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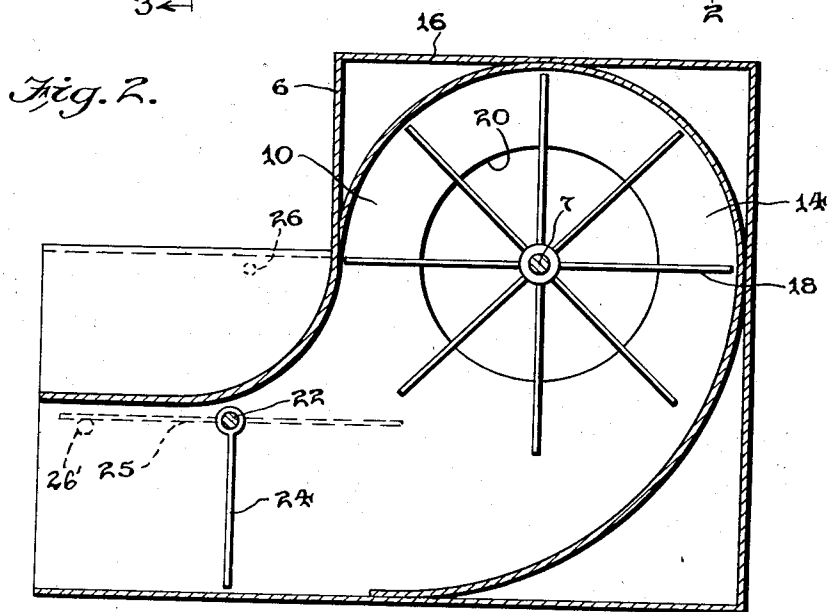
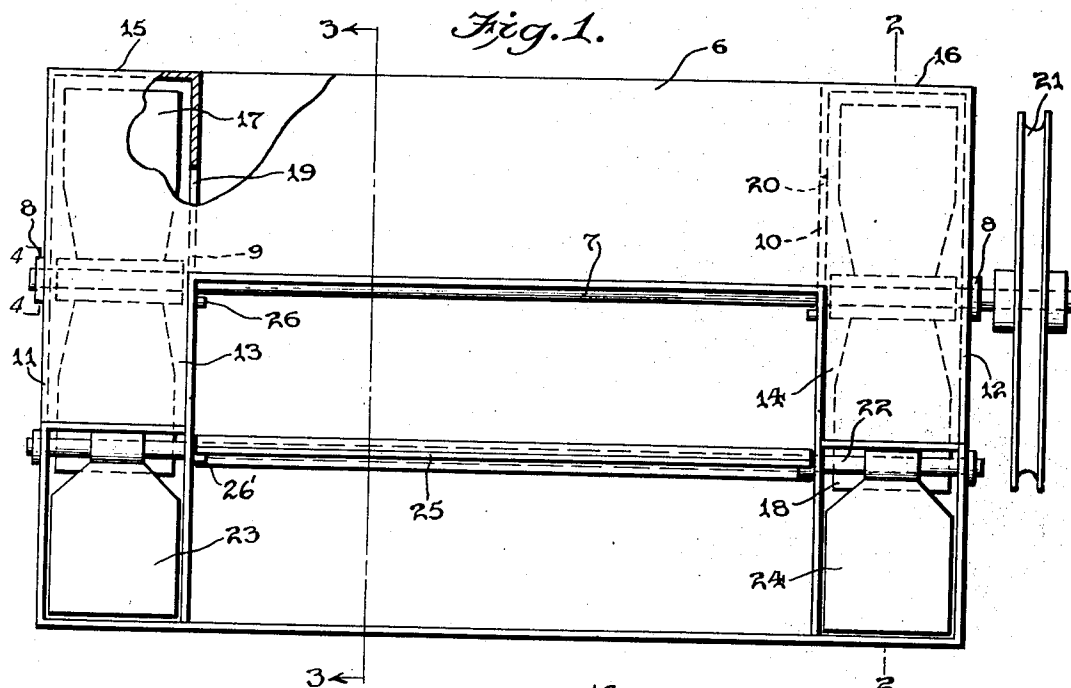
F. I. JADEN

