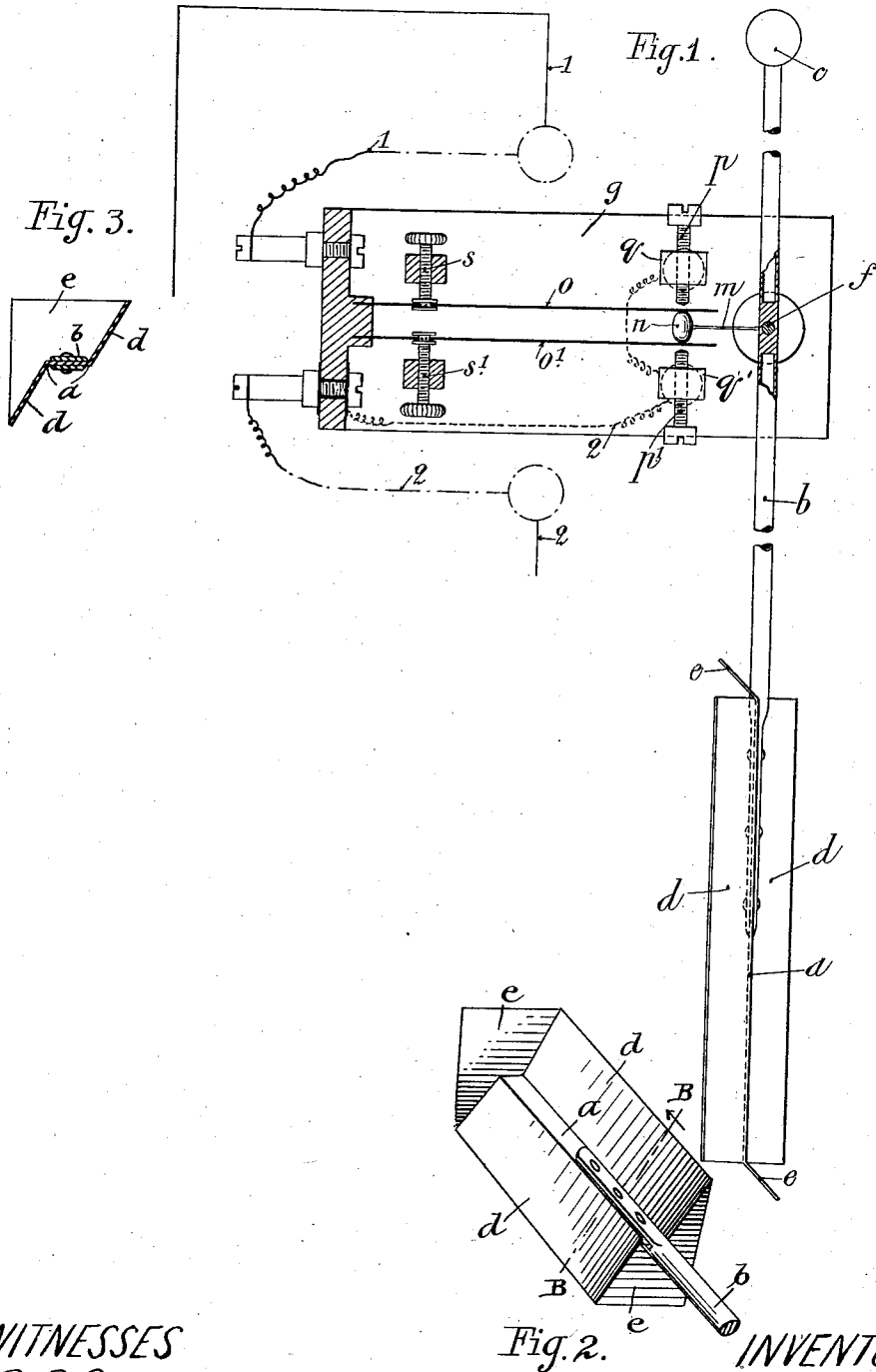


L. ROBILLOT.
 AUTOMATIC AIR CURRENT ACTUATED ALARM.
 APPLICATION FILED DEC. 1, 1909.

1,025,310.

Patented May 7, 1912.



WITNESSES
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Fig. 2.

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UNITED STATES PATENT OFFICE.

LOUIS ROBILLOT, OF BESANCON, FRANCE.
AUTOMATIC AIR-CURRENT-ACTUATED ALARM.

Specification of Letters Patent.

Patented May 7, 1912.

1,025,310.

Application filed December 1, 1909. Serial No. 530,810.

To all whom it may concern:

Be it known that I, LOUIS ROBILLOT, citizen of the Republic of France, residing at No. 6 Square St.-Amour, Besancon, France, have invented new and useful Improvements in Automatic Air-Current-Actuated Alarms, of which the following is a specification.

My invention relates to an automatic air current actuated alarm, and has reference more particularly to the construction of the air driven actuating member which may be employed to close an electric circuit and set the alarm in operation. The device is adapted for use in giving an alarm in cases of fire, theft from rooms, escape of gas and the like.

