Le G. SKINNER.

STOP-MOTION FOR GOVERNORS.

No. 189,068. Patented April 3, 1877.

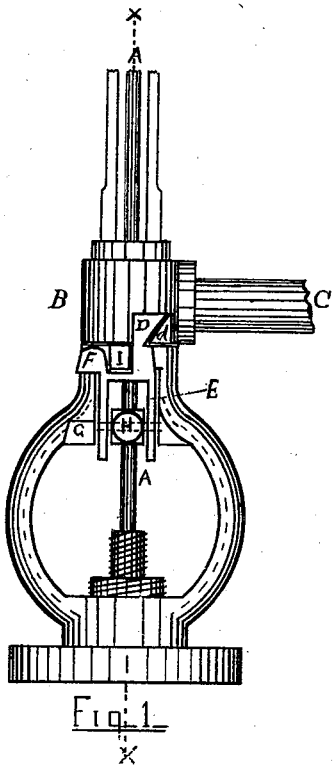

Fig. 1.

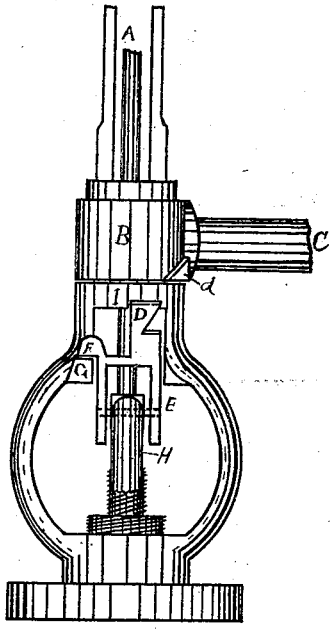

Fig. 2.

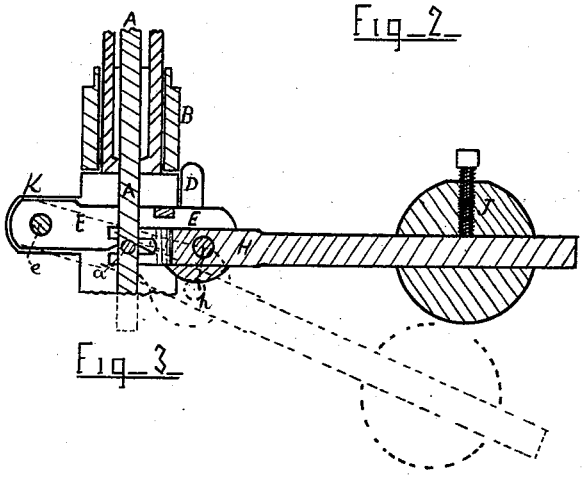

Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

LE GRAND SKINNER, OF ERIE, PENNSYLVANIA.

IMPROVEMENT IN STOP-MOTIONS FOR GOVERNORS.

Specification forming part of Letters Patent No. **189,068**, dated April 3, 1877; application filed July 28, 1876.

To all whom it may concern:

Be it known that I, LE GRAND SKINNER, of Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Stop-Motions for Governors; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

My invention consists in providing a steam-engine or other governor with a device for closing the valve when the belt to the governor is run off or broken, which device shall do its work automatically. In other words, my invention consists in providing an automatic shut-off device for steam-engine or other governors.

It is illustrated in the accompanying drawings, as follows:

Figure 1 is a front elevation of a governor-frame, with the balls, propelling-pinions, and pulleys removed, and shows my device in the position it occupies when the valve is open and the engine running. Fig. 2 is the same view, showing the position of my device when the belt has run off or been broken and the valve shut down. Fig. 3 is a section through my device on the line *x x*, Fig. 1.

The following is a general description of my invention, as shown in the drawings.

A is the valve-rod, and *a* is the pin by which the balance-weight arm H connects with the rod. The arm H is fulcrumed at *h* on a sustaining-frame, E, which is attached to the governor-frame by a pivot-pin, *e*, through ears K, which extend from the frame. This frame E is supported at its opposite end by a catch, D *d*, which is seen best in Fig. 1, and which will be described more fully farther on. In Fig. 3 these parts are seen by full lines in working position, and by dotted lines in the position they occupy when the belt is off. When the belt is off the catch D *d* disengages, and the frame E falls down at one end, carrying with it the balance-weight J and arm H. When this occurs the frame E becomes part of the lever or arm H, the fulcrum changing to the pivot-pin *e*. This carries down the valve-rod A, and the pin *a* is the point when the weight of the arm and weight J and H is exerted. This holds down the valve, and prevents the steam from entering the steam-chest; or, in other words, this causes the shut-off.

The operation and construction of the catch arrangement D *d* are as follows:

The pulley-shaft C is connected to the frame by a sleeve, B, which allows the shaft to swing back when not held forward by the belt on the pulley. On this sleeve B is a lug, *d*, with a beveled or inclined face. On the frame E is a stud, D, with an angular notch, to correspond with the face of the lug *d*. When the frame E is raised up to a working position the notch in the stud engages with the lug *d*, as seen in Fig. 1. When the parts are in this position the belt can go on the pulley, and while on will keep the parts in that position. As soon, however, as it runs off or breaks, the weight of the parts on the inclined catch will swing the sleeve B around, and the catch will be disengaged. This causes the balance-weight to fall, and the parts to take the position shown in Fig. 2, and by dotted lines in Fig. 3, and shuts the valve.

My device may be used when it will not be practicable to use the balance-weight J, in which case a spring can be used as well.

I make no claim to the arm H and weight, for they are old; but when the arm acts in conjunction with the frame E, I believe it to be my invention.

I am also aware that the pulley-shaft C has been connected to the frame by a sleeve; but I think this was done in connection with a screw-like inclined plane, by which the sleeve was raised when in one position, and lowered when in another position, carrying with it the balls, valve-rod, &c. I believe a swinging sleeve, B, carrying with it a catching device, as shown, is new.

What I claim is as follows:

1. The sustaining-frame E, pivoted at one end, and having the counter-weight arm H pivoted to it at the other end, and forming, with the said arm, the shut-off lever, substantially as shown and described

2. The frame E, pivoted and operating sub-

stantially as described, and the arm H, pivoted to and sustained by the frame E, in combination with the rod A, as shown, and for the purposes mentioned.

3. The combination of the frame E and catching device D *d*, constructed and operating substantially as shown and described.

4. The pulley-shaft C, connected to the frame by a swinging sleeve, B, in combination with a catching device for sustaining the shut-off lever, substantially as shown, and for the purposes mentioned.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

LE GRAND SKINNER.

Witnesses:
JNO. K. HALLOCK,
CHAS. BURNHAM.