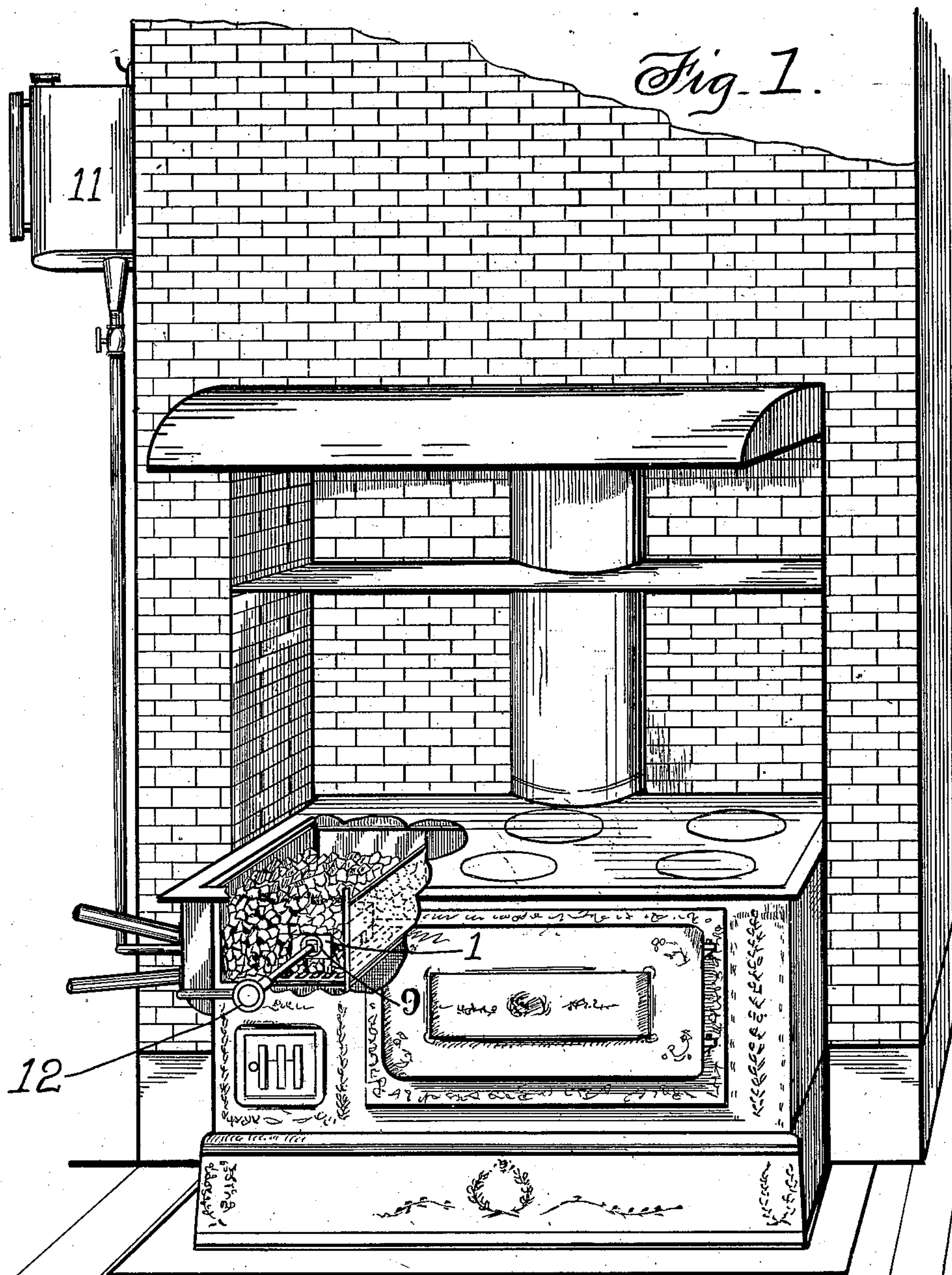


No. 860,192.

PATENTED JULY 16, 1907.

B. CLARKE.  
HYDROCARBON BURNER.  
APPLICATION FILED FEB. 26, 1906.

2 SHEETS—SHEET 1.



WITNESSES.

