

April 5, 1932.

L. TABOR ET AL

1,852,380

OIL BURNER

Filed July 19, 1928

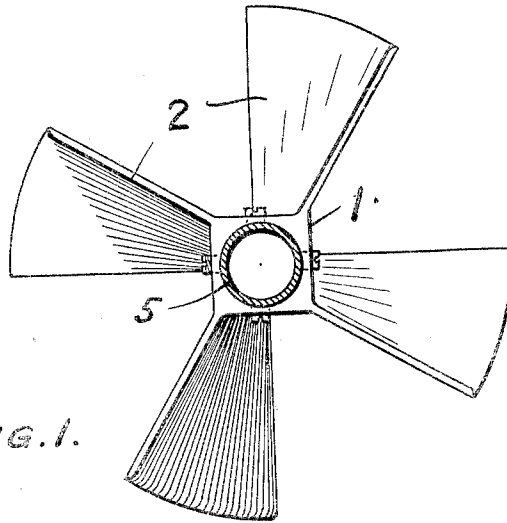


FIG. 1.

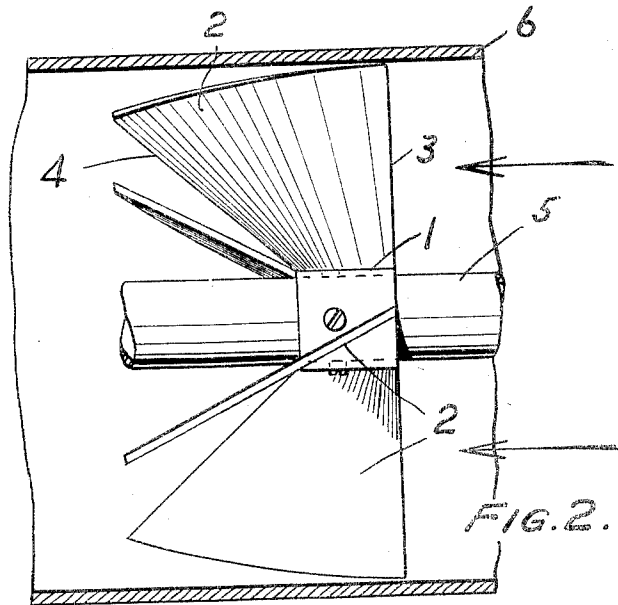


FIG. 2.

WITNESS:

Robt. P. Kitchin.

INVENTORS

Leroy Tabor
John Tait

BY
Augustus B. Straighton
ATTORNEY.

UNITED STATES PATENT OFFICE

LEROY TABOR, OF RIVERTON, AND JOHN TAIT, OF PALMYRA, NEW JERSEY, ASSIGNORS
TO THE TABOR ENGINEERING COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A
CORPORATION OF DELAWARE

OIL BURNER

Application filed July 19, 1928. Serial No. 293,838.

In oil burners use is made of an air blast pipe in which there is an air whirler or air deflector of which the purpose is to give the air passing through the pipe a spiral motion at the point of discharge.

One object of the present invention is to provide an air rotor which will efficiently accomplish that result.

To that and other ends hereinafter set forth or appearing, the invention comprises the improvements to be presently described and finally claimed.

In the following description reference will be made to the accompanying drawings forming part hereof and in which

Figure 1 is a front view partly in section of an air rotor embodying the features of the invention, and

Fig. 2 is a side view of the air rotor and of the oil tube on which it is mounted and a sectional view of the air blast pipe in which it is arranged.

Referring to the drawings the stationary air whirler or turbulator 1 is provided with spiral vanes 2 of small width at the center and of increasing width to the periphery. The tips of the vanes 2 are shaped, in outline in vertical projection, as arcs of one circle curved to fit the blast pipe. On the air entering side the edges 3, of the vanes are substantially perpendicular to the axis of the air rotor, and on the air leaving side the edges 4 of the vanes are inclined outwardly from the center and away from the edges 3.

5 is an oil tube upon which the air whirler is mounted and fixed against rotation. 6 is an air blast pipe of substantially circular cross section and its purpose is to supply an air blast to an oil burner.

The width of the vanes for rotating air at different diameter zones is in approximation to the volume of air passing at the different diameter zones. In a pipe of circular cross section the volume of air passing at the center is smaller per inch of diameter than is the case toward the periphery. By the described construction in which the vanes are of small width at the center and increasing width toward the periphery, the width of vane for rotating air is in approximation to

the volume of air, so that there results a discharge of air into the fire box in the form of an approximately true helix. By confining the flare of the vanes to the face of the air whirler from which the current of air passes to the discharge end of the air blast pipe 6, the accomplishment of the results above referred to is facilitated.

We claim:

1. For an oil burner the combination of an air blast pipe of substantially circular cross section, an air whirler fixed against rotation and having spiral vanes with tips shaped as arcs of one circle and lying substantially in one plane and of small width at the center and of increasing width to the periphery, and an oil feed pipe on which the whirler is mounted.

2. For an oil burner the combination of an air blast pipe of substantially circular cross-section, an air whirler fixed against rotation and having spiral vanes with tips shaped as arcs of one circle and lying substantially in one plane and of small width at the center and of increasing width to the periphery, one of the edges of said vane being disposed substantially radially of the air whirler and the other of the edges of said vanes being inclined outwardly from center, and an oil feed pipe on which the whirler is mounted.

LEROY TABOR.
JOHN TAIT.

85

90

95

100