

J. GASKELL.

Safety-Appliances for Governors.

No. 144,973.

Patented Nov. 25, 1873.

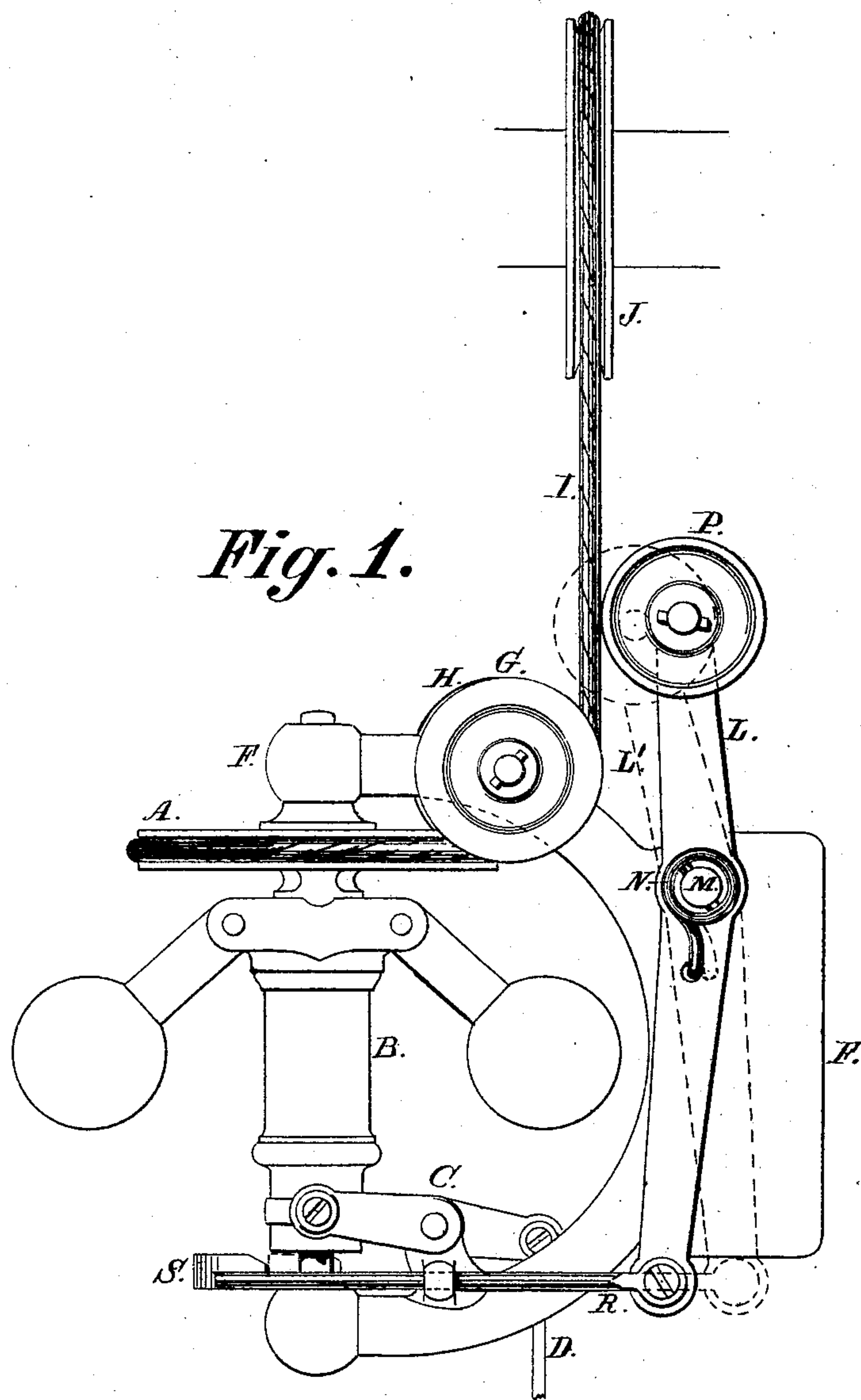


Fig. 1.

