

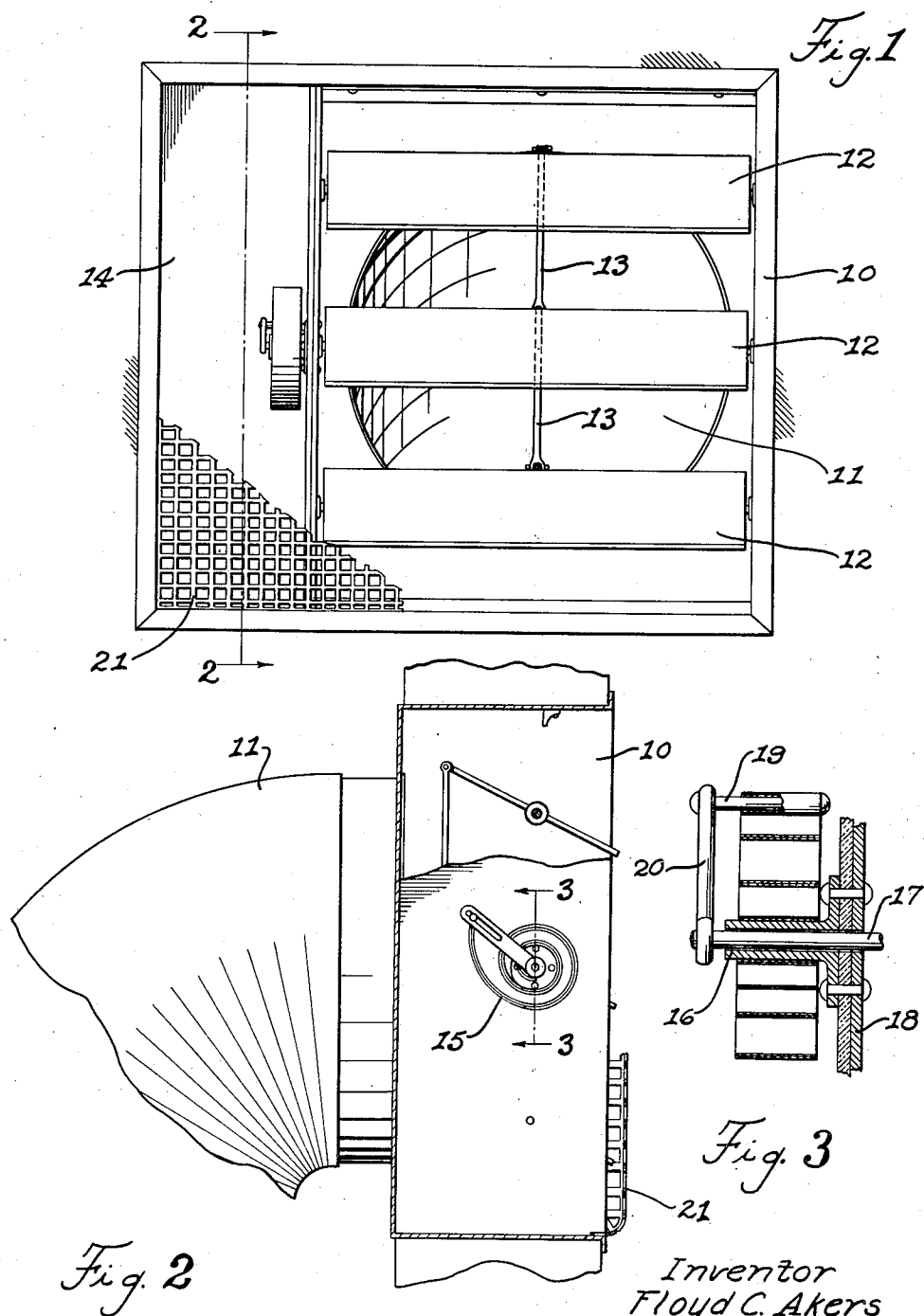
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DAMPER CONTROL

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DAMPER CONTROL

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2 Claims. (Cl. 236—49)

This invention relates to means for automatically controlling flow of air for heating or cooling purposes in response to temperature changes in the room into which or from which the air is being discharged.

