

(No Model.)

C. W. BRIEDER.

SWITCH BOARD FOR HEAT REGULATING SYSTEMS.

No. 445,970.

Patented Feb. 10, 1891.

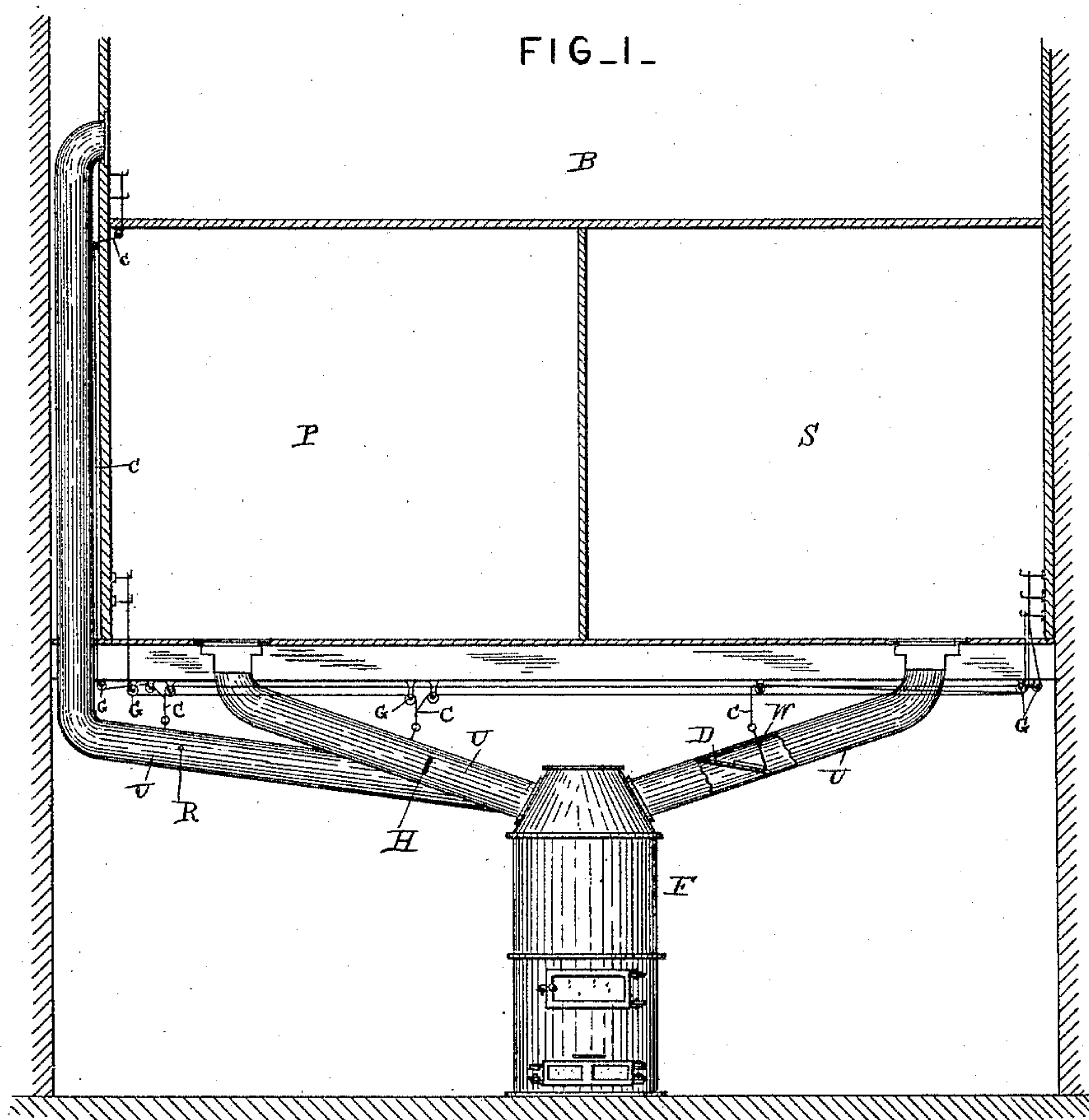
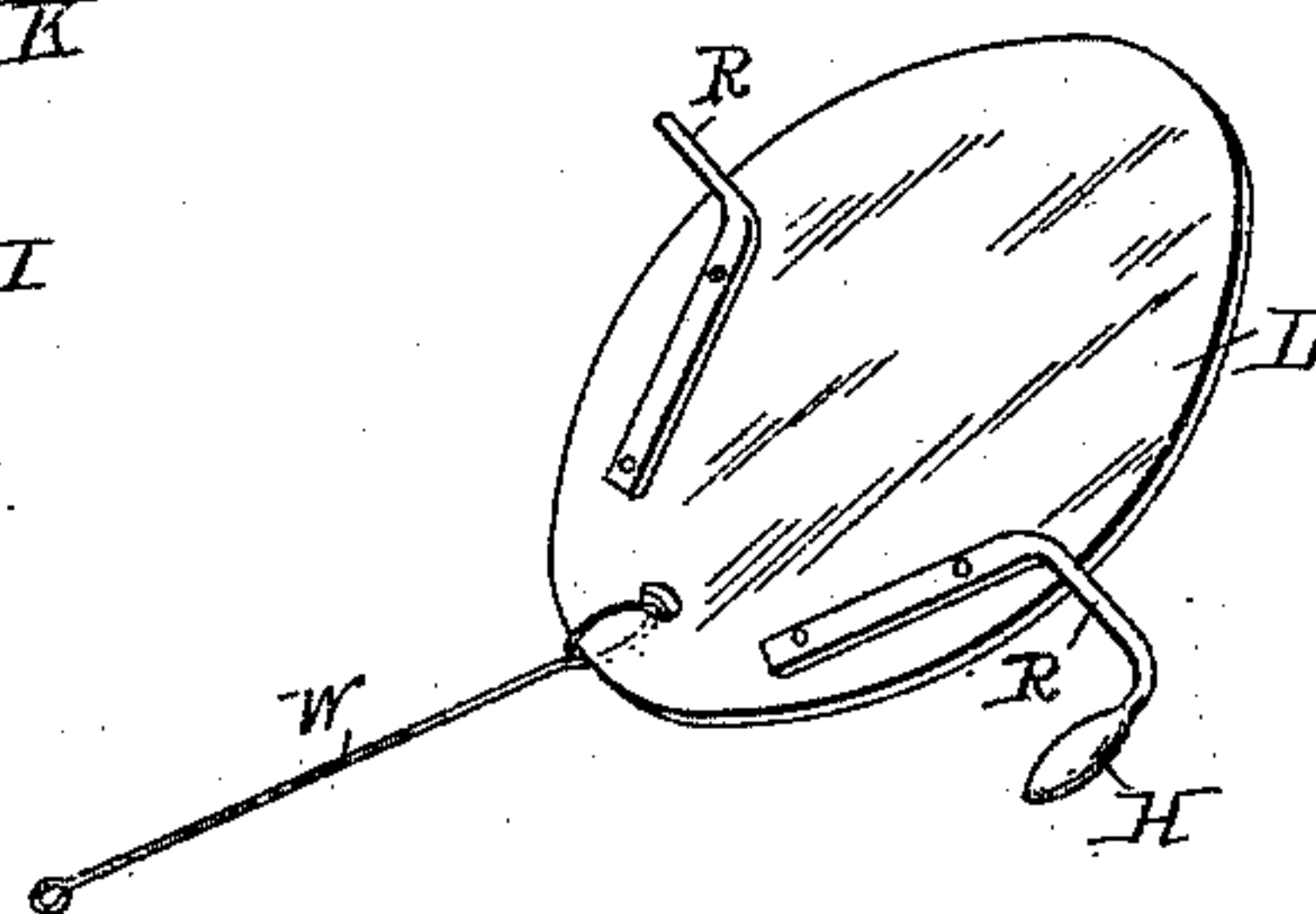
