

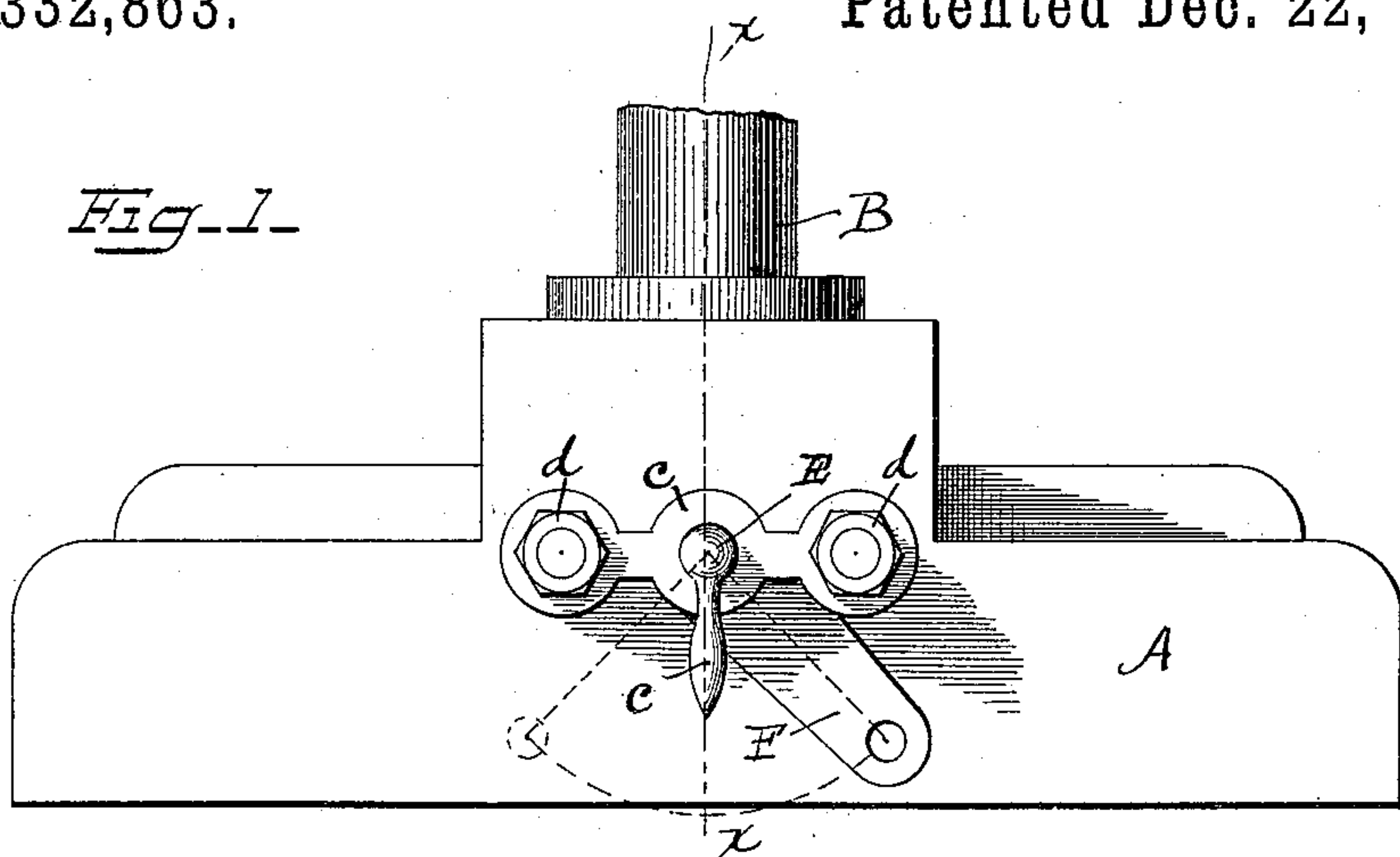
(No Model.)

