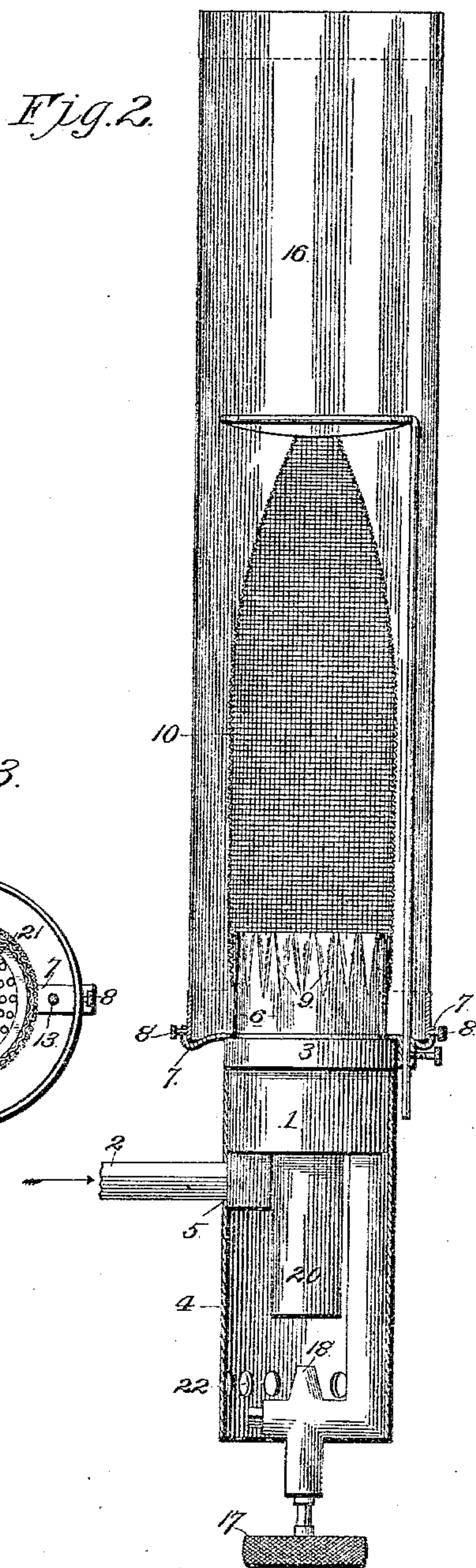
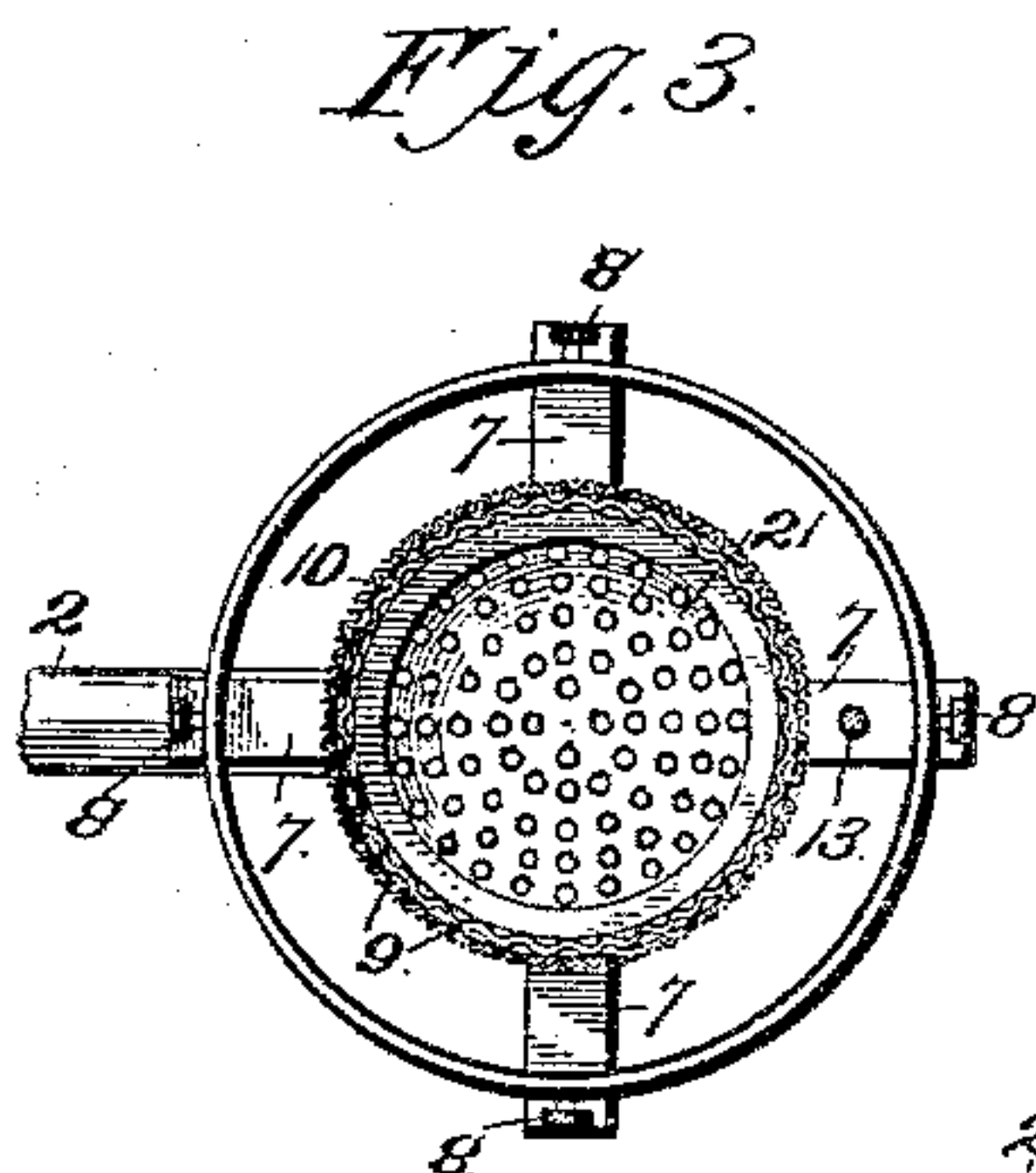
