To all whom it may concern:

Be it known that I, ARTHUR E. HAUCK, a citizen of the United States, and a resident of the City of New York, county of Kings, and State of New York (whose post-office address is 113 Eleventh street, Brooklyn, N. Y.), have invented a new and useful Improvement in Automatic Asphalt-Smoothing Irons, of which the following is a specification.

The object of my invention is to provide a device of this class in which the iron may be kept heated at all times while in service, so that it may be used continuously without stopping to reheat. This and other objects are accomplished by my invention, one embodiment of which is hereinafter more particularly set forth.

For a more particular description of my invention, reference is to be had to the accompanying drawings, forming a part hereof, in which—

Figure 1 is a side elevation, partially in section, of my improved smoothing iron.

Fig. 2 is a plan view of the same.

Fig. 3 is a longitudinal section of the heating device.

Figs. 4, 5 and 6 are sectional views, taken on the lines 4—4, 5—5 and 6—6 respectively of Fig. 3, looking in the direction of the arrows.

Fig. 7 is a rear elevation of the smoothing iron.

Fig. 8 is a sectional view, taken on the line 8—8 of Fig. 7.

Throughout the various views of the drawings, similar reference characters designate similar parts.

My improved iron 1 has a handle 2 at the lower end of which is a hollow smoothing iron 3, which is secured thereto by screw threads, or in any other suitable way. Next to the smoothing iron 3 is a sleeve which carries a burner 4, and above this is a tank 5 for holding kerosene or other hydrocarbon fuel. These parts will now be described beginning with the smoothing iron 3.

The smoothing iron 3 is made of the conventional shape with a convex bottom 6 which is smooth and may be rubbed on an asphalt surface in the conventional manner. The interior of the iron 3 is hollow, as indicated, to form a flame chamber 7 from which flames and the products of combustion may issue through the holes 8, which are located just above the bottom 6 and under parallel flanges 9 which are curved so as to cause the flames to heat the bottom at its edges.

The burner 4 is supported by a sleeve 10 which is held on the handle 2 by means of a set screw 11 or any other suitable device. The sleeve 10 has a projecting bracket 12 which is secured to a Bunsen mixing chamber 13 of the conventional form which has its mouth adjacent to the chamber 7. This Bunsen mixing chamber is provided with laterally extending ears 14 to which is secured a heating pan 15 in which oil may be placed and ignited so as to heat the burner 40 before it is put in use. The Bunsen chamber 13 has thickened walls at its lower side so as to provide for the longitudinal passages 16 which are connected together through the diagonally disposed passages 17 which unite in an opening 18, which has walls provided with screw threads so that the opening may be closed by means of a suitable screw plug 19. From this it is apparent that the passages 17 may be bored by a suitable drill let in through the opening 18, and the passages 16 may be bored by a suitable drill let in from the front of the Bunsen mixing chamber 13. It will also be noted that the passage in the mixing chamber is reduced adjacent to the passages 17 so that the interior of these passages will be heated by the flame in the chamber. The rear of the chamber is provided with a number of perforations 20 which permit any additional air that may be required to make the apparatus function properly.

One of the passages 16 on its front end is enlarged and screw threaded to receive a stud pipe 21 which runs to a U 22 in which is mounted a check 23 which has its center in line with the axis of the chamber 13, so that fuel will issue from this check and be projected through an air gap into the interior of the mixing chamber 13. The other passage 16 is also enlarged and screw threaded and provided with a pipe 24 which runs to a union 25 which is connected to a stud pipe 26 in which is inserted any valve or valves 27 that may be required. The stud pipe 26 ends in the interior of the tank 5. It is preferable to use two valves 27, one for regulating the flow of fuel from the tank 5, and the other for shutting this flow on and off so that the apparatus may be

UNITED STATES PATENT OFFICE.

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AUTOMATIC ASPHALT-SMOOTHING IRON.


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regulated through one valve that does not have to be touched thereafter when the iron is put in or taken out of use.

The tank 5 is composed of an outer cylindrical wall 27 an inner cylindrical wall 28 slidably mounted on the handle 2, and ends 29 which are preferably integral with the outer wall and screw threaded to the inner wall. One of these ends 29 receives the pipe 26, as shown in Fig. 1, and the other or upper end is provided with a boss 30 in which is fixed an air pump 31 by means of which pressure may be put on top of the oil in the tank 5 when the operator so desires.

In view of the foregoing, the operation of my apparatus will be readily understood. The air pump 31 is operated enough to put sufficient pressure on the oil in the tank 5, and one valve 27 is regulated so as to permit a suitable flow of oil, and the other valve 27 is opened so that some oil may escape through the check 28 and the passages connected therewith. This oil is caught in the pan 15 and is ignited and thereby the pipes 21 and 24 and the walls of the chamber 13 are heated, and this oil issuing from the check 28 mingles with the air about the same and passes under pressure into the interior of the chamber 13, where it is ignited so that a heating flame of some intensity passes into the chamber 7 of the smoothing iron 3 and heats the lower surface 6 thereof so that the same is ready for application to the asphalt. The iron is then used in the conventional manner as long as desired and when the workman finishes with it, he closes the shut off valve 27 and then the flame becomes extinguished for the want of fuel. By operating the pump 31 and regulating the regulating valve 27 it is easy to keep the iron 6 at any desired temperature.

While I have shown and described one embodiment of my invention, it is obvious that it is not restricted thereto, but is broad enough to cover all structures that come within the scope of the annexed claims.

What I claim is:

1. In a device of the class described, a hollow smoothing iron with a handle secured thereto, a burner and a tank sleeve on said handle so that the tank may supply fuel to the burner and means for adjustably mounting the burner and tank on the handle so that a proper flame can be projected into the smoothing iron to heat the same when in use.

2. In a device of the class described, a handle with a smoothing iron fixed to one end thereof, a burner and a tank slidably mounted on said handle and means for fixing them at any desired location so that the flame may be projected so as to heat the smoothing iron with the desired intensity when the device is in use.

3. In a device of the class described, a handle with a hollow and perforated smoothing iron fixed at one end thereof, a flange above the perforations which is adapted to project the flames against the smoothing surface of the iron, a tank and burner mounted on said handle and means for securing the same so that they may be adjusted with regard to the smoothing iron so as to heat the same with any desired degree of intensity when the iron is in use.

ARTHUR E. HAUCK.