No. 857,452. PATENTED JUNE 18, 1907.

J. P. FARMER.

HEAT REGULATOR FOR OVENS.

APPLICATION FILED JAN. 9, 1906.

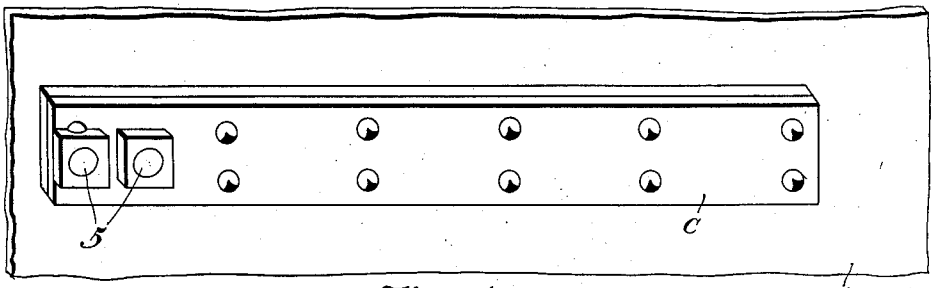


Fig. 1.

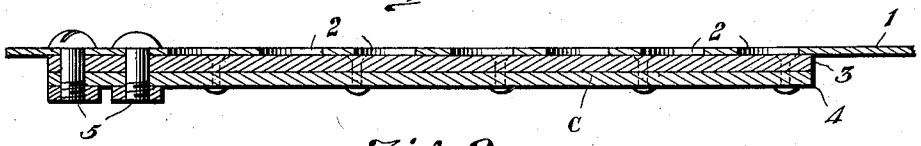


Fig. 2.

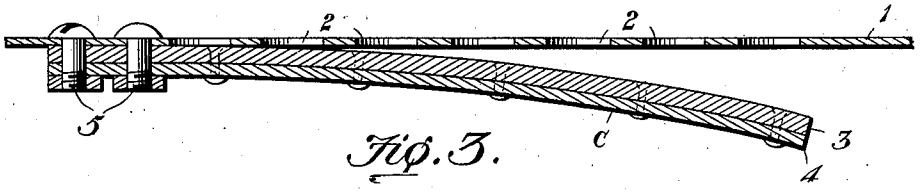


Fig. 3.

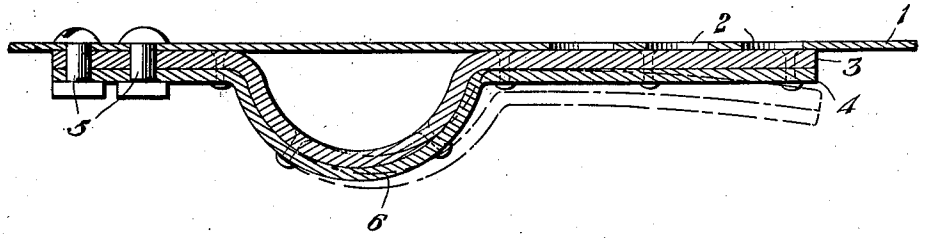


Fig. 4.

WITNESSES:

E. P. Stewart

Wm. Ragger

John P. Farmer, INVENTOR.

By C. A. Snow & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN P. FARMER, OF MONTAVILLA, OREGON.

HEAT-REGULATOR FOR OVENS.

No. 857,452. Specification of Letters Patent. Patented June 18, 1907.

Application filed January 9, 1906. Serial No. 295,314.

To all whom it may concern:

Be it known that I, JOHN P. FARMER, a citizen of the United States, residing at Montavilla, in the county of Multnomah and State of Oregon, have invented a new and useful Heat-Regulator for Ovens, of which the following is a specification.

This invention relates to thermostatic heat regulators for ovens, and it has for its object to present a device of this class which shall be very simple in construction and efficient in operation, and which may be readily applied to ovens of various kinds for the purpose of regulating the interior temperature.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a perspective view showing a simple and preferred form of the invention. Fig. 2 is a horizontal sectional view showing the ports closed. Fig. 3 is a horizontal sectional view showing the ports open. Fig. 4 is a horizontal sectional view illustrating a modified form of the device and showing the ports closed.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

The oven casing, a portion of which is shown at 1, is provided with one or more ports or openings, as 2, 2. A single port of suitable shape and dimensions may be found sufficient, but as a rule a plurality of smaller ports will be arranged in alinement with each other, as shown. Through these ports, the interior of the oven is in communication with the outer atmosphere.

A valve or closure for the ports 2, 2 is provided, the same consisting of a thermostat bar C, which in the present instance is composed of two members 3 and 4, which will expand unequally under the influence of heat, such as brass and iron, said members being riveted or otherwise suitably secured together. This compound bar is secured upon the oven plate, as by means of bolts 5, 5, in such a position that at normal temperature the ports 2, 2 will be covered thereby, the material of greater expansion, as 3, being preferably placed adjacent to the ports. At normal temperature the thermostat bar C is straight, and it will constitute a tight closure for the ports.

When the temperature of the oven is raised, the thermostat bar will warp or buckle in an outward direction, thus gradually and successively uncovering the ports, permitting the heated air within the oven to be gradually displaced by the cold outer air, and thus effecting a reduction of the temperature; as the temperature within the oven is reduced, the thermostat bar is restored in the direction of the ports, thus obstructing the passage of air. It is obvious that by properly constructing the thermostat bar, and by properly locating the same with relation to the ports, the temperature within the oven will be automatically maintained at a predetermined degree.

Under the modified construction illustrated in Fig. 4 of the drawings, the thermostat bar is provided with a curved or bulging portion 6 intermediate the ends thereof, the flat extremity of the bar constituting the closure for the ports 2, 2; this form of the device will be found more sensitive, owing to the greater length of material in the thermostat bar.

Heat regulators have heretofore been devised in which valves or dampers have been operated by thermostats; by the present invention, all unnecessary complications are dispensed with, the single compensating thermostat serving also to form a valve or damper for the ports.

Having thus described the invention, what is claimed is:—

1. The combination of a flat ported wall, with a thermostat arranged to open and close the ports thereof, said thermostat comprising a pair of metal strips of different co-efficients of expansion, the strip having the greater co-efficient being arranged next the wall and having a flat portion adapted to open and close the ports, and rivets for securing the strips together which have countersunk heads in the strip controlling the ports.

2. The combination of a wall provided with a plurality of ports, with a thermostat comprising a pair of strips of metal of different co-efficients of expansion with the strip having the greater coefficient next the wall and having flat end portions arranged with

their longitudinal dimensions alining and connected by a laterally extending bulge, one of the said flat portions forming a single valve for covering and uncovering the several ports, rivets extending through the flat and bulged portions for securing the strips together, and means for securing the other flat portions to the said wall, the said rivets extending through the flat portion forming the valve having their ends countersunk and flush with the surface of the said flat portion which contacts with the ported wall.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN P. FARMER.

Witnesses:
W. W. McIntosh,
S. Kafka.