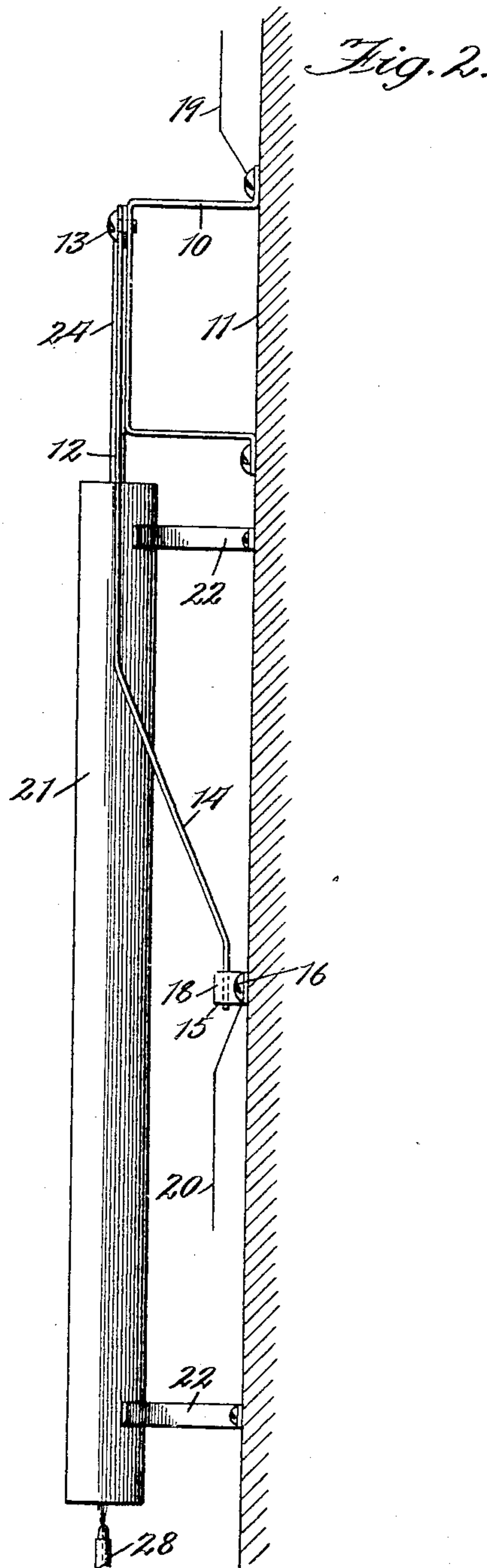
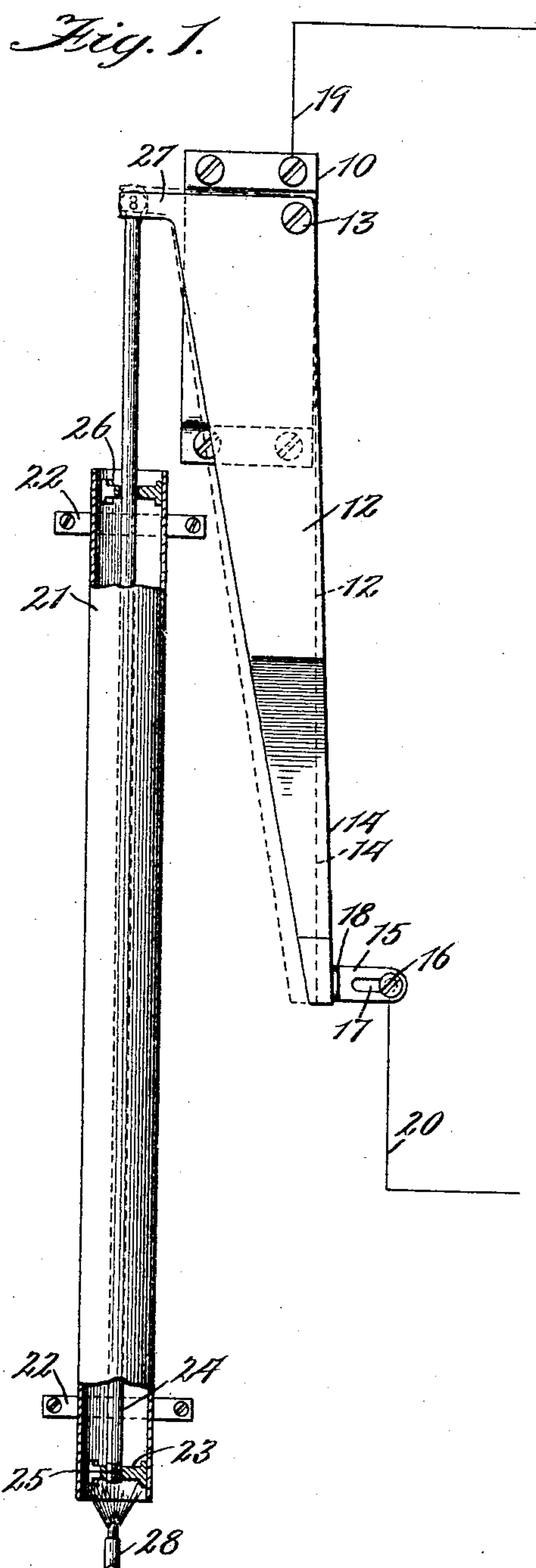


