

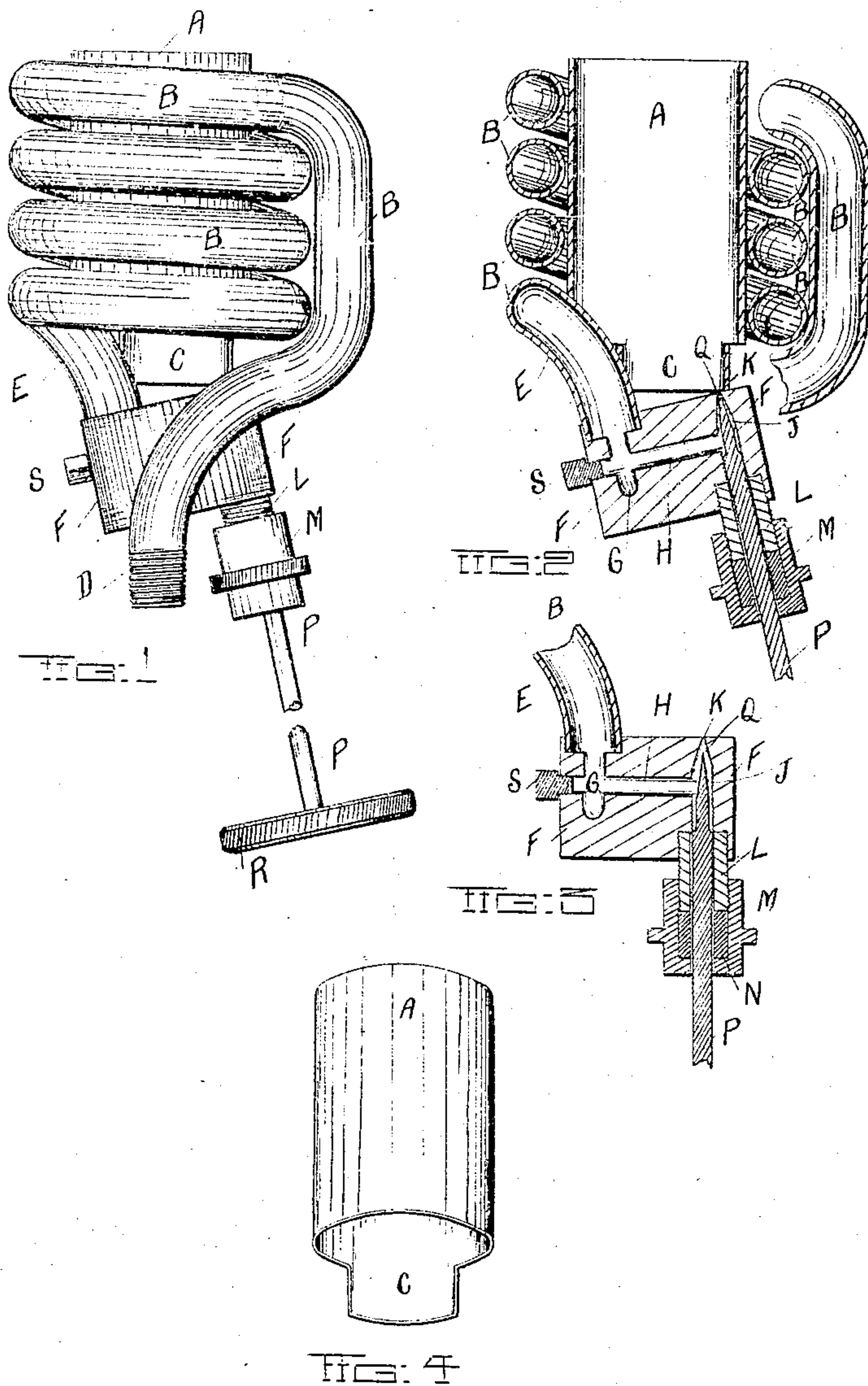
No. 765,985.

PATENTED JULY 26, 1904.

A. McLEOD.
BURNER.

APPLICATION FILED OCT. 27, 1903.

NO MODEL.



Witnesses,
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UNITED STATES PATENT OFFICE.

ANDREW McLEOD, OF ARCH HILL, NEAR AUCKLAND, NEW ZEALAND.

BURNER.

SPECIFICATION forming part of Letters Patent No. 765,985, dated July 26, 1904.

Application filed October 27, 1903. Serial No. 178,788. (No model.)

To all whom it may concern:

Be it known that I, ANDREW McLEOD, engineer, a subject of His Majesty the King of the United Kingdom of Great Britain and Ireland, and a resident of Arch Hill, near the city of Auckland, in the Provincial District of Auckland and Colony of New Zealand, have invented a new and useful Improved Burner and Heater, of which the following is a specification.

This improved burner and heater is designed to provide a more or less intense and continuous heat for soldering, burning off paint, branding, and other like purposes where a continuous and powerful heat is required.

