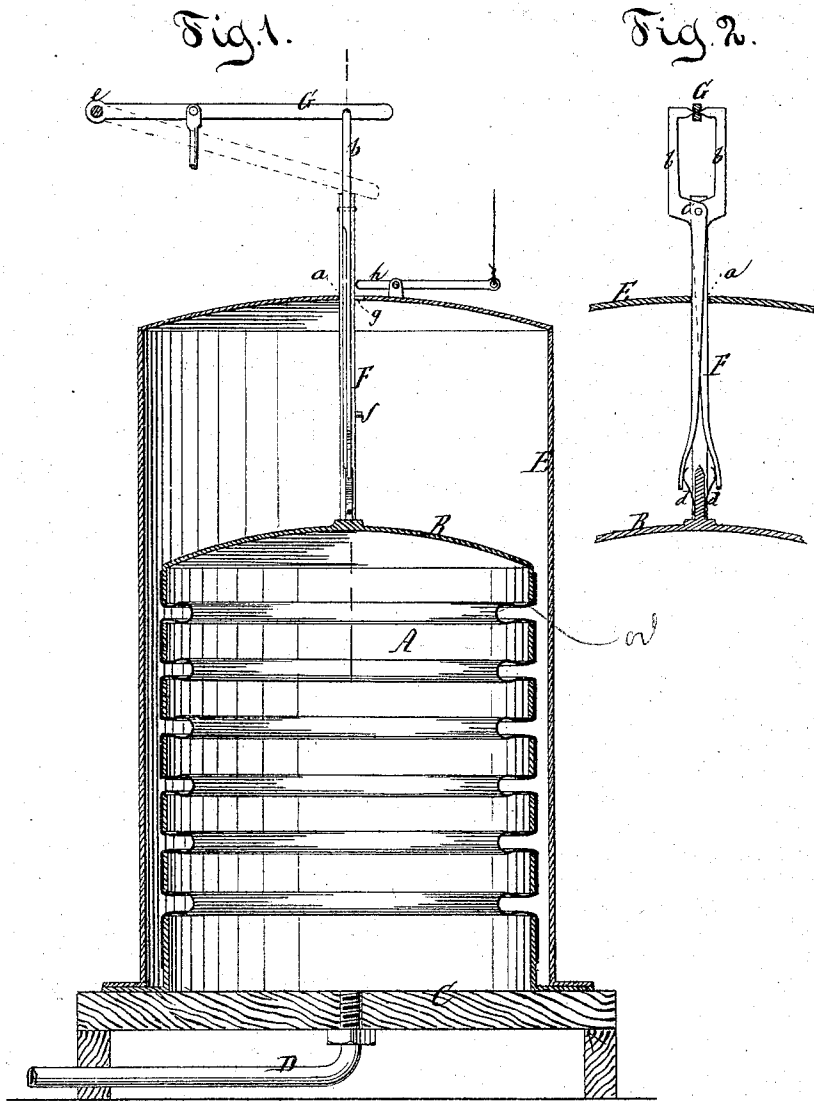


R. KOCH.

Governors for Gas Exhausters, &c.

No. 137,215.

Patented March 25, 1873.



Witnesses.
Ernst Bilhuber.
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UNITED STATES PATENT OFFICE.

RICHARD KOCH, OF NEW YORK, N. Y.

IMPROVEMENT IN GOVERNORS FOR GAS-EXHAUSTERS, &c.

Specification forming part of Letters Patent No. 137,215, dated March 25, 1873.

To all whom it may concern:

Be it known that I, RICHARD KOCH, of the city, county, and State of New York, have invented a new and Improved Governor for Gas-Exhausters; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a vertical central section of this invention. Fig. 2 is a sectional front view of the rod which forms the connection between my bellows-valve and the throttle-valve of the engine that serves to impart motion to a gas-exhauster.

Similar letters indicate corresponding parts.

