

No. 707,852.

Patented Aug. 26, 1902.

G. LANE.

IGNITING DEVICE FOR HYDROCARBON BURNERS.

(Application filed Feb. 8, 1902.)

(No Model.)

FIG.1.

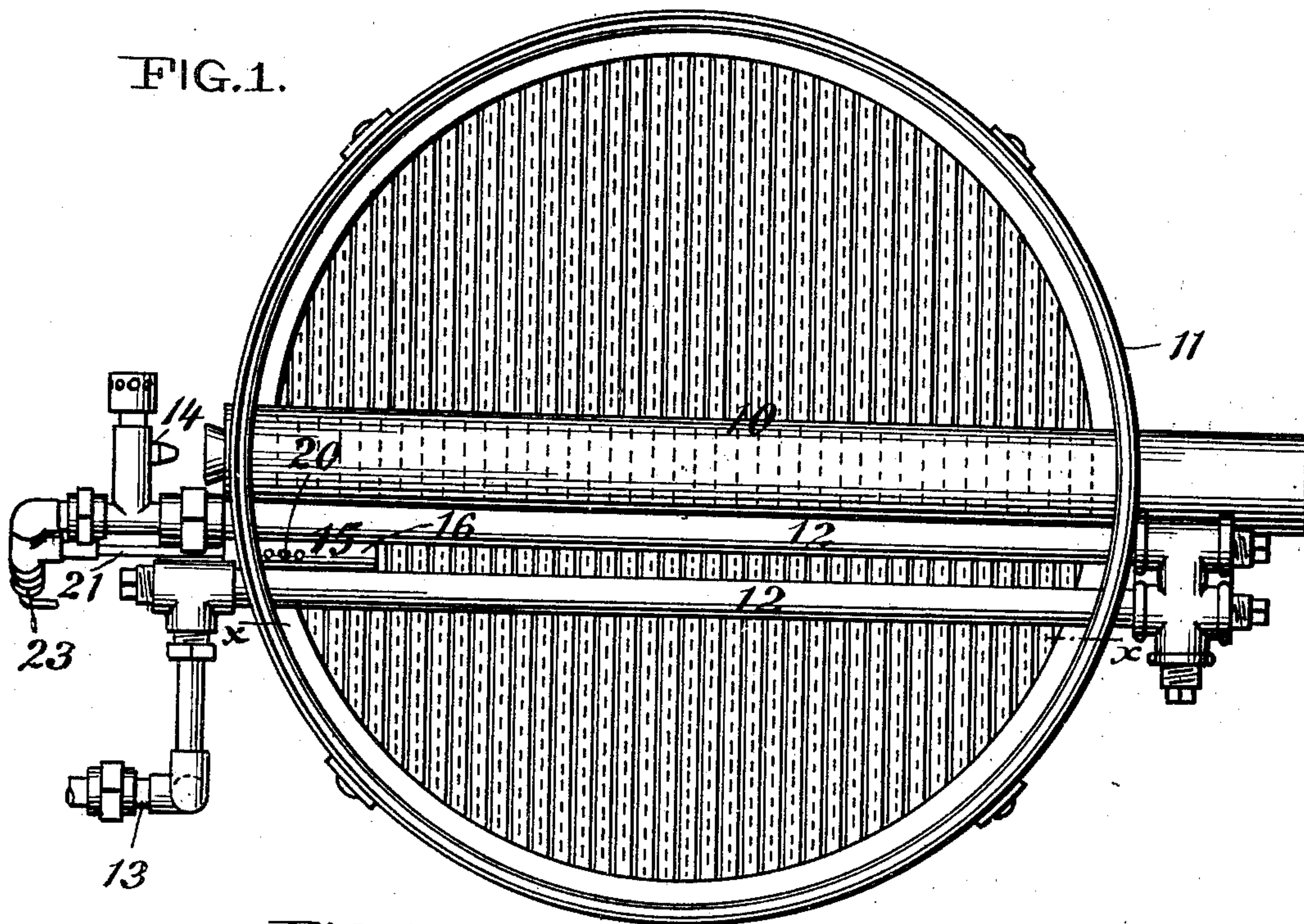


FIG.2.

