H. KOENIG.

SELF HEATING SOLDERING IRON.

APPLICATION FILED FEB. 2, 1910.

959,947.

Patented May 31, 1910.

2 SHEETS—SHEET 1.

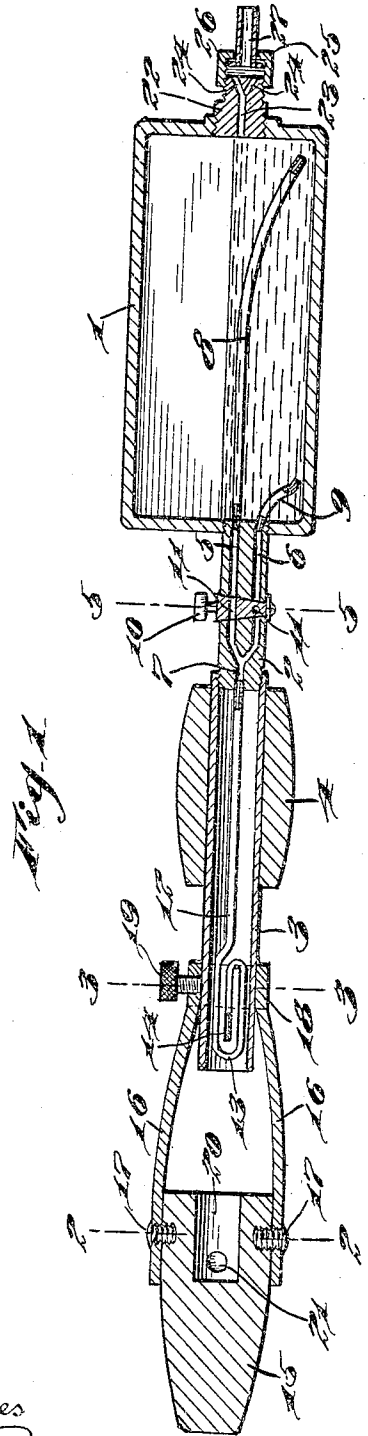

Fig. 1.

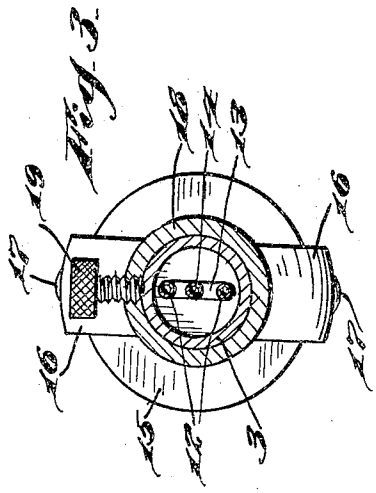

Fig. 3.

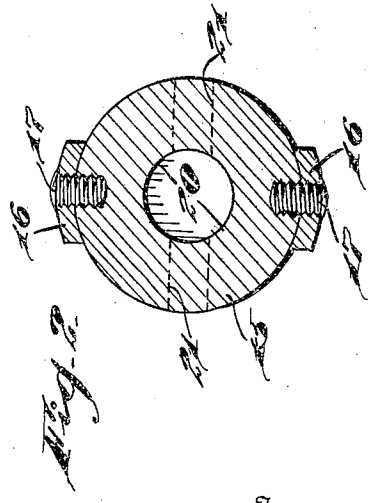

Fig. 2.

Witnesses

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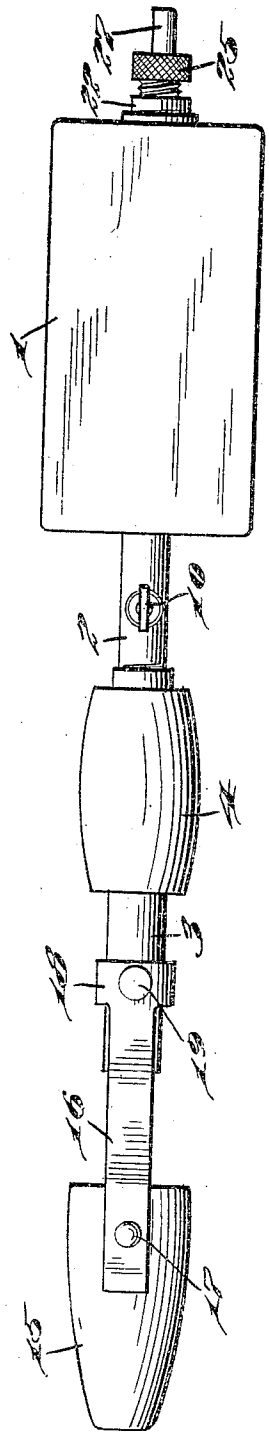

Fig. 1.

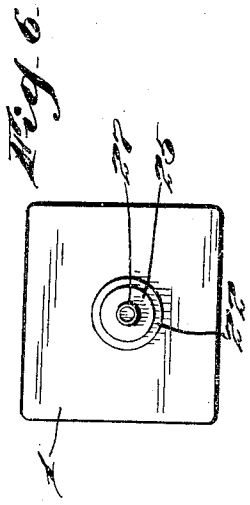

Fig. 2.

