

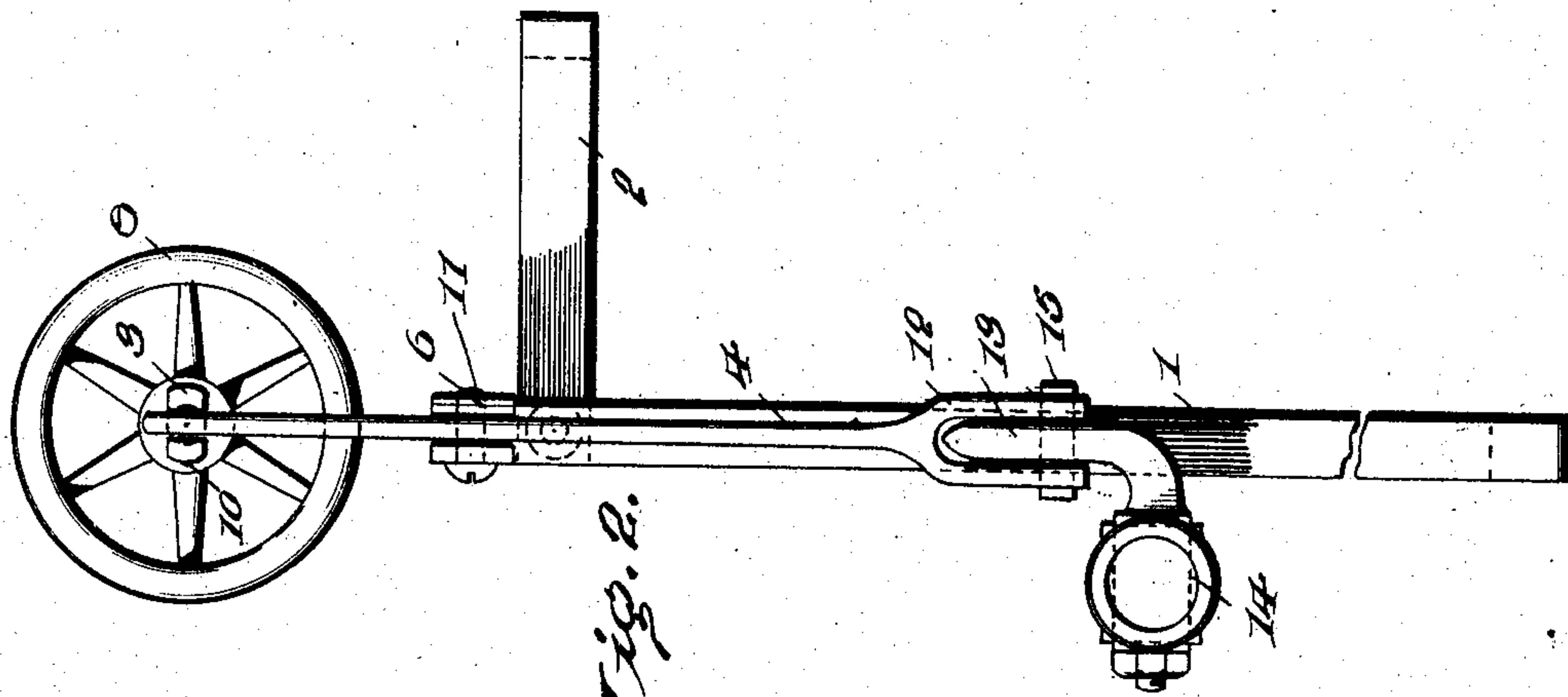
No. 780,477

PATENTED JAN. 17, 1905.

