

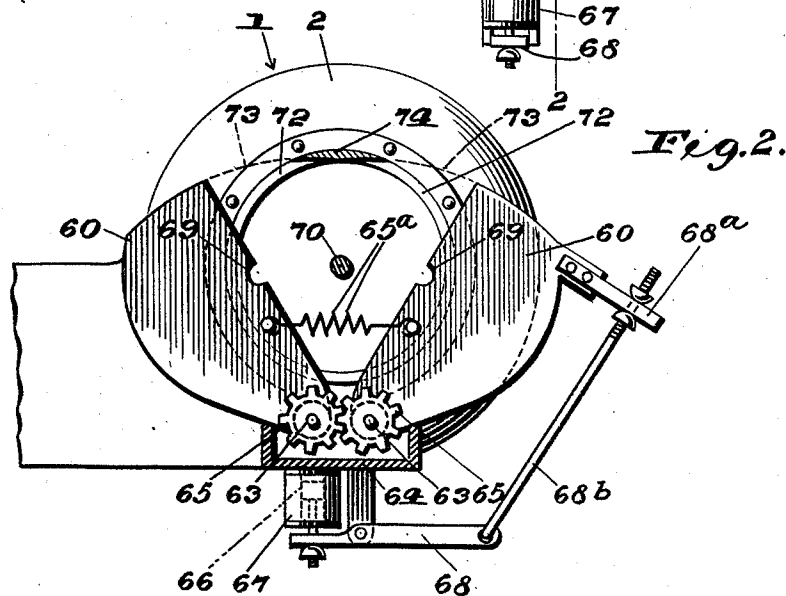
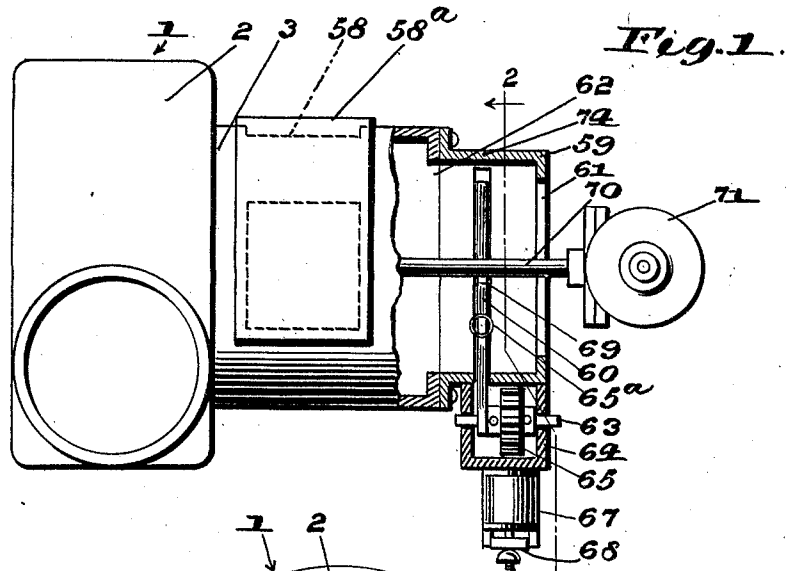
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OIL BURNER ACCESSORY

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OIL BURNER ACCESSORY

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1 Claim. (Cl. 251—18)

This invention relates to improvements in oil burners, a particular purpose being to provide an accessory which will guard the interior of the furnace against premature cooling by virtue of an unchecked air current which is customarily permitted to flow through when the oil burner is idle. With this premise in mind the objects of the invention are as follows:

First, to provide an accessory of the character stated which is adapted to be attached to an oil burner housing in a covering relationship to the open end or air entrance thereof, provision being made for the periodic closure of said entrance for the purpose previously stated.

Second, to provide a chamber which is adapted to be attached to the burner casing or housing, said chamber having an air entrance which is adapted to be controlled by movable plates.

Other objects and advantages will appear in the following specification, reference being had to the accompanying drawing, in which:

Figure 1 is a partially sectional and elevational view particularly illustrating the principles of the invention.

Figure 2 is a cross section taken on the line 2—2 of Fig. 1, parts being shown in elevation.

This is a division of an application for patent for oil burner accessory filed by John Goffredo July 7, 1939, Serial No. 283,265.

In carrying out the invention use is made of an oil burner 1 which consists of a blower 2 and a housing 3. Said housing has circumferential air entrances 58 which would normally supply the internal burner mechanism not shown. For the purposes of the invention said entrances are permanently covered by a member 58a.

A chamber 59 is attached to the open end of the housing 3 in substitution of a closure which customarily appears at this point. A pair of plates 60 (Fig. 2) is adapted to control the passage of air from an air entrance 61 in the chamber 59 through the open end 62 of the housing 3. The entrance 61 can be regarded as an accessory to the opening 62, the passage of air from the former to the latter being governed by the setting of the plates 60.

Said plates are carried by shafts 63 (Fig. 2) which are journaled in the walls of a small compartment 64 at the bottom of the chamber 59. Said compartment might well comprise some equivalent supporting means. The shafts 63 which are carried by the latter are intergearsed at 65 so that the plates 60 are made to work in unison but in opposite directions.

A spring 65a, connected to both of the plates 60, tends to normally draw them to the closed position. Said plates are opened against the tension of said spring by the attraction of the core 66 of a solenoid 67. Said core has connections to one of the plates, consisting of a lever 68 pivoted adjacently to the solenoid and at-

tached at one of its ends to a stem projecting from said core, the other end of the lever being linked at 68b to an arm 68a secured to and extending off from said one plate as plainly shown in Fig. 2.

The plates are notched at 69 to fit around the shaft 70 when the closed position of the plates is assumed. The shaft 70 is stationed axially of the housing 3 and it forms part of a contrivance 71 which has to do with the operation of the burner mechanism.

The advantage of providing the support of the shafts 63 in the form of the compartment 64 is to afford at least a partial enclosure for the gears 65. Another advantage is that the compartment 64 has matching walls which provide twin bearings for the shafts. The chamber 59 is necessarily slotted at 72 to accommodate the motions of the plates 60, designated by the dotted lines 73, but in forming slots 72 a substantial portion of the chamber 59 is left intact at 74, thus defining a bridge between the rear and forward portions of the chamber.

The operation is readily understood. It has been stated that the tendency of the spring 65a is to draw the plates 60 together thereby to close the air entrance. This is the actual position of the plates as long as the solenoid 67 remains de-energized. Thus when the oil burner 1 is idle the air entrance is closed so that it is virtually impossible for a through draft of air to occur with the resulting disadvantage of cooling the internal surfaces of the furnace prematurely.

Upon starting the oil burner provision will also be made for the energization of the solenoid 67. The attraction of the core 67 rocks the linkage 68 so as to swing the plate 60 at the right (Fig. 2), to the open position. The intermeshed gears 65 cause an identical motion of the left plate 60. The two plates are adapted to swing back and forth in a uniform manner because of the intermeshed gears.

I claim:

An accessory comprising a casing having an air entrance, said casing being slotted the major part of its circumferential distance but leaving a bridge-piece connecting the separated portions of the casing, supporting means on the casing substantially opposite to said bridge-piece, a pair of shafts journaled upon the supporting means and longitudinally arranged with respect to said casing, a closure plate fixedly carried by each shaft, a gear secured to each shaft with the gears intermeshing, means for operating the closure plates including a bar pivoted intermediate its ends on the supporting means, and a link having one end pivotally connected with one end of the bar, means for connecting the other end of the link with one of the plates, and means for causing rocking of the other end of the bar.

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