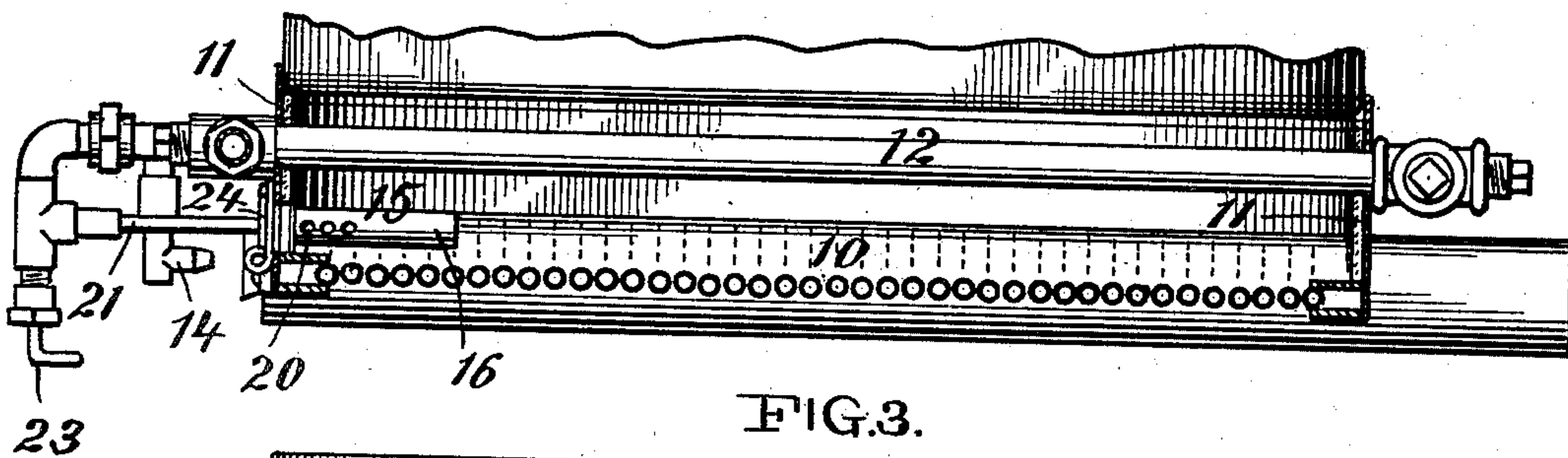


FIG.3.

