(No Model.)

2 Sheets—Sheet 1.

J. MACDONALD.

OIL LAMP FOR REMOVING PAINT, &c.

No. 576,274. Patented Feb. 2, 1897.

Fig. 1.

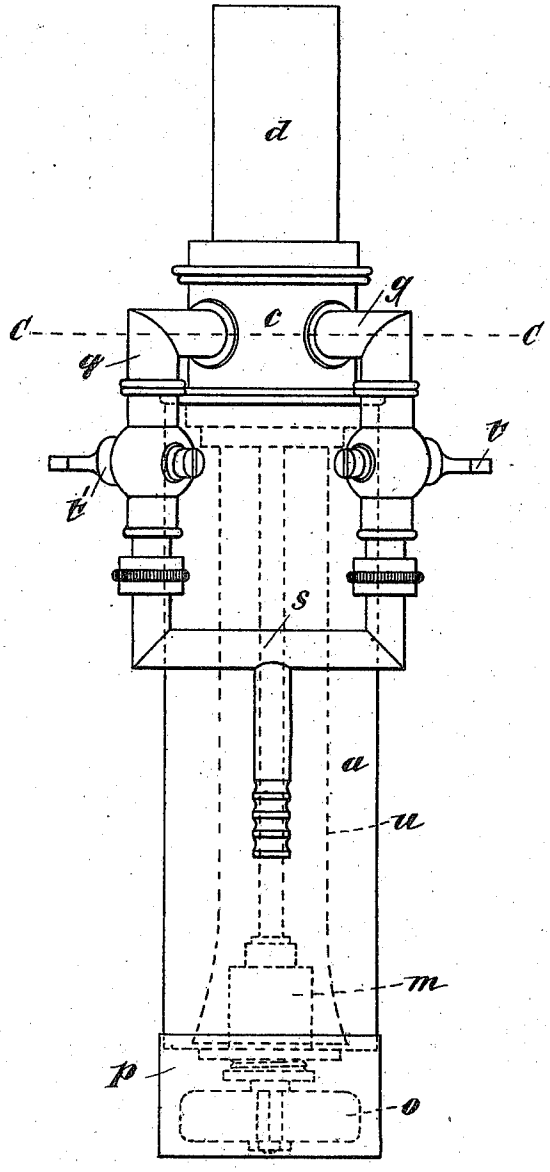
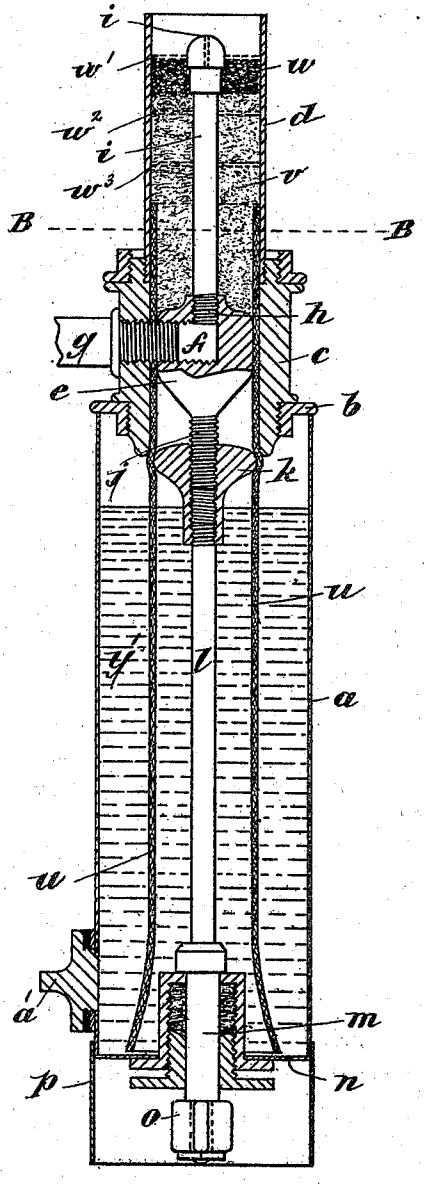


Fig. 2.



Witnesses:-
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(No Model.) 2 Sheets—Sheet 2.

J. MACDONALD.

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Fig. 3.

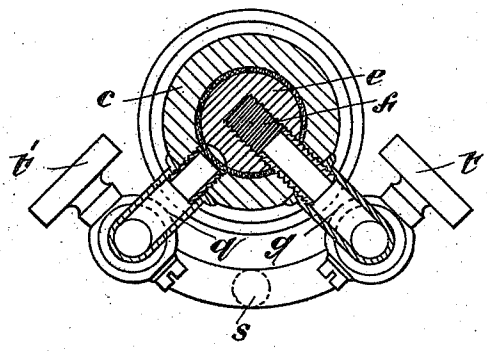


Fig. 4.

