

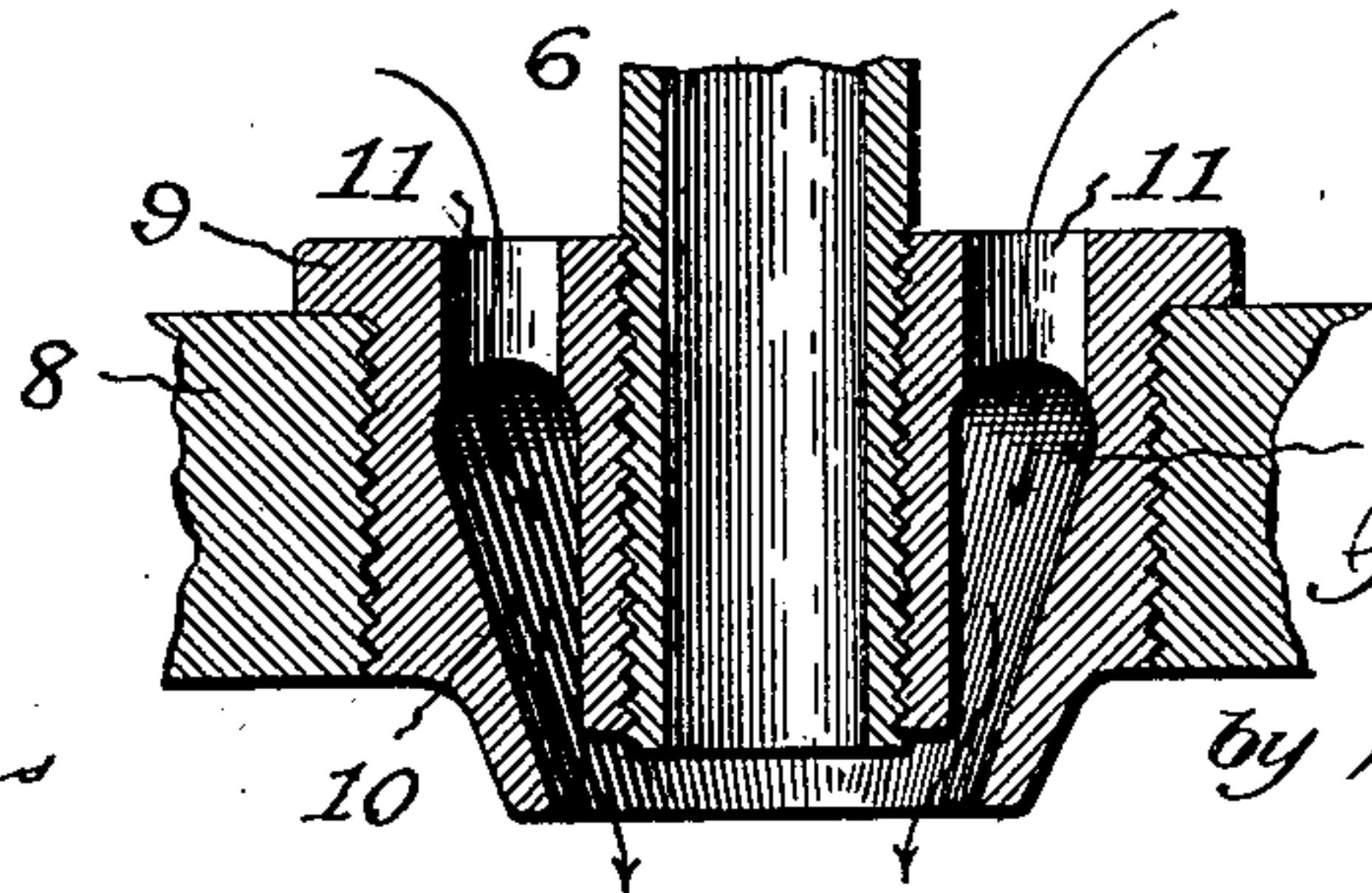
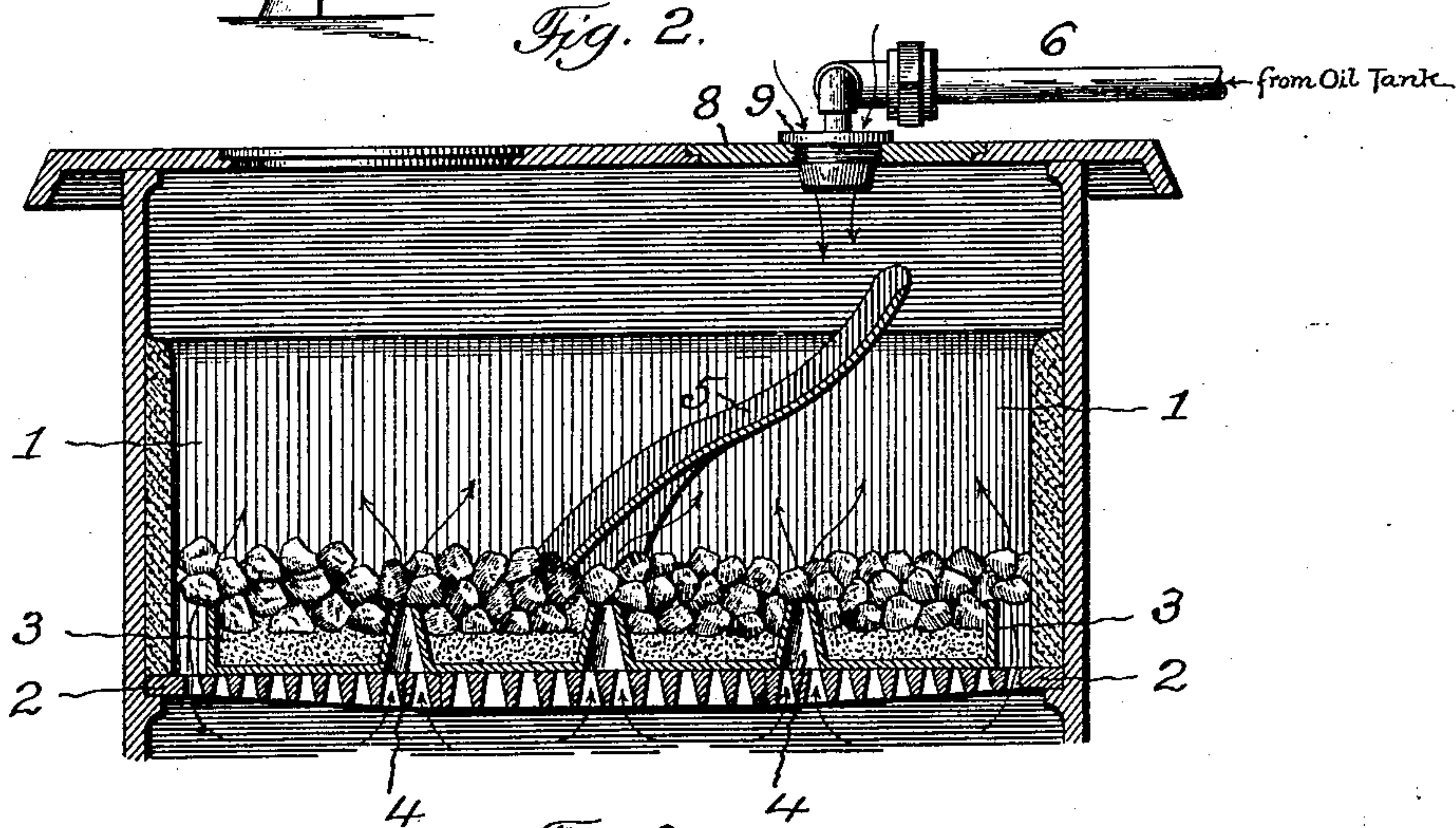