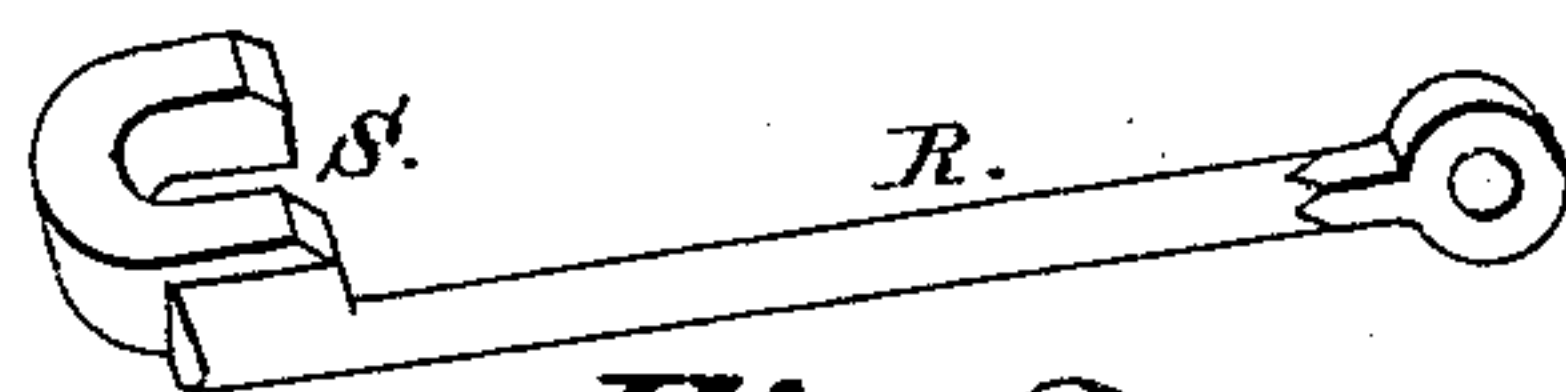


Fig. 2.

Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN GASKELL, OF BRIDGEPORT, ASSIGNOR TO THE COLT'S PATENT FIRE-ARMS MANUFACTURING COMPANY, OF HARTFORD, CONNECTICUT.

IMPROVEMENT IN SAFETY APPLIANCES FOR GOVERNORS.

Specification forming part of Letters Patent No. **144,973**, dated November 25, 1873; application filed May 26, 1873.

To all whom it may concern:

Be it known that I, JOHN GASKELL, of Bridgeport, Connecticut, have invented an Improved Safety Appliance for Governors, of which the following is a specification:

My invention relates to governors for regulating the speed of steam-engines or other motors. Its object is to prevent the engine from racing when the belt which drives the governor becomes broken or unduly stretched. To this end my said invention consists in combining, with an idle-pulley or a feeler which bears against the driving-belt of the governor, a stop or catch, which is so arranged, in connection with the said feeler, substantially as described, that when the governor-belt breaks the stop will engage with that movable part of the governor which actuates the valve or gate, and hold the said movable part in the position it may occupy, or nearly so, at the time, and thereby prevent the valve from being moved from the position it occupied at the instant of failure of the belt.

In the accompanying drawings, my invention is represented as applied to a simple form of centrifugal governor.

Figure 1 is a side view of the governor and my invention, with the parts in the positions they would occupy when the governor-belt is working properly, showing, also, by broken lines, the positions the parts would assume if the belt were broken. Fig. 2 is a perspective view of the stop and the rod which carries it.

A is the governor-pulley, and B the sleeve, which rises and falls with the motion of the balls, thereby closing and opening the steam-valve of the engine. C is a lever, which conveys the motion of the sleeve to the valve-rod D. The parts of the governor are supported in bearings in a frame, F. G and H are guide-pulleys to convey the driving-belt I from a pulley, J, on the engine-shaft to the governor-pulley.

My invention is applied to this form of governor in the following way: To the side of the frame F is attached a lever, L, whose fulcrum is at M. A coil-spring, N, tends to turn this lever about its fulcrum in the direction shown by the arrow. The upper end of the lever L carries a small idle-pulley, P, constituting a feeler, which the spring N tends to force against the governor-belt I, and this belt, when in its

proper place, prevents the lever L from yielding to the spring; but if the belt should become broken the lever L would be turned by the spring N into the position shown at L' by dotted lines. The lower arm of the lever L carries a rod, R, which extends forward beyond the governor-spindle, and carries at its outer end a block or stop, S, of the form shown by the perspective sketch, Fig. 2. The stop S stands clear of the governor-sleeve when the lever L is in its normal position—that is, when it is held by the governor-belt from yielding to the spring N; but when the belt breaks or yields, and the lever L is thus permitted to yield to the spring, then the block S is drawn under the sleeve B, and fills the space between the bottom of the sleeve and the frame beneath it, the block, under these circumstances, acting as a stop to prevent the sleeve from dropping and opening the valve, as it otherwise would do after the speed of the governor had become reduced by the failure of the belt. The inner edge of the block S is made wedge-shaped, so that it may be drawn under and wedge up the sleeve, if this should stand in a lower position than would admit of the whole thickness of the block.

It is obvious that my invention may be applied to other kinds of governors driven by an arrangement of belts different to that which I have illustrated. This will only require changes in the form and position of the different parts of the mechanism for conveying the motion of the feeler which presses on the belt to the stop which locks the regulating mechanism in its place.

I claim as my invention—

In combination with a governor and the belt which drives it, a feeler provided with means of pressure, to bear said feeler upon the belt, and a stop in connection with said feeler, and in position relatively to the governor, constructed and operating substantially as described, so that, upon the breaking or loosening of the belt, the said stop will catch and hold the valve-moving portion of the governor in substantially the position it occupies when such breaking or loosening occurs.

JOHN GASKELL.

Witnesses:

RUDOLPH KOST,
HERMANN GANSS.