

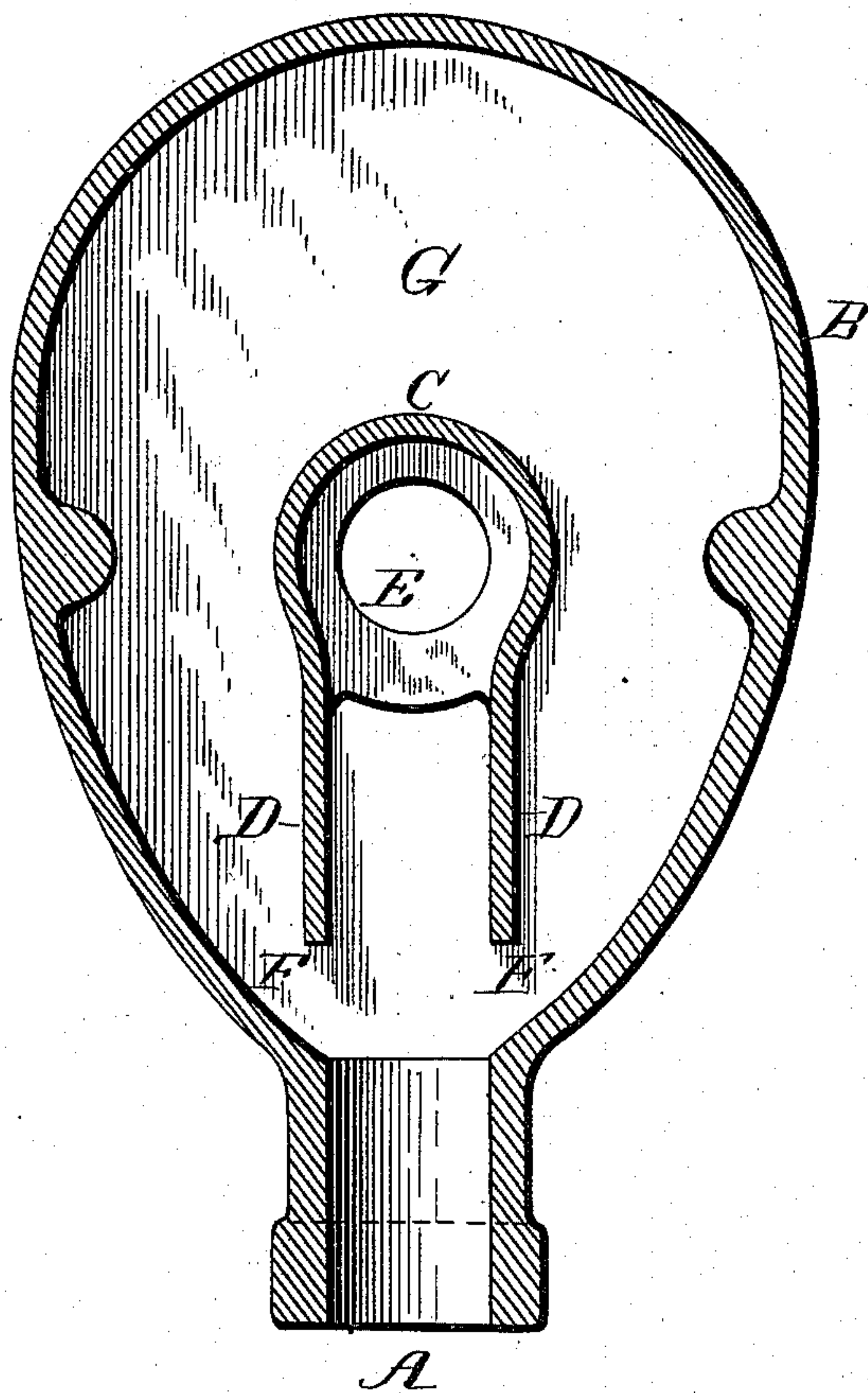
(No Model.)

