

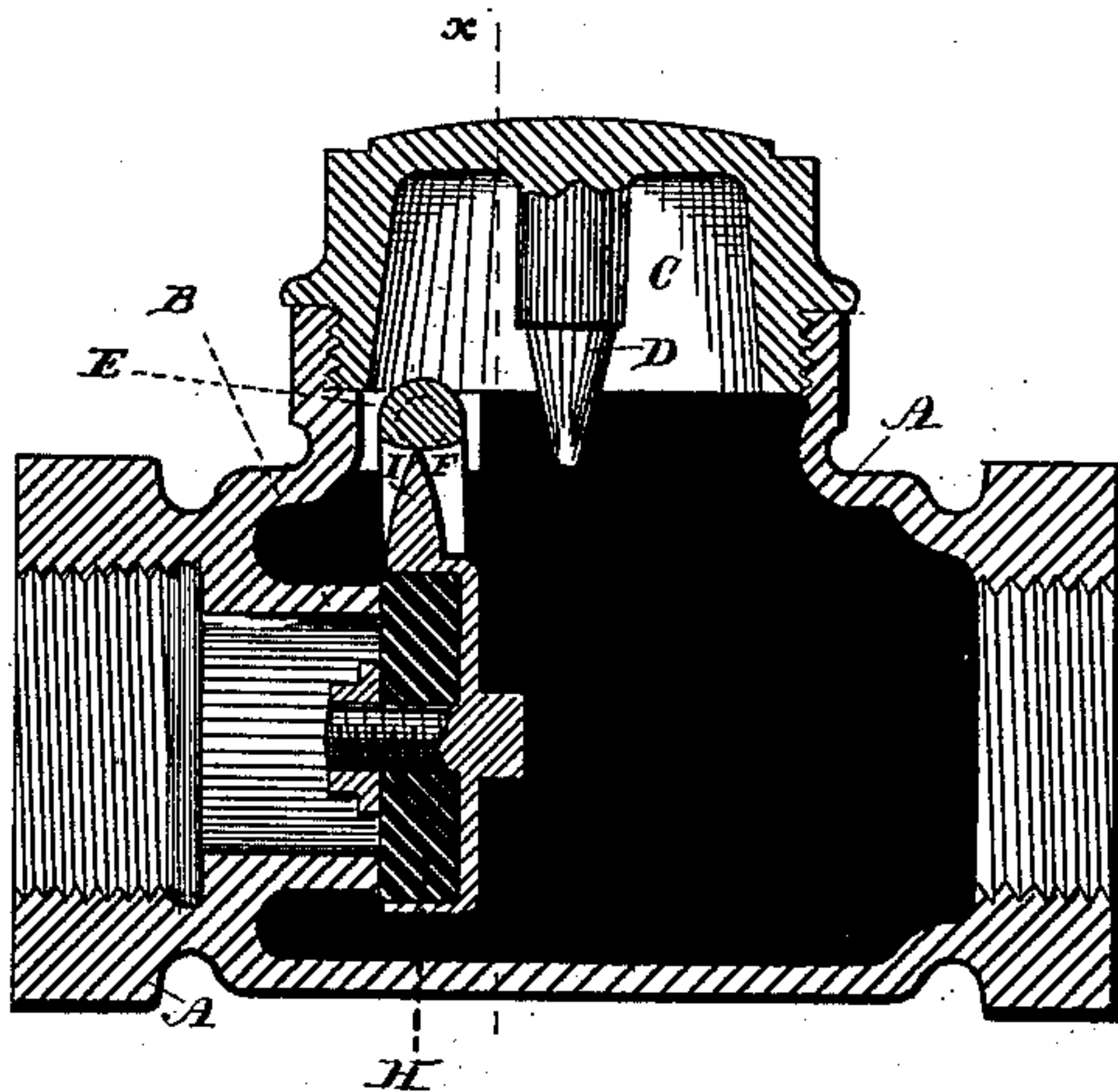
(No Model.)

