

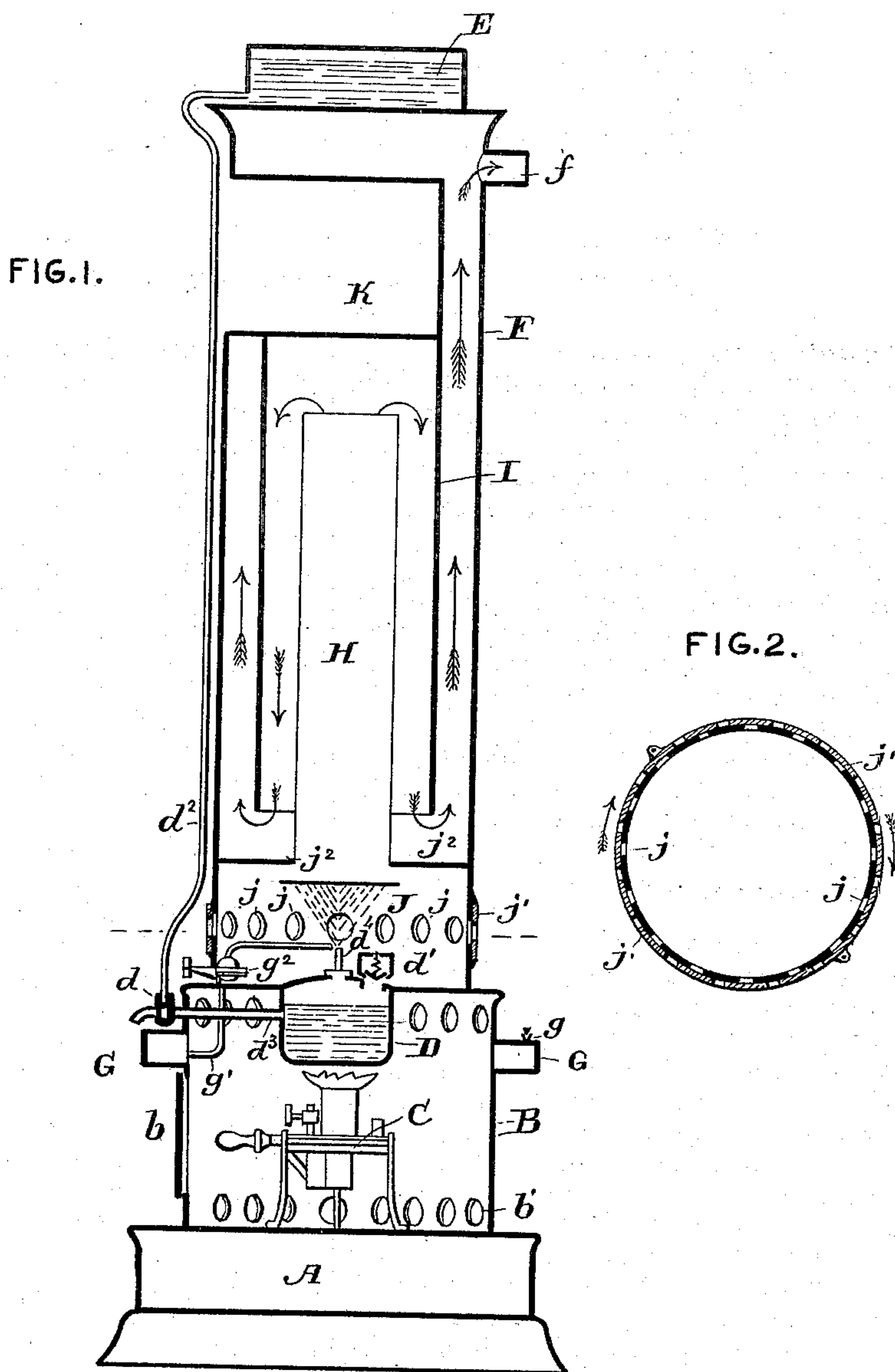
(No Model.)

R. SCHULZ.

PETROLEUM HEATING APPARATUS.

No. 331,161.

Patented Nov. 24, 1885.



ATTEST.

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UNITED STATES PATENT OFFICE.

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PETROLEUM HEATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 331,161, dated November 24, 1885.

Application filed December 31, 1883. Serial No. 116,134. (No model.)

To all whom it may concern:

Be it known that I, ROBERT SCHULZ, of the city of Dresden, in the Kingdom of Saxony and German Empire, have invented certain new and useful Improvements in Petroleum Heating Apparatus, of which the following is a specification.

My invention relates to heating apparatuses wherein the volatile hydrocarbons are used in combination with steam for atomizing the burning fluid; and the nature of my invention consists in certain novel improvements, whereby great economy of fuel is obtained, as will be fully understood from the following description, when taken in connection with the annexed drawings, in which—

Figure 1 is a vertical central section of the heater, and Fig. 2 a detail showing the register.

A designates the base of the heater, and B a cylinder mounted thereon, and provided with a door, *b*, and numerous perforations, *b'*, for freely admitting air into it. Inside of the cylinder B is a lamp, C; or, instead of a lamp, a gas-jet may be employed, the object of which is to heat a steam-generator, D, suspended from the roof of cylinder B, and provided with a safety-valve, *d'*, and also with a pipe, *d*³, leading out to a cock, *d*. With the pipe *d*³ is connected a pipe, *d*², communicating with a water-reservoir, E, on top of a cylinder, F, which is mounted on the cylinder B, and provided with an outlet-flue, *f*, which may be made quite small. Surrounding the cylinder B is an annular chamber, G, for containing the burning fluid or fuel, which chamber is provided with a filling-aperture, *g*, properly closed. To this vessel C is applied a pipe, *g'*, provided with a regulating-cock, *g*², and extended horizontally to a point just over the

jet-tube *d*⁴ of the steam-generator D. I thus provide the apparatus with means for supplying in a chamber, J, the burning-fluid and at the same time atomizing the same, as indicated in Fig. 1. The wall surrounding chamber J is provided with a horizontal series of apertures or air-inlets, *j*, and these apertures are provided externally with an adjustable draft-register ring, *j'*, by means of which the admission of air into chamber J can be regulated as may be found necessary.

H designates a centrally-arranged cylindrical flue, the lower end of which extends through the roof *j*² of the chamber J, directly over the jet *d*², and it may be made flaring, as shown in the drawings, or it may be contracted. The lightly-heated products of combustion ascend to the top of the flue H, and then dive down between this flue and an external concentric cylinder, I, which depends from an oven, K, located near the top of the cylinder F. From the bottom of the cylinder I the products of combustion ascend between it and cylinder F, and after circulating about the oven K they escape through the flue *f*.

I am aware that it is not new in heating apparatuses to atomize fluid hydrocarbons by means of steam jets or ejectors, and therefore I lay no broad claim thereto.

I claim—

In a heating apparatus, the combination of two air-chambers provided with valves, the oil-supply pipe, the air or steam pipe, the chimney opening into the upper air-chamber, and the exit-flues formed by the cylinders D and E, substantially as described.

ROBERT SCHULZ.

Witnesses:

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