

(No Model.)

W. S. BLAIR.  
VULCANIZER SAFETY GUARD AND GOVERNOR.  
No. 286,766. Patented Oct. 16, 1883.

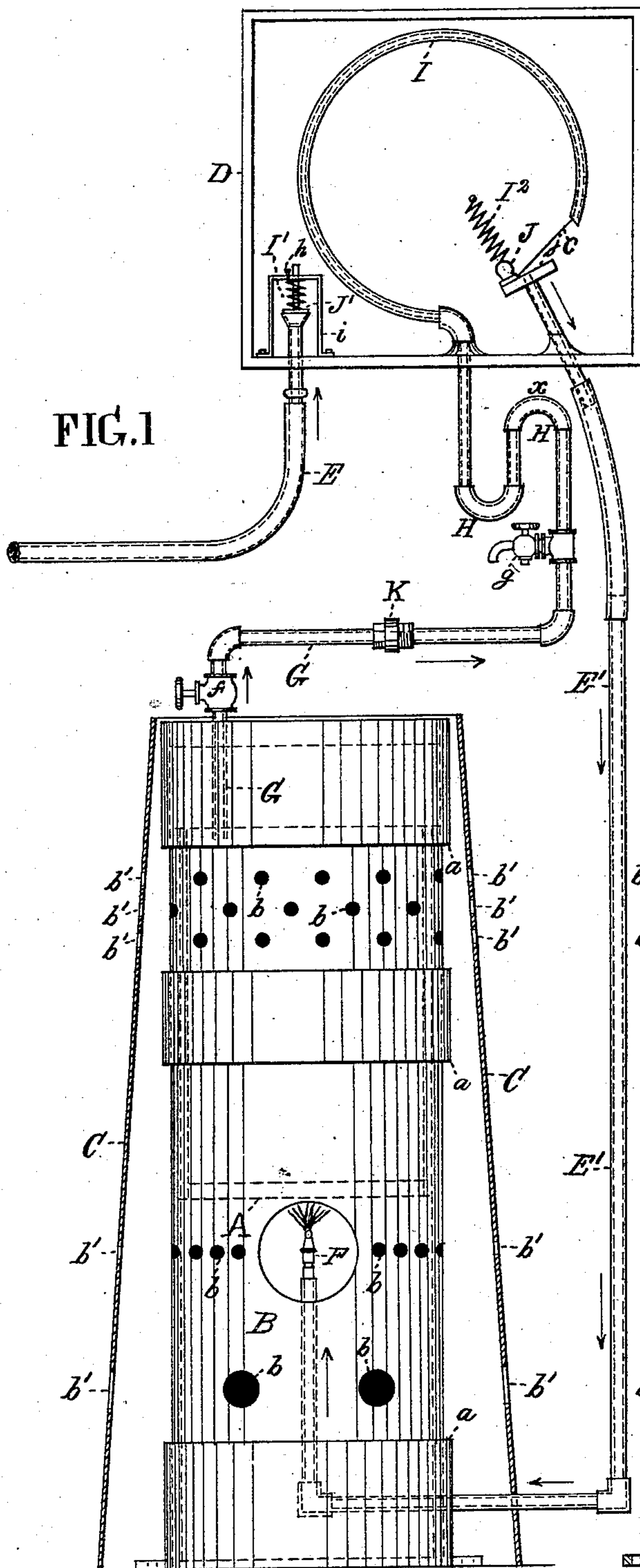


FIG. 1

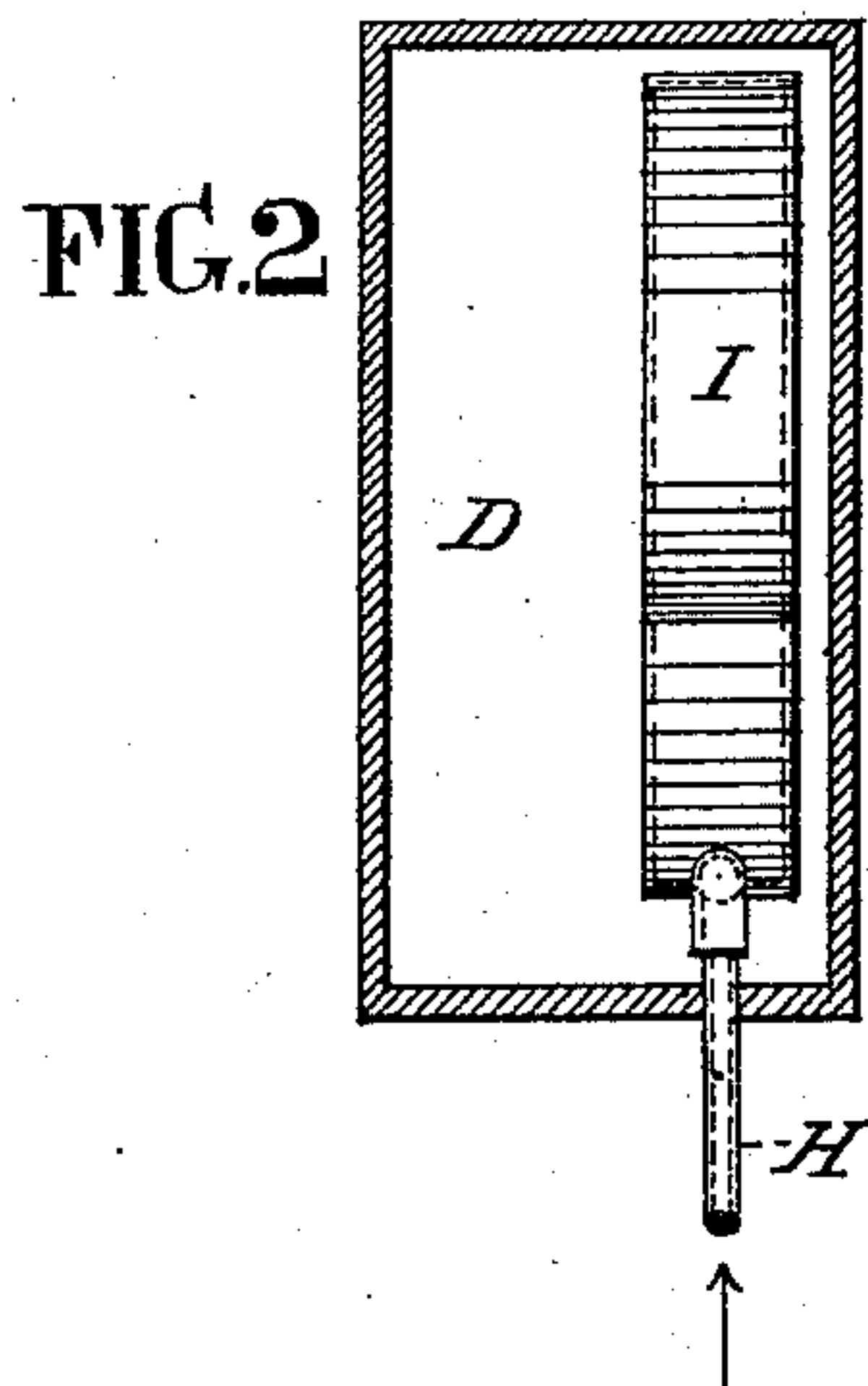


FIG. 2

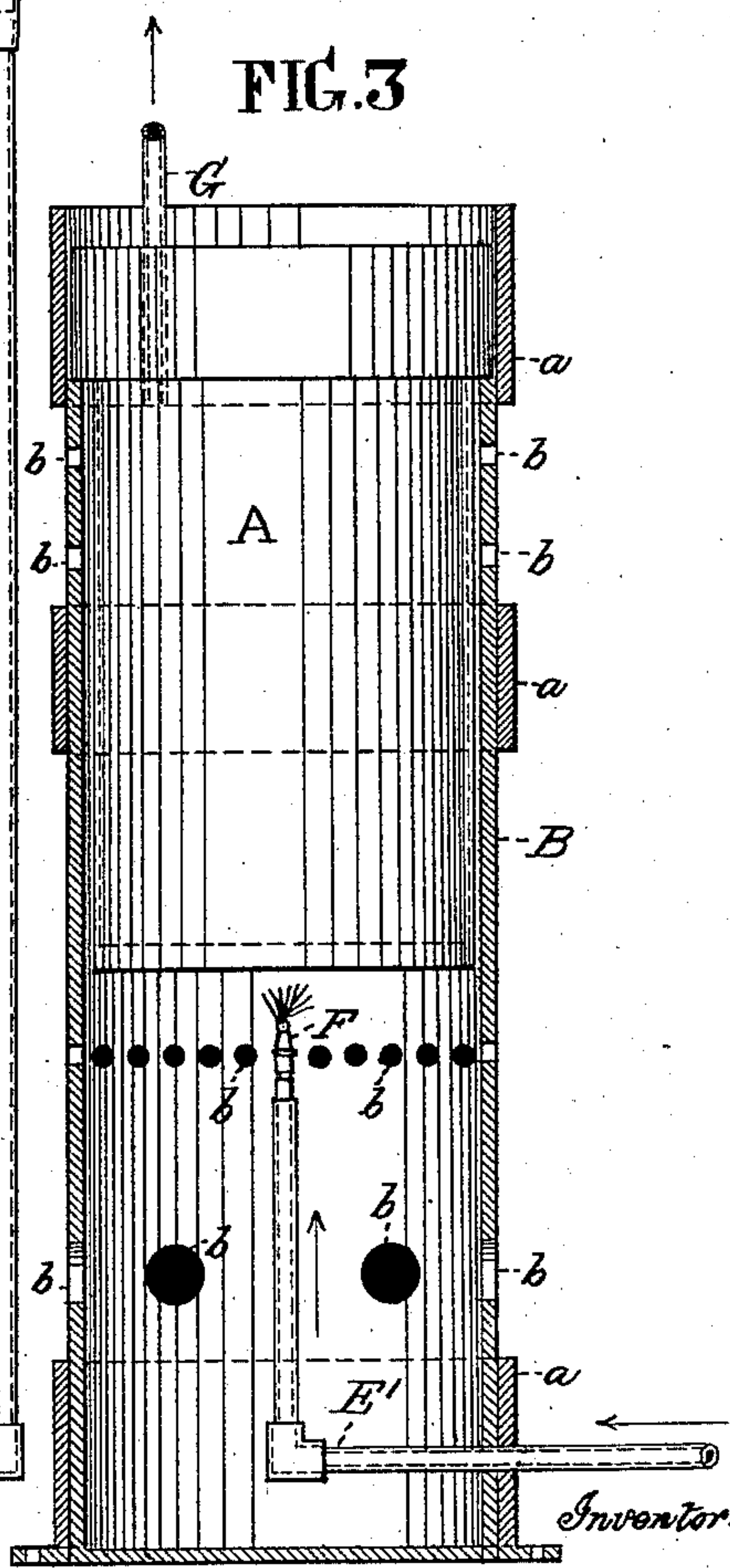


FIG. 3

Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM S. BLAIR, OF PHILADELPHIA, PENNSYLVANIA.

## VULCANIZER SAFETY-GUARD AND GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 286,766, dated October 16, 1883.

Application filed July 18, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM S. BLAIR, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Vulcanizer Safety-Guards and Governors, of which the following is a specification.

The object of my invention is the employment of suitable means of preventing injury in case of the explosion of the vulcanizer, and also for regulating the amount of gas thereto, and to keep the vulcanizer at the required heat; and the nature of the invention consists in the incasing of the vulcanizer in a strong wrought-iron cylinder, which is provided with numerous perforations for the passage of air to the burner to keep up the combustion.

The invention also consists of a governor which regulates the amount of gas consumed and heat of the vulcanizer, as hereinafter fully described.

In the accompanying drawings, which make a part of this specification, Figure 1 is a front elevation of the safety-guard and governor, the front of the case D being removed for the purpose of showing the parts contained within it. Fig. 2 is an end elevation of the case D, and is in section to show the spring I. Fig. 3 is a front elevation of the vulcanizer A.

Like letters of reference in all the figures indicate the same parts.

A represents the vulcanizer, of the usual construction.

