E. W. SEEGER.

FURNACE REGULATOR.

APPLICATION FILED JUNE 28, 1917.

1,348,589. Patented Aug. 3, 1920.

Fig. 1.

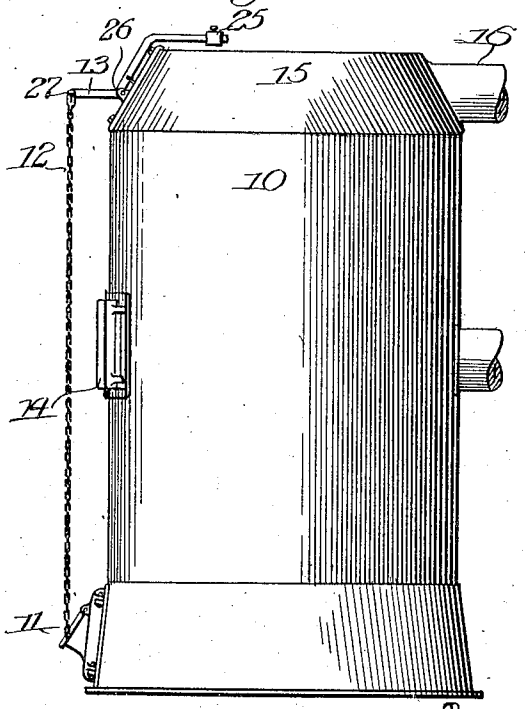


Fig. 3.

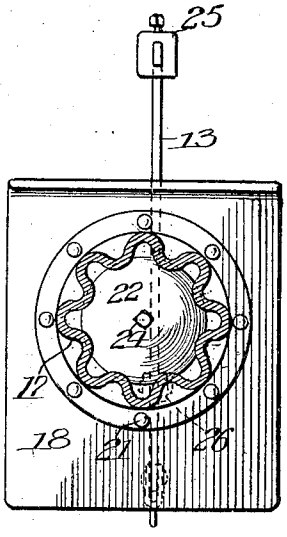
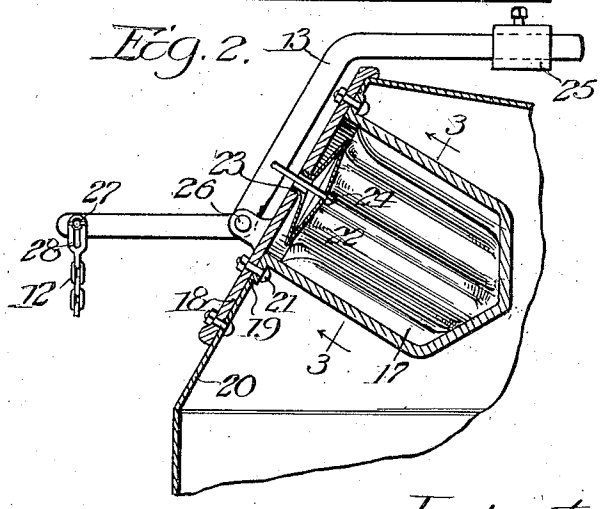


Fig. 2.



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UNITED STATES PATENT OFFICE.

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FURNACE-REGULATOR.

1,348,589. Specification of Letters Patent. Patented Aug. 3, 1920.

Application filed June 28, 1917. Serial No. 177,496.

To all whom it may concern:

Be it known that I, ERWIN W. SEEGER, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a certain new and useful Improvement in Furnace-Regulators, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to hot air furnace regulators and has for its object the provision of improved means controlled by the heat emitted from the furnace to regulate the intensity of the fire.

I will explain my invention more in detail by referring to the accompanying drawing, in which—

Figure 1 is a side view of a hot air furnace provided with my improved regulating device;

Fig. 2 is a fragmentary vertical sectional view through the furnace and device; and

Fig. 3 is a sectional view on line 3—3 of Fig. 2.

In Fig. 1 I show a hot air furnace 10 having the ash pit door 11 which controls the intensity of the fire. This ash pit door through the agency of the chain 12 is connected to the lever 13 forming part of my control device. The furnace 10 has the firing door 14 and has in its upper portion the hot air drum 15 from which through pipes 16 the hot air generated in said furnace passes to the various rooms or compartments. Within this hot air drum 15 I mount my improved regulating device. This regulating device consists of the corrugated chamber 17 which through the interposition of the cover plate 18 is mounted at an opening 19 in the furnace wall 20. The cover plate 18 is secured to the corrugated chamber 17 through the agency of bolts to form an air tight connection. A bellows 22 is mounted interiorly of the corrugated chamber 17 and has an opening whereby the interior of said bellows connects with the atmosphere through the agency of the nipple 23, which nipple is screwed into the cover plate 18. The movable wall of the bellows is connected by means of the bolt 24 with the lever 13. This lever 13 has a weight 25 to counter-balance the door 11 and the chain so that all of the parts carried by the pivot 26 for said lever 13 are balanced.

Thus a slight movement of the movable wall of the bellows 22 may tilt this lever and thereby open or close the door 11. The hot air from the furnace heats the air within the air tight corrugated chamber 17, which thereupon expands more or less to press upon the bellows whose interior communicates with the atmosphere. The pressure against the bellows is of course proportionate to the temperature of the air, and thus a regulating effect is obtained proportionately to the temperature of the air. The chain 12 is connected by means of an eyelet 28 to the lever 12, which eyelet has a scale marked thereon. This eyelet is held to the lever by the wing nut 27, and the eyelet is placed in a predetermined position depending upon what temperature of emitted air it is desired to have. The scale gives the indications to the operator as to where to set the eyelet depending upon whether the air coming from the furnace is to be one temperature or another.

From what has been described my invention will be clear to those skilled in the art. Having thus described one form which my invention may take, what I claim as new and desire to secure by Letters Patent is:

1. A regulating system for hot air furnaces comprising a furnace, a fire control door for the furnace, a hot air drum surrounding the furnace, a corrugated air chamber mounted upon and within the drum, a bellows mounted interiorly of the chamber and having one wall rigidly secured to the drum, a lever operatively connected to the door, and a rod connecting the free wall of said bellows to said lever, the interior of the bellows being open to atmospheric pressure.

2. A regulating system for hot air furnaces comprising a furnace, a fire control door for the furnace, a hot air drum surrounding the furnace, a corrugated air chamber mounted upon and within the drum, a bellows mounted interiorly of the

chamber and having one wall rigidly secured to the drum, a lever operatively connected to the door, and a rod connecting the free wall of said bellows to said lever, the connection between the lever and the door including an adjustable device for regulating the movement of said door, the interior of the bellows communicating with the air outside of said drum.

In witness whereof, I hereunto subscribe my name this 23rd day of June, A. D., 1917.

ERWIN W. SEEGER.

Witness:

G. F. KNOERNSCHILD.