L. FORESTER.

PYROMETER.

APPLICATION FILED JUNE 1, 1918.

1,315,716. Patented Sept. 9, 1919.

FIG. 1.

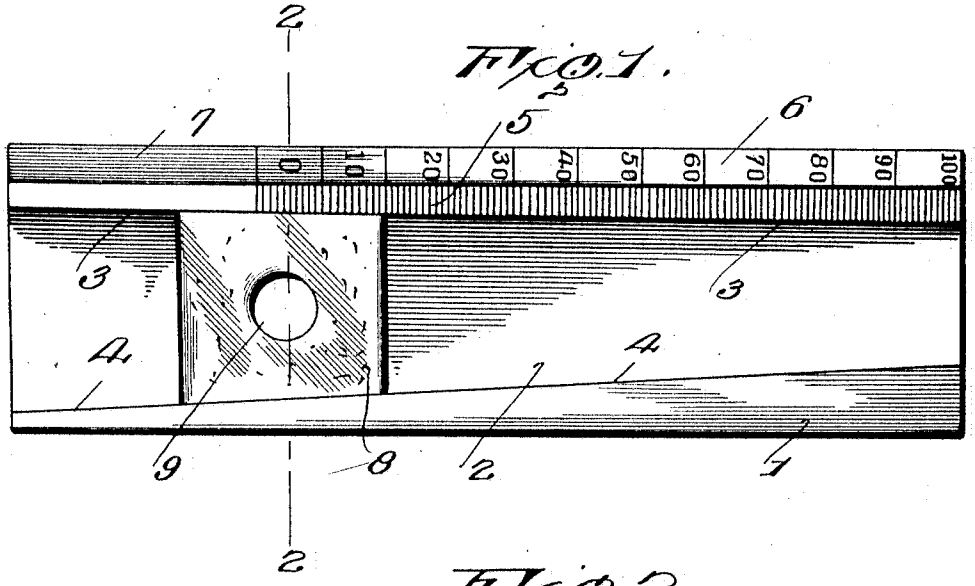


FIG. 2.

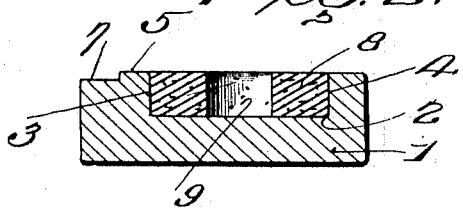
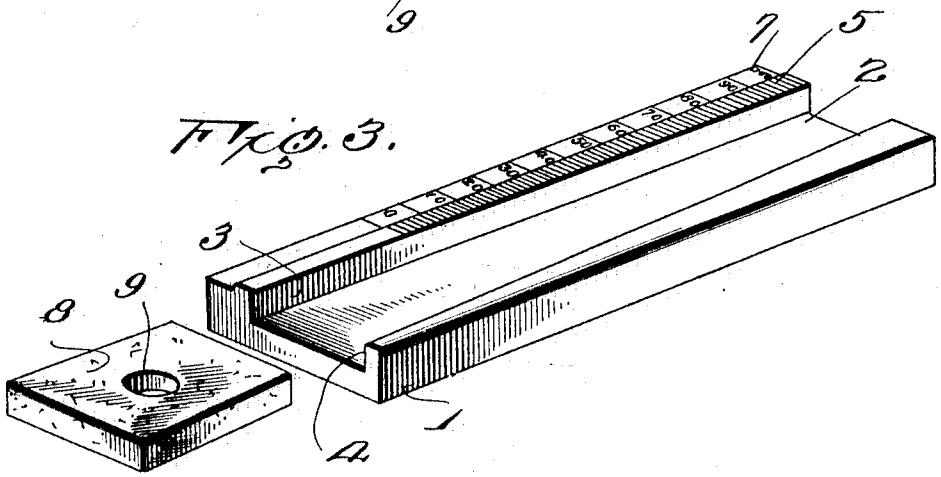


FIG. 3.



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LEONARD FORESTER, OF TRENTON, NEW JERSEY.

