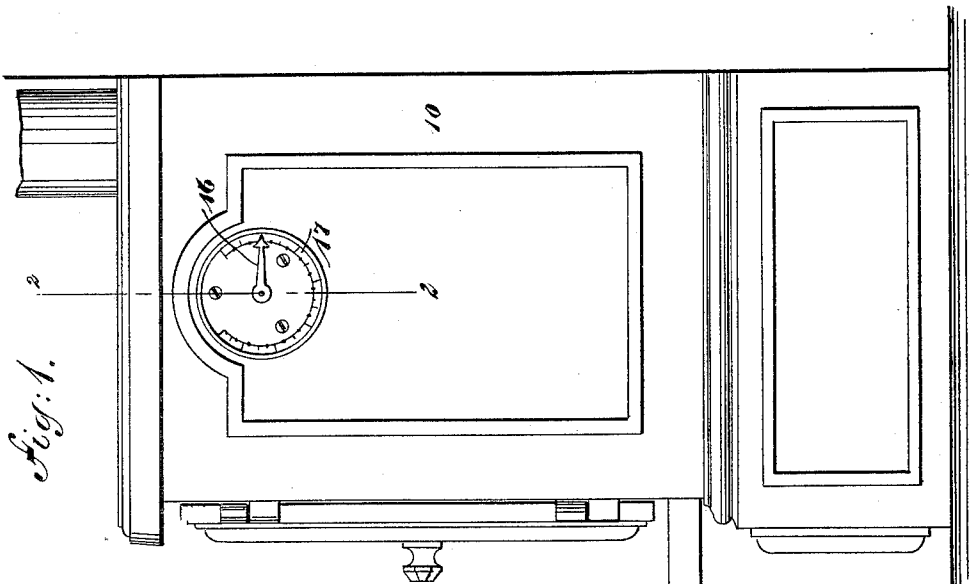
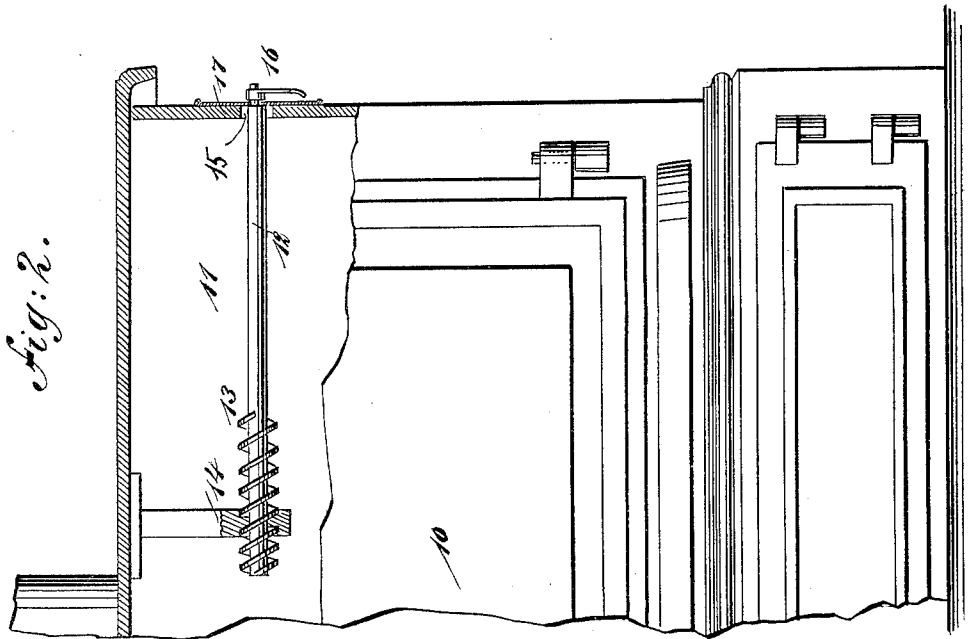


(No Model.)

H. MURDOCK.
OVEN THERMOMETER.

No. 477,143.

Patented June 14, 1892.



WITNESSES:

Chas. Nida.
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UNITED STATES PATENT OFFICE.

HARVEY MURDOCK, OF BROOKLYN, NEW YORK.

OVEN-THERMOMETER.

SPECIFICATION forming part of Letters Patent No. 477,143, dated June 14, 1892.

Application filed December 31, 1891. Serial No. 416,656. (No model.)

To all whom it may concern:

Be it known that I, HARVEY MURDOCK, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Thermal Indicator, of which the following is a full, clear, and exact description.

My invention relates to improvements in thermal indicators, and especially devices of this kind which are adapted for use in ovens and similar places where it is necessary to keep a high and substantially even temperature. It is well known that the temperature of baking-ovens is usually guessed at to a certain extent, and consequently it is a difficult matter to properly bake many articles which require an exact given temperature; and the object of my invention is to produce an extremely-simple apparatus which may be easily and cheaply applied to any oven and which will automatically indicate the exact temperature of the oven, thus reducing the operation of baking from a mere matter of guesswork to a scientific operation.

A further object of the invention is to produce a simple thermostat which will operate by its own expansion directly upon an indicator without the use of levers of any kind, as it is a well-known fact that there is usually more or less lost motion in lever systems, and that they are consequently inaccurate.

To this end my invention consists in a thermal indicator, the construction of which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in both views.

Figure 1 is a face view of the indicator as applied to an ordinary range; and Fig. 2 is a broken sectional view on the line 2 2 in Fig. 1, showing the entire apparatus and more particularly the mechanism for operating the indicator.

In the drawings, 10 represents a common form of range having the usual oven 11, and extending transversely through the oven near the upper part of the same is an expansible rod 12, which has near its inner end a screw-thread 13, held to turn in a correspondingly-threaded hanger 14, which is secured to the top wall of the oven. The outer end of the expansible rod extends through a perforation 15 in the wall of the range, and at the extreme end of the bar is a laterally-extending indicating-hand 16, which moves over a

circular dial 17, secured to the wall and forming a bearing for the bar, the dial being marked off into degrees after the manner of an ordinary thermometer. It will thus be seen that when the bar 12 begins to expand under the influence of heat it cannot move bodily in a longitudinal direction; but this expansion will cause the threads 13 to act on the threaded hanger 14, so as to revolve the bar, and the hand 16 will thus be caused to move over the indicating-dial 17. It will be understood that as the temperature rises the expansion will increase and the rod be turned a greater distance, and consequently that the indicating-hand 16 will move in direct proportion to the expansion of the rod, and will thus, in connection with the dial, accurately indicate the temperature of the oven.

Instead of producing the thread on the inner end of the rod 12, it may be provided with simple projections, which will enter the thread in the hanger 14 and cause the rod to turn, and instead of having the dial 17 stationary and the hand 16 revolve the dial may be caused to turn with the rod and the hand be held in a stationary position.

From the foregoing description it will be readily understood that this indicator may be applied to any kind of an oven and that it will always accurately indicate the temperature thereof.

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

1. A thermal indicator for ovens, comprising an apertured hanger for the interior of the oven, an expansible and revoluble rod passed through said hanger, a screw-thread connection between the rod and the hanger to cause the former to rotate in the latter when expanding, and indicating devices for the exterior of the oven, operated by the said rod, substantially as set forth.

2. The combination, with an oven having an indicating-dial on its outer wall and a threaded hanger within, of an expansible rod having one end screw-threaded and adapted to fit the hanger and the opposite end journaled in the dial and provided with an indicating-hand, substantially as described.

HARVEY MURDOCK.

Witnesses:

WARREN B. HUTCHINSON,
C. SEDGWICK.