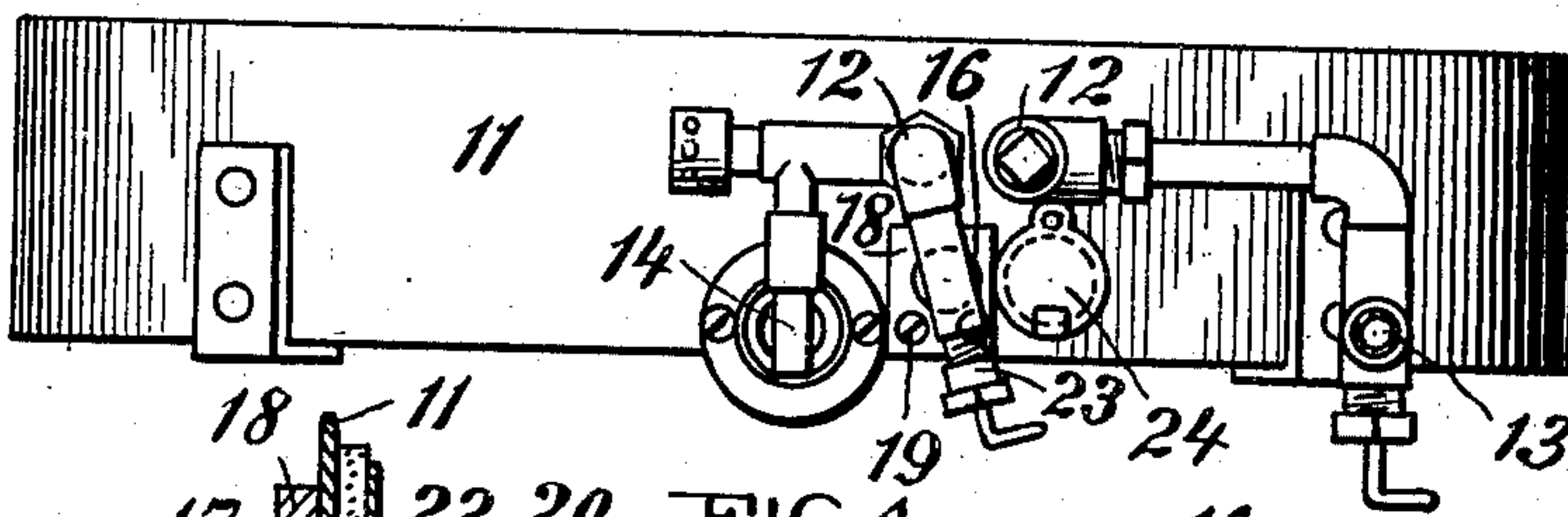
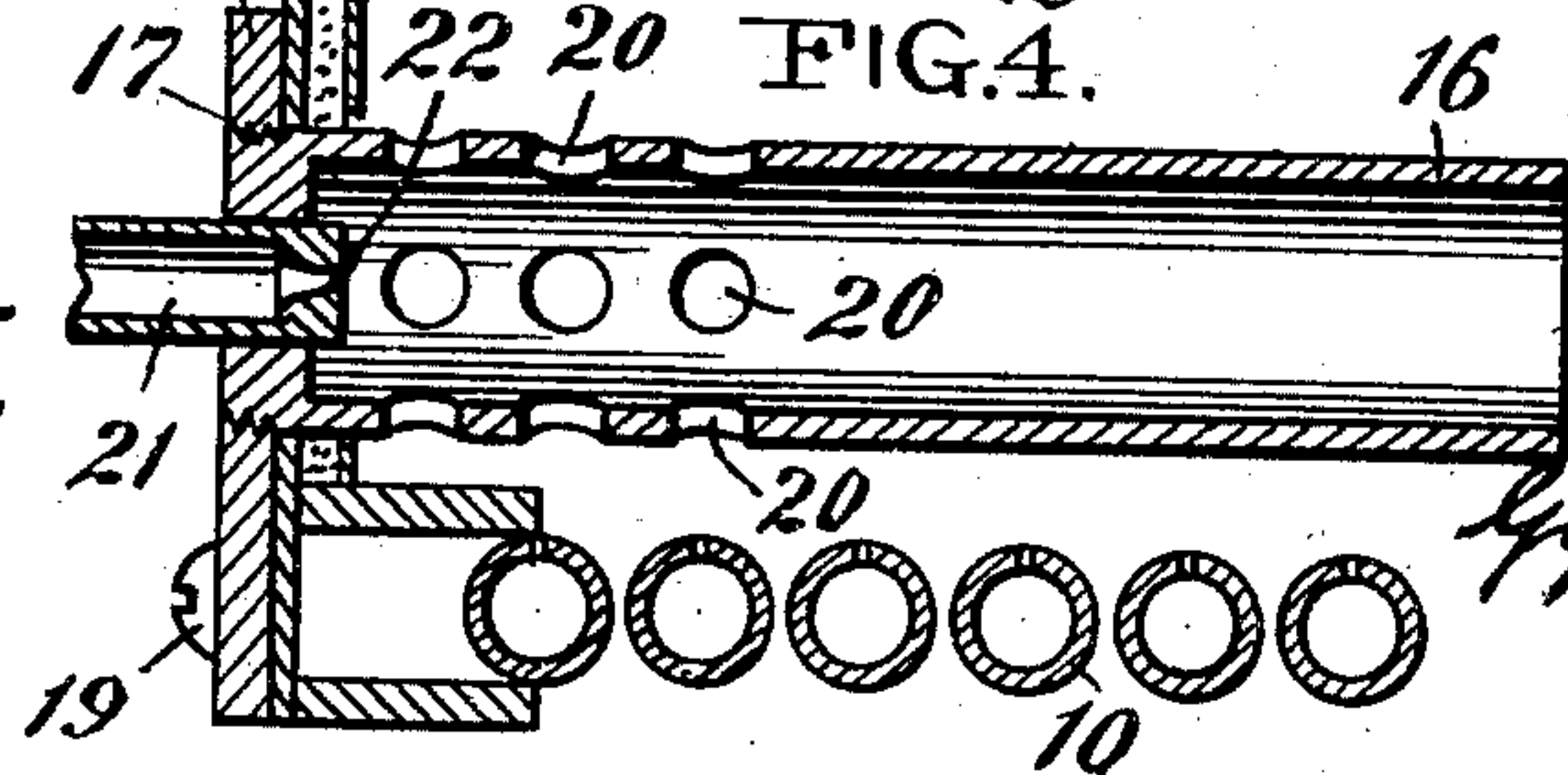