H. C. ANSON.  
STEAM ENGINE VALVE.

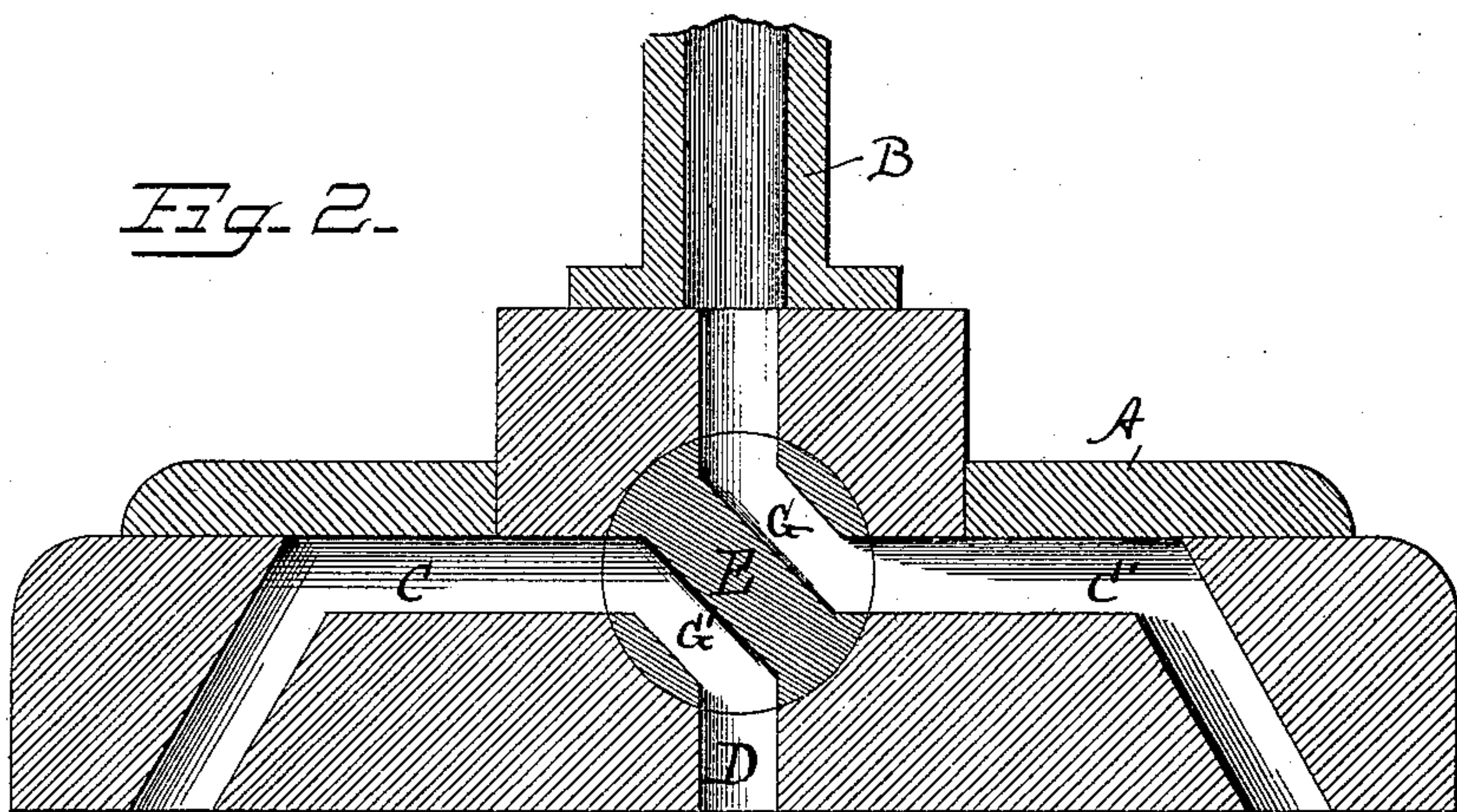
No. 332,863.

