(No Model.)

J. A. YOUNG.

AUTOMATIC TEMPERATURE ANNUNCIATOR.

No. 572,081. Patented Nov. 24, 1896.

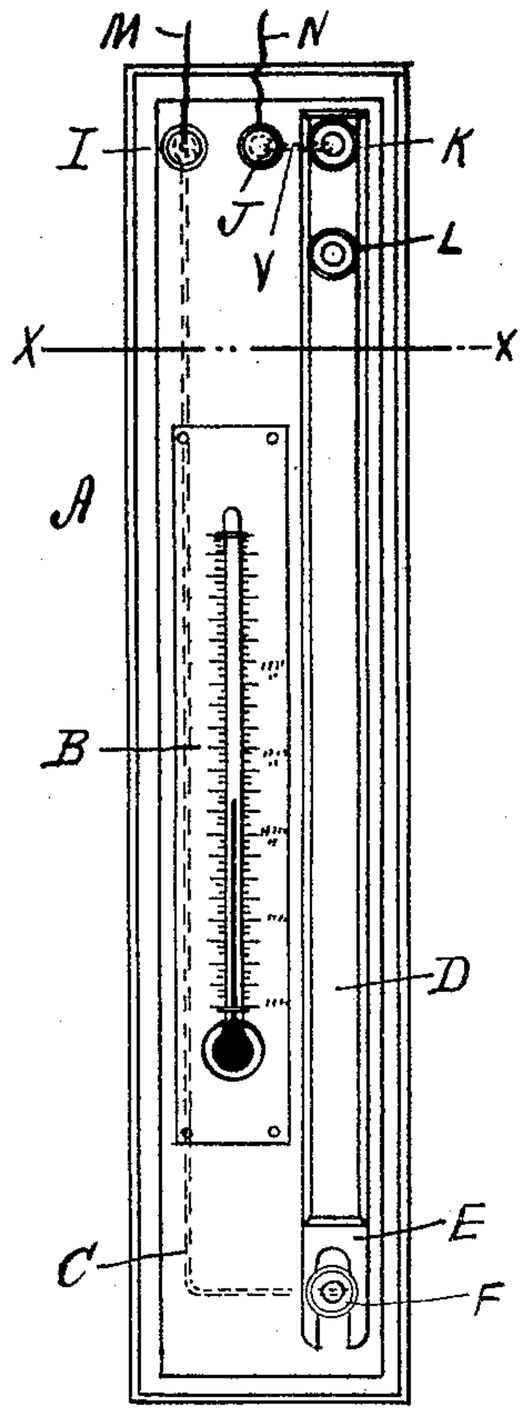

Fig 1.

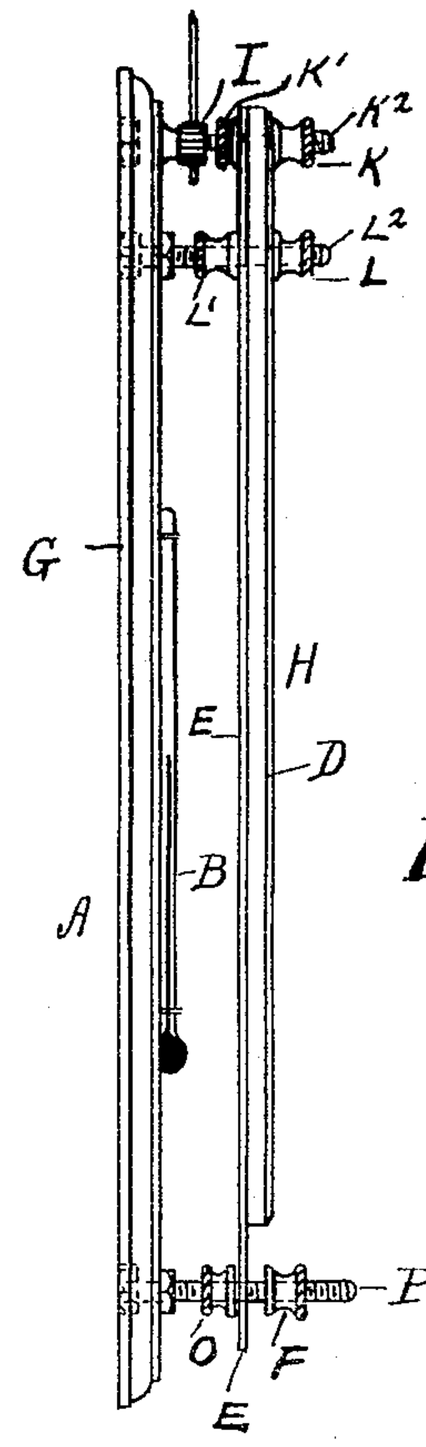

Fig 2.

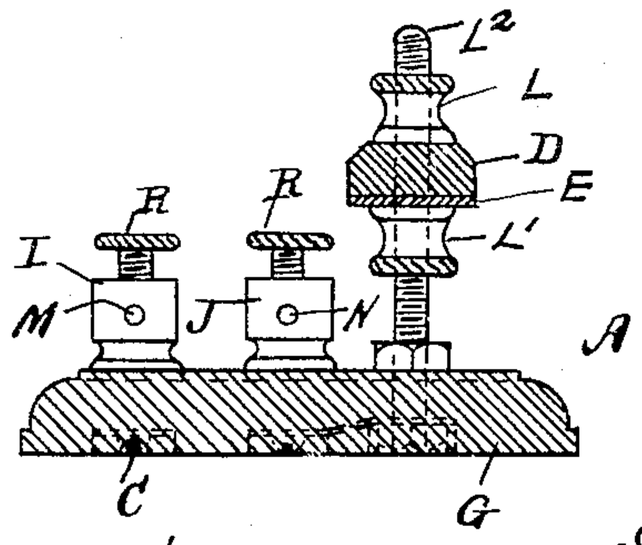

Fig 3.

