

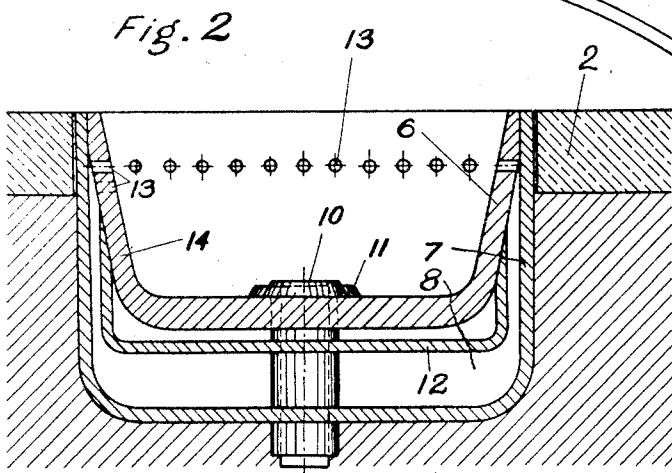
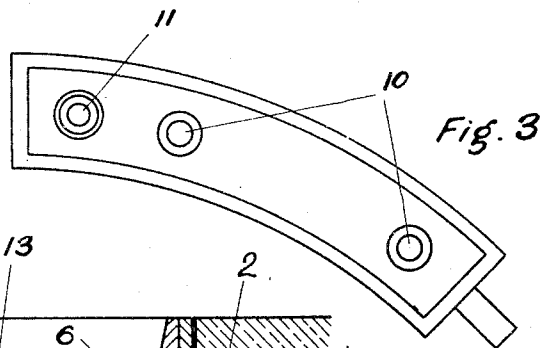
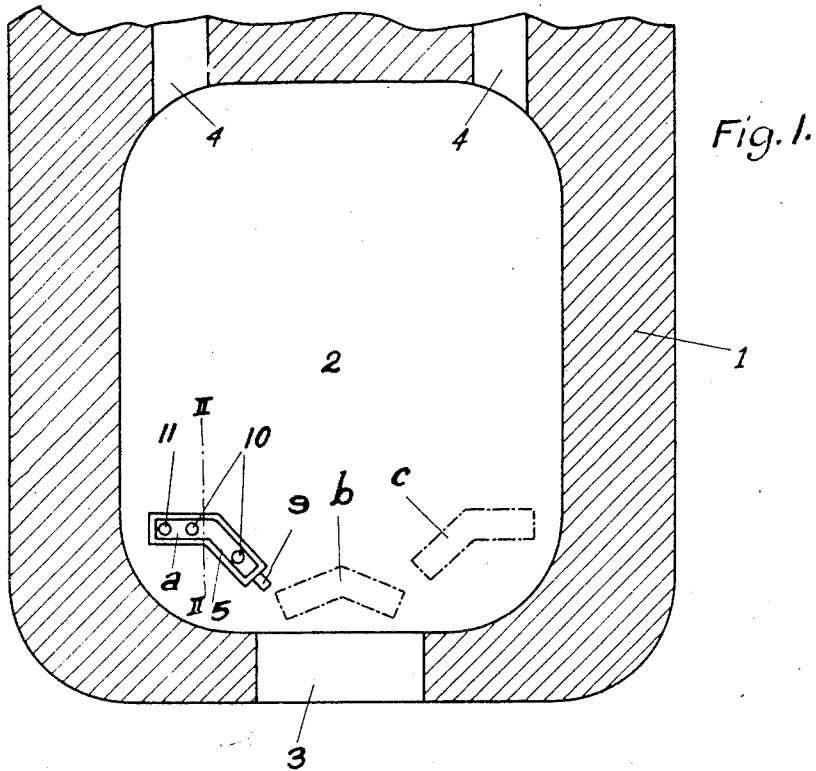
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1,658,655

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CUP SHAPED BURNER FOR LIQUID FUEL WITH COMBUSTION CUP

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UNITED STATES PATENT OFFICE.

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CUP-SHAPED BURNER FOR LIQUID FUEL WITH COMBUSTION CUP.

Application filed April 6, 1927, Serial No. 181,567, and in Germany December 4, 1926.

The present invention relates to a cup-shaped burner for liquid fuel with a combustion cup, in the bottom of which terminate oil supply conduits and the side walls of which are provided with air inlet apertures, this cup being surrounded by a casing, which forms with the cup a chamber for preheating the combustion air. The object of the invention is to provide a burner of this class embodying improved features for imparting a definite direction to the flame. Such a burner can be used in heating furnaces, boilers, baking ovens or any other heat generating apparatus, and does not require to be centrally located in the furnace, but can be set at any place best suited for a simple piping arrangement since the flame can be directed towards any desired point. It can be used with advantage therefore in such installations which have been originally built for wood or coal burning and are now converted into oil burners.

The accompanying drawing illustrates by way of example one constructional form of the invention.

Figure 1 is a horizontal section of a baking oven in which the constructional form is embodied.

Figure 2 is a section through II—II of Fig. 1.

Figure 3 represents a modification.

1 is a baking oven intended to be heated directly by wood or coal; 2 is the base of the oven. 3 is the door and 4 the flue pipes, communicating with the chimney. The burner 5, which is inserted inside the oven at the bottom thereof, consists of two straight portions disposed at any desired angle to one another, one facing the left-hand flue, the other the right-hand flue. It has a rectangular section and its inner cup 6 is enclosed by a casing 7, which forms with the cup a closed chamber 8, into which the compressed air enters through the pipe 9 communicating with a fan. The liquid fuel flows into the cup 6 through two pipes 10 (more than two may also be provided) which pass through the bottom of the cup. 11 is

an overflow pipe. 12 is a plate welded to the cup 6 and which prevents the bottom of the cup from being too greatly cooled. The air passes out of the chamber 8 into the cup 6 through the apertures 13. In the wall 14 of the cup 6 are provided two rows of these apertures, those of the lower row being staggered with respect to those of the upper row. In this way more air will enter through this wall than through the opposite wall, for the purpose of imparting a definite direction to the flame. Naturally three rows of apertures might be provided in the wall 14 and two rows in the other walls and so on.

In the modification shown in Fig. 3 the burner is of arc shape when seen in plan view. It may also be of circular form.

The burner may also be used in central heating installations; in this case the oil and the compressed air for combustion may be regulated by a temperature regulator. Instead of being located where indicated by *a*, the burner may also be located at *b* or *c*.

I claim:

1. A liquid fuel burner having a cup-shaped combustion chamber in communication with a fuel supply, the side walls of said combustion chamber provided with a plurality of air inlet apertures, and one of said side walls having a greater number of said air inlet apertures than the other walls, whereby a definite direction is imparted to the flame of the burner.

2. A liquid fuel burner having a cup-shaped combustion chamber in communication with a fuel supply, said combustion chamber comprising two rectangular cup sections forming an angle one with the other, a plurality of air inlet apertures formed in the side walls of said combustion chamber and one of the angular side walls provided with a greater number of said air inlet apertures than the opposite walls, whereby the flame of the burner is directed towards two different points.

In testimony whereof I affix my signature.

WALTER RUEGSEGGER.