

E. C. JONES.
THROTTLE VALVE.

APPLICATION FILED NOV. 17, 1910. RENEWED FEB. 14, 1912.

1,037,630.

Patented Sept. 3, 1912.

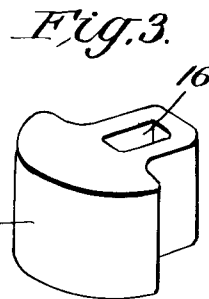
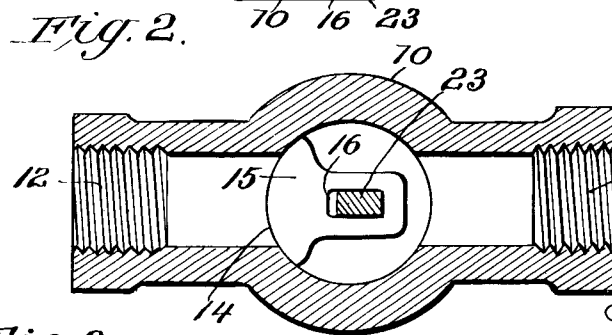
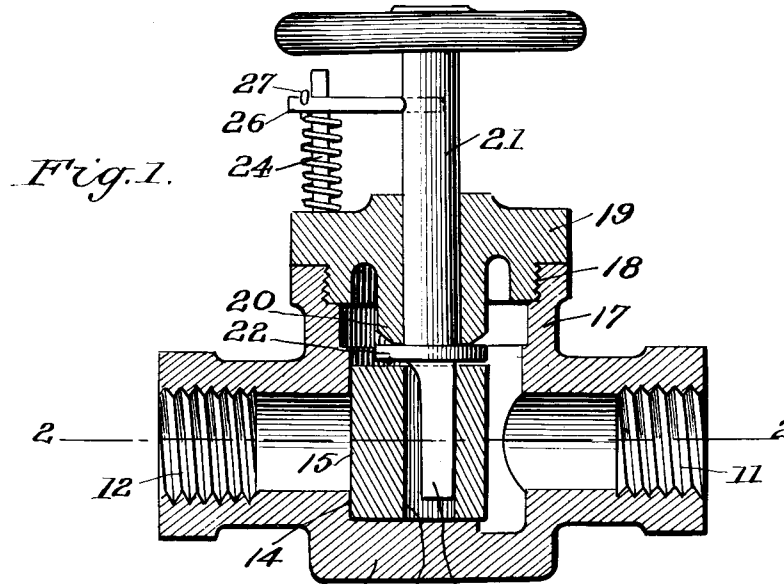
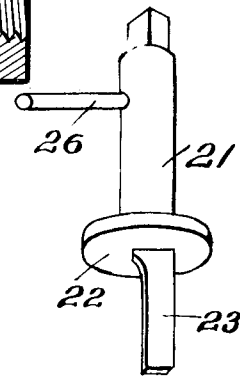
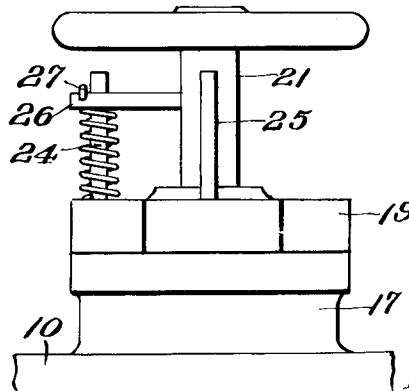


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

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THROTTLE-VALVE.

1,037,630.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EMERY C. JONES, citizen of the United States, residing at Rock Mart, in the county of Polk and State of Georgia, have invented certain new and useful Improvements in Throttle-Valves, of which the following is a specification.

This invention relates to improvements in valves, more particularly to the class of throttle valves, or valves for controlling the passage of steam under high pressure, and has for one of its objects to provide a simply constructed valve wherein all flexible or yieldable packings and other parts which are liable to be worn by the friction incident to their operation, are obviated.

Another object of the invention is to provide a valve of this character which may be instantly opened or closed.

With these and other objects in view the invention consists in certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claim; and, in the drawings illustrative of the preferred embodiment of the invention, Figure 1 is a longitudinal sectional view of the improved valve; Fig. 2 is a section on the line 2—2 of Fig. 1; Fig. 3 is a detached perspective view of the valve; Fig. 4 is an enlarged detached perspective view of the valve operating member from beneath; Fig. 5 is a side elevation of the upper portion of the device, illustrating the operation of the stop devices.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The improved device comprises a body or shell 10 having a threaded inlet 11 at one end and a threaded outlet 12 at the other end, and with an internal valve seat 14 at the inner end of the outlet 12. Bearing upon the seat 14 is a valve 15 of the oscillating form and provided with a slot 16. Directed upwardly from the body or shell 10 is an integral sleeve 17 internally threaded, as at 18, the sleeve providing an opening giving access to the interior of the shell and through which the valve seat is ground and the valve inserted or removed. Engaging in the threaded portion of the sleeve 17 is a cap 19 having a depending central portion terminating in a valve seat 20 at its lower

end. Mounted for rotation through the cap 19 is a stem 21 having a disk 22 at its lower end bearing steam and water tight against the seat 20. Depending from the disk 22 is a pin 23 which operates in the slot 16 of the valve. The valve seat 14 is segmental in form, while the bearing face of the valve 15 is correspondingly segmental and thus engages rotatably upon the seat. By this simple arrangement it will be obvious that when the stem is oscillated the pin 23, which is off the center of the stem, will actuate the valve, and open and close the discharge 12. Thus when the stem is rotated into one position the valve will be moved laterally within the shell and open the passageway entirely therethrough, and will then cut off the discharge when located in its other position.

Rising from the cap 19 are two pins 24—25, and extending from the stem 21 is another pin 26 which moves between the pins 24—25. The pins 24—25 are located at a distance apart equal to one-fourth of a complete revolution of the stem, and so located that when the pin 26 is in engagement with the pin 24 the valve 15 will be fully closed, and when the stem 21 is turned to bring the pin 26 in contact with the pin 25 the valve will be fully opened, as will be obvious. Thus the requisite movement of the valve is insured, and any excess of movement effectually prevented. If required a yieldable catch device 27 will be connected to the pin 24 to engage the pin 26 and lock the latter yieldably in position to prevent the accidental displacement of the valve.

By this simple means it will be obvious that the pressure of the steam is utilized to maintain the valve 15 upon its seat 14 and likewise bearing beneath the disk 22 to maintain the latter steam tight against the seat 20. The two members 20—22 thus co-act to maintain a steam tight joint between the shell 10 and the stem 21, and thus obviate the necessity for other means of preventing the escape of steam. Thus all yieldable and similar fragile packings are obviated. By this arrangement also an instantaneous action valve is produced whereby the steam may be instantly cut off by simply throwing the pin 26 over against the pin 24 and beneath the catch 27. This is an important advantage in devices of this character, espe-

cially when employed in connection with machinery where the instant shutting off of steam is a necessity.

Having thus described my invention, what is claimed as new is:

A valve body having a chamber and with oppositely directed passages communicating with the chamber, one of said passages having a valve seat at its juncture with the chamber and the chamber having a step at one end, a valve within said chamber and engaging said seat and bearing upon said

step and provided with a slot extending entirely therethrough and communicating with said step, and a stem extending through one wall of said chamber and having a projection extending into the slot of said valve.

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

EMERY C. JONES. [L. S.]

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."