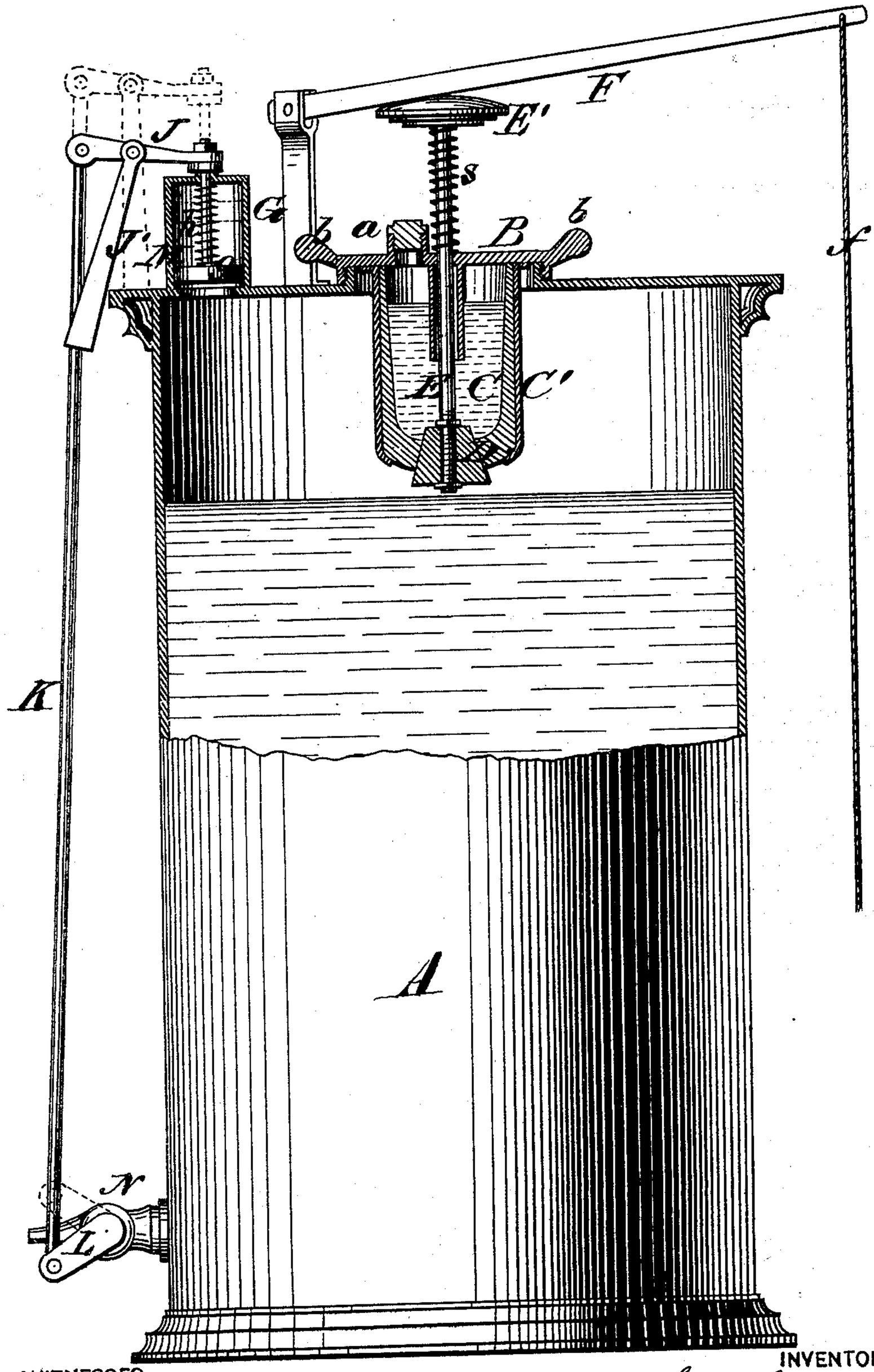
H. G. DAYTON.

Fire-Extinguishers.

No. 156,141. Patented Oct. 20, 1874.



WITNESSES

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UNITED STATES PATENT OFFICE.

HENRY G. DAYTON, OF MAYSVILLE, KENTUCKY.

IMPROVEMENT IN FIRE-EXTINGUISHERS.

