

No. 632,894.

Patented Sept. 12, 1899.

R. D. CODY.
HYDROCARBON GAS BURNER.

(Application filed July 5, 1899.)

(No Model.)

Fig. I.

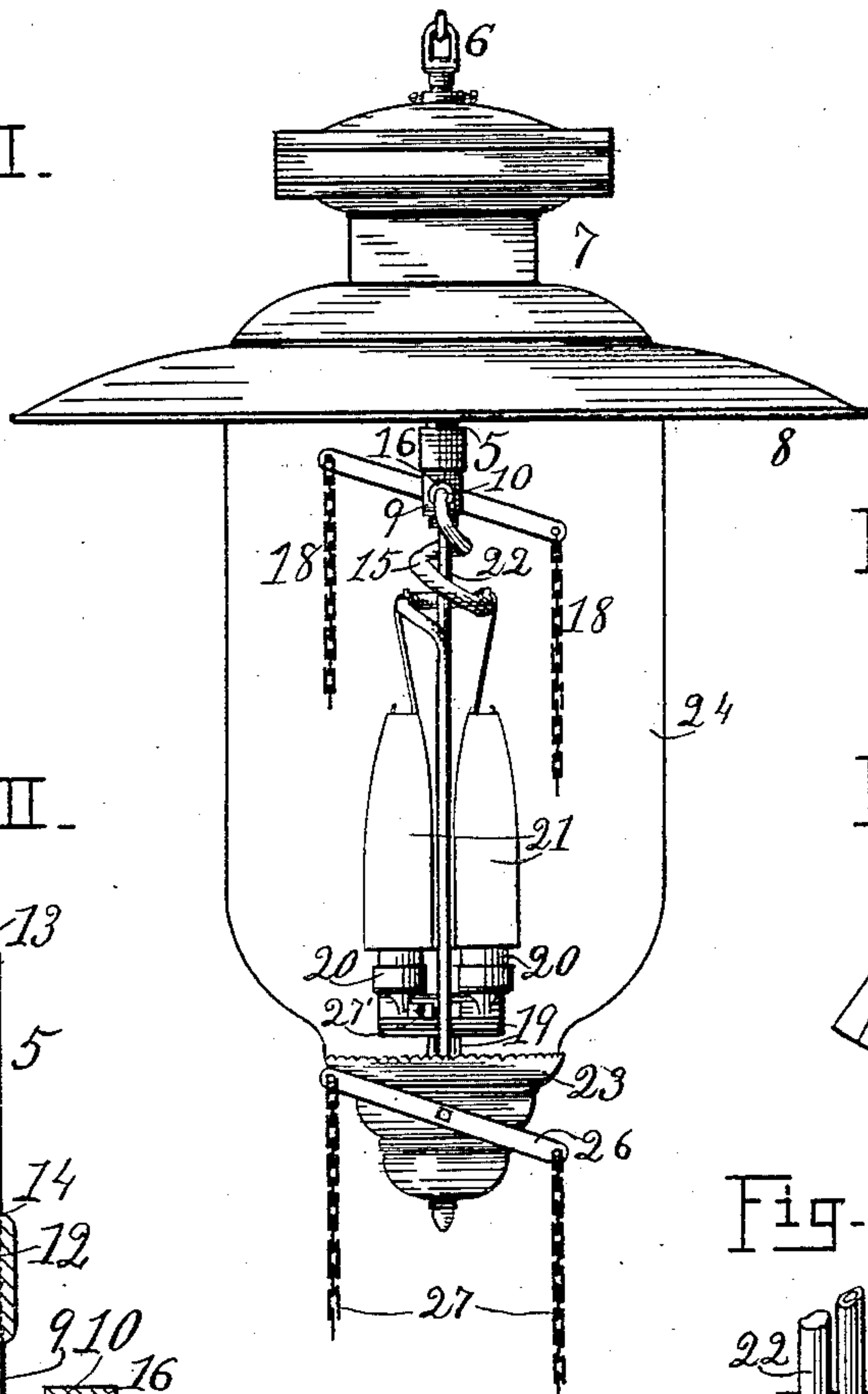


Fig. II.