*F. Liebschutz*  
*Thomas Dorsey*

INVENTOR.

*Brent Clarke*



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2 SHEETS—SHEET 2.

Fig. 2.

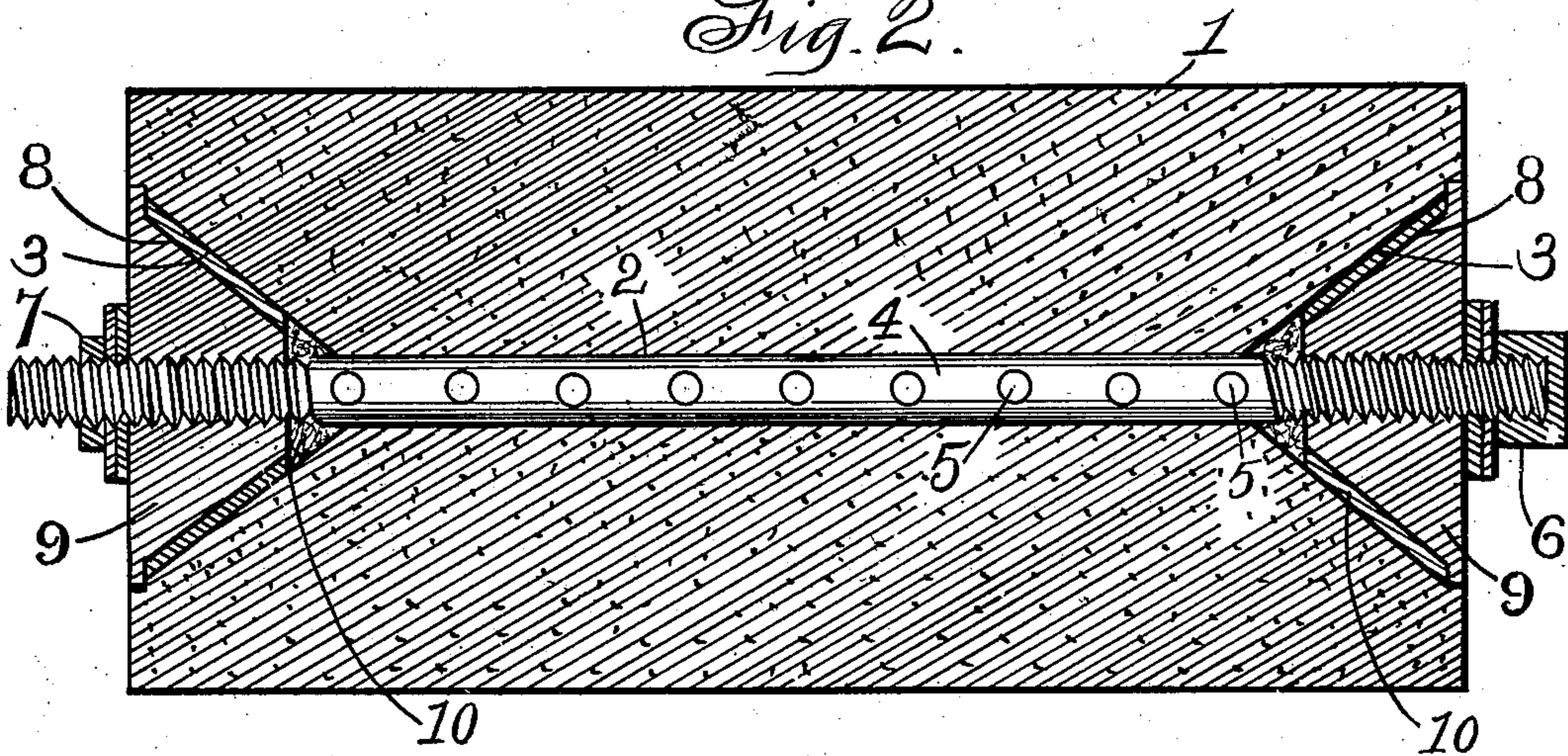


Fig. 3.

