

(No Model.)

F. W. SEARS.  
HEAT INDICATOR.

No. 477,313.

Patented June 21, 1892.

Fig. 1.

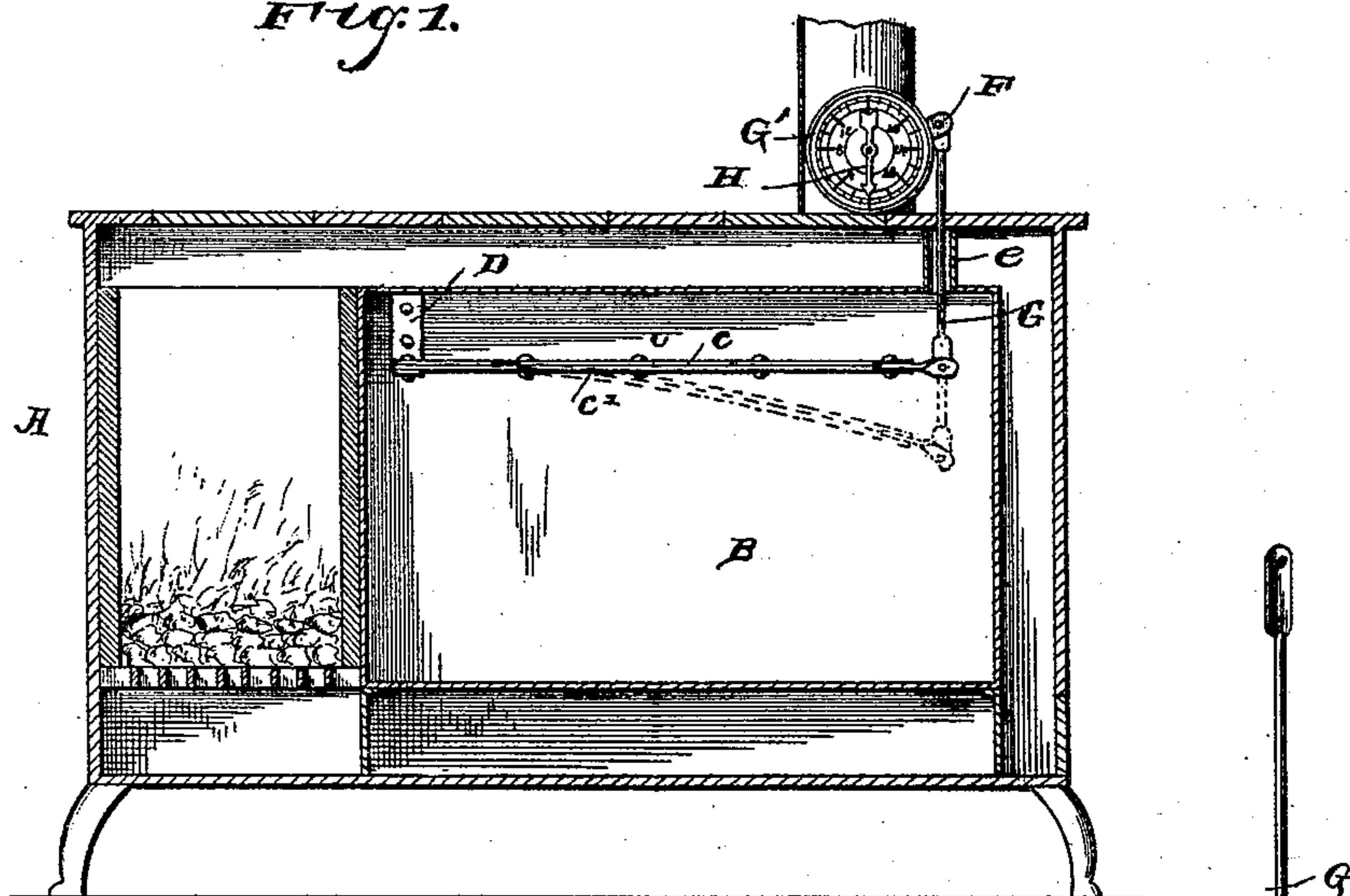


Fig. 2.

