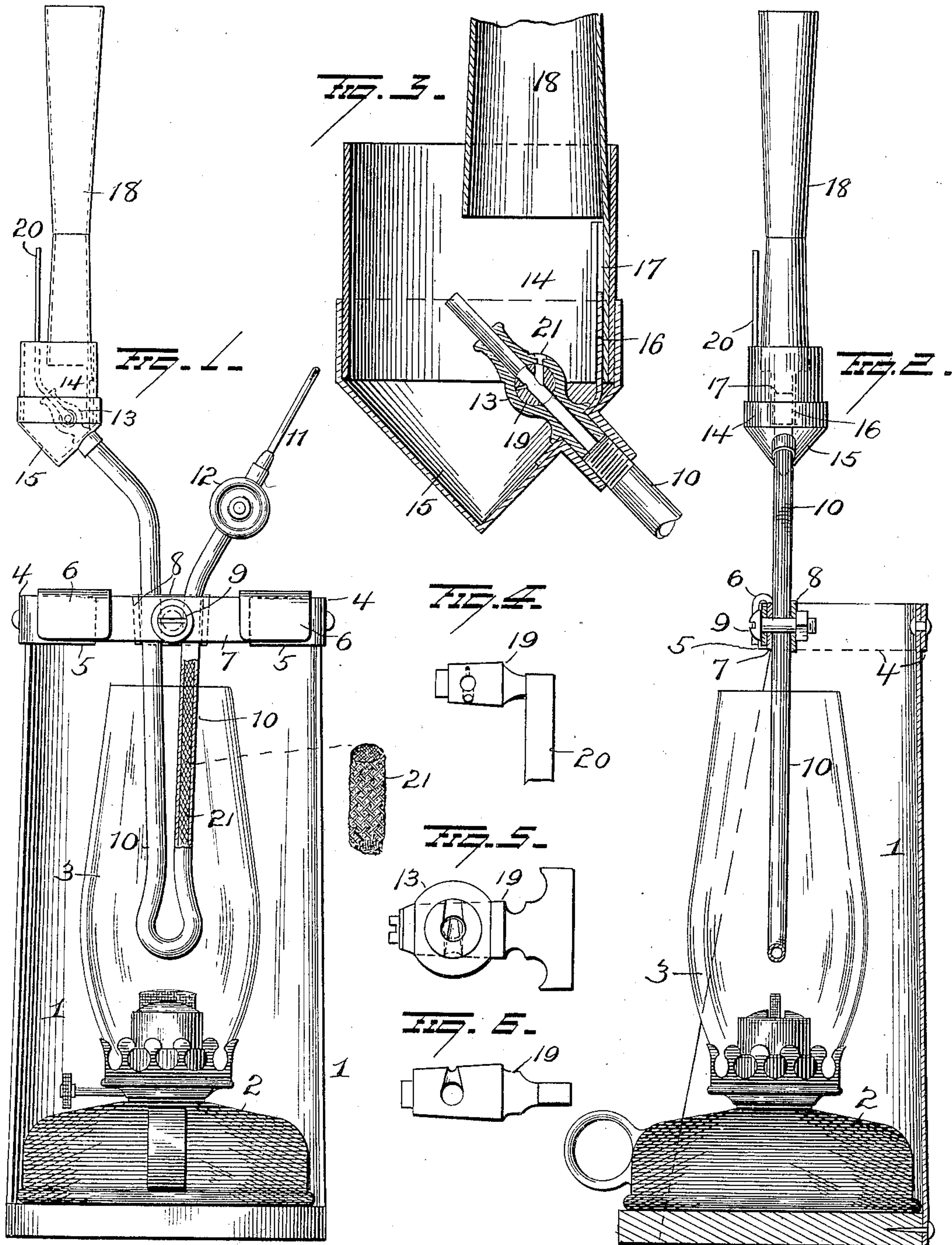


No. 828,666.

PATENTED AUG. 14, 1906.

F. F. KANNE.  
OIL VAPORIZER.

APPLICATION FILED AUG. 5, 1905.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

FREDERICK FRANK KANNE, OF WATERVILLE, MINNESOTA.

## OIL-VAPORIZER.

No. 828,666.

Specification of Letters Patent.

Patented Aug. 14, 1906.

Application filed August 5, 1905. Serial No. 272,891.

*To all whom it may concern:*

Be it known that I, FREDERICK FRANK KANNE, a resident of Waterville, in the county of Lesueur and State of Minnesota, have invented certain new and useful Improvements in Vaporizers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved vaporizer, the object of the invention being to provide an improved vaporizer that is not dependent upon gas produced by itself to furnish the heat for generating gas or vapor for lighting or other purposes, but in which a lamp or other similar device is employed to provide the necessary heat without interfering with the ordinary light-giving properties or other functions of the device.

A further object is to provide an apparatus of this character which will not carbonize to such an extent as to destroy its effectiveness and in which no joints or other weak parts are brought into contact with the flame.

A further object is to provide an apparatus in which the well-known needle-valve is dispensed with and in which the amount of flame or heat is always under the control of the operator and does not depend upon the apparatus, but is independent therefrom.

