

No. 840,292.

PATENTED JAN. 1, 1907.

J. N. BLAIN & O. H. SMITH.

HYDROCARBON BURNER.

APPLICATION FILED NOV. 14, 1905.

FIG. 3.

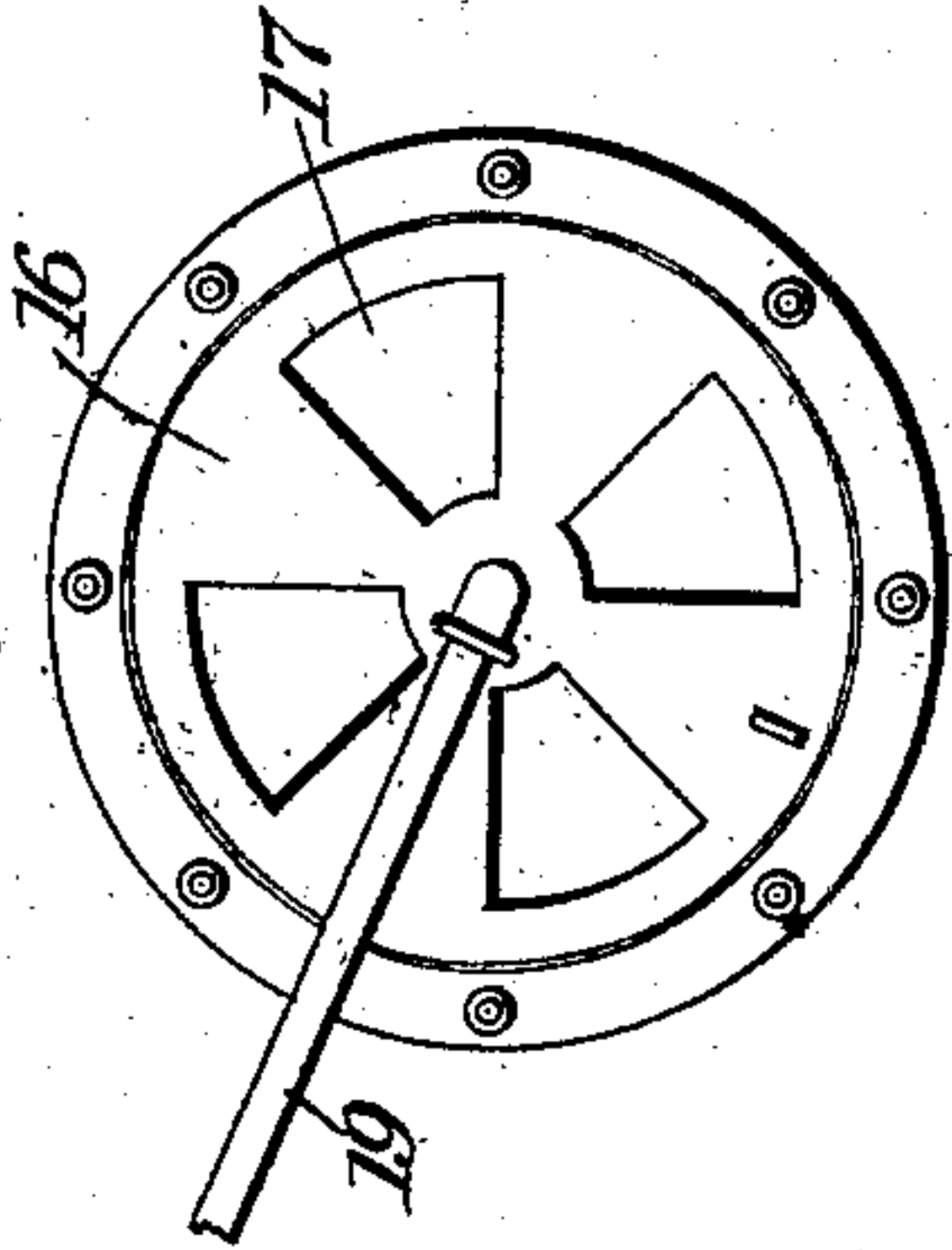


FIG. 5.

