

GOVERNOR VALVE CONNECTION.

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN GOVERNOR-VALVE CONNECTIONS.

Specification forming part of Letters Patent No. **111,897**, dated February 21, 1871; antedated February 4, 1871.

To all whom it may concern:

Be it known that I, JOHN F. ALLEN, of Harlem, in the city, county, and State of New York, have invented a new and useful Improvement in Governor-Valve Connections; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a front view of a valve to which my improvements have been attached. Fig. 2 is a side view of the same, looking in the direction of arrow 1, Fig. 1. Fig. 3 is a side view of the same, looking in the direction of arrow 2, Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved attachment for connecting the valve and governor, so as to give the governor more perfect and delicate control over the engine, and so that should the governor stop from any cause the valve will be closed at once and the engine stopped; and it consists in the construction and combination of the various parts of the attachment with the valve-stem, as hereinafter more fully described.

A represents the valve, and B the valve-stem, about the construction of which parts there is nothing new.

To one end of the valve-stem is attached a pulley, C, to which is attached one end of a cord, D. The cord D is wound around the pulley C, passes over a pulley, E, and to its other end is attached a weight, F. The pulley E is pivoted to an arm, G, attached to the upper end of the valve A, or to some other suitable and convenient support. To the other end of the valve-stem B is attached, or upon it is formed, a short crank, H, the crank-pin of which enters and works in a short slot in the lower end of the rod I. The rod I passes up through a hole in a guide-arm, J, attached to the upper end of the valve A, or to some other suitable and convenient support; or the said rod may be used without extra support. The upper end of the rod I is connected with an ordinary governor, either directly or by the interposition of other connections.

K is a spring coiled around the rod I, the lower end of which rests upon the arm J, and

upon its upper end rests a collar, *i*, attached to the said rod I by a set-screw or by other convenient means.

The spring K may be placed in various other positions without departing from my invention.

The crank H should be so arranged upon the valve-stem B that the valve will be fully closed when the said crank is in a horizontal position, and fully open when the said crank is in a vertical position. By this arrangement the crank H will stand in about the position shown in Figs. 1 and 3 when the engine is running at ordinary velocity, the weight F holding the crank-pin at the lower end of the slot in the rod I. If the velocity increases, the governor will raise the rod against the action of the weight F, closing the valve more and more; and if the velocity decreases, the rod I will descend, and the weight F will open the valve more and more by revolving the crank H down toward a vertical position, the spring K keeping it from being brought fully into a vertical position.

Should the motion of the governor, from any cause—as the breaking of the belt or other accident—entirely stop, its weight will overbalance the power of the spring K, and the weight F will carry the crank-arm past the vertical line. At this point the crank-arm H will be released from the control of the governor, and the weight F will cause the crank-arm H to fly up upon the other side of the valve-stem B, the crank-pin passing up to the upper end of the slot in the rod I, entirely closing the valve and stopping the motion of the engine. By this construction, by means of the suspended weight F and crank H, the governor may be kept revolving in any plane to which it may be brought by the slightest change in the number of revolutions.

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

The combination, with a valve and stem, A B, of the pulleys C E, weighted rope D, slotted spring-rod I K, and crank H, as and for the purpose specified.

The above specification of my invention signed by me this 4th day of May, 1870.

JOHN F. ALLEN.

Witnesses:

GEO. W. MABEE,
JAMES T. GRAHAM.