Patented Dec. 22, 1885.

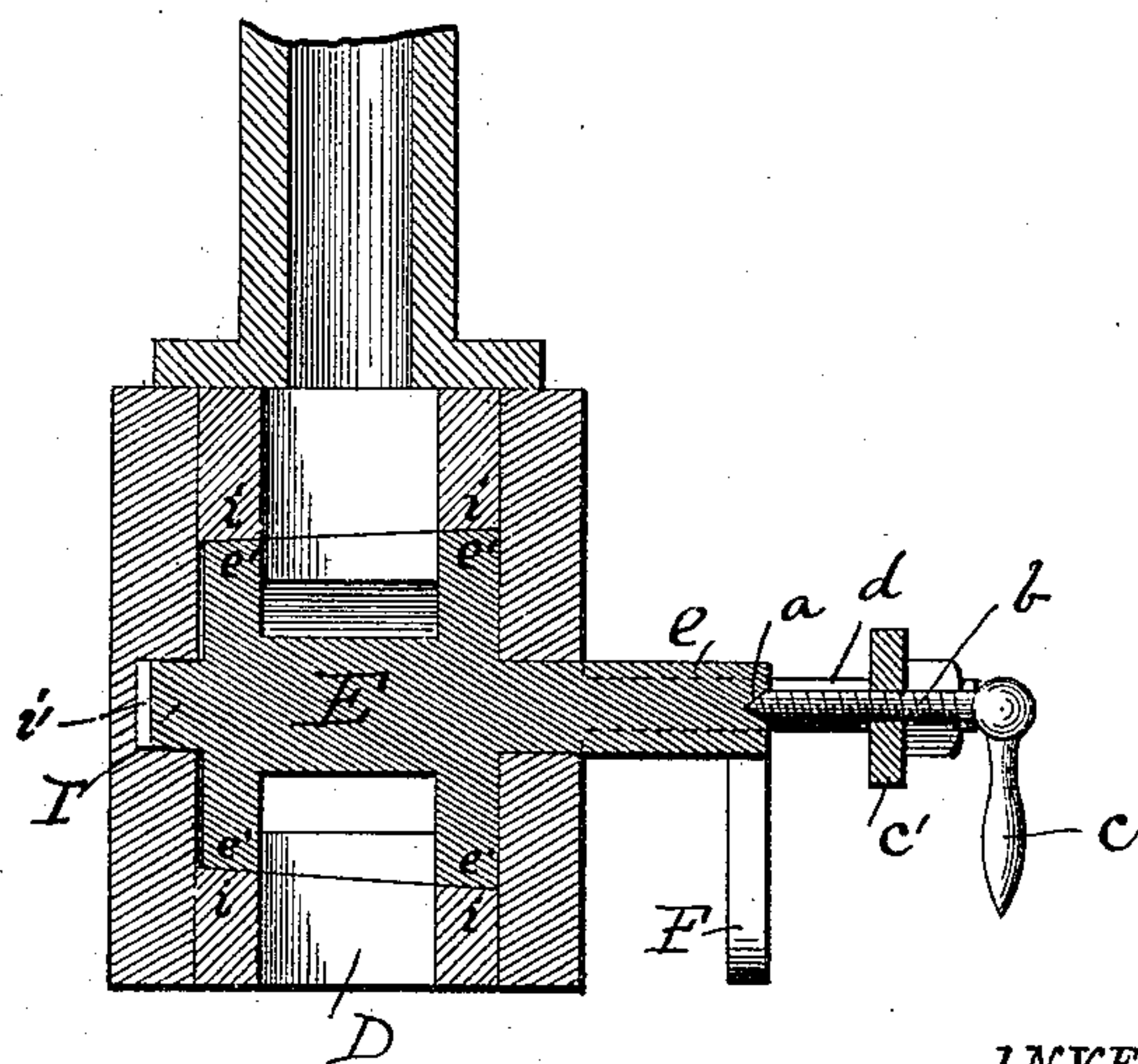
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



WITNESSES

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# UNITED STATES PATENT OFFICE.

