

No. 636,100.

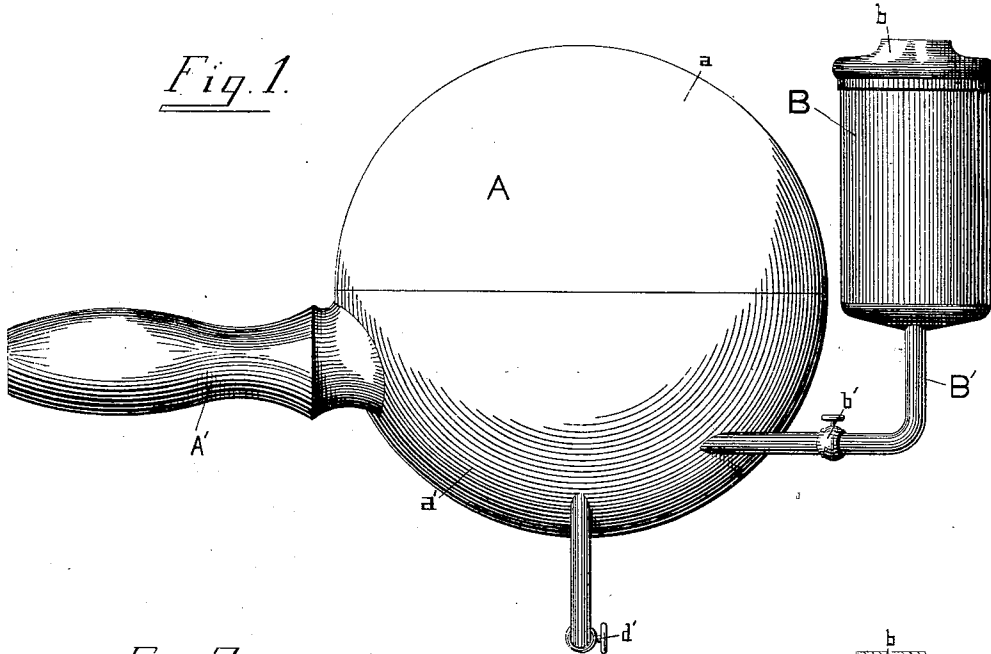
Patented Oct. 31, 1899.

L. AUSTIN.  
BLOWPIPE.

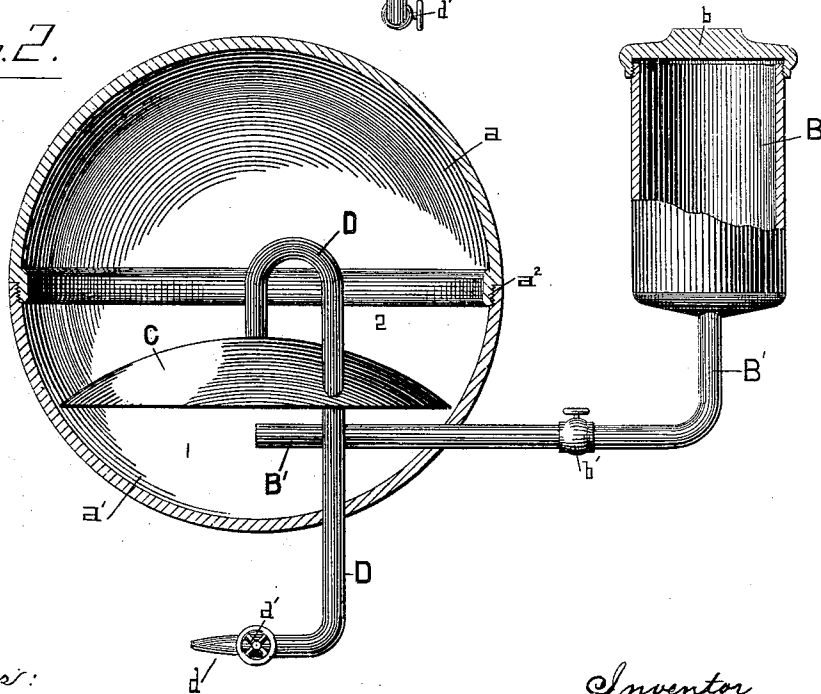
(Application filed June 16, 1897.)

(No Model.)

*Fig. 1.*



*Fig. 2.*



Witnesses:  
*L. Austin*

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*Lloyd Austin*  
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# UNITED STATES PATENT OFFICE.

LLOYD AUSTIN, OF ANACONDA, MONTANA, ASSIGNOR OF ONE-HALF TO  
JOHN B. SALTER, OF SAME PLACE.

## BLOWPIPE.

SPECIFICATION forming part of Letters Patent No. 636,100, dated October 31, 1899.

Application filed June 16, 1897. Serial No. 641,026. (No model.)

*To all whom it may concern:*

Be it known that I, LLOYD AUSTIN, a citizen of Great Britain, residing at Anaconda, in the county of Deer Lodge, State of Montana, have  
5 invented a new and useful self-acting blow-pipe for the use of jewelers, dentists, assayers, and for all purposes where a blowpipe is used in soldering and brazing, of which the following is a specification.

