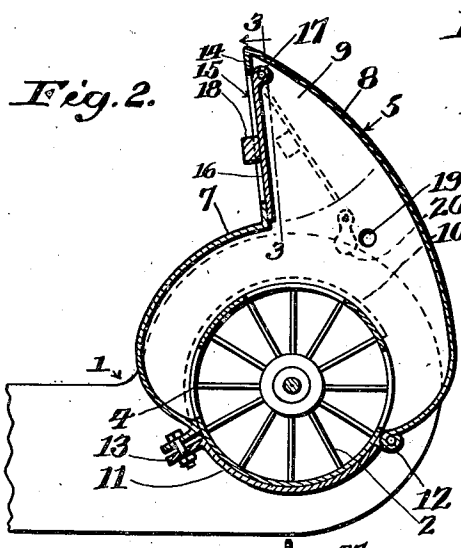
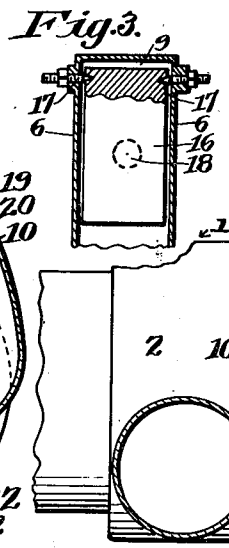
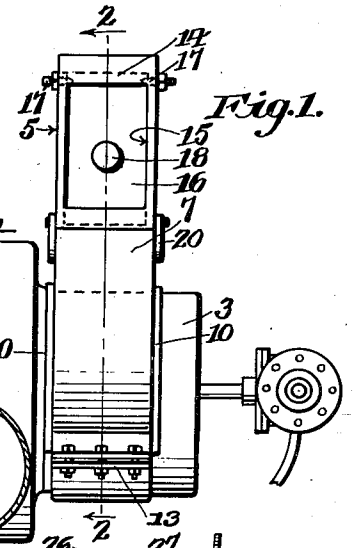
Feb. 3, 1942. J. GOFFREDO 2,271,690

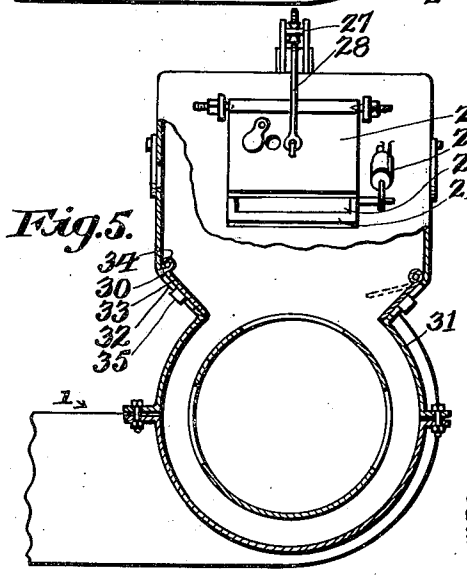
OIL BURNER ACCESSORY

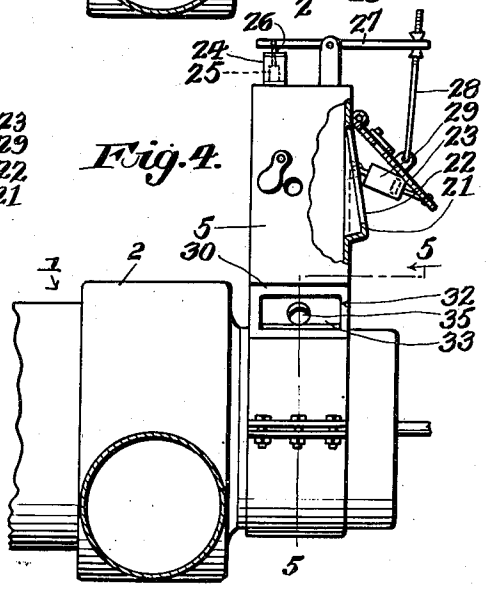
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OIL BURNER ACCESSORY

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Application July 7, 1939, Serial No. 283,265

2 Claims. (Cl. 137—139)

This invention relates to improvements in oil burners, a particular purpose being to provide an accessory which will increase the efficiency of the furnace which is supplemented by the oil burner. The customary types of oil burners have air openings which are perpetually uncovered. Naturally this is necessary for the influx of air while the burner is in operation, but it becomes a serious disadvantage when the burner is dormant.

At that time said openings constitute parts of a direct air passage from the basement or other furnace room, through the oil burner and furnace to the chimney, resulting in a premature chilling of the hot surfaces of the furnace which is herein desired to be avoided. Thus, the underlying purpose of the invention is to close off the furnace when the burner is dormant and so avoid the objection noted. With this preamble in mind the objects of the invention are:

First, to provide an accessory for an oil burner the primary purpose of which is to eliminate a high percentage of the cold air draft ordinarily flowing through the burner and furnace when the burner is idle, the stopping of said draft preventing the premature chilling of the furnace.

Second, to provide an accessory for the purpose stated, which in effect comprises an auxiliary air inlet the function of which is to automatically open and close the air opening when the burner respectively starts and stops.

