W. J. WOODALL.

DEFLECTOR FOR HOT AIR REGISTERS.

APPLICATION FILED MAR. 24, 1919.

1,309,430. Patented July 8, 1919.

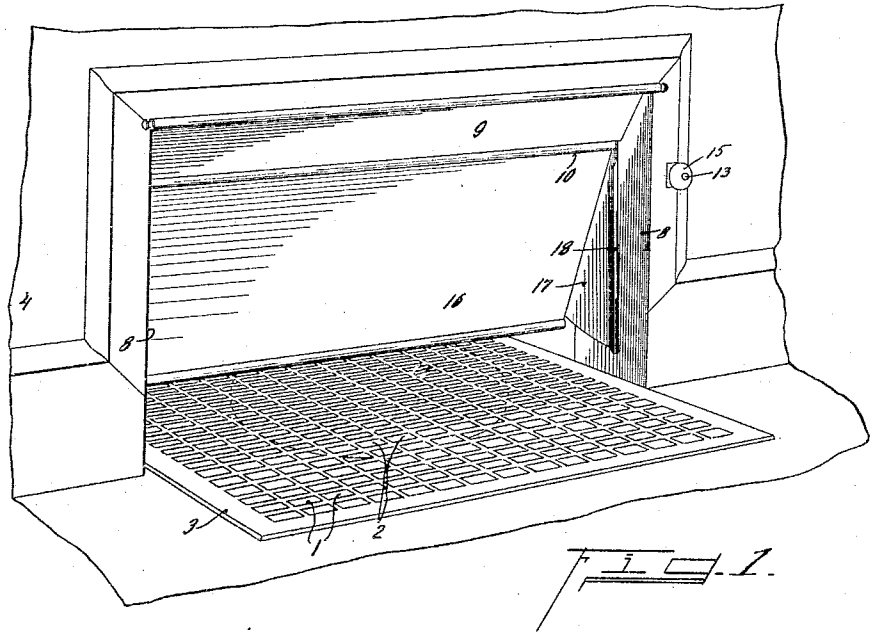


FIG. 1.

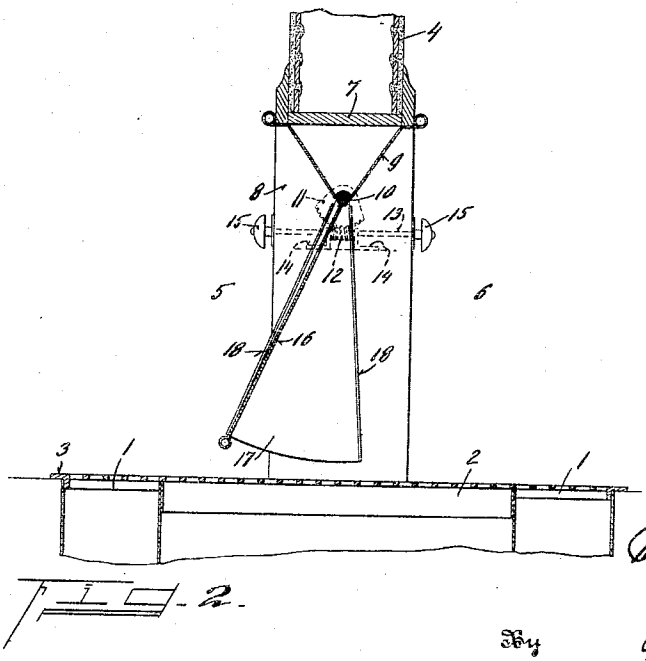


FIG. 2.

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WILLIAM J. WOODALL, OF CINCINNATI, OHIO, ASSIGNOR TO THE WILLIAMSON HEATER COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF OHIO.

DEFLECTOR FOR HOT-AIR REGISTERS.

1,309,430. Specification of Letters Patent. **Patented July 8, 1919.**

Application filed March 24, 1919. Serial No. 284,591.

To all whom it may concern:

Be it known that I, WILLIAM J. WOODALL, a citizen of the United States, and residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Deflectors for Hot-Air Registers, of which the following specification is a full disclosure.

My invention relates to a device for deflecting air currents as part of a hot-air furnace equipment and more particularly to an adjustable device especially adapted for use in conjunction with a floor register plate positioned medially between two adjacent apartments.

The object of the invention is to provide a device which, when installed in a partition wall adjacently above the medial portion of a furnace register plate, will deflect the air currents passing through said register plate to each side of the partition and in varying degrees by adjusting said device.

