

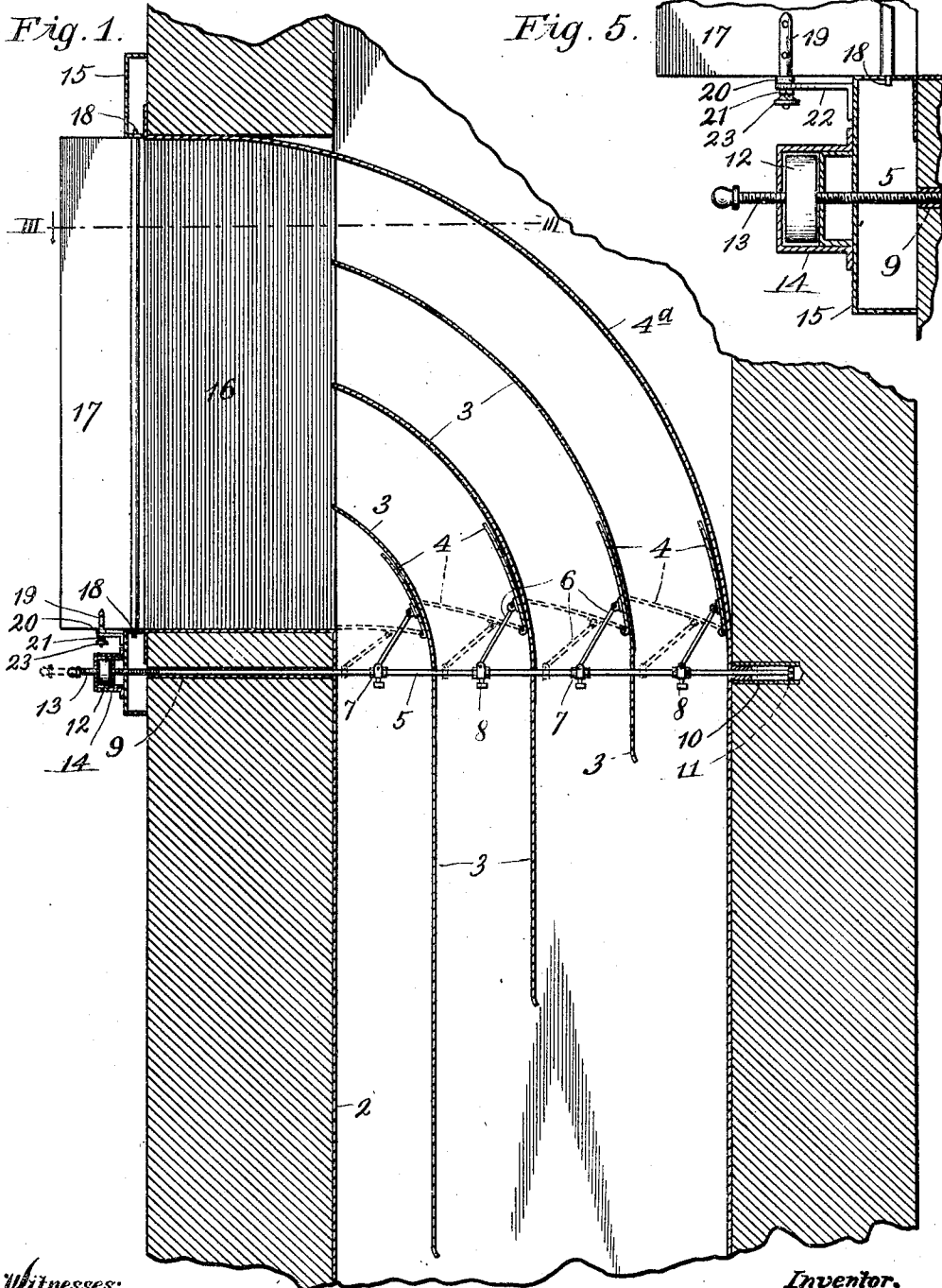
No. 848,803.

PATENTED APR. 2, 1907.

J. H. BRADY.  
MEANS FOR CONTROLLING THE FLOW OF AIR.

APPLICATION FILED MAR. 22, 1906.

2 SHEETS—SHEET 1.



Witnesses:

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*J. Moore*

Inventor,  
*Joseph H. Brady*  
By *F. G. Fischer*  
att.

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Fig. 2.

