

J. H. BOWLING.
OIL BURNER.
APPLICATION FILED OCT. 20, 1912.

Patented May 20, 1913.

2 SHEETS—SHEET 1.

1,062,383.

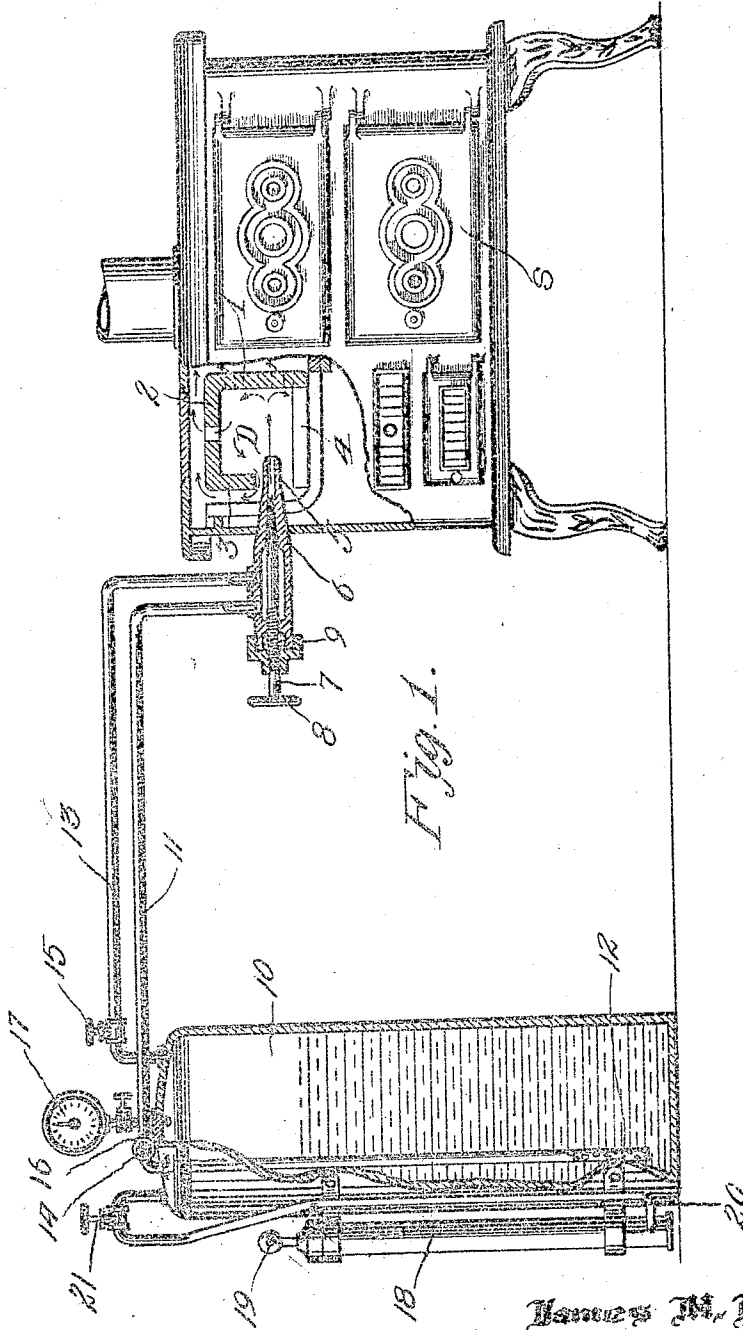


Fig. 1.