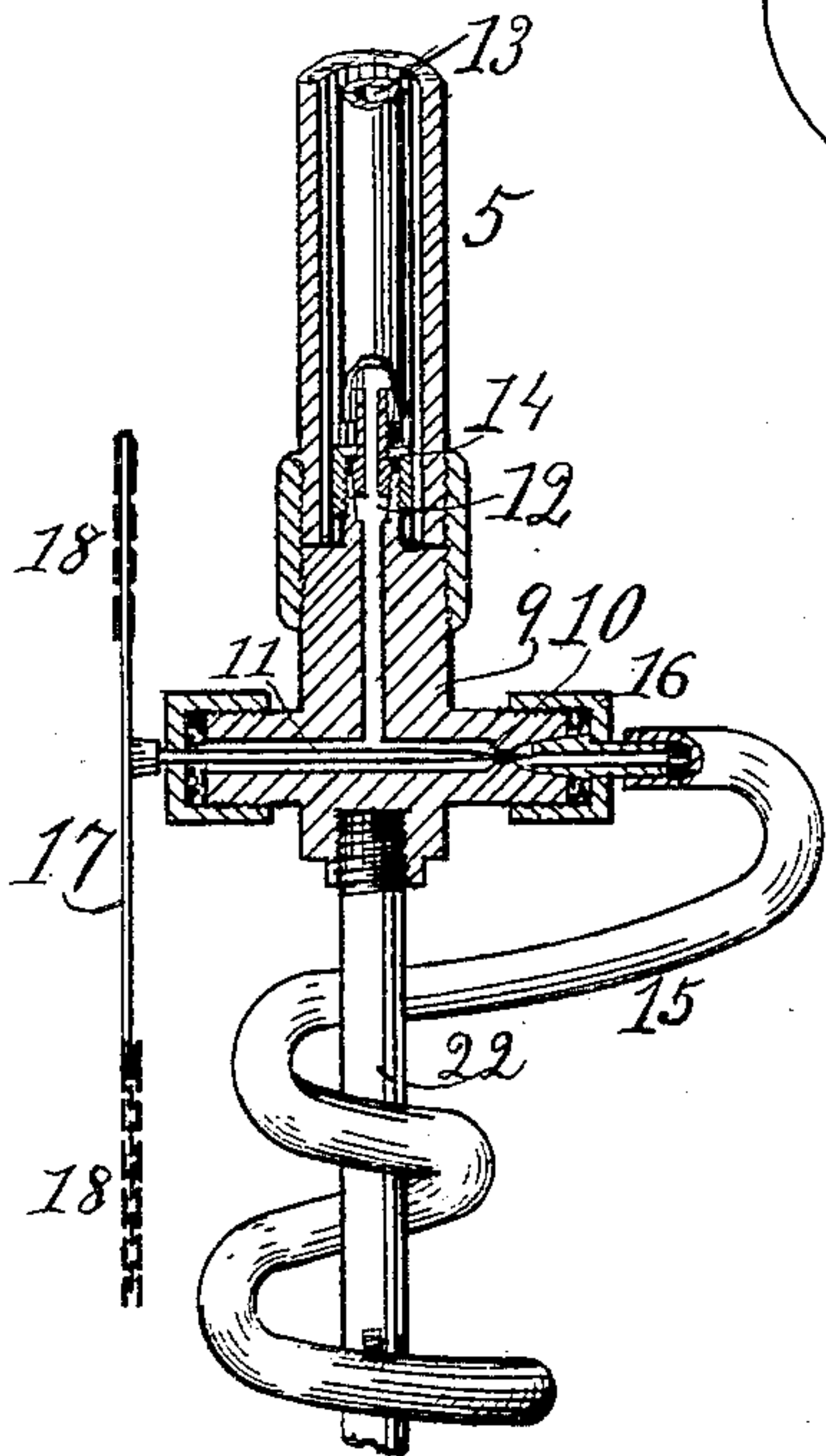


Fig. IV.



Fig. V.