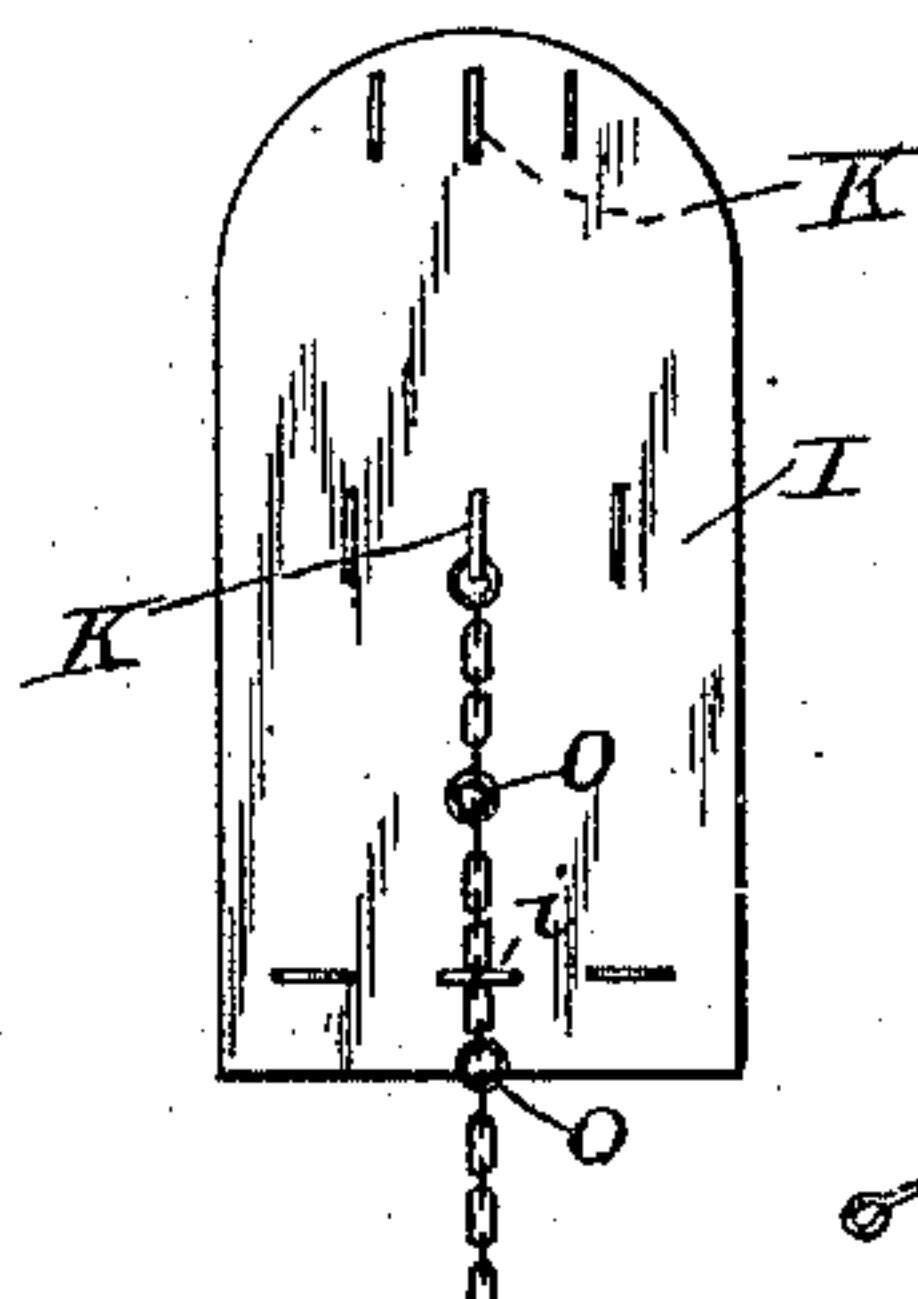
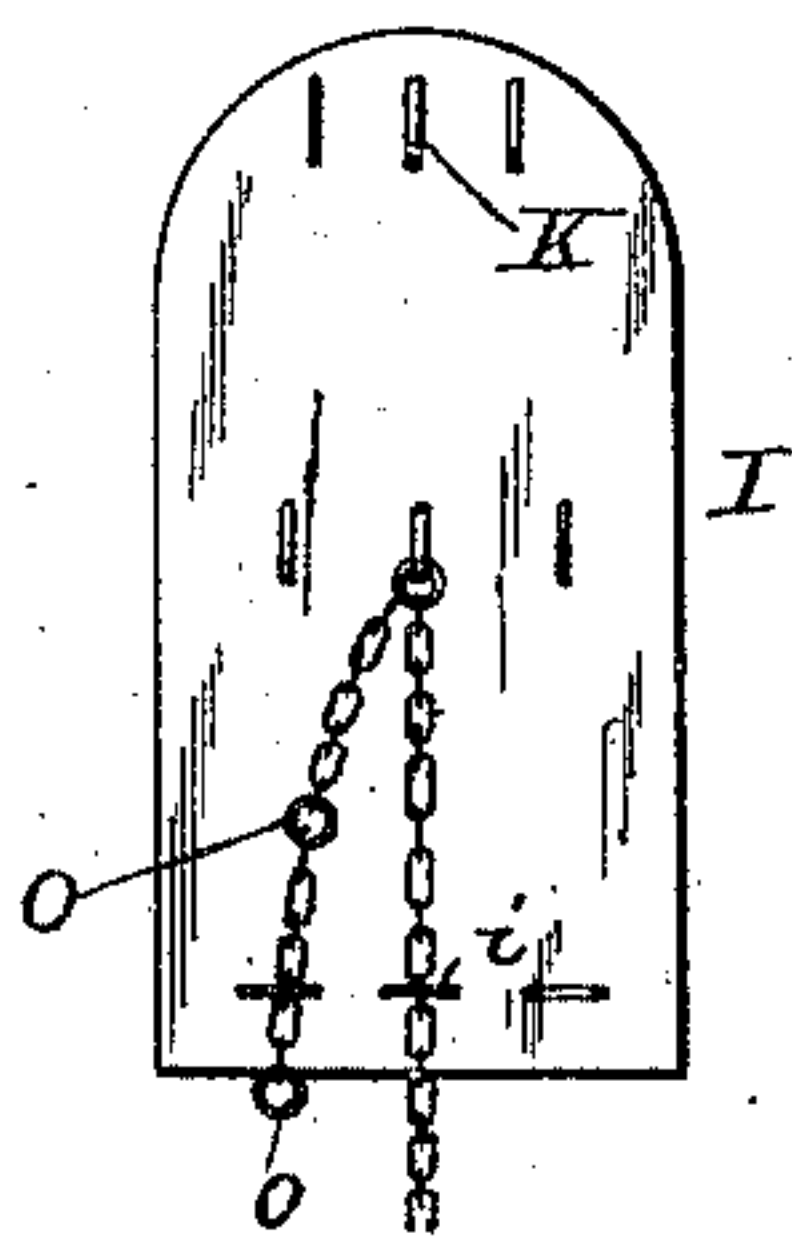


