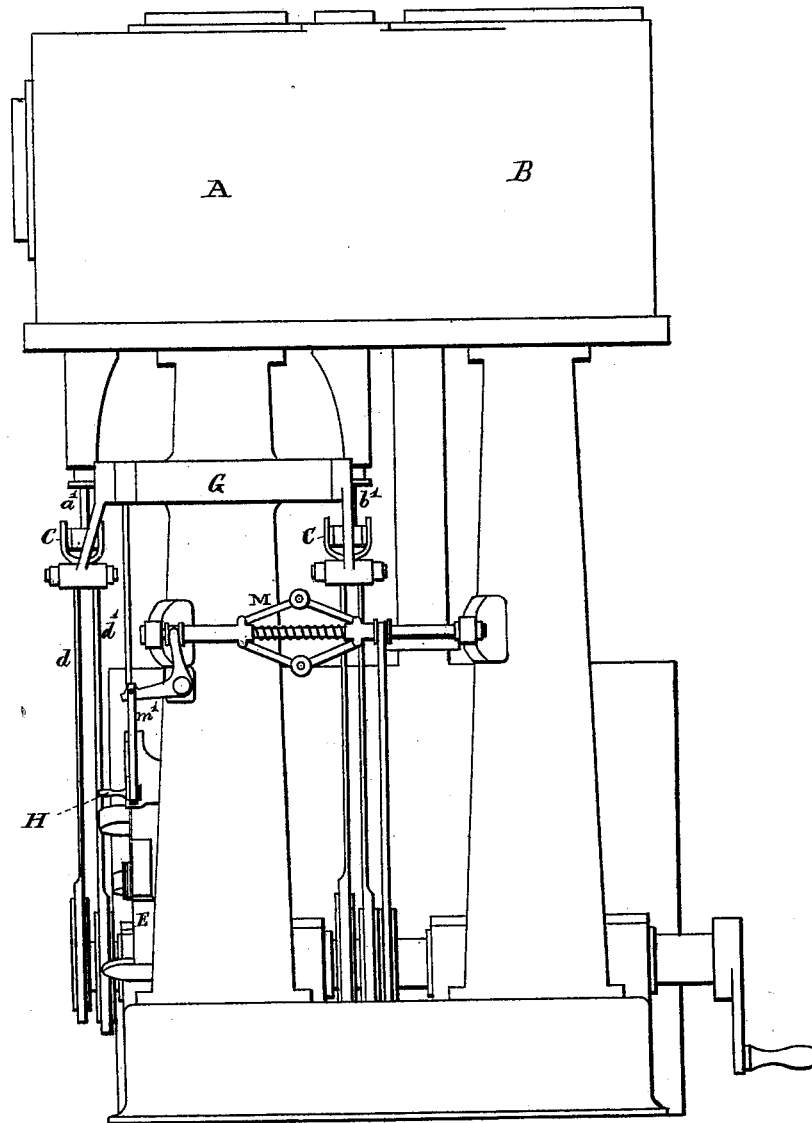


J. S. WILSON.
Governor-Controlling Mechanism.

No. 204,693.

Patented June 11, 1878.

Fig. 1



Witnesses

John F. Grant
D. Louis Shivers

Inventor.

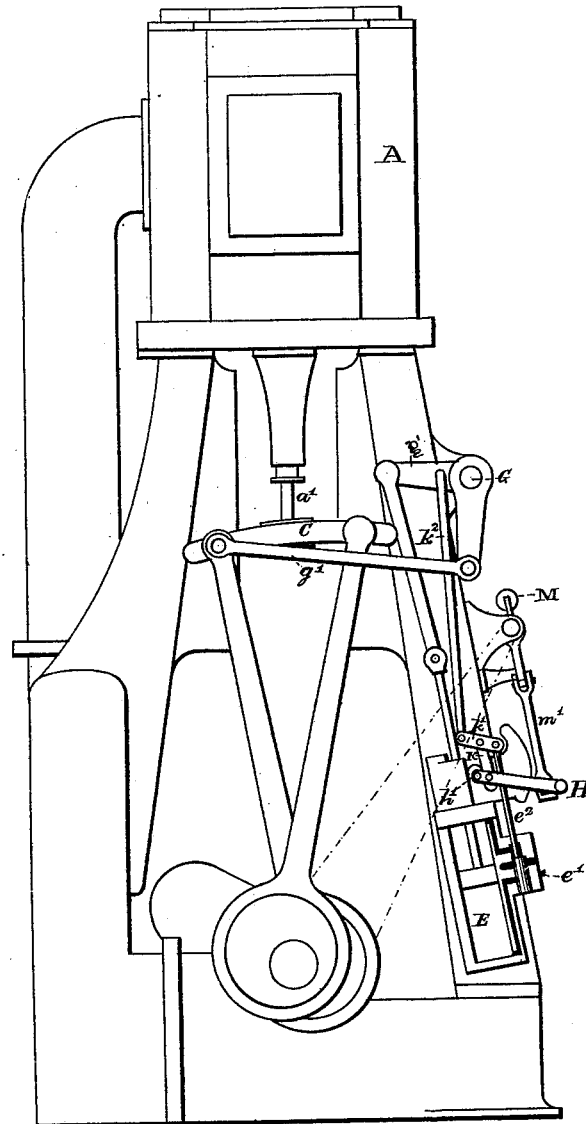
Joseph Shields Wilson
per Edw. Brown
attorney

