(No Model.)

H. DIXON.

MINER'S LAMP.

No. 597,840. Patented Jan. 25, 1898.

Fig. 1.

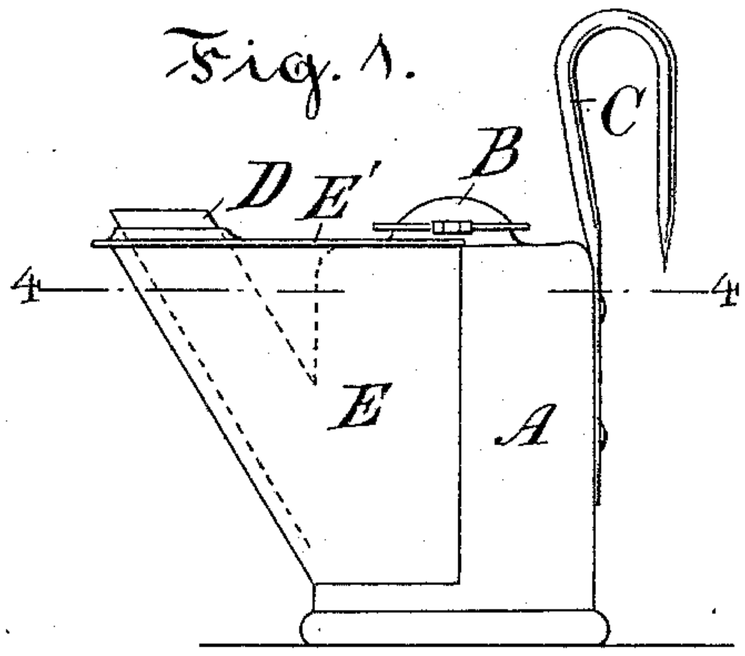


Fig. 2.

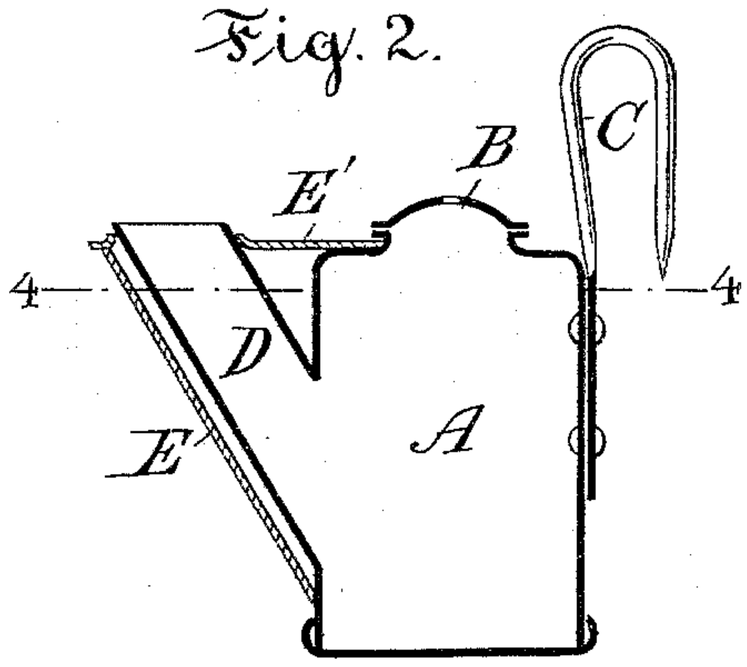


Fig. 3.

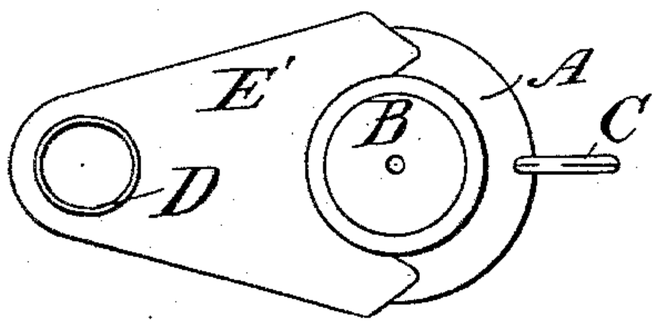
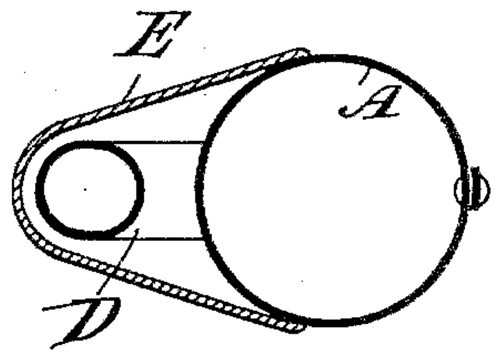


Fig. 4.



