

C. W. Corv,
Rotary Steam Valve.
No 26,480. Patented Dec. 20, 1859.

Fig 4.

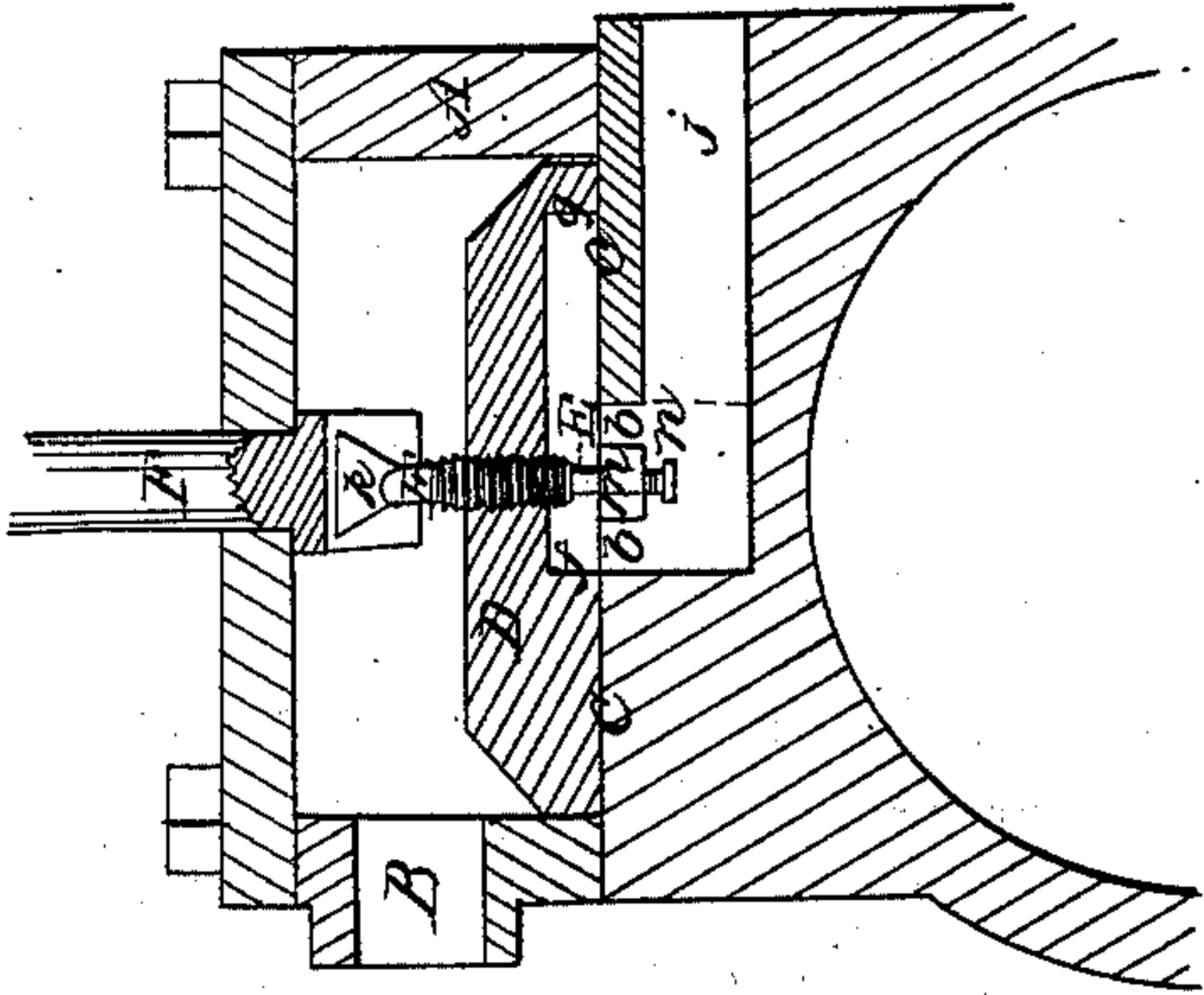


Fig 2

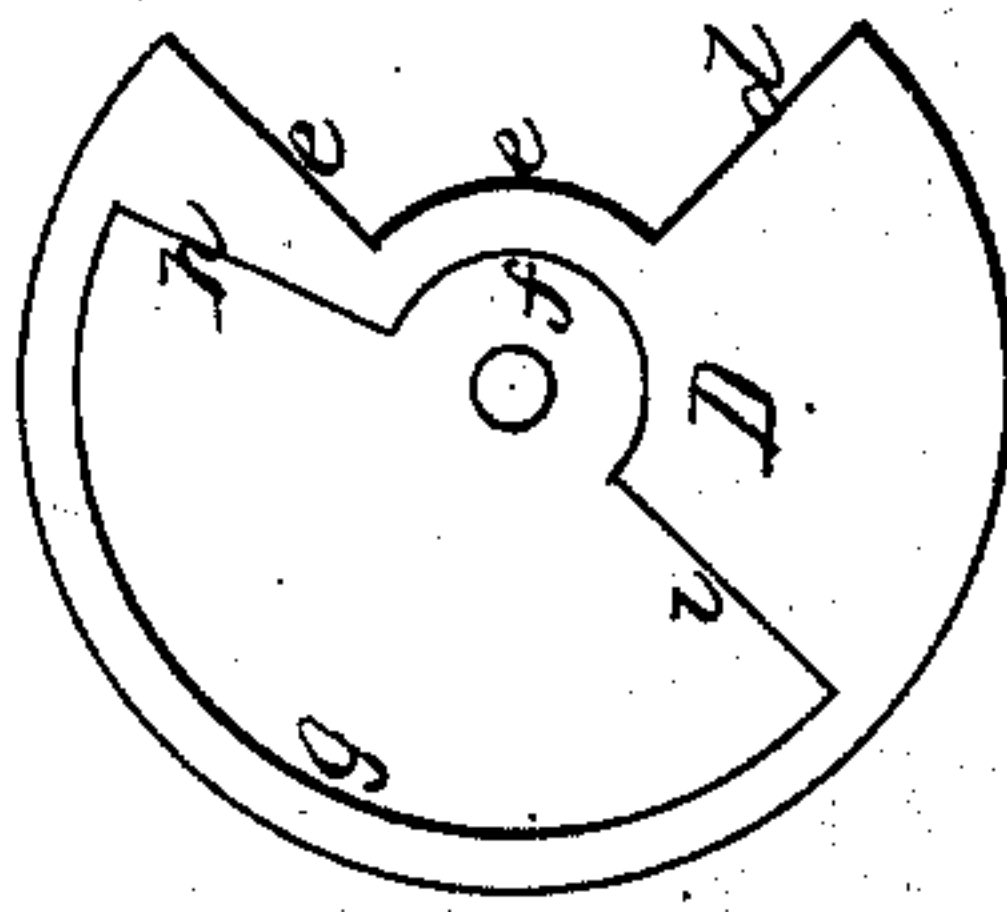


Fig 3.

