

(No Model.)

M. MARTIN.  
AUTOMATIC FIRE ALARM.

No. 266,706.

Patented Oct. 31, 1882.

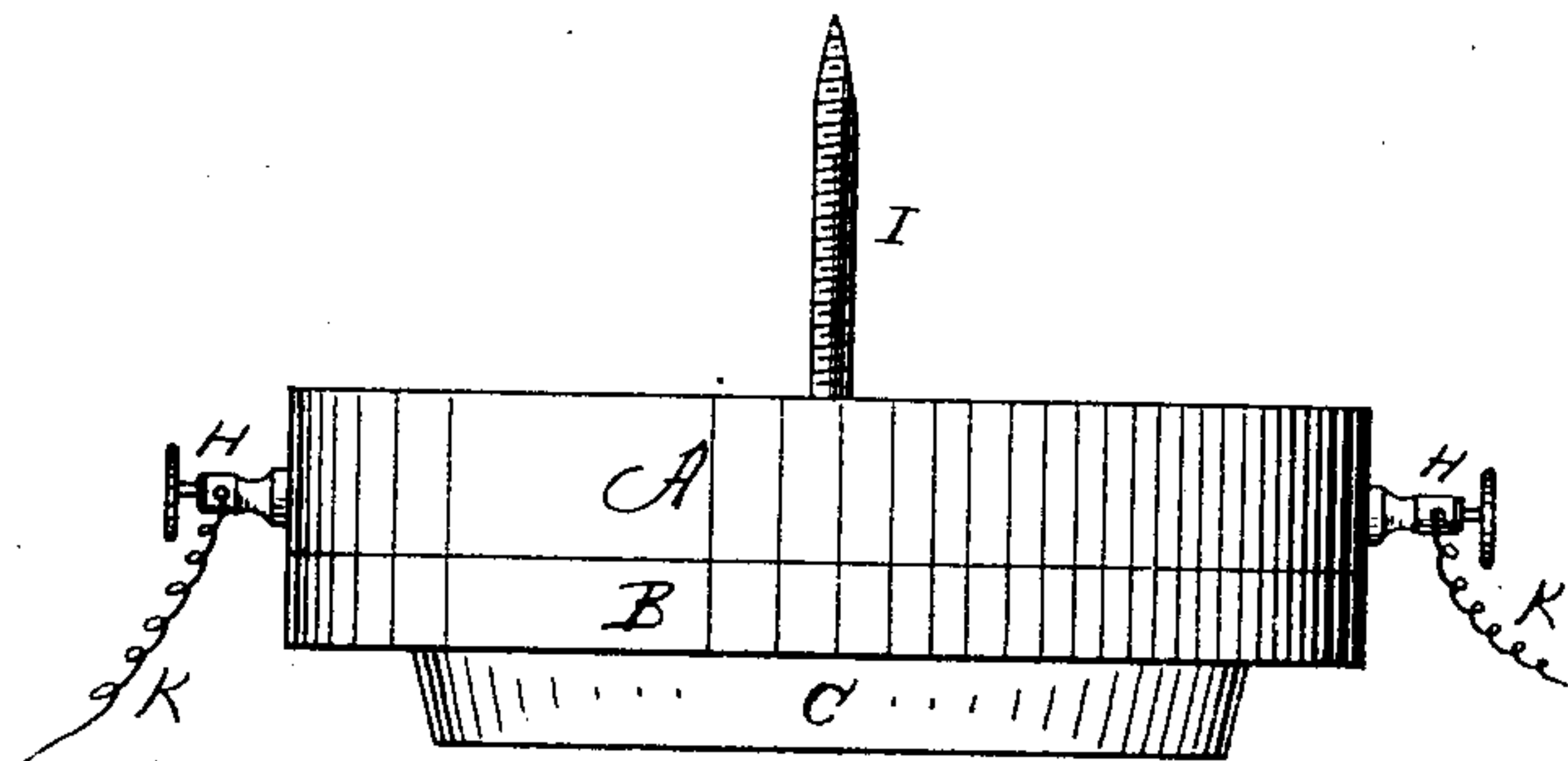


Fig. 1.

