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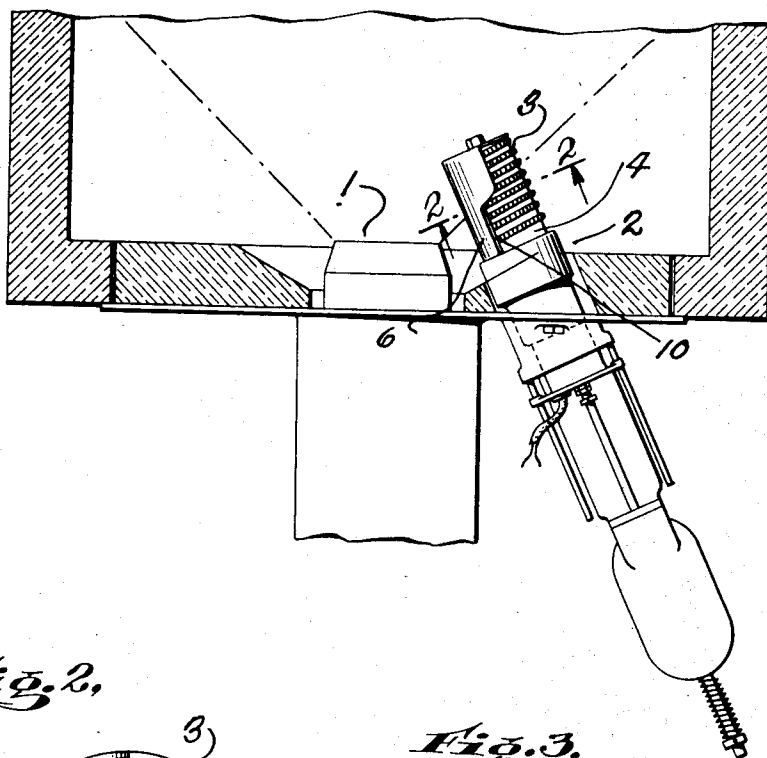
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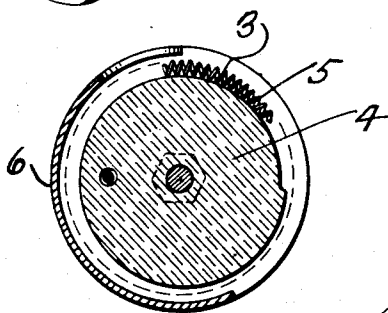
IGNITION MECHANISM FOR OIL BURNERS

Filed June 18, 1929

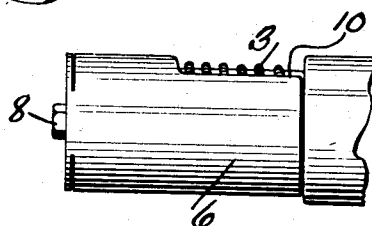
*Fig. 1.*



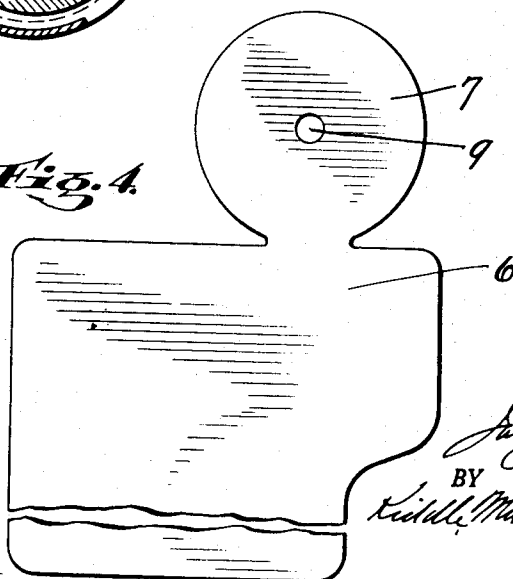
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



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## UNITED STATES PATENT OFFICE

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## IGNITION MECHANISM FOR OIL BURNERS

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This invention relates to an improvement in ignition mechanism for oil burners and is particularly directed to the igniter or heater by which the fuel is ignited, whether the same be of the stationary type or of the type which is moved into and out of firing position.

As will appear hereinafter, the igniter or heater has been illustrated as in the form of wire coiled about a suitable core although the present invention is adapted for application to other forms of element, and one of the objects of the invention is the provision of a shield or barrier intermediate the heater or igniter and the flame of the burner whereby when the igniter is in operative position injury to the igniter or heater from the flame of the burner is reduced to a minimum.

In the drawing accompanying this application:

Fig. 1 is a part sectional plan view of an oil burner installation in which ignition mechanism embodying the invention is shown on an enlarged scale with respect to the showing of the burner;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Fig. 3 is an elevational view of the igniter mechanism; and

Fig. 4 is a developed view of the shield or barrier interposed between the igniter or heating element and the flame of the burner.

Referring to the drawing in detail, the embodiment of the invention as illustrated in Fig. 1 comprises a burner 1 and ignition mechanism 2. The ignition mechanism has been illustrated as of the type in which the igniter or heater 3 is moved into and out of firing position. Inasmuch as the movability of the igniter constitutes no part of the present invention the same will not be described in detail.

The igniter or heater construction as illustrated comprises a core 4 of porcelain or other suitable insulating heat resisting material. About this core is wound coiled wire 5. The primary object of this invention is the provision of means intermediate the element 5 and the flame adjacent the nozzle of the burner 1 for preventing injury to the element 5 from the flame. In this connection it will be observed from an inspection of the

drawing that the core 4 has secured thereto a metal shield shown at 6. The end of this shield as shown at 7 is circular and the shield may be secured to the core by a bolt 8 which passes through a hole 9 provided in the circular part 7 of the shield. The shield is bent around the heater, as will be seen from Fig. 2, so as to surround practically half of the same, the portion of the igniter or heater surrounded by the shield being that portion which when the igniter is in operative position is directly exposed to the action of the flame of the burner. The shield is cut back slightly as shown at 10 so as to expose an increased area of the heater 5 adjacent the rear and top surface thereof.

In operation the oil issuing from the nozzle of the burner 1 in finely divided or atomized condition strikes the shield and sprays or splashes from thence upon the wire heater 5, some of the oil probably striking the wire direct at the cutback 10. The oil striking the wire 5 which it will be understood is heated to incandescence becomes ignited.

By reason of the barrier provided by the shield 6 the flame of the burner does not contact directly with the heater element so that injury to the heater is substantially entirely eliminated.

In the type of ignition mechanism illustrated the heater is retracted after ignition, but even so it is necessarily exposed to the heat of the flame for a time and it has been found that with the shield 6 in place the life of the heater 5 is materially lengthened.

This invention is not to be limited to the precise form of shield employed nor to the precise type of igniter or heater element above described inasmuch as changes may be made therein within the purview of this invention.

It is to be understood also that the expressions "igniter" and "heater" element employed herein are intended to cover wire elements, such as illustrated, the bar type sometimes employed wherein a bar of material is heated to incandescence, or other type of igniter element or heater element which if left exposed to the flame of the burner is detrimentally affected.

What is claimed is:—

Ignition mechanism for oil burners comprising a core of insulating material, a heater carried thereby and comprising wire coiled about the same, an imperforate shield carried by said core, said shield extending across the end of the core and along the side of the heater adjacent the burner in the path of fuel issuing from the burner.

10 This specification signed this 13th day of June, 1929.

JAMES N. MACRAE.

This specification signed this 13th day of June, 1929.

15 CALVIN P. PACKARD.

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