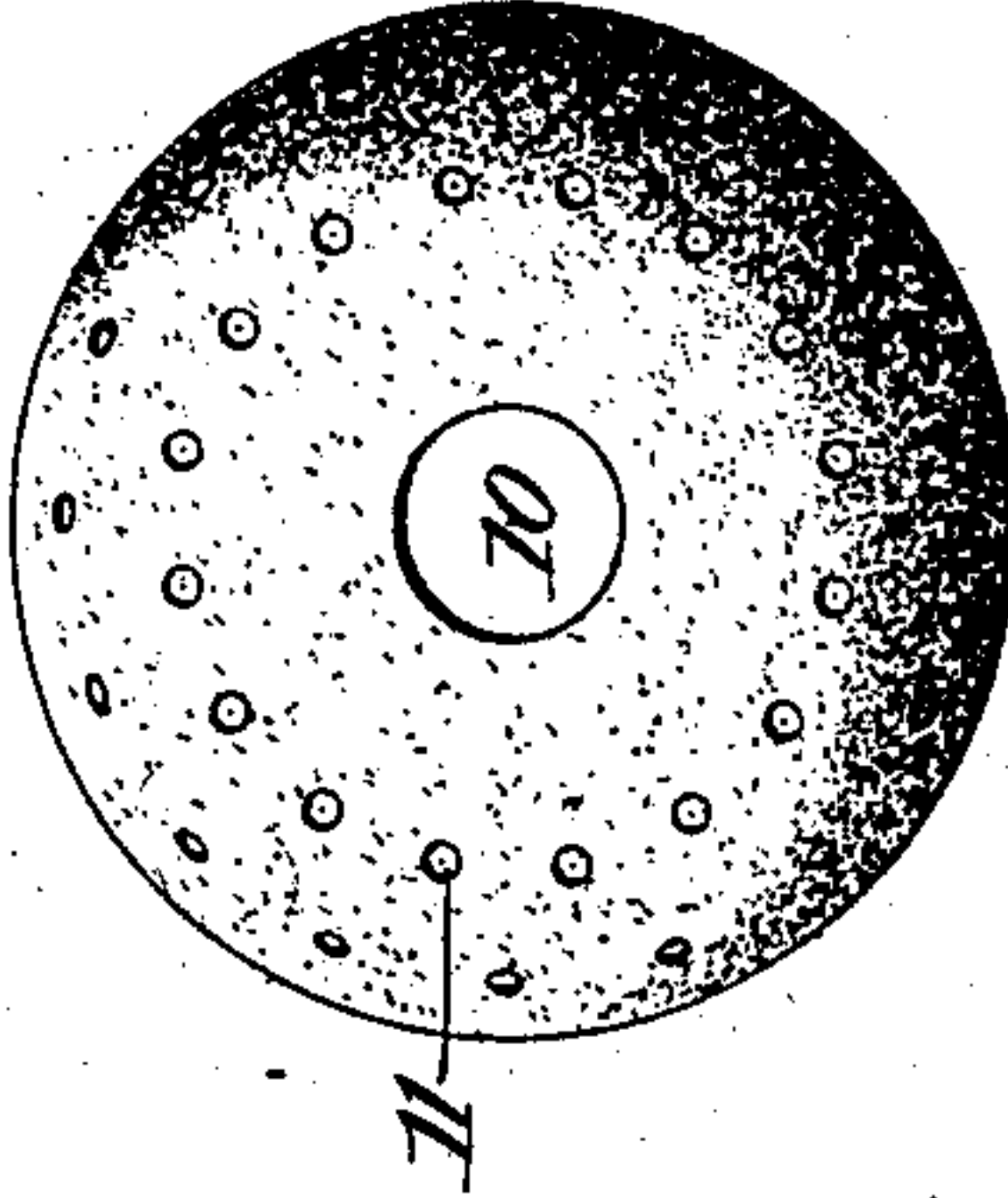


FIG. 4.