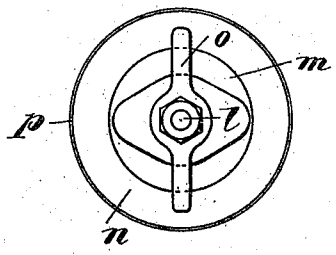


Fig. 5.

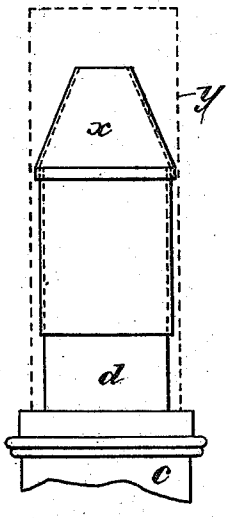
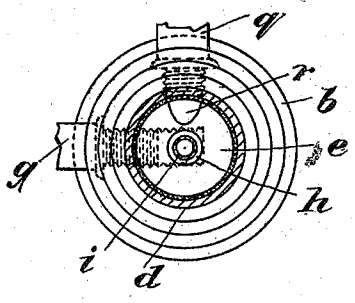


Fig. 6.



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UNITED STATES PATENT OFFICE.

JAMES MACDONALD, OF EDINBURGH, SCOTLAND.

OIL-LAMP FOR REMOVING PAINT, &c.

SPECIFICATION forming part of Letters Patent No. 576,274, dated February 2, 1897.

Application filed December 26, 1895. Serial No. 573,242. (No model.) Patented in England July 18, 1895, No. 13,717.

To all whom it may concern:

Be it known that I, JAMES MACDONALD, a subject of the Queen of Great Britain, and a resident of the city of Edinburgh, Scotland, have invented certain new and useful Improvements in Oil-Lamps for Removing Paint, Plumbers' Work, and other Like Purposes, (for which I have obtained Letters Patent of Great Britain, No. 13,717, dated July 18, 1895,) of which the following is a specification.

This invention relates to oil-lamps of the class generally used for removing paint, plumbers' work, and such like purposes, and it has for its object to improve their construction; and in order that my said invention may be properly understood I have hereunto appended two explanatory sheets of drawings, whereon—

Figure 1 is a front elevation of the lamp. Fig. 2 is a vertical section of the lamp. Fig. 3 is a cross-section on the line C C, Fig. 1. Fig. 4 is an inverted plan view of the lamp. Fig. 5 is a view of the mixing-chamber and conic cover. Fig. 6 is a cross-section on the line B B, Fig. 2.

Referring to the drawings, whereon the same reference-letters wherever repeated indicate the same parts, the lamp consists of a cylindrical oil-container *a* with a screw-plug *a'* for filling the same. The container is connected at top by a cover *b*, into which a hollow plug or cylinder *c* is screwed, and this plug or cylinder has a tubular mixing-chamber *d* screwed into its upper end. Fitted in the plug or cylinder *c* is a solid block *e*, having a horizontal channel *f* bored in it and screw-tapped for the reception of the screwed end of a branch tube *g*. A vertical channel *h*, which communicates with the channel *f*, is also bored in the block *e* for the reception of a long tubular nipple *i*. On the lower side of the block *e* is a screwed projection *j*, on which is screwed a button or stop-piece *k*, carried on the end of a vertical rod *l*, whose lower end passes out through a stuffing-box *m* in the bottom *n* of the container. This rod is capable of being turned so as to screw the button or stop-piece *k* up or down on the projection *j* by means of a thumb-piece or handle *o*. An extension *p*, which surrounds the outer end of the rod *l* and the handle *o*, is made on the bottom of the container.

A second branch tube *q* is screwed into the plug or cylinder *c* and communicates with a vertical groove or passage *r*, made in the upper part of the block *e*, as shown at Fig. 6. Both branch tubes *g q* are coupled to a pipe *s*, which, by means of a flexible connecting-pipe, (not shown,) communicates with any suitable bellows, pump, or air-blast device capable of forcing a blast of air into and through the tubes *g q*. As will be seen at Figs. 1 and 3, these tubes *g q* are provided with stop valves or cocks *t t'*.