FIG. 2.

FIG - 3 -

FIG. 4.



Witnesses

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SWITCH-BOARD FOR HEAT-REGULATING SYSTEMS.

SPECIFICATION forming part of Letters Patent No. 445,970, dated February 10, 1891.

Application filed April 11, 1890. Serial No. 347,456. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. BRIEDER, a citizen of the United States, residing at Lincoln, in the county of Lancaster and State of Nebraska, have invented a new and useful Switch-Board for Heat-Regulating Systems, of which the following is a specification.

This invention relates to heating systems, and more especially to the regulators therefor.

The object of the invention is to provide means for regulating the flow of heat to a certain point or room in a building from some point remote from the regulator as well as from the point of exit of the heat. This object I accomplish by the use of a system of regulating heat, more especially that from a furnace, which consists of weighted dampers arranged in the flues near the source of heat, chains, wires, or cords leading therefrom to a desired point or points, and devices at such points for pulling upon said chains and fastening them to set the dampers at any desired angle within the flues, such devices constituting the present invention, all as will be fully explained hereinafter and as are illustrated in the accompanying drawings, in which—

Figure 1 is a general section of a building, showing three of the several flues leading from a furnace and the regulating devices therefor. Fig. 2 is an enlarged front elevation of one of the so-called "switch-boards."

Fig. 3 is a similar view showing the chains differently arranged. Fig. 4 is an enlarged perspective detail of one of the dampers.

Referring to the accompanying drawings, the letter F designates in the present instance a furnace. Leading from said furnace are the flues U, which convey the heat to the different rooms of the building, as the sitting-room S, the parlor P, and the bed-rooms B, of which the drawings show but one.