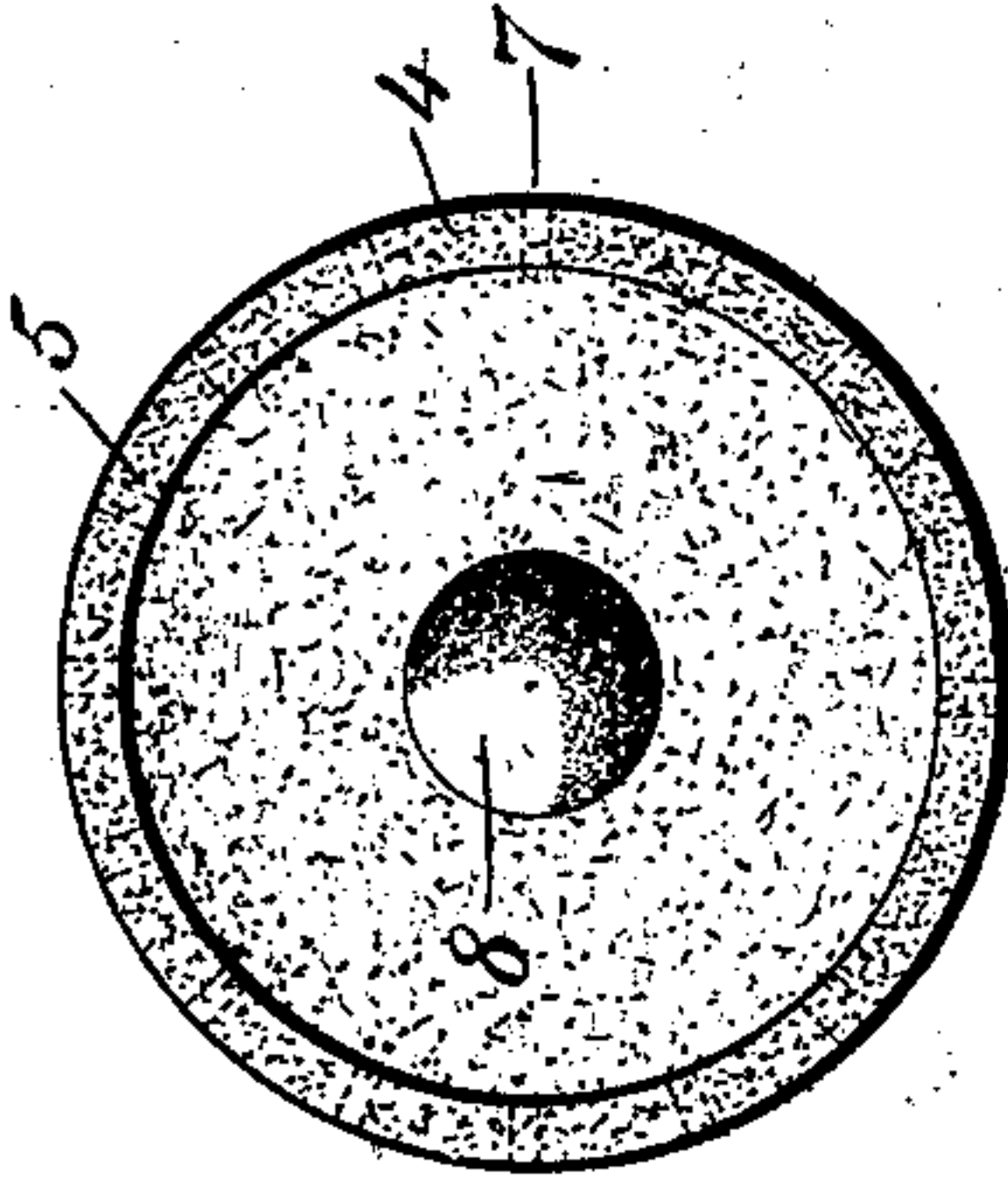


FIG. 1.

