Sept. 18, 1945. J. A. WHITE 2,385,317

OIL BURNER DRAFT CONTROL

Filed April 28, 1943 2 Sheets-Sheet 1

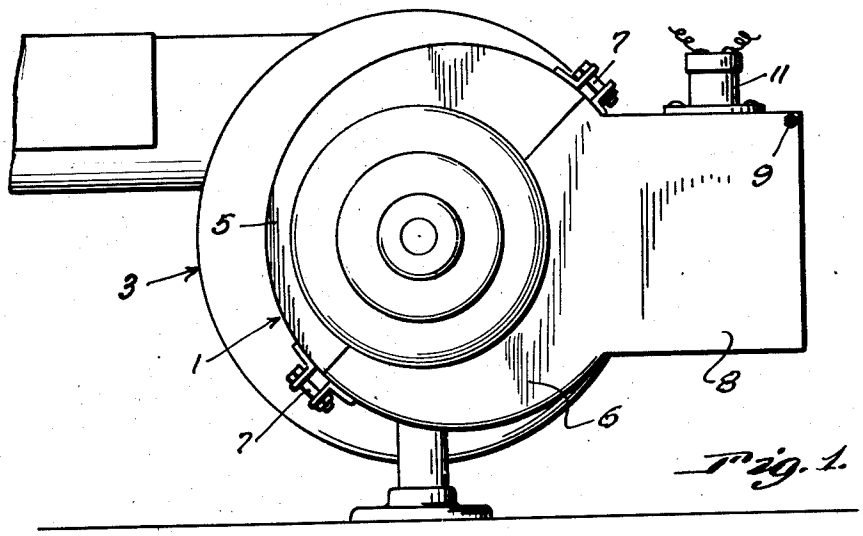


Fig. 1.

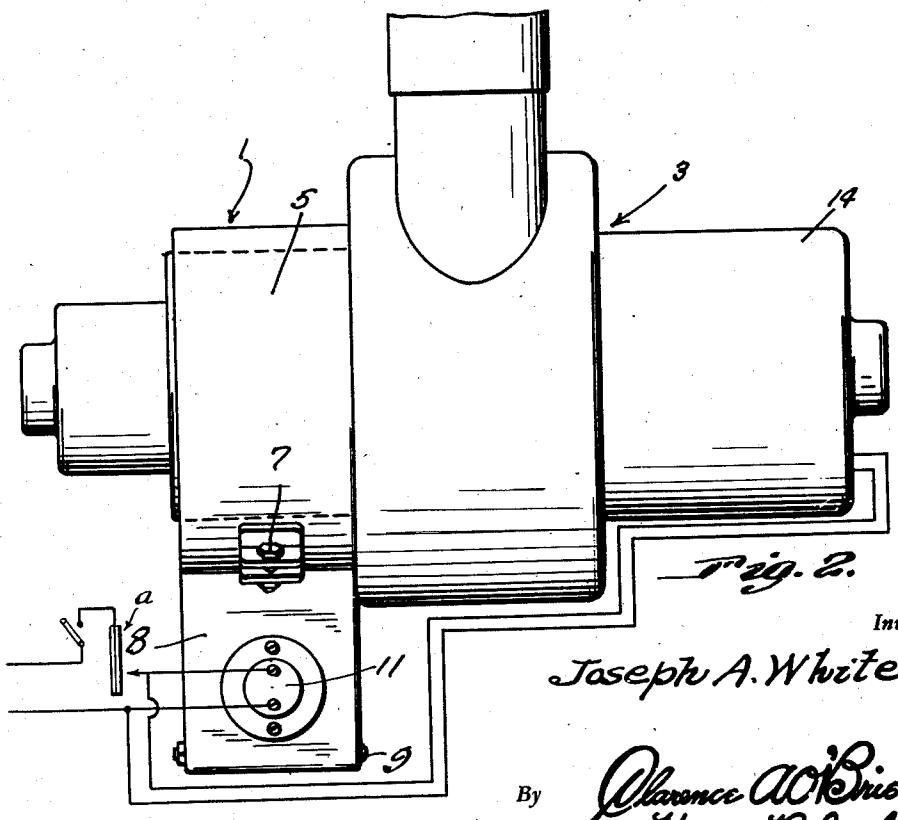


Fig. 2.

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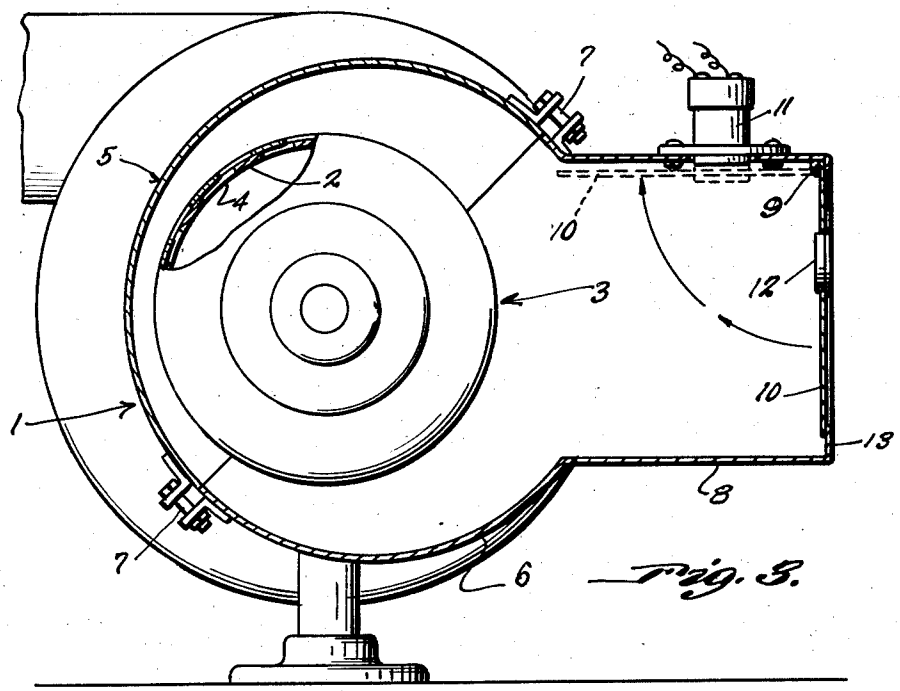


Fig. 3.

