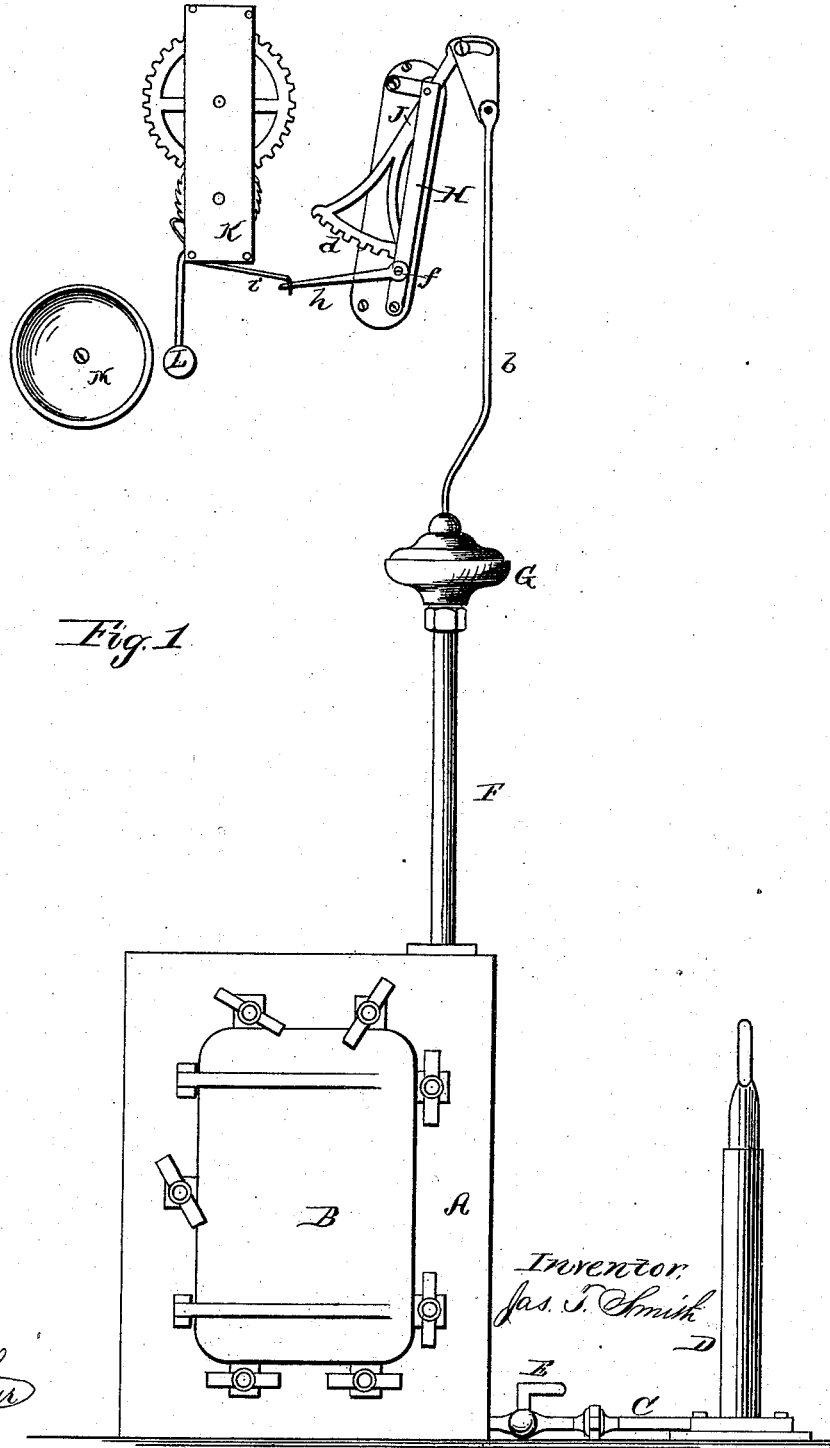


J. T. SMITH.  
Pneumatic Safe Burglar-Alarm.  
No. 211,272. Patented Jan. 7, 1879.