10 This invention is an improvement in blow-pipe-burners in which the flame is derived from liquid fuel gasified by heat. Its objects are to construct a blowpipe-burner wherein the stream of gas ejected will be even and continuous and which blowpipe will retain its heat  
15 for a long time and contain a sufficient supply of gasified fuel to enable the torch to be quickly ignited when it is to be used again; also, to protect the liquid-fuel reservoir from  
20 the heat and so connect it with the heating and gas-storing chambers that the pressure of the gas therein will control the escape of the liquid thereinto, whereby only such quantity of  
25 liquid as is needed to keep up a steady flow of gas will be supplied to the heating-chamber.

The invention therefore consists in the novel construction and combinations of parts hereinafter claimed, and the accompanying drawings illustrate the best form of blowpipe-burner now known to me.

30 Referring to said drawings, which form part of the present specification, by figures and letters of reference marked thereon, Figure 1 is a side elevation of the device. Fig. 2 is a  
35 section of the same.

A designates the hollow body of the blow-pipe-burner, which is shown as globular and is formed of two hemispherical parts  $a$  and  $a'$ , which are united by threaded joints, as shown  
40 at  $a^2$ . While I prefer the globular shape of this body, it is not essential and may be of other desired form. This body is provided with a handle  $A'$ , attached to the lower part,  $a'$ , as shown.

45 Suitably supported within the lower part  $a'$  of the body and above the pipe  $B'$  is a partition  $C$ , preferably dome or funnel shaped, whose edges almost contact the sides of the body and which divides the interior thereof  
50 into an upper gas-storing chamber 2 and a lower heating or gas-generating chamber 1.

Into the lower heating-chamber 1 projects a pipe  $B'$ , which extends to about the center of the chamber and projecting outside the body extends outwardly and upwardly and  
55 supports a small reservoir  $B$ , which is adapted to contain gasolene, alcohol, or any other suitable hydrocarbon which will gasify by heat. The reservoir may be tightly closed by a cover  $b$ , screwed or otherwise secured  
60 thereon, as shown.

To the top of the dome-shaped partition  $C$  is connected a pipe  $D$ , which is curved down and extends through the partition and the heating-chamber 1 and is then bent outward to  
65 form a jet-pipe  $d$ . The jet  $d$  is preferably pointed away from the reservoir  $b$ , so that the flame therefrom will not contact the latter. The jet, however, is sufficiently close to the heating-chamber 1 to heat it by the flame. 70

The pipes  $B'$  and  $D$  may be provided with valves  $b'$  and  $d'$ , respectively, as indicated in the drawings, so that pipe  $B'$  may be closed when the reservoir is being filled, and both  
75 pipes  $B'$  and  $D$  may be closed when the blow-pipe-burner is not in use. Thus a supply of compressed gas can be trapped and retained in the chambers 1 and 2.

If using the device a small quantity of gasolene or other hydrocarbon is admitted into  
80 the heating-chamber 1 below the dome  $C$  and heat is applied to the exterior of such chamber, vaporizing the gasolene therein, and the evolved gas escapes through pipe  $D$  and is ignited at the jet  $d$  or a burner thereon, the  
85 heat of the jet thereafter maintaining the high temperature of the heating-chamber. Part of the evolved gases are trapped in the chambers 1 and 2 and stored therein under  
90 more or less pressure, so as to supply the jet  $d$  with a steady and substantially uniform current of gas. The pressure of gas in the chambers 1 and 2 retards the flow of the gasolene from reservoir  $B$ , so that the fluid escapes therefrom slowly and only in sufficient  
95 quantities to maintain the proper supply of fuel in the heating-chamber.

It will be observed that the reservoir is sufficiently removed from the heating-chamber and the jet to prevent heating thereof,  
100 and consequently there is very little gas generated in the reservoir, and the implement is

consequently much safer and better than the ordinary blowpipe-burners wherein the reservoir is subjected to heat, which produces an uneven pressure and flow of gas. Furthermore, as a large portion of the pipe D is within the body it is kept warm while in use and the flow of gas facilitated.

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

1. The combination of the portable heating-chamber, the dome therein dividing it into upper and lower storage and heating chambers, a liquid-fuel reservoir, a supply pipe connecting the reservoir with the chamber below the dome, and a gas-exit pipe connected to the dome and leading to a jet-burner exterior to the heating-chamber, substantially as described.

2. The combination of the hollow body, the reservoir exterior thereto, the pipe leading from said reservoir into the lower part of the body, a dome in the body above the inner

end of said pipe dividing it into an upper storing-chamber and lower heating-chamber, and a pipe connected to the apex of said dome and extending from the heating-chamber to a jet or burner exterior to the body, all substantially as described.

3. The combination in a self-acting blowpipe-burner of a sectional body, a dome therein dividing its interior into a storing-chamber for keeping warm the blowpipe when in use, and a lower heating-chamber; and an escape-pipe for the gas leading from the heating-chamber; with a reservoir connected with the chamber, and a pipe through which the liquid passes from the reservoir into the chamber below the dome, all substantially as described.

Dated at Anaconda, Montana, June 9, A. D. 1897.

LLOYD AUSTIN,

In presence of—

J. H. TAYLOR,

A. I. SLOAN.