FIG.4.



WITNESSES:

J. E. Pearson
C. E. Stecher.

INVENTOR

G. Lane

BY
W. H. Bayne
ATTORNEY

UNITED STATES PATENT OFFICE.

GEORGE LANE, OF POUGHKEEPSIE, NEW YORK.

IGNITING DEVICE FOR HYDROCARBON-BURNERS.

SPECIFICATION forming part of Letters Patent No. 707,852, dated August 26, 1902.

Application filed February 8, 1902. Serial No. 93,263. (No model.)

To all whom it may concern:

Be it known that I, GEORGE LANE, a citizen of the United States, residing at Poughkeepsie, county of Dutchess, State of New York, have invented certain new and useful Improvements in Igniting Devices for Hydrocarbon-Burners, of which the following is a specification.

My invention relates to an igniting device adapted to be employed with hydrocarbon-burners of any type, especially those employed upon motor-vehicles.

The object sought to be obtained by my invention is that the ignition device shall be so located as regards the burner that the air used by it to support combustion shall be derived wholly from within the casing in which the burner is located and, further, shall be so located as regards the burner and its casing that once ignited it will remain burning and will not be extinguished by the air currents or eddies which commonly exist in the vicinity of a hydrocarbon-burner.

The accompanying drawings will serve to illustrate my invention.

Figure 1 is a plan view showing my igniting device in its relation to a special form of burner. Fig. 2 is a vertical section taken on the line X X of Fig. 1. Fig. 3 is an end elevation looking from the left of Fig. 1. Fig. 4 is an enlarged sectional detail of the igniting device.

My improved igniting device is shown in the relation which it would bear to a special form of burner. It will be understood that my igniting device may be used with any type of burner.

In the drawings, 10 represents a burner, which consists in the present case of a centrally-disposed mixing-tube and a series of lateral tubes, both of which are provided with burner-openings at the top. (Shown in dotted lines.) The burner is surrounded by a casing 11, the interior of which forms a combustion-chamber over the burner. Supported within the casing and in proximity to the burner are the vaporizing-tubes 12. The vaporizing-tubes are connected at one end 13 to a source of fuel and at the other end to an injector device 14, arranged in front of the mixing-tube of the burner.

