(No Model.)

A. H. BELL & A. FULLER.

MARINE ENGINE GOVERNOR.

No. 297,343. Patented Apr. 22, 1884.

Fig. 2.

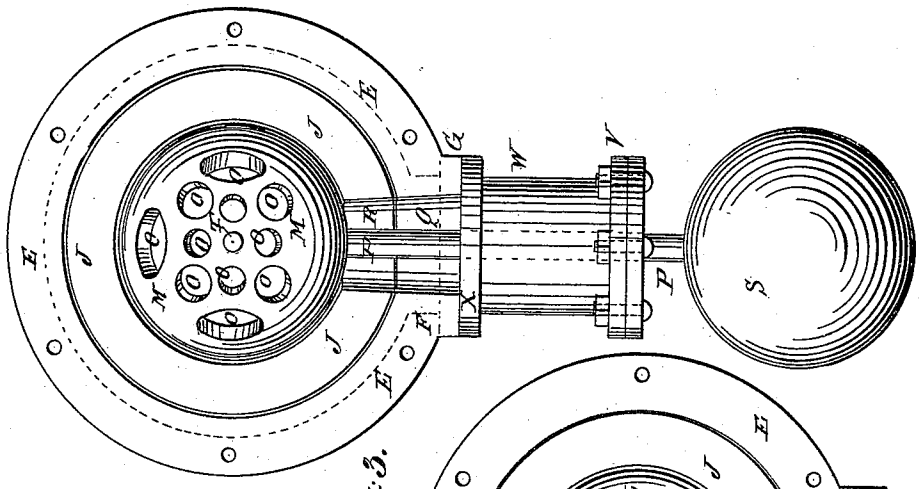


Fig. 3.

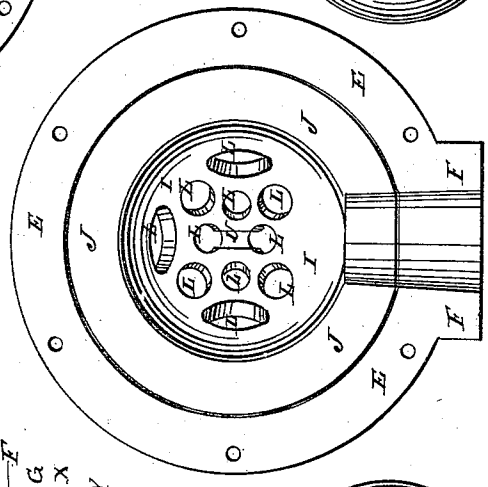


Fig. 1.

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MARINE-ENGINE GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 297,343, dated April 22, 1884.

Application filed December 17, 1883. (No model.)

To all whom it may concern:

Be it known that we, ALEXANDER HAMILTON BELL and ASPINWALL FULLER, of the city, county, and State of New York, have invented a new and useful Improvement in Automatic Marine-Engine Governors, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of our improvement. Fig. 2 is an elevation of one part of the same, showing the valve in place. Fig. 3 is an elevation of the other part, showing a part of the valve-seat.

The object of this invention is to provide governors for marine engines constructed in such a manner as to shut off steam automatically when the vessel rolls and pitches.

The invention consists in a marine-engine governor constructed with a shell, a two-part spherical valve-seat placed in the shell, and provided with flanges to keep it in place, and with perforations for the passage of steam and the valve-stem, a spherical valve provided with perforations for the passage of steam and a weighted valve-stem to control the valve, and a stuffing-box and flexible connecting-base to prevent steam from escaping around the valve-stem. The valve is held from turning upon the axis of its stem by a pin attached to the said valve, and which enters a vertical groove in the valve-seat, as will be hereinafter fully described.

A B represent the two parts of the shell or case of the governor, which have flanges C at their outer ends for convenience in connecting the said ends with the adjacent flanged ends D of a steam-pipe. The adjacent ends of the parts of the shell A B are flared into spherical or globular form, and are provided with flanges E, for convenience in securing the said ends to each other.

In the lower side of the shell A B is formed an opening provided with a fixed collar, F, having a flange, G, at its outer end.

Within the shell A B are placed semi-spherical plates H I, which have flanges J around their edges to fit into the rabbeted edges of the parts of the said shell A B, and an opening in their lower side corresponding with the opening in the said shell A B. The outside diameter of the sphere H I is less than the inside diameter of the shell A B to form a space to receive steam. In the center of the part H is formed a large opening, K, and in the other part, I, are formed a number of small openings, L, which may be circular, oval, square, or of other desired shape.

Within the sphere H I is fitted a sphere, M, which is made hollow, and has an opening, N, in one side corresponding with the opening K in the sphere H I. In the other side of the sphere M is formed a number of openings, O, corresponding in shape, number, and size with the openings L.

Upon the lower side of the sphere M is formed, or to it is rigidly attached, a stem, P, which passes out through the openings R Q in the sphere H I and shell A B, and has a weight, S, attached to its lower end, of sufficient gravity to hold the stem P in a vertical position and the sphere M stationary, and causing the sphere H I to turn upon the sphere M as the vessel rocks and pitches. The movement of the sphere H I upon the sphere M partly or wholly closes the openings L O, partly or wholly shutting off steam and slowing or stopping the engine.

Upon the center of the perforated side of the sphere M is formed, or to it is attached, a pin, T, which enters a vertical groove, U, in the inner surface of the sphere H I, to prevent the said sphere M from rotating upon the axis of the stem P, and thus getting out of place and preventing the perforations L O from registering properly. The lower part of the stem P passes through a stuffing-box, V, to which is attached the outer end of a short flexible hose, W. The other end of the hose W is secured to the flanged collar F G either directly or by means of a flanged collar, X Y, interposed between the said collar F G and hose W. With this construction the escape of steam will be prevented, and the weighted lower end of the stem P allowed to have a free lateral movement.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. A marine-engine governor constructed substantially as herein shown and described, and consisting of the shell A B, the two-part spherical valve-seat H I, having flanges J and perforations K L R, the spherical valve M, having perforations N O, and provided with a weighted valve-stem, P, and the stuffing-box V and flexible connecting-hose W, as set forth.

2. In a marine-engine governor, the combination, with the shell A B, of the two-part spherical valve-seat H I, having flanges J and perforations K L R, and the spherical valve M, having perforations N O, and weighted stem P S, substantially as herein shown and described, whereby the admission of steam will be regulated and stopped by the rocking and pitching of the vessel, as set forth.

3. In a marine-engine governor, the valve constructed substantially as herein shown and described, and consisting of the two-part spherical seat H I, having flanges J and perforations K L R, and the spherical valve M, having perforations N O, and weighted stem P, whereby the rocking and pitching of the vessel will move the said valve to partly or fully shut off steam, as set forth.

4. In a marine-engine governor, the combination, with the valve-seat H I, having vertical slot U, and the valve M, of the pin T, substantially as herein shown and described, whereby the said valve is kept from turning about the axis of its stem, and taking its perforations out of register with the perforations of the valve-seat, as set forth.

5. In a marine-engine governor, the combination, with the collar F of the shell A B, and the valve-stem P, of the stuffing-box V, and the flexible hose W, substantially as herein shown and described, whereby the escape of steam around the oscillating valve-stem will be prevented, as set forth.

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