

No. 733,757.

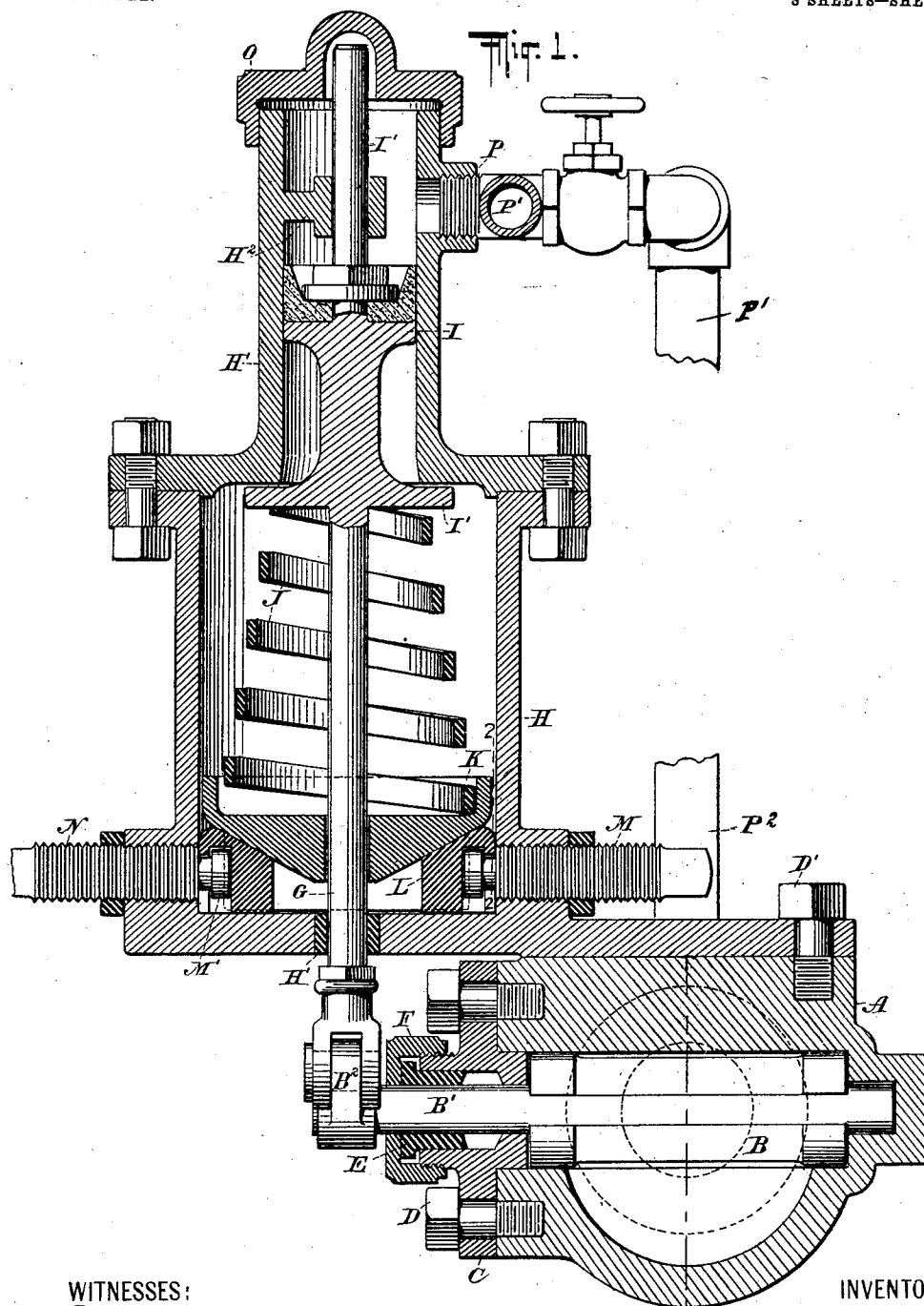
PATENTED JULY 14, 1903.

W. W. SPINNEY.
VALVE GOVERNING MECHANISM.

APPLICATION FILED AUG. 7, 1901.

NO MODEL.