Specification forming part of Letters Patent No. **156,141**, dated October 20, 1874; application filed October 3, 1874.

To all whom it may concern:

Be it known that I, HENRY G. DAYTON, of Maysville, in the county of Mason and State of Kentucky, have invented a new and valuable Improvement in Fire-Annihilators; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

The figure of the drawing is a representation of a side elevation of my fire-annihilator, with the upper part sectioned, to show interior mechanism.

This invention has relation to that class of fire-annihilators wherein carbonic-acid gas and water are employed for extinguishing fires, the gas being generated, at the time the fire occurs, by the action of sulphuric acid on a substance which is rich in carbon. The main object of my invention is to enable a person to cause the flow of gas and water from the apparatus at any time and at any distance from it, so that, should a fire cut off access to the annihilator, it can be started just as well as though a person were near it. To this end my invention consists in certain novel means combined with an outlet-cock, whereby the pressure of gas in the generator will automatically open said cock, when the sulphuric acid is precipitated in the solution by pulling a wire, as will be hereafter explained. It also consists in a gravitating prop, combined with the mechanism for opening the outlet-cock, which prop will positively hold open this cock after it is opened by the pressure of the gas, as will be further explained.

In the annexed drawings, A designates the generator, which may be portable or stationary and of any suitable capacity. B is a screw-cap having a feed-hole, *a*, for supplying a holder, C, with sulphuric acid, and also having two handles, *b b*. When the cap B is unscrewed from the head of the generator a manhole is left through which the generator can be conveniently supplied with water and the bicarbonate of soda. The acid-holder C is of glass and inclosed in a case, C′, of lead, which case is flanged and secured rigidly to the screw-cap B. D designates a cone-valve, which is seated in the bottom of the glass holder C, so as to open downward, and which is fast on a stem, E, passing tightly through the center of the screw-cap B, and having a button-head, E′, on its upper end. Surrounding the valve-stem E, between the head E′ and the cap B, is a helical spring, *s*, of sufficient strength to safely hold the valve D to its seat.

G designates a post rising from the head of the generator A and bearing one end of a lever, F, which lies on the valve-stem head E′, and has attached to its free end a wire, *f*. This wire *f* may be carried off to any convenient place where it will be accessible in case of fire. M designates a cylinder on top of and communicating with the generator A. In this cylinder works tightly a piston, *g*, the stem of which passes through its upper end, and has rigidly secured to it a horizontal arm, J. To the outer end of this arm J a rod, K, is pivoted, the lower end of which is pivoted to the crank-arm L of an outlet-cock, N, located at the bottom of the generator A. J′ designates a prop, which is pivoted to the arm J, and of such length that when the piston *g* is fully thrown up this arm will rest on the top of the generator, as shown in dotted lines, and hold the cock N open. The cock is held shut by means of a spring, *h*, which is coiled around the stem of the piston, inside of this piston.

The generator is charged with water and the bicarbonate of soda, or some other carbonaceous substance, and the holder C is filled with sulphuric acid. Valve N is closed and the prop J′ hung over the edge of the generator-head, as shown in full lines in the drawing. If the lever F be depressed by pulling the wire *f*, the valve D will open and precipitate the acid in the solution below. Carbonic-acid gas will be rapidly generated, and, when the pressure rises to a given point, the piston *g* will be forced up and the valve or cock N will be opened and held open by the prop J. As the gas continues to form, it will press out the saline solution through the cock, which solution may be conducted by means of one or more pipes to any desired point or points.

It will be seen that, should an accident occur by the casual dropping of the sulphuric acid in the saline solution, the cock N would

be opened and the pressure in the generator relieved, thereby preventing explosion. And, in order that persons shall be warned of such accidents, I shall provide the generator with a safety-alarm.

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

1. In combination with the generator A and the outlet-cock N, the piston *g*, working in a cylinder, G, the spring *h*, and the connections J K L, with the plug of cock N, substantially as described.

2. In combination with a gravitating prop, J′, the arm J, piston *g*, connecting-rod K, and outlet N, substantially as and for the purpose set forth.

3. The valve D of the acid-vessel, held up to its seat by a spring, *s*, in combination with a lever, F, as and for the purpose described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

HENRY G. DAYTON.

Witnesses:

GEORGE E. UPHAM,

JAS. B. LOOMIS.