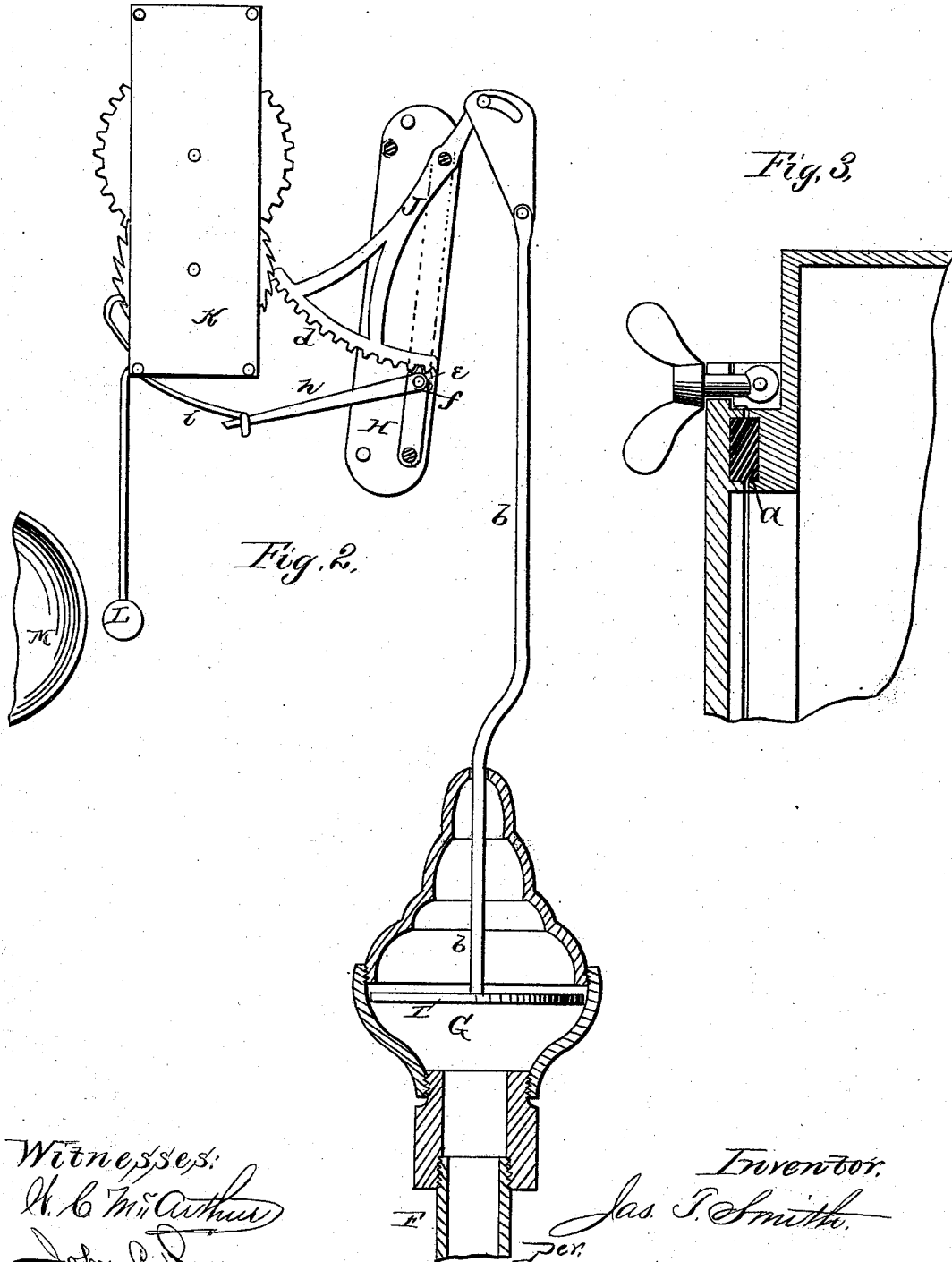
*Fig. 1*

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# UNITED STATES PATENT OFFICE.

