

Jan. 3, 1928.

1,655,246

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AIR AND OIL EQUALIZING MEANS FOR OIL BURNERS

Filed May 17, 1924

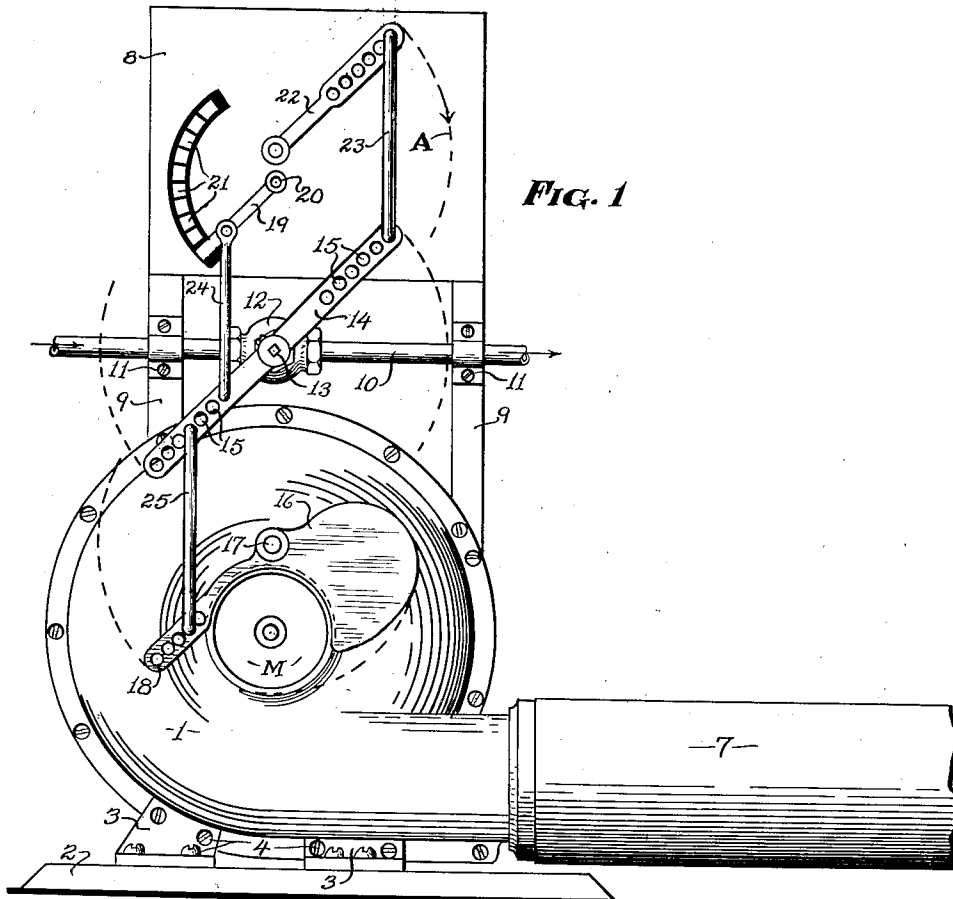


FIG. 1

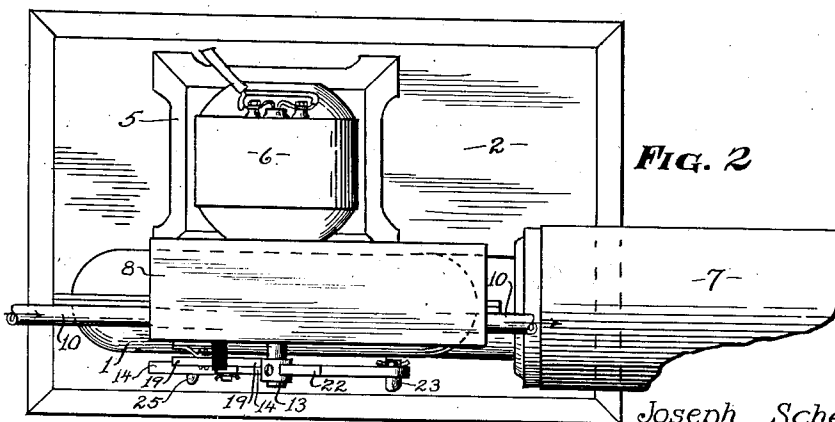


FIG. 2

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AIR AND OIL EQUALIZING MEANS FOR OIL BURNERS.