3 SHEETS—SHEET 1.



WITNESSES:

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John Lotka

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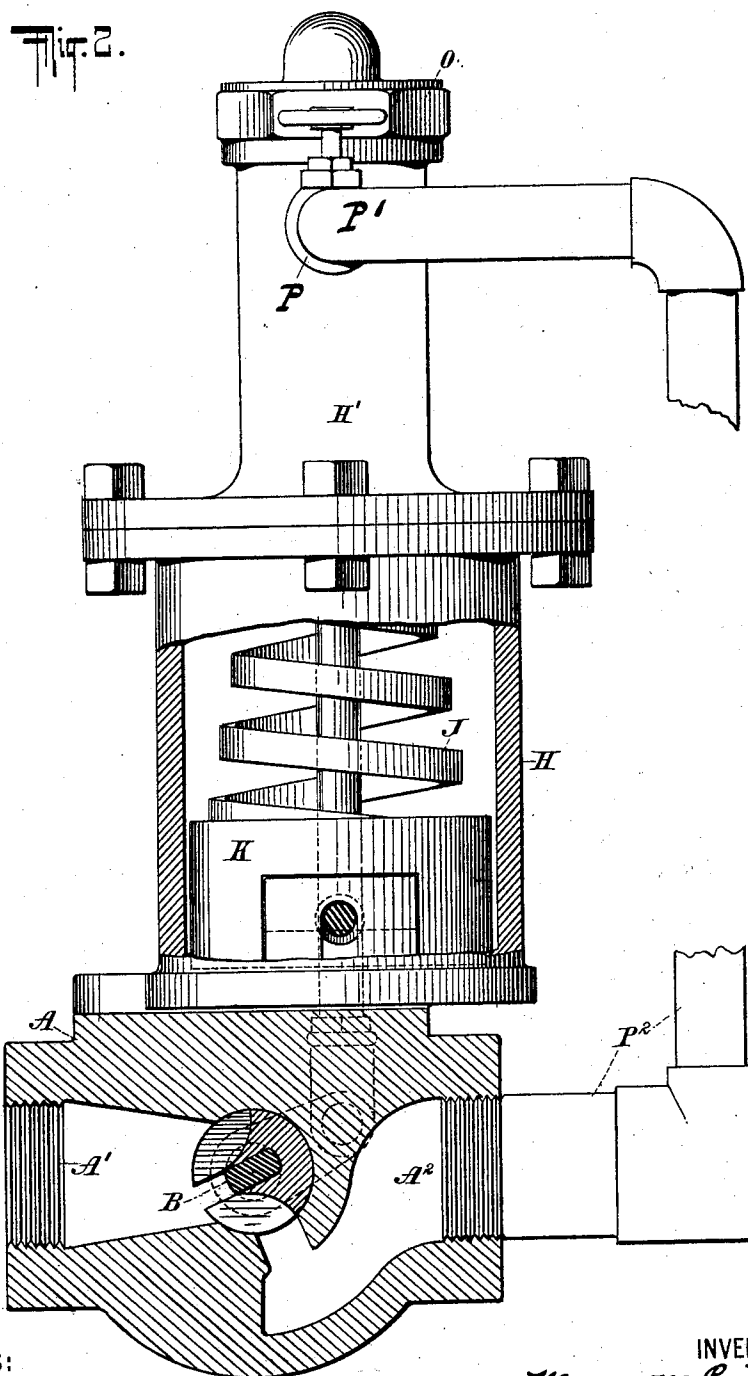
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3 SHEETS—SHEET 2.



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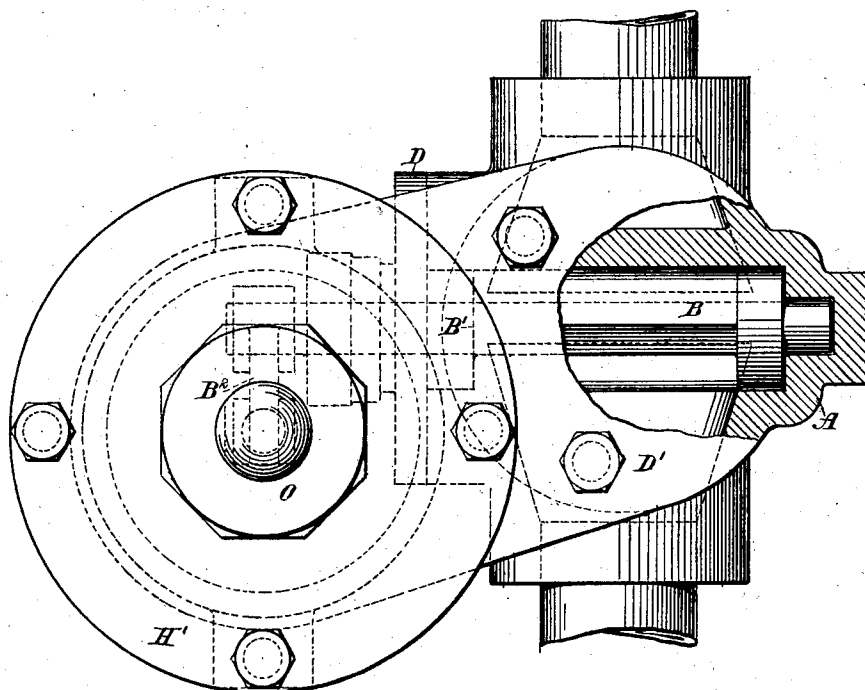
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3 SHEETS—SHEET 3.