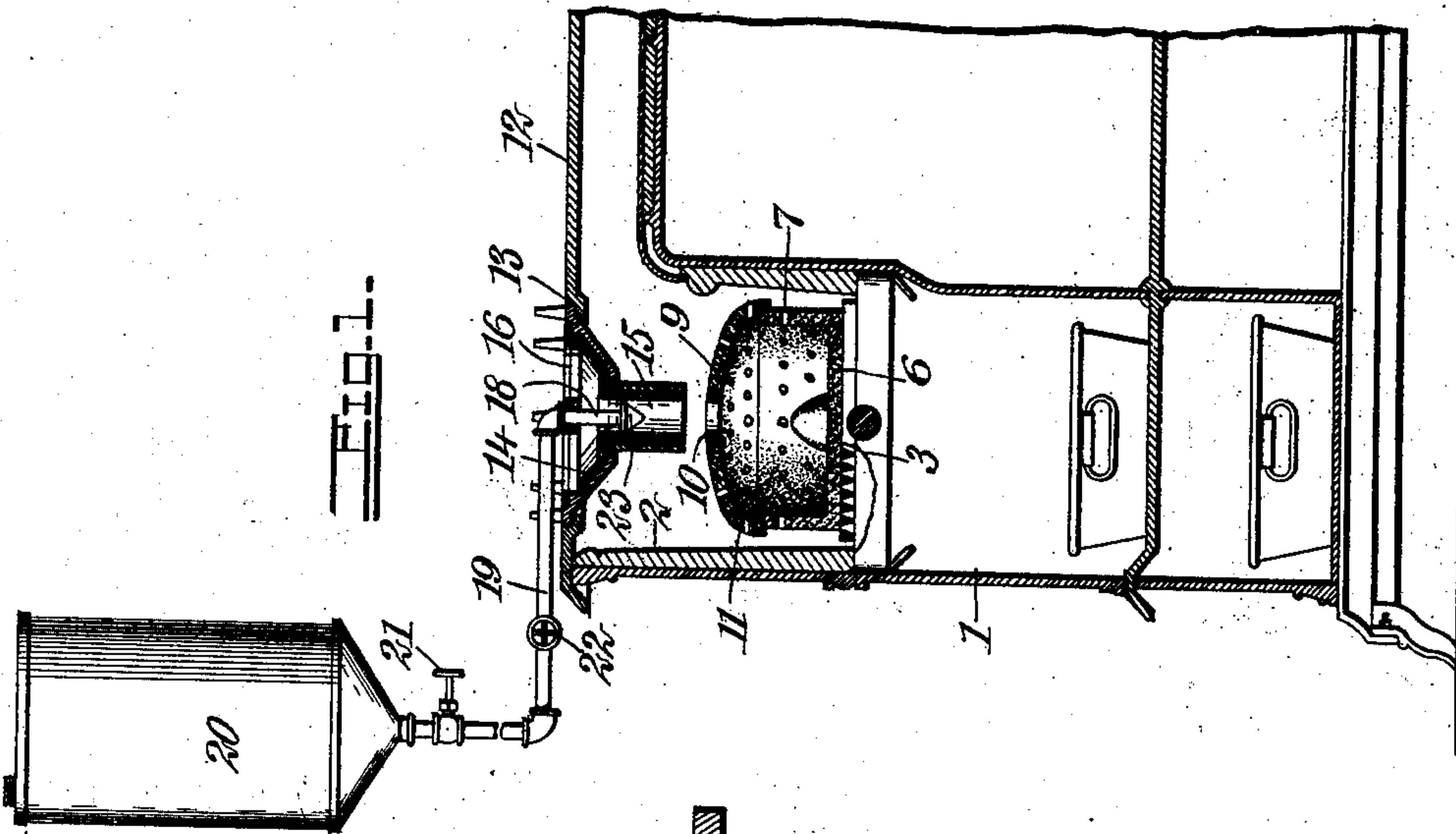