JAMES T. SMITH, OF BALTIMORE, MARYLAND, ASSIGNOR TO HIMSELF AND JEREMIAH BOYD, OF SAME PLACE.

## IMPROVEMENT IN PNEUMATIC SAFE BURGLAR-ALARMS.

Specification forming part of Letters Patent No. **211,272**, dated January 7, 1878; application filed November 25, 1878.

*To all whom it may concern:*

Be it known that I, JAMES T. SMITH, of Baltimore; in the county of Baltimore and State of Maryland, have invented certain new and useful Improvements in Pneumatic Safe Burglar-Alarms; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to safe burglar-alarms operated by compressed air; and it consists, essentially, in an air-tight vault arranged to receive one or more safes, and connected by pipes with a mechanism which will set off the alarm whenever the pressure of air in the vault is reduced, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a front elevation; Fig. 2, an enlarged detail view of the valve and alarm; and Fig. 3, a detail section, showing packing around the door.

A represents a vault, of any suitable construction and dimensions, and provided with a door, B. The vault itself is made perfectly air-tight, and around is interposed packing *a*. This packing may be placed in a suitable recess formed in the door-frame, and the door formed with a flange or rib to enter said recess, or in any other suitable manner, so that when the door is fastened by screws or otherwise the joint will be air-tight.

The vault A is, by a pipe, C, connected with an air-pump, D, whereby the air is to be compressed in the vault; and in the pipe C is a stop-cock, E, for retaining the compressed air in the vault when the pump is stopped.

The vault A is further, by a pipe, F, connected with a valve-chamber, G, in which is a valve, diaphragm, or other suitable device,

I, which is raised by the compressed air from the vault, and which will fall as soon as the pressure is relieved. The valve I is provided with a rod or stem, *b*, which connects with a pivoted lever, J, the other end of this lever being formed or provided with a cogged segment, *d*, that meshes with a pinion, *e*, on a shaft, *f*. This shaft is provided with an arm, *h*, as shown.

The lever J and shaft *f* are mounted in a suitable frame, H.

K represents an ordinary spring-alarm gearing with hammer L, to operate on a bell or gong, M. The hammer-lever is provided with an arm, *i*, to be engaged with the arm *h* on the shaft *f*.

The valve-chamber G, alarm, and intermediate mechanism may be at any distance from the vault—for instance, at a police-station, in a watchman's room, or in any place where desired, the pipe F in all cases connecting the vault with the valve-chamber. This pipe F is to be made of metal, like ordinary gas-pipe, so as to be perfectly air-tight, but never with an elastic tube or pipe.

When the vault is closed, air is compressed therein, which air stands in the pipe F and chamber G, also raising the valve I. This, by the intermediate mechanism described, actuates the arm *h*, so as to come in contact with and raise the arm *i*, thereby holding the hammer L away from the bell. The alarm is then wound-up.

If, now, any attempt be made to open the vault, either at the door or by cutting through any part of it, as soon as the least opening is made the air rushes out, and the pressure is at once relieved, which causes the valve I to fall, thereby turning the arm *h* out of the way, and the alarm is immediately sounded.

A spring may be arranged in connection with the valve I, to insure its descent when the air-pressure is relieved.

It is evident that the vault itself may form the safe, instead of having other safes placed therein.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In combination with the vault A and pipe F, the chamber G, valve I, with rod *b*, lever J, pinion *e*, shaft *f*, and arm *h*, and the alarm with an arm, *i*, projecting from the hammer-lever, substantially as and for the purposes herein set forth.

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

JAS. T. SMITH.

Witnesses:

T. H. ALEXANDER,  
W. C. McARTHUR.