1,945,223

BLOWER FOR HOT AIR FURNACES

Filed Oct. 20, 1930

2 Sheets-Sheet 1



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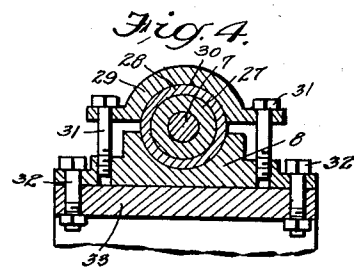
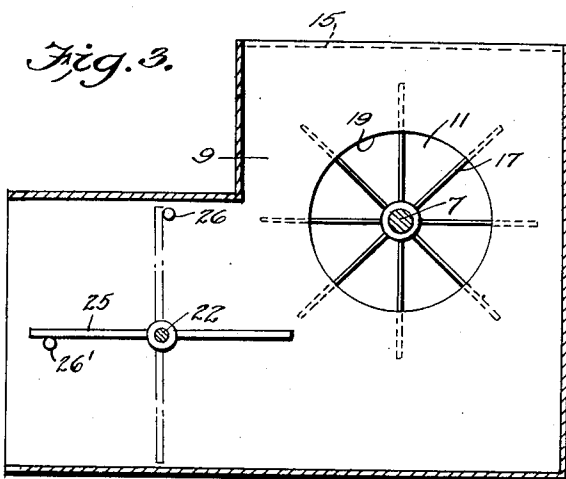
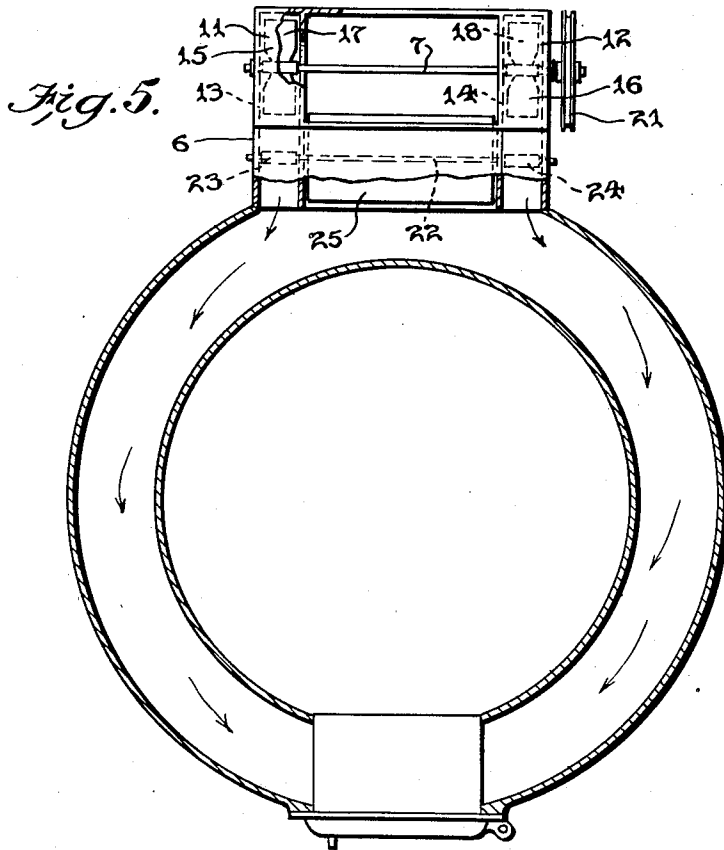
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

1,945,223

BLOWER FOR HOT AIR FURNACES

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Application October 20, 1930. Serial No. 490,061

1 Claim. (Cl. 126—110)

This invention relates to blowers, and more particularly to blowers suitable for use in connection with hot air furnaces.

One of the prime objects of this invention is to provide a blower that may be easily attached to the usual hot air furnace and will greatly increase the rate of circulation of hot air through such a system while the blower is in operation, and will return the system to a normal condition of operation when the blower is not operating.

Another object is to so construct the blower that an even amount of air will be forced around the jacket of the furnace and produce a most efficient circulation.

Other objects will be disclosed in the specification and claim forming a part of this application.

In the drawings:

Figure 1 is a vertical section showing the blower in inoperative position;

Figure 2 is a section taken on the line 2—2 of Figure 1;

Figure 3 is a section taken on the line 3—3 of Figure 1;

Figure 4 is a section taken on the line 4—4 of Figure 1, showing the construction of the housing and bearing; and

Figure 5 is a horizontal section taken through a hot air heater showing the blower attached.