A primary object of the invention is to provide in one unit an extremely simple device which will be truly responsive to room temperature variations without being influenced by proximity of the controlling mechanism to the current of air employed to effect changes in the room condition.

These and other objects and advantages of the invention will become apparent to those versed in the art in the following description of one simple form which is illustrated more or less diagrammatically in the accompanying drawing, in which

Fig. 1 is a front elevation of a structure embodying the invention;

Fig. 2, a vertical section on the line 2—2 in Fig. 1, and

Fig. 3, a detail in section of the thermostat element connections with the shiftable control member on the line 3—3 in Fig. 2.

Like characters of reference indicate like parts throughout the several views in the drawing.

While the invention may be applied and adapted to a wide range of control units, the unit will essentially include an opening through which a current of air will pass; a shutter arrangement at that opening to control the effective area of the opening by reducing or increasing the actual area thereof; and a temperature responsive element mounted in the unit but in an insulated part thereof so as to be removed from any effect of the temperature of the air passing through said opening, and, furthermore, being so carried by the unit as to be exposed to the temperature of the room to which the unit is applied.

In the particular form herein shown, a housing 10 receives air from the rear side through a conduit or pipe 11. A plurality of vanes 12, herein shown as three in number, are rockably mounted in spaced apart, parallel relationship to be carried by the housing 10 in such manner that when these vanes are rocked to have one overlap or contact the other, the front opening in the housing 10 is thereby effectively closed so that there may be no inter-flow of air between the front side of the housing and the pipe 11. Of course, rocking the vanes to have their faces in parallel relation, will provide a substantially clear opening.

These vanes 12 are inter-connected so that

when one is rocked, the others will rock in unison and in like manner through corresponding degrees of travel. In the form herein shown, these various blades are inter-connected by their rear edges by means of the inter-connecting links 13 pivotally inter-connecting with the vanes by their ends.

The housing 10 is provided with a compartment 14 as an extension of the housing on one side thereof and this compartment 14 while opening 10 from the front side in the present instance is insulated in respect to heat transmission from the housing proper or at least from that portion of the housing which would be affected by temperature of the air flowing through the housing 15 into or out of the pipe 11. This compartment 14 is preferably provided, as indicated, to be entirely out of any permissible path of air, the current of which may be induced by the direct flow of air through the housing 10.

In this compartment 14 I mount any suitable thermostat member, a coiled bimetallic member 15 in the present form. The inner end of the coil in this member 15 is secured to a post 16, Fig. 3, through which extends the axle 17 of one of the vanes 12, here shown as being the central vane. The post 16 is fixed to the partition wall 18 and coils therearound to have its outer end engage a pin 19 connecting with a lever 20 fixed on the outer end of the axle 17. Thus upon 30 temperature change affecting the member 15 this member will tend to wind up or unwind, as the case may be, and thereby, through the lever 20, turn the axle 17 so as to shift the vanes 12 in accordance with the temperature change within 35 the compartment 14.

The entire housing 10 with its side compartment 14 may, of course, have a protective grille over its forward side to prevent tampering with the moving parts, this grille being indicated by 40 the numeral 21.

While I have herein shown and described my invention in the one particular form, it is obvious that structural changes may be employed such as in the actual mounting and control of 45 movement of the vanes, the particular form of thermostat employed, and the like, all without departing from the spirit of the invention, and I, therefore, do not desire to be limited to that precise form beyond the limitations as may be 50 imposed by the following claims.

I claim:

1. In a housing to control air flow to and from a room, a damper means in the housing comprising a plurality of vanes, a rock shaft on which 55

- one of the vanes is mounted, links connecting all of the vanes together, a chamber in the housing insulated therefrom but opening into the room into which chamber the rock shaft extends, an arm on the shaft within the chamber and a thermostat actuating the arm to rock the shaft.
2. In a housing to control air flows to and from a room, damper means in the housing comprising a plurality of vanes, a rock shaft on which one of the vanes is mounted and links connecting all of the vanes together, a chamber in the hous-

ing insulated therefrom but opening into the room, a hollow post attached to the wall that separates the chamber from the housing and extending into the chamber, through which the rock shaft passes, and having an air tight bearing, an arm on the shaft carrying a pin, and a bimetallic spiral thermostat having one end attached to the post and the other end attached to the pin.

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