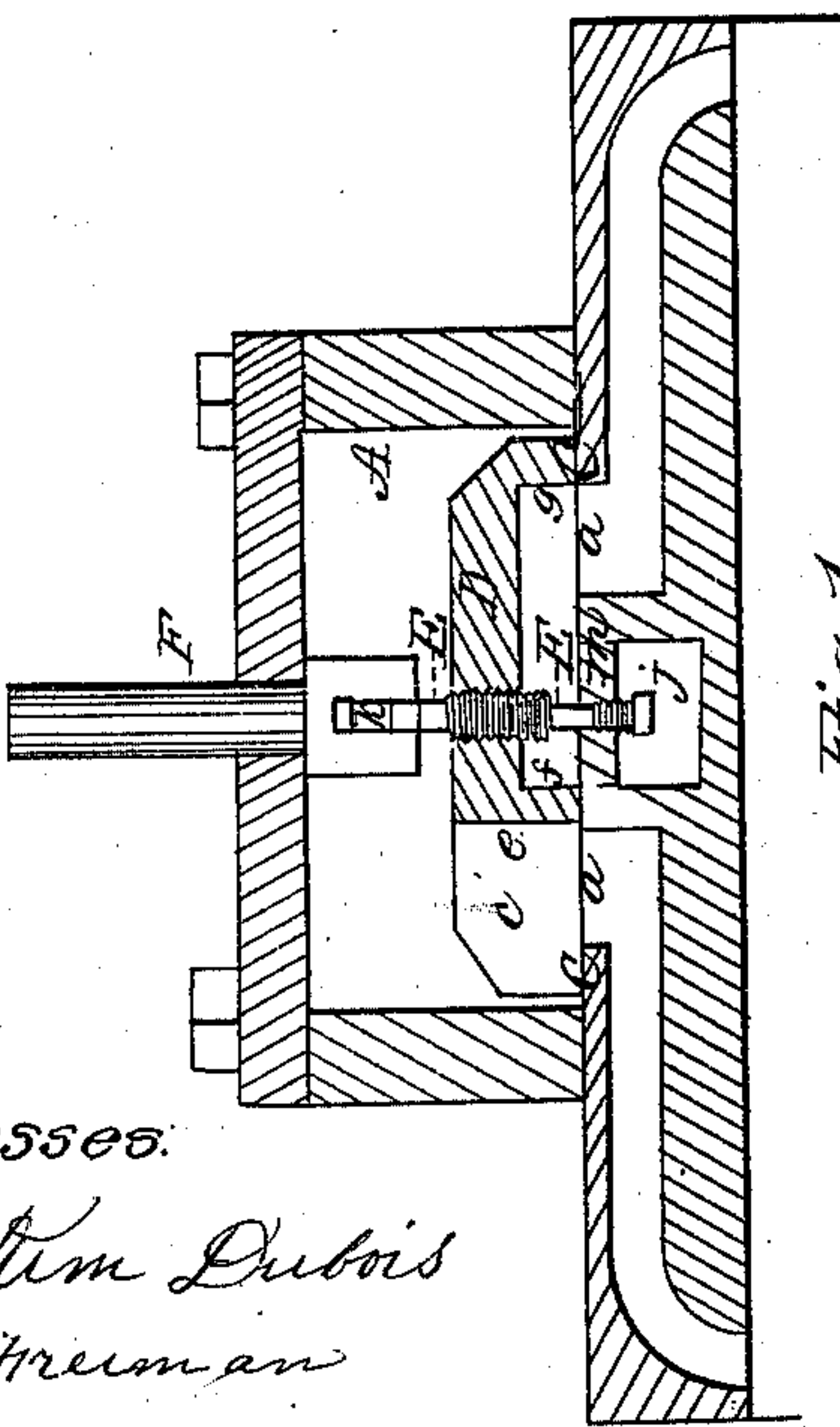