HENRY C. ANSON, OF DERBY, INDIANA.

## STEAM-ENGINE VALVE.

SPECIFICATION forming part of Letters Patent No. 332,863, dated December 22, 1885.

Application filed May 9, 1885. Serial No. 164,911. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY C. ANSON, a citizen of the United States, residing at Derby, in the county of Perry and State of Indiana, have invented certain new and useful Improvements in Steam-Engine Valves; 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 and figures of reference marked thereon, which form a part of this specification.

My invention has relation to rotary oscillating valves for steam-engines, and the object is to produce a valve of the class described that will be cheap and simple in construction and reliable in operation; and to these ends the novelty consists in the construction, combination, and arrangement of the parts of the same, as will be hereinafter more fully described, and particularly pointed out in the claim.

In the accompanying drawings the same letters of reference indicate like parts of the invention.

Figure 1 is a side view of the steam chest of an ordinary engine, having my improved valve applied thereto. Fig. 2 is a longitudinal section of the same, and Fig. 3 a transverse section on the line *xx* of Fig. 1.

A is the steam-chest; B, the steam-inlet; C C', the steam ports or passages; and D is the exhaust.

E is a conical plug-valve having a valve-stem, *e*, provided with a crank-arm, F. The outer end of the valve-stem has a V-shaped center recess, *a*, which receives the taper end of the set-screw *b*, operated by a handle, *c*. This setting-screw works in a yoke, *c'*, which is rigidly held in place by the stud-bolts *d d*, secured to the side of the steam-chest.

G G' are the valve-ports, and by reference to the dotted diagram in Fig. 1 this part of the operation of the valve will be readily understood without further description, as in the present position of the valve the steam enters on the right-hand side of the piston,

and the used steam escapes through and out the exhaust, while if the arm F be moved to the left, as shown by the dotted diagram in Fig. 1, which moves the valve the quarter of a turn, the steam will be admitted to the other side of the piston and the exhaust escape, as above indicated. The valve E, being conical in form, is ground into the correspondingly-shaped valve-seat in the steam-chest, the seat being of a greater depth than the valve, so the valve will not bottom in it.

I is a central teat on the smaller end of the valve, in line with the valve-stem, and fits into a circular recess, *i'*, in the inner side of the steam-chest, and as this teat does not extend through the side of the chest no stuffing-box or other form of packing is necessary, and as the parts *e'* of the valve form a steam-tight joint with the parts *i* of the valve-seat, the line and exhaust steam is confined to the ports in the valve and chest, and consequently no stuffing-box is required for the valve-stem. If the valve should leak from wear, the side A' of the steam-chest may be removed, and the valve readily ground in place in the simplest manner and without the use of any machine tools, or the employment of skilled labor, and by setting up the screw *b* it can always be kept in perfect working order. It will thus be seen that a very simple, effective, and inexpensive form of valve is produced that requires little or no attention, and is not likely to get out of order under the ordinary conditions required of a steam-engine.

A very important feature of my improved valve is that it will work as freely with a steam-pressure of one hundred pounds as it will with one or two pounds, as there is no pressure on the valve, and consequently no "drag," as there is on the ordinary form of slide-valve.

I am aware of the construction claimed in Patents Nos. 147,736 and 321,156, and I do not lay claim to the respective devices claimed therein.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

The combination, with the steam-chest  
having recess *v* and taper circular valve-seat,  
and provided with stud-bolts having a yoke  
and set-screw, of the circular taper valve  
5 having double ports, valve-stem, and arm,  
and a central teat forming a guide-journal on  
its smaller end, as and for the purpose set  
forth.

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

HENRY C. ANSON.

Witnesses:

JOHN CODY,

ISAIAH <sup>his</sup> X MARTIN.  
mark.