J. P. NEARY.  
VALVE.

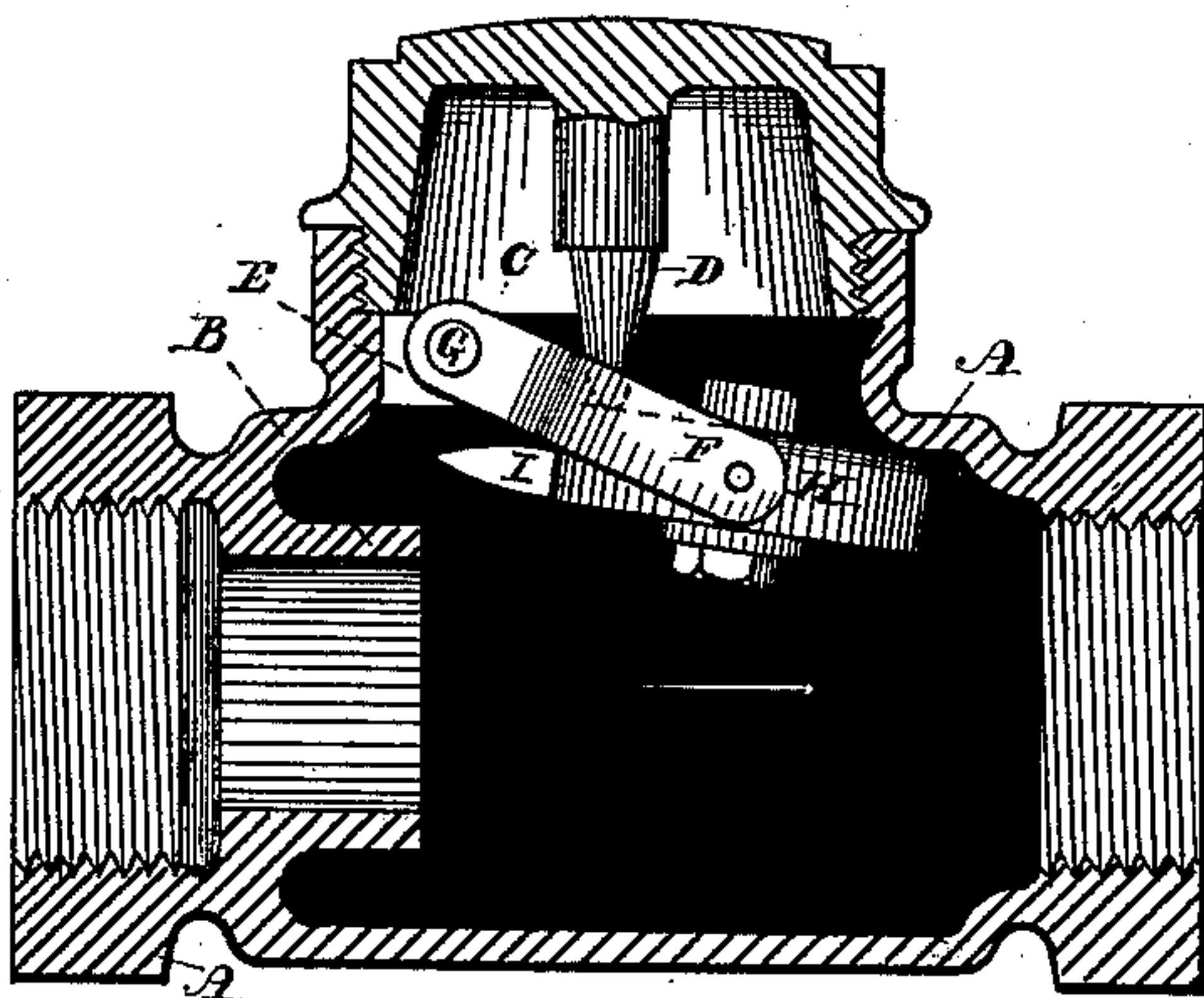
No. 362,651.

Patented May 10, 1887.

