

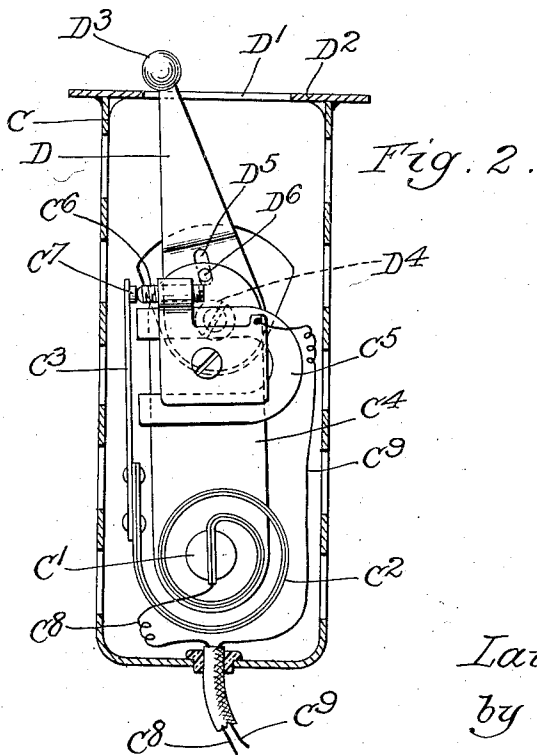
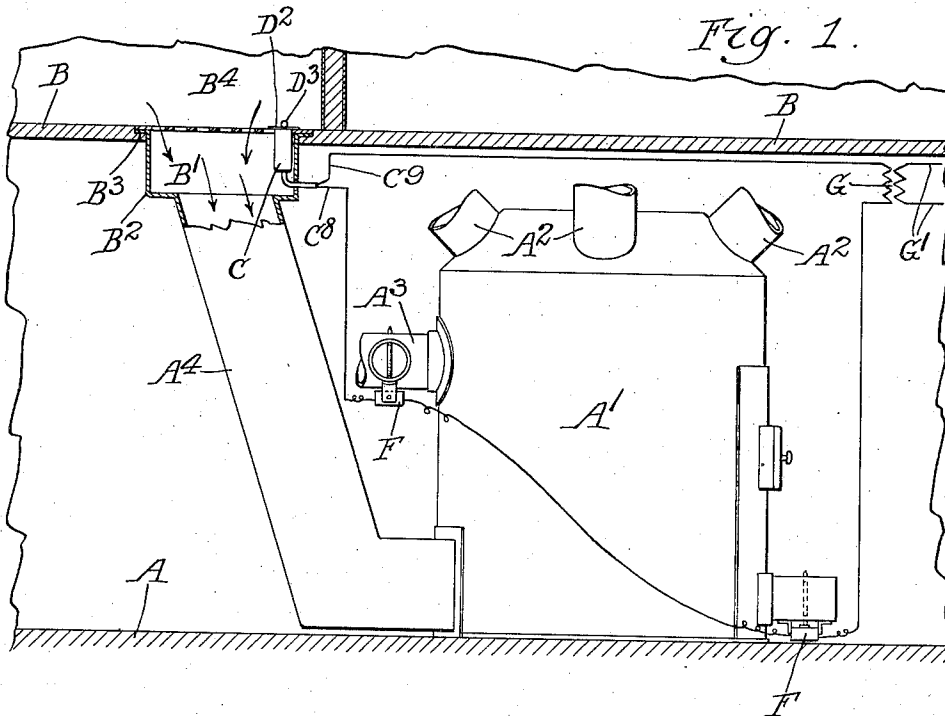
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L. M. PERSONS

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THERMOSTAT

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UNITED STATES PATENT OFFICE

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THERMOSTAT

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My invention relates to control means for a heating plant or furnace. One object is the provision of temperature control means for the control of a room temperature. Another object is the provision of such means which shall be unaffected by hot pipes in a house wall or drafts from the outside wall. Another object is the provision of temperature control means for a hot air heating system. Other objects will appear from time to time in the course of the specification and claims.