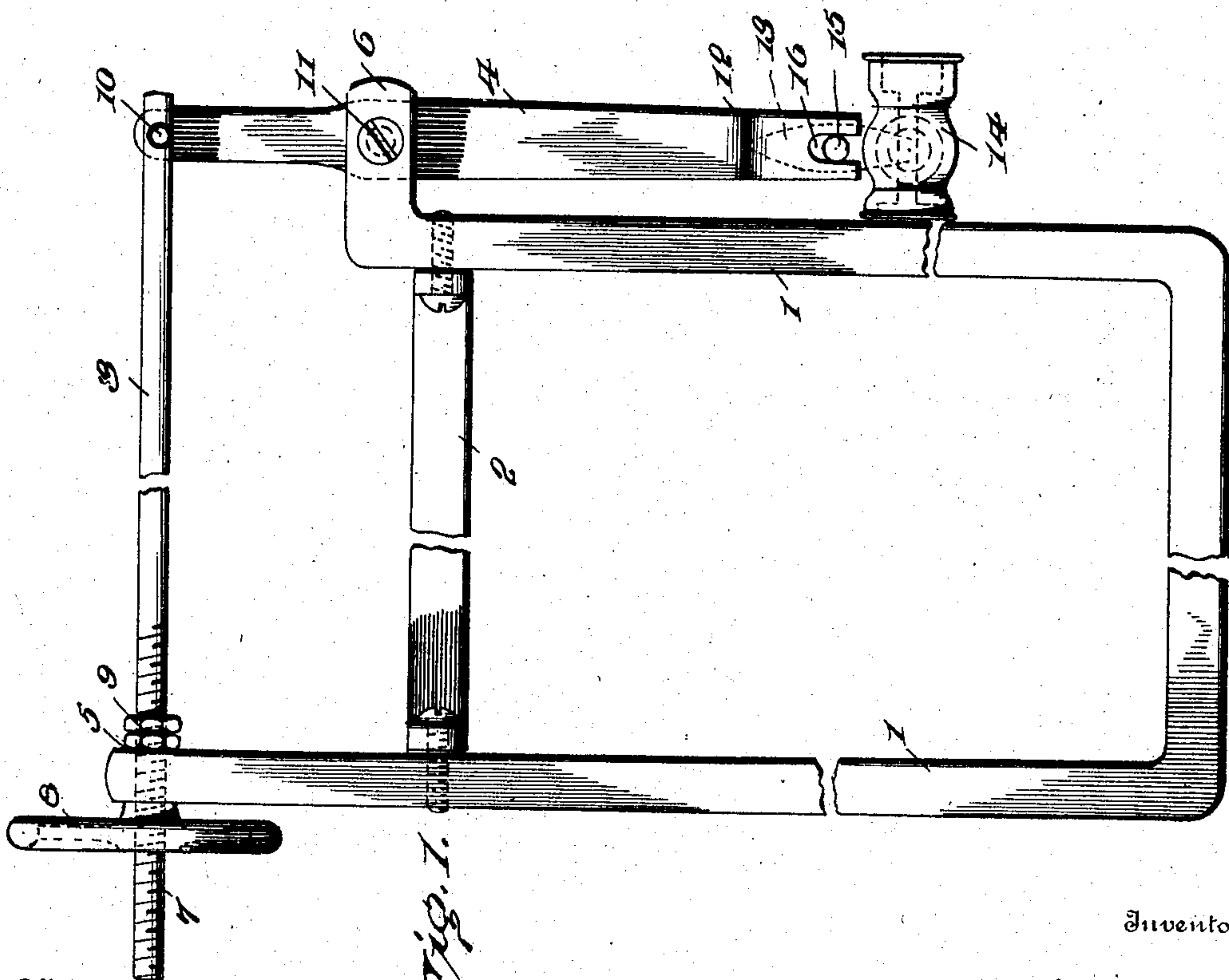
G. H. BIBLE.

## THERMAL GAS CUT-OFF.

APPLICATION FILED SEPT. 22, 1904.



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Inventor

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# UNITED STATES PATENT OFFICE.

GEORGE H. BIBLE, OF COSHOCTON, OHIO.

## THERMAL GAS CUT-OFF.

SPECIFICATION forming part of Letters Patent No. 780,477, dated January 17, 1905.

Application filed September 22, 1904. Serial No. 225,494.

*To all whom it may concern:*

Be it known that I, GEORGE H. BIBLE, a citizen of the United States, residing at Coshocton, in the county of Coshocton and State of Ohio, have invented certain new and useful Improvements in Thermal Gas Cut-Offs, of which the following is a specification.

This invention provides a novel contrivance for automatically cutting off the flow of gas, natural or artificial, should the flame become extinguished from any cause, thereby preventing the casualties resulting from escaping gas.

The invention is particularly designed for stoves, furnaces, and heating apparatus generally, although it may be adapted for fixtures used in the consumption of gas.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a gas cut-off embodying the invention, portions being broken away. Fig. 2 is a front view thereof.

