(No Model.)

F. N. BURT.

GOVERNOR VALVE.

No. 454,423. Patented June 16, 1891.

Fig. 1.

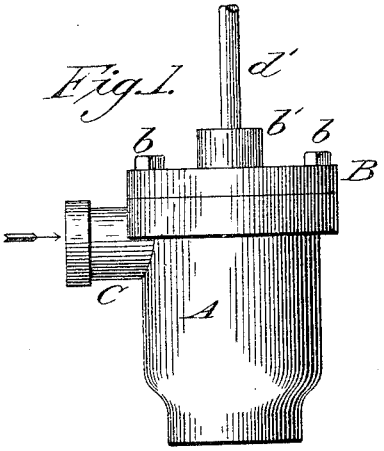


Fig. 2.

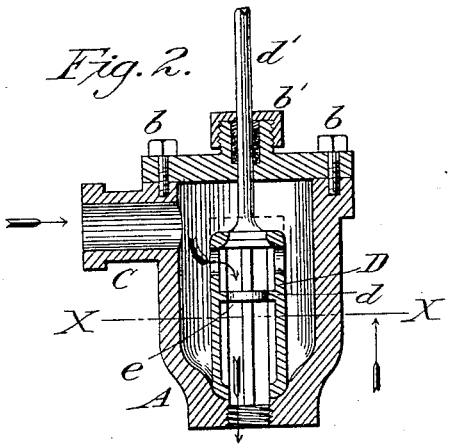


Fig. 3.

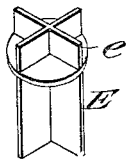


Fig. 4.

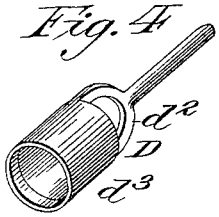


Fig. 5.

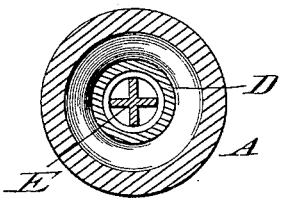
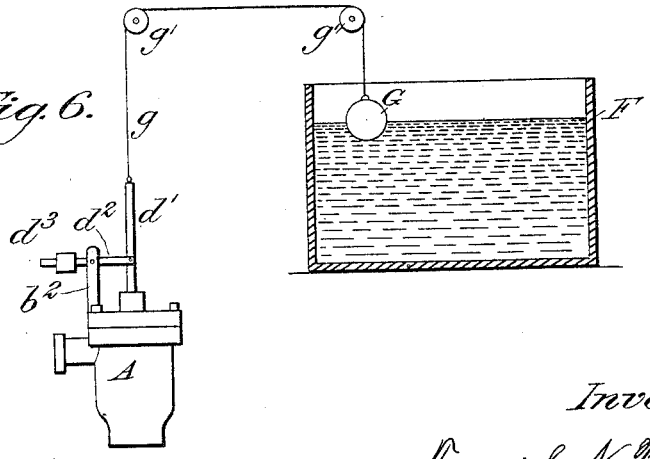


Fig. 6.



Witnesses:

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Charles W. Springer

Inventor:

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by N. DuBois his Atty.

UNITED STATES PATENT OFFICE.

FREDERICK N. BURT, OF SPRINGFIELD, ILLINOIS, ASSIGNOR OF ONE-HALF TO STEPHEN F. BLAKESLY, OF SAME PLACE.

GOVERNOR-VALVE.

SPECIFICATION forming part of Letters Patent No. 454,423, dated June 16, 1891.

Application filed September 8, 1890. Serial No. 364,331. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK N. BURT, a citizen of the United States, residing at the city of Springfield, in the county of Sangamon and State of Illinois, have invented a certain new and useful Improvement in Governor-Valves for Regulating Steam-Pumps, fully described in this specification.

My invention relates to automatic governor-valves for steam-pumps used for supplying water to tanks for running hydraulic elevators or other machinery.

The purpose of my invention is to automatically regulate the supply of steam to the pump by means of a valve controlled by a float in the tank, so that when the water in the tank is low the pump is started, and when the tank is sufficiently filled the pump is stopped. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the complete pump-valve. Fig. 2 is a vertical section through the axis of the governor-valve. Fig. 3 is a perspective view of the flanged center guide. Fig. 4 is a perspective view of the cylindrical valve working over the guide. Fig. 5 is a cross-section on the line X X. Fig. 6 is a sketch on a a reduced scale, showing the float in the tank and the connection of the float with the valve-stem.

Similar letters refer to the same parts in all the drawings.

The body of the governor-valve consists of a cylindrical casting A, having near its top a pipe C, through which steam enters into the valve, as indicated by the arrow. On the top of the cylinder A is the cap B, secured by screws *b*. There is also in the top of this cap a packing-valve *b'*, of ordinary construction, through which the piston-rod passes. To the lower end of the cylindrical valve-rod *d'* is secured the piston D. Inside the chamber and coaxial therewith the flanged guide E (shown in Fig. 3) is fitted tightly in a hole in the bottom of the cylinder and stands vertically within the cylinder, so that the cylindrical valve moved by the piston-rod D' will slide up and down on the guide. Near the center of the guide E is a web *e*, which divides the guide into two parts, which for convenience I will refer to as the "upper" and "lower" parts of the guide. Within the cylindrical valve is a flange *d*, which when the piston is down fits close around the web *e*. The lower end of the cylindrical valve is seated at the bottom of the cylinder, as clearly shown in Fig. 2. The cylindrical valve consists of a lower cylindrical part d^3 and an upper open part d^2. When the cylindrical valve is down, its lower end rests on the bottom of the cylinder A and its inner flanges *d* rest against the web *e*, so that the steam is effectually shut off and cannot pass to the pump. The cylindrical valve is counterbalanced by the weight d^3 on the lever d^2, which is supported on the standard b^2, and has one end connected with the valve-stem *d'*. This weight may be adjusted on the lever so as to maintain such equilibrium as will facilitate the operation of the valve by the float. Within the tank F is a float G, connected with the valve-stem *d'* by a rope *g*, running over pulleys.

When the cylindrical valve is raised to the position shown by dotted lines, Fig. 2, the steam enters through the pipe C, passes, as indicated by arrows, through the upper open end D^2 of the piston under the inner flange *d* and the web *e* into the lower part of the flanged guide, whence it passes through the opening in the bottom of the cylinder to the pump.

The operation of the governor-valve is as follows: When the water in the tank falls, the float G descending raises the valve by means of the rope *g* and admits the steam, and the pump is started and continues to operate until the tank is filled sufficiently to raise the float and permit the valve to close and shut off the steam and stop the pump, and so on continuously.

What I claim as new, and desire to secure by Letters Patent, is—

In automatic governors for steam-pumps, the combination of the cylinder A, having near its upper end the integral inlet-pipe C and at its lower end an outlet, the flanged guide provided with a web and vertically secured in the outlet of the cylinder, the cap

B, secured to the top of the cylinder and provided with a central packing-box b', the sliding valve D, cylindrical in its lower part, open in its upper part and connected at its upper end with the valve-stem, and the valve-stem d', moving in the box b' and connected by means of a weighted lever and rope with a float in the tank, substantially as shown and described, and for the purpose stated.

FREDERICK N. BURT.

Witnesses:
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