L. C. BULKLEY.
GAS SUPPLY ALARM.
APPLICATION FILED NOV. 20, 1908.

928,937.

Patented July 27, 1909.



Witnesses:
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UNITED STATES PATENT OFFICE.

LOUIS C. BULKLEY, OF BENTON, LOUISIANA.

GAS-SUPPLY ALARM.

No. 928,937.

Specification of Letters Patent.

Patented July 27, 1909.

Application filed November 20, 1908. Serial No. 463,530.

To all whom it may concern:

Be it known that I, LOUIS C. BULKLEY, a citizen of the United States, residing at Benton, in the parish of Bossier and State of Louisiana, have invented certain new and useful Improvements in Gas-Supply Alarms, of which the following is a specification.

This invention relates to improvements in gas supply alarms, particularly adapted for use in connection with heating apparatus or the like, in which apparatus gas is used as a fuel and the primary object of the invention is to provide an improved simple, durable, cheap and efficient device of this character whereby an alarm will be sounded or a signal operated should the supply of gas be temporarily checked sufficient to extinguish the flame, so that the gas will not leak into the room should the flow subsequently start before the gas can be ignited.

To the attainment of these ends and the accomplishment of other new and useful objects, as will appear, the invention consists in the features of novelty in the construction, combination and arrangement of the several parts hereinafter more fully described and claimed and shown in the accompanying drawing illustrating an embodiment of the invention, and in which—
Figure 1 is a front elevation, partly in section, of an improved device of this character constructed in accordance with the principles of this invention. Fig. 2 is a side elevation of Fig. 1.

Referring more particularly to the drawing and in the present exemplification of the invention, the numeral 10 designates a suitable bracket, which is secured to a support 11 in such a manner that a portion of the bracket will be spaced from the support 11. An arm or lever 12 is pivotally supported by the bracket 10 by means of a suitable pivot 13 preferably adjacent one extremity of the arm or lever. The free end of the lever preferably projects beyond the bracket 10 and is deflected as at 14 toward the face of the support 11. The free extremity of this deflected portion 14 is adapted to engage a suitable stop 15 which is also secured to the support 11 and is adjustably held in position by means of a suitable fastening device 16, such as a screw or bolt passing through a slot 17 in the stop. One extremity 18 of the stop is preferably deflected so as to project beyond the face of the support 11 and into

the path of movement in one direction of the arm or lever 12.

Connected to the bracket 10 in any desired or suitable manner is one conductor 19 of an electric circuit in which is included an alarm which may be of the audible or visual type, and which is not illustrated as the alarm proper forms no part of the present invention. The other conductor 20 of the circuit is connected to the stop 15 in any suitable manner, preferably through the medium of the fastening screw or bolt 16 which forms a binding post.

A tubular member 21 is secured adjacent the arm or lever 12, preferably to the support 11 in any desired or suitable manner, such as by means of brackets 22. This member 21 may be of any desired size and diameter and constructed of any suitable material. The extremities of the tubular member are open and secured within said member, preferably adjacent the lower extremity thereof, is a support 23 which preferably comprises spaced arms and to which is secured one extremity of a thermostatic member 24 such as a bar or rod. This thermostatic member 24 is of a diameter considerably smaller than the internal diameter of the tubular member 21 and is secured by one extremity in any suitable manner, such as by means of screw threads 25 on said extremity, to the support 23. The thermostatic member is of such a length as to project for some distance beyond the top of the tubular member 21 and a suitable guide 26 may be provided adjacent the upper extremity of the tubular member for supporting and guiding the thermostatic member when the latter moves under the influences of contraction or expansion. The support 23 and guide 26 are so constructed as not to obstruct the passage of heat through the tubular member 21 and which heat enters the bottom of the tube.