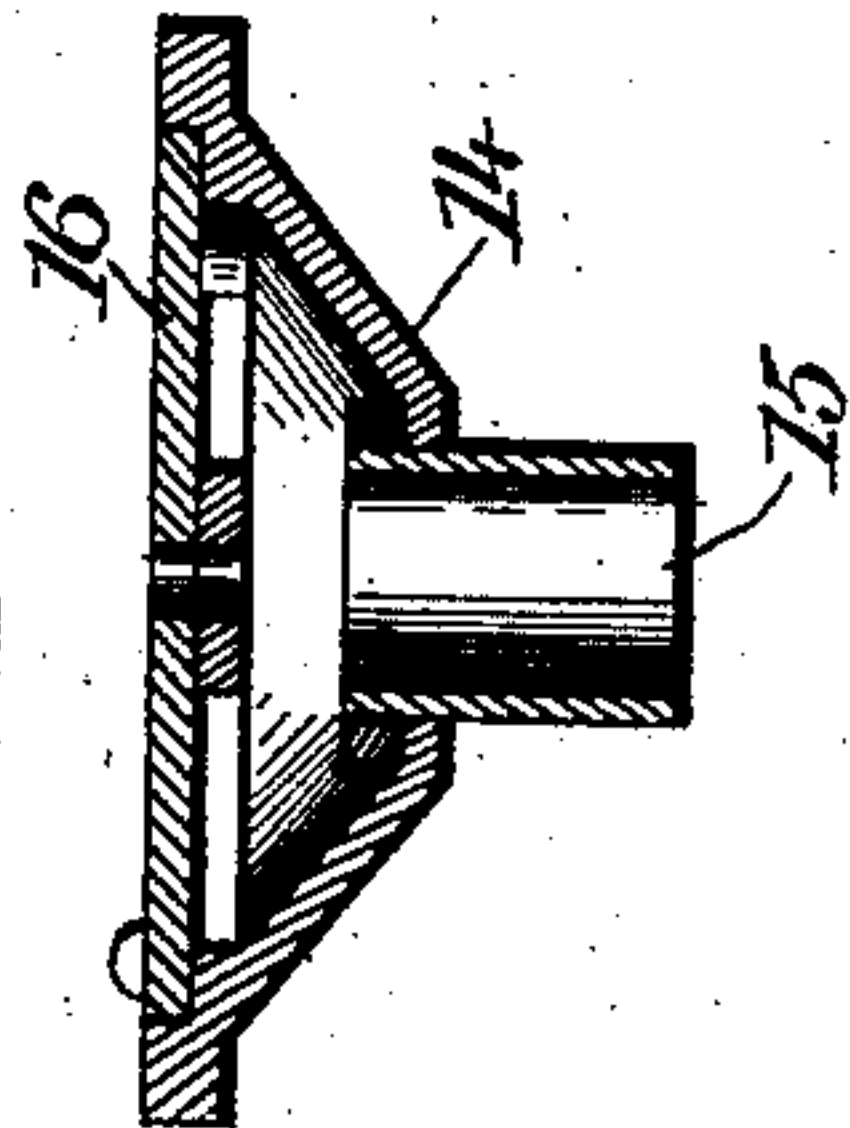