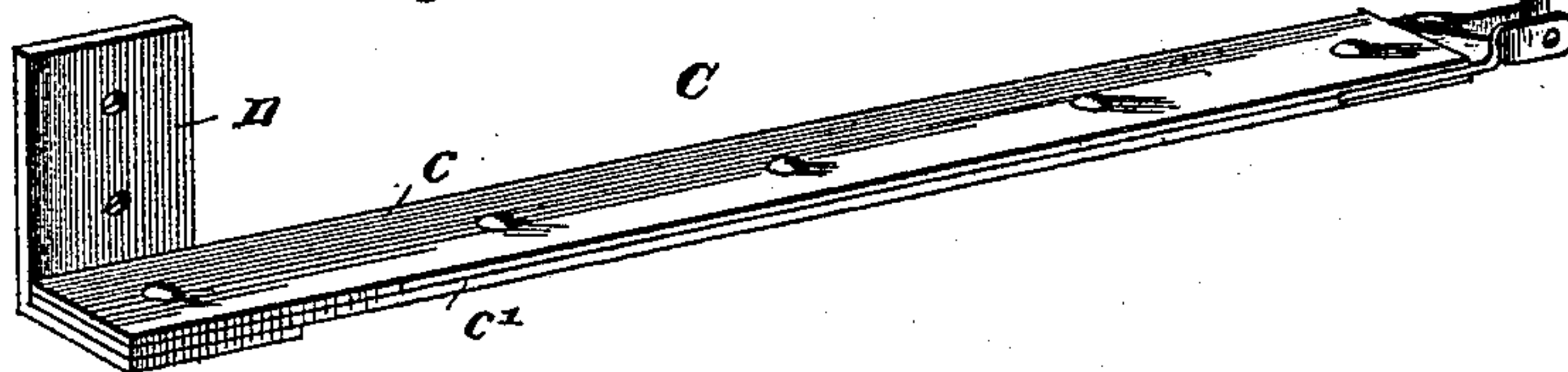
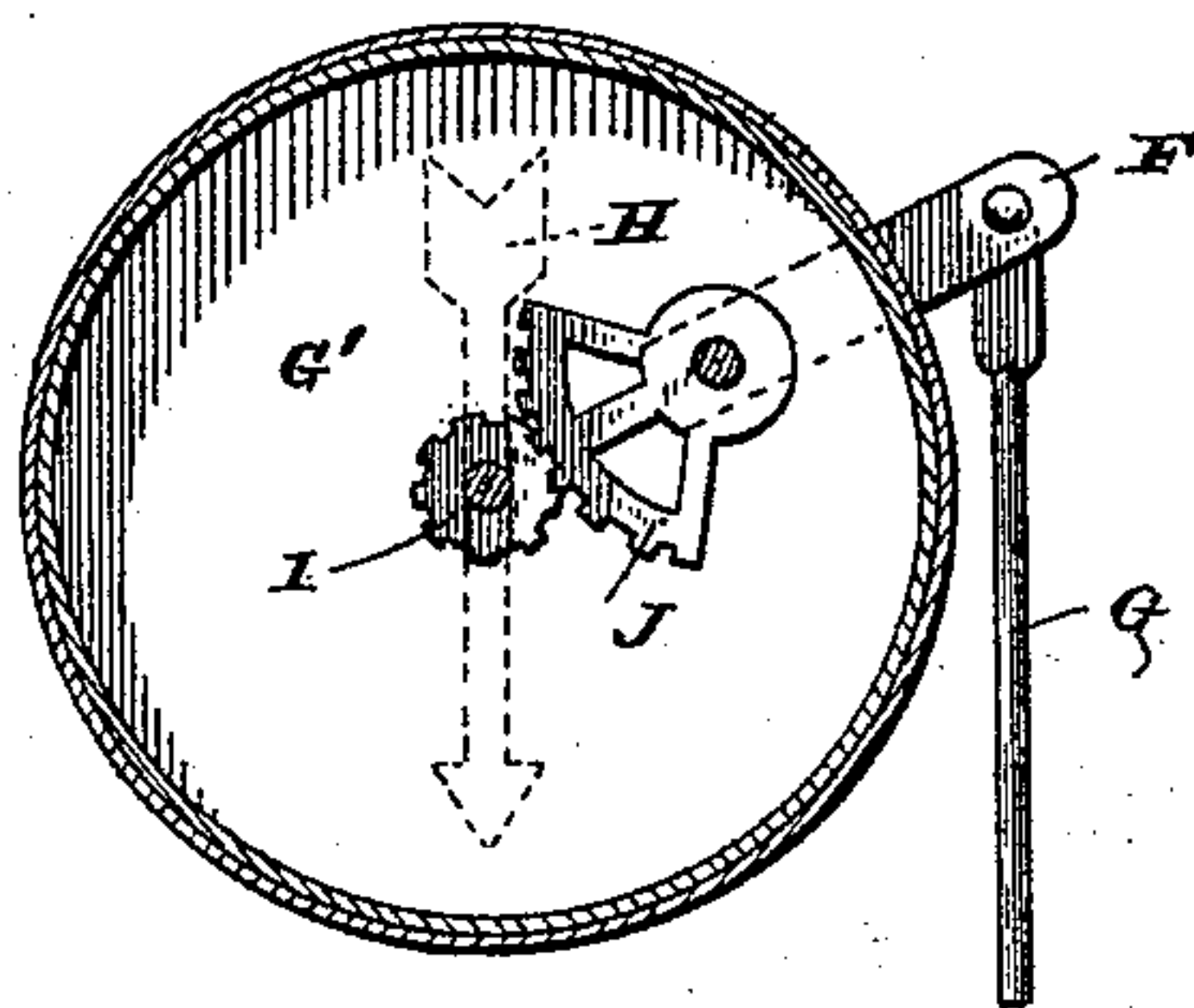


