No. 717,831. PATENTED JAN. 6, 1903.

C. FILZER.

HYDROCARBON TORCH.

APPLICATION FILED AUG. 26, 1902.

NO MODEL.

Fig. 1.

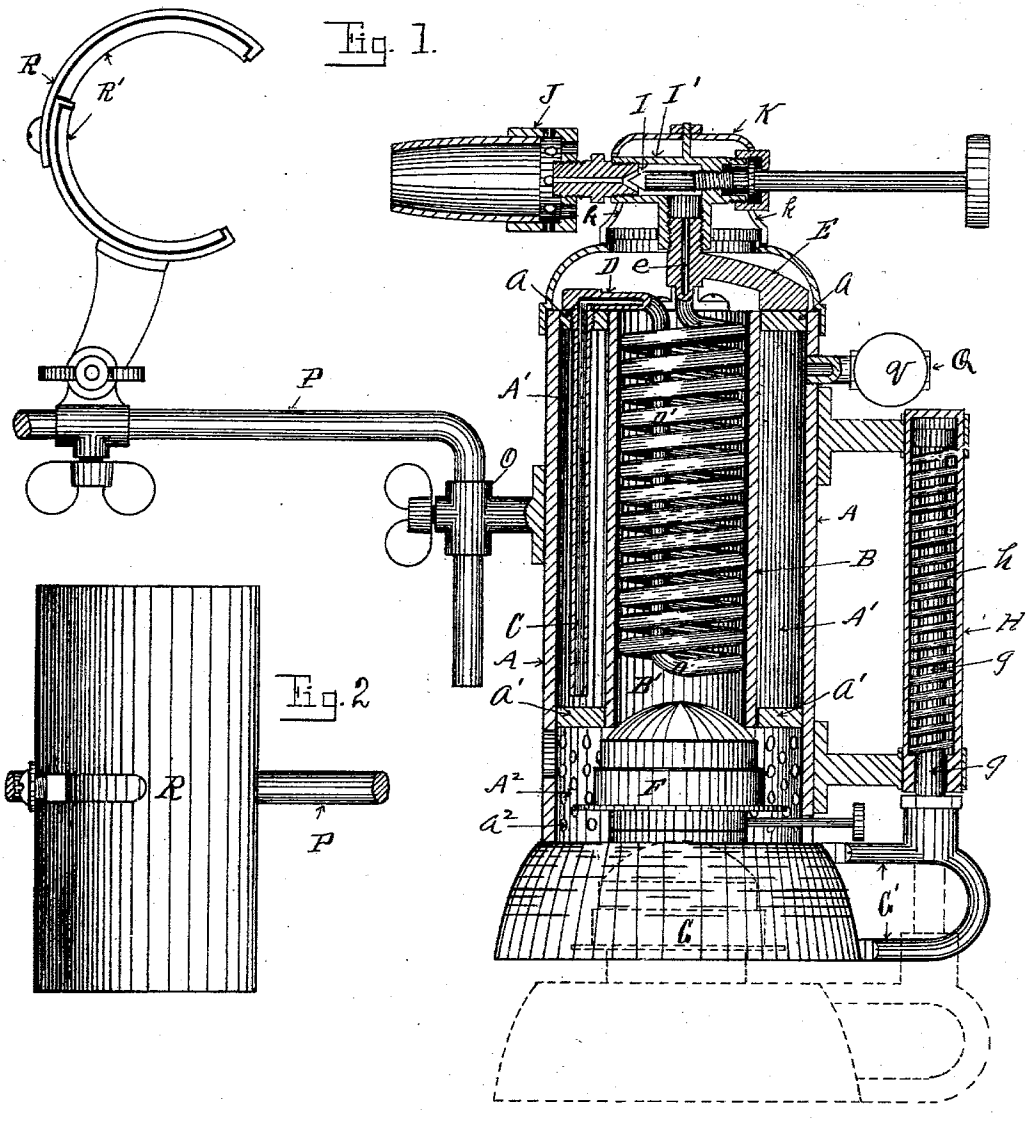


Fig. 2.

Witnesses.

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UNITED STATES PATENT OFFICE.

CHRISTIAN FILZER, OF ERIE, PENNSYLVANIA.

HYDROCARBON-TORCH.

SPECIFICATION forming part of Letters Patent No. 717,831, dated January 6, 1903.

Application filed August 26, 1902. Serial No. 121,049. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN FILZER, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Hydrocarbon-Torches; 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

My invention relates to improvements in hydrocarbon-torches, and has for its object the production of a torch adapted for burning, brazing, &c., wherein heat for vaporizing the fluid hydrocarbon is supplied by an auxiliary burner.

The features of this invention are hereinafter set forth and described, and illustrated in the accompanying drawings, in which—

Figure 1 in view, partially in elevation and partially in section, of my improved hydrocarbon-torch. Fig. 2 is a top or plan view of the fireback of my device.