J. F. REED.  
AIR CHAMBER.

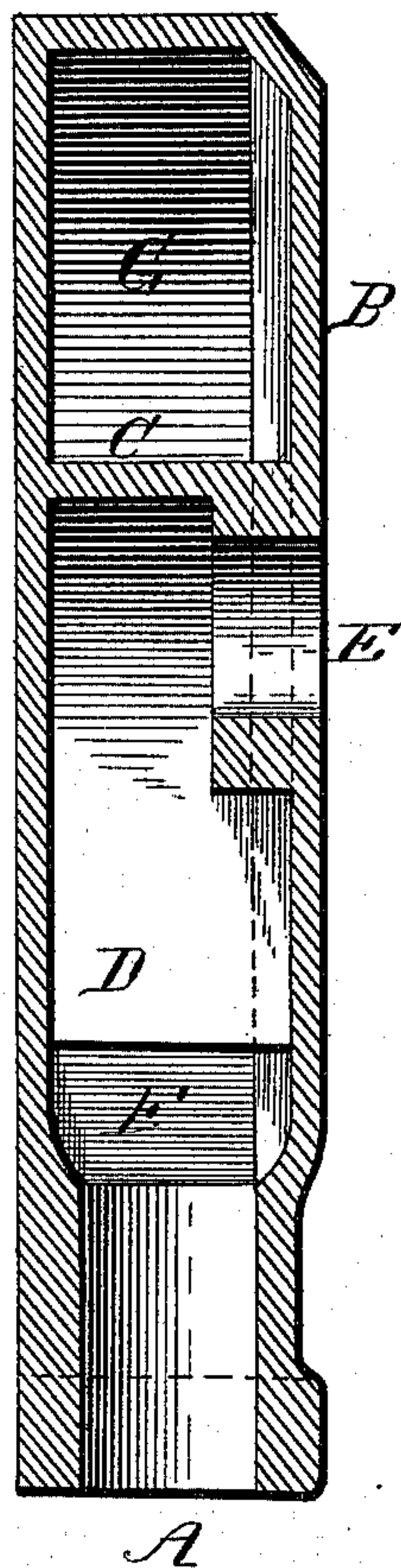
No. 571,243.

Patented Nov. 10, 1896.

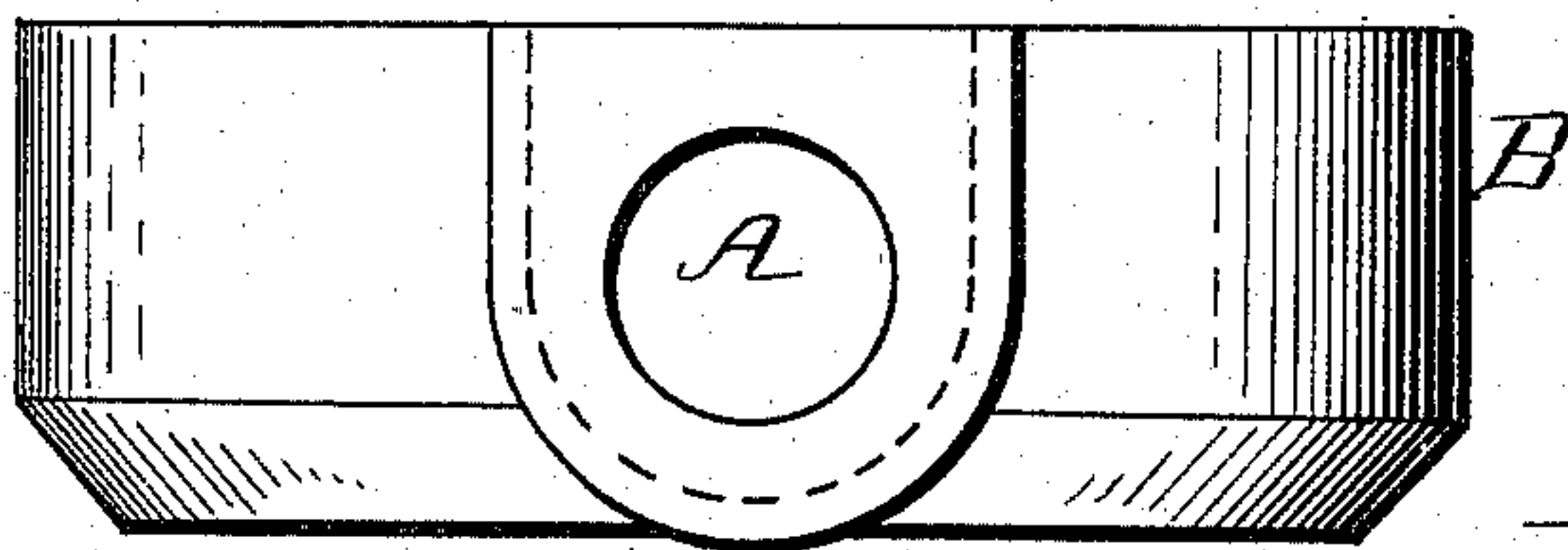
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses:

