No. 880,193. PATENTED FEB. 25, 1908.

C. J. CHURCH.

OIL BURNER.

APPLICATION FILED NOV. 7, 1905.

Fig. 1.

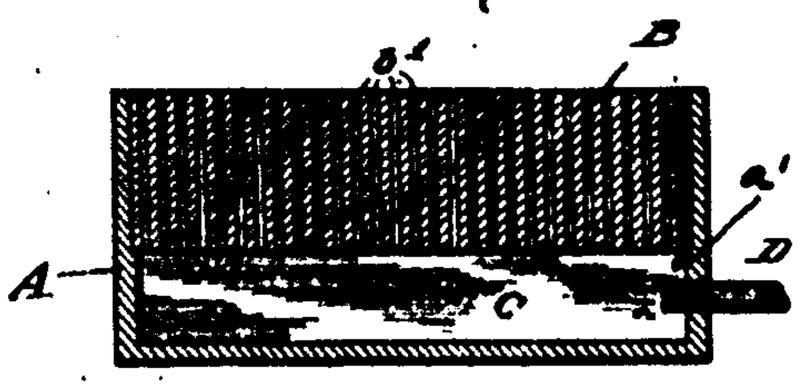


Fig. 2.

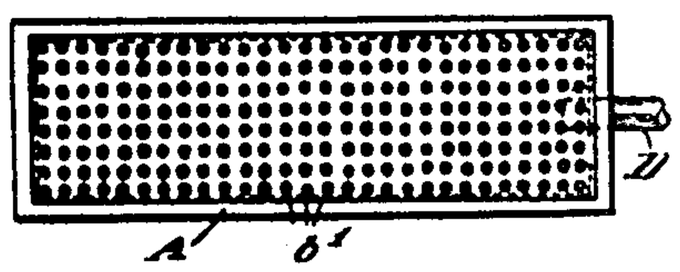
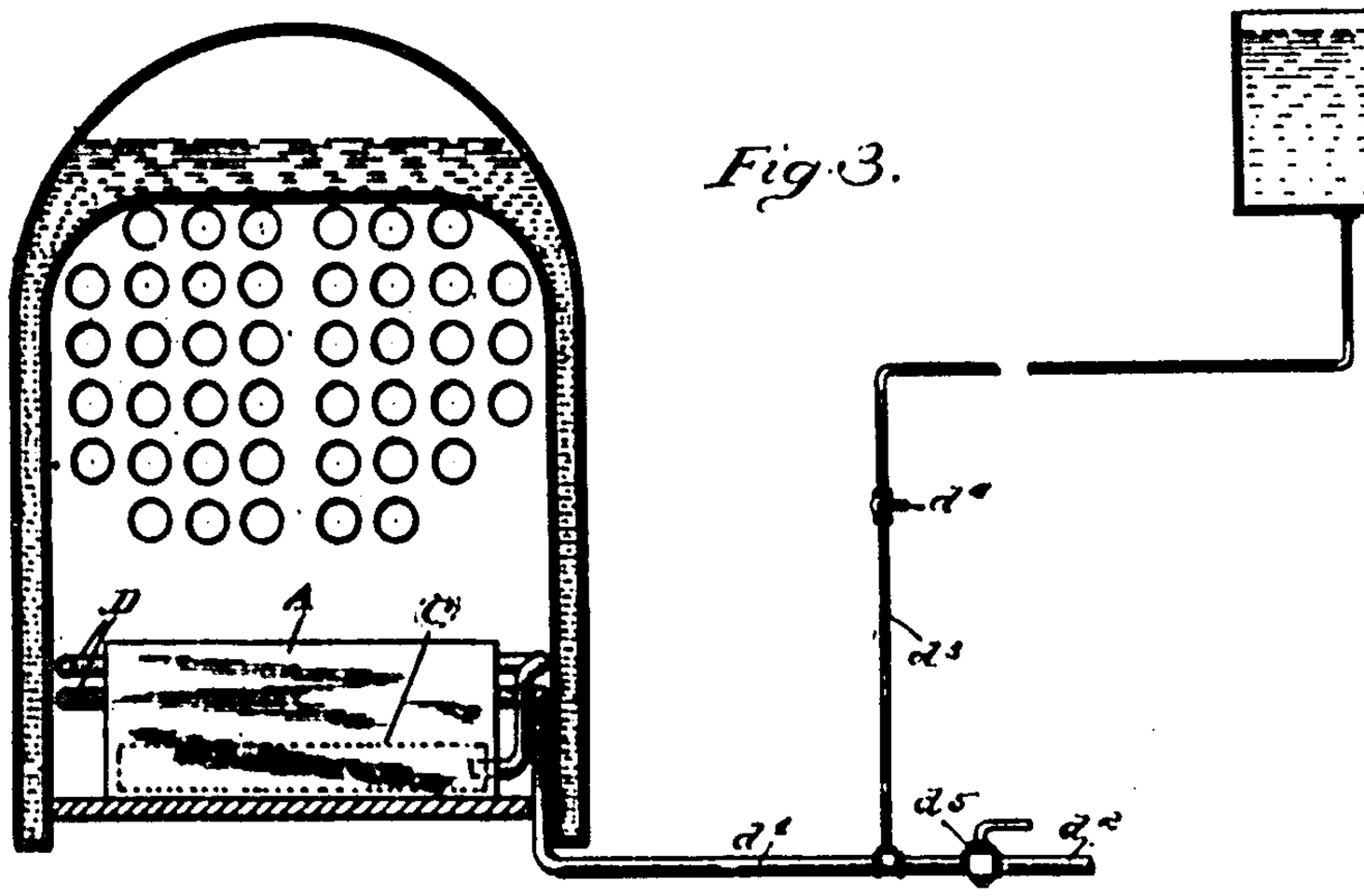