In the drawings illustrating my invention, A is the upright body, within which is an annular shell B, joined at the top and bottom thereof to the body A by means of flanges a a', so as to form an annular chamber A′ suitable for holding hydrocarbon fluid. In one side of the chamber A′ there is an upright pipe C, extending from near the bottom of the chamber B′ through the upper flange a, where it joins the end of a pipe D, which extends downward within the central opening B′ inside of the shell B and is coiled back upon itself so as to form a coil of pipe D′, the upper end of which connects with an opening e in the spider E, secured to the flange a at the top of the body A. The body A extends downward below the flange a' and forms a chamber A^2 for the lamp-burner F and is perforated with openings a^2 around the burner F, so as to furnish air thereto. The burner F is secured to a base G, which forms a fluid-tank to supply the burner F and also operates as the base of the body A. The base G is provided with a projection G′ at one side, from which a stem g extends up into the hollow handle H, secured to one side of the body A, where it is provided with a retracting-spring h, whereby the base G can be moved downward from the body A, as illustrated in dotted lines in Fig. 3, and swung around to one side of the body A, as illustrated in Fig. 2, the object of this construction being that the lamp-burner F operates to heat the inside of the shell B, so as to sufficiently vaporize the fluid hydrocarbon in the chamber A′ to produce pressure enough therein to force the fluid up through the pipe C and down into the coil D′, which is also heated by the lamp-burner F sufficiently to completely vaporize the fluid, which passes from the upper end thereof through the opening e to the valve-chamber I of a burner or burners J, secured to the top of the spider E. The burner J is of the usual construction, and it is obvious that a plurality of burners may be connected with the opening e in the spider E and operate with the same facility as the single burner J shown in the drawings.

Covering the spider E and the shell of the valve-chamber I′ there is a cover K, which is secured to the top of the body A and is provided with openings k, which operate as escape-vents for the products of combustion from the lamp-burner F. This cover K also concentrates the heat from the lamp-burner F upon the valve-chamber I′ and retains the vapor produced in the coil D′ at a high temperature until it passes to the burner.

Connected with one side of the passage e there is a small safety-valve L, which operates when undue pressure is produced in the coil D′ to permit the vapor to blow off and escape, and at one side of the body A there is a supply-pipe M, with a suitable closure for filling the chamber A′, and on the opposite side of the body A there is a pipe N, provided with a shut-off cock n, to which pipe an air-pump can be attached in case it is desired to pump air into the chamber A′. At one side of the body A there is also an inlet Q, provided with a valve q, which may be connected by means of suitable pipes with a tank (not shown) of hydrocarbon fluid when a greater quantity thereof than the chamber A′ will hold is needed to complete any desired operation.

On the upright body A, opposite the han-

dle H, there is a clamp O, in which a fireback-support P can be secured, and upon the support P there is adjustably secured a fireback R, which can be adjusted in front of the burner J, as desired. The inner surface of this fireback is provided with an asbestos lining R′, so that it will resist the heat of the flame from the burner J.

I have thus shown and described a convenient construction of my invention which will enable others to utilize the same. It is, however, obvious that its construction can be modified in many respects without departing from the spirit of my invention.

Therefore what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination in a hydrocarbon-torch, of a body having an annular chamber for fluid hydrocarbon, a vaporizing-coil in the opening formed by the inside wall of said chamber, a pipe connecting one end of said coil with the lower part of said chamber, a valve-chamber, valve and burner connected with the upper end of said vaporizing-coil, and a lamp-burner under said vaporizing-coil adapted to heat the inside wall of said chamber, and said vaporizing-coil, substantially as set forth.

2. The combination in a hydrocarbon-torch, of a vertical body, an inside vertical wall connected at its top and bottom with the body so as to form an annular chamber between the inside of the body and said inside wall and also a central vertical passage within said inside wall, a base under said body having a fluid-tank therein, a lamp-burner on the top of said base directly under said vertical passage, a vaporizing-coil in said vertical passage, one end of which connects with a pipe leading down into said annular chamber, a valve-chamber mechanism connected with the opposite end of the vaporizing-coil, and a burner mechanism connected with said valve-chamber substantially as set forth.

3. The combination in a hydrocarbon-torch of a vertical body having therein an annular chamber, and a central vertical passage, a base having a fluid-tank therein and adapted to be swung to one side of the body, a lamp-burner on said base under the central vertical passage in said body, a pipe leading down into said annular chamber, a vaporizing-coil within said central vertical passage connected at one end with said pipe, a valve mechanism and burner connected with the opposite end of said coil, and a cap on said body covering said valve mechanism, and having draft-openings therein, substantially as set forth.

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

CHRISTIAN FILZER.

Witnesses:
H. M. STURGEON,
G. J. MEAD.