

(No Model.)

H. E. THOMPSON.  
THERMOSTAT.

No. 414,267.

Patented Nov. 5, 1889.

Fig 1

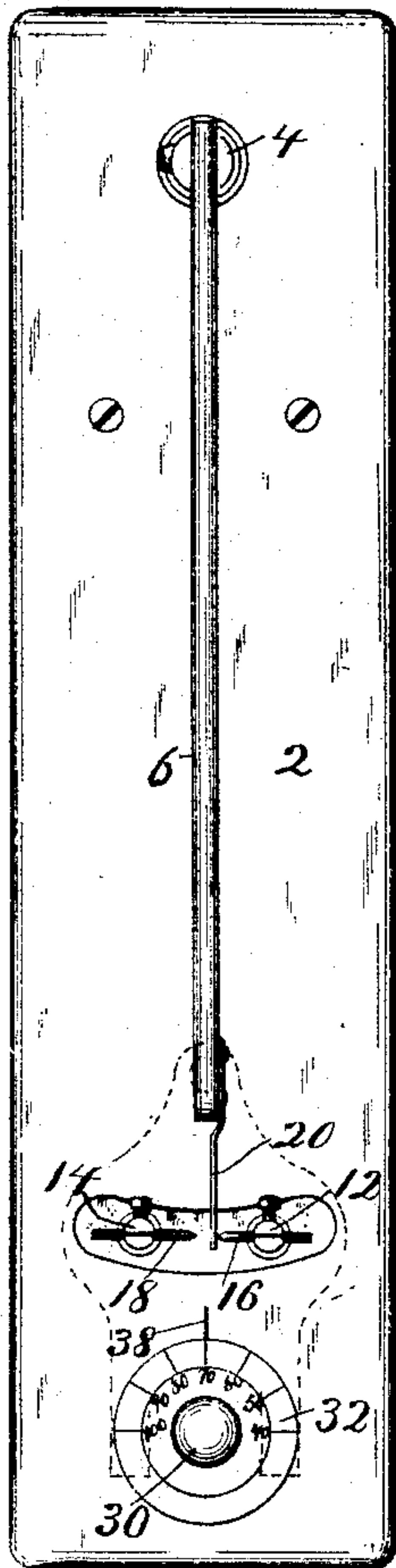


Fig 2

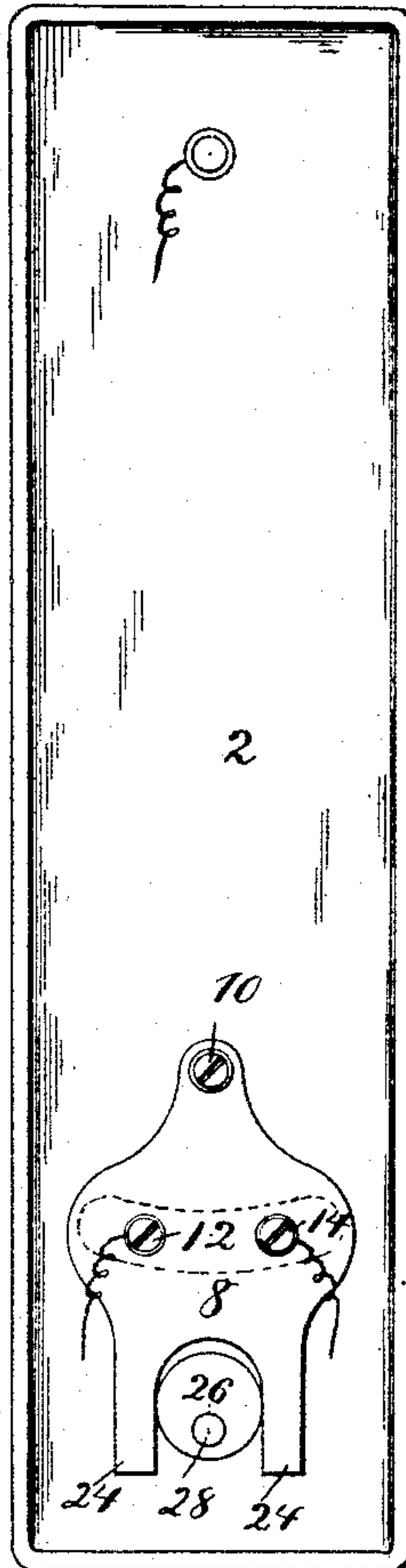


