

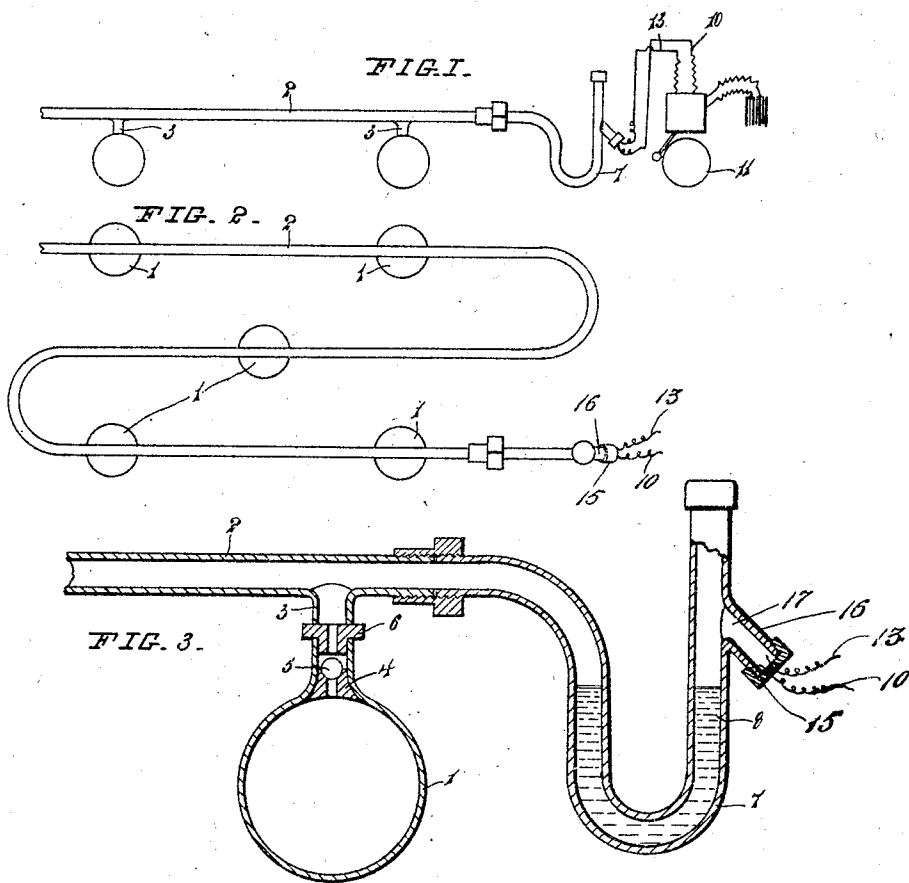
A. ALLAN & T. BOWLING.

FIRE ALARM.

APPLICATION FILED MAY 11, 1909.

1,059,586.

Patented Apr. 22, 1913.



Witnesses.

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UNITED STATES PATENT OFFICE.

ALEXANDER ALLAN AND THOMAS BOWLING, OF WELLINGTON, NEW ZEALAND.

FIRE-ALARM.

1,059,586.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed May 11, 1909. Serial No. 495,276.

To all whom it may concern:

Be it known that we, ALEXANDER ALLAN and THOMAS BOWLING, subjects of His Majesty the King of Great Britain and Ireland, residing at 215 Lambton Quay, Wellington, in the Provincial District of Wellington, in the Dominion of New Zealand, have invented certain new and useful Improvements in Fire-Alarms, of which the following is a specification.

This invention relates to apparatus used for giving warning upon the outbreak of fire, and operates by the expansion of air in closed vessels connected to a tube terminating in a U shaped bend.

Mercury held in the bend is forced by the expanding air into contact with the ends of two wires forming part of an electric bell circuit, the mercury closing the circuit with the result that the bell is rung and an alarm given. The wires preferably terminate in a pocket into which the mercury overflows through a hole provided in the tube, the circuit remains closed until the mercury is removed, so that if the apparatus should be injured, and allow the mercury in the bend and the air to escape after an alarm has commenced to operate, then the mercury retained in the pocket will still suffice to keep the alarm sounding.

The drawing illustrates the invention.

Figure 1, is a side elevation, and Fig. 2, a plan of the alarm, Fig. 3, is a sectional elevation.

The hollow vessels 1 are located in any desired positions in a building, ship or the like, and are attached to a tube 2 with which they communicate by branches 3. Each vessel has a valve seating 4 fitted with a valve 5, which allows air to pass out of the vessel, but prevents its reëntrance. The vessel is detachable from the branch 3 by a union nut 6. In this way the check valves 5 can be released by removing the vessels. The

U shaped bend 7 contains mercury 8 and is fitted at its end with a cap.

The wires 10, 13 of an electric circuit that includes a bell 11, extend through a cap 15 secured to the end of a pocket 16 communicating by a hole 17 with the tube 2. When the pressure in a vessel or vessels 1 and the tube 2 is sufficiently great, the mercury overflows through the hole 17 into the pocket 16 and forms a connection between the wires 10 and 13. The electric bell will continue to ring so long as the mercury remains in the pocket, so that although the vessels and tube should be destroyed after the alarm has commenced and the mercury be lost out of the U shaped end of the tube, yet the mercury in the pocket would keep the alarm going.

What we do claim and desire to secure by Letters Patent of United States is:—

In a fire alarm, the combination of a tube or conduit for an expansible gas having a depending bent section provided with an offset or pocket, an electric circuit having a terminal extending into said pocket, and a fluid circuit closer within the bent section of the conduit and adapted to be moved therein to cause a portion thereof to enter said pocket under pressure created by expansion of the gas in the conduit, the pocket acting to retain a sufficient quantity of the fluid to maintain the circuit closed in event that subsequent reduction of the pressure in the conduit permits the body of fluid to fall below the level of the mouth of the pocket.

In testimony whereof we have signed our names to this specification in the presence of two witnesses.

ALEXANDER ALLAN.
THOMAS BOWLING.

Witnesses:

GERALD BELL,
ANNIE D. McKENZIE.