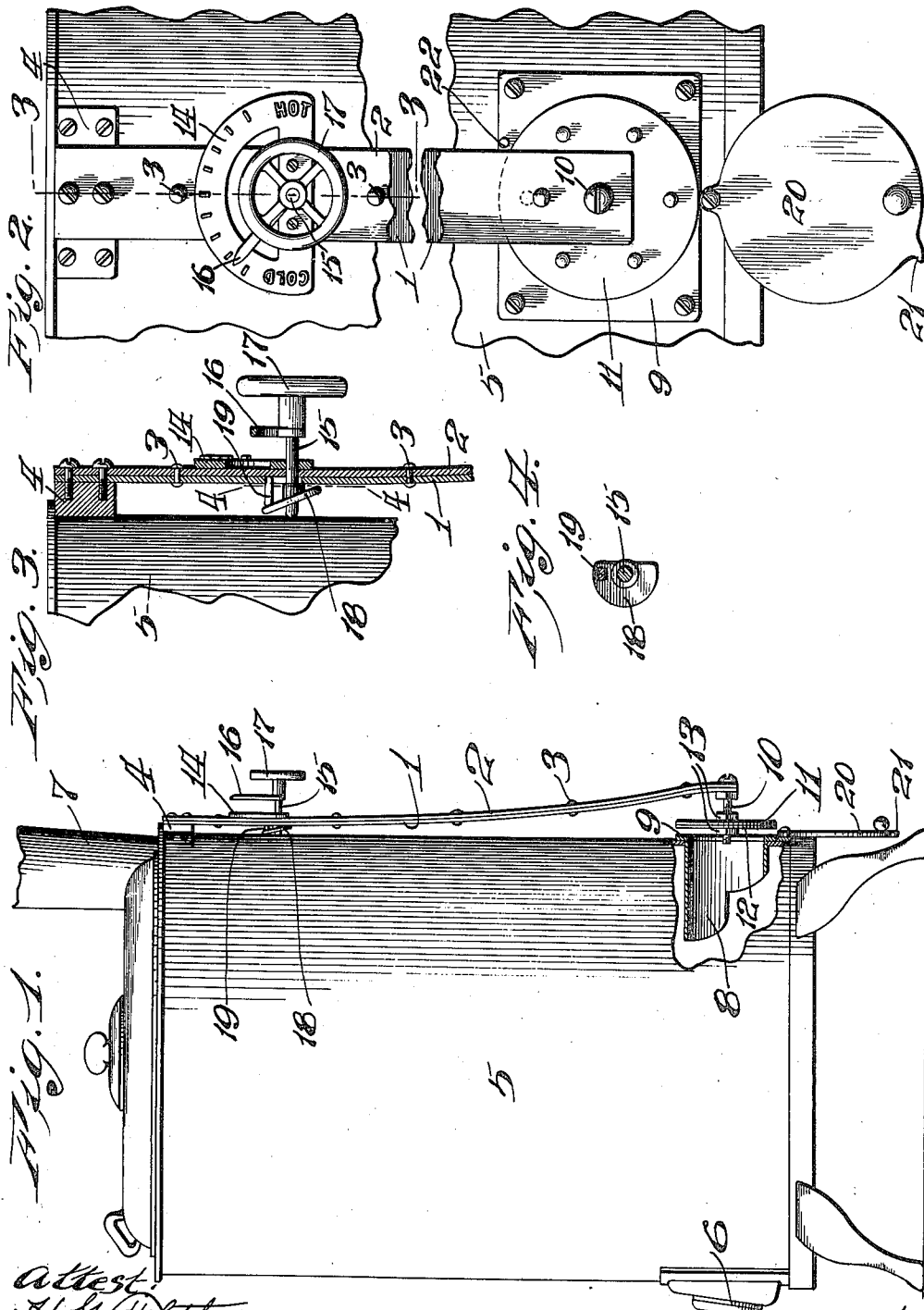


J. H. ATTERBURY.
THERMOSTATIC DRAFT REGULATOR.
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1,014,032.

Patented Jan. 9, 1912.



Attest:
A. G. Fletcher.
E. L. Wallace.

Inventor:
James H. Atterbury.
By Higdon Langan attys.

UNITED STATES PATENT OFFICE.

JAMES H. ATTERBURY, OF LITCHFIELD, ILLINOIS.

THERMOSTATIC DRAFT-REGULATOR.

1,014,032.

Specification of Letters Patent.

Patented Jan. 9, 1912.

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To all whom it may concern:

Be it known that I, JAMES H. ATTERBURY, a citizen of the United States, and resident of Litchfield, Montgomery county, Illinois, have invented certain new and useful Improvements in Thermostatic Draft-Regulators, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in thermostatic draft regulators, the primary object of my invention being to construct a thermostat consisting of elastic members composed of material having different expansive coefficients and combine such a thermostat in such relation to a damper as that the damper will be automatically opened and closed by variations in temperature.