The primary object of the invention is to provide a highly sensitive air driven actuating member which will readily respond to light currents of air, whereby the alarm will be quickly given in case of necessity.

One embodiment of the invention is illustratively exemplified in the accompanying drawing, wherein

Figure 1 is a plan view, partly in section, of an automatic electric circuit closing device embodying my invention; Fig. 2 is a perspective view of the air driven actuating member; and Fig. 3 is a view thereof taken at right angles to the plane of the main vane in plane B-B of Fig. 2.

The apparatus is composed essentially of a movable element formed of a very light operating vane *a*, secured to the extremity of a very light rod *b* at the other end of which is a counterweight *c* equal in weight to the vane, so that the rod is balanced about its center.

The operating vane is provided at its edges with small inclined planes *d d*, *e e* which are also very light, the planes being arranged in oppositely disposed pairs and each plane forming an obtuse angle with the operating vane. These inclined planes allow the operating vane to act as a screw-blade under the action of every air current, the direction of which is parallel to the plane of the vane *a*.

By reason of its small density and its rigidity, aluminium is most suitable for the construction of the operating vane and its rod, but any other very light material such as wood, celluloid, mica, a light frame covered with fabric, or paper could be utilized for this purpose. The rod *b* is suitably

mounted at its center of gravity on a pivot *f* so as to be capable of turning under the action of the air driven actuating member. The rod *b* of the movable element carries at its center of gravity, perpendicular to the plane passing through the axes of this rod and its pivot, a steel finger-piece *m*, preferably formed by a flexible plate terminating in a small oval contact knob *n*. This knob fits between the extremities of two very weak spring steel plates *o o*¹ secured to a supporting plate *g* and adapted to determine the normal position of the movable element. In their unstrained position these two spring plates are normally, in contact with the knob.

Two screws *p p*¹ passing respectively through the nuts *q q*¹ secured to the base of the support *g* form abutments to limit the displacement of the finger-piece *m n* of the rod and of the two spring buffer plates *o o*¹. These two abutments are suitably insulated from the metallic mass of the contrivance. The shape of the two spring buffer plates *o o*¹ must be such that the movable element when at rest assumes a position between the abutments *p p*¹. The position and strength of the spring buffer plates *o o*¹ can be regulated by means of screws *s s*¹.

In the construction of the apparatus above described, the degree of sensitiveness of the apparatus may be varied at will by the following means:—1°. The sensitiveness of the apparatus varies very considerably in direct proportion to the length of the operating vane and its inclined planes. 2°. Plates of different degrees of flexibility and suitable for the various applications of the invention such as alarm, in cases of fire, theft from rooms, or escape of gas or steam may be employed to form the two spring stops. 3°. The force exerted by the spring plate buffers can be varied by the regulating screws *s s*¹. 4°. By varying the ratio of the lengths of the arms of the rod carrying the operating vane and that of the finger piece of this rod, *i. e.* the arms of the actuating and counteracting levers respectively. 5°. Finally the sensitiveness of the apparatus can be varied by bringing the screws *p p*¹ nearer to or farther away from the spring buffer plates *o o*¹.

One of the leads 1—2 of an electric alarm circuit including a battery (not shown) is connected to the metallic mass of the apparatus, for example to the spring-plates *o o*¹,

the other lead being secured to the two terminals p p^1 which are insulated from the mass as above described.

When the movable element $a-b-m-n$ is displaced through a very small angle, the buffer-plates o o^1 and the screws p p^1 are brought into contact, and the electric circuit being closed, the alarm is given.

The device operates in case of fire as a result of the air draft produced by such fire, in case of escape of gas by the current of gas itself operating against the device and in case of theft by the current of air which would strike the device from an open door or window through which the thief might enter the inclosure in which the device is installed.

I claim:

1. An air driven actuating device comprising an elongated operating vane, oppositely disposed planes projecting from and coextensive in length with the lateral faces of said vane, and additional planes projecting from and coextensive in length with the ends of said vane.

2. An air driven actuating device comprising an elongated operating vane, a plane projecting from each of the lateral faces of said vane, said planes being inclined in op-

posite directions at an obtuse angle to the operating vane, and additional planes at the ends of said vane, said additional planes being inclined in opposite directions at an obtuse angle to the operating vane.

3. An air driven actuating device comprising the combination of a rod having an elongated operating vane at one end thereof, and a counterweight at the opposite end, oppositely disposed planes projecting from the lateral faces of said vane, and additional planes projecting from the ends of said vane.

4. An air driven actuating device comprising the combination of a rod having an elongated operating vane at one end thereof and a counterweight at the opposite end, a plane projecting from each of the lateral faces of said vane, said planes being inclined in opposite directions, and additional planes at the ends of said vane, said additional planes being inclined in opposite directions.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS ROBILLOT.

Witnesses:

LUCIEN VINCENT,
E. JURAND.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."