A further object is to provide a vaporizer of extremely simple and inexpensive construction, one that can be readily understood by any one of average intelligence and maintained in working order, and one that is strong and durable in use.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in elevation, illustrating my improvements. Fig. 2 is a view in longitudinal section of the vaporizer. Fig. 3 is a view in section of the commingling or mixing chamber. Fig. 4 is a view of the valve, and Figs. 5 and 6 are views of a modified form of valve.

1 represents a lamp-casing, which may be of any form desired to receive an ordinary lamp 2, having the chimney 3. The casing 1 is preferably provided with a frame 4 at its top, made with inwardly-projecting lugs 5 to receive and support bent-over tongues 6 on a cross-bar 7, and a metal strap 8 is secured

centrally on bar 7 by a screw 9 and holds in proper position my improved vaporizer-tube 10. The tube 10 comprises a tube or pipe bent upon itself and extending down into chimney 3 the desired distance to receive the heat from the lamp without interfering with the light-giving properties thereof.

One end of tube 10 is connected by a pipe 11 with any desired reservoir or other source of liquid-hydrocarbon supply and has a cock 12 therein, which latter is open while generating, and at all other times tightly closed. The outlet end of the vaporizer-tube 10 is provided with my improved valve 13, directing the vapor into an air-mixer or commingling-chamber 14, which latter has a conical bottom 15 and short removable cylinder thereon. An upright lug 16 is provided in the bottom to receive a short grooved standard 17 on the lower end of a pipe 18, supporting the latter above the bottom and within the chamber 14, yet providing ample space all around for the entrance of air down into the chamber to mix with the vapor or gas discharged up into pipe 18, and the mixture is conveyed by said pipe to the points for use either for lighting or other use.

Valve 13, which is located inside the conical bottom 15, has a turning plug or journal 19, operated by a long arm or lever 20, projecting out of the commingling-chamber 14. This plug or journal has a main opening through it to receive the vapor and is provided with smaller lateral ports to be moved into or out of alinement with a small port 21 in the valve-casing, and thereby govern the supply of vapor discharged, and consequently control the light-producing power of the mixture.

A modified form of valve is shown in Figs. 5 and 6, in which the casing is provided with vapor inlet and outlet openings and the plug with a peripheral groove extending considerably more than half way around the plug and in line with the vapor inlet and outlet openings in the casing. This groove gradually decreases in size from one end to the other, and when so turned that the peripheral groove is in communication with the vapor inlet and outlet openings the vapor will freely escape into the mixer, and by turning the plug the amount of vapor escaping may be regulated or cut off entirely.

In the downfeed-tube of vaporizer 10, receiving the oil from the source of supply, I provide a wick or retarder 21<sup>a</sup>, comprising an



outer wire netting inclosing an asbestos or other fibrous packing which holds the oil and allows only the slow feed thereof, and consequently insures a steady vaporization of all oil passing through the vaporizer and results in a steady light at the burners and at the same time holds back foreign matter and impurities of all kinds.

The operation is as follows: After the vaporizing-tube is heated by the lamp to the proper temperature cock 12 is opened and the oil will saturate the netting-covered wick or retarder and its impurities will be held thereby and the pure oil will pass down slowly from the wick or retarder and be vaporized, and as it passes around the lower bend of the tube and up the other side it will come in contact with the most intense heat and will ascend and escape from the valve 13 into mixing-chamber 14 in the form of a dry gas. Here it mixes with the air, as above explained, and passes to the burners.

A great many slight changes might be made in the general form and arrangement of the parts described without departing from my invention, and hence I do not restrict myself to the precise details set forth, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. The combination of a vaporizing-tube and a lamp independent of the vaporizer, said lamp having a chimney receiving the tube therein for heating the same.

2. The combination of a portable illuminating-lamp, a frame having a member disposed over said illuminating-lamp, a port-

able vaporizer and means for conducting hydrocarbon thereto supported over the burner of the lamp by said frame.

3. The combination of a portable frame, a portable illuminating-lamp supported thereby, said frame having a horizontal member above the lamp, and a vaporizer and means for conducting hydrocarbon thereto, supported over the lamp by the horizontal member of said frame.

4. The combination of a bent vaporizing-tube, a lamp, a chimney into which the vaporizing-tube is projected, and an asbestos wire-netting-covered wick or retarder located in the oil-inlet side of said tube and retarding the feed and filtering impurities from the oil.

5. In a vaporizer, the combination with a lamp, of a vaporizing-tube projecting into the chimney of the latter and heated thereby, an air and vapor mixing chamber into which the vapor is discharged, and a valve, other than a needle-valve regulating the flow of vapor into the mixing-chamber.

6. In a vaporizer, the combination with a heater, of a vaporizer-tube heated thereby and independent of the fuel-supply of said heater, an air and gas mixing chamber, a tube for mixed air and gas in the chamber and providing an air-inlet all around the same, a plug-valve in said chamber regulating the escape of vapor or gas thereinto, and an operating arm or lever on said valve projecting out of the mixing-chamber.

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

FREDERICK FRANK KANNE.

Witnesses:

GEO. J. DRESSSEL,

ANNA M. BACKMAN.