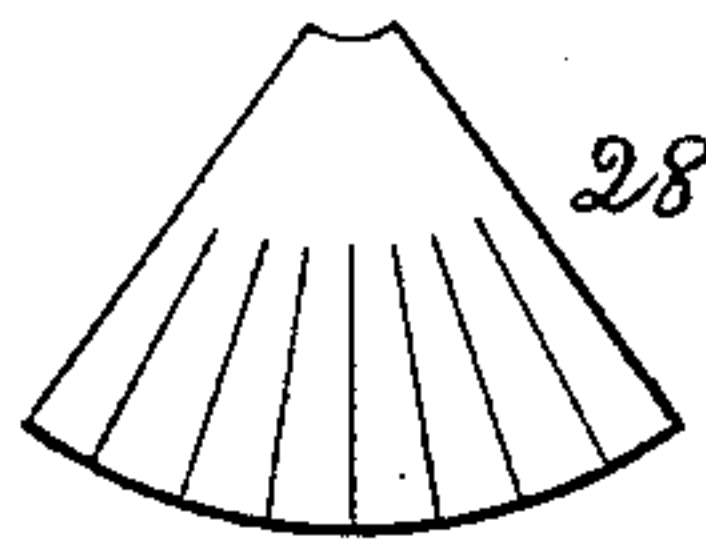
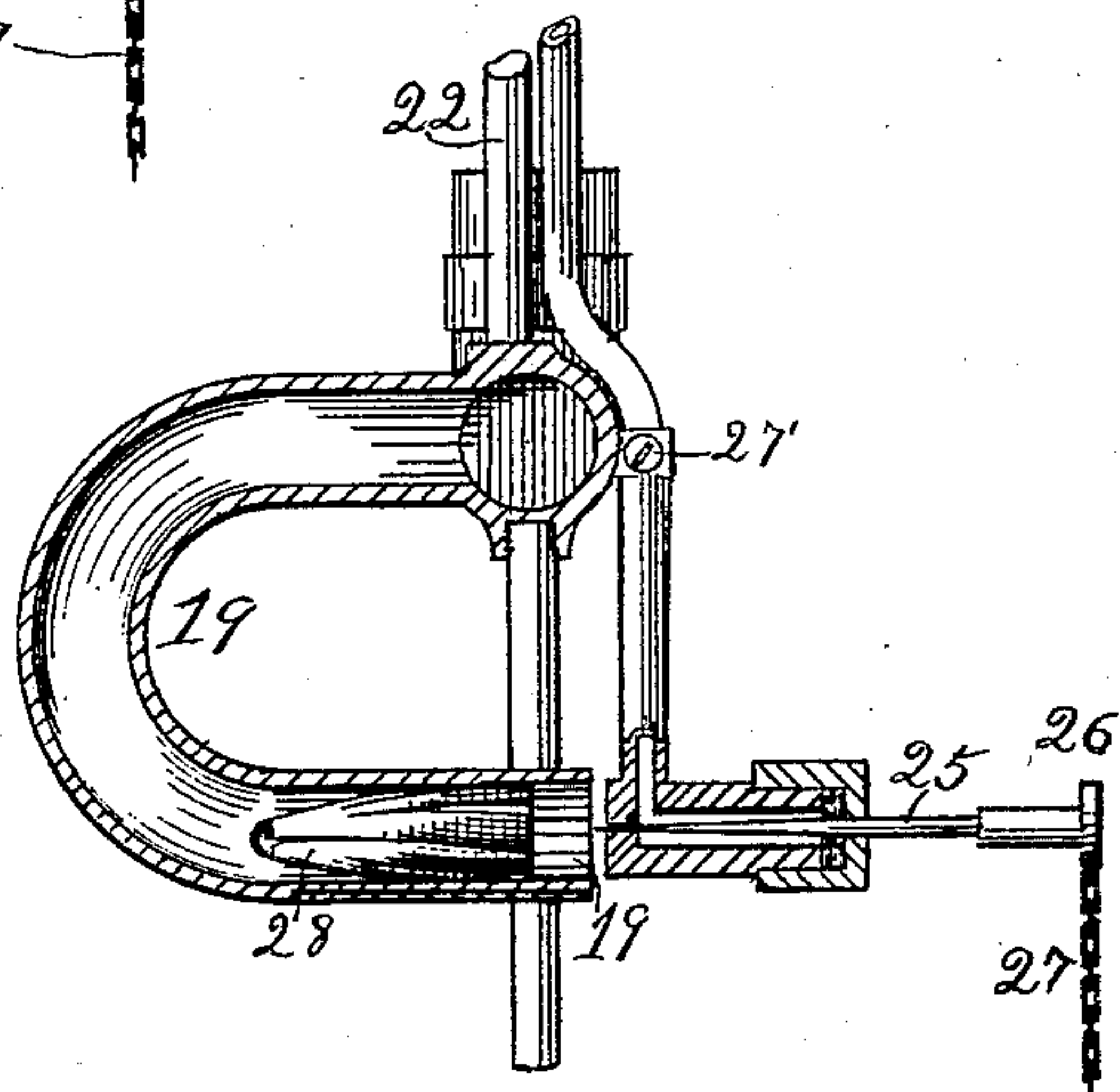


Fig. III.



Witnesses

W. Stevens
C. W. Stevens

Inventor

Robert D. Cody.
by W. E. Stevens. Attorney

UNITED STATES PATENT OFFICE.

ROBERT D. CODY, OF CHICAGO, ILLINOIS, ASSIGNOR TO L. T. LAWTON, OF
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HYDROCARBON-GAS BURNER.

SPECIFICATION forming part of Letters Patent No. 632,894, dated September 12, 1899.

Application filed July 5, 1899. Serial No. 722,851. (No model.)

To all whom it may concern:

Be it known that I, ROBERT D. CODY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Hydrocarbon-Gas Burners; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to that class of lighting devices in which hydrocarbon is conducted from a tank or reservoir in pipes to the place where it is to be consumed, and there it is presented to the burner as gas.

