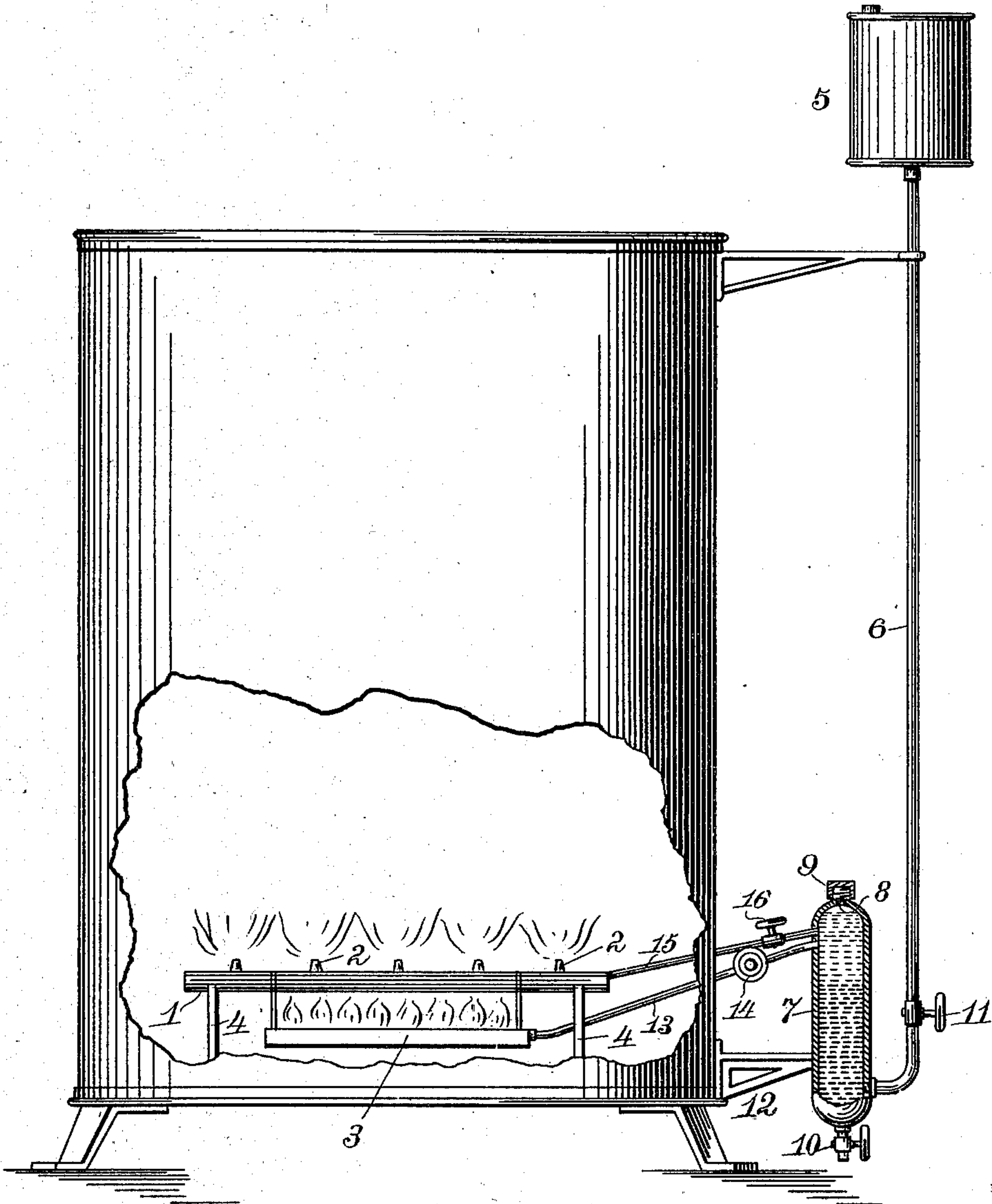


No. 732,937.

PATENTED JULY 7, 1903.

C. B. GRAHAM.
PROCESS OF REFINING OIL.
APPLICATION FILED DEC. 23, 1902.

NO MODEL.



Witnesses:

Alan F. Garner.
A. D. Hendricks

Inventor:

C. B. Graham,
by Jas. H. Vermilya
Attorney.

UNITED STATES PATENT OFFICE.

CHARLES BOOTHROY GRAHAM, OF SOUTH HAVEN, MICHIGAN.

PROCESS OF REFINING OIL.

SPECIFICATION forming part of Letters Patent No. 732,937, dated July 7, 1903.

Application filed December 23, 1902. Serial No. 136,365. (No specimens.)

To all whom it may concern:

Be it known that I, CHARLES BOOTHROY GRAHAM, a citizen of the United States, and a resident of South Haven, county of Van Buren, State of Michigan, have invented a new and useful Improvement in Processes of Purifying Oil, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, making
10 part of this specification.

My invention is an improved process of purifying petroleum to adapt it for use for heating and lighting purposes; and it consists in passing the petroleum through a compound
15 of lime-water, pyrogallie acid, and caustic potash, as hereinafter described and claimed.

The accompanying drawing is a sectional view of a heating-stove provided with a burner and a purifying apparatus adapted for operation in accordance with my improved process.
20

In the apparatus shown there is provided a generator 1, which is tubular or of other suitable form to provide a channel in which oil as it passes is converted by heat to vapor.
25 This generator may in practice be filled with asbestos. It is also provided with a suitable number (one or more) of jet-tips for the escape of the vapor therefrom and to supply vapor to the flame or flames. These jet-tips
30 are indicated at 2.

At a suitable distance below the generator 1 is an initial burner 3, which may be of any suitable construction and in which oil is ignited for initially heating the generator and
35 also for maintaining the generator at such heat as to vaporize oil therein. The generator is here shown as provided with suitable supporting-legs 4, and the initial burner is shown as suspended from and supported by
40 the generator.

A suitable oil-reservoir 5 is supported, as shown, or by other suitable means, in an elevated position. An oil-feed pipe 6 leads from the reservoir to an oil-purifying tank

7, which is provided at its upper side with a suitable opening 8, having a closure 9, here shown as a screw-cap, and has a valved nozzle 10 at its lower side for the discharge of its contents. In the pipe 6 is a valve 11 to regulate the supply of oil to the purifying-tank. Said pipe 6 communicates with the purifying-tank near the lower side of the latter.
50

The purifying-tank is supported by a bracket 12, which projects from one end of the stove. A pipe 13, having a valve 14, leads from the purifying-tank at a suitable distance from its upper end to the initial burner 3 to supply the latter with oil. A pipe 15, having a valve 16, connects the said tank with the generator 1.
55 60

In the purifying-tank is placed a suitable quantity of a cleansing medium, such as lime-water, eighty parts; pyrogallie acid, ten parts, and caustic potash, ten parts. The oil fed from the pipe 6 to the lower portion of the purifying-tank rises through the body of the cleansing compound or cleansing medium therein and becomes freed of sulfurous and other deleterious constituents by the action thereof before reaching the burner, and hence the oil is caused to burn freely without smoke, without odor, and to produce a clear flame of great heating and illuminating power.
65 70

Having thus described my invention, I claim—
75

The herein-described process of purifying oil, consisting in passing the same through a compound of lime-water, pyrogallie acid and caustic potash.
80

In testimony whereof I have set my hand, this 9th day of December, A. D. 1902, in the presence of two attesting witnesses.

CHARLES BOOTHROY GRAHAM.

Witnesses:

A. S. MILLER,
WM. A. BAKER.