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Witnesses
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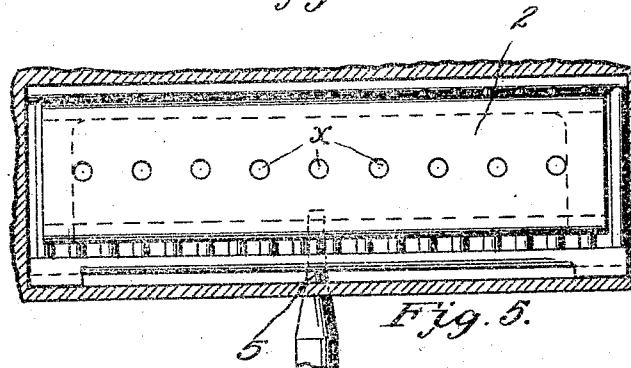
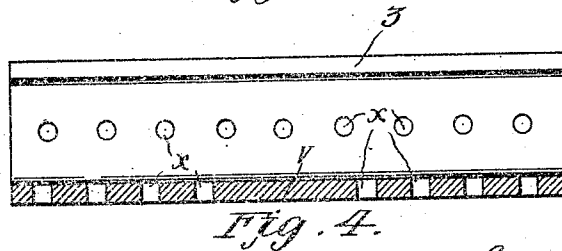
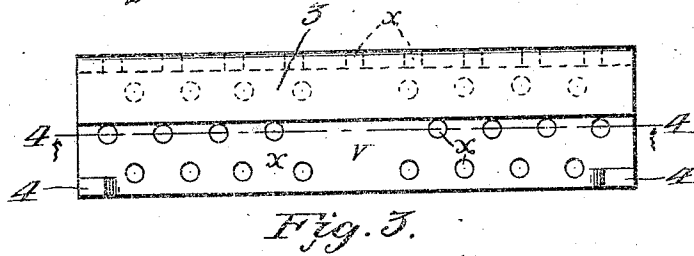
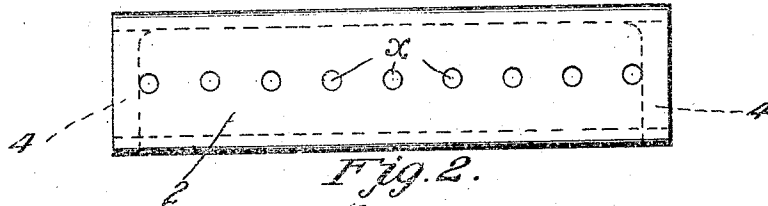
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OIL BURNER.
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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OIL-BURNER.

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To all whom it may concern:

Be it known that I, JAMES H. BOWLING, a citizen of the United States, and a resident of Russellville, in the county of Logan and State of Kentucky, have invented certain new and useful Improvements in Oil-Burners, reference being had to the accompanying drawings.

This invention has relation to certain new and useful improvements in liquid fuel burners employed in connection with cooking and heating stoves, and includes a heat distributing member employed in connection with a properly supplied liquid fuel burner, from which the flame is directed into the retainer; and the primary object of my invention is to provide a cooking or heating stove of conventional construction, with a liquid fuel burning attachment which can be readily placed in position or removed and which is of a simple and inexpensive nature and of a compact and durable construction.

Another object is to provide a liquid fuel burning stove which has a heat distributor which will insure the heat being evenly distributed, and which is so constructed that the attachment can be placed within the fire box of an ordinary cooking or heating stove with ease, accuracy and despatch.

With these and other objects in view, the present invention consists in the combination and arrangement of parts as will be hereinafter more fully described and finally pointed out in the appended claim, it being further understood that changes in the specific structure shown and described may be made within the scope of the claim, without departing from the spirit of the invention.

In the accompanying drawings forming a part of this specification and in which like characters of reference indicate similar parts in the several views: Figure 1, shows a side elevational view of an ordinary cooking stove provided with a liquid fuel burning attachment embodying my invention. Fig. 2, shows a top view of the heat distributor. Fig. 3, shows a front view of the heat distributor. Fig. 4, shows a view on line 4, 4, of Fig. 3. Fig. 5, shows a detail disclosing the heat distributor within the fire box of a suitable stove.

In certain localities, liquid fuel can be bought, comparatively cheaper than coal or wood and in my present invention I provide a liquid fuel burning outfit including

a heat distributor, a burner and a fuel supply tank arranged to be used in connection with this distributor.