B is a safety-guard of cylindrical form, which surrounds the vulcanizer and is open at its upper end. It is made of wrought-iron to secure great resisting strength in case of explosion of the vulcanizer, being not less than one-fourth of an inch thick, and its strength is increased by means of the bands *a a*. The wall of the guard has any desirable number of perforations, *b*, for the passage of air to the burner, hereinafter described, to promote combustion.

C is a sheet-iron shield, which surrounds the guard B, to intercept the view of the latter. It is provided with perforations *b'*, for the ingress of air. The shield is shown in section, to give a full view of the guard B.

D is a case, which constitutes a part of the governor. It may be fastened against the wall,

or otherwise held firmly in its position. It is represented of square form; but it will be understood it may be of any other desirable form adapted to serve for a gas-chamber, and also to contain the devices represented within it.

E is a pipe which supplies the case D with gas, and E' a feed-pipe, through which the gas in regulated quantity is conducted to the burner F, which is located beneath the vulcanizer A.

G is a pipe which is connected at its lower end with the vulcanizer and at its upper end to the siphon-trap H.

I is a curved hollow spring constructed of brass or other suitable metal, and is connected at one end to the trap H and at its other end to the slide-valve J by means of the rod or wire *c*, whereby the flow of gas through the feed-pipe E' to the burner F is regulated. The valve is held down on its seat *j* by means of the spring I'. The hollow spring I and the trap H being filled with water, which terminates at or near the point *x*, steam being generated in the vulcanizer fills