PYROMETER.

1,315,716. Specification of Letters Patent. Patented Sept. 9, 1919.

Application filed June 1, 1918. Serial No. 237,795.

To all whom it may concern:

Be it known that I, LEONARD FORESTER, a citizen of the United States, residing at Trenton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Pyrometers, of which the following is a specification.

This invention relates to devices for testing the burning action of the fire in pottery and similar kilns and has for its object the provision of a simple and inexpensive and efficient device by the use of which the operator will be accurately informed as to whether the fire is in proper condition for burning. The invention is illustrated in the accompanying drawings and consists in certain novel features which will be particularly pointed out in the claim following the detailed description.

In the drawings:

Figure 1 is a plan view of a device embodying my improvements;

Fig. 2 is a transverse section on the line 2—2 of Fig. 1;

Fig. 3 is a perspective view showing the trial mass separate from the gage.

In carrying out my invention, I employ a gage consisting of an oblong body 1 of metal or similar durable material. This body is constructed in its upper side with a longitudinal groove 2, the walls 3 and 4 of which converge toward one end of the body. Upon the upper side of the body contiguous to the wall 3, I provide a scale of graduations 5 and between the said graduations and the side edge of the body I display, by embossing or other convenient means, a scale of numerals 6 increasing arithmetically toward the smaller end of the groove 2. The graduations will preferably consist of notches formed in the surface of the body and to facilitate the formation of the notches, the upper surface of the body is cut away between the scale 5 and the side edge of the body, as indicated at 7. This construction will permit the notches to be formed by filing or sawing and will also aid in removing from the notches any dirt or other material which may accumulate therein inasmuch as both ends of the notches will be open and the accumulations may be readily pushed therethrough.

All clay products during the "smoking" or "drying-out" period expand but as the moisture is driven off in burning the products contract, and it is the particular object of my invention to provide a simple device by the use of which the fireman may ascertain when the smoking period is over and he may increase his fire for burning without damaging the articles in the kiln or furnace. To this end a trial mass of highly refractory material is provided so as to resist high temperatures and shrink evenly by degrees as the heat is increased. This trial mass is generally rectangular and is illustrated at 8 in the accompanying drawings, having a central opening 9 to be engaged by a drawing rod for withdrawal from the kiln when necessary. This trial mass is placed in the kiln for a predetermined period and is then withdrawn and slid along the groove 2 of my pyrometer from the wider end thereof until its opposite side edges tend to bind between the walls of the groove, as indicated in Fig. 1, the degree to which the moisture has been driven off being read or determined by noting the notch or graduation of the scale 5 with which the front or upper edge of the block 8 registers. The gage and the trial mass are of fixed dimensions, determined by experiment, so that when the smoking period is over and contraction has commenced the trial piece will fit in the groove 2 at the zero point while prior to the beginning of contraction it can fit in the groove only below the zero point. When the trial mass will move to or above the zero point, the fireman may proceed to raise the temperature without danger to the wares in the kiln or furnace.

It will be readily noted from the foregoing description, taken in connection with the accompanying drawings, that I have provided an exceedingly simple and inexpensive device by which the contraction of a trial mass and the efficiency of the fire within a kiln may be easily and accurately determined.

Having thus described my invention, what I claim as new is:

A pyrometer comprising an elongated body having oppositely disposed parallel longitudinal edges and provided in its upper face with a longitudinal groove opening through the opposite ends of said body and forming a seat for a trial mass, the walls of said groove converging in the direction of one end of the body and one of the groove walls having less inclination than the other and forming between said wall and the adjacent longitudinal edge of the body a thick-

ened portion of substantially uniform width on one side of said body, the upper face of the thickened portion being cut-away for a portion of its width and provided with numerals constituting a scale, there being transverse notches extending entirely across the upper face of the body between the cut-away portion thereof and the adjacent wall of the seating groove and constituting graduations corresponding to the numerals on said cut-away portion.

In testimony whereof I affix my signature.

LEONARD FORESTER. [L. S.]

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."