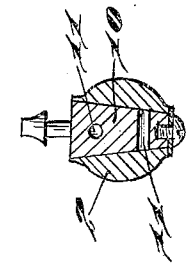

Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

HARRY KOENIG, OF PHILADELPHIA, PENNSYLVANIA.

SELF-HEATING SOLDERING-IRON.

959,947. Specification of Letters Patent. Patented May 31, 1910.

Application filed February 2, 1910. Serial No. 541,471.

To all whom it may concern:

Be it known that I, HARRY KOENIG, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Self-Heating Soldering-Irons, of which the following is a specification.

My invention relates to improvements in self-heating soldering irons, the object of the invention being to provide a soldering iron with improved means for containing liquid hydrocarbon, vaporizing and burning the same, so as to heat the soldering iron to the desired temperature.

A further object is to provide a portable tool of this character, in which, in all ordinary working positions, a supply of liquid hydrocarbon may be had as long as there is any of the same in the tank.

A further object is to provide an improved tool of this character from which the iron may be removed, and the tool employed as a torch for burning paint and the like.

With these and other 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 longitudinal section illustrating my improvements. Fig. 2, is an enlarged view in section on the line 2—2 of Fig. 1. Fig. 3, is an enlarged view in section on the line 3—3 of Fig. 1. Fig. 4, is a plan view of Fig. 1. Fig. 5, is an enlarged view in section on the line 5—5 of Fig. 1, and Fig. 6, is an end view.

1 represents a tank adapted to contain gasolene or other suitable liquid hydrocarbon. A plug 2 is screwed into a threaded opening in one end of tank 1, and a burner tube 3 is screwed on to the threaded outer end of plug 2, and is provided around the same with a handle or grip 4, preferably of wood or other non-conducting material, to enable the device to be handled while hot. Plug 2 is provided with two ducts 5 and 6, extending longitudinally from one end of the plug in tank 1 to a point near the other end of the plug. These ducts 5 and 6 converge into a single duct 7 for a purpose which will hereinafter appear. A tube 8 is secured in the plug and communicates with duct 5, and extends from the plug to a point adjacent the opposite end of tank 1. A second tube 9 is secured to the plug and communicates with the duct 6. This tube 9 is a short one and communicates with the tank 1 near its discharge end and near one side of the tank. The purpose of these tubes 8 and 9 is to insure a supply of liquid to the plug in all ordinary working positions of the tool. These ducts 5 and 6 are normally closed by a plug valve 10 having ports 11 therein at right angles to each other, one of said ports adapted to register with duct 5 and the other of said ports with duct 6. By means of this plug 10, either of these ducts may be utilized in accordance with the angle at which the tool is used, or the valve may be turned to an intermediate position to close both ducts. A tube 12 is secured to the outer end of plug 2 and communicates with the duct 7. This tube 12 extends longitudinally of the burner tube 3 to a point near the open end of tube 3 where it is provided with a bend or coil 13, so that the flame issuing from the extreme end 14 of tube 12 will heat the bent or coiled end of the tube 12, so that the hydrocarbon will be vaporized before it reaches the end of the tube and be burned as vapor.

The structure above described may be utilized as a torch to burn paint, or for any other purpose, but its primary purpose is to serve as a handle and a means of heating my improved soldering iron proper 15, which is in the form of an attachment having arms 16 secured thereto by screws 17, and said arms secured to or integral with a collar 18, adapted to fit over burner tube 3 and be secured by a set screw 19. The iron 15 has a recess 20 in its inner end in line with the burner tube so that the flame from the burner tube is directed into the iron, and with this recess 20 openings 21 communicate and extend through the iron and permit the heat to pass through the iron to utilize the maximum of heat units.

In one end of tank 1, a screw threaded plug 22 is screwed into an opening in the tank and is provided with a duct 23 extending from the inner end of the plug to a point near the outer end of the plug. A cap 25 is screwed on to the outer end of the plug, and contains a washer 26 adapted when the cap is screwed home to close branch ducts 24. A tube or mouth piece 27 is provided on cap 25, so that this mouth piece may be held between the lips of the operator, and he may

blow into tank 1 a sufficient amount of air to give the necessary pressure on the liquid fuel, and while he maintains this pressure, he can turn cap 25 to close the entrance.

Various slight changes might be made in the general form and arrangement of parts described without departing from my invention and hence I do not limit 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 the appended claims.

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

1. The combination with a tank to contain liquid fuel, of a plug connected to said tank and having two ducts therein, pipes connecting said ducts with the respective ends of the tank, a single valve controlling the passage through both of said ducts, a burner tube on the outer end of the plug, a liquid fuel tube communicating with both ducts in the plug, extending throughout the burner tube and coiled in the open end thereof, and a soldering iron removably connected to the free end of the burner tube.

2. The combination with a tank to contain liquid fuel, of a plug connected to said tank and having two ducts therein, pipes connecting said ducts with the respective ends of the tank, a single valve controlling the passage through both of said ducts, a burner tube on the outer end of the plug, a soldering iron, arms secured to the soldering iron, a ring fixed to the arms and adapted to be positioned around the burner tube, a set screw in the ring securing the same on the burner tube, said iron having a recess in line with the burner tube and openings communicating with the recess.

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

HARRY KOENIG.

Witnesses:
R. H. KRENKEL,
CHAS. E. POTTS.