the pipe G, and, according to the degree of its force, presses upon the water in the trap, and consequently upon that in the spring, whereby the spring is straightened more or less, according to the force thus exerted, and the intensity of the force corresponding to the degree of heat in the vulcanizer, as the spring is straightened or expanded, it closes the valve as the heat increases, and as it decreases opens it, thereby regulating the flow of gas to the burner in sufficient variable quantity to keep the vulcanizer at the proper degree of heat. The steam-pipe G is provided with a valve, *f*, for regulating the pressure of steam upon the water in the spring I, and a cock, *g*, for the discharge of water.

K is a coupling to provide for the detachment of the lower part of the pipe G when the vulcanizer is required to be removed. The pipe E is provided with a valve, J', pressed upon by the spring I', whereby a uniform pressure of gas in the case D is maintained, the force of the spring being controlled by means of the spring I' in the top plate of pedestal *i*.

I claim as my invention—

1. The safety-guard B, consisting of a

wrought-iron cylinder open at top, and provided with iron band *a a*, the wall of the guard having perforations *b* for the passage of air to the burner F, substantially as described.

5 2. The combination of the slide-valve J and connecting-rod *c* with the hollow spring I, for opening and closing the feed-pipe E', substantially as and for the purpose set forth.

3. The combination of the steam-pipe G,

trap H, and curved hollow spring I with the vulcanizer A and slide-valve J, for regulating the feed of the gas to the burner, substantially as described.

WILLIAM S. BLAIR.

Witnesses:

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