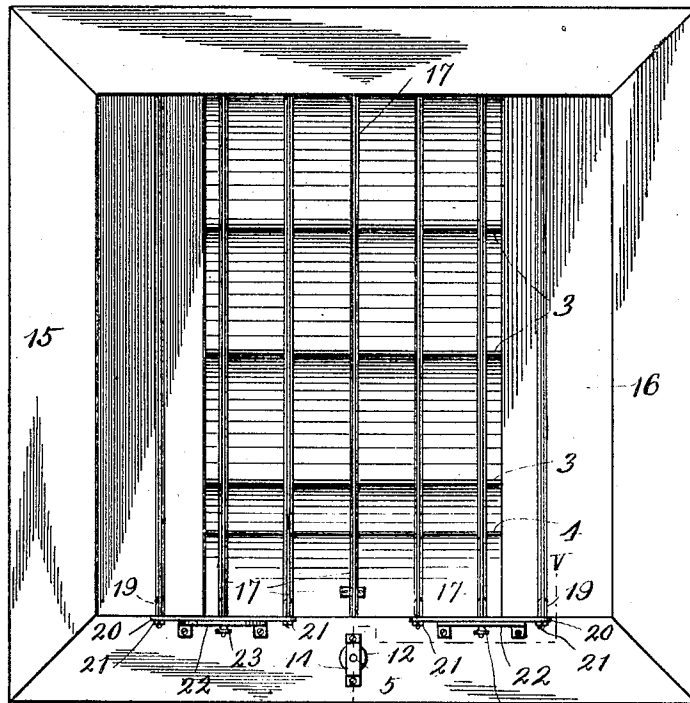
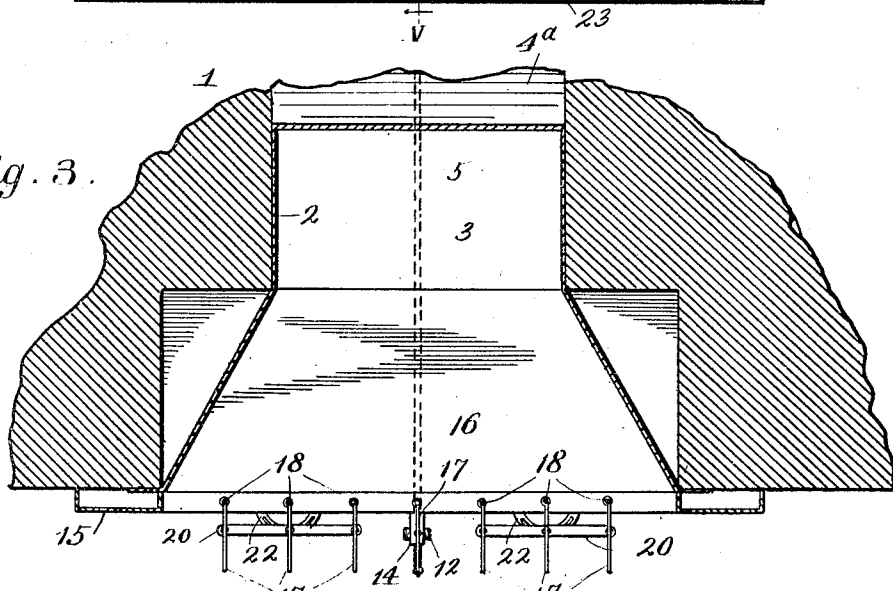
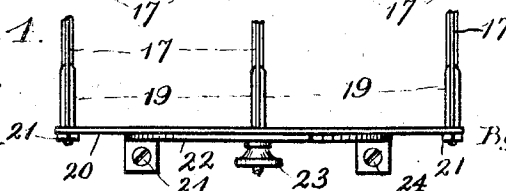


Fig. 3.



Witnesses: Fig. 1.

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# UNITED STATES PATENT OFFICE.

JOSEPH H. BRADY, OF KANSAS CITY, MISSOURI.

## MEANS FOR CONTROLLING THE FLOW OF AIR.

No. 848,803.

Specification of Letters Patent.

Patented April 2, 1907.

Application filed March 22, 1906. Serial No 307,536.

To all whom it may concern:

Be it known that I, JOSEPH H. BRADY, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Means for Controlling the Flow of Air, of which the following is a specification.

My invention relates to means for controlling the flow of air; and my object is to provide simple but effective means for controlling the volume of air passing through an air-shaft, means for diffusing said air so that it will not escape merely from the upper portion of the air-shaft outlet, but will be equally distributed throughout the entire area of said outlet, and means for deflecting the air as it escapes from the outlet, so that it may be turned in any desired direction.

The invention is applicable to systems for circulating either hot or cold air, and the parts so cooperate that the volume, distribution, and direction of the air as it escapes from the outlet may be regulated at will.