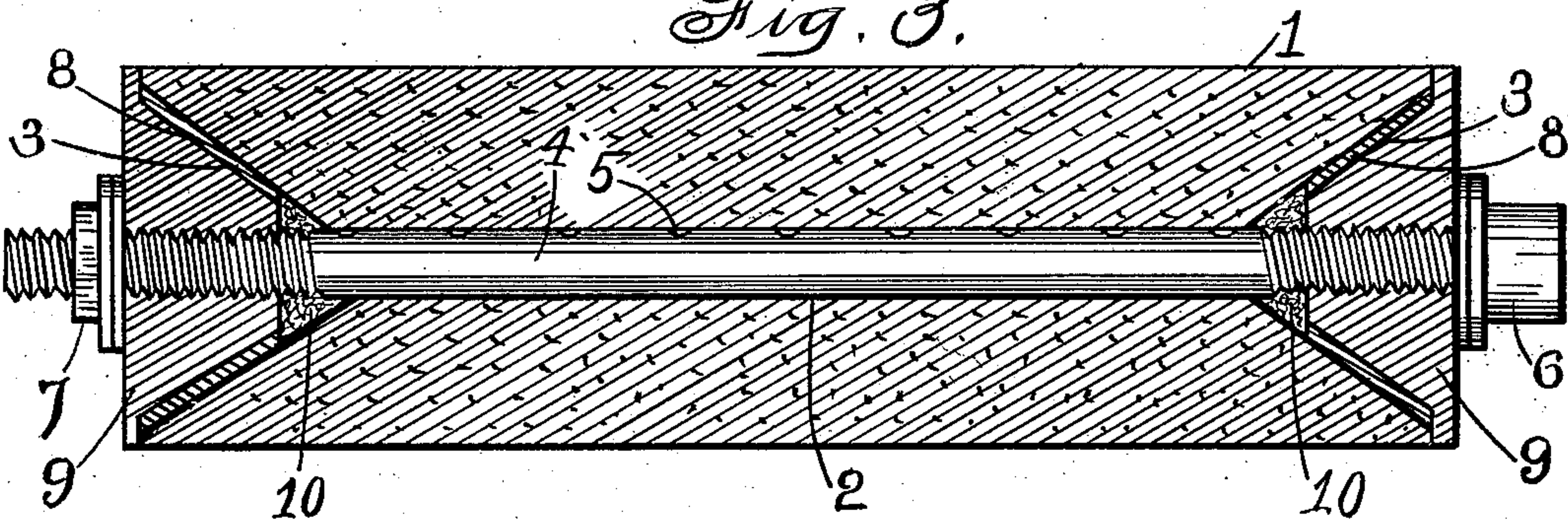


Fig. 4.

