

No. 695,293.

Patented Mar. 11, 1902.

C. E. EVANS.  
OVEN THERMOMETER.

(Application filed Dec. 2, 1901.)

(No Model.)

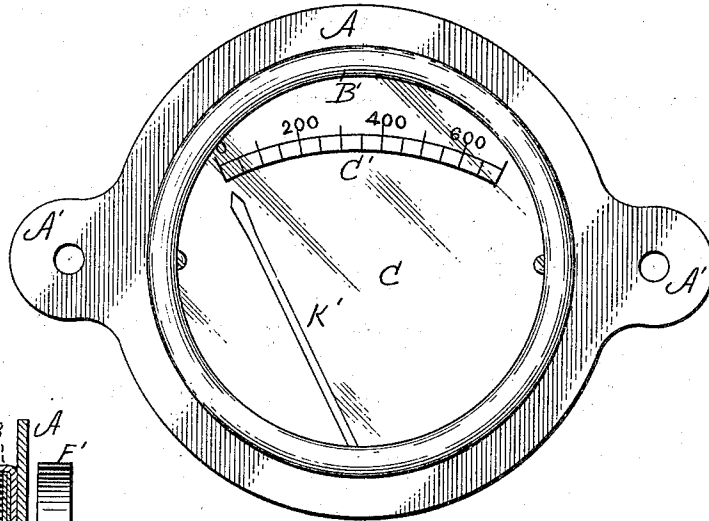


Fig. 1.

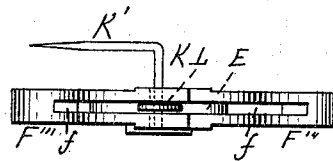


Fig. 4.

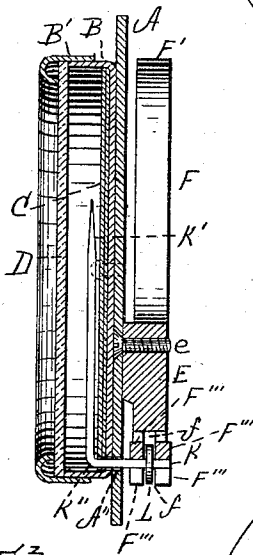


Fig. 3.

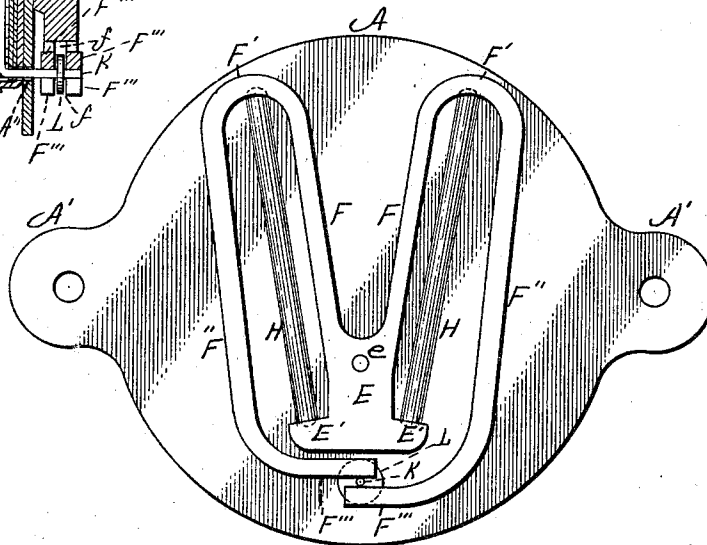


Fig. 2.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

CHARLES EVERETT EVANS, OF TAUNTON, MASSACHUSETTS.

## OVEN-THERMOMETER.

SPECIFICATION forming part of Letters Patent No. 695,293, dated March 11, 1902.

Application filed December 2, 1901. Serial No. 84,299. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES EVERETT EVANS, a citizen of the United States, residing in Taunton, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Oven-Thermometers, of which the following is a specification.

This invention relates to that class of thermometers which are particularly adapted for use in ovens of stoves, and the nature of the invention is fully described below and illustrated in the accompanying drawings, in which—

Figure 1 is a front view of an oven-thermometer embodying my invention. Fig. 2 is a rear view of the same. Fig. 3 is a cross-section. Fig. 4 is a view of the under side or edge.

Similar letters of reference indicate corresponding parts.

A represents the back plate, adapted to be secured to the inside of the oven in the ordinary manner by means of suitable ears A'. Secured to this plate is the case formed with the two rings B and B' and provided with a dial C, suitably inscribed at C' to indicate degrees of heat, and with a transparent window D. To the rear side of the plate is secured the operative portion of the thermometer, such portion comprising the shank or stationary portion E, secured at e in any suitable manner to the back plate, the oppositely-projecting steps E' and the oppositely-extending arms F, preferably spreading, as shown, bent back upon themselves at F' into the portion F'', and thence inward into the free ends F'''. The parts E, E', F, F', F'', and F''' are in one integral piece, preferably of cast-iron, and the end of one of the arms F''' underlaps the other, as indicated in Fig. 2. Rods H, of brass or other relatively expansive metal, have their opposite ends socketed in the steps E' and bends F', so that they cannot slip out of position. Each of the inwardly-projecting portions F''' is bifurcated, as indicated at f. A pointer or indicator consists of the shank portion or spindle K and indicating portion K', said portion K extending between the under surface of the upper inwardly-projecting end F''' and the upper surface of the under one and is rigidly held in such inter-

mediate position by said portions F''', which spring against it and are held apart thereby. This portion K extends from such position through a suitable opening A'' in the back plate and a corresponding opening in the dial and at K'' bends at right angles upward and points normally at zero on the scale C'. A disk L is fixed on the portion K of the indicator and extends into the slots or bifurcations in the two parts F'' and operates as a guide to keep the portion K of the indicator in the proper position and at right angles with the portions F''.

In operation as heat is applied to the oven the brass rods H expand, and thereby operate to push on the portions F' of the cast-iron frame and draw apart the ends F'''. This rolls the portion K of the indicator between the surfaces of the portions F''' in contact therewith, and hence moves said indicator and causes it to point to the degree of heat reached in the oven. Of course the movement of the parts F''' is slight, and said portions do not draw actually apart, but move oppositely and from each other, so as to impart a partial rotation to the spindle K, and said spindle being held in place by the disk L in the slots or bifurcations f causes its indicating end to move for a portion of a circle along the scale.

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

1. In an oven-thermometer of the character described in which the principle of the unequal expansion of metal is employed to indicate changes in temperature, a plate and dial; a frame provided with two oppositely and inwardly extending arms overlapping each other; rods of relatively expansive metal engaging and operating said frame to move said arms oppositely with relation to each other; a spindle held by and between the inner surfaces of said arms; and an indicator extending from said spindle over the dial, whereby the rise of temperature causes said arms to move with relation to each other and roll said spindle between them, substantially as described.

2. In an oven-thermometer of the character described in which the principle of the un-

equal expansion of metals is employed to indicate changes in temperature, a plate and dial; the frame E provided with the steps E' and arms F, F', F'', F''', the portions F''' overlapping each other and said portions being  
5 bifurcated at their ends; the spindle K held by and between said overlapping portions and bent into the indicator K' which extends over the dial; and the disk L on said spindle and  
10 extending into the bifurcations in the two

overlapping ends F''', substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES EVERETT EVANS.

Witnesses:

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