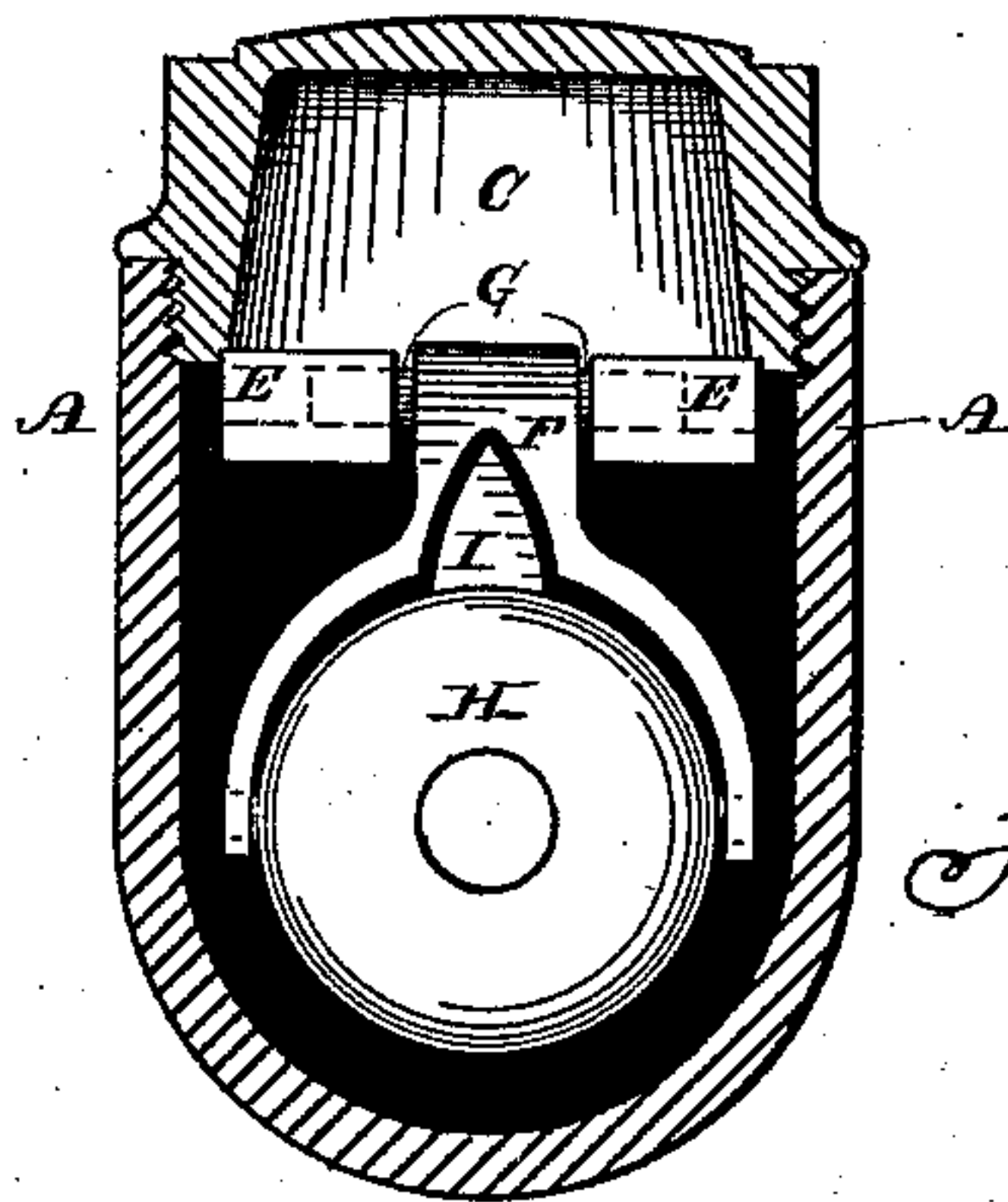
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses*  
*S. Williamson*  
*E. F. Meeker*

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# UNITED STATES PATENT OFFICE.

JAMES P. NEARY, OF BRIDGEPORT, CONNECTICUT.

## VALVE.

SPECIFICATION forming part of Letters Patent No. 362,651, dated May 10, 1887.

Application filed November 26, 1886. Serial No. 219,879. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES P. NEARY, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Valves; and I do hereby 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.

My invention relates to certain new and useful improvements in valves, but more especially to that class of valves known as "clack" or "swing-check" valves, and has for its object to provide a device of this description which shall be simple in construction and arrangement, and which shall seat automatically and tightly, irrespective of any wear which may occur either to the packing or to the seat; and with these ends in view my invention consists in the details of construction hereinafter set forth, and then recited in the claims.