Witnesses:
Chas. Raley.
B. Harvey.

Hugh Dixon
Inventor
by A. Harvey
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UNITED STATES PATENT OFFICE.

HUGH DIXON, OF OTTAWA, CANADA, ASSIGNOR TO THE DAVIDSON MANUFACTURING COMPANY, LIMITED, OF MONTREAL, CANADA.

MINER'S LAMP.

SPECIFICATION forming part of Letters Patent No. 597,840, dated January 25, 1898.

Application filed April 14, 1897. Serial No. 632,189. (No model.)

To all whom it may concern:

Be it known that I, HUGH DIXON, of the city of Ottawa, in the Province of Ontario, in the Dominion of Canada, have invented certain new and useful Improvements in Miners' Lamps; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part thereof.

My invention, which will be hereinafter fully set forth and claimed, relates to portable lamps adapted to be used by miners and for other purposes.

The object of my invention is to provide a portable lamp without chimney that will give light without smoke.

Figure 1 is an elevation of my improved lamp. Fig. 2 is a vertical section of the same through the center, parallel to Fig. 1. Fig. 3 is a top view of the same, and Fig. 4 is a horizontal section on line 4 4, Figs. 1 and 2.

A is the reservoir for the illuminant, being preferably, but not necessarily, a cylindrical vessel of sheet metal which is a comparatively poor conductor of heat. This is partly closed at the top, leaving an opening for filling, the opening being covered in some convenient manner, such as by a hinged lid B, as shown. It is also provided with a convenient handle, such as C. A wick-tube D, extending from near the bottom of the reservoir, is provided to hold the wick. This wick-tube and the space between it and the reservoir are inclosed in a casing E, of copper or other good conductor of heat, which envelops the wick-tube and extends partly around the reservoir, with which it is in contact and to which it is secured. The space thus inclosed is also covered at the top by a cover E′, of the same or similar material as the casing E, of which it forms a part, the top of the wick-tube or burner projecting through it and being in contact therewith, and said top being also in contact with and secured to the top of the reservoir. Tallow or its equivalent is used as an illuminant, and with it the reservoir A is filled.

In operation the heat generated by the flame at the top of the burner or wick-tube is conducted by the copper casing E E′ to the part of the reservoir A adjacent to the wick-tube, causing a sufficient quantity of the solid illuminant to be melted or liquefied and adapted to be drawn up by the wick, while the main bulk of the contents of the reservoir remains in a non-liquid state. For this purpose it is necessary that the reservoir be made of a material which is a somewhat poor conductor of heat (to prevent the liquefaction of the illuminant) and the casing E E′ of a good conductor, such as copper, to conduct just sufficient heat from the burner to cause the necessary quantity, and no more, of the illuminant to be liquefied to allow it to be drawn up by the wick and there be gasified.

I claim as my invention—

1. In a lamp, the combination of a reservoir, a wick-tube extending from near the bottom of said reservoir and a casing of a better heat-conducting material than that of which the reservoir is made enveloping said wick-tube and partly enveloping said reservoir and the space between said reservoir and wick-tube and being in contact therewith and secured thereto, substantially as set forth.

2. In a lamp, the combination of a reservoir, a wick-tube extending obliquely from near the bottom of said reservoir, a casing enveloping said wick-tube and inclosing the space between it and the reservoir and partly enveloping said reservoir and being in contact with and secured to the same and being of a better heat-conducting material than that of which the reservoir is made and a non-fluid hydrocarbon as illuminant in said reservoir, substantially as set forth.

In testimony whereof I have signed this specification in the presence of the undersigned witnesses.

HUGH DIXON.

Witnesses:
A. HARVEY,
B. HARVEY.