J. E. WALLING & A. OLSON.

OIL BURNER.

APPLICATION FILED DEC. 23, 1908.

955,727. **Patented Apr. 19, 1910.**

2 SHEETS—SHEET 1.

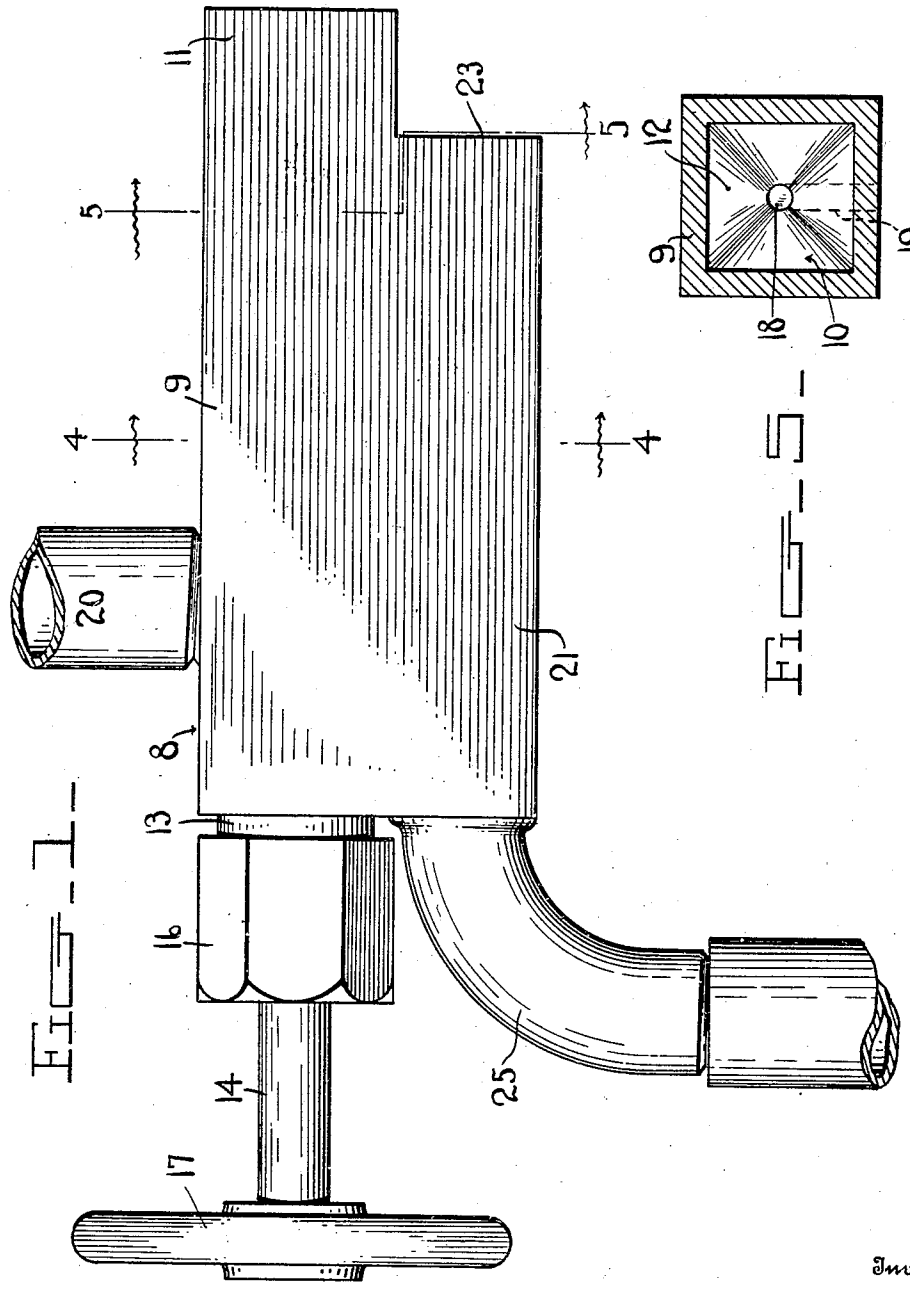

FIG. 1.

FIG. 5.

