June 23, 1925. 1,543,630

J. A. THOMAS

HEATING APPARATUS

Filed Feb. 6, 1923

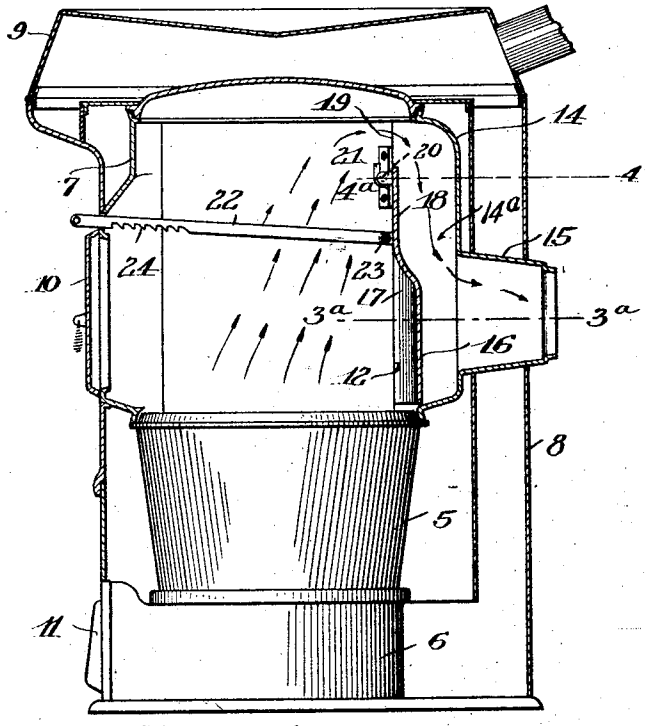


Fig. 1

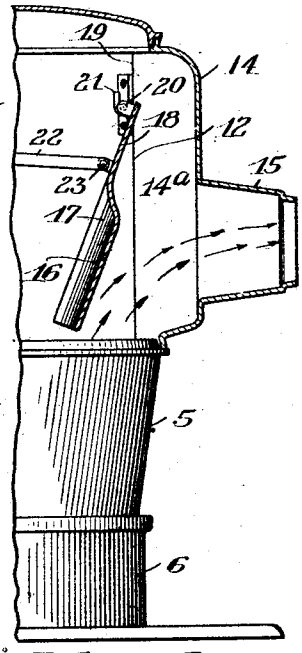


Fig. 2

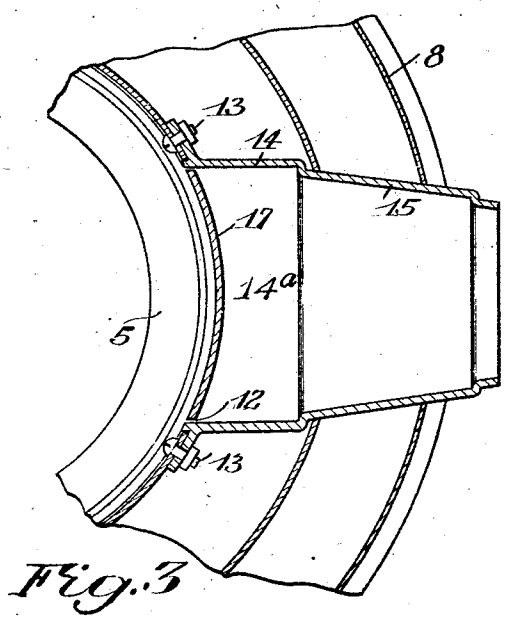


Fig. 3

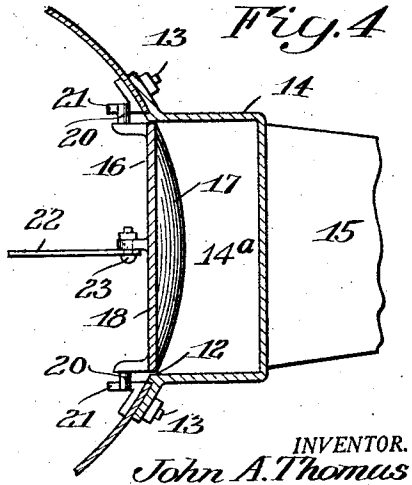


Fig. 4

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UNITED STATES PATENT OFFICE.

JOHN A. THOMAS, OF ROCHESTER, NEW YORK, ASSIGNOR TO SILL STOVE WORKS, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK.

HEATING APPARATUS.

Application filed February 6, 1923. Serial No. 617,351.

To all whom it may concern:

Be it known that I, JOHN A. THOMAS, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Heating Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference numerals marked thereon.

This invention relates to heating apparatus, and more particularly to heating stoves and furnaces of the variety comprising an air heating dome, the chief object of the invention being to provide apparatus of this character with simple, practical and efficient means for variably controlling the degree to which the dome is heated. To these and other ends, the invention consists in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:

Figure 1 is a sectional elevation of a stove or furnace embodying the present invention;

Figure 2 is a similar view of parts shown in Figure 1, but in a different operating position;

Figure 3 is an enlarged sectional plan view on the line 3^a—3^a of Figure 1, and

Figure 4 is a similar view on the line 4^a—4^a of Figure 1.