In Fig. 1, the letter S, designates a coal burning stove of conventional construction provided with a liquid fuel burner constructed according to my invention. Removably held within the fire box of the stove is the heat distributor D made of fire clay, metal or any other suitable heat retaining material. As shown this heat distributor is in the form of a three sided box including the perforated back 1, having an imperforate central portion *v*, shown in Figs. 3 and 4; the perforate top 2, and the imperforate front section 3. This section is of a width approximately half the width of the back 1, and is held in parallel spaced relation to said back. Extending from the back 1 and located at the lower corners thereof, are the two bottom brackets 4, 4, which extend parallel with the top 2, and end in alinement with the forward face of the front section 3. As shown in Fig. 1, this heat retainer is open at its ends and is of such a size as to fit into the fire box of a stove of conventional construction. For each different size of a fire box I provide a heat distributor of proper size. This heat distributor is of such a size that there is a space between the back, and the front 3, and the fire box of the stove, so that there will be free circulation of heat between the distributor and the top, front and back of the fire box. Through the grate of the stove and emptying against the imperforate back section *v*, of the heat distributor, is the nozzle 5, of a suitable burner 6, the opening of which is controlled by means of a pin valve 7, operated by means of the hand wheel 8. A cap 9, of conventional construction is used. The burner is partly directed into the heat distributor as is shown in Fig. 1.

In connection with the burner, I employ a tank 10, containing a suitable liquid fuel from which extends the oil supply pipe 11, having its lower end 12, perforated and ending near the bottom of the tank as shown in Fig. 1. This supply pipe 11 is threaded and leads into the burner 6. Extending from the breast or upper portion of the tank 10, is the air supply tube 13 which is also led into the burner at a point preferably in front of the oil supply pipe 11 as shown in Fig. 1. The oil pipe 11 is provided with a

controlling valve 14, while the air supply tube has the controlling valve 15. This tank 10 is provided with a suitable plug 16 so that the tank can be conveniently filled.

5 In addition I provide a pressure gage 17. Secured to this tank 10 is an air pump 18 having the operating handle 19 and extending from the pump is the tube 20 entering through the breast of the tank 10. This
10 pump tube 20 is provided with the controlling valve 21.

Now the operation of my device is very simple. The burner having been properly located between the grate and relative to
15 the heat retainer and the fuel having been placed within the tank, the pump 18 is actuated so that sufficient pressure is obtained within the tank. The valves 15 and 14 are then opened and the pin valve 7 is adjusted
20 so as to permit the escape of a suitable amount of fuel. A match is then applied to the burner to create a blaze. The blaze strikes against the imperforated back of the heat retainer and is deflected thereby. In
25 view of the draft furnished through the air pressure and by virtue of the natural draft of the stove the products of combustion will escape through the perforations within the top and back as well as below the
30 imperforate front to be evenly distributed entirely throughout the fire box. The heat retainer, is, of course, also heated and thereby serves to uniformly hold the heat. The arrows in Fig. 1, disclose the passage of the
35 products of combustion.

While I have shown but one burner it is

of course understood that the stove could be provided with a plurality of burners. So also while the tank is placed in front of the stove the same could be placed at any other
40 convenient or suitable point. According to my arrangement the heat is evenly distributed within the fire box so that the same will pass through the stove exactly as would be the case where a wood or coal fire is employed, with the exception that in connection with my liquid fuel burner the heat
45 can be accurately controlled and is more evenly distributed.

Liquid fuel burners embodying my invention are made in different sizes. The device is simple and inexpensive in construction, both durable and efficient in operation.

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

A heat distributor of suitable heat retaining material as fire clay, comprising a three sided member including a perforated back having an imperforate central portion, a
55 perforated top, an imperforate front section of half the width of said back section and two bottom brackets extending from said back parallel with said top, as and for the purpose set forth.

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

JAMES H. BOWLING.

Witnesses:

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W. F. NEILL.