A further object of my invention is to construct a means for regulating the thermostat so that it may be set to operate in different predetermined temperatures.

For the above purposes my invention consists in certain novel features of construction and arrangement of parts as will be hereinafter more fully described, pointed out in the claims and illustrated by the accompanying drawing, in which:

Figure 1 illustrates my preferred form of thermostatic bars and regulating devices as applied for the operation of a damper to control the draft of a heater; Fig. 2 is an enlarged, detail face view of the upper and lower portions of the thermostatic bars as applied for the operation of a damper; Fig. 3 is a vertical, sectional elevation taken on the line 3—3 of Fig. 2; and Fig. 4 is a detail, vertical elevation taken on the line 4—4 of Fig. 3.

Referring by numerals to the accompanying drawing: 1 and 2 designate the members comprising my thermostatic bar which members are composed of elastic materials and which members are of different expansive coefficients, for example the bar 1 may be constructed of sheet steel and the bar 2 of sheet brass, the steel being susceptible of a less expansive distortion than the brass. The members 1 and 2 are secured together at intervals throughout their lengths by means of the rivets or the like 3.

4 designates a bracket to which the upper ends of the members 1 and 2 are rigidly connected.

5 designates a heater which may be of ordinary construction and is provided with the ordinary draft opening 6 and chimney 7.

At a point preferably diametrically opposed to the opening 6 is an auxiliary draft opening 8 and surrounding the opening is a plate 9.

Carried by the bars 1 and 2, adjacent their lower extremities, is a threaded rod 10 which is fixed against lateral movement relative to the bar.

Carried by the rod 10 is a damper 11 of a size sufficient to close the opening 8 and carried by the damper, on its rear face, is a sheet 12 of asbestos or the like which is for the purpose of cushioning the impact of the damper against the plate 9 to eliminate the rattle or pounding of the damper against the plate, as well as to more effectually close the opening when the damper is in a closed position.

On either side of the damper and embracing the rod 10 is a nut 13 for holding the damper in place.

As shown the nuts are in engagement with the damper but if desired, in cases where the plate 9 may have an uneven surface, the nuts may be spaced apart from the damper, which will permit a movement of the damper so that it may conform more readily with the unevenness of the surface of the plate 9.

To provide a means whereby the thermostatic bars may be set to operate at different degrees of temperature an indicia bearing dial 14 is carried by the bars and secured against movement relative thereto.

Inserted through the dial and through each of the bars is a shaft 15 which carries on the outside of said dial an indicating finger 16 and a hand wheel 17, each of which is secured against rotation relative to the shaft.

Carried by the shaft between the bars and the body of the heater is a segmental disk 18 which is arranged at an incline relative to the vertical. Carried by the bars is a projection 19, preferably formed by being struck from the body of the bar 1, which contacts with the disk 18. The end of the shaft 15 opposed to the end carrying the wheel contacts with the body of the heater thus it is obvious that when the wheel is rotated the disk will force the projection 19 and said bars outwardly away from the heater and when the wheel is moved in an opposite direction the disk and said projection will permit the

elasticity of the bars to move in a direction toward the heater. This lateral shifting bodily of the bars from the heater is required to place the bars in positions relative
5 the heater as to operate in different zones of temperature relative the heater.

If it be desired to maintain a uniform heat at an average temperature the wheel is turned so that the indicating finger is positioned centrally relative the dial thus moving the bars bodily in a position laterally removed from the heater which will be a proper position for the operation of the bars to open and close the damper to maintain a
15 sufficient draft to keep the heater at the desired degree of temperature.

If it be desired to wholly close the opening 8 the damper may be swung outwardly and the pivoted plate 20 swung into position
20 to close the opening, there being a projection 21 on the periphery of the plate which engages with a projection 22 on the plate 9, preferably at a point off of the vertical center so that the plate 20 will be held by
25 gravity in a closed position.

I claim:

1. In a thermostatic draft regulator, the combination with a heater having a draft opening therein, of a member capable of being
30 bodily distorted by the action of heat

radiating from the heater, means for securing one end of said member, a damper secured to the free end of said member and arranged to open or close the draft opening in the heater, and means for bodily shifting
35 said member, carrying the damper, relative the heat zone of the heater, for the purposes stated.

2. In a thermostatic draft regulator, the combination with a heater having a draft
40 opening therein, of a thermostatic bar composed of members of elastic materials which are of different expansive coefficients, means for securing one end of the thermostatic bar to the heater, a damper secured to the
45 free end of the thermostatic bar and arranged to open and close the draft opening in the heater, a shaft supported in the bar adjacent its fixed end, an inclined disk carried by the shaft, and means for rotating
50 the shaft and disk whereby the thermostatic bar may be shifted bodily in the heat zone of the heater, for the purposes stated.

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

JAMES H. ATTERBURY.

Witnesses:

E. E. LONGAN,
E. L. WALLACE.