

K. MATSUDAIRA.
THERMOMETRIC FIRE DETECTOR.
APPLICATION FILED MAY 1, 1912.

1,111,912.

Patented Sept. 29, 1914.

Fig. 1

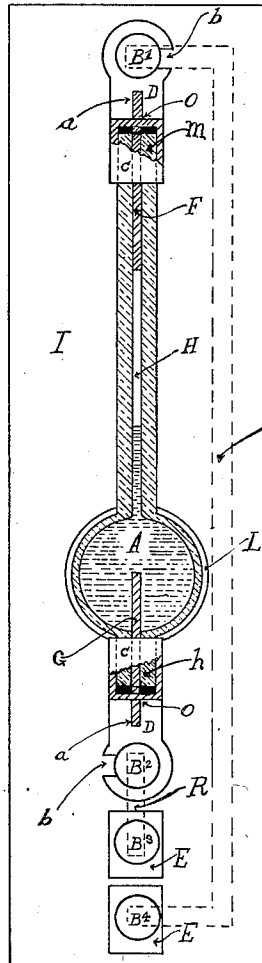
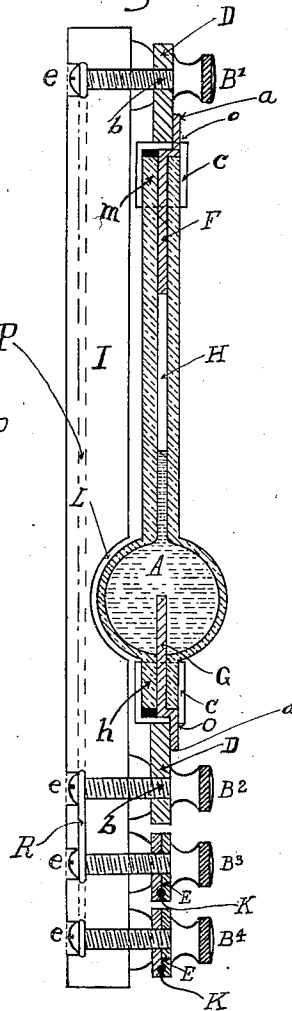


Fig. 2



Witnesses

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KINJIRO MATSUDAIRA, OF WASHINGTON, DISTRICT OF COLUMBIA.

THERMOMETRIC FIRE-DETECTOR.

1,111,912.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, KINJIRO MATSUDAIRA, a citizen of the United States, and residing at Washington, District of Columbia, have invented certain new and useful Improvements in Thermometric Fire-Detectors, of which the following is a specification.

This invention relates to thermometric fire detectors and it consists of the novel features hereinafter described and claimed.

An object of the invention is to provide an instrument of the character indicated of simple structure which is adapted to accurately and promptly operate to indicate the existence or presence of excessive heat.

With this and other objects in view, the invention consists in certain novel combinations, constructions and arrangements of the parts which will be hereinafter fully described and then specifically pointed out in the claim.

In the accompanying drawing Figure 1 is a front elevation of the instrument with parts in section; Fig. 2 is a longitudinal sectional view of the instrument viewing the same at the edge thereof;

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

The instrument comprises a base plate I which is provided at one side with a recess L. Binding posts B¹ B² B³ and B⁴ are mounted upon the base plate I and include screws *e* of usual pattern. The binding post B¹ is connected with the binding post B⁴ by means of an electric conductor P indicated in dotted lines in the figures of the drawing. The binding posts B² and B³ are connected by an electric conductor R. A thermometer is located between the binding posts B¹ and B² and a portion of the bulb A of the said thermometer projects into the recess L. The thermometer is provided with alined stems *m* and *h* which join with the bulb A diametrically at opposite sides thereof. These stems are hollow as indicated at H. The bulb A contains mercury as indicated in the drawing and as is usual in thermometers, a wire G traverses the length of the stem *h* and passes through the same and projects into the bulb A. The intermediate portion of the wire G lies against the end of the stem *h* and the end portions of the said wire G are offset with relation to each other. A

cap C surrounds the stem *h* and is provided at its end with an opening *o* through which the outer offset portion of the wire G passes. The wire G is soldered as at *a* to a lug D which is provided with an opening *b* which receives the screw *e* of the binding post B². A wire F is inserted in the outer end portion of the hollow H of the stem *m* and the intermediate portion of the said wire F lies against the outer end of the stem *m* and the end portions of the wire F are offset with relation to each other. A cap C surrounds the end of the stem *m* and is provided with an opening *o* through which the outer portion of the wire F projects. This outer portion is soldered as at A to a lug D having an opening *b*. The lug D at the end of the stem *m* is mounted upon the screw *e* of the binding post B¹. The binding posts B³ and B⁴ are provided with clamps E which are adapted to receive wire K. These wires may be led to a series of electric supply as an annunciator or equivalent fixture not shown.

It is apparent that when the thermometer is subjected to excessive heat, the mercury in the bulb A will rise in the stem *m* until it comes in contact with the wire F. Thus an electric circuit is completed along the wires K and the annunciator will be operated, or an alarm given. If at any time the heat should become so intense as to break the thermometer the mercury will have previously come into contact with the wire F and hence the alarm is given.

Having thus described the invention, what is claimed is:

A thermometric instrument comprising a thermometer provided with stems, caps receiving the ends of the stems, wires inserted in the stems of the thermometer and having offset ends, said wires passing through the ends of the caps and having their outer portions disposed eccentrically with relation to the caps, and lugs connected to the outer portions of the wires and bearing against the central portions of the caps and lying approximately in alinement with the inner portions of the wires.

In testimony whereof I affix my signature in presence of two witnesses.

KINJIRO MATSUDAIRA.

Witnesses:

WILLIAM EDWARD DYKES,
HENRY H. GIBBS.