

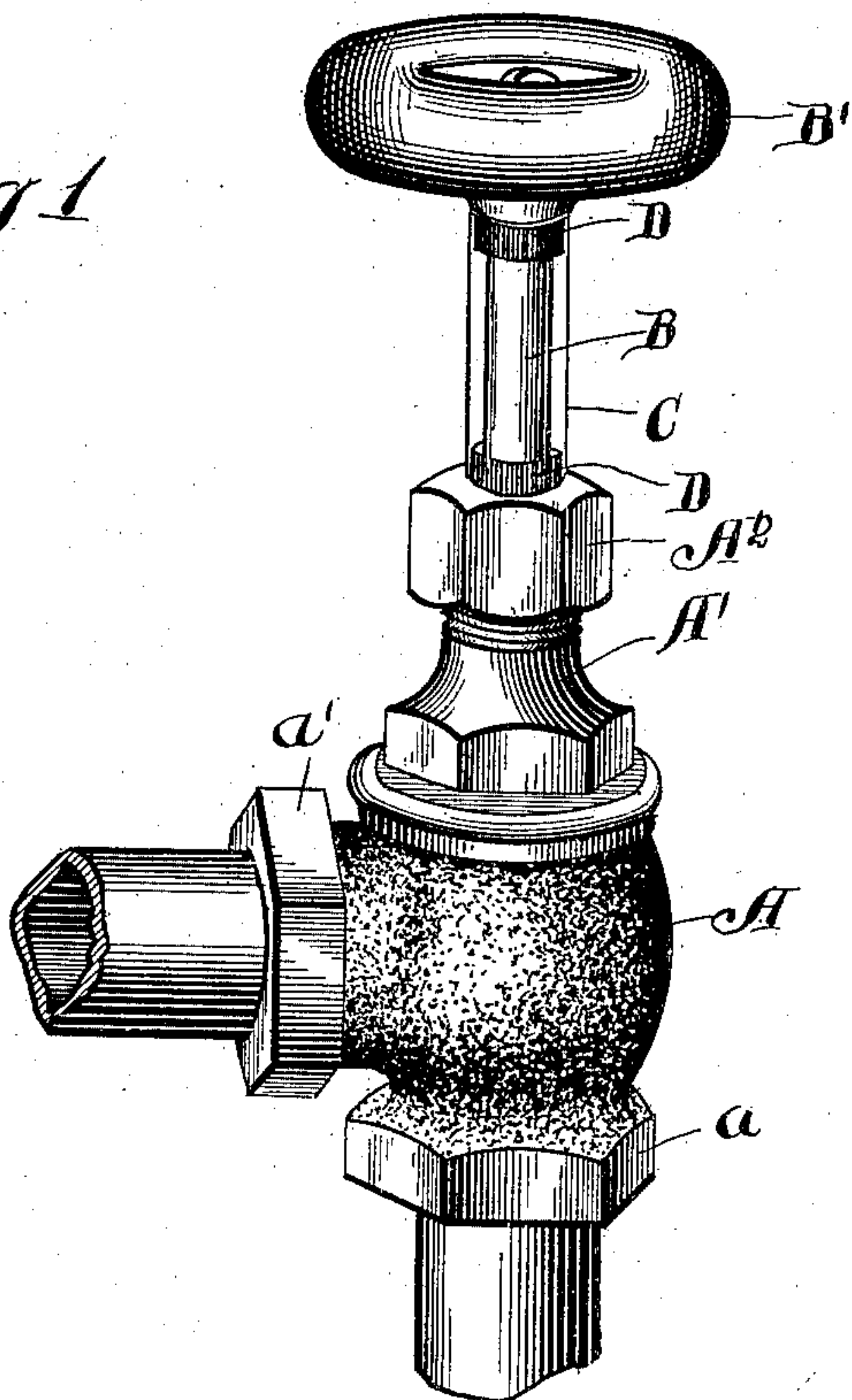
No. 741,363.

PATENTED OCT. 13, 1903.