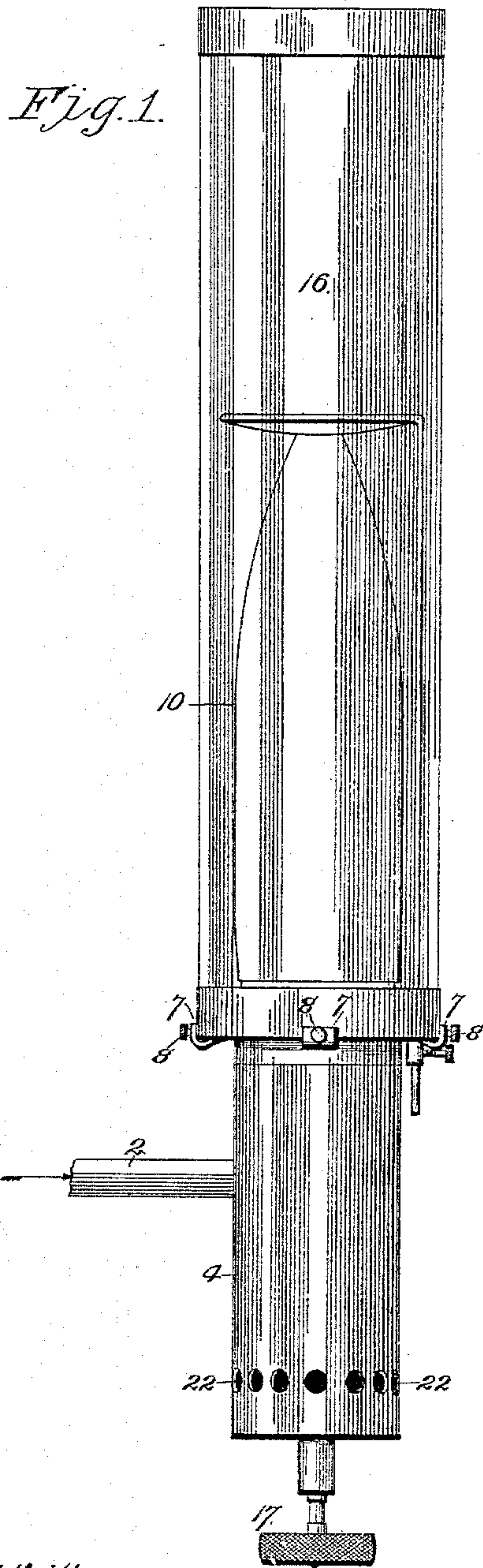


