

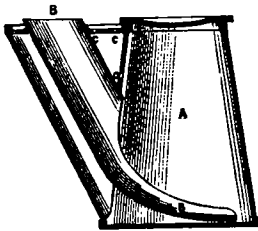
*A Portable Blowpipe Lamp.*

By J. STUART THOMPSON.

[Read October 24th, 1882.]

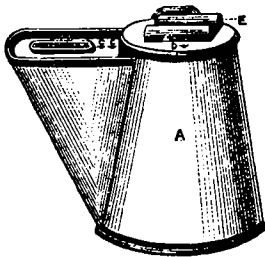
**W**HILE making some experiments with a form of miner's lamp, which has recently been introduced for the purpose of burning soft paraffin wax in place of tallow, it occurred to me that this wax, which melts at about 98°C., would be a very suitable fuel for a portable blowpipe lamp, being both cheap and cleanly. Having thus got a suitable fuel, the next step was to devise a lamp to burn it, and after one or two trials the form shown in the annexed sketches was adopted. From these it will be seen that in shape it somewhat resembles an ordinary miner's lamp; the exterior form, however, may be altered to suit special requirements, without interfering with the working of the lamp; thus it may be made square or oblong for packing into a cabinet.

The following is a description of the lamp:—the body A is made of thin tin plate or sheet brass; the wick tube or holder B is formed of sheet copper, and is carried down into the interior of the lamp, as is shown in



the sectional sketch; the object of this is to conduct a portion of the heat to the paraffin, and so liquify it. The small holes CC in the saucer surrounding B, in the body of the lamp, are for the purpose of allowing any overflow of wax from B to escape back into A. The lid or cover of the lamp is perforated at D in order to admit air to the body of the lamp, so preventing

any alteration of pressure taking place there, which might interfere with the rise of the melted wax in the wick. The channel E (shown only in



the perspective elevation) serves as a support for the nozzle of the blowpipe. The wick should be a soft cotton one, as loosely woven as can be procured, and care should be taken that it fits the wick tube as tightly as possible.

In order to start the lamp, it is advisable to fill it at first with *melted* paraffin ; this is done in order that the wick may become saturated with the wax ; but thereafter the paraffin may be added in small pieces, the heat of the lamp being sufficient to liquify it. In place of having the rest E on the lid of the lamp, a very convenient and portable arrangement is to solder on in its place a small piece of brass tube, in which slides a blowpipe nozzle, to which, by means of a piece of india-rubber tubing about 18 inches long, a mouthpiece is attached. This arrangement has the advantage that both hands of the operator are thereby left free to manipulate the substance under examination.

Lamps of the above pattern and soft paraffin wax can be procured from Wm. Hume, 1 Lothian Street, Edinburgh.