Witnesses

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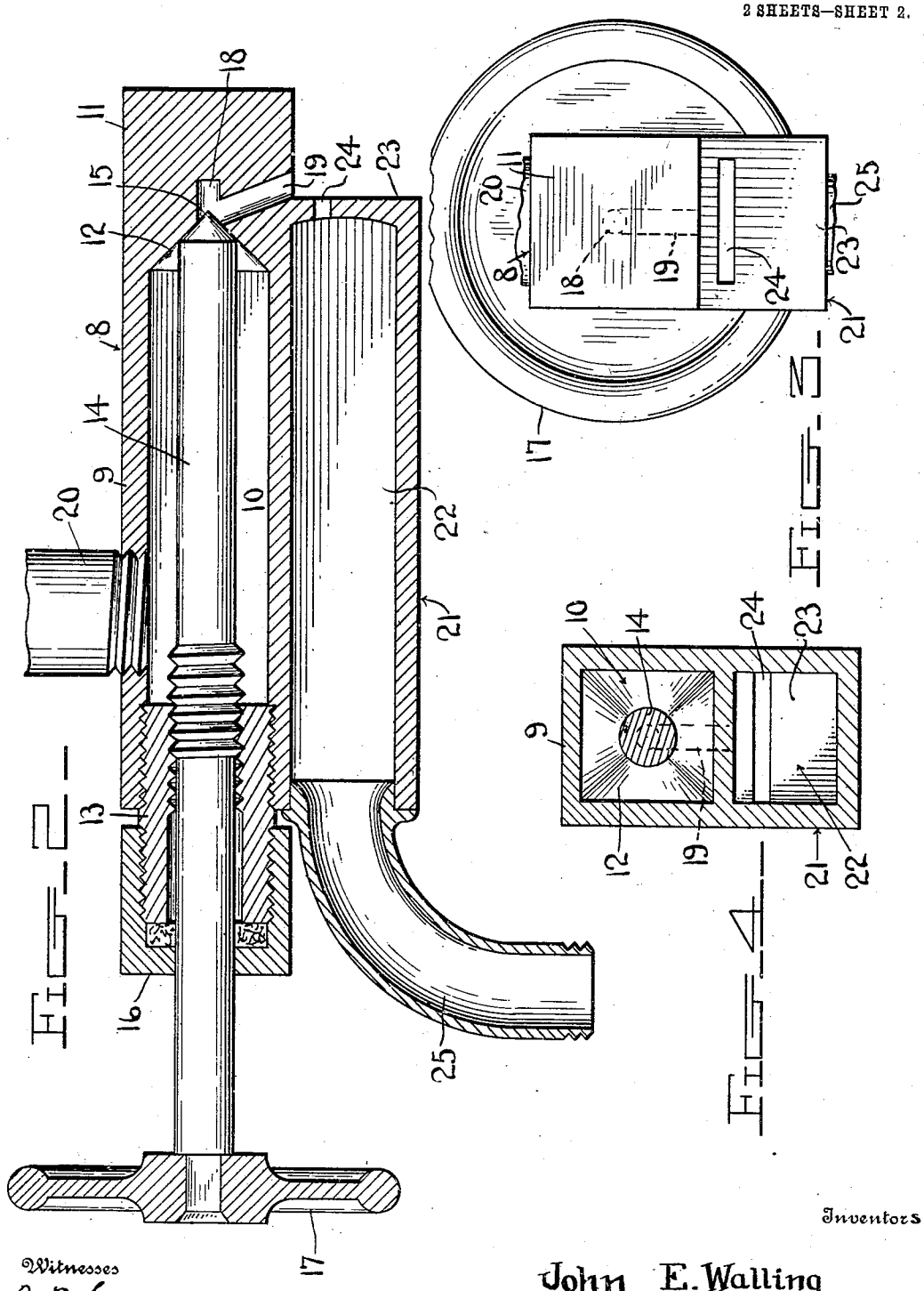

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN E. WALLING AND ANDY OLSON, OF PORTLAND, OREGON.

OIL-BURNER.

955,727. Specification of Letters Patent. Patented Apr. 19, 1910.

Application filed December 23, 1908. Serial No. 469,004.