Application filed May 17, 1924. Serial No. 714,090.

My invention relates to a controlling means for oil and air being fed simultaneously to an oil burner.

The object of my invention is to provide a mechanism which simultaneously equalizes the flow of oil and the air supply on a graduated scale.

A further object of my invention is to control the mechanism by hand operation, or by thermostatic control.

A still further object of the invention is that when the proper mixture of oil and air has been obtained, both may be increased or decreased simultaneously by one system of actuating levers.

Referring to the drawings, Fig. 1 is an elevation of the fan, rheostat, and pipe valve.

Fig. 2 is a top view of the mechanism.

1 is a pan housing mounted on a base 2, and substantially fastened thereto by means of brackets 3, said brackets being firmly attached to the flange of the fan, and the base, by means of the screws 4. 5 is the stand supporting an electric motor 6, said motor being connected with the shaft of the fan, which is operatively inclosed in said housing. 7 is a pipe connected to the outlet of said fan, and also to an oil burner, said burner not being shown in the drawings, and the said burner may be any one of the forced air type. 8 is a rheostat, mounted on legs 9, said legs functioning as supporting means for an oil pipe 10 and the said pipe being firmly fastened thereto by means of yokes 11. 12 is a valve positioned in said pipe said valve having a shank 13 adapted to centrally engage with a bar 14, said bar having holes 15, drilled in close proximity to each other, in each end of said bar. 16 is a shutter, adapted to close the air inlet M, which is the air supply opening for the fan, the said shutter 16 is pivotally mounted at 17 and has an arm 18, said arm having holes drilled for the purpose hereinafter described. 19 is the rheostat contact arm pivoted at 20 and adapted to engage on rheostat points 21 for the purpose of controlling the speed of the motor. 22 is a lever attached to a thermostatically controlled mechanism (not shown) the said thermostat being set for a certain temperature so that when the contact is made it will cause the said lever to rotate, following the dotted lines A, in the direction of the

arrow, which movement partly closes the valve 12, reducing the oil supply, and at the same time changing the rheostat which lowers the speed of the motor 6 and closing the shutter 16, the operation of which reduces the flow of the oil and the pressure of the air, as heretofore described. 23 is a connecting rod between the thermostat arm and the oil valve arm 14.

24 is a connecting rod from the valve arm 14 to the rheostat arm 19, and 25 is a connecting rod from the said valve arm to the shutter arm, and the connections are so made so that any movement of the thermostat will affect the motor, valve and shutter simultaneously.

It will be understood that when the shutter is being closed, the flow of air being cut off, a resistance is set up in the revolutions of the fan, which assists the motor in reducing its speed, therefore quicker action is had than by reducing the motor speed or closing the shutter independently of each other.

When all of the adjustable elements are in the positions represented by Fig. 1, of the drawing, the air-intake, M, of the blower is fully exposed; the fuel oil valve, 12, is adjusted for giving the maximum flow of oil to the burner; and the rheostat arm, 19, is at one end of its throw, giving the motor, 6, its highest velocity.

When temperature of air in the room rises, under these conditions, above a predetermined degree, the thermostat acts, as hereinbefore described.

Such modifications may be made as fall within the scope of the appended claim, and what I claim as new and desire to secure by Letters Patent is:

In an air and oil equalizing means for oil burners, in combination with a fan and housing, a rheostat, and a motor, a pivotally mounted valve having an apertured arm integral therewith to function at the intake of the fan, and legs supporting the said rheostat, said legs being rigidly connected to the housing of the fan, a fuel oil pipe having a valve therein, said pipe carried by the legs, a bar centrally connected to the valve, a plurality of apertures longitudinally spaced in both ends of the bar, a thermostat controlling lever having a plurality of apertures longi-

tudinally spaced therein, a rheostat contact arm pivotally rocking from one end to regulate the current, a connecting rod from one end of the valve bar to the thermostat lever, 5 a rod connecting the opposite end of said bar to the arm of the fan intake valve, a rod intermediately positioned to the first said rods connecting the last said end of the valve bar to the free end of the rheostat contact arm, all for simultaneously governing the flow of 10 the fuel oil and air blast by thermostatic actuating means.

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