Third, to provide an accessory which is capable of being made in several types to suit different models of oil burners and this without affecting the working principles of the device.

Fourth, to provide an accessory which is ready applied to and removed from an oil burner, neither interferring with its operation nor with its repair when the latter becomes necessary.

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

Figure 1 is a side elevation of a part of an oil burner showing the accessory applied thereto.

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

Figure 3 is a detail cross section taken on the line 3—3 of Figure 2.

Figure 4 is a partially sectional and side elevational view of a modified type of accessory for the oil burner.

Figure 5 is a section taken on the line 5—5 of Figure 4, parts being shown in elevation.

In carrying out the invention it is a general principle in most of the types to provide a casing with which the oil burner housing is supplemented, said casing comprising an anteroom, so to speak, to the oil burner, and providing for the control of the air draft through the oil burner. In the drawing the oil burner is generally designated 1, said burner including a blower 2 which has a housing 3. This housing has at least one air opening 4. In actual practice there are several air openings, but regardless of the number of openings or where they are situated it is the purpose of the invention to provide a casing 5 to cover said openings, the latter being adapted to be opened only when the blower 2 is in operation. In Figures 1, 2 and 3 the casing 5 comprises a hollow formation with parallel side walls 6 which are connected by a curved wall 7 on back and a much taller but also curved wall 8 on front. This arrangement of walls defines what herein appears and is shown as a hood 9.

The casing 5 has flanges 10 which rest on the housing 3 to provide the needed support. The casing includes a clamp piece 11 which is suitably attached at 12 and has securing means at 13. The arrangement of the clamp piece and securing means 13 permits the easy application and removal of the casing 5 from the housing 3.

The previously mentioned curved walls 7, 8 are connected by an upright wall 14. This wall leans backward so as to stand at a slight pitch in reference to a vertical plane. An air entrance 15 in said wall is controlled by a door 16 which is hinged at 17 at the top of the opening. Said door is adapted to gravitate to a normally closed position. The closure of said door is perfected by having the wall 14 stand at a slight pitch, and if needed, said door is supplemented with a weight 18 which insures the closure. Said door is automatically drawn open approximately to the dotted line position (Fig. 2) by the starting up and continued operation of the burner blower 2. When the latter ceases operation the door 16 closes automatically.

One or more vents 19 are provided in the casing. Each vent is adapted to be closed by a pivoted plate 20. These vents are adapted to be opened as shown in Figure 2 only when fumes in the basement are desired to be drawn off through the housing 5 and furnace to the chimney. It happens some times that a loose connection of the burner to the furnace will permit a slight discharge of fumes into the basement upon the starting up. These can be drawn off by means of the vents 19.

Figures 4 and 5 illustrate an extension of the foregoing principles wherein the casing 5 has a wall 21 built out therefrom so as to stand at a

pitch. This wall is the equivalent of the wall 14 (Fig. 2), and it has an air entrance 22. Said entrance is controlled by a hinged door 23. Said door is adapted to close by gravity, but rather than to depend on the oil burner blower for its opening said door has mechanical connections to a solenoid 24.

The core 25 of the latter has a link connection 26 to a pivoted rocker 27. Said rocker, in turn has a link connection 28 to the door 23. The energization of the solenoid causes the opening of the door. Said solenoid is adapted to be connected to a suitable control circuit of the oil burner. Upon de-energization of the solenoid the closing of the door 23 is desirably retarded by a dash pot arrangement 29. This arrangement is connected between the casing 5 and the door.

It is observed in Figure 5 that the casing 5 is generally rectangular in shape, and that it has shoulder portions 30 where it joins the cylindrical part 31 that is applied to the housing 3. Said shoulder portions also have air entrances 32 which are adapted to be normally closed by trap doors 33. These doors are hinged at 34 and weighted at 35. The angle at which the doors are disposed supplemented by the weights 35 insure keeping said doors closed under all circumstances excepting a heavy initial draft. If the door 23 should happen to stick and thus open the entrance 22 insufficiently far to supply the oil burner then the doors 33 will open and thus prevent stalling the oil burner.

I claim:

1. An accessory of the character described comprising a casing, an upstanding hood on the casing defining an air chamber, said hood including an upright wall having an air entrance, a door hinged across the top of said entrance and adapted to gravitate to a closed position thereover, electromagnetic door-operating means mounted on the hood, said means having a movable core, a rocker pivoted on the hood and having one end connected to the core, a link connecting the other end of the rocker to the door for opening the door by energization of the electromagnetic means, and a dash pot device coupled between the door and hood, being operative upon deenergizations of said electromagnetic means for delaying the action of the door when gravitating from its open position.

2. An accessory of the character described consisting of a casing, means for securing the casing to a housing in spaced away relationship to an opening therein to define an air passage leading to said opening, an upstanding hood on the casing, said hood having an upright wall built out therefrom and standing at a pitch from the vertical plane with respect to the hood, said wall having an air opening therethrough, a hinged door having rockable links attached thereto, electromagnetic means for rocking the links, and a dash pot attached between the wall and the door for slowing up the door when it is being closed.

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