Fig 3

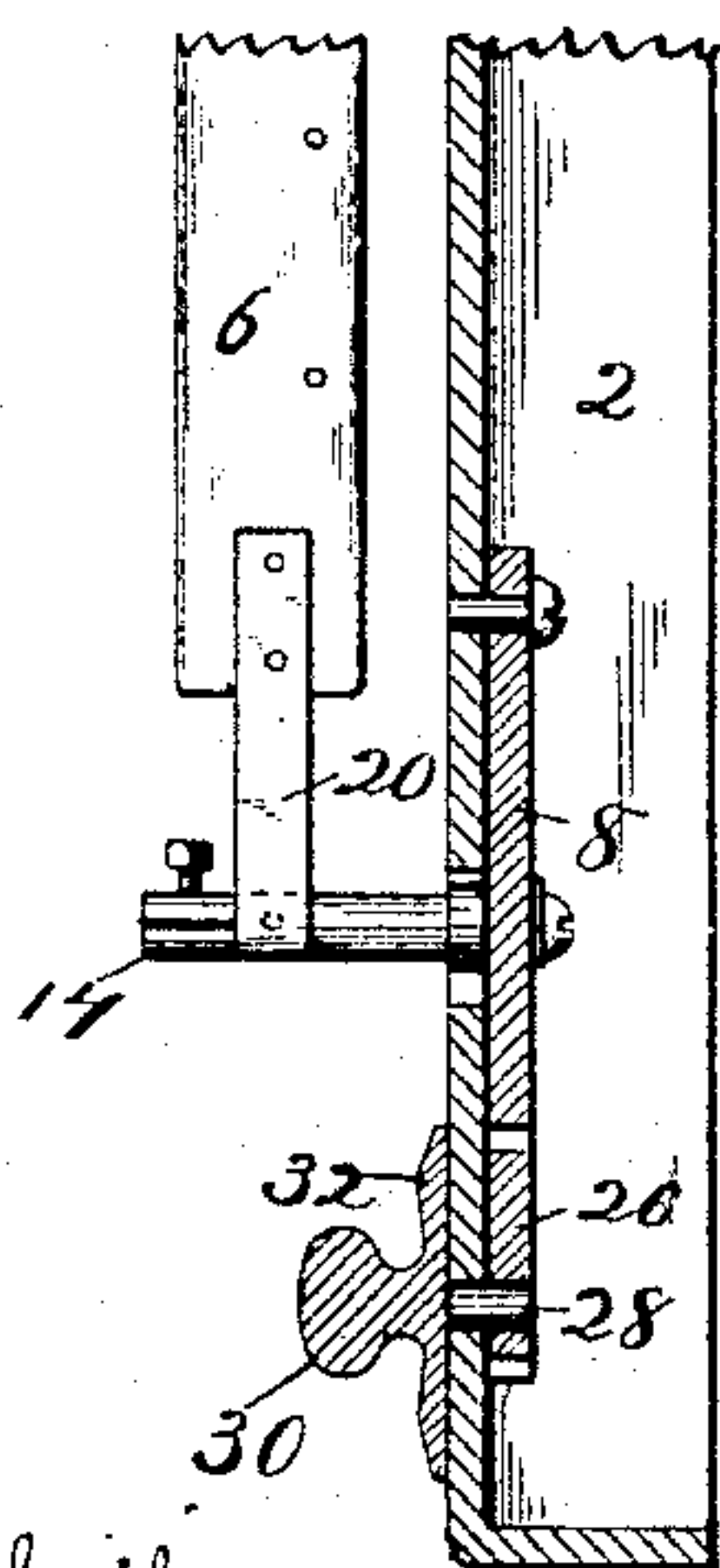
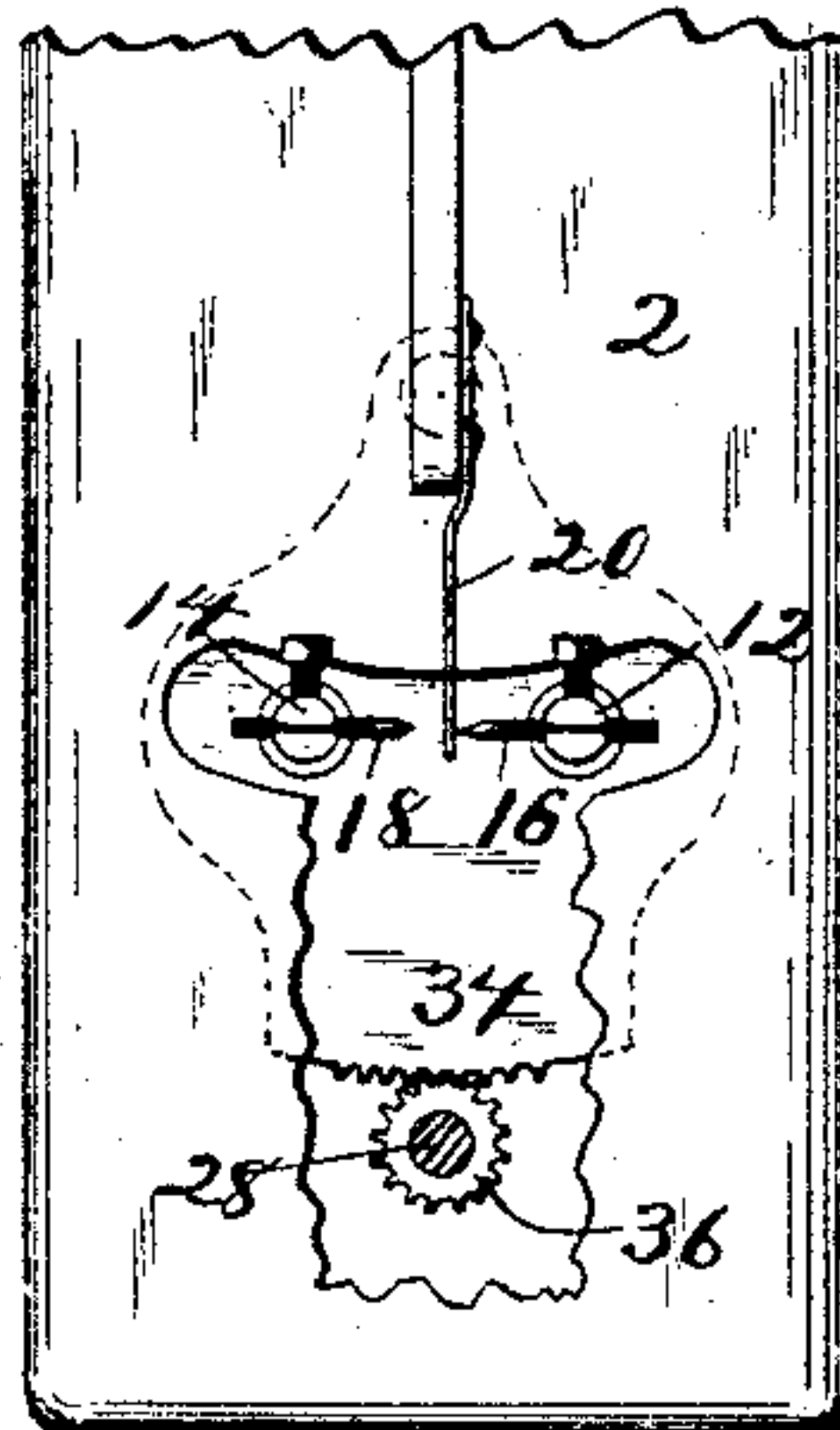


