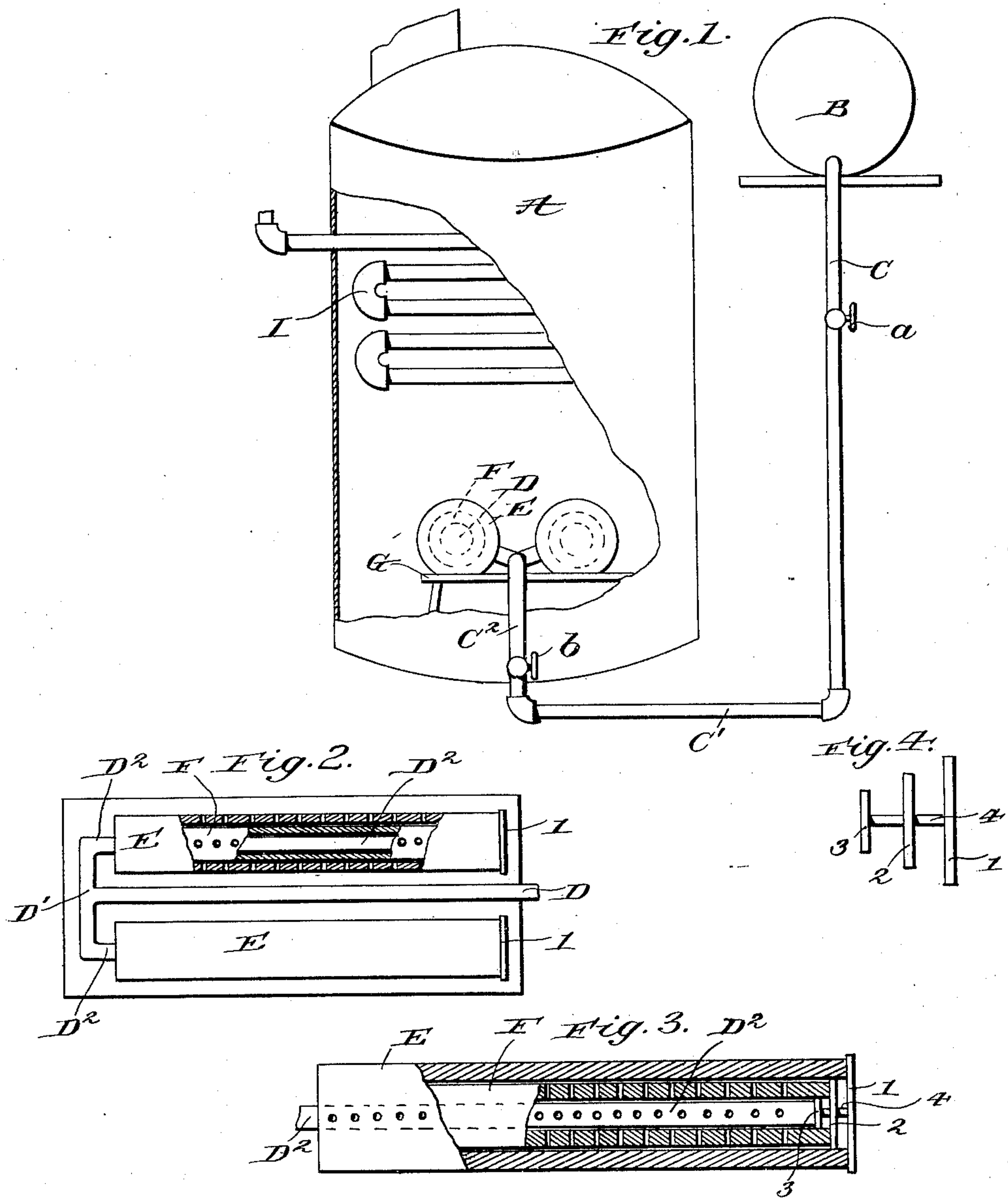


No. 737,760.

PATENTED SEPT. 1, 1903.

A. MOOREFIELD.  
PETROLEUM BURNER.  
APPLICATION FILED AUG. 18, 1902.

NO MODEL.



Witnesses  
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# UNITED STATES PATENT OFFICE.

AL MOOREFIELD, OF STOCKTON, CALIFORNIA.

## PETROLEUM-BURNER.

SPECIFICATION forming part of Letters Patent No. 737,760, dated September 1, 1903.

Application filed August 18, 1902. Serial No. 120,108. (No model.)

*To all whom it may concern:*

Be it known that I, AL MOOREFIELD, a citizen of the United States, residing at Stockton, in the county of San Joaquin and State of California, have invented certain new and useful Improvements in Petroleum-Burners for Furnaces; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and the characters of reference marked thereon, which form a part of this specification.