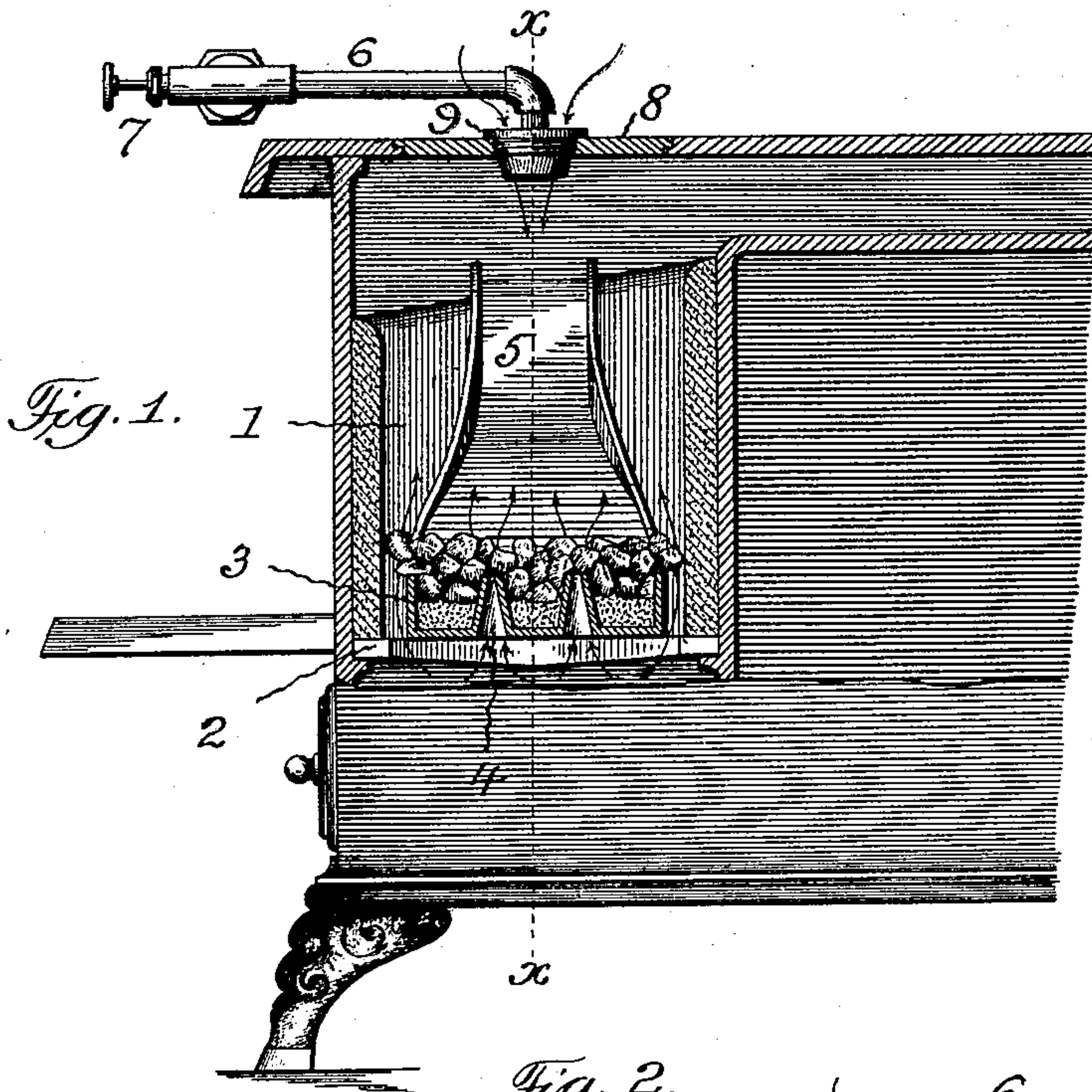
No. 731,078.