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES J. CHURCH, OF PORTER CORNERS, NEW YORK.

OIL-BURNER.

No. 880,193. Specification of Letters Patent. Patented Feb. 25, 1908.

Application filed November 7, 1905. Serial No. 286,213.

To all whom it may concern:

Be it known that I, CHARLES J. CHURCH, citizen of the United States, residing at Porter Corners, in the county of Saratoga and State of New York, have invented certain new and useful Improvements in Oil-Burners, of which the following is a specification.

This invention relates to improvements in burners adapted to burn crude or refined hydro-carbon oils and gasolene.

The especial object of my improvements which form the subject matter of this application, is to provide a burner of simple and economical mechanical construction which can be readily removed for cleaning purposes, and which affords a relatively larger combustion chamber and heating area.

In the accompanying drawing which orms a part of this application:—Figure 1 is a vertical section taken longitudinally through a burner constructed according to my invention but with certain features exaggerated. Fig. 2 is a top plan view of the device shown in Fig. 1. Fig. 3 shows in section and elevation one application of my improved burner.

Referring to the details of the drawing A represents an oblong rectangular cast metal box formed with a ledge a^1 on its inner walls.

B represents a cast metal grid which fits within the box A and rests on the ledge a^1. This grid is perforated vertically with a plurality of elongated holes b^1 which in practice, will be smaller in diameter and closer together than as shown in the drawing. This grid forms the burner or combustion surface, and as its lower face is above the bottom of the box, a chamber C is left in the latter into which the oil flows through pipe D from any suitable source as pipe d^1, d^2, and tank E. The pipe d^2 is preferably supplied with a valve d^4 which controls the flow of oil from the tank E. Connected with the pipe d^1 is an air supply pipe d^3 in which a valve d^5 is located to control the supply of air.

Preferably the pipe D is bent to form one or more coils which surround the box, thus subjecting the fluid to the heat of the burner before it passes into the chamber C.

The sizes and proportions of grid, chamber and pipe D will be governed by the work to be performed, the nature and quality of the fluid used for fuel. It is however important that the openings b^1 should be long and small as there are conditions which affect the effectiveness of my burner. After the burner becomes heated, the space C becomes a true combustion chamber where the gases are ignited and the resulting flames escape in a multitude of minute jets through the openings b^1.

Having thus described my invention what I claim as new and desire to secure by Letters Patent, is:—

In a device for burning oil, the combination of a rectangular metal box, A having a continuous bottom the upper portion of the walls of said box being reduced in thickness to form shoulders a^1, a grid B engaging said shoulders and forming a cover for said box, the top of said grid being flush with the walls of the box, said grid provided with numerous attenuated perforations, and an oil supply pipe passing through one of the lateral walls of said box below said grid.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES J. CHURCH.

Witnesses:

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