I illustrate my invention more or less diagrammatically in the accompanying drawing, wherein—

Figure 1 is a vertical section illustrating more or less diagrammatically a hot air heating system, and

Figure 2 is a section through a temperature control unit.

Like parts are indicated by like symbols throughout the specification and drawing.

Referring to the drawing, A generally indicates the floor of a basement. A¹ indicates a hot air furnace positioned within the basement from which extend hot air supply lines A² and the flue A³. A⁴ is a cold air return line. It is thought to be unnecessary to enter into the details of the hot air heating system since such systems are well known, and my present description and drawing will be understood to be largely diagrammatic or illustrative, so far as relates to the showing of the heating system. It will be understood that hot air is supplied through the ducts A² to various parts of the room or house to be heated, and that cold air returns through the passage A⁴ for reheating.

I illustrate a floor B in which is positioned the cold air register structure generally indicated as B¹. It may include a frame or housing B² with the rim B³ flush with the floor B. Associated with the rim B³ may be any suitable pervious member B⁴. It will be understood that the cold air may flow downwardly through the pervious member B⁴ and through the housing B² and the cold air return passage A⁴ to the furnace.

I position in association with the register B¹, and thus in the path of the returning cold

air, the temperature control unit shown in some detail in Figure 2. It may include, for example, a housing C within which is positioned a pin C¹ to which in turn is secured the bimetallic strap or coil C². This coil may terminate in a contact member C³, preferably of a material or metal responding to magnetic attraction. C⁴ indicates an arm pivoted in relation to the housing C. Mounted thereupon is a permanent magnet C⁵ adjustably associated with a contact member C⁶, opposed to a contact stud C⁷ upon the member C³. The bimetallic strap C² and the contact C⁶ may be included in any suitable electric circuit, which may include the lines C⁸ C⁹ and which may be employed to actuate any suitable control means F, F', for the furnace, such as damper controls or the like, the details of which form no part of the present invention and are, therefore not illustrated herein. It will be understood that the bimetallic strap C², which flexes in response to variations in the temperature to which it is subjected, acts as a make and break member, whereby the actuating circuit through the lines C⁸ C⁹ may be made or broken as in response to fluctuations of the temperature of the air to which the temperature control means is subjected. If the present structure is employed with a mechanical draft control, the device may be set so that when a predetermined low temperature is reached, the circuit through the member C⁸ C⁹ is closed and the drafts are opened. When a predetermined high temperature is reached, the circuit may again be broken and the draft control be closed to shut off the draft.

In order to provide for ready adjustment, I employ a lever D which projects upwardly through a slot D¹ in a cover D² with the housing C. It may terminate, for example, in a ball D³, or in any other member of proper size and shape, to be contacted by the foot of the operator. The lever D is pivoted as at D⁴ and is provided with a slot D⁵ to receive a pin D⁶ upon the arm C⁴. It will be understood that rotation of the lever D effects a slight rotation of the arm C⁴, thus varying or adjusting the temperature at which contact between the members C⁶ C⁷ is made or

- broken. The permanent magnet C⁵ helps in insuring a quick or further action of the making or breaking of the actuating circuit. It does not, of itself, form part of the present invention and is not necessary for its operation. To conform to underwriters' requirements a transformer G, to step down the current, may be interposed between the thermostat and the energizing circuit G¹.
- 10 It will be realized that whereas I have described and shown a practical and operative device, that nevertheless many changes may be made in size, shape, number and disposition of parts. I therefore wish my drawing to be taken as in a broad sense illustrative and diagrammatic, and do not wish to be limited to my showing herein in detail, except so far as I precisely limit myself in my claims.
- 20 I claim:
1. In combination with hot air heating system, which includes hot air supply lines and a cold air return line, a register, and temperature responsive control means positioned in the cold air return line adjacent said register, and means for adjusting said temperature responsive control means, including a movable element projecting upwardly through said register.
 2. In combination with hot air heating system, which includes hot air supply lines and a cold air return line, a register, and temperature responsive control means positioned in the cold air return line adjacent said register, and means for adjusting said temperature responsive control means, including a movable element projecting upwardly through said register and adapted for lateral movement in response to a movement of the foot of an operator.
- LAURENCE M. PERSONS.

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