PATENTED JUNE 16, 1903.

R. G. SPEER.
OIL BURNER.

APPLICATION FILED FEB. 24, 1902.

NO MODEL.



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UNITED STATES PATENT OFFICE.

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TO JOHN W. GRINSELL, OF ST. LOUIS, MISSOURI.

OIL-BURNER.

SPECIFICATION forming part of Letters Patent No. 731,078, dated June 16, 1903.

Application filed February 24, 1902. Serial No. 95,240. (No model.)

To all whom it may concern:

Be it known that I, ROBERT G. SPEER, a citizen of the United States of America, and a resident of St. Louis, State of Missouri, have
5 invented certain new and useful Improvements in Oil-Burners, of which the following is a specification.

The present invention relates to that type of oil-burners in which the hydrocarbon-oil
10 is fed in a gradual manner into a pan arranged within the fire-chamber of a cooking-range or the like to be consumed therein; and the present improvement has for its object to provide a simple and efficient construction of
15 parts in which the combustion of the oil is attained in a safe and effective manner and the clogging up of the inlet-pipe as well as local combustion at the outlet-orifice of such inlet-pipe are avoided, all as will hereinafter
20 more fully appear, and be more particularly pointed out in the claims.

In the accompanying drawings, illustrative of the present invention, Figure 1 is a fragmentary longitudinal sectional elevation of
25 an ordinary cooking-range, illustrating the general arrangement of the present invention; Fig. 2, a transverse section at line *x x*, Fig. 1; Fig. 3, an enlarged detail section of the combined oil and air inlet bushing or nozzle of the present invention.
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Similar numerals of reference indicate like parts in the different views.

Referring to the drawings, 1 represents the fire box or chamber of stove or range of any
35 usual construction; 2, the usual grate-bars, which in the construction shown in the drawings constitute the support for the pan-burner of the present invention; 3, an open-topped pan or vessel resting upon the fire-grate 2 and
40 adapted to contain a loose filling of sand, fire-brick fragments, or analogous material, as usual in the present type of oil-burners, and which pan is preferably of a size smaller than the fire or combustion chamber 1, so that air-
45 passages are formed at the sides of the pan, as shown in the drawings, through which the supply of air required in the process of combustion will pass up from the ash-pit of the range into the combustion-chamber for such
50 purpose; 4, a series of supplementary air-passages formed by a series of tubular nip-