Another object is to provide such a device with an adjustable deflector plate movable beyond the face of the partition wall and independent side plates movable therewith for confining the deflected air currents against escape laterally.

In the accompanying drawings, Figure 1 is a perspective view of the device as installed in a partition wall adjacently above a floor register plate.

Fig. 2 is a vertical section through the device and partition wall.

In the drawings, the register plate shown is the floor register of a so-called "pipeless furnace," having a peripheral cold-air intake passage 1 and a central hot-air outlet passage 2. The floor register 3 is positioned centrally below a partition wall 4, separating two compartments 5, 6, said wall being cut away to receive the deflector device, comprising a casing having a top wall 7, and side walls 8, 8. A V-shaped sheet metal top plate 9 extends across the upper portion of the casing and at the lower apex of said V-shaped plate there is a rock shaft 10, which is journaled in the casing side walls 8, 8, and has fixed to one of its ends, beyond the side wall, a worm segment 11 meshing with a worm pinion 12 secured to an operating shaft 13. Said shaft is journaled in brackets 14, 14, and has fixed to either end hand knobs 15, 15, accessible for manual regulation from the adjacent compartments.

Fixed to and depending from the rock shaft 10 is a deflector plate 16, which extends nearly the entire width of the partition wall opening and downwardly to just clear the upper surface of the floor register. Loosely journaled on the rock shaft between the casing walls 8, 8, and the edges of the deflector plate 16 there is provided a pair of independent side plates or wings 17, 17, of segmental form, each having marginal flanges 18, 18, comprising opposed abutments, extended laterally into the path of the deflector plate 16. When the deflector plate is moved toward one compartment beyond the surface of the partition wall it will contact the marginal flanges 18, 18, of the side plates 17, 17, and during a further outward adjustment will carry said side plates with it, providing means for preventing a lateral escape of the deflected air currents into the compartment toward which the deflector plate 16 is moved.

By means of this device, the temperature of the adjacent compartments may be controlled from either compartment, the deflector being easily and conveniently adjusted to any desired degree and through a very wide range by reason of the side plates or wings.

It will be noted that the deflector plate is so connected to the rock shaft and its hanger as to constitute a partition between the two rooms in the casing opening, so that one occupant of either room cannot see into the other.

Having described my invention, I claim:

1. A deflector of the class described, comprising a casing having a top wall and two side walls, a rock shaft journaled in the side walls, a deflector plate fixed to and depending from said shaft, side plates loosely journaled on the rock shaft between the casing side walls and the edges of the deflector plate, each having opposed marginal flanges extended into the path of the deflector plate, and means for operating the rock shaft.

2. A deflector of the class described, comprising a casing having a top wall and two side walls, a rock shaft journaled in the side walls, a deflector plate fixed to and depending from said shaft, side plates pivoted for independent oscillation between the casing side walls and the edges of the deflector plate, each having opposed marginal flanges extended into the path of the deflector plate, and means for operating the rock shaft.

3. A deflector of the class described, comprising a casing, a depending pivoted deflector plate, means for manually adjusting said plate, and side plates pivoted for independent oscillation between the casing and deflector plate, each side plate having opposed marginal flanges extended into the path of movement of the deflector plate.

4. A deflector of the class described, comprising a casing, a depending swinging deflector plate pivoted therein, means for swinging said deflector plate, and independent pivoted side plates adjacent the vertical edges of the deflector plate and having relatively spaced opposed marginal flanges projected into the path of the deflector plate.

5. A deflector of the class described, comprising a casing having a top wall and two side walls, a longitudinal rock shaft journaled in the side wall, a transverse shaft, gear connections between said shafts, a depending deflector plate fixed to said rock shaft between the casing side walls, and a pair of independent pivoted transverse side plates positioned adjacent the vertical edges of the deflector plate and having relatively spaced opposed marginal flanges projected into the path of the deflector plate.

6. In combination with a register, a vertical deflector member hinged at its upper margin, an independently hinged segment member at the end of the vertical member adapted to be engaged and moved by the vertical member at predetermined points in the swing of said vertical member, and means for moving the vertical member to a desired position of adjustment.

In witness whereof, I hereunto subscribe my name, as attested by the two subscribing witnesses.

WILLIAM J. WOODALL.

Witnesses:

CLARENCE B. FOSTER,

L. A. BECK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."