(No Model.)

C. E. WHITE.
APPARATUS FOR PRODUCING INCANDESCENT LIGHT FROM
HYDROCARBON OIL.

No. 545,398.

Patented Aug. 27, 1895.



Witnesses:

W. R. Remley.

Inventor:

Charles E. White.

By Higdon & Higdon
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UNITED STATES PATENT OFFICE.

CHARLES E. WHITE, OF KANSAS CITY, MISSOURI.

APPARATUS FOR PRODUCING INCANDESCENT LIGHT FROM HYDROCARBON OIL.

SPECIFICATION forming part of Letters Patent No. 545,398, dated August 27, 1895.

Application filed April 8, 1895. Serial No. 544,901. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. WHITE, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in Apparatus for Producing Incandescent Light from Hydrocarbon Oil, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to incandescent lights; and my object is to provide apparatus for producing incandescent light from hydrocarbon oils at extremely-small cost and which may be conveyed from place to place.

To this end the invention consists in the novel and peculiar construction and combination of its parts, as will be hereinafter described and claimed.

In order that the invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 represents an apparatus, minus the supply-tank, containing the hydrocarbon oil, embodying my invention. Fig. 2 represents a vertical sectional view of the same. Fig. 3 represents a horizontal section of the same.

In the said drawings, 1 designates a device for generating gas from hydrocarbon oils and burning the same in a non-luminous flame.

2 designates an oil-supply pipe, which connects the vaporizing channel or passage (not shown) of said burner with a suitable tank (not shown) containing the oil. Said burner preferably is of cylindrical form and is provided at a suitable point with an annular flange 3, so as to form horizontal shoulders at its upper and lower sides. Snugly embracing the body portion of said device and bearing against the lower shoulder of said flange 3 is a cylindrical casing 4, which extends downward a suitable distance. Said casing is supported in position, preferably by the supply-pipe 2, being provided with an opening 5, through which said pipe extends. A cylindrical sleeve 6 snugly embraces the upper portion of said device and rests upon the upper shoulder of the flange 3 and is provided with a number of radial arms 7, which turn upwardly at their outer ends and carry set-screws 8. The upper portion of said cylindrical sleeve is preferably crimped, as shown

at 9, so as to form air-passages between the sleeve and the embracing lower end of the mantle 10, which is of foraminous construction and chemically prepared and treated, so as to be incapable of combustion. This mantle I do not claim *per se*, as it has been patented. The mantle is held in place or supported in the usual manner—that is, being placed directly over the flame. To protect the mantle from air-currents, it is preferably incased by a chimney 16, of mica or glass, said chimney resting at its lower end upon the arms 7 and being secured thereto by set-screws 8 or any suitable method.

In operation, the device and said pipe contiguous thereto are subjected to the action of heat from a taper or other source. The oil is then allowed to flow continuously from the tank and is vaporized as it enters the vaporizing-channel and escapes by way of the nozzle 18, controlled by the valve 17, which is left open, and the gas or vapor thus generated passes up through the mixing-chamber tube 20 to the burner-cap 21. At the same time a lighted match or taper is held at the upper end of the chimney, and the flame produced by the combustion of the gases above the burner-cap comes in contact with the mantle, which is thus rendered incandescent. In order that a proper supply of air may be obtained to support perfect combustion, the casing 4, which is open at its lower end, may also be provided with the apertures 22. The air has access to the burner, also, up through the passages formed by crimping or corrugating the upper portion of the sleeve embraced by the lower end of the mantle. The air-currents passing through the crimps or corrugations also center the mantle with respect to the thimble and prevent the mantle from swinging against the thimble to its injury.

In practice the device for generating and burning gas and producing an incandescent light, which I preferably employ, is of the form and size shown in the drawings and, with a supply-tank, is mounted upon a suitable standard or base—such as, for instance, a “student’s lamp” stand—by which it may be conveniently conveyed from one room or place to another.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. The combination with the burner tip of a device for generating gas or vapor from hydro-carbon oil, and burning the same in the form of a non-luminous heating flame, of a mantle of refractory material capable of incandescence, and an intermediate connecting thimble extending inside the mantle and having a corrugated surface for the passage of air, substantially as described.

2. The combination with the burner tip of a device for generating gas or vapor from hydro-carbon oil, and burning the same in

the form of a non-luminous heating flame, of a mantle of refractory material capable of incandescence, and an intermediate removable connecting thimble extending inside the mantle and having a corrugated surface for the passage of air and also having projecting therefrom supporting arms for the chimney, all substantially as described.

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

CHARLES E. WHITE.

Witnesses:

M. R. REMLEY,
S. B. FALOR.