D are the dampers in said flues near the furnace. Each of the dampers D is of oval shape, whereby it will always occupy an inclined position within a cylindrical flue, and its trunnions or bearings are rods R, which pass through and are journaled in the sides of the flue U, one or both of their extremes, having ordinary handles H, whereby they can be turned by a person near the furnace

when desired. These rods R are soldered or otherwise secured to the dampers D, and their inner ends are bent and pass thence downwardly to or nearly to the lower edge of the dampers, whereby the latter are weighted at their point and will normally maintain a closed position within the flue; or the dampers may be provided with a small additional weight, the better to keep them in this position, as will be understood.

W are wires linked to the lower edge of the dampers, and passing loosely through holes in the upper sides of the flues, and to the protruding ends of these wires are attached cords, wires, or chains C, which are led over grooved rollers G or through bell-crank levers to any desired point within the building.

Coming now to the present invention, the letter I designates what I preferably call a "switch-board," which is provided with a number of hooks K in its face, arranged as shown in Figs. 2 and 3—that is, one above another, and eyes *i* below the lowermost in each row. One of these switch-boards is secured to the base-board or wainscoting of the sitting-room and the chain is led through suitable pulleys between the floor and the ceiling of the room below and behind the lathing to a point directly beneath the switch-board. The chain then emerges and passes through the eye *i*, and is provided with a number of rings O, adapted to engage over one of the hooks, as will be understood. The heat becoming too intense in the room in question, the ring O is disengaged from the hook and moved from the position shown in Fig. 2 to that in Fig. 3, when the damper D in the flue leading to that room will be closed; or, if preferred, the central of the three rings may be engaged over the hook to effect only a partial closing of the damper. The hooks are spaced a distance different from that between the rings, whereby a fine degree of adjustment can be attained by engaging one of the three rings over one or the other of the hooks. It is a notorious fact in connection with furnaces that if the register commonly employed at a point where the flue enters the room be closed the hot air that is in the flue between the furnace and that register is constantly escaping and cooling off and there is

yet a considerable drain upon the furnace, although no heat is passed into the room. By the above-described system, in which the heat is cut off at a point near the furnace, this escape of the heat is avoided, as will be obvious, and there is a consequent saving of fuel. In the accompanying drawings I have illustrated a system of this character as applied to an ordinary dwelling. In this case it is frequently desirable to turn on the heat in the bed-room B or parlor P, while the family is in the sitting-room S. In order to allow of this being done without descending into the cellar or ascending to the bed-room to operate the register, I lead additional chains C from each flue to a switch-board I, located in the sitting-room, which accommodates several chains and rings, each of which must be suitably marked to indicate to which flue it leads. A single hook K may be seated in the base-board of the several rooms other than the sitting-room, and the chain and rings may be employed with this hook, as shown.

Various arrangements of the chains leading to a central section in some common room in the building will suggest themselves and may be employed as necessity may require. There may even be two such stations, if desired; but in all cases the individual regulator-chain is preferably also led to the room in question. The weight attached to the lower edge of the damper must of course be increased according to the length and weight of the regulator chain or wire and the amount of friction thereon in turning corners.

I claim as the salient points of this invention—

1. In a heat-regulating system, the combination, with a common source of heat, flues leading therefrom to several apartments, weighted dampers in said flues near the source of heat, and a cord leading from the heavy edge of each damper to the apartment whose heat it controls, of a chain connected to the end of said cord and having rings in its body, and a switch-board in said apartment having hooks arranged in a vertical line and spaced differently from the spacing of said rings in the chain, as and for the purpose set forth.

2. In a heat-regulating system, the combination, with a common source of heat, flues leading therefrom to several apartments, weighted dampers in said flues near the source of heat, and a cord leading from the heavy edge of each damper to the apartment whose heat it controls, of a switch-board, substantially as described, in each compartment, a second set of cords leading one from each damper to a common apartment, chains connected to said cords and having rings in their bodies, a switch-board in said common apartment having a number of eyes across its face near its lower end, through which said chains and rings pass, and hooks arranged in vertical lines above said eyes, the hooks in each line being farther apart than are said rings, as and for the purpose hereinbefore set forth.

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

CHARLES W. BRIEDER.

Witnesses:

J. H. McCLAY,
J. F. MORRIS.