ples attached to the bottom of the pan 3 and adapted to afford an additional supply of air for use in the combustion of the fuel and by their arrangement intermediate the length 55 and width of the pan are adapted to afford a more efficient introduction of the air-supply into intimate relation with the burning fuel than would be the case were dependence
60 placed wholly upon the side passages heretofore described; 5, an inclined chute extending from the central portion of the pan to one side of the pan 3 to a point adjacent to one end of such pan and which chute is provided
65 with marginal flanges, as shown, or other like provisions, so as to be adapted to receive the oil from the oil-supply pipe, arranged as hereinafter described, and conduct the same to the center of the pan and from which point
70 the oil is adapted to evenly distribute itself by gravity to all parts of the pan and the loose filling of the same to effect a uniform combustion throughout the combustion-chamber.

6 is the oil-supply or inlet pipe, provided 75 with the usual controlling-valve 7 and connected in any usual manner to the storage-tank, from which the supply of oil used with the present burner is taken.

8 is a lid fitting one of the pot-holes in the top 80 wall or deck of the range and to which the outlet end of the oil-supply pipe 6 is connected. As so arranged an application and a subsequent removal of the present invention to a range or stove is rendered very easy and convenient, the lid 8 taking the place of an ordinary stove-lid in the one case and vice versa in the other case, and in consequence a range can be changed from a coal-burner to an oil-burner and back again to a coal-burner when so desired in a rapid, convenient, and inexpensive manner.
85

9 is a bushing, which in the preferred form of the present invention constitutes the connection between the lid 8 and the end of oil- 95 supply tube 6, and to such end the said bushing will have a central screw-threaded bore, into which the end of such pipe is screwed, and the periphery of the bushing will be screw-threaded and in turn screwed into a screw-threaded orifice in the lid 8, as illustrated in Fig. 3. 100

10 is an annular chamber formed in the bushing 9, concentric with the bore thereof which receives the inlet-pipe 6, as above described. At its top such chamber communicates with a series of passages 11, extending through the top portion of the bushing, while its lower end is open. With such construction the natural draft of the range, &c., is adapted to cause an inward or downward flow of air through the chamber 10 and which air discharging as an annular jet around the oil dropping from the inlet-pipe 6 onto the chute 5 is adapted in a very perfect manner to prevent a local combustion immediately at the point of exit of the oil from said pipe and the consequent clogging of the same by the formation at such point of a carbonaceous cake, which will occur where some provision like the present is not provided.

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

1. A range or stove comprising a combustion-chamber, a usual coal-supporting grate, a lid adapted to fit a pot-opening of the range or stove, an oil-supply pipe attached to said lid, an oil-burning pan fitted to extend over and rest upon the coal-supporting grate, and a laterally-deflecting open chute or conduit extending continuously from substantially the central portion of the oil-burning pan to a point above and to one side thereof beneath the oil-supply pipe to distribute the oil evenly over the oil-burning pan and effect a uniform combustion throughout the combustion-chamber.

2. A range or stove comprising a combustion-chamber, a usual coal-supporting grate, a lid adapted to fit a pot-opening of the range or stove, an oil-supply pipe attached to said lid, an oil-burning pan fitted to extend over and rest upon the coal-supporting grate and

having a series of tubular nipples attached to the bottom of the pan and constituting supplemental air-passages, and a laterally-deflecting open chute or conduit extending from substantially the central portion of the oil-burning pan continuously to a point above and to one side thereof beneath the oil-supply pipe to distribute the oil evenly over the oil-burning pan and effect a uniform combustion throughout the combustion-chamber.

3. An oil-burner for ranges and the like, comprising in combination, a lid adapted to fit a pot-opening of the range, an oil-supply pipe centrally attached to said lid, the lid being provided with a series of orifices surrounding the centrally-disposed supply-pipe, an oil-burning pan detached from and arranged beneath said oil-supply pipe, and a laterally-deflected open chute arranged intermediate of the oil-supply pipe and the pan-burner and extending to the latter, substantially as set forth.

4. An oil-burner for ranges and the like, comprising in combination, a lid adapted to fit a pot-opening of the range, an oil-supply pipe, an intermediate bushing forming a connection between the supply-pipe and the lid and provided with a centrally-disposed oil-supply pipe and an annular chamber and a series of orifices surrounding the supply-pipe, an oil-burning pan detached from and arranged beneath the oil-supply pipe within the combustion-chamber, and an open chute wholly within the combustion-chamber and extending from the oil-burning pan to a point beneath the lid, substantially as set forth.

Signed at St. Louis, Missouri, this 19th day of February, 1902.

ROBERT G. SPEER.

Witnesses:

BLANCHE E. HICKS,
ANNA G. CARR.