FIG. 2.



WITNESSES:

L. Almqvist
H. A. Quinn

INVENTORS
Joseph N. Blain
Orlin H. Smith
BY *Mumma*
ATTORNEYS

UNITED STATES PATENT OFFICE.

JOSEPH N. BLAIN AND ORLIN H. SMITH, OF OTTAWA, KANSAS.

HYDROCARBON-BURNER.

No. 840,292.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed November 14, 1905. Serial No. 287,255.

To all whom it may concern:

Be it known that we, JOSEPH N. BLAIN and ORLIN H. SMITH, citizens of the United States, and residents of Ottawa, in the county of Franklin and State of Kansas, have invented a new and Improved Hydrocarbon-Burner, of which the following is a full, clear, and exact description.

This invention relates to hydrocarbon-fuel burners.

The object of the invention is to produce a burner of this class which will present efficient means for carbureting the air let into the burner.

A further object of the invention is to construct the fire-pan so as to enable the same to be readily inserted in an ordinary stove or furnace and to provide the same with special means for facilitating the gasifying of the fuel when fed thereto.

The invention consists in the construction and combination of parts to be more fully described hereinafter, and definitely set forth in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical section through a stove to which our burner has been applied. Fig. 2 is a vertical section through a damper and illustrating the means for introducing the fuel and the air to the burner. Fig. 3 is a plan of a damper through which the air and fuel are admitted. Fig. 4 is a plan of the fire-pan, representing the cover thereof as removed; and Fig. 5 is a plan of the fire-pan cover.

Referring more particularly to the parts, 1 represents the body of a stove of any common form, having a fire-pot 2 formed therein above a grate 3.

In applying our invention we set upon the grate a fire-pan 4, which is preferably composed of fire-brick or similar refractory material. This fire-pan is of cylindrical form, provided with a peripheral wall 5, projecting upwardly from the bottom 6, and this wall is provided with a plurality of radial perforations 7.

Centrally disposed in the body of the fire-pan the bottom thereof is provided with a conoid or upward projection 8. The fire-pan comprises a cover 9, which is of inverted-dish form, as shown, and provided with a cen-

tral opening 10. This cover is further provided with a plurality of openings or perforations 11. In the cover 12 of the stove we provide a central opening 13, in which there is placed an air-receiver or basin having a substantially conical body 14, which body projects downwardly into the interior of the fire-pot 2. In the lower portion of this body 14 we provide a tubular member 15, which is preferably centrally disposed, as shown, and located directly above the aforesaid opening 10. This tubular member is preferably formed simply of a short piece of iron pipe set in the position shown. It is open at its upper and lower end, as indicated. The upper side of the receiver 14 is closed by a movable damper 16, which enables the opening 17 to be regulated in a common manner. This damper 16 consists of a circular plate mounted to rotate upon a centrally-disposed vertical pipe connection 18. This pipe connection 18 connects with a feed-pipe 19, which leads from the supply-tank 20, the said feed-pipe including suitable valves 21 and 22 for controlling the supply, as will be readily understood. The pipe connection 18 terminates below in a nozzle 23, which is of substantially conical form, as shown, and disposed at substantially the middle point within the tubular member 15. This tubular member 15, it should be understood, becomes highly heated on account of its position in the fire-pot and operates sufficiently as a carbureter. When the burner is in use, the fuel drips from the nozzle 23 to the opening 10, descending upon the conoid 8. As it falls through the highly-heated air it is gasified, more or less, and that portion of the fuel which drops upon the conoid is scattered in all directions and becomes quickly gasified by the heated walls of the fire-pot. The gas then finds outlet through the openings 7 and 11, at which points ignition takes place.

Having described our invention, we claim as new and desire to secure by Letters Patent—

1. In a liquid-fuel burner, in combination, a fire-pot, a basin adapted to be supported in the upper portion of said fire-pot, a pipe connection passing downwardly through said basin, a damper rotatably mounted on said pipe connection and adapted to regulate the flow of air thereto, a tubular member supported in the lower portion of said basin and depending into said fire-pot, a fire-pan disposed below said tubular member and having

perforations therein, said fire-pot further having an opening in the cover thereof disposed below said pipe connection through which the drip from said pipe connection may pass.

2. In a liquid-fuel burner, in combination, a fire-pot, a basin adapted to be supported in the upper portion of said fire-pot, a pipe connection passing downwardly through said basin, a damper rotatably mounted on said pipe connection and adapted to regulate the flow of air thereto, a tubular member supported in the lower portion of said basin, and depending into said fire-pot, a fire-pan disposed below said tubular member and having perforations therein, said fire-pot further

having an opening in the cover thereof disposed below said pipe connection through which the drip from said pipe connection may pass, said pipe connection being arranged to extend downwardly into the interior of said tubular member, and having a nozzle adapted to drip into said fire-pan.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JOSEPH N. BLAIN.
ORLIN H. SMITH.

Witnesses:

JOHN G. KAISER,
W. H. HORTON.