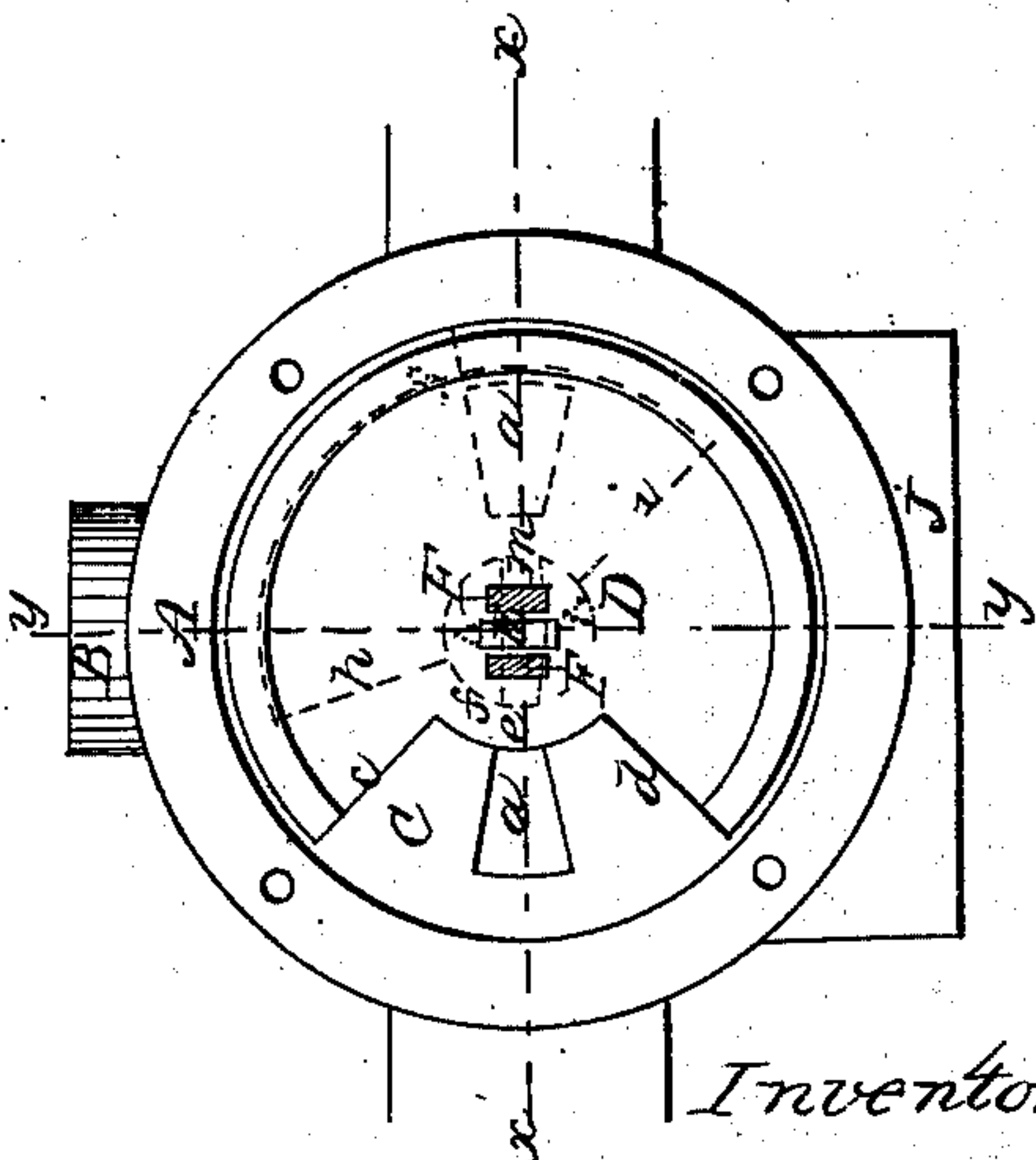