The contrivance comprises a frame 1 of approximately U form, a stay 2, connecting the side bars of the frame near one end, an expansion-rod 3, and a lever 4. The frame may be of any construction, size, and shape, depending upon the style of heater or fixture to be equipped with the invention. The sole purpose of the frame is to provide supporting means for the expansion-rod 3 and lever 4, and any part capable of performing this office may be substituted for the frame. The stay 2, as shown, is deflected intermediate of its ends to enable it to obtain a purchase upon the stove, fixture, or the like to which the cut-off may be applied. One bar of the frame is extended and provided with an aperture 5, and the end portion of the other bar is bent outward about at a right angle, as indicated at 6, and the lever 4 is pivoted thereto.

The expansion-rod 3 may be of steel, copper, or other metal best adapted for the purpose, and an end portion is threaded, as shown at 7, to receive a set-nut 8 and jam-nuts 9, the set-nut 8 being in the form of a hand-wheel. The threaded portion of the expansion-rod is passed through the opening 5 and is confined between the jam-nuts 9 and the set-nut 8, thereby fixing the position of the expansion-rod with reference to the frame when set for shutting off the gas in an emergency. The opposite end of the expansion-rod is pivotally connected to the upper end of the lever 4, as indicated at 10.

The lever 4 may be of any design and length and is pivoted between its ends to the bent portion 6 of the frame, as shown at 11. The arms of the lever may be of any relative length, depending upon the character of the expansion-rod and the degree of movement required for operating the valve. As shown, the lower end of the lever 4 is forked or bifurcated at 12, so as to embrace opposite sides of the handle 13 of the valve 14, by means of which the flow of gas to the burner is cut off. A pin 15 is passed through the handle 13 and projects from opposite sides thereof, and the lower ends of the forked sides or bifurcations of the parts 12 are notched, as indicated at 16, to receive the end portions of the pin, thereby insuring positive connection between the lever-handle. By having the lower end of the lever forked and embracing the handle 13, as indicated, it is not liable to casual disengagement, and the provision of the pin 15 and notches 16 insures consonance of movement of the parts 4 and 13.

The valve 14 may be of any variety commonly employed for shutting off gas or other fluid. It is to be understood that the service-pipe is to be provided with a second valve (not shown) for regulating the flame or cutting off the same when desired. In the adjustment of the cut-off the expansion-rod is located in the heating zone of the burner, so as to be influenced by the flame, whereby it is caused to expand when the burner is in operation and contract when the flame is extinguished. When the burner is ignited and the rod 3 is heated by means of the flame, the jam-nuts



9 are turned upon the threaded portion of the expansion-rod, so as to bear against the inner side of the member of the frame having the opening 5, and the set-nut 8 is turned so as to bear against the outer side of said member, the latter being confined between the parts 8 and 9. Should the flame become extinguished, the rod 3 in cooling contracts and drawing inward upon the upper end of the lever 4 moves the lower end in engagement with the handle 13 and operates the latter so as to shut off the flow of gas, and thereby prevent it escaping into the room in which the heater or fixture is located. When it is required to light the burner, the set-nut 8 is backed a distance to permit movement of the expansion-rod so as to allow opening of the valve 14, and after the burner has been ignited and the rod 3 heated the said nut 8 is turned up tight against the member of the frame to insure attainment of the desired end.

Having thus described the invention, what is claimed as new is—

1. In a thermal gas cut-off, the combination of a valve having its handle provided with opposite extensions, a lever having a forked end embracing the said handle and having the extremities of the forked members notched to receive the lateral extension of the handle, an expansion-rod connected with said lever, and means for positively and adjustably connecting the expansion-rod to a support, substantially as set forth.

2. A thermal gas cut-off comprising a frame

having a lateral extension and a vertical extension, a lever pivotally connected between its ends to said lateral extension and adapted to be connected at one end to the valve to be operated, an expansion-rod pivotally connected to the opposite end of said lever and having its end portion threaded and passed through an opening of said vertical extension, and a set and jam nuts for confining the expansion-rod at one end to the vertical extension of the frame, substantially as set forth.

3. A thermal gas cut-off comprising a frame of approximately U form having its legs of unequal length, an end portion of a leg being bent outward, a stay deflected between its ends and connected to the legs of the frame near their extremities, a lever arranged about parallel with the leg having the bent end portion and pivoted to the latter and having one end forked and the extremities of the fork members notched, an expansion-rod pivoted at one end to the opposite end of the lever and having its other end threaded and passed through an opening in the end portion of the long leg, and a set and jam nuts mounted upon the threaded end of the expansion-rod and arranged upon opposite sides of the long leg, substantially as specified.

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

GEORGE H. BIBLE. [L. S.]

Witnesses:

J. C. ADAMS,

J. C. DAUGHERTY.