This burner and heater consists of a tube or short cylinder, with a lip at one end and a pipe coiled round the tube, having one end of pipe fitted to a feed-reservoir and other end of pipe fitted to a casting, bored, as hereinafter described, with nipples fitted to under part of casting, gland packed with asbestos or such like screwed on nipple, and rod partly screw-threaded with fine point on its upper end projected through gland and nipple and into one of bores, so that said fine point may enter and close a small outlet in upper part of casting, and with wheel or disk on its lower end for operating said rod, whereby the oil or other feed may be supplied in a heated state through the small hole and be projected in a strong flame against and through the said tube.

The accompanying drawings illustrate four figures, of which—

Figure 1 is a front elevation of the burner and heater, showing the tube with pipe coiled around it and other parts fitted and connected thereto. Fig. 2 is a sectional elevation showing the interior parts of the burner and heater. Fig. 3 is a broken part of Fig. 2, showing the point of rod withdrawn from the hole in upper part of casting; and Fig. 4 is a front elevation of tube showing lip formation of bottom thereof.

The tube A, with its lip C, is placed central to the pipe B, which is coiled around the tube A, as shown particularly in Fig. 1. One end, D, of the coiled pipe B is outwardly screw-threaded, so that it may be connected to the feed-reservoir, which is not shown on the

drawings, as any reservoir that will suit may be used, and the other end, E, is screwed, brazed, or otherwise suitably connected to a casting F, as shown in Figs. 1, 2, and 3. The casting F is provided with a central bore H, a transverse bore J, and an inlet-bore G, the opening into the central bore being closed by a plug S, and one end of the transverse bore is drawn to a smaller diameter to form a vapor jet or outlet K. The other end of the transverse bore J is of a larger diameter than the other end thereof and is screw-threaded and has extending therein an exteriorly-screw-threaded hollow nipple L, upon which is mounted an interiorly-screw-threaded gland M. The inside of the gland is so packed with asbestos or other suitable packing N that the rod P can be projected therethrough and through the nipple L and bore J until the fine point Q of the rod P engages and closes the small outlet K. Part of the bore J, just below the intersection with it of the central bore H, is reciprocally screw-threaded, so that a partial screw-thread provided upon the rod P may engage it and work therein, whereby the rod P may be screwed up or down, as required, with its fine point Q, either to close the outlet K or leave it open. The disk or wheel R is provided for operating and turning the rod P upward or downward. The rod P is shown broken, more especially in Fig. 1; but it may be made as long or short as required to suit the attachment to the reservoir used. The lip formation is given to the tube A, so as to keep it in position within the coiled pipe B, and it, the lip C, may be slightly bent outward when fitted in to make it hold the better. The bore H is closed by the screw-plug S.

Though the end D is shown and described as being made to screw into the reservoir, it may be fitted thereto in any other safe and suitable manner. Also the end D of the coiled pipe B may be fitted into the casting F and the end E fitted to the reservoir, so that the first supply of oil or other feed may start to pass round the tube from the bottom instead of from the top, as here described and illustrated. It has been found by testing that it is better to fix the ends D and E in the man-

ner first set out, as the oil or feed passes better heated thereby and directly into the casting F. The pipe B is shown on the drawings as coiled round the tube A four times; but it
5 may be coiled more or fewer times than four times, according to requirements.

In practice when the burner and heater just described is fitted or screwed to any suitable feed-reservoir and it is desired to bring
10 it into play or use the disk or wheel R is reversed by the finger and thumb of the user, so that the rod P is turned backward and its point Q thereby withdrawn from the outlet K, when the oil or other feed flowing from the
15 reservoir having meanwhile passed through the coiled wire will be pressed out and lighted, whereby a more or less strong flame will be thrown or projected against and through the tube A, the result of which will be that
20 the coiled pipe will become more or less red-hot, and the oil or other feed within it is superheated, and thereby tends to intensify the heat produced by the flame obtained from the small hole. The flame can be reduced or
25 moderated by the needle or fine point Q being turned into the outlet K and partly clos-

ing it, and, on the other hand, the flame can be increased and intensified to any degree required by fully withdrawing the needle or fine point Q from the small outlet K.

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Having fully described my invention, what I desire to claim and secure by Letters Patent is—

A burner and heater comprising a tube provided at its lower end with a lip, a casting arranged below said lip, inclined with respect
35 to said tube and provided with a central bore terminating in a transversely-extending outlet-bore having one end drawn to a small diameter to provide a vapor-jet outlet, said central bore communicating with an inlet-bore, a
40 plug for closing said central bore, means extending into said transversely-extending outlet-bore for regulating the passage of vapor to the jet-outlet, and a vaporizing-coil surrounding said tube and communicating at one
45 end with a source of supply and at its other end with said inlet-bore.

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Witnesses:

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