This invention relates to a governor, the action of which is based upon a bellows-valve, from the interior of which extends a pipe to the hydraulic main of a gas-house, while its head-plate is connected to the throttle-valve of the steam-engine that serves to impart motion to a gas-exhauster in such a manner that when the pressure of the gas in the hydraulic main rises, and consequently the duty of the exhauster increases, the throttle-valve of the engine is raised, and, consequently, the power and speed of the engine and of the exhauster are increased, and vice versa. The rod which rises from the head-plate of the bellows-valve, and which connects with a lever that acts on the throttle-valve, is made in the form of a spring-fork in such a manner that when the motion of the gas-exhauster stops, either by the breaking of the belt connecting it with the engine or from some other cause, while the production of gas is going on, the throttle-lever will be automatically disengaged and the throttle-valve will close, thereby preventing the engine from racing. With said spring-fork is combined an alarm-lever, so that whenever the throttle-lever is disengaged from said fork the alarm-lever starts an alarm situated in any convenient part of the building, and thereby the attention of the superintendent, or of the person having charge of the gas-works, is called to the fact that the operation of the gas-exhauster has been interrupted.

In the drawing, the letter A designates a bellows-valve, constructed of a series of rings

which are united by a piece of oil-silk or other flexible material capable of withstanding the effect of gas or other fluid that may pass through said valve. The upper ring of my valve is provided with a rigid head, B, while its lowest ring is provided with a flange that serves to secure the same upon the bed-plate C. Through this bed-plate extends a pipe, D, which connects with the gas-main. The valve A is covered by a jacket or hood, E, and from the head B of said valve rises a rod, F, which extends through a hole, *a*, in the head of the hood E. Said rod is provided with two jaws, *b b*, which turn on a pivot, *c*, secured in the body of the rod, and the lower ends of the shanks of said jaws are exposed to the action of springs *d d*, (see Fig. 2,) that have a tendency to keep the jaws closed. Said jaws engage with cavities in the sides of a lever, G, that swings on a pivot, *e*, and connects with the throttle-valve of the engine that imparts motion to the gas-exhauster, the connection between the throttle-valve and the lever being such that when the head of the bellows-valve rises the throttle-valve is opened, and vice versa. If the pressure of the gas in the hydraulic main increases the head of the bellows-valve is forced up, the throttle-valve of the engine is opened, and the speed of the exhauster is increased, and vice versa. The lower ends of the shanks of the jaws *b b* are curved outward, as shown in Fig. 2, and if the connection of the exhauster with the engine is interrupted by the breakage of a belt, or if the exhauster ceases to act from some cause, so that the pressure of the gas in the hydraulic main increases, then the head of the bellows-valve rises to such a point that the curved ends of the shanks of the jaws are forced up into the hole *a* in the head of the jacket or hood, and thereby the jaws *b b* are opened, and the throttle-lever is allowed to drop down to the position shown in dotted lines in Fig. 1. By this motion of the throttle-lever the throttle-valve is closed automatically and the engine is prevented from racing. From the rod F projects a pin, *f*, Fig. 1, and the hole *a* in the head of the jacket is provided with an extension, *g*, over which is situated a lever, *h*, that connects with an alarm, of any suitable construction, which is placed in the office of the

superintendent, or in any convenient place in the gas-house. When the rod F rises so as to disengage the throttle-lever, the pin *f* strikes the alarm-lever *h*, and the alarm is sounded, thereby calling the attention of the person in charge to the fact that the operation of the exhauster has been disturbed.

What I claim as new, and desire to secure by Letters Patent, is—

1. The rod F, constructed with two spring-jaws, *b b*, the shanks of which are curved at their lower ends, in combination with a bellows-valve, A, a hood or cross-bar, E, and with

the throttle-lever G, the whole constructed and operating substantially in the manner set forth.

2. The rod F provided with the pin *f* and the bellows-valve A, in combination with a suitable alarm, substantially as and for the purpose described.

This specification signed by me this 13th day of January, 1873.

RICHARD KOCH.

Witnesses:

W. HAUFF,

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