

UNITED STATES PATENT OFFICE.

HOSEA W. LIBBEY, OF BOSTON, MASSACHUSETTS.

STOVE AND BURNER FOR HYDROCARBON OILS.

SPECIFICATION forming part of Letters Patent No. 467,608, dated January 26, 1892.

Application filed August 29, 1887. Serial No. 248,121. (No model.)

To all whom it may concern:

Be it known that I, HOSEA W. LIBBEY, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Stoves and Burners for Hydrocarbon Oils, of which the following is a specification.

My invention relates to stoves and burners for burning hydrocarbon oils; and it consists in the construction and combination of parts of the same whereby the oil is heated within the water-tank of the stove, and the top of the stove is formed in sections hinged to the sides, so that the burner may be conveniently removed from the stove and replaced therein, the connection of the burner with the supply passing down between two of said sections, as will be hereinafter more fully set forth.

Referring to the accompanying drawings, Figure 1 represents the top of a stove embodying my invention. Fig. 2 is a vertical section taken on line *xx* of Fig. 1. Fig. 3 is a view of a modified form of burner, the oil-tank, and connections.

A represents a stove. B is an oil tank or receiver. This tank I prefer to place in a tank or reservoir C on the rear end of the stove. The oil-tank B is connected to the burners E by pipes D.

In Figs. 1 and 2 the burners consist of pipes bent to the form shown and perforated in that part that comes under the covers G. A stop-cock H is provided in the pipe D close to the oil-tank B, and each of the pipes E is fitted with a stop-cock or valve I with long rods or handles J, so that the flow of oil to the burners can be regulated from the outside of the stove. The oil-tank is provided with legs or supports, so that the water in the tank or reservoir will entirely surround the oil, thereby preventing any danger from explosion, while at the same time the hot water in the boiler will heat the oil and cause it to be more readily vaporized when it passes to the burners E E, thereby producing almost perfect combustion.

b is a screw-cap for filling the oil-receiver B.

In the drawings I have shown only two series of burners E E; but any desired number may be employed.

In Fig. 3 I have shown the oil-tank B connected by pipes D D to two cylinders N N, perforated on their upper sides or formed with short slots. These cylinders I pack with cotton, wool, asbestos, or other suitable material, so as to take up the oil as it comes from the tank B and convey it to the perforations or slots for consumption.

As it may be desirable at times to remove the burner from the stove, as for repairs or for burning coal or wood, I make the top of the stove in sections L L, which are preferably hinged to the sides of the stove, so that if for any reason it is desirable to raise any or all of the sections it can readily be done by placing an ordinary cover-lifter in the recesses *l* and turning the sections over so as to stand upright. The lids or covers G for the holes in the top should be removed before raising the sections to prevent their falling out.

As it is necessary for the burner to reach all of the holes in the stove, it is made substantially rectangular in outline for a four-holed stove, as shown, and as the pipe for supplying it with fuel passes down through the top of the stove it can be best passed down at the joint between the sections, which in the present instance is located centrally of the stove, as then either of the sections can be raised without interfering with the pipe, and the passage for the pipe can be cheaply and easily made.

Although I have described the burners as applied to cooking-stoves, they are equally applicable to stoves for heating purposes.

What I claim as my invention is—

1. The combination, with a stove provided with a hot-water tank or reservoir, of a series of receptacles within the tank, one of which is provided with a communication through the side of the reservoir and is adapted to contain liquid fuel for the stove and be warmed by the heat thereof, a removable burner within the stove, and a pipe leading from the oil-receptacle to the burner, substantially as described.

2. The combination, with a stove the top of which is in sections, the joint between which is centrally of the stove, of a burner

removably placed within the stove, some portion of which is adapted to be located below each of the openings in the top, a tank for supplying the burner with oil, and a pipe
5 leading from the tank to the burner and passing through the top at the joint between the sections, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HOSEA W. LIBBEY.

Witnesses:

L. W. HOWES,
E. PLANTA.