The wick *u*, which is a circular one, is passed from the oil-container around the outside of the button-piece *k* and up through the hollow plug or cylinder *c*, around the block *e*, to the chamber *d*, into which it projects a short distance. The space in the chamber *d* around the nipple *i* is, as shown at Fig. 2, filled or partially filled with cotton-waste *v*, surmounted by a layer of asbestos *w*, or asbestos alone may be used. A disk of wire-gauze *w'* may be placed on the top of the asbestos, and similar disks, as shown in dotted lines at w^2 w^3, may be placed at intervals in the mixing-chamber. The tube *g* is passed through a hole in the wick *u* and into the block *e*.

x is a conic cover fitted over the mixing-chamber *d* for the purpose of concentrating the flame.

When not in use, the lamp can be covered up by means of a cap, as indicated in dotted lines at *y*, Fig. 5.

y' is the oil in the container.

Any class of light hydrocarbon or mineral oil can be used with this lamp, such as naphtha, benzin, paraffin, &c.

When working with the lamp, the filling-plug *a'* is screwed out of the container and the desired quantity of oil poured in. Thereafter the filling-plug *a'* is screwed again into place and the pipe *s* connected with the bellows or blast device, whereupon the lamp is lighted. The air-blast enters the plug or cylinder *c* in two streams from the pipes *g q*, one of which passes up through the central nipple *i* and the other passes up the passage *r* and percolates through the cotton-waste and asbestos. In this manner the oil and oil-vapor

are thoroughly atomized and mixed with air, so that while a high standard of combustion is attained a powerful smokeless heating-flame is produced.

The lamp can be grasped round the container *a* like a torch when being used and the flame directed in any direction.

If desired, a single air-blast can be used.

By screwing the button or stop-piece *k* up and down by means of the handle *o* the wick *u* can be squeezed more or less against the plug or cylinder *c* and the amount of oil passing up the wick regulated, so as to increase or diminish the flame, as desired.

The air-blasts can be regulated by means of the cocks *t t'*.

The lamp is applicable for all purposes where a strong smokeless heating-flame is required.

The lamp may be modified in its construction without departing from the principle of the invention.

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

1. In a lamp for removing paint, plumbers' work, and for other like purposes, the combination with an oil-container adapted to be grasped in the hand like a torch, a hollow plug secured in the end of the container and a mixing-chamber secured in the end of said hollow plug, of a cylindrical wick extending from the container, through said hollow plug into the mixing-chamber, a block fitted in said hollow plug, within the wick, and having a channel extending through it and a vertical groove or passage in its upper part, and two tubes fitted to the container and adapted to be connected to an air-blast device and terminating respectively in said channel and vertical groove and to deliver two blasts of air under pressure to the inside of the wick, substantially as set forth.

2. The combination with the oil-container, a hollow plug secured in the end of said container and a mixing-chamber secured in the end of said hollow plug, of a cylindrical wick extending from the container into the mixing-chamber, a block fitted in said hollow plug within the wick, and provided with two independent channels, a tubular nipple fitted in the top of said block in communication with one of its channels and extending through the mixing-chamber and a bifurcated air-blast pipe one branch of which is in communication with the channel of the block with which said tubular nipple communicates and the other branch is fitted into the channel of the block opening into the mixing-chamber, substantially as set forth.

3. The combination with the oil-container, a hollow plug secured in the end of the container and a mixing-chamber secured in the end of said hollow plug, of a cylindrical wick extending from the container through the hollow plug into the mixing-chamber, means for supplying an air-blast to the mixing-chamber within the cylindrical wick, a button or stop-piece arranged within the wick below said hollow plug, and means connected to said button and extending through the bottom of the container for adjusting the button to clamp the wick between the hollow plug and button, substantially as set forth.

4. The combination with the oil-container, a hollow plug secured in the end of the container, a mixing-chamber secured in the end of the hollow plug and a cylindrical wick extending from the container through the hollow plug into the mixing-chamber, of a block fitted within the wick in the hollow plug and provided with channels and with a tubular nipple extending through the mixing-chamber, a bifurcated air-blast pipe arranged to deliver air through said tubular nipple and also into the bottom of the mixing-chamber, and means for regulating the supply of oil through the wick to the mixing-chamber, substantially as set forth.

5. The combination with the oil-container, a hollow plug secured in the end of said container and a mixing-chamber secured in the end of the hollow plug and containing cotton-waste or the like, of a tubular wick extending from the container through said hollow plug into the mixing-chamber, a block fitted in said hollow plug, within the wick, and provided on its bottom with a screwed projection, a stop-piece or button screwed on said projection, an adjusting-rod connected to said stop-piece and extending through the bottom of the container, and means for supplying air to the mixing-chamber, substantially as set forth.

Signed at Glasgow, Scotland, this 28th day of November, A. D. 1895.

JAMES MACDONALD.

Witnesses:

H. D. FITZPATRICK,

WILLIAM GALL.