chambers A and H through the passage I. This chamber H is also provided with a suitable coupling, J, by means of which it is attached to the waste or outlet pipe K.

L is a valve-stem extending through the projecting portion M of the case, and it is provided with the cap N and suitable packing to prevent any leakage at this point. The interior of the neck O of the case has formed therein a female thread, P, designed to engage with a male thread, Q, upon the valve-stem L, which is round. The inner end of this valve-stem carries two conically-shaped rubber valves, R and S, each projecting in an opposite direction from a common metallic center ring, T. The lead of the threads is such that a half-revolution of the stem L will force the valve S to seat itself against the pressure of water in the supply-service pipe in a seat constructed substantially as shown in the drawings. The opposite half-revolution of the valve-stem will disclose the end of the service-supply pipe and let a free passage of water therefrom through the chamber A into the house-supply pipe F, and close the valve R to its seat around the opening I, so that communication with the waste or outlet pipe is cut off. The projecting end *a* of the valve-stem has secured to it a crank arm or lever, U, which has secured upon its free end a weight, V, and these parts are so arranged that when the lever projects horizontally in one direction it closes the valve in the same direction, and the weight holds the valve there until its position is changed, which is done by carrying the weight and arm over to the opposite horizontal direction, when the valve is closed in a like direction and held in that position.

As it is usual to lay the inlet-service pipes at some distance below the surface of the ground and bring them into the cellar or basement of a dwelling, it is preferable that the device be provided with some kind of attachments by means of which the position of the lever, and consequently the position of the

valve, may be changed at will from the floor above in order to save the necessity of going into the basement for that purpose. In order to do this, we secure upon the valve-stem a pulley, W, and a similar one, W′, suitably journaled above the floor upon which it is designed to operate the device, and around these pulleys passes an endless cable, so that when the pulley above is turned in one direction it communicates the motion to the valve-stem, and reverses the same upon moving the same pulley in the oppsite direction.

The extension end of the shell B has formed upon it a rectangular body, Y, which is engaged in a similarly-shaped recess, A′, in the standard B′, which latter is shown as being secured to the floor by suitable bolts. The object of this method of securing the device in the standard is that the position of the device may be changed from a vertical to a horizontal one, as it sometimes may become necessary by the position of the pipes to be served. A screw-cap, N, engages the threaded end M of the extension of the shell B, and serves to force the rectangular part Y of the shell against the packing B^2 to make a tight joint.

We are aware of the Patents Nos. 261,224 and 303,554, and make no claim to the constructions shown therein as forming part of our invention.

What we claim as our invention is—

1. In a cut-off or waste valve constructed substantially as described, the combination, with the standard B′, having rectangular recess A′, of the shell B, having prolongation upon which is formed a rectangular body engaging said recess, and the cap N, engaging the threaded portion M of the shell and securing the packing in place, as set forth.

2. The combination of the shell B, having ports or pipe, connections D, F, and K, having a chamber subdivided to form a valve-seat at the passage I, and having a valve-seat at the junction of the inlet-pipe with such chamber, combined with a double valve, as R S, having a stem provided with a quick-screw of such pitch that a half-revolution of the stem will throw the valve the distance between its two seats, a seat for said screw, and a weighted lever, as U V, secured directly to the valve-stem, all constructed and adapted to operate as set forth.

RICHARD WALSH.
STEPHEN J. MARTIN.

Witnesses:
H. S. SPRAGUE,
CHARLES J. HUNT.