To all whom it may concern:

Be it known that we, JOHN E. WALLING and ANDY OLSON, citizens of the United States, residing at Portland, in the county of Multnomah, State of Oregon, have invented certain new and useful Improvements in Oil-Burners; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to oil burners and more particularly to the class of hydrocarbon burners.

The primary object of the invention is the provision of an oil burner in which oil is ejected through an opening and as the oil is being forced out of the latter it is intersected by a blast of air which latter causes the oil to be delivered in a fine mist or atomized condition so that it will be readily ignited and consumed by the flame to produce the requisite combustion and give forth a perfect gas flame.

Another object of the invention is the provision of an oil burner which is simple in construction, more efficient in operation and inexpensive in the manufacture.

In the drawings accompanying and forming part of this specification is illustrated the preferred form of embodiment of the invention, which to enable those skilled in the art to practice the invention, will be set forth at length in the following description while the novelty of the invention will be brought out in the claim succeeding the description. However, it is to be understood that minor changes, variations and modifications may be made as come properly within the scope of the claim hereunto appended without departing from the spirit of the invention.

In the drawings: Figure 1 is a side elevation of the invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is an end elevation. Fig. 4 is a sectional view on the line 4—4 of Fig. 1. Fig. 5 is a sectional view on the line 5—5 of Fig. 1.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

In the drawings, the numeral 8 designates generally the oil burner which comprises a main hollow cylinder 9 forming an oil chamber 10 which latter has a solid closed end 11 formed with a beveled inner wall 12 and the other end of the cylinder 9 has threaded therein a plug 13 containing a central threaded aperture for adjustably receiving the threaded stem of a needle valve 14 the latter having a beveled inner end 15 adapted to work toward and away from the beveled inner wall 12 of the oil chamber. Surrounding the stem of the needle valve 14 is a packing gland 16 which latter is in threaded engagement with the plug 13 mounted within the cylinder. Upon the outer end of the stem of the needle valve is a hand wheel 17 which latter is actuated to adjust the needle valve to increase or decrease the feed of oil from the cylinder as the occasion may demand.

At the apex of the beveled inner wall 12 within the solid closed end 11 of the cylinder is a cavity 18 which latter has leading therefrom a delivery passage or port 19 to one side of the cylinder, and through which latter, oil is ejected from the said cylinder. In communication with the oil chamber 10 is an oil supply pipe 20 which latter is adapted to feed oil under pressure to the oil chamber.

Formed on and in parallelism with the cylinder 9 is a supplemental cylinder 21 forming an elongated air chamber 22 and which supplemental cylinder is of considerably less length than the cylinder 9 and has its closed end 23 disposed in juxtaposition to the oil delivery port or passage 19. Formed in the closed end 23 of the supplemental cylinder is an elongated air outlet or port 24 which latter is adapted to discharge air from the supplemental cylinder across the path of the oil outlet port 19, so as to cause or effect the spraying of the oil in a fine mist or atomized condition as it is discharged or delivered from the oil passage or port 19 from the oil chamber 10 of the burner. It is obvious that by regulating the needle valve 14 it will increase or decrease the feed of oil from the oil cylinder through its outlet or delivery port. In communication with the air chamber 20 is an air supply pipe 25 which is adapted to supply the requisite amount of air to the said air chamber when the burner is in use.

In operation, air or steam, as the case may be blows through the discharge port 24 from the air chamber across the path of the delivery of oil from the outlet port 19 of the oil chamber and as the oil is forced through the said outlet port the air or steam

sprays the oil in a fine mist or atomized condition so that it is readily ignited and thereby produces an efficient flame.

What is claimed is—

An oil burner of the class described comprising an elongated cylinder forming an oil chamber, said cylinder having a cavity in one end and a discharge port leading from the latter and opening through one side of the cylinder, a supplemental cylinder adjacent to and in parallelism with the first named cylinder and having one end terminating directly in rear of the discharge port in the first named cylinder, the supplemental cylinder being provided with an elongated discharge opening adapted to deliver air across the path of oil ejected through the port in the first named cylinder, and a needle valve working in the first named cylinder and adapted to engage the cavity for closing the port in said first named cylinder.

In testimony whereof we affix our signatures, in presence of two witnesses.

JOHN E. WALLING.
ANDY OLSON.

Witnesses:
JOHN C. ROSS,
R. F. ASHBY.