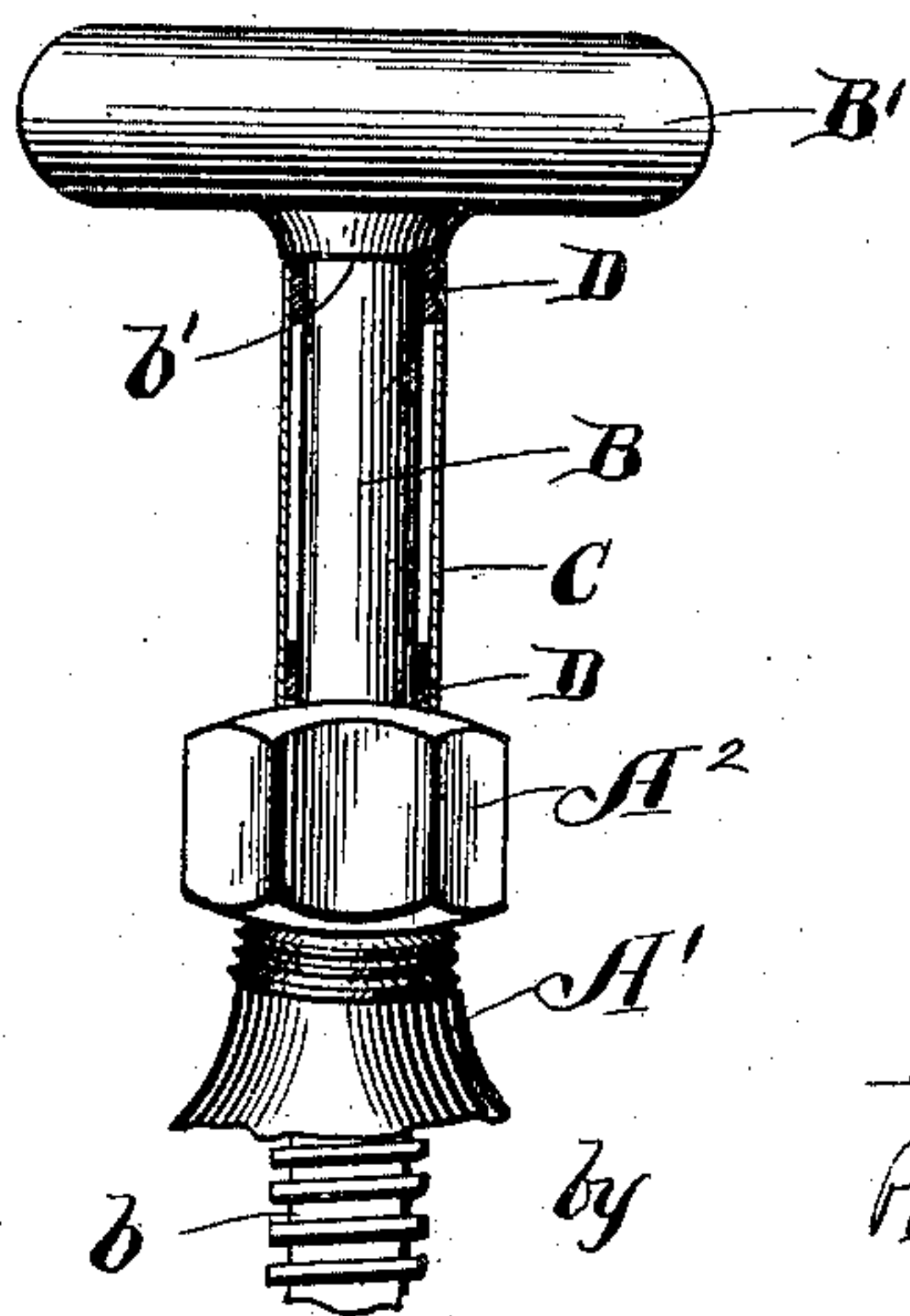
E. F. OSBORNE.  
INDICATOR FOR VALVES.  
APPLICATION FILED DEC. 6, 1899.

NO MODEL.

*Fig 1*



*Fig 2*



*Witnesses:-*

*Carl H. Crawford*  
*William L. Hall,*

*Inventor:-*

*Eugene F. Osborne*  
*by Poole & Brown*  
*his Attorneys*



# UNITED STATES PATENT OFFICE.

EUGENE F. OSBORNE, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO SAID EUGENE F. OSBORNE AND J. MOTTE MARTIN, TRUSTEES, OF CHICAGO, ILLINOIS.

## INDICATOR FOR VALVES.

SPECIFICATION forming part of Letters Patent No. 741,363, dated October 13, 1903.

Application filed December 6, 1899. Serial No. 739,330. (No model.)

*To all whom it may concern:*

Be it known that I, EUGENE F. OSBORNE, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Indicators for Valves; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to a novel device adapted to be attached to the movable part of a valve for the purpose of indicating at any given time whether the valve is open or closed.

The invention is herein shown as applied to a valve of that class embracing as a part of its construction an endwise-movable valve-stem, and a device embodying the invention embraces generally, in connection with a valve-stem or other part which must be moved to open or close the valve, a part which is made of a fragile material and which is so located with respect to said movable part that movement thereof to change the position of the valve-closure with respect to the seat will disrupt said fragile part, so that the presence of said part will determine whether or not the valve is open or closed.

The invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a side elevation of a globe-valve, showing my invention applied thereto. Fig. 2 is a view in side elevation of the valve-stem, showing in sectional view the device comprising the invention.

As shown in said drawings, A designates a body or casing of the valve, having branches *a a'* for attachment of pipes thereto, and *A'* the detachable head thereof.

B designates the valve-stem, passing through said neck and provided with screw-threads which engage screw-threads upon the interior of the head by which the stem is moved away from and toward its seat.

B' designates a hand-wheel for turning the stem inwardly and outwardly.

*A*<sup>2</sup> designates a nut which has screw-threaded engagement with the outer end of the head and forms part of a stuffing-box between the valve-stem and casing.

C designates a tube which surrounds a valve-stem exterior to the casing and is interposed between the nut *A*<sup>2</sup> and an annular shoulder *b'*, adjacent to or formed on the hand-wheel B'. Said tube is made of a fragile material, so as to be easily disrupted when strain is brought thereon. A light glass tube fully serves the purpose.

In the type of valve herein shown the tube is adapted to be maintained intact when the valve is open, but will be broken by the compressive strain brought thereon when the valve-stem is turned inwardly to seat the valve-closure. Said tube will desirably be given a color distinctive from that of the parts adjacent thereto, whereby it may be readily seen by the inspector of the system in which the valve is included, so that he may readily determine whether or not the valve is open or closed, and therefore require his attention. The color given to said tube may obviously be varied to suit the particular location of the valve—as, for instance, if the valve be in a dark place it will be necessary that the color will be a light one in order that it may be readily seen.

As a further improvement the tube is shown as made of greater internal diameter than the diameter of said stem, and between said stem and tube, at the upper and lower ends of the tube, are interposed cushioning-rings D D, of rubber or of like yielding material. The purpose of said cushioning-rings is to prevent the tube from being accidentally broken by jars to which the system of pipes or structure within which the valve is included may be subjected, it being evident that said rings between the tube and the stem serve to absorb the vibration of said spindle and prevent the same from being transmitted with their full force to the said tube. When the tube is set in place on the spindle and the valve is in its normally open position, the shoulder *b'* will desirably not bear directly against the tube, but a space will be



left between the same to prevent the vibration of the valve-spindle or hand-wheel from being transmitted directly to the tube with result of premature disruption of the same.

5 I have herein shown my invention as applied to but one form of valve and wherein the valve is open when in its normal position; but it will be understood that the form thereof may be changed to correspond with the  
10 different types of valves with which it may be used and the different requirements of different types of valves.

In the application of my invention to the stem of a rotative valve-plug which has no  
15 longitudinal movement the device will be so arranged as to be disrupted by the torsional strain brought thereon in the rotation of the valve-stem.

I claim as my invention—

20 1. The combination with the movable stem of a valve, of a fragile body interposed between a shoulder on the stem and a shoulder on the valve-casing and adapted to be disrupted when the stem is moved relatively to  
25 the casing.

2. The combination with the movable stem of a valve, of a fragile body engaging said stem and adapted to be disrupted when the stem is moved to change the position of the  
30 valve-closure with respect to its seat, and a yielding cushion interposed between said body and the valve-stem.

3. In a valve, the combination with the end-  
35 wise-movable valve-spindle, of a tube surrounding the same and engaging parts on the

stem and casing whereby it will be disrupted upon movement of the stem to change the position of the closure with respect to its seat.

4. In a valve, the combination with the end-  
40 wise-movable valve-stem, of the tube made of fragile material surrounding said stem and interposed between a shoulder on the stem and a shoulder on the valve-casing.

5. In a valve the combination with the end-  
45 wise-movable valve-stem, of a tube made of fragile material surrounding said stem and interposed between a shoulder on the stem and a shoulder on the valve-casing, and a cushioning-ring surrounding said stem between the same and said tube.  
50

6. In a valve the combination with the end-  
55 wise-movable valve-stem, of a tube made of fragile material, surrounding said stem and interposed between a shoulder on the stem and a shoulder on the valve-casing, and a cushioning-ring surrounding said stem between the same and said tube, said shoulders  
60 on the valve-stem and casing located at a greater distance from each other, when the valve is in its normal position than the length of the said tube.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 18th day of November, A. D. 1899.

EUGENE F. OSBORNE.

Witnesses:

C. CLARENCE POOLE,  
C. W. HILLS.