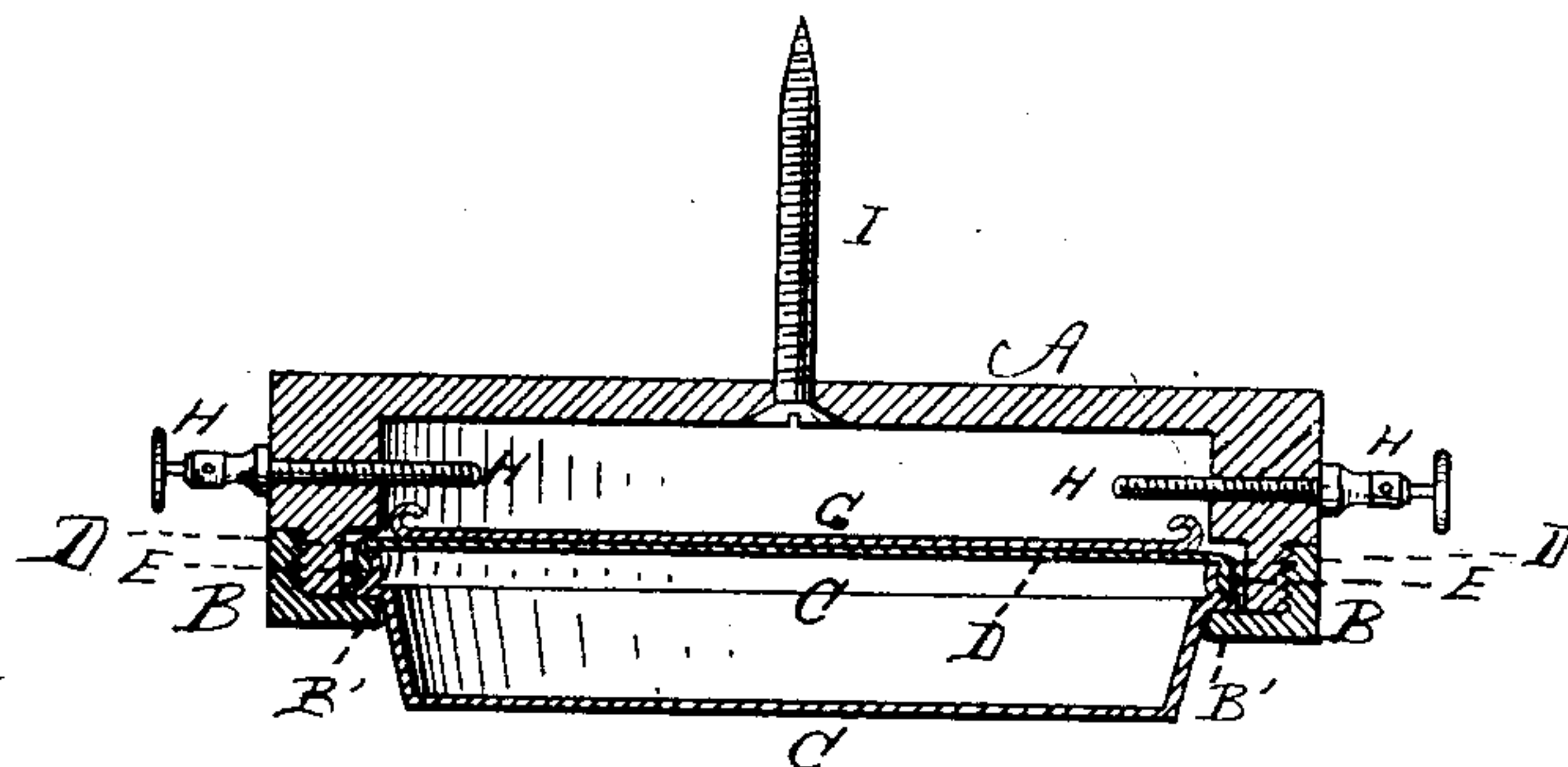


Fig. 2.

WITNESSES

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# UNITED STATES PATENT OFFICE.

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## AUTOMATIC FIRE-ALARM.

SPECIFICATION forming part of Letters Patent No. 266,706, dated October 31, 1882.

Application filed May 1, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, MORRIS MARTIN, of Malden, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Fire-Alarm Apparatus, of which the following is a specification.

This invention consists of the device below described, adapted to be placed in any room in a building, whereby when the heat in such room has risen to a certain temperature an electrical circuit is automatically completed or established, by means of which an alarm placed in or on the building or at a distance therefrom will be sounded.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is an elevation of my device. Fig. 2 is a central vertical section of the same.

A is a shell, of substantially the shape shown, upon which is screwed the ring B, which supports, by means of the inner flange, B', the pan C. The shell A is constructed from a non-conducting material. Within the pan C is liquid ammonia of a given strength, say diluted sufficiently to prevent its forming gas at a temperature of less than 125° Fahrenheit. This pan is provided with a thin tight elastic cover D—say of thin rubber—held upon it by means of a cord, E, or in other suitable manner. Lying upon this cover D is a thin metallic plate or disk, G. Horizontal metallic binding-screws H pass into the shell A through its sides, as shown, said screws being provided with electrical wires.

The device operates as follows: The apparatus having been screwed into the ceiling or in any convenient place in the room by means of the fastening-screw I, when the temperature in the room by reason of fire rises to 125° Fahrenheit the ammonia in the tank or pan C gives forth gas, which, expanding, pushes up the central portion of the thin elastic cover D, which lifts the metallic plate G. When the plate G is raised sufficiently its edges touch the screws H H, and instantly an electrical circuit is established by means of the wires K,

which sound an alarm in the ordinary manner. This alarm may be of any description, and it may be a local one situated in the room, in the building merely, or on the building; or the wires may connect with a central alarm.

Any substance or material possessing the property of giving out or being converted into gas or vapor, and thus producing the result above described, may be substituted for ammonia.

The device may be adapted to operate at any desired temperature by varying the strength of the ammonia accordingly.

By unscrewing the ring B the pan may be removed and replenished.

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

1. A device for automatically causing an alarm to be given when the temperature reaches a certain point, consisting essentially of the following parts, viz: a vessel containing ammonia or analogous material and provided with an elastic cap or cover, a metallic plate resting on said cover, and a non-conducting shell or frame adapted to sustain the said vessel, and provided with conducting binding-screws or pins having electrical connections, whereby the action of the gas formed at a certain temperature within the vessel will, by lifting said plate, establish or complete an electrical circuit through said screws or pins, thus allowing an alarm to be given, substantially as and for the purpose set forth.

2. The combination of the frame A, provided with the binding-screws H, having electrical connections, the ring B, provided with the inner flange, B', the elastic tight cover D and pan C, and the plate G, all constructed and arranged substantially as and for the purpose described.

MORRIS MARTIN.

Witnesses:

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