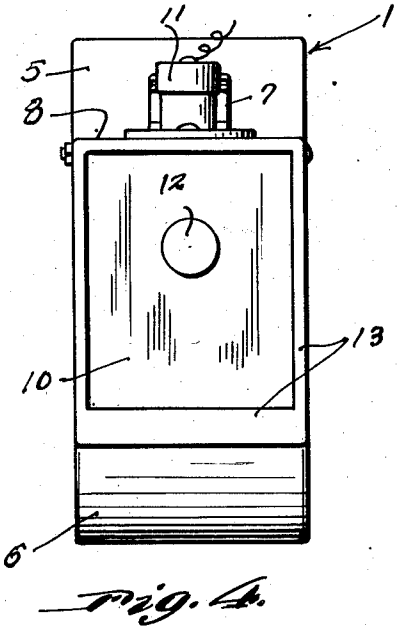


Fig. 4.

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Patented Sept. 18, 1945 2,385,317

UNITED STATES PATENT OFFICE

2,385,317

OIL BURNER DRAFT CONTROL

Joseph A. White, New London, Conn.

Application April 28, 1943, Serial No. 484,901

2 Claims. (Cl. 158—28)

The present invention relates to new and useful improvements in draft controls for the fuel oil burners of heating units, and has for its primary object to provide, in a manner as hereinafter set forth, novel means for automatically closing or shutting off the air intake of the burner when said burner goes out of operation, whereby the heat that has been built up in the burner will be retained for a considerably longer period of time.

Another very important object of the invention is to provide an automatic draft control of the aforementioned character which is adapted to be expeditiously installed for operation on fuel oil burners without the necessity of making structural alterations therein.

Other objects of the invention are to provide an automatic draft control of the character described which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use, compact, attractive in appearance, and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is a view in side elevation, showing an automatic draft control constructed in accordance with the present invention installed on a fuel oil burner.

Figure 2 is a top plan view thereof.

Figure 3 is a view in vertical longitudinal section through the device.

Figure 4 is a view in front elevation of the device.

Referring now to the drawings in detail, it will be seen that reference numeral 1 designates a drum of suitable material. The drum 1 is mounted eccentrically on the air intake portion 2 of a conventional fuel oil burner 3 and communicates therewith through the usual air intake ports 4.

The drum 1 includes complemental sections 5 and 6 which are detachably secured together at 7. This construction facilitates installing the device. An air intake conduit 8 projects forwardly from the section 6 of the drum 1.

Pivotally suspended at 9 in the upper portion of the conduit 8 is an inwardly and upwardly swinging closure 10. The closure 10 is opened by suction and closed by gravity. An electromagnet 11 is mounted on the upper portion of the conduit 8 adjacent the closure 10. Mounted on the closure 10 is an armature 12 for the magnet 11. When in closed position, the closure 10 rests against an internal flange 13 on the open end of the conduit 8.

It is thought that the operation of the device will be readily apparent from a consideration of the foregoing. The electromagnet 11 is interposed in the electric circuit of the motor 14 of the burner unit 3. Briefly, the closure 10 normally hangs by gravity in closed position, as seen in Figure 3 of the drawings. When the circuit to the electric motor 14 is closed by thermostat *a* and operation of the burner begins, the closure 10 is swung inwardly and upwardly to partially open position by suction and the magnet 11 is energized. In this manner the armature 12 is drawn to the magnet 11 for holding the closure 11 in fully opened position while the burner is in operation. As soon as the circuit to the motor 14 is broken by thermostat *a* for putting the burner out of operation, the electromagnet 11 is de-energized for releasing the armature 12, thus permitting the door 10 to swing downwardly to closed position against the flange 13 for preventing cold air from entering the burner.

It is believed that the many advantages of an automatic oil burner draft control constructed in accordance with the present invention will be readily understood, and although preferred embodiments of the device are as illustrated and described, it is to be understood that further modifications and changes in the details of construction may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

1. An automatic draft control for a fuel oil burner including a blower having an air intake, and a driving motor for the blower, comprising a drum having an air intake and adapted to be mounted on the blower in communication with the air intake of the latter, a gravity closed closure controlling the air intake of the drum and movable to partially open position by suction of the blower, and an electro-magnet carried by said drum and adapted to be connected in parallel with the motor so as to be energized for completely opening and retaining the closure in completely open position when the motor is rendered operative.

2. In an automatic draft control for fuel oil burners, a drum divided diametrically into front and rear half sections, means to secure said half sections together and upon the lateral air intake

of the burner blower for communication therewith, said front half section having a forwardly projecting horizontal air intake provided with an air inlet opening at its forward end, a gravity closed closure for said air inlet opening adapted to be partially opened by suction and pivotted at its upper end to the top of said conduit, said closure having an armature attached thereto, and an electro-magnet mounted on and extending through the top of said conduit in position to attract said armature to completely open and retain the closure in completely opened position when energized.

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