Fig. 3.



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UNITED STATES PATENT OFFICE.

WALTER W. SPINNEY, OF NEW YORK, N. Y., ASSIGNOR TO VINCENT P. TRAVERS, JR., OF NEW YORK, N. Y.

VALVE-GOVERNING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 733,757, dated July 14, 1903.

Application filed August 7, 1901. Serial No. 71,194. (No model.)

To all whom it may concern:

Be it known that I, WALTER W. SPINNEY, a subject of the King of Great Britain, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Valve-Governing Mechanism, of which the following is a specification.

My invention relates to mechanism for governing the position of valves according to the pressure of a liquid or gaseous fluid.

The object of the invention is to provide a simple, readily-adjusted, and efficient mechanism of the above-indicated class.

The novel features of my invention will appear from the description following hereinafter, and particularly from the appended claims.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a sectional elevation of my improved valve-governing mechanism. Fig. 2 is a section-valve on line 2 2 of Fig. 1, and Fig. 3 is a plan with parts broken away.

A is the casing in which the valve B is mounted to turn, said casing being provided with an inlet A' and an outlet A². The valve is suitably journaled at one end in said casing A and at the other end in a stuffing-box C, secured to the casing by screws D. The stuffing-box contains a packing E, which is held in position by means of a screw-cap F. The valve stem or spindle B' is extended through the said cap F and carries exteriorly thereof a crank-arm B², having a loose pivotal connection with a rod G, extending upwardly and having a guided vertical movement in a bushing H', set in an opening at the bottom of a casing or box H, which is connected with the valve-casing A—for instance, by means of screws D'. The upper end of the rod G is formed with a piston I, mounted to slide in an extension H' of the box H and has a stem I', guided in a bracket H², projected interiorly of said extension. The lower end of the piston is provided within the box H with a head I', against which bears one end of a coiled spring J. The other end of said spring is received in a depression of a cup K, movable vertically in the box H, but having sufficient play between it and the wall

of said box to allow of an easy movement of the cup. The lower surface of the cup K is beveled and is engaged by slides L, movable radially at the bottom of the box H, said slides being likewise beveled. Each slide may be adjusted inward or outward by means of a screw M, provided at its inner end with a head M', fitting a corresponding groove in the slide L. Check-nuts N serve to hold the screws M in position after adjustment. It will be understood that by means of these screws and slides the cup K may be shifted up or down, thereby adjusting the tension of the spring J. The upper end of the extension H' is closed by a cap O and communicates laterally with a pipe P in permanent communication with the pipe P', which is a branch from a pump-delivery pipe leading to the place where the water or other fluid is used. It will therefore be obvious that the pressure within the upper portion of the extension H' will always be equal to the pressure of the fluid at the place of consumption.

The motive fluid, as steam, for the engine which drives the pump passes through the casing A when the valve B is open and travels therefrom through a pipe P² to the engine. From the delivery side of the pump a suitable delivery-pipe leads to the place of consumption, and from this delivery-pipe the pipes P' P lead above the piston I. It will thus be understood that the position of the piston I will depend on the back pressure existing in the pipes P and P'. It will of course be understood that the tendency of the liquid under pressure to force the piston I downward is counteracted by the upward thrust of the spring J. This thrust may, as before explained, be regulated by an adjustment of the cup K. To each position of the piston I corresponds a certain position of the valve B. Should the pressure in the pipe P vary, the piston I will be moved up or down, according to the decrease or increase of the fluid-pressure, and the valve B will admit more or less motive fluid accordingly, thereby establishing the equilibrium and preserving a practically constant pressure at the point of delivery or consumption.

I desire it to be understood that instead of the piston I may use a diaphragm, and the

claims are to be interpreted as covering this equivalent.

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

1. The combination of the piston-chamber, the piston mounted to move therein and provided with rods projecting therefrom at opposite sides, one of said rods extending through one end of the chamber, a stationary guide located between the other end of the chamber and the piston and engaging the other piston-rod, a valve-casing and valve therein, and a connection between said valve and that piston-rod which projects through the end of the chamber.

2. The combination of the valve-casing, the valve mounted to turn therein, the piston chamber or casing, the piston in said cham-

ber, the plate movable lengthwise of said chamber, the spring bearing against the piston and against said plate, a transversely-movable adjusting device engaging the plate, and an operating connection from the piston to the valve.

3. The combination of the valve-casing, the valve mounted to turn therein, the piston chamber or casing, the piston in said chamber, the plate movable lengthwise of said chamber, the spring bearing against the piston and against said plate, transversely-movable adjusting slides provided with inclined surfaces engaging the plate, and an operating connection from the piston to the valve.

WALTER W. SPINNEY.

Witnesses:

JOHN LOTKA,
EUGENE EBLE.