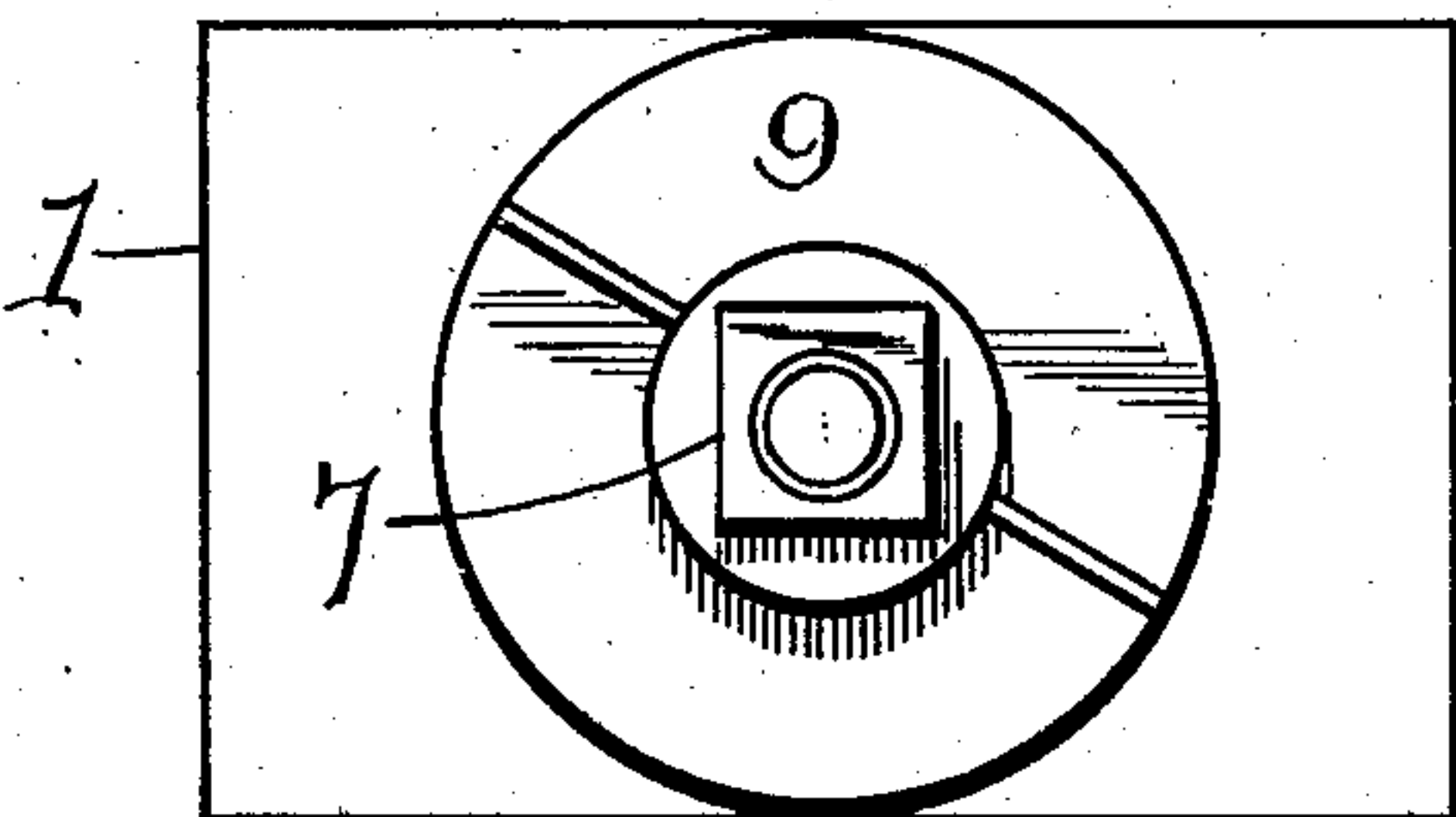
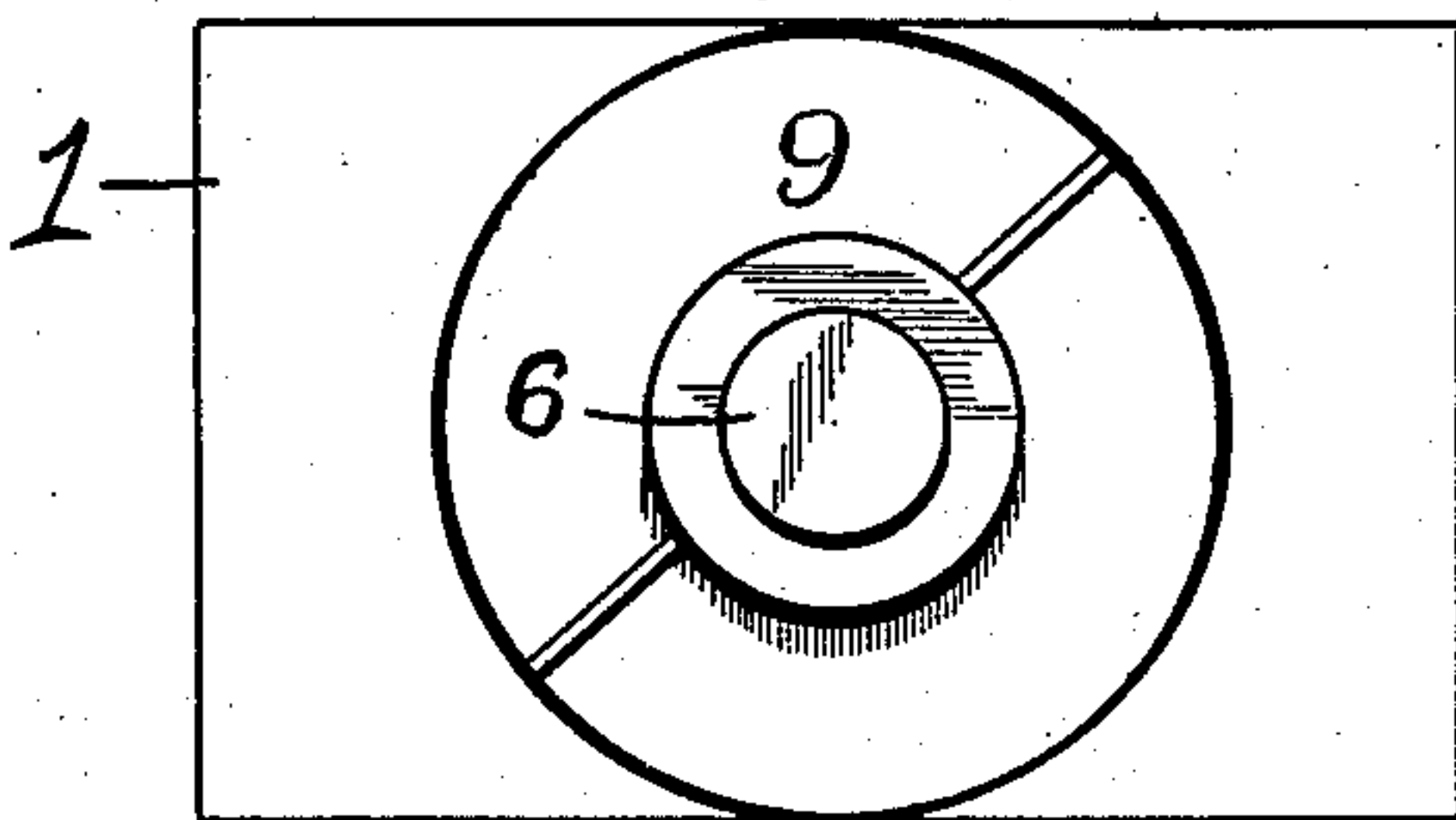