My invention relates to petroleum-burners, and more particularly to that class which are adapted to be used in furnaces and stoves, wherein combustion is produced by direct application of the flame to the petroleum fluid.

My object is to furnish a petroleum-burner for furnaces and stoves, whereby the oil may be thoroughly and effectively presented to the flame over a large heating-space as it gradually escapes from the pipes supplying the same. This I accomplish by the use of a burner composed of a series of cylinders arranged side by side and within each other, such cylinders having perforations longitudinally arranged at proper positions, and by the use of the peculiar construction, novel combination, and adaptation of parts hereinafter set forth, and particularly pointed out in the claim hereunto annexed, reference being had to the accompanying drawings for a better comprehension hereof, in which—

Figure 1 is a front elevation of a furnace; the front partly broken out, showing a front end view of my device. Fig. 2 is a plan of my improved petroleum-burner, with a view of the two inner cylinders, partly in section, with certain portions broken off to show the inside cylinders. Fig. 3 is a side elevation of one of the sections of my improved burner, showing the inside cylinders partly in section. Fig. 4 is a side elevation of the caps of the ends of one portion of my improved burner.

Similar characters indicate corresponding parts in the several views.

The tank B for the reception of the petroleum is attached at the top of a vertical feed-pipe C, the oil flowing down from the tank

B through the feed-pipe C into a horizontal pipe C', from thence upward into a vertical pipe C<sup>2</sup>, thence into a horizontal pipe D, which enters a furnace A at or near its bottom and extending rearwardly enters a transverse branch thereof, D', from the ends of which perforated cylinders D<sup>2</sup> enter cylinders F, placed within outside cylinders or shells E, all of which series of cylinders are located directly above a drip or catch pan G. The outside cylinders E are perforated longitudinally on each side. The next inside cylinders F are perforated longitudinally on their tops, and the inside cylinders D<sup>2</sup> are perforated longitudinally on both sides. The front ends of the cylinders E F D<sup>2</sup> are comprehended, respectively, by connected caps 1, 2, and 3, which are connected by a stem 4 and may be simultaneously removed for the purpose of cleansing the cylinders whenever desired. The caps are preferably held on the cylinders by frictional contact. There are slight spaces between the several cylinders in order that the oil may pass therebetween.

The flow of the petroleum from the supply-tank B is controlled by a stop-cock *a* as it passes into the pipes C and C' and directly enters the cylinders by stop-cock *b* in the supply-pipe C<sup>2</sup>.

A series of water-pipes I are located within the furnace at a suitable interval above the burner. A pipe or vent H for the escape of smoke and gas is located at the top of the furnace A.

The mode of operating my device is as follows: The petroleum intended for combustion is placed within the tank B and flows downward from the supply-pipes into the two inner cylinders D<sup>2</sup>. Thence it escapes through the perforations into the cylinders F and through those perforations into the outside cylinders E and through the perforations of such and then comes in contact with any initial flame and becomes ignited and combustion thereof ensues. The drip or catch pan G receives any possible surplus fluid which may not immediately be disposed of by the flame. To cleanse the series of cylinders, the caps 1, 2, and 3, located in the front of each, are removed at will. When it is desired to extinguish the fire, the flow of oil from the supply-



pipes C and C' is shut off by means of the stop-cock *b*, and when it is desired to stop the entire flow of oil the same is shut off by means of the stop-cock *a*, which is located immediately below the tank B.

It will readily be seen by the above description that the generating-surface wherein is contained the petroleum fluid is very extensive and yet within a very compact space, and I may here observe that I do not confine myself strictly to the number of cylinders within each other as herein shown; but any number of cylinders as is desired may be comprehended within each other, supplied with suitable perforations. It will also be seen by means of the arrangement of the supply-pipes having the stop-cocks that the amount of petroleum supplied may be adapted to the amount of fire and heat required.

I am well aware that petroleum-burners have been made which comprise a cylinder having perforations, and that feature I do not claim broadly.

What I do claim, and desire to secure by Letters Patent, is—

A petroleum-burner comprising an outer perforated cylinder E, open at one end, a perforated cylinder F of less diameter than the cylinder E, arranged within the cylinder E, and extending from one end thereof to a point within said cylinder E, and adjacent to the opposite, open end thereof, and having an open end, a perforated cylinder D<sup>2</sup> of less diameter than the cylinder F, arranged therein, and having an open end arranged within the said cylinder F and adjacent to the open end thereof, and caps 1, 2, 3, connected by a central stem 4, and removably arranged on the open ends of the cylinders E, F, and D<sup>2</sup>, respectively.

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

AL MOOREFIELD.

Witnesses:

JOSHUA B. WEBSTER,  
CORA SPERRY.