Witnesses:
Charles Marien.
M. L. Proctor

Inventor:
JOHN A. YOUNG.
BY Thuman and Sibrius.
Attorneys:

UNITED STATES PATENT OFFICE.

JOHN AUGUSTUS YOUNG, OF INDIANAPOLIS, INDIANA.

AUTOMATIC TEMPERATURE-ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 572,081, dated November 24, 1896.

Application filed May 11, 1896. Serial No. 591,036. (No model.)

To all whom it may concern:

Be it known that I, JOHN AUGUSTUS YOUNG, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Automatic Temperature-Annunciators; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to a device to be used in a room or rooms of buildings for automatically announcing, when in connection with a suitable gong or bell, any maximum and minimum degree of heat desirable; and it consists of a suitable base upon which is mounted a temperature-thermometer and a suitable mechanism which is sensitive to changes of temperature, so connected to a system of magnetic wires and batteries that an alarm is sounded by means of a gong or bell when a certain degree of temperature for which it may be set is reached, as will be more fully described hereinafter.

My object is to provide an instrument or device which may be located in any room of a building for the purpose of announcing, particularly at night or equally well in daytime, when any desired degree of temperature is obtained by means of the usual mode of heating rooms, and more particularly in cases where the intensity of the fire in a furnace is liable to fluctuate because of varying pressure of the natural gas which is used as a fuel. My invention is equally serviceable, however, where other fuel is used, and in cases where an accidental conflagration occurs in a room by giving timely warning of the presence of an unusual or a dangerous degree of heat, as well as calling attention to an undesirably low temperature.

With these objects in view my invention is of few parts, cheaply constructed, and efficient, durable, and economical in use.

Referring to the drawings, Figure 1 represents a front elevation, as the instrument is designed to be placed upright against a wall, but may be used on a horizontal surface or table. Fig. 2 is a side elevation, and Fig. 3 is a cross-sectional view on the line $x\,x$ of Fig. 1.

In the drawings, A represents the instrument, of which G is the base, made of wood or other suitable material, as fancy may dictate.

B is a thermometer as usually constructed and suitably mounted on the base.

K^2 and L^2 are metallic posts, secured at one end to the base and provided with screw-threads to receive securing and adjusting nuts. A thermostatic or sensitive bar H, composed of two metals having different ratios of expansion, provided at one end with two suitable holes, spaced to correspond with the relative positions of the posts, and at the opposite end with a suitable hole or fork, is mounted upon the two posts mentioned and suitably adjusted and secured by means of the nuts K K′ and L L′. This bar may be made of any suitable metals which have a different ratio of expansion under the influence of heat; but I preferably construct the part E of brass, or one of its alloys, and the part D of vulcanized rubber, the two being secured together in their whole length. In this case the outer part D expands and elongates more than the part E, thereby causing the bar to curve, so that the free end approaches the base until it comes in contact with the nut O, with which it forms an electrical contact. When the temperature falls, the bar again becomes straight or curves in the opposite direction, so that the free end comes in contact with the nut F.

The post P is secured at one end to the base and is provided with screw-threads to receive the threaded nuts F and O, which may be set at any desired point to be determined upon when deciding the limits of temperature at which an alarm is to be given. In constructing the bar H the relative position of the two metals may be reversed without detracting from its merits. The forktines of the free end of the bar are in proximity, but do not touch the post P and only come in contact with the nuts thereon when they are set at a suitable distance away from the bar and it forms a contact as a result of expansion or contraction.

Binding-posts I and J, having binding-screws R, are secured to the base in any suit-

able location, but preferably in the positions shown, and are connected at the back of the base by an insulated electrical circuit-wire C, one end of which is secured to the post I and the opposite end to the post P. A like wire V connects the posts J and K^2, and wires M and N connect the posts I and J with a battery and alarm gong or bell. The bar H when in contact with either of the nuts O or F completes an electrical circuit through it and the wires attached to the posts.

From the foregoing description the operation of my invention may be readily understood, and the results attained are obvious. When the desired limit of variation of temperature is reached, an alarm is given to indicate that attention to the heating apparatus is necessary or, in case of conflagration, to alarm a watchman or others interested.

In constructing my device I sometimes vary the relative positions of the different parts, such as placing the sensitive bar H in front of the thermometer, which is used merely to ascertain the state of the temperature when adjusting the contact-nuts O and F, and I claim no invention on the thermometer as a separate instrument.

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

1. The herein-described mechanism for announcing limits of maximum and minimum degrees of temperature in a room, comprising in combination a base; a thermometer attached thereto; a sensitive bar mounted at one end to a metallic post secured to said base and having its opposite end in proximity to another metallic post secured to said base, said post being provided with adjusting screw-nuts which may be moved into proximity to the end of said bar, the said bar being composed of two strips having unequal ratios of expansion secured together; suitable binding-posts secured to said base and connected by wires in an electrical circuit so that said bar forms part of the circuit when its free end is in contact with said adjusting-nuts, substantially as and for the purpose shown and described.

2. In an apparatus of the kind described, the combination of the base, the thermometer mounted thereon, the pair of supporting-posts and pair of binding-posts mounted on the front of said base at one end thereof, the post provided with adjusting-nuts mounted on the front of said base at the opposite end thereof, the thermostatic bar secured at one end to the said pair of supporting-posts, the opposite end of said bar having the fork and adapted to form a contact with said adjusting-nuts, with a suitable electrical circuit, substantially as shown and described for the purposes specified.

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

JOHN AUGUSTUS YOUNG.

Witnesses:
WILLIAM HELFENBERGER,
E. T. SILVIUS.