The invention consists in the novel construction, combination, and arrangement of parts hereinafter described, and pointed out in the claims, and in order that it may be fully understood reference will now be made to the accompanying drawings, in which—

Figure 1 represents a vertical central section of an air-shaft provided with my improvements. Fig. 2 is a front elevation of the discharge end of said shaft provided with my improvements. Fig. 3 is a broken transverse section taken on line III III of Fig. 1. Fig. 4 is an enlarged detail front elevation of means for securing the deflectors at any point of their adjustment. Fig. 5 is an enlarged vertical section taken on line V V of Fig. 2.

1 designates an air-shaft provided with a metallic lining 2, divided at its upper portion by a diffuser of peculiar form consisting of metallic plates 3, the lower portions of which extend downwardly into the air-shaft variable distances, while their upper portions are arranged in the form of concentric curves and terminate in vertical alinement, as shown in Fig. 1.

By making the lower portion of the plates of different lengths all tendency of hot air to rush to the upper rear portion of the air-shaft is overcome, and each division will receive its proper share of air, so that the latter will be diffused throughout the entire area of the shaft-outlet.

4 designates a series of dampers pivotally secured to the plates 3 and the curved upper portion 4<sup>a</sup> of the air-shaft for regulating the volume of air as it flows outwardly through the deflector hereinafter described, and in order that said dampers may for convenience be simultaneously operated I connect them to an adjusting-rod 5 through the instrumentality of links 6 and sleeves 7. Sleeves 7 are adjustably secured to the rod by means of set-screws 8. Thus each sleeve may be properly adjusted, so that when the rod is drawn outwardly far enough all of the dampers will completely close the air-passages between the plates 3, and thus prevent further circulation of air through the shaft.

Rod 5 extends through sleeves 9 and 10 in the front and rear walls, respectively, of the shaft, and its rear terminal is provided with a nut 11. Rod 5 is adjusted inwardly or outwardly by a nut 12, engaging its threaded outer portion 13. The rod is prevented from turning with nut 12 by set-screws 8. Nut 12 is held from moving longitudinally with the adjusting-rod by means of a bracket 14, engaging its front and rear sides and secured to the face of a rectangular metallic frame 15, surrounding the flaring outlet 16 of air-shaft 1.

As the air escapes from outlet 16 it may be deflected in any direction by a deflector consisting of blades 17, the central one of which is rigidly secured at its upper and lower ends to frame 15. Its companion blades are arranged in two series of three blades each, provided at their rear sides with pintles 18, pivotally mounted in the upper and lower portions of frame 15. In order that the blades comprising each series may be simultaneously moved either to the right or left, I provide them with depending stems 19, pivotally secured to a connecting-bar 20, the two outer stems being provided with nuts 21 for supporting the bar, while the central stem extends through a slotted segment 22 and is provided with a clamping-nut 23, adapted to frictionally engage the under side of segment 22, and thus reliably hold the blades in their adjusted position. Segments 22 are secured to the front lower portion of frame 15 by screws 24.

In practice as the air ascends shaft 1 it will be equally divided by the diffuser, which causes it to discharge evenly throughout the area of outlet 16, so that its entire volume will not, as heretofore, impinge against the

upper curved portion of the shaft and flow in this manner from outlet 16. By thus diffusing the air before permitting it to escape into the apartment communicating with the air-shaft it will be more thoroughly distributed throughout said apartment, and consequently prove much more effective than if permitted to escape when compact. As the air discharges from outlet 16 it may be directed to the right or left or straight ahead by blades 17, which have been previously set to divert the air in the desired direction.

From the above description it is obvious that I have produced means for regulating the flow of air, so that the greatest efficiency will be obtained therefrom, and while I have shown the preferred construction of my device I of course reserve the right to make such changes as properly fall within the spirit and scope of the appended claims.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a device of the character described, the combination with an air-shaft having an outlet, a diffuser dividing said shaft and consisting of plates for directing the air to the

outlet, dampers adjustably secured to said plates, a rod for adjusting said dampers provided with a threaded end, means for preventing said rod from turning, a nut engaging the threaded end of the rod for moving the latter inwardly or outwardly, a bracket for preventing said nut from moving longitudinally with the rod, and a rectangular frame surrounding the outlet and carrying said bracket.

2. In a device of the character described, the combination with an air-shaft having an outlet, a deflector arranged at said outlet and consisting of a plurality of adjustable blades arranged in two or more series, a connecting-bar uniting each series so that they may be independently adjusted, a slotted segment arranged adjacent to each connecting-bar, a stem extending through each connecting-bar and slotted segment, and clamping-nuts engaging the stems.

In testimony whereof I affix my signature in the presence of two witnesses.

JOSEPH H. BRADY.

Witnesses:

F. G. FISCHER,  
J. MOORE.