The object of the invention is, first, to provide simple and efficient means for suspending the burner and globe of a large lamp, such as would equal or exceed an arc-light in illuminating capacity and of controlling the supply of oil to the burner, and, second, to provide a simple and inexpensive device for thoroughly mingling the gas with air just before combustion, such device to be readily removed for cleansing.

To this end my invention consists in the construction and combination of parts forming a hydrocarbon-gas burner hereinafter more fully described, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure I represents in front view a hanging lamp according to my invention. Fig. II represents in longitudinal vertical section the supply-valve and hanging device. Fig. III represents in longitudinal section the gas and air mixing chamber, and Fig. IV represents in end view the mixer removed. Fig. V represents the mixer-blank cut ready for shaping.

5 represents a tubular body provided with a loop 6, by which the lamp is hung. Upon this body a lantern-shaped top 7 is secured with vertical adjustability, and a broad reflector 8 is attached to the said top.

9 is a valve-body whose outlet is at 10, where a seat is formed for the needle-valve 11 and whose inlet is at 12, where the supply-pipe 13 is connected with the body 9 by a coupling-nut 14, which draws the tapered end of pipe 13 into a correspondingly-tapered socket in the body. The generator 15 is also provided with a tapered end, which is held

by means of a coupling-nut 16 in engagement with the delivery of the valve-body 9.

17 is a two-armed wrench-lever removably fitted upon the needle-valve 11 and is provided with ornamental chains 18, as handles, whereby the valve may be turned to admit and to regulate the flow of oil into the generator 15.

19 is the gas and air mixing chamber, provided in the present instance with two burners 20, each of which has the usual mantle 21, made of asbestos or other material of a nature to give off a white light when heated. The chamber 19 is connected with the valve-body 9 by a rod 22, which supports the chamber.

23 is a cup hung to the chamber 19, and it serves as a gallery to support the globe 24.

The generator 15 is provided with a needle-valve 25, having a two-armed lever 26 and chains 27, whereby the flow of gas may be stopped or regulated. The delivery of the generator is into the open mouth of the mixing-chamber 19, but it is connected with the lamp only by the coupled end at 16 and a binding-screw 27', which holds it to the mixing-chamber. By loosening this screw 27' and the coupling-nut 16 the generator is disconnected from the lamp; but it being located in spiral coils around the rod 22 provision has been made for liberating it therefrom by locating the spirals far enough apart to permit the rod to pass along between the spirals while the generator is turned to unscrew it therefrom. By this means the generator, which is a very important part of the lamp, may be removed for cleansing, for proper adjustment, &c.

28 represents the mixer. This is a piece of sheet metal first formed as the segment of a circle with a number of radial cuts, as shown in Fig. V, then bent into a cone, and afterward the leaves between the radial cuts are twisted spirally. When thus completed, the mixer is of greater diameter than the inner diameter of the chamber, so that when pushed into the chamber the mixer springs to a close fit to retain it therein.

The supply-pipe 13 should be very small, and it should be surrounded by a much larger

pipe, such as the body 5, to prevent the heat from generating gas before the oil enters the generator 15.

5 The body 9 is a heavy block that will not become dangerously heated in any length of service.

In operation the oil is first let in by pulling down on the proper chain 18 to open the needle-valve 11. This has been so graduated as
10 to admit the required flow of oil into the generator 15. The valve 25 being opened permits the oil to spray into the mixing-chamber 19 and rise very much diluted with air to the burner. Now light the lamp, and the heat
15 which it generates will quickly expand the gas in the generator, so that gradually the light of the lamp brightens until the intense white light desired is obtained. This result I attribute largely to the form of the mixer
20 28, which directs the incoming gas and air in a series of spirals which impinge upon each other as they emerge around the common center and become thoroughly mingled as combustible gas.

25 Having thus described my invention, what I believe to be new, and desire to secure by Letters Patent, is the following:

1. In hydrocarbon-gas burners, an oil-supply pipe, provided with a valve-delivery, a

rod depending from the body of said valve 30 and one or more burners supported on the rod; a mixing-chamber for the burners; a gas-generator removably connected with the said valve - delivery and located spirally
35 around the said depending rod, the spirals of the generator being far enough apart to admit the free passage between them of the said rod; and a binding-screw arranged to bind the said generator to some attachment of the
40 rod, substantially as described.

2. In hydrocarbon-gas burners, a supply-pipe; a valve-body connected therewith and provided with a needle-valve, lever and chains; a tubular body loosely surrounding the supply-pipe and secured at its lower end
45 to the said valve-body, and provided with a hanging loop; a rod depending from the said valve-body; burners supported by the rod, and a generator secured at one end to the said
50 valve-body and having at its other end a valve-delivery to supply the said burners, substantially as described.

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

ROBERT D. CODY.

Witnesses:

ALBERT H. WILLIAMS,
GEO. R. EMERSON.