15 represents the igniting device. The igniting device consists of a tube 16, having a screw-thread 17 on its outer end by means of which it is connected to a plate 18, detachably attached, by means of screws 19 or otherwise, to the exterior of the casing 11. The tube 16 has formed in it near its outer end, but within the cavity of the casing, a series of openings 20, through which the heated air from the interior of the casing may find entrance into the burner-tube. Fuel is fed into the tube 16 by means of the pipe 21, which is connected at one end to the fuel-supply through the vaporizing-tubes 12. The other end has formed through it a small perforation 22.

23 represents a valve for controlling the supply of fuel to the tube 21.

It will be observed from the construction described that the igniting device forms, in fact, a Bunsen burner, and by reason of its location within the cavity of the casing the air used to support combustion will be warm air and drawn from the interior of the casing, with the result that the flame produced by the igniting device will be a sharp blue flame of considerable intensity. It will also be noted that by reason of the location of the igniting device and the fact that the air-supply openings are wholly within the casing it will be unaffected in operation by air currents or eddies occurring external to the burner-casing.

In the drawings the igniting device is shown as arranged under the vaporizing-tubes and in position to heat them when ignited. I do not limit myself to any particular position for the igniting device. Further, I do not limit myself to the employment of the device described as an "igniting" device, as it may be employed in connection with some other form of igniting device, in which case it will serve the purpose of a pilot-light.

24 indicates a small door in the side of the casing through which a match may be introduced to light the igniter.

Having thus described my invention, I claim—

1. In combination with a hydrocarbon-burner, a closed combustion-chamber within which the burner is situated, a secondary blue-flame burner located within said com-

bustion-chamber, and means for feeding said secondary blue-flame burner with the air used for combustion from within said chamber.

2. In combination a hydrocarbon-burner, a closed combustion-chamber within which the burner is situated, a secondary hydrocarbon-burner located within said chamber, the mixer of said secondary burner drawing its air-supply from within said chamber.

3. In combination with a hydrocarbon-burner, a closed combustion-chamber, a secondary blue-flame burner located within said combustion-chamber, means for supplying the main burner and the secondary burner with fuel, and means for supplying the secondary burner with the air used for combustion from within the combustion-chamber.

4. In combination with a hydrocarbon-burner, vaporizing-tubes for the fuel-supply thereto, a closed combustion-chamber within which said burner and tubes are located, and a secondary blue-flame burner located within said combustion-chamber and under said vaporizing-tubes, and means for supplying said secondary burner with the air used for combustion from within the combustion-chamber.

5. In combination with a hydrocarbon-burner, a closed combustion-chamber within which the burner is situated, a secondary blue-flame burner located within the combustion-chamber, means for independently controlling the supply of fuel to said burners, and means for feeding the secondary burner with the air used for combustion from within the combustion-chamber.

6. In combination an injector-burner for hydrocarbon fuel, a closed combustion-chamber within which the burner is situated and a secondary injector-burner located within the

combustion-chamber, the secondary burner drawing its air-supply from within said combustion-chamber.

7. An injector-burner adapted to use vapor hydrocarbon fuel, a closed combustion-chamber, a vapor-generator within said combustion-chamber and a secondary injector-burner arranged to keep said generator hot irrespective of the operation of the main burner, said secondary burner drawing its entire air-supply from inside the combustion-chamber of the main burner.

8. A hydrocarbon-burner, a closed combustion-chamber within which the burner is situated, a secondary injector-burner located within the combustion-burner, said secondary burner drawing its fuel-supply from without, and its air-supply from within said combustion-chamber.

9. A hydrocarbon-burner with an inclosing casing, a secondary injector-burner attached to the wall of said casing and having apertures for the admission of air from within said casing.

10. A hydrocarbon-burner with an inclosing casing, a secondary burner attached at one end to the wall of said casing and extended inward and provided with apertures for the admission of air from within said casing, and a fuel-supply pipe adapted to deliver vapor fuel from without the casing into the interior of the secondary burner.

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

GEORGE LANE.

Witnesses:

W. J. LANE,
J. M. JANES.