

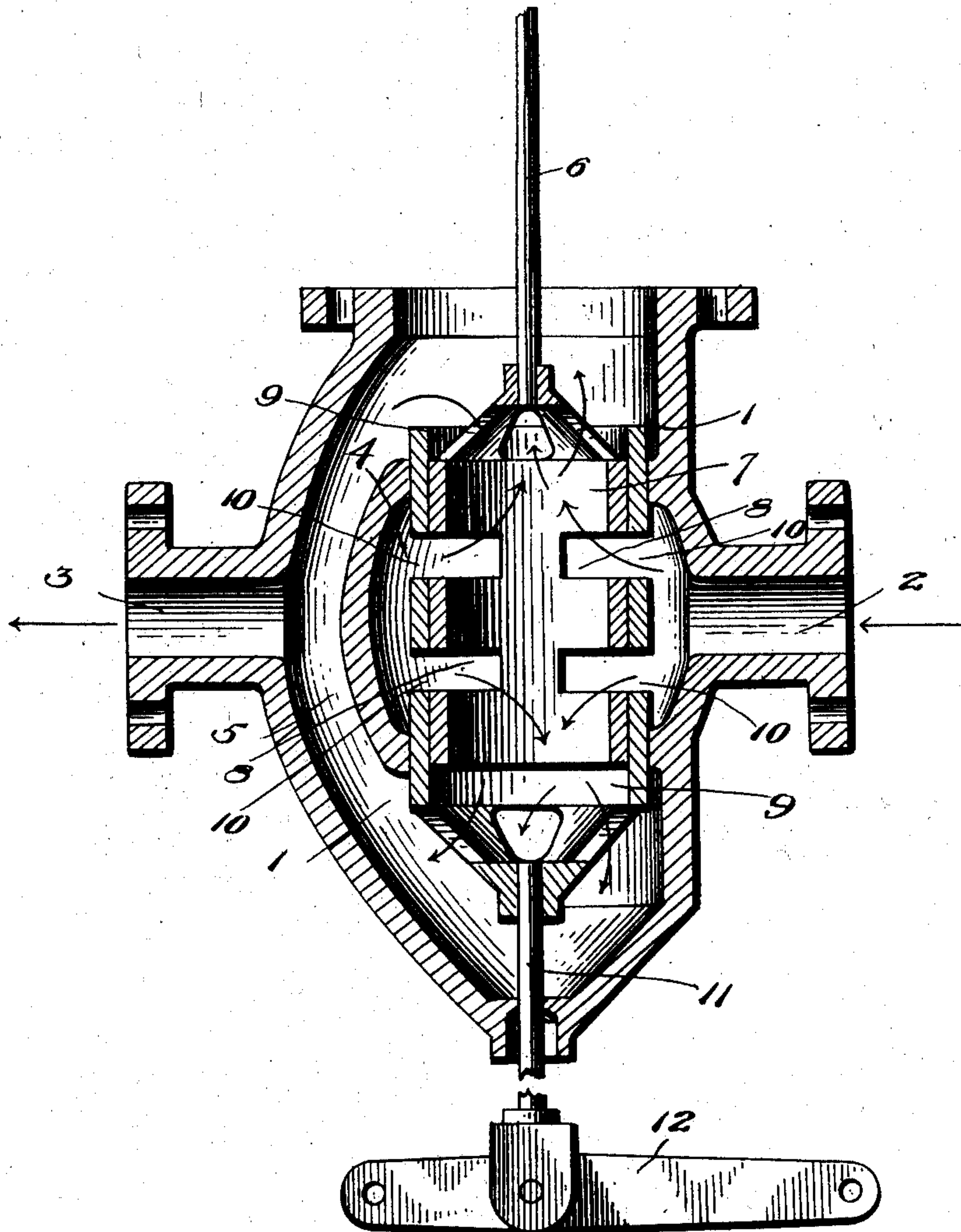
No. 706,616.

Patented Aug. 12, 1902.

L. J. WATSON.  
GOVERNOR VALVE.

(Application filed June 27, 1901.)

(No Model.)



Inventor

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Witnesses

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# UNITED STATES PATENT OFFICE.

LESLIE J. WATSON, OF PORT HURON, MICHIGAN, ASSIGNOR OF ONE-HALF  
TO GEORGE F. CONNER, OF PORT HURON, MICHIGAN.