Referring to the drawings in which like numerals designate similar parts:

N numeral 6 designates a box, preferably of metal, which is open at the top. A shaft 7 extends through said box 6 and is supported at both ends by bearing blocks 8. Partitions 9 and 10 positioned parallel to the sides 11 and 12 of the box 6 form compartments 13 and 14. The portions 15 and 16 over compartments 13 and 14, respectively, of the box 6 are covered. Fans 17 and 18 are mounted on the shaft 7 in the compartments 13 and 14. Openings 19 and 20 are formed in the partitions 9 and 10, respectively, to allow air to be drawn into the compartments 13 and 14. A drive wheel 21 is mounted on one end of the shaft 7 which extends from the box 6. A second shaft 22 extends through the box 6 and the compartments 13 and 14. Fixedly secured to the shaft 22 in each compartment 13 and 14, respectively, are placed dampers 23 and 24. A damper or louver 25 is carried by the shaft 22 in the box 6 between the compartments 13 and 14. This damper is likewise fixed to the shaft but at right angles to the dampers 23 and 24. Stop members 26 and 26' are located on

the inner wall of the partitions 9 and 10 in the box 6 and are adapted to limit the movement of the damper 25, the lower stop members 26' serving as supports for the damper 25 when the damper is in horizontal or open position, the stops 26 serving to prevent further movement of the damper 25 when the same is in vertical or closed position. The dampers 23 and 24 are sufficiently heavy so that their normal position will be vertical, which results in a closed position.

As shown in Figure 4, the shaft 7 is journaled in a bearing sleeve 27 encased in a collar 28 of oil resisting rubber. A clamp 29, having a recess 30 shaped to fit over the collar 28, clamps the bearing sleeve and collar to the bearing block 8, by means of the machine screws 31. This rubber collar construction absorbs vibration of the shaft and deadens much of the noise that would ordinarily be carried through the pipes into the rooms above.

As actually used, the source of power will be turned on and the fans 17 and 18 caused to operate. Since the fans are acting as blowers, the dampers 23 and 24 will be forced away from the fan and in and toward the fire box of the furnace. Since the damper 25 is carried by the shaft 22, and further since the damper 25 is mounted on said shaft at right angles to the dampers 23 and 24, the damper 25 will be rotated toward a vertical position, completely closing the main air chamber of the blower. The air will be sucked through the open top of the blower box 6 through the openings 19 and 20 in each of the compartments 13 and 14, and in turn forced out through the bottom of the compartments through the openings formed by reason of the dampers 23 and 24 being in open position. Upon the fans 17 and 18 being shut off, the dampers 23 and 24 will assume their vertical position, which closes the compartments 13 and 14 and in turn rotates the damper 25 to a horizontal position, leaving the main draft chamber of the blower box 6 unobstructed so that it can operate in the usual manner of a draft flue.

By having separate compartments mounted in the draft chamber with blowers positioned therein, it is possible to get an even circulation of air through and around the jacket in the hot air furnace that is not possible with a single blower.

It is obvious that I have provided a blower which may be easily attached to a furnace to provide a forced draft when desired, and which will automatically transfer the blower to an ordi-

nary draft box as soon as the blower ceases to function.

Although I have illustrated means for accomplishing this purpose, I do not limit myself to the structure shown, but claim means for accomplishing the same purpose which may come within the scope of the claim appended hereto.

What I claim is:

In combination with a hot air furnace having a jacket surrounding said furnace to form an air space therein, a draft box connected to said jacket and communicating with said air space, the top of said draft box being open, partitions forming chambers on each side of said draft box and having openings connecting the chambers with the main body of the said box, blowers po-

sitioned in each chamber, dampers in each chamber and said main body, the damper in the main body being at right angles to the dampers in the chambers, the dampers in the chambers being of sufficient weight to maintain the same normally in vertical closed position and the damper in the main body in open position; said blowers adapted to force the dampers in the chambers in open position and the damper in the main body in closed position during operation; the chambers having discharge openings into said air space surrounding the furnace so that the air will be equally distributed around the opposite sides of the said furnace.

FRED I. JADEN.

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