T. EVANS.

Stop Motion for Steam-Engines.

No. 167,231. Patented Aug. 31, 1875.

Fig. 1.

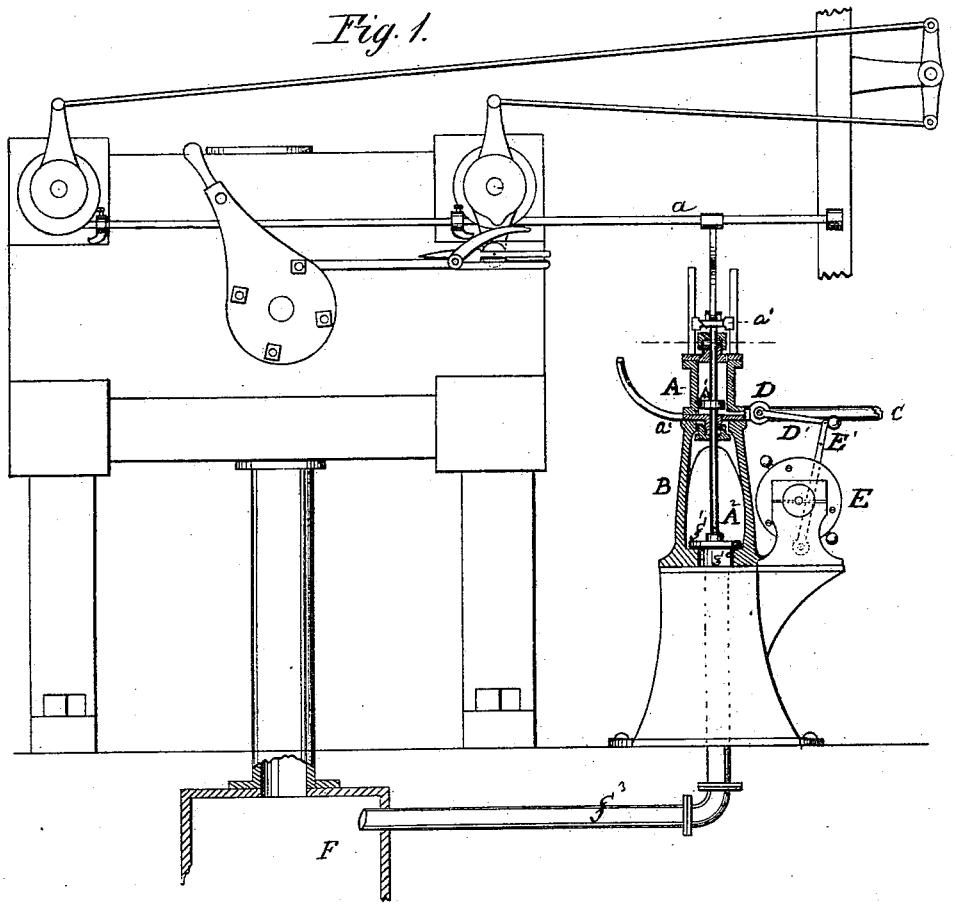
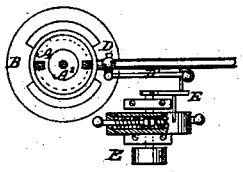


Fig. 2.



WITNESSES:

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THOMAS EVANS, OF SOUTH MANCHESTER, CONNECTICUT.

IMPROVEMENT IN STOP-MOTIONS FOR STEAM-ENGINES.

Specification forming part of Letters Patent No. **167,231**, dated August 31, 1875; application filed April 10, 1875.

To all whom it may concern:

Be it known that I, THOMAS EVANS, of South Manchester, in the county of Hartford and State of Connecticut, have invented a new and Improved Stop-Motion for Steam-Engines, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a sectional side elevation, and Fig. 2 a top view, of my improved automatic stop-motion for steam-engines.

Similar letters of reference indicate corresponding parts.

My invention relates to an improved automatic stop-motion for steam-engines; and it consists of an auxiliary steam-cylinder, connected with the main steam-pipe, and provided with a weighted valve, and a piston whose rod is connected with the cross-head and an air-valve of the condenser for interrupting the action of the main steam-cylinder on the opening of the cylinder-valve.

In the drawing, A represents a steam-cylinder, of suitable size, that is supported on standards or frame-work B, in the required relative position to the other parts of the steam-engine. The cylinder A is connected with the main steam pipe or boiler by a pipe, C, which is provided with a valve, D, having a weighted lever, D′, supported on a suitable catch. The valve is opened for admitting steam to the cylinder by means of a lever or releasing-cord from any part of the workshop, or by the centrifugal force of the main or auxiliary shaft.

The centrifugal arrangement E, shown in the drawing, consists of diametrically-sliding and spring-acted rods and balls, which strike, when the engine runs at too great a degree of speed, the arm of a lever, E′, which supports, by an additional catch or arm, the weighted valve-lever. The dropping of the valve-lever opens the valve D and admits steam to the piston A^1 of cylinder A. Piston-rod A^2 is connected to the cross-head a' of the stop-cylinder piston, and by an opposite extension to an air-valve, f^1, over the aperture f^2 that connects by a pipe, f^3, with the condenser, if one is used, so that when the automatic action of the centrifugal weights open the valve the piston is forced forward, and the vacuum of the condenser F destroyed. The cross-head is at the same time forced forward with the piston for preventing the entrance of steam to the main cylinder, either by shutting stop-valve or interrupting working of steam-valves, or, in case of link motion, by bringing the link to center and close ports. The piston-rod A^2 of the stop-cylinder slides in suitable stuffing-boxes, the whole device being constructed in conformity to the connecting parts of the engine.

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

The combination of auxiliary steam-piston A, the steam-piston rod A^2, having piston A^1, air-valve f^1, and a connection with engine-rod a, the condenser F having connections f^2 f^3, the weighted lever D supported on a suitable catch, the lever E′, and the centrifugal device E, all arranged as and for the purpose specified.

THOMAS EVANS.

Witnesses:

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