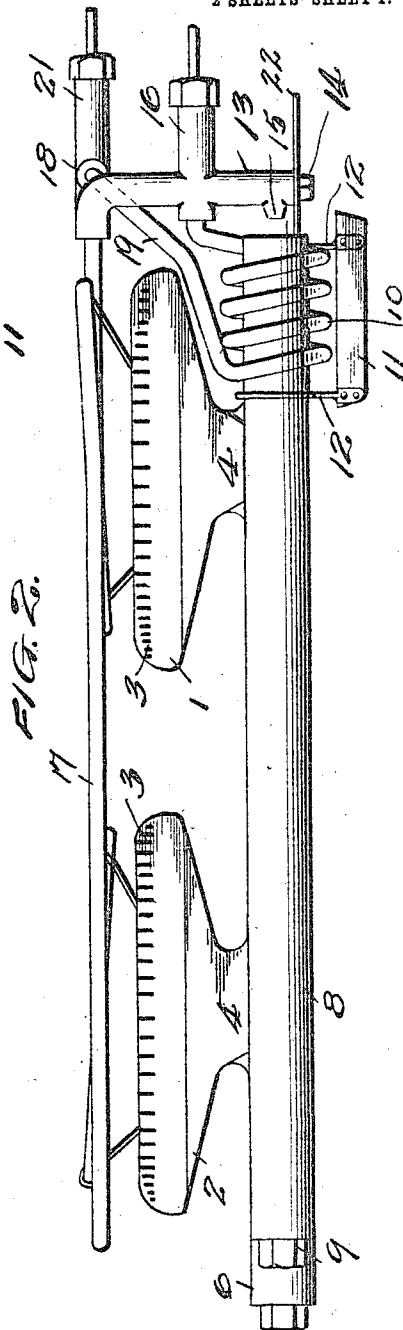
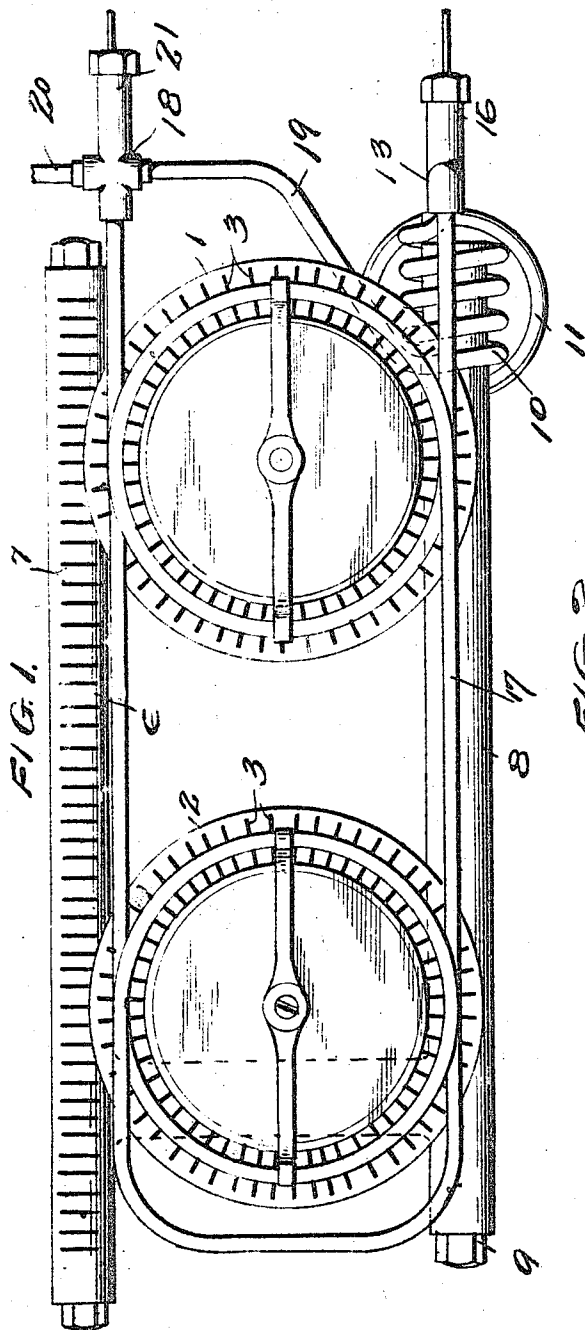


W. T. WOOD.  
OIL BURNER.  
APPLICATION FILED FEB. 26, 1912.

1,064,583.

Patented June 10, 1913.

