

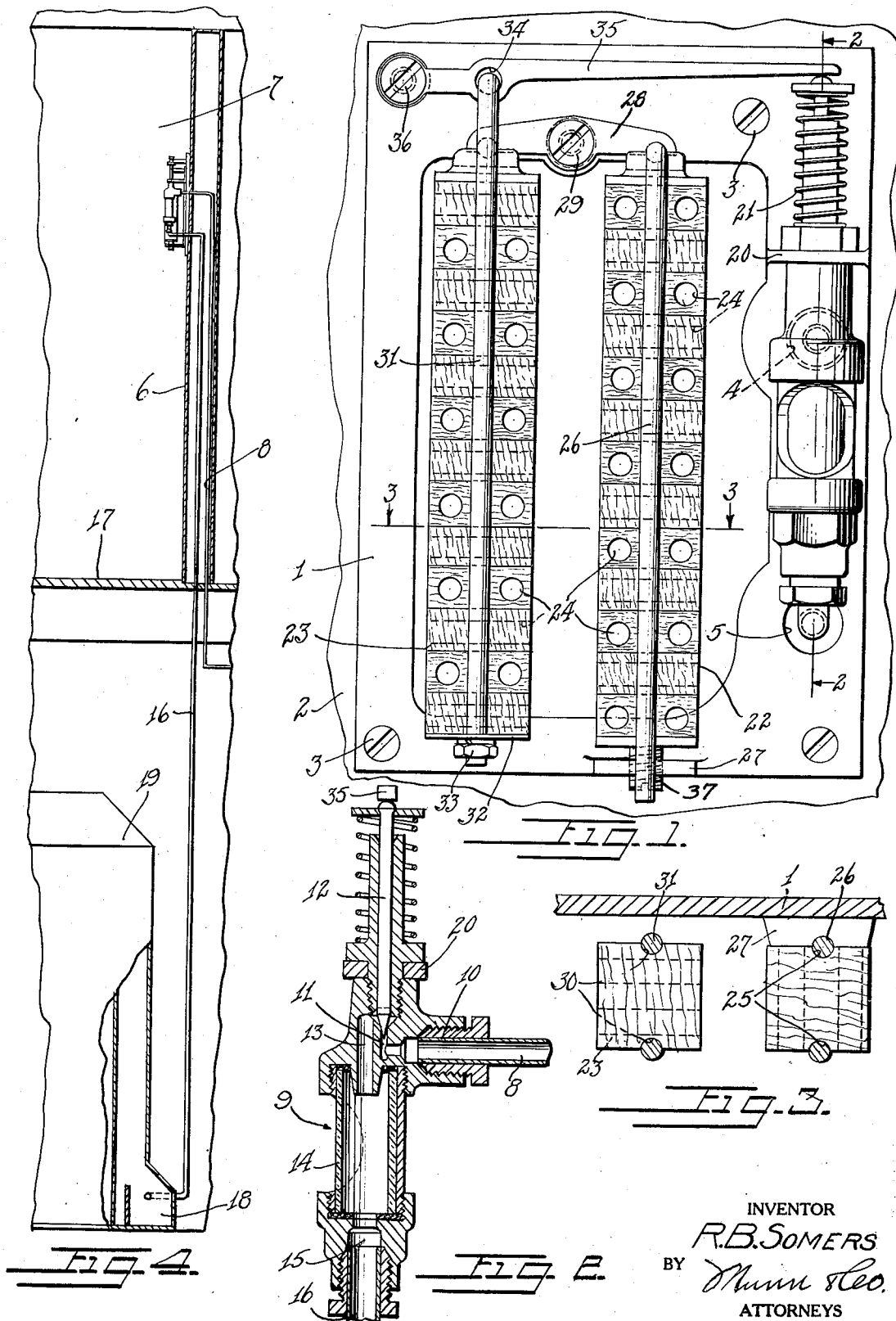
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HUMIDISTAT

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HUMIDISTAT

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My invention relates to improvements in humidistats, and it consists in the combinations, constructions, and arrangements herein described and claimed.

5 An object of my invention is to provide a humidistat which is adapted to supply water to a furnace or any evaporating medium to maintain proper humidity in the air in a room, house, or the like.

10 A further object of my invention is to provide a device of the type described which has novel means for indicating the humidity in the room.

15 A further object of my invention is to provide a device of the type described which is simple in construction, durable and efficient for the purpose intended.

Other objects and advantages will appear in the following specification, and the novel 20 features of the invention will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings, forming part of this application, in which—

25 Figure 1 is a front elevation of my device. Figure 2 is a section along the line 2—2 of Figure 1,

Figure 3 is a section along the line 3—3 of Figure 1, and

30 Figure 4 is a sectional view of a portion of a house illustrating my device.

In carrying out my invention, I provide a frame 1 secured to any suitable support 2 by means of screws 3 and having openings 35 4 and 5 therein. The support 2 may be rigidly secured to a wall 6 of a room 7, see Figure 4. A water supply pipe 8 extends within the wall to and through the opening 4 where it is operatively connected to an indicator 9, as at 10. A passageway 11 is in communication with the supply pipe 8. A needle valve 12 is disposed in registration with the passageway 11 for varying the amount of 40 water passing from the supply pipe 8 there-through.

