June 7, 1938. H. SCHRADER 2,120,078

TORCH

Filed April 10, 1936

Fig. 1.

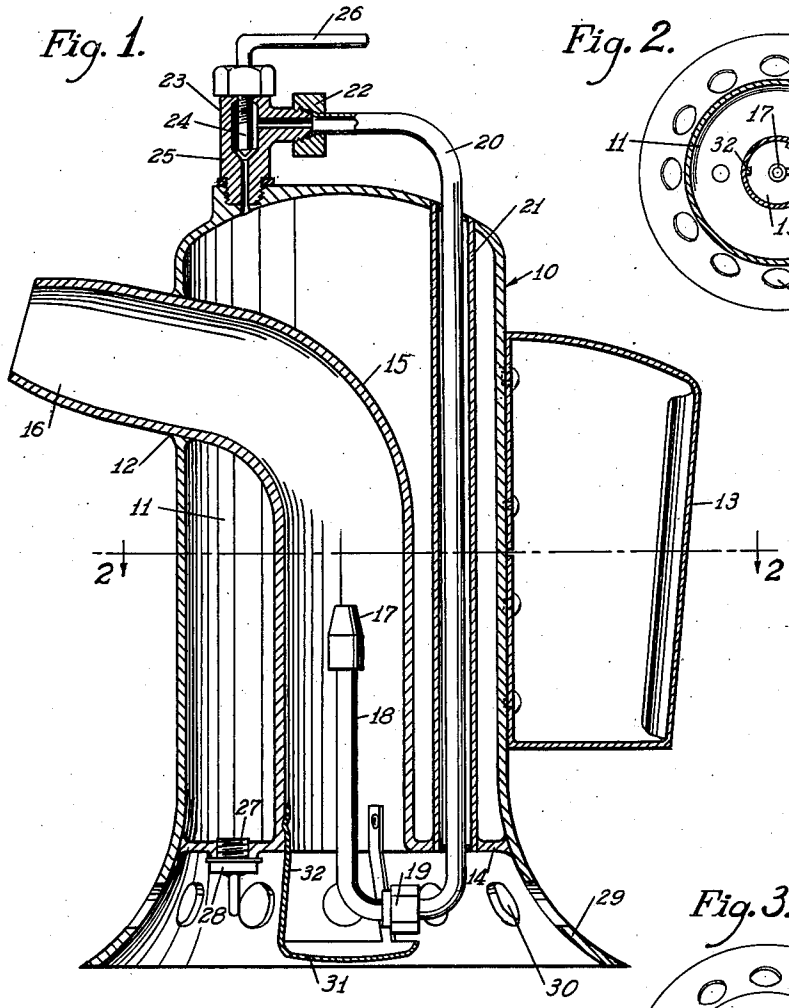


Fig. 2.

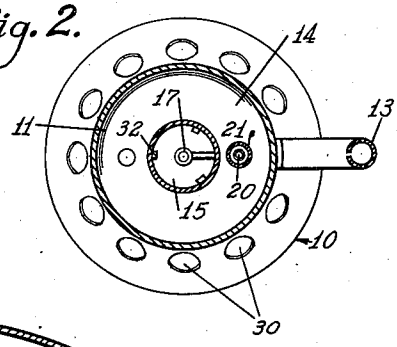


Fig. 3.

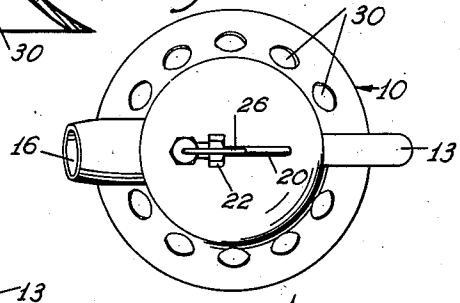
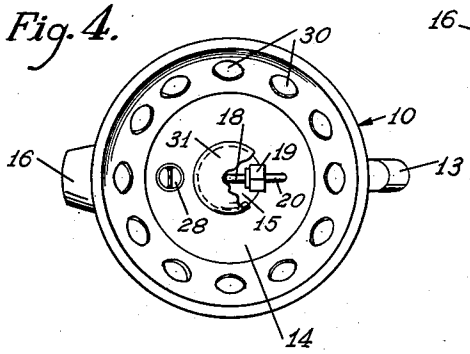


Fig. 4.