Fig. 3.



Witnesses

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By His Attorneys,

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# UNITED STATES PATENT OFFICE.

FREDERICK W. SEARS, OF PROPHETSTOWN, ILLINOIS.

## HEAT-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 477,313, dated June 21, 1892.

Application filed December 28, 1891. Serial No. 416,353. (No model.)

### *To all whom it may concern:*

Be it known that I, FREDERICK W. SEARS, a citizen of the United States, residing at Prophetstown, in the county of Whiteside and State of Illinois, have invented a new and useful Heat-Indicator, of which the following is a specification.

This invention relates to heat-indicators; and it has for its object to provide a device of this character which is especially applicable for use in connection with ordinary stove-ovens, the heat of which may be accurately and definitely determined and regulated by the use of the herein-described indicator, which is designed to be simple in construction and very sensitive to all variations of temperature. The device may also be used in connection with other apparatus in which it is desirable that the temperature thereof be always noted and regulated.

To this end the invention consists in a heat-indicator constructed and combined in the novel manner hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a vertical sectional view of a cooking-stove provided with a heat-indicator in connection with the oven thereof and constructed in accordance with my invention. Fig. 2 is a detail in perspective of the thermostatic bar and operating-rod connected therewith. Fig. 3 is a detail sectional view of the indicator.

Referring to the accompanying drawings, A represents a cooking-stove of the ordinary construction and provided with the usual heat-oven B. Secured to one of the sides or walls of said oven is the approximately horizontal thermostatic bar C. The said thermostatic bar C comprises the ordinary brass and iron plates *c* and *c'*, respectively, securely fastened together, in order to provide a bar that will be readily affected by variations of temperature. One end of said bar is rigidly fastened to a bracket D, secured to one of the walls of the oven or otherwise suitably secured at one end, while the opposite end thereof is left free to move up or down according to the degree of heat within the oven. It being of course understood that the more rapid expansion and contraction of the brass will cause the said bar to curve down

and resume its normal horizontal position respectively and being secured at one end, the said bar, which extends nearly across the full length or width of the oven, is allowed a greater play than usual. Connected to the free end of the thermostatic bar C is the upwardly-extending operating-rod G, passing through the top of the oven and the inclosing tube, shield, or guard *e* between the top of the stove and the oven, and is connected at its extreme upper end to the indicator-actuating arm F of the indicator G'. The said indicator G' is suitably supported upon the top of the stove at a convenient point of attachment and is provided with an ordinary dial-plate graduated in degrees and over which works the indicating-hand H. The hand H is carried by a shaft, to the inner end of which is secured the pinion I, engaged by the toothed segment J, mounted upon the same shaft as the indicator-actuating arm F upon the outside of the casing and connected to the upper end of the operating-rod G. The normal position of the thermostatic bar C when the heat is normal holds the hand H of the indicator at the zero-point of the indicating-dial, and this thermostatic bar thus forms the spring, as it were, of the indicator itself, which controls and regulates the movement of the hand. An increase of heat in the oven causes the top brass plate to expand more quickly than the under iron plate, and thus curve the outer free end of the bar downward, which of course draws the operating-bar downward and causes the hand H to revolve and indicate the degree of heat existing in the oven or other place in which the device is located.

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

In a heat-indicator for ovens, the combination of a metallic thermostatic bar securely suspended at one end from a suitable point of attachment within the oven and having the other end free to move, a heat-indicating device mounted upon the stove and having a pinion-controlled indicating-hand and an actuating-arm, a tube-guard placed between the top of the stove and the oven, and an operating-rod working through said tube and

connected to the free end of said thermo-  
static bar and to said actuating-arm, said ther-  
mostatic bar normally holding the hand of  
the indicator at the zero-point and forming  
5 the spring for said indicating mechanism, sub-  
stantially as set forth.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in  
the presence of two witnesses.

FRED. W. SEARS.

Witnesses:

FRED. L. ADAMS,  
W. D. SMITH.