In order that those skilled in the art to which my invention appertains may fully understand how to make and use my improvement, I will describe the same in detail, referring by letter to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a central longitudinal section of my valve in its closed position; Fig. 2, a similar view of the valve open, but with the moving parts shown in elevation; and Fig. 3, a section at the line  $x x$  of Fig. 1, the valve and yoke being shown in elevation.

Similar letters indicate like parts in all the figures of the drawings.

A is the valve-casing, and B the valve seat, which projects within said casing.

C is the dome-cap, and D is a conical pin which projects downward from the center thereof, for the purpose presently explained.

E are brackets formed upon the wall of the valve-casing above the valve-seat.

F is a yoke, from whose upper extremity trunnions G project upon either side. These trunnions are adapted to have a bearing in the brackets E, whose upper surfaces are hollowed out for their accommodation.

H is the valve. It is pivotally hung between the arms of the yoke and is provided at its top edge with a projection, I, which is prefer-

ably pyramidal or conical in shape. The top of the yoke is cut away, so that the valve and its projections may turn freely on its bearings.

The operation of my invention is as follows: When the valve, by force of a current flowing in the direction of the arrow, Fig. 2, is raised from its seat toward the position shown at Fig. 2, the valve might, were it not for the pin D and conical projection I, become turned into some position relative to its seat, so that upon its return it would strike edgewise upon its seat and so fail to close the water-way, or it might turn entirely over and seat on its back instead of its face. The pin and projection above referred to obviate this as follows: When the yoke swings backward upon its trunnions, the projection I strikes the end of the pin D, and thereby the valve is tilted forward relative to the yoke. As the yoke swings farther backward, the valve continues to tilt still farther forward until the back of the valve rests in contact with the extremity of pin D. At the same time the lower edge of the valve is in contact with the top of the casing. (See Fig. 2.) Upon the return of the valve toward its seat, as the yoke swings down upon its trunnions, the conical projection I, by striking against the top edge of the valve-seat, tilts the valve back upon its bearings in the yoke toward the position shown at Fig. 1, so that it will seat squarely and close the water-way. Thus the tilt of the valve in its bearings in the yoke is limited on the one hand by its engagement with the conical pin, and on the other hand by the engagement of the projection with the top of the valve-seat. By this double pivoting of the yoke and of the valve within the yoke the valve will always seat squarely, irrespective of wear, to the packing or seat. In the drawings, Fig. 1, I have shown a removable packing-ring of the ordinary Jenkins pattern, which engages the valve-seat. The automatic adjustment of my valve permits one of these rings to wear entirely out, when a new ring may be inserted and the valve made thereby as good as new.

In my invention I do not wish to be limited to the precise details of construction herein shown and described, nor to the exact shape or position either of the pin or of the projection from the valve, the gist of my invention



resting in the double pivoting of the valve and yoke and the means for tilting the valve in both directions relative to the yoke.

Having thus described my invention, I claim—

1. In a clack-valve, the combination, with the casing, of a yoke pivoted and adapted to swing therein, a valve pivoted between the arms of the yoke, a deflecting-pin arranged at the top of the casing, and an upward projection from the top of the valve, substantially as set forth.

2. The combination, with the valve-casing and seat, of the pivoted yoke, the valve pivotally hung between the yoke-arms, the upward projection from the top of the said valve, and a stop adapted to engage the said projection and thereby limit the swing of the valve relative to the yoke, substantially as set forth.

3. The combination, with the valve-casing and its inwardly-projecting valve-seat, the yoke pivotally hung in brackets above said

seat, and the pin depending from the dome-cap, of the valve pivoted between the yoke-arms and having an upward projection at its upper edge, said projection being adapted by engagement with the pin to tilt the valve forward relative to the yoke, and by engagement with the top edge of the valve-seat to tilt said valve backward to its normal position, substantially as and for the purpose set forth.

4. The combination, with the casing A, valve-seat B, pivoted yoke F, and valve H, swung between the yoke-arms, of the pin D, depending downward from the dome-cap and adapted upon the backward movement of the valve to turn the latter upon its bearings between the yoke-arms, substantially as set forth.

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

JAMES P. NEARY.

Witnesses:

S. H. HUBBARD,

S. S. WILLIAMSON.