G. F. Pattle,

Governor.

No. 111,677. Patented Feb. 7, 1871.

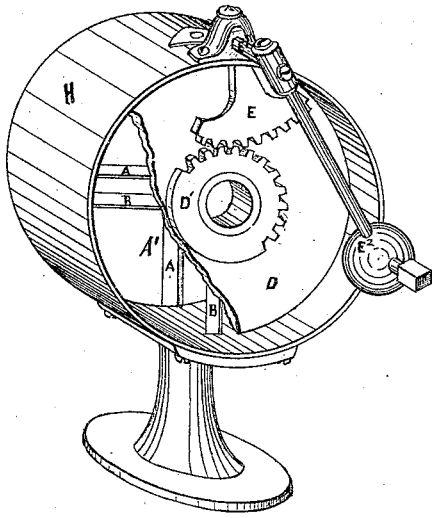

FIG. 1

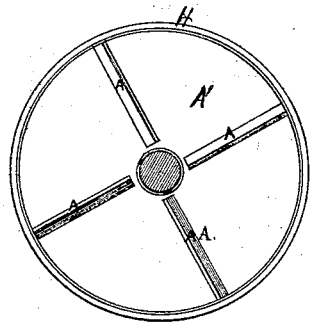

FIG. 2

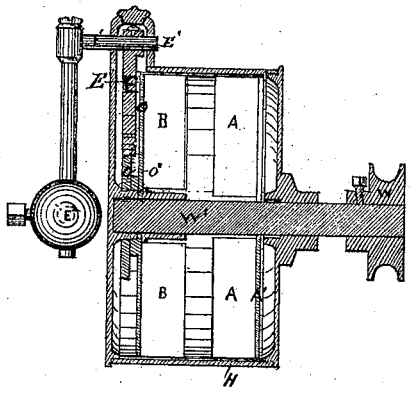

FIG. 3

Witnesses { F. L. Newton, S. A. Otis }

George F. Pattle, per William Edson & Co. } Inventor

United States Patent Office.

GEORGE F. POTTLE, OF BOSTON, ASSIGNOR TO HIMSELF AND REUBEN K. HUNTOON, OF WAKEFIELD, MASSACHUSETTS.

Letters Patent No. 111,677, dated February 7, 1871.

IMPROVEMENT IN GOVERNORS FOR STEAM-ENGINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

I, GEORGE F. POTTLE, of Boston, in the county of Suffolk and State of Massachusetts, have made certain new and useful Improvements in Governors for Steam-Engines, of which the following is a complete specification.

Nature and Object of the Invention.

The nature of my invention consists in a new arrangement of the floats and buttresses in the interior of a vessel containing some suitable fluid, the whole constituting a governor for steam-engines.

Description of Drawing.

Figure 1 is a perspective view, showing the device with the front head and a part of one disk removed so as to show the interior.

Figure 2 is a cross-section.

Figure 3 is a longitudinal vertical section.

General Description.

H is a hollow cylinder, to be closed at each end and packed so as to hold oil or some suitable fluid for the fans A A to revolve in.

W' is a shaft, driven by a belt on the pulley W.

This shaft carries the fans A A A A.

D', figs. 1 and 3, is a gear-wheel, attached to and revolving with the disk D.

E, figs. 1 and 3, is a segment-gear, hung upon the spindle E^1 and meshing with the gear-wheel D'.

E^2 is a counter-balance, hung upon the spindle E^1.

In practice some device is attached to the spindle E^1 for the purpose of transmitting motion to the throttle-valve of the engine, or, in case this governor is used for a water-wheel, to the gate or cut-off.

The disk D is attached rigidly to the gear, and, consequently, any motion of this disk will cause a movement of the counter-weight E^2.

The buttress fans B B are attached to the disk D.

A A are revolving fans, attached to the disk A' and by it to the shaft W'.

The fans A A B B may be inclined to the disks A' D at any angle, but I prefer to set them at right angles to the plane of the disks.

If prefered the fans may be made with curved or warped surfaces.

The operation of my invention is as follows:

The cylinder H being filled with oil or some other suitable fluid, the fan-disks A A revolve in it with a velocity dependent upon that of the engine. This revolution of the fan-wheel causes a flow of oil against the buttresses B B B B of the disk D, which action causes the disk D to revolve, which transmits its motion through the gear D' and segment-gear E to the spindle E^1 and counter-balance E^2.

From inspection of the above, it will be seen that the force which the flowing fluid exerts against the buttresses B B B B will be dependent upon the velocity of the fan-wheel A A A A, and that the buttress-cylinder D will move a force also in proportion to this velocity, and will be checked in its motion by the counter-balance E^2 acting through the shaft E^1 and segment-gear E.

Therefore, if by any suitable mechanical device the shaft E^1 be connected to a cut-off or throttle-valve, it will serve to regulate the speed of the engine, &c.

I am aware of a patent being allowed to Andrew J. Peavey for a governor for a steam-engine, and hereby disclaim anything that may conflict with his invention.

Claim.

What I claim as my invention is—

The combination of the fan-disk A' A A with the buttress-fan disk D B B, when constructed and arranged substantially as described, and for the purpose set forth.

GEORGE F. POTTLE.

Witnesses:

WILLIAM EDSON,

E. A. NICKERSON.