## GOVERNOR-VALVE.

SPECIFICATION forming part of Letters Patent No. 706,616, dated August 12, 1902.

Application filed June 27, 1901. Serial No. 66,281. (No model.)

*To all whom it may concern:*

Be it known that I, LESLIE J. WATSON, a citizen of the United States, residing at Port Huron, in the county of St. Clair and State of Michigan, have invented certain new and useful Improvements in Throttling Governor-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.

This invention relates to improvements in throttling governor-valves for steam and other engines.

The object of the invention is to provide a governor-valve which is simple, cheap, and durable in construction, efficient in operation, and in which provision is made for a ready and quick adjustment for controlling the speed of the engine.

With this and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, which will be hereinafter more fully described, and particularly pointed out in the appended claims.

The accompanying drawing shows a central vertical section of a throttling governor-valve constructed in accordance with my invention.

Referring now more particularly to the drawing, the numeral 1 represents the valve-casing, provided with the receiving and delivery pipes 2 and 3 and the vertical hollow cylindrical valve-guide 4, which guide is in communication with the receiving-pipe 2 and spaced from the opposite wall of the casing to provide a passage 5 for the flow of the steam to the delivery-pipe 3. The lower end of the casing is closed, while the upper end thereof is open and is adapted to be closed in the usual manner by a cap, (not shown,) having a stuffing-box through which slides the valve-stem 6, which is connected up in practice to a centrifugal speed-governor of any ordinary type.

The valve 7 consists of a hollow cylinder open at each end and provided with ports 8. It is connected to the lower end of the stem 6 and slides vertically within a hollow cylindrical open-ended valve-seat or lining 9, slidably mounted in the guide 4 and provided with ports 10, which cooperate with the valve-

ports 8. The valve-seat 9 is connected at its lower end to a stem 11, sliding in and projecting to the exterior through the lower end of the casing and pivoted to an adjusting-lever 12, whereby said seat may be vertically adjusted to control the flow of steam and speed of the engine.

The arrows in the drawing indicate the travel of the steam in passing from the receiving-pipe 2 to the delivery-pipe 3. The flow of the steam is controlled by the valve 7, the stem 6 of which is connected in practice to a governor, by which the valve is raised and lowered according to the speed of the engine to increase or decrease the supply of steam. It will be noticed that steam can enter the casing only when the ports 8 and 10 in the valve 7 and valve-seat 9 coincide. When the speed of the engine is above normal, the valve 7 will be forced downward to regulate the size of the ports and reduce the steam-inlet. When it is desired to change the speed of the engine, the valve-seat 9 is raised or lowered by the lever 12, thus changing the position of the ports 8 and 10. The usual method of changing the speed of the engine is by lengthening or shortening the valve-stem 6, which is difficult to do, owing to the arrangement of its connection with the governor-weights controlling it. By my construction this difficulty is entirely overcome, as the speed of the engine may be quickly and conveniently controlled by the adjustment of the valve-seat 9.

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

1. In a governor-valve, the combination of a casing provided with admission and delivery ports, a valve-guide formed integrally with the casing and open only at top and bottom and on the side communicating with said admission-port, the opposite closed side of said guide being spaced apart from the casing to form a passage communicating with the delivery-port and the body of the guide enlarged to form a steam-space, a hollow cylindrical valve-seat slidably mounted in the guide and provided with ports, a hollow cylindrical valve slidably mounted in said seat and provided with cooperating ports, a stem connected to the valve and extending to the



exterior through one end of the casing for connection with a governor, a stem connected with the valve-seat and extending to the exterior through the opposite end of said casing, and an adjusting-lever connected to the outer and lower end of said valve-seat stem, substantially as described.

2. In a governor-valve, the combination of a casing provided with admission and delivery ports, an open-ended valve-guide in communication with the admission - port and spaced apart from the casing at the other side to form a passage communicating with the delivery-port, a hollow cylindrical valve-seat slidably mounted in the guide and provided with ports, a hollow cylindrical valve slidably

mounted in said seat and provided with co-operating ports, a stem connected to the valve and extending to the exterior through one end of the casing adapted to be connected to a governor, a stem attached to the valve-seat and extending to the exterior through the opposite end of the casing, and an adjusting-lever connected with the valve-seat stem, substantially in the manner set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

LESLIE J. WATSON.

Witnesses:

G. R. HAIGH,  
H. B. HOYT.