Fig. 5.



Witnesses.

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*Thomas Goss*

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*Brent Clarke*



# UNITED STATES PATENT OFFICE.

BRENT CLARKE, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO INDUSTRIAL ALCOHOL HEAT AND LIGHT COMPANY, A CORPORATION OF SOUTH DAKOTA.

## HYDROCARBON-BURNER.

No. 860,192.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed February 26, 1906. Serial No. 302,937.

*To all whom it may concern:*

Be it known that I, BRENT CLARKE, a citizen of the United States, residing at Washington, in the District of Columbia, have invented new and useful Improvements in Hydrocarbon-Burners, of which the following is a specification.

This invention has relation to hydro-carbon burners, and it consists in the novel construction and arrangement of its parts as hereinafter shown and described.

10 The object of the invention is to provide a hydro-carbon burner designed to be used within heating and cooking stoves, and adapted to burn as a fuel hydro-carbon of the heavier grades.

With this object in view, the burner consists of a 15 porous body, such as brick, into which is lead a perforated pipe. One end of said pipe is closed, and the hydro-carbon is lead into the said pipe at the other end. The said pipe passes entirely through the brick and projects at its ends beyond the ends of the brick. 20 A conical plug is screwed upon the said pipe at each end of the brick, and a conical plate is interposed between each plug and the brick; also a packing of fibrous material, such as asbestos, is located at the inner ends of the plugs. The plug at one end of the brick is held 25 in place by a cap which is screwed upon one end of the pipe, and the plug at the other end of the brick is held in place by a nut which is also screwed upon said pipe. The hydro-carbon is introduced into the said pipe, (which is heated) and is gasified. The resultant 30 gas passes through the pores of the brick to the surface thereof where it is burned.

In the accompanying drawings:—Figure 1 is a perspective view of a stove fitted with the hydro-carbon burner. Fig. 2 is a horizontal sectional view of the 35 brick. Fig. 3 is a vertical sectional view of the brick. Fig. 4 is a view of one end of the brick. Fig. 5 is a view of the other end of the brick.

