(No Model.)

C. S. JARBOE & J. McHALE.

HYDROCARBON BURNER.

No. 383,888. Patented June 5, 1888.

Fig. 2.

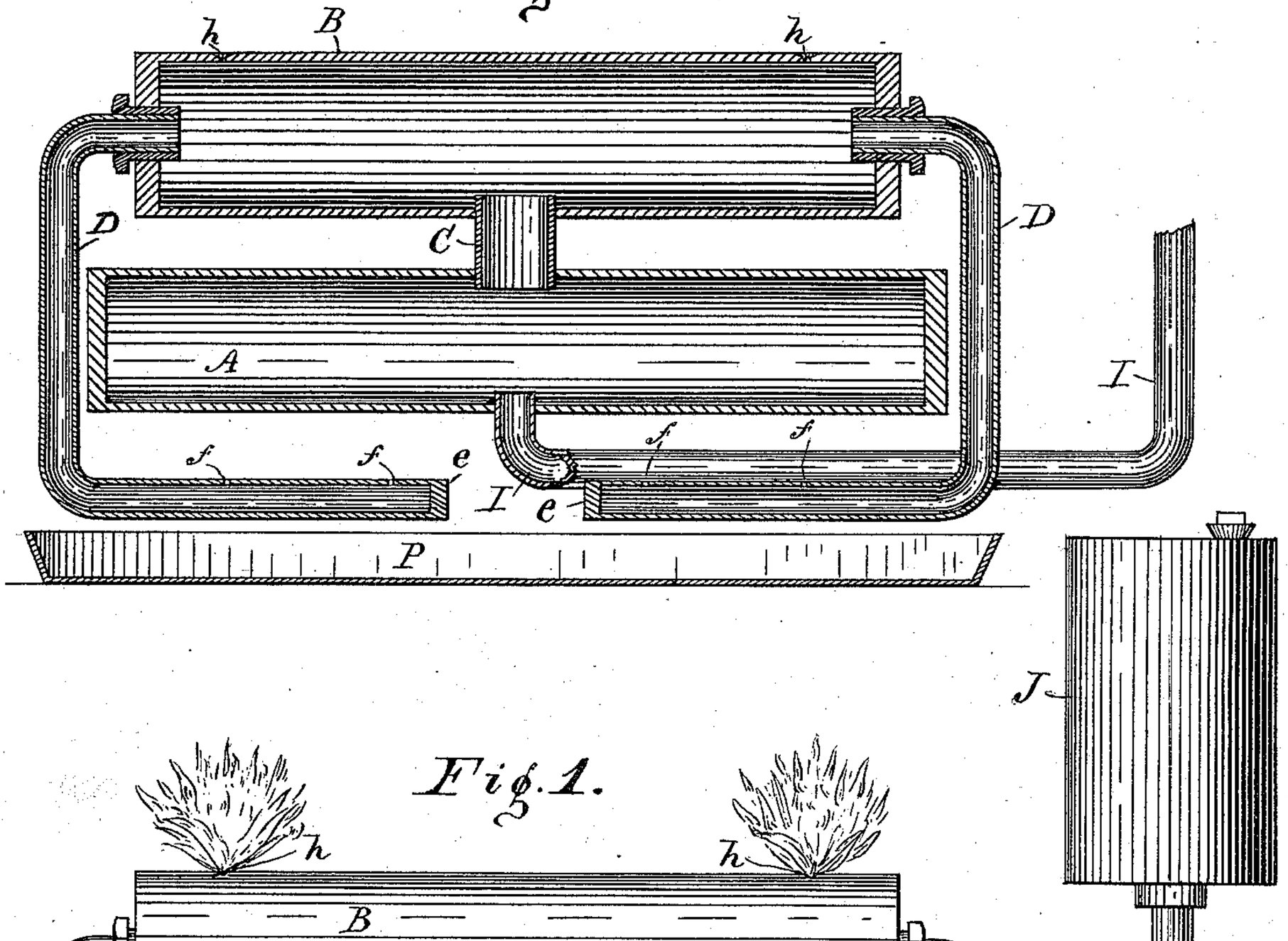
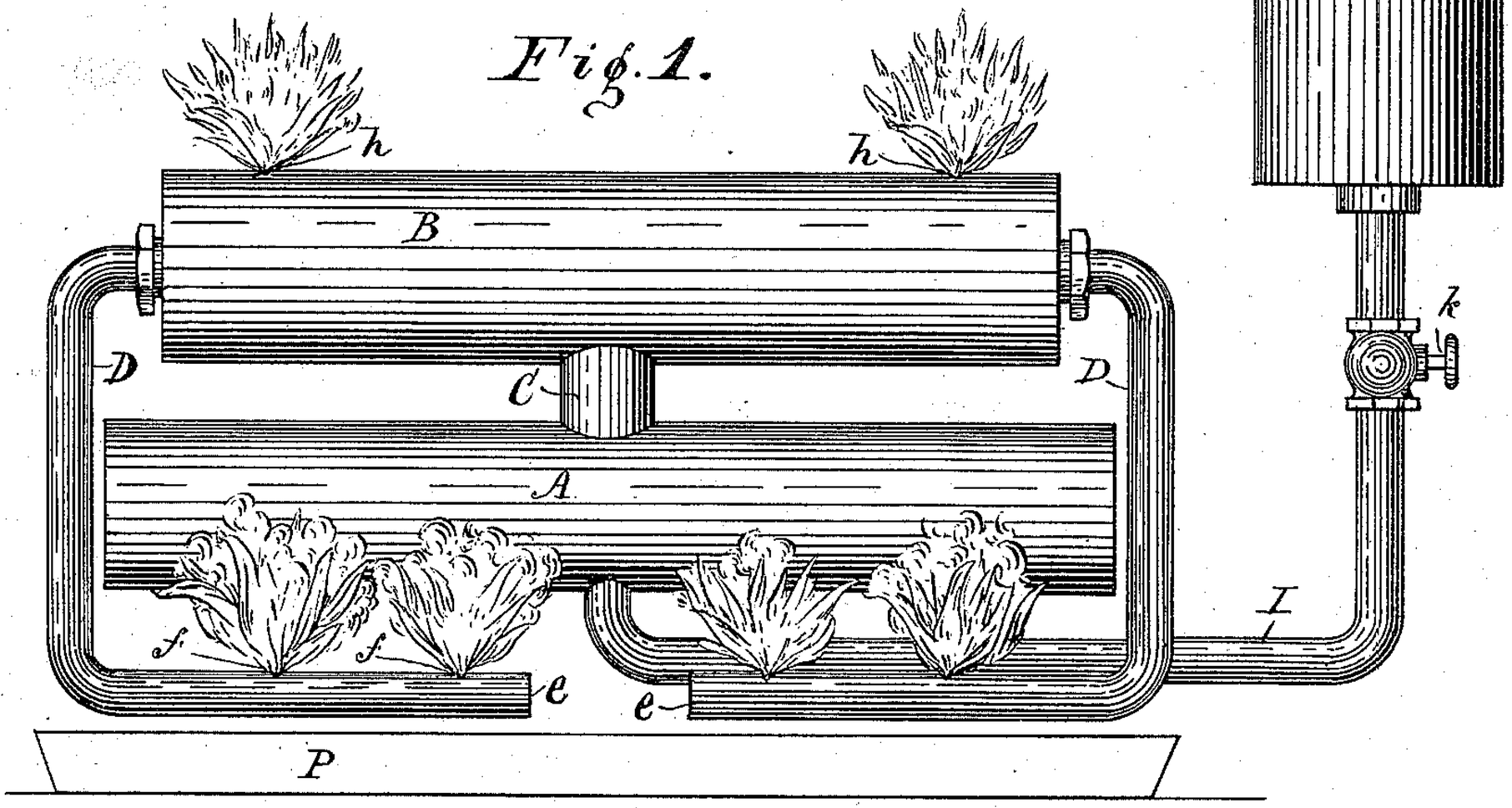