Similar reference numerals throughout the several views indicate the same parts.

The invention is shown in the present instance by way of illustration as embodied in an apparatus or furnace for heating air comprising a firepot 5 of the usual or any suitable variety with an ashpit 6 therebelow and a heating dome 7 above, these parts being enclosed in a casing 8 including a hood 9 forming a space in which circulating air is heated by the dome and other parts. At 10 is the fire door and 11 represents the door affording access to the ashpit. These parts may have various known forms of construction such as shown for example in the drawings, a more detailed description of which is unnecessary.

The heating dome in the present instance has a portion of its rear wall cut away as at 12 to form an opening of substantial width extending from top to bottom of the dome, and over this opening there is secured as by means of bolts 13 a casing 14 forming a recess 14^a projecting laterally outward from the dome and in communication therewith. Casing 14 adjacent its bottom is formed with a laterally projecting smoke flue connection 15. Communication between the fire and the smoke flue is controlled by a regulating deflector in the form of a division or deflecting plate 16 shaped and positioned to constitute a portion of the wall of the heating dome between the latter and the lower portion of the recess formed by the casing 14. This deflector is preferably in the form of a plate as shown, adapted to fit the lower portion of the communicating opening between the dome and the casing, the plate having its lower half curved as at 17 to conform with the circular wall of the dome. The upper half 18 of the plate is preferably plane shaped and is discontinued at a substantial distance from the top of the dome to afford a passage 19 through the top of the dome into said recess, and the smoke flue. The opposite sides of the top of the plate are preferably pivotally supported on the adjacent dome walls as for example by trunnions 20 carried by the plate and turning in brackets 21 on the dome. The bracket bearings are preferably open-topped as shown, to permit easy removal of the plate when desired.

When the deflector plate occupies the position shown in Figure 1 it closes communication between the lower portion of the dome and the flue recess 14^a and serves as a baffle for deflecting the products of combustion upwardly through the top of the dome and thence into the flue recess, the passageway 19 being then the only means of escape for the heated gases so that maximum heating of the dome is accomplished. It is apparent however that the deflector plate may be swung inwardly of the dome to the position illustrated in Figure 2 for establishing communication between the bottom of the heating dome and the smoke flue, the plate serving in this position also to deflect the gases through this shorter path by-passing the upper portion of the dome, so that minimum heating of the latter is produced. Such adjustment of the deflector plate is ac-

complished by a controller preferably comprising a bar 22 pivotally connected with the plate as at 23 and extending forwardly across the dome and through an opening in the front of the casing of the apparatus above the fire-door as shown. The bar is formed with a series of notches 24 for retaining engagement with the side of the casing opening in which it slides, and it is apparent that the bar may be pulled forwardly more or less for swinging the deflector toward the position shown in Figure 2 for reducing the heating effects to a greater or less degree as may be desired and as determined by the particular one of the notches 24 engaged with the casing. When the bar is raised on its opening in the casing and released, the deflector may be swung by gravity or manual pressure to the position shown in Figure 1 in which the maximum heat is obtained.

The operation of the apparatus has been explained in connection with the description of its construction, and it is apparent that the invention provides a regulating device of an exceedingly simple and practical character applicable to a wide variety of stoves, the term "stove" being used herein in a broad sense inclusive of furnaces and similar heating apparatus. The apparatus may be manufactured at a low cost, and operates conveniently and efficiently to accomplish the objects described.

I claim as my invention:

1. A heating apparatus comprising a fire pot, a heating dome above the latter, a smoke flue communicating with said dome adjacent the top and bottom of a side thereof, a regulating deflector plate constructed and movably mounted to either admit the products of combustion from the bottom of said dome to said flue or to deflect the same upwardly through said dome to said flue, and a controller for variably adjusting the position of said deflector plate.

2. A heating apparatus comprising a fire pot, a heating dome above the latter, a smoke flue communicating with said dome adjacent the top and bottom of a side thereof, a regulating deflector plate forming a portion of said dome wall adjacent said flue and swingingly mounted to deflect the products of combustion to said flue either upwardly through said dome or from the bottom thereof, and a controlling device for maintaining said plate in variably adjusted position.

3. A heating apparatus comprising a fire pot, a heating dome above the latter provided at one side with a portion projecting laterally outward to form a recess for connection with a smoke flue, a plate pivotally supported adjacent its top and forming a movable wall portion for said dome between the latter and the lower part of said recess, said plate being adapted in one position to deflect the products of combustion upwardly through said dome into said recess, and a device for swinging said plate inwardly of the dome and securing it in position to partially deflect the products of combustion into said recess from the bottom of said dome to variably control the heating of the same.

4. A heating apparatus comprising a fire pot, a heating dome above the latter provided at one side with a communicating portion projecting laterally outward to form a recess for connection with a laterally extending smoke flue, a wall portion for said dome between the latter and the lower part of said recess, said wall portion being discontinued adjacent the top of said dome and recess to afford an escape passage therebetween for the products of combustion, means pivotally supporting said wall portion, a bar connected with the latter and extending exteriorly of the stove for swinging said wall portion to control communication between the side of said dome and recess, and means for maintaining said bar in different positions of adjustment.

JOHN A. THOMAS.