J. B. M. Giv.  
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Atty's



# UNITED STATES PATENT OFFICE.

JAMES F. REED, OF MILLVALE, PENNSYLVANIA.

## AIR-CHAMBER.

SPECIFICATION forming part of Letters Patent No. 571,243, dated November 10, 1896.

Application filed January 23, 1896. Serial No. 576,568. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES F. REED, a citizen of the United States, residing at Millvale Borough, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Air-Chambers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains 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.

My invention has relation to air-chambers for water-pipes, and has for its object the provision of novel means for preventing the objectionable jarring and noise which is caused in water-supply pipes and fixtures of the ordinary kind when the flow of water is suddenly cut off by closing a cock or valve.

My invention consists in the provision of an air-chamber adapted to be applied to a water-pipe and so constructed and arranged that a body of air will be always retained in the chamber, so as to act as a cushion and prevent any jarring or noise when the flow of water is turned off at the discharge end of the pipe.

My invention further consists in the provision of an air-chamber of novel construction wherein a body of air is constantly maintained and in which the water entering the chamber will impinge against an interior wall or partition instead of being projected directly into the air within the chamber, thus avoiding the gradual discharge of air and impairment of the functions of the chamber, which inevitably results when there is no such provision.

Referring to the accompanying drawings, Figure 1 is a vertical transverse sectional view of an air-chamber constructed according to my invention. Fig. 2 is a vertical sectional view taken at right angles to the view shown in Fig. 1, and Fig. 3 is a plan view looking at the lower end of the chamber.

A designates the inlet-opening, and B the body of the chamber, which is preferably of the form shown in the drawings. A partition composed of a semicircular top or dome C and depending sides D D is cast integral with the body of the air-chamber, and the exit-opening is at E, being within and concentric with dome C.

The depending sides D D of the partition

extend toward the inlet-opening of the chamber, and the space between them forms a continuation of the water-passage, but below the ends of the depending sides are left side passages F F, which afford entrance for water into the air-chamber proper. The water entering the opening A passes up between the depending sides D D and impinges forcibly against the dome C, while it also rises through the side passages F F, though without noticeable ebullition, and compresses the air in the space G above and around the partition.

In an air-chamber constructed as above described a body of air will always be maintained in the space G, being out of contact with the directly-flowing body of water between the inlet and exit openings and remains undisturbed by the sudden rush of water that ensues when the cocks or faucets connected with the exit-opening are turned on, while at the same time the air will act as a cushion to receive the shock which ensues when the water is turned off and will effectually prevent the disagreeable noises and deleterious jarring common in ordinary water-supply fixtures.

Having described my invention, I claim—

1. An air-chamber for water-supply pipes consisting of an exterior shell, having water inlet and outlet openings, the outlet-opening being at right angles to the inlet-opening and an interior wall or partition extending from the front to the back of the exterior shell, said partition being concentric with the outlet-opening and having depending sides extending to near the inlet-opening, substantially as described.

2. An air-chamber for water-supply pipes consisting of an exterior shell having flattened front and back walls, water inlet and outlet openings, the outlet-opening being at right angles to the inlet-opening, and an interior wall or partition extending from the front to the back of the exterior shell said partition being circular in cross-section and concentric with the outlet-opening and having straight depending sides extending to near the inlet-opening substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES F. REED.

Witnesses:

WM. K. GRAY,

FRANCIS J. TORRANCE.