Fig. 1.



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UNITED STATES PATENT OFFICE.

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HYDROCARBON-BURNER.

SPECIFICATION forming part of Letters Patent No. 383,888, dated June 5, 1888.

Application filed October 8, 1887. Serial No. 251,802. (No model.)

To all whom it may concern:

Be it known that we, CHARLES S. JARBOE and JOHN McHALE, citizens of the United States, residing at Terre Haute, in the county of Vigo and State of Indiana, have invented a new and useful Improvement in Hydrocarbon-Burners, of which the following is a specification.

Our invention relates to an improvement in hydrocarbon-burners.

The object of our improvement is to provide a simple and inexpensive apparatus for burning crude petroleum and its heavier as well as lighter products for industrial and domestic purposes, in which apparatus the liquid hydrocarbon shall be first distilled in a suitable retort, and the vapor then conducted to a receiver arranged adjacent to the retort in such a manner that the same fire which heats the retort shall also heat the receiver, and thereby superheat the hydrocarbon vapor, a portion of which is conducted beneath the retort and there burned for heating the retort and the receiver, and the remainder is burned directly as it escapes from suitable orifices in the receiver, thereby insuring a clean and perfect combustion for industrial or domestic purposes without the intervention of conducting-pipes or special burners, all as hereinafter fully set forth.

The accompanying drawings illustrate our invention.

Figure 1 is a side elevation illustrating the burner in operation. Fig. 2 is a central longitudinal section.

A is the retort, which consists of a hollow wrought-iron cylinder having the ends closed by welding heads therein.

B is the gas receiver and superheater, which consists of a wrought-iron cylinder similar to the retort but of larger diameter. The receiver is arranged immediately above the retort, and is connected therewith by means of a short tube, C.

D D are pipes extending from the opposite ends of the receiver B, said pipes being bent downward to a point a short distance below the retort and then inward beneath the retort, and having their ends *e e* closed by welding, and having, also, perforations *f f* in their upper sides. The upper side of the receiver B is provided with small perforations *h h*.

I is a pipe connecting the oil-reservoir J with the retort A, the flow of oil being controlled by a stop cock, *k*.

P is a pan arranged to receive a small quantity of oil or other fuel for first heating and starting the burner.

In operation, the reservoir J having been supplied with oil, a small amount of the oil is admitted to the retort A through the pipe I. Oil or other fuel is then placed in the pan P and ignited, thus heating the retort sufficiently to vaporize the oil, and the vapor escaping from the perforations *f f* is ignited, and the fire in the pan is then extinguished. The retort and the receiver soon become intensely heated by the flame from the pipes D, and the gas escaping from the openings *h h*, being highly heated, is then ignited and burns with a clear smokeless flame suitable for domestic or industrial uses.

We claim as our invention—

The hydrocarbon-burner consisting of the cylindrical retort A, gas-receiver B, having perforations *h h*, tube C, connecting said retort and receiver, supply-pipe I, and the bent pipes D D, having perforations *f f* and closed ends *e e*, all combined and arranged to co-operate in the manner and for the purpose specified.

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