Fig 4



Witnesses.

J. Jensen.  
A. M. Gaskill

Inventor.

Hiram E. Thompson

By Paul & Merwin, Attys.

# UNITED STATES PATENT OFFICE.

HIRAM E. THOMPSON, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE CONSOLIDATED TEMPERATURE CONTROLLING COMPANY, OF MINNESOTA.

## THERMOSTAT.

SPECIFICATION forming part of Letters Patent No. 414,267, dated November 5, 1889.

Application filed January 8, 1889. Serial No. 295,767. (No model.)

*To all whom it may concern:*

Be it known that I, HIRAM E. THOMPSON, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Thermostats, of which the following is a specification.

My invention relates to improvements in thermostats particularly adapted to be used in connection with electrically-controlled motors for the regulation of heat in buildings, railway-cars, or other apartments; and it consists in a new device for adjusting the electrical contact-points of the thermostat and predetermining the degree of temperature at which a contact will be made between the bar and said points.

My invention further consists in the construction and combination hereinafter described, and particularly pointed out in the claims.

In the drawings forming a part of this specification, Figure 1 is a front elevation of a thermostat with my improvements applied thereto. Fig. 2 is a rear elevation of the same. Figs. 3 and 4 are details.

In the drawings, 2 represents the base of the thermostat, preferably constructed of cast metal, of any convenient form or size.

4 is a post secured to the base 2 and supporting one end of the thermostat-bar 6. This bar is free at its opposite end and constructed of two differently-expanding materials—as rubber and metal—in the ordinary manner.

8 represents a plate, preferably located upon the under side of the base 2, and pivoted at one end to the said base by the pivot-bolt 10. Secured to this plate and moving with it are the binding-posts 12 and 14, in which are secured the contact-pins 16 and 18. A contact-spring 20, secured to the bar 6, extends between the two pins 16 and 18, and may be brought in contact with either of said pins. The end of the plate 8 opposite the pivot is preferably constructed with the projections or guides 24, and an eccentric 26 upon the shaft 28 is located between these projections, against which it forms bearings at opposite

points upon its periphery. The eccentric-shaft 28 passes through the base, and is provided with a knob or hand-wheel 30, by which the said shaft may be revolved. The knob is preferably provided with a flange 32, which rests upon the outer surface of the base. This flange is graduated upon its outer circumference to indicate, in connection with a line upon the base, the variations in the degrees of heat at which a contact will be made between the thermostat-base and the contact-pins. The surface of the base and the bar are adjusted so that the number on the flange opposite the line 38 will indicate the temperature at which a contact will be made between the bar 6 and the pin 16.

It will be seen that the divisions indicating the extremes of temperature are placed oppositely upon the flange, and the divisions are contained within the half-circumference of the said flange. As a half-revolution of the knob will move the eccentric from the one extreme to the other of its throw, the plate and posts attached thereto will be carried from one extreme to the other by this half-revolution. An equivalent for this device is shown in Fig. 4, in which the plate 8 is provided with a rack 34, and a pinion 36 is attached to the shaft 28. This pinion meshes with the rack, and as the knob is revolved the plate is partially revolved about the pivot 10, and the contact-points are changed in a manner similar to that already described. With this arrangement a full revolution of the knob may be obtained, and the divisions upon the flange may, if desired, cover the whole circumference.

The operation of my device is as follows: The contact-points are adjusted so that the scale on the flange of the knob indicates the degree of temperature at which the spring will come in contact with one of the contact-points, so that a fall in temperature of one or two degrees will bring the spring in contact with the other contact-point. The special advantages from this construction are that the thermostat may be very accurately adjusted, and any accidental movement of the plate is



prevented, as it is locked by the eccentric, and can only be moved by turning the operating-shaft on its axis.

The thermostat is particularly applicable  
5 for use with heat-regulators which employ a spring or other motor for moving the valves that control the supply of heat to the apartment in which the thermostat is located.

I claim as my invention—

10 1. In a thermostat, the combination, with the thermostatic bar, of a movable plate 8, carrying the contact-points and adjustably secured to the base of the thermostat, and the rotatable shaft 28, engaging with said plate  
15 and adapted to move it laterally, substantially as described.

2. In a thermostat, the combination, with the thermostatic bar, of the pivoted plate 8,

carrying the posts and contact-points, the shaft 28, provided with a graduated scale and 20 engaging said plate 8 and adapted to move it laterally, substantially as described.

3. In a thermostat, the combination, with the thermostatic bar, of the pivoted plate 8, carrying the posts and contact-points, the 25 shaft 28, provided with the graduated scale 32, and the eccentric 26, engaging with said plate and adapted to move it laterally, substantially as described.

In testimony whereof I have hereunto set 30 my hand this 16th day of November, 1888.

HIRAM E. THOMPSON.

In presence of—

A. C. PAUL,  
J. JESSEN.