The burner consists of the porous body or brick 1, which is perforated longitudinally through its middle, 40 as at 2, and is provided at each end with a conical cavity 3. The said brick may be of any desired shape or contour.

The pipe 4 extends longitudinally through the perforation 2 of the brick 1. Said pipe is provided with a 45 number of perforations 5. The ends of the said pipe project beyond the ends of the brick 1, and one end is closed by a cap 6, which is screwed upon the said pipe, and the nut 7, is screwed upon the opposite end of the said pipe.

50 The conical plates 8, 8, are inserted in the cavities 3, 3, and are adapted to bear against the surfaces thereof, but do not rotate. The conical plugs 9, 9, are screwed upon the ends of the pipe 4, and bear against

the plates 8, 8. The fibrous packing 10, 10, (such as asbestos) is located around the pipe 4, at the inner ends 55 of the plugs 9, 9, and is adapted to prevent any of the hydro-carbon from passing through the thread at the ends of the said pipe 4.

The brick 1, is adapted to be placed in the fire box of a stove, as indicated in Fig. 1, of the drawing, and 60 is surrounded by crushed rock as shown. One end of the pipe 4, is connected up with the oil tank 11, which is preferably located in an elevated position, and is provided with a valve 12.

The tank 11, is filled with oil, which passes by the 65 valve 12, into the pipe 4. Heat is applied to the brick 1, and the oil passing through the perforations 5, 5, of the pipe 4, percolates through the pores of the brick 1, and is ignited.

When the brick 1, gets thoroughly heated, the oil 70 as it enters the pipe 4, is gasified, and the resultant gas passes through the pores of the brick, and is burned at the surface thereof.

By reason of the fact that the pipe 4, passes entirely through the said brick and projects at its end beyond 75 the ends thereof, the said pipe becomes heated much quicker than if its ends were not so projected. Thus the processes of gasifying the oil is facilitated.

The burner as herein described may be applied to stoves of any description, and will produce heat suffi- 80 cient for all purposes at a very inexpensive rate, and in a cleanly and satisfactory manner.

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

1. A hydrocarbon burner comprising a solid burner body 85 of porous material provided with an interior bore having enlarged terminals, a hydrocarbon pipe in said bore, and plugs for preventing movement of said pipe, said plugs fitting over the outer edges of said enlarged terminals and provided with extensions projecting into and substantially 90 filling said enlarged terminals.

2. A hydro-carbon burner consisting of a porous body, a perforated pipe leading into said body, a conical plug engaging said pipe at each end of the porous body.

3. A hydro-carbon burner consisting of a porous body, a 95 perforated pipe leading into said body, a conical plug engaging said pipe at each end of the said porous body, and conical plates interposed between said plugs and said body.

4. A hydro-carbon burner consisting of a porous body, a 100 perforated pipe entering into said body, conical plates adapted to slide upon said pipe, conical plugs adapted to rotate upon said pipe and close the ends of said porous body, and bear against said plates.

5. A hydrocarbon burner comprising a porous body provided with a bore having enlarged terminals, a hydrocar- 105 bon pipe located in said bore, fibrous packing located within the enlarged terminals of said bore, and means also within said terminals for holding said packing in position.

6. A hydrocarbon burner comprising a porous body provided with a bore having enlarged terminals, a hydrocar- 110 bon pipe located in said bore, fibrous packing located with-

in the enlarged terminals of said bore, plates also located in said enlargements, and means also within said terminals for holding said plates in position.

5 7. A hydro-carbon burner consisting of a porous body, a perforated pipe entering said body, conical plugs engaging said pipe at each end of the body, conical plates interposed between said plugs and said body, and a fibrous packing located at the ends of the conical plugs.

10 8. A hydrocarbon burner comprising a porous body provided with a bore having enlarged terminals, a hydrocar-

bon pipe located in said bore, fibrous packing located with the enlarged terminals of said bore, and conical plugs also within said enlarged terminals for holding said pipe and packing in position.

In testimony whereof I have signed my name to this 15 specification in the presence of two subscribing witnesses.

BRENT CLARKE.

Witnesses:

GEO. I. COMSTOCK,

PAUL F. GROVE.