45 A by-pass 13 has one end in communication with the passageway 11 when the valve 12 is open, and the other end in central alignment with a glass tube 14. An outlet passageway 15 is provided for the indicator 9. A

feed pipe 16 extends from the outlet 15 through the wall 6, the floor 17 and into communication with a water receptacle 18 of a furnace 19.

The indicator 9 is rigidly secured to the 55 frame 1 at 20. The needle valve 12 is held in its uppermost position, that is, its open position by an expansive spring 21. A special means is provided for automatically closing the needle valve 12. This means consists of 60 a fixed set of blocks 22 and a free set of blocks 23. The blocks of sets 22 and 23 are constructed of wood and are arranged alternately as to the direction of the grain therein to prevent distortion of the columns or sets in case 65 of unequal expansion. The blocks are each provided with openings 24 which extend therethrough in a direction opposite that in which the grain is running. The blocks of the set 22 are provided with arcuate-shaped 70 recesses 25 which are adapted to receive a U-shaped retaining member 26. The set 22 rests upon a lug 27 which is integral with the frame 1 and is held against displacement by the U-shaped retaining member 26, one 75 end of which extends therethrough. The sets 22 and 23 are operatively connected to each other by a rocking lever 28 which is rotatably mounted upon the frame 1 at 29.

The blocks of the set 23 are also provided 80 with arcuate-shaped grooves 30 arranged to receive a U-shaped retaining member 31, the ends of which extend through a plate 32 and are adjustably secured in place by lock nuts 33. The U-shaped retaining member 31 extends 85 through an opening 34 in a valve-actuating lever 35 which is pivotally mounted at one end upon the frame 1 as at 36. The free end of the lever 35 is disposed in registration with the needle valve 12. Adjustable 90 means is provided for the set 22 which consists of a set screw 37 carried by the lug 27 and disposed in registration with the lowermost portion of the set 22.

From the foregoing description of the various 95 parts of the device, the operation thereof may be readily understood. Let us assume that there is not sufficient humidity in the room 7. The blocks of the sets 22 and 23 will contract due to the dryness of the room. 100

The contracting of the blocks will allow the lever 35 to move away from the needle valve 12. During this movement of the lever 35, the spring 21 will force the needle valve 12 away from its seat and allow water to pass from the supply pipe 8 through the inlet 10, the passageway 11, and the by-pass 13. The water in passing from the by-pass 13 drops through the glass tube 14 where it may be observed by the occupants of the room. The water passes from the glass tube through the feed pipe 16 and into the water receptacle 18 of the furnace 19.

The evaporation of the water in the receptacle 18 is carried on in the usual manner for humidifying the air in the room 7. When there is sufficient humidity in the air in the room 7, the blocks of the sets 22 and 23 will expand due to the dampness. The expansion of the blocks in the set 22 will force upwardly upon the rocking lever 28, owing to the fact that they are held against downward movement by the lug 27. This movement of the lever 28 will force the set of blocks 23 downwardly which in turn will move the lever 35 downwardly. The expansion of the blocks in the set 23 will also act to force the lever 35 downwardly as one end of the set 23 engages with the rocking lever 28 and the other end is operatively connected to the lever 35. During this movement of the lever 35, the needle valve 12 is forced against the tension of the spring into engagement with its seat, thus cutting off the supply of water thereby.

It is obvious that the operation of the needle valve 12 will not be effected instantaneously, but will be moved gradually, due to the humidity of the air in the room.

I claim:

1. A device of the type described comprising a frame, a body portion carried by said frame and having an inlet and an outlet, communication between said inlet and said outlet, a valve for varying the flow of liquid through said inlet, spring means for normally holding said valve open, a lever pivotally mounted at one end upon said frame and having the other end in operative connection with said valve, a rocking lever pivotally mounted upon said frame, a stationary unit mounted upon said frame and having one end operatively connected to said rocking lever, a movable unit having one end operatively connected to said rocking lever, and means for connecting the other end of said movable unit to said actuating lever whereby said stationary unit may actuate said rocking lever for moving said movable unit and said movable unit may actuate said pivotal lever for actuating said valve.

2. A device of the type described comprising a frame, a valve carried by said frame, a pivotal lever having one end pivotally secured to said frame and the other end opera-

tively connected to said valve, a rocking lever pivotally mounted upon said frame, a support integral with said frame, a stationary unit mounted upon said support and having one end operatively connected to said rocking lever, said stationary unit comprising a plurality of absorbent blocks having arcuate-shaped grooves in the side walls thereof, means receivable in said grooves for holding said blocks against lateral displacement, a movable unit, said movable unit having a plurality of absorbent blocks, whereby expansion of the blocks of said stationary member may actuate said rocking lever for moving said movable unit and the expansion of the blocks of said movable unit may actuate said pivotal lever for actuating said valve, and a U-shaped supporting member carried by said pivotal lever and operatively connecting said movable unit with said pivotal lever.

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