2 SHEETS—SHEET 1.



WITNESSES

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FIG. 3

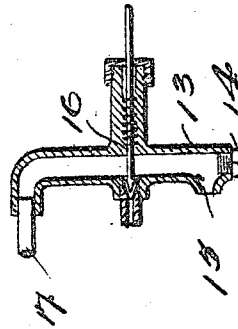
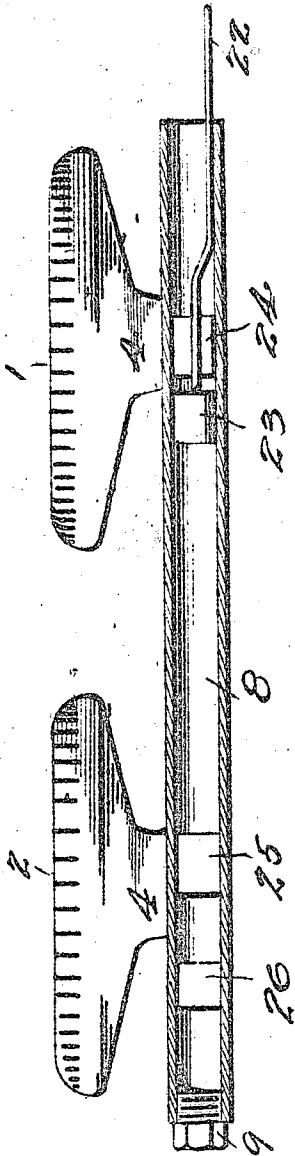


FIG. 5.

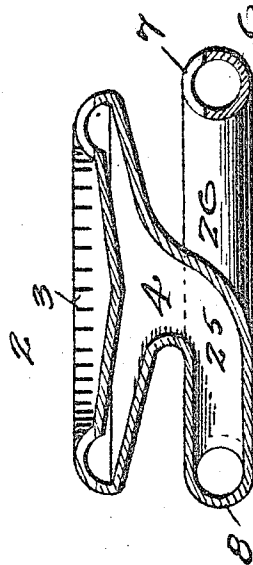


FIG. 4.

WITNESSES

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# UNITED STATES PATENT OFFICE.

WILLIAM THOMAS WOOD, OF NASHVILLE, TENNESSEE

## OIL-BURNER

1,064,583.

Specification of Letters Patent.

Patented June 10, 1913.

Application filed February 26, 1912. Serial No. 679,875.

*To all whom it may concern:*

Be it known that I, WILLIAM T. WOOD, a citizen of the United States, residing at Nashville, in the county of Davidson and State of Tennessee, have invented certain new and useful Improvements in Oil-Burners, of which the following is a specification.

My invention relates to improvements in oil burners, and is designed especially for use upon a blue-flame or vapor burner using vaporized kerosene as fuel.

The leading object of the invention is to provide an oil burner of this type which may be used to heat stoves and the like.

Other objects of the invention are to provide an oil burner which will have a large heating capacity and will occupy a comparatively small amount of space; which will be compact in size and easily transported; which will embody a novel form of valve control means whereby the gas may be directed to any desired burner section; and which will in general prove highly desirable and satisfactory by reason of its extreme simplicity, durability, and efficiency.

With the attainment of these and other objects in view, the invention consists in the provision of an oil burner embodying certain novel features of construction and combinations of parts for service, substantially as shown, described and claimed herein.

Referring to the accompanying drawings, in which—

Figure 1 is a plan view of a burner equipped with my improvements. Fig. 2 is an elevation of the burner shown in Fig. 1. Fig. 3 is an elevation, in section, of a part of my invention, showing particularly the novel form of valve and valve rod. Fig. 4 is a detail view of a burner section to illustrate its peculiar construction, and Fig. 5 is a detail view of the feed tube control valve. In the drawings, the numerals 1 and 2 designate burner sections, each having flame emission slots 3 in its top and each terminating in a restricted portion 4.

The numeral 6 designates a burner tube also provided with flame emission slots 7. Arranged adjacent to and communicating with the tube and burner sections is the mixing chamber or tube 8, permanently closed at one end by a screw cap 9, and having the starting coil 10 encircling it for the part of its length, beneath which is the

starting pan 11, supported from the mixing chamber by means of the hangers 12.

The numeral 13 designates a feed tube arranged adjacent the mixing chamber and having its lower end closed by a screw cap 14. The tube 13 has a nozzle 15 adapted to discharge into the mixing chamber and has a control valve 16 for regulating the admission of gas from the starting coil to the feed tube 13.