Fig 1.



Witnesses:
a M. Am Dubois
W. W. Freeman

Inventor:

C. W. Corv

UNITED STATES PATENT OFFICE.

C. W. CORR, OF CARLINVILLE, ILLINOIS.

STEAM-VALVE.

Specification of Letters Patent No. 26,480, dated December 20, 1859.

To all whom it may concern:

Be it known that I, C. W. CORR, of Carlinville, in the county of Macoupin and State of Illinois, have invented a new and
5 useful Improvement in Rotary Valves for Steam-Engines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming
10 part of this specification, in which—

Figure 1, is a plan of a steam chest with its cover removed to show the valve. Fig. 2, is a face view of the valve. Fig. 3, is a central section of the steam chest, valve and
15 passages, in the plane indicated by line x, x , of Fig. 1. Fig. 4, is a central section of the same in the plane indicated by the line y, y , of Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

A, is the steam chest of circular form, receiving the steam through a pipe B. C, is the valve seat also of circular form containing two steam ports a, a' , arranged in opposite positions relatively to the center of the seat and a central exhaust port b ,
30 which communicates with a side passage j .

D, is the valve consisting of a plate of the form of a circle having an opening c, d, e , whose sides c, d , are radial to the center said opening being for the admission of
35 steam to the ports a, a' , alternately, being made to occupy a greater or less portion of the circumference of the circle of the valve according as the steam is intended to be admitted to the cylinder of the engine during a greater or less portion of the stroke
40 of the piston. In the face of the said valve there is a cavity f, g, h, i , of which the margin f , ranges with the margin of the exhaust port b , the margin g , with the outer margins
45 of the steam ports, and the margins h, i , are radial, the distance between the margins h , and i , being equal to a semicircle minus the width of one of the steam ports a, a' , so that the valve in making one revolution for every
50 revolution of the engine may maintain a

free communication between each steam port alternately and the exhaust port, during a complete half revolution of the engine and hence during the complete stroke of the piston. The distance between the margins c, h ,
55 of the valve is equal to the width of either of the ports a, a' , and the margins c , and i , are in line so that the valve revolving in the direction of the arrow shown upon it in Figs. 2, and 3, may open either port a , or
60 a' , to the exhaust at the precise moment that it opens the other to the steam.

E, is the stem of the valve having a head k , which is received in a slot in the end of a rotating driving shaft F, which works
65 through a stuffing box in the back of the steam chest. This stem has cut upon it a screw thread l , which passes through but fits rather tightly in a female screw thread provided in the center of the valve, and the inner
70 end of the said stem enters a cavity in a bridge piece m , extending across the exhaust port b , and rests upon the end of a screw n , screwing into the bridge. In case of the valve being caused by the pressure of steam
75 on its back to produce more than a certain degree of friction upon its seat, the stem will turn within the female screw thread and so slightly withdraw the valve and relieve it of
80 the excessive friction.

I do not claim to be the first inventor of a rotary valve serving for the induction, cutting-off and eduction of the steam in a steam engine, but

What I claim as my invention and desire
85 to secure by Letters Patent is—

1. Providing the extremity of the driving shaft F, within the steam chest with a slot to receive the head k , of the valve stem, and permit the self adjustment of said head
90 within the slot, as set forth.

2. The arrangement of the screw threads upon the valve and the valve stem substantially as shown, so that the valve will adjust itself if the friction becomes too great, as
95 set forth.

C. W. CORR.

Witnesses:

A. McKIM DUBOIS,
W. W. FREEMAN.