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Fig. 2



Witnesses.

John P. Grant.
D. Louis Shivers.

Inventor.

Joseph Shields Wilson
per Edw Brown
attorney.

UNITED STATES PATENT OFFICE.

JOSEPH S. WILSON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE WILLIAM CRAMP & SONS' SHIP AND ENGINE BUILDING COMPANY, OF SAME PLACE.

IMPROVEMENT IN GOVERNOR-CONTROLLING MECHANISM.

Specification forming part of Letters Patent No. **204,693**, dated June 11, 1878; application filed April 12, 1878.

To all whom it may concern:

Be it known that I, JOSEPH SHIELDS WILSON, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Apparatus for Governing Steam-Engines, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is an end elevation.

The nature of my invention consists in controlling and regulating the speed of an engine through the reversing-link by means of a governor attached to the starting-handle of an intermediate or auxiliary steam-cylinder, the valve of which is operated by a system of compensating-levers.

By this invention a small governor has perfect control of the reversing-link of the largest marine engine.

The high-pressure cylinder is indicated by letter A. B is the low-pressure cylinder. *a'* *b'* are the main valve-rods.

The reversing-gear consists of the usual reversing-link C, the eccentric-rods *d d'*, and an auxiliary steam-cylinder, E, to operate the reversing-shaft G.

The reversing-shaft is connected to the reversing-link by the rod *g'*, and by this means the reversing-link is thrown into forward, mid, or back gear, as is now customary.

The low-pressure cylinder has a similar reversing-link and eccentric-rods.

The steam is admitted to the auxiliary cylinder E by the three-port slide-valve *e'*, which valve is controlled by the starting-handle H and a peculiar arrangement of compensating-levers.

The handle H is fulcrumed at *h'*, and operates a link, K, which is hinged near the center of the compensating-lever *k¹*. This lever is attached at one end to the valve-rod *e²*, and at the other end to the rod *k²*. The opposite end of the rod *k²* is jointed to the arm *g'* of the reversing-shaft, and the said arm is operated directly by the piston of the auxiliary steam-cylinder E.

By this arrangement the piston of the auxiliary steam-cylinder E retains a position in the cylinder corresponding to the position of the handle H; and consequently, by a very small expenditure of force upon the handle H, the ordinary reversing-link C of compound marine engines may easily be handled.

M is a small governor upon the frame of the engines. It is placed horizontal, and the weights are restrained by springs, this style of governor being preferable for marine engines.

The movement of this governor is communicated by a rod, *m'*, to the handle H; and by the apparatus above described a very powerful marine engine can be brought under the perfect control of a small governor.

I am aware that governors have been attached direct to the reversing-link, and, also, that the common mode of controlling marine engines is by a throttle-valve, which shuts off the steam from the high-pressure cylinder, but this only partially accomplishes the purpose in compound engines, as there is no direct control of the low-pressure engine.

In my invention, however, the governor operates, by intermediate mechanism, the main valve of each cylinder, this quickness of operation being essential for sea-going screw-engines during a storm.

While my invention is especially of benefit in the above-mentioned engines, I do not confine my invention to them, but apply it as well to plain engines.

What I claim is—

The combination of a governor operating the starting-handle H of the auxiliary steam-cylinder E, the compensating-levers and links K *k¹* *k²*, the reversing-shaft G, and the link C, all connected and operating to control the valve, substantially as herein described.

JOSEPH SHIELDS WILSON.

Witnesses:

JOHN F. GRANT,
HORACE LEE.