The free extremity of the thermostatic member 24 is pivotally connected in any desired or suitable manner preferably to a projecting portion 27 of the arm or lever 12, which projecting portion is preferably located adjacent the top of the arm or lever when the latter is mounted to swing in an upright plane.

Any suitable means may be provided for causing the thermostatic member 24 to expand or contract and for this purpose there may be provided a gas jet 28 which is located

in close proximity to and below the lower end of the tubular member 21 so that the heat from the flame of the burner will enter the tubular member 21 to contact with the thermostatic member 24 and cause the same to expand. The normal position of the arm or lever 12 is that shown in full lines in Fig. 1 of the drawings, that is, with the free extremity thereof in engagement with the stop 15 to complete the circuit through the alarm.

When the burner 28 is lighted, the heat therefrom will cause the thermostatic member 24 to expand and as this member expands it will be apparent that it can expand only in one direction, that is, away from the support 23 to which one extremity thereof is secured. As the thermostatic member expands, it will force the projecting portion 27 of the arm or lever in such a direction as to cause the free extremity of the arm or lever to move out of engagement with the stop 15 and thereby break the circuit to prevent a signal from being operated. The extremity of the arm or lever 12 will remain out of engagement with the stop 15 so long as the thermostatic member is expanded, which condition will exist so long as the supply of gas to the burner 28 is uniform. When the supply of gas decreases, the thermostatic member will contract and during its contracting movement will cause the arm or lever 12 to swing in the opposite direction so as to engage the stop 15 and thereby complete the circuit to sound the alarm. The burner 28 may receive its supply of gas from any suitable source but preferably from the same source which supplies the heating apparatus so that when the supply to the heating apparatus is checked, the supply to the burner 28 will be correspondingly checked, and when so checked, the alarm will be actuated in the manner already set forth to prevent the escape of gas into the room in the event of the flame becoming extinguished by the checking of the supply and before the gas can again be lighted.

It will also be apparent that the stop 15 may be adjusted as desired so that the degree of expansion necessary to operate the arm or lever 12 may be varied at will.

In order that the invention might be fully understood, the details of the foregoing embodiment thereof have been thus specifically described, but

What I claim as new is—

1. In a device for the purpose set forth, the combination of a pivotally mounted member

included in an electric circuit, a contact also included in the circuit into and out of engagement with which the member is movable to make and break the circuit, a thermostatic member, an open casing surrounding the thermostatic member and beyond which one extremity of the thermostat projects, said extremity being pivotally connected to the first said member for moving the same, and means for supplying heat to the casing to expand the said thermostatic member.

2. In a device for the purpose set forth, the combination of a pivotally mounted member included in an electric circuit, a contact also included in the circuit into and out of engagement with which the member is movable to make and break the circuit, means whereby the said contact may be adjusted to vary the movement of the said member in one direction, a thermostatic member, an open casing surrounding the thermostatic member and beyond which one extremity of the thermostat projects, said extremity being pivotally connected to the first said member for moving the same, and means for supplying heat to the casing to expand the said thermostatic member.

3. In a device for the purpose set forth, the combination of a pivotally mounted member included in an electric circuit, a contact also included in the circuit and into and out of engagement with which the member is movable to make and break the circuit, an open casing supported adjacent the first said member, a thermostatic member within the casing and of a diameter somewhat smaller than the internal diameter of the casing, a support within the casing to which one end of the thermostatic member is rigidly secured, a guide also supported by the casing and through which the thermostatic member is adapted to slide, one extremity of the thermostatic member projecting beyond the casing and being pivotally connected to the first said member whereby the contraction and expansion of the thermostat will move said member about its pivot, and means adjacent one end of the casing for supplying the casing with heat.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 16th day of Nov. A. D. 1908.

LOUIS C. BULKLEY.

Witnesses:

J. F. WISE,
WILMER SMITH.