Leading from the feed tube and passing along the side of burner tube and encircling each of the burner sections, is the vaporizer tube 17, communicating at its other end with the three-way coupling 18, from which leads the connecting portion 19 of the starting coil, and into which enters the inlet pipe 20 from a suitable source of fluid supply, a control valve 21 being arranged in the coupling to regulate the passage of the fluid therethrough.

The numeral 22 designates a valve rod carrying a valve 23 and slidable in the mixing chamber 8.

The burner section 1 is provided with a port 24, the section 2 with a port 25, and the tube 6 with a port 26, which ports may be closed when desired by the valve 23.

The operation of the burner is as follows:—The valve 21 is similar to valve 16 in construction, and admits oil from the pipe 20 to vaporizer 17, the pipe 20 being always in communication with the starting coil 10. Fuel is placed in the pan 11 and ignited, the valve 21 being closed and the valve 16 open. Fuel flowing through the pipe 19 into the coil 10 is vaporized, the vapor flowing through the part 13, jet orifice 15 and tube 8 to the burners, where it is ignited. When the main vaporizing coil is sufficiently heated, the valve 21 is opened and the valve 16 closed, when the fuel will flow into the main vaporizer and the vapor generated will flow into the part 13 and to the burners as before. The gas in the mixing chamber will enter the burner section 1 if the port is open. If the valve is moved along farther in the mixing chamber, the vapor will follow the valve and enter the burner section 2. If the valve is moved still farther in the chamber, the vapor will enter the burner tube 6. The flow of the gas into the burners and burner tube may thus be regulated in a very simple and practical manner.

The arrangement of mixing chamber and

starting coil with reference to the burner sections, burner tube and feed tube is particularly advantageous, as an even distribution of the heat to all parts of the burner is assured.

From the foregoing description, taken in connection with the accompanying drawings, it will be apparent to all that I have provided extremely simple, durable, and efficient means for accomplishing the objects heretofore stated.

I claim:—

1. In an oil burner, the combination with a burner tube, and burner sections, of a mixing chamber communicating with said parts, a starting coil encircling said chamber for a part of its length, a feed tube communicating with the chamber, a connection between the starting coil and feed tube, a vaporizer tube communicating with the feed tube, an oil supply pipe communicating with the vaporizer tube and with the starting coil, and means for controlling the fluid supply to the vaporizer tube.

2. In an oil burner, the combination with a burner tube and burner sections, of a mixing chamber communicating with said parts, a starting coil associated therewith, a feed tube communicating with the chamber, a connection between the starting coil and feed tube, a vaporizer tube communicating with the feed tube, an oil supply pipe communicating with the vaporizer tube and with the starting coil, means for controlling the fluid supply to the vaporizer tube, and a control device movable in said mixing chamber to regulate the flow of gas to the burner tube and sections.

3. In an oil burner, the combination with a burner tube and burner sections, of a mixing chamber communicating therewith, a starting coil for said chamber, a feed tube arranged at right angles to and communicating with said chamber, a connection between the starting coil and feed tube, a vaporizer tube communicating with the feed tube, a three-way coupling communicating with said vaporizer tube and starting coil,

an inlet pipe entering said three-way coupling, and control means for said three-way coupling, and a control device movable in said mixing chamber to regulate the flow of gas to the burner sections and tube.

4. The combination with a burner tube and burner sections, of a vaporizer tube passing adjacent the burner tube and encircling each burner section, and a mixing chamber provided with means for controlling the supply of gas to the burner sections and tube.

5. The combination with a burner tube and burner sections, of a vaporizer tube passing adjacent the burner tube and encircling each burner section, a feed tube into which said vaporizer tube enters, a mixing chamber adjacent said feed tube, and a coupling into which the other end of said vaporizer tube enters.

6. The combination with a burner tube and burner sections, of a vaporizer tube associated therewith, a starting coil, a coupling into which one end of the vaporizer tube enters, a feed tube into which the other end of the vaporizer tube enters, a mixing chamber at right angles to the feed tube, means in the feed tube for controlling the admission of gas therinto from the starting coil, means in the coupling for controlling the passage of fluid to the vaporizer tube, and means movable in the mixing chamber for regulating the feed of gas to the burner tube and sections.

7. In a burner, the combination with burner sections and a burner tube, of a mixing chamber associated with said parts, means for supplying fuel to said mixing chamber, and means movable longitudinally in said chamber for controlling the passage of the fuel to said sections and tube.

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

WILLIAM THOMAS WOOD.

Witnesses:

C. W. GRANT,  
EDWIN HUGHES, Jr.