Henry Schrader

INVENTOR.

BY Clarence E. Threedy

HIS ATTORNEY.

Patented June 7, 1938

2,120,078

UNITED STATES PATENT OFFICE

2,120,078

TORCH

Henry Schrader, Chicago, Ill.

Application April 10, 1936, Serial No. 73,661

3 Claims. (Cl. 158—32)

This invention relates to certain novel improvements in torches, and has for its principal object the provision of an improved structure of this character which will be highly efficient in use and economical in manufacture.

Among the several objects of the invention is to provide a torch, of the character more fully hereinafter described and claimed, which will project a flame of steady, uniform and intense heat, and which may be used for sundry purposes.

Another object of the invention is the provision of a torch of the character hereinafter described and claimed wherein a pilot or starting burner is utilized to vaporize the fuel within the torch to create a vapor pressure which when released causes a continuous and forced flow of vapor fuel to a burner tip located centrally within a blow tube centrally located within the fuel tank, and which blow tube when heated will upon extinction of the pilot burner vaporize the fuel and cause a continuous and uninterrupted fuel supply to the burner tip to the extent of producing a fuel flow of steady, uniform and intense heat.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawing showing the preferred form of construction, and in which:

Fig. 1 is a vertical cross-sectional detail view of the invention;

Fig. 2 is a sectional detail view of reduced size of the same taken substantially on line 2—2 of Fig. 1;

Fig. 3 is a top plan view of the invention; and

Fig. 4 is a bottom plan view of the same.

Many different forms of construction may be utilized to accomplish the several objects of the invention. I, therefore, have illustrated in the drawing the preferred form of construction, and in which drawing a torch is indicated at 10. This torch 10 comprises a fuel tank 11, one wall of which is provided with an opening 12. On the tank 11 is a suitable handle 13 facilitating manipulation of the torch in use.

The bottom wall of the tank is indicated at 14, and preferably, though not necessarily, formed as an integral part thereof is a blow tube 15 including a nozzle end 16 angled to project through the opening 12. The blow tube 15 is preferably located centrally within the tank so as to provide an unobstructed passage for heat through the center of the tank through the tube 15.

Projecting into the lower end of the blow tube 15 is a burner tip 17 having connection with a supply pipe 18 connected as at 19 to a branch supply pipe 20. This branch supply pipe 20 extends upwardly through a tube 21 within the tank 11, as shown. The upper end of the pipe 20 is connected, as at 22, to a valve 23 including a valve head and seat 24 and 25, respectively, and a handle 26. If desired the tip part 17 may be omitted and the end of the pipe section 18 may be constricted or dimensioned to provide the burner.

Fuel is admitted to the tank 11 through an opening 27 normally closed by means of a removable plug 28. The base of the tank is in the form of an outwardly flaring skirt 29 having a series of air ports 30 formed therein.

To complete the invention, I provide a starting burner 31 having a plurality of resilient fingers 32 engageable in the lower end portion of the blow tube 15 for supporting the burner 31 in position.

To operate the torch, a starting fuel is deposited in the burner 31 and ignited. The flame therefrom upon passing upwardly through the blow tube 15, heats the same and vaporizes the fuel within the tank. As the fuel in the tank vaporizes, a pressure is created causing the vaporized fuel under forced pressure to escape through the pipe 20, 18, upon opening of the valve 23. The vaporized fuel under pressure will pass to the burner tip 17, and upon exiting therefrom will be ignited by the flame from the pilot or starting burner 31.

The ignited fuel escaping from the burner tip under pressure and the heat therefrom will create an upward draft through the blow tube, and this forces and spreads the fuel upwardly through the nozzle 16 in steady and uniform flow and intense heat.

The several parts of the invention will be so constructed and connected together in a manner such as will assure safety.

The torch when once started acts with regularity free of risk of explosion, and with a single flame without any secondary source of heat. The torch will operate in any position, whether upright, inclined, horizontal or even inverted.

The burner constructed in accordance with the disclosures herein is extremely efficient and is applicable to all of the uses to which the ordinary blow torch is applied. The efficiency of the heating means by which gas vapor is generated in the tank is adequate to maintain a high pressure within the tank once the torch has

