

WILLIAMS & TEW.

Lamp.

No. 2,140.

Patented June 26, 1841.

Fig. 2.

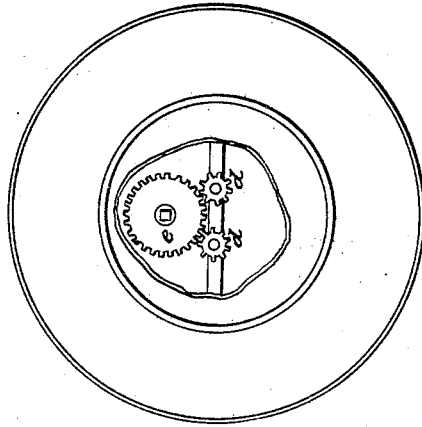


Fig. 1.

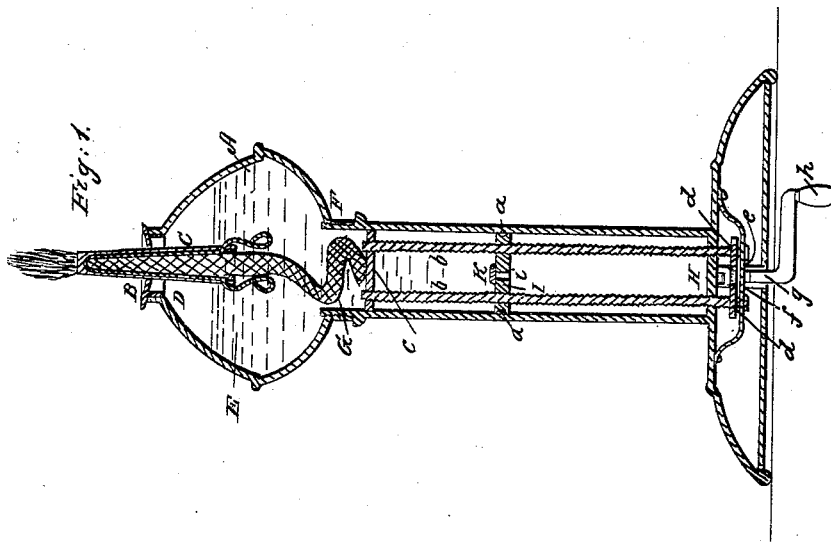
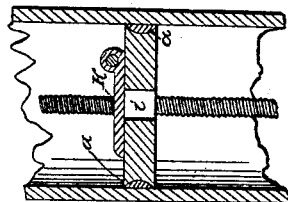


Fig. 3.



# UNITED STATES PATENT OFFICE.

EDWD. T. WILLIAMS AND L. T. TEW, OF NEWPORT, RHODE ISLAND.

## LAMP FOR BURNING LARD AND OTHER CONCRETE SUBSTANCES.

Specification of Letters Patent No. 2,140, dated June 26, 1841.

*To all whom it may concern:*

Be it known that we EDWARD T. WILLIAMS and LATHAM T. TEW, of Newport, in the State of Rhode Island, have invented a new, useful, and improved lamp for burning lard and such other concrete combustible matters of a like character which at the ordinary temperature of the atmosphere are in a solid state, but become fluid by the application of heat thereto, and which can be successfully burned in such a lamp, and that the following is a full and exact description of the same, reference being had to the accompanying drawings, which, taken in connection herewith form our specification, setting forth the principles of our invention, by which it may be distinguished from others of a like character and such parts or combinations thereof as we claim and for which we solicit an exclusive property to be secured to us for fourteen years by Letters Patent.

Figure 1 of the drawings represents a vertical section of our lamp, and Figs. 2 and 3 exhibit some parts in detail as will be hereafter explained.

A is the reservoir of the lamp, which is intended to contain the lard, the same being introduced through the aperture in the top of the lamp, into which the screw B which supports the wick tube is adapted in the usual manner. In order to melt the lard, so as to enable it to use in the wick, by capillary attraction a bent copper or metallic wire D is inserted in the wick tube and passes down through the same into the lard E as seen in the drawing. The upper part of this bent wire being in contact with the flame, the heat is conducted by the wire into the lard and melts the same. This method, of liquefying the concrete matter to be burned, has long been well known, and therefore we shall proceed to describe the material part of our invention, which consists in the method of feeding the reservoir A with lard to supply the place of that gradually consumed by the flame. The neck F of the lamp, on the top of which the reservoir A is adapted by means of a screw G, consists of a long tube open at the top, or communicating freely with the reservoir A and closed at bottom by a small circular plate H fitted and soldered therein. The interior of the tube F, is to be bored out perfectly cylindrical and of equal diameter throughout, and is to have a movable piston

I arranged therein. This piston consists of a cylinder of metal, having its circumference or edge grooved or hollowed out as seen in section in Figs. 1 and 3, in which groove cotton thread or other suitable packing is introduced, so that when the piston is inserted in the neck F it shall fit tightly therein so as not to permit any of the lard to escape by or pass below the same.

Two wires *h, h*, Fig. 1, have screws formed upon them throughout their entire length, with the exception of a short distance at each of their upper ends, where they are inserted and turn in a bar C, extending across the top of the tube F and also a short distance at each of their lower ends, where they pass through the bottom H and below the same. The screws *h, h*, work in corresponding female screws formed through the piston I so that when they are revolved they will cause the piston I to rise or fall at pleasure. These screws are operated by means of a small toothed pinion *d* placed on the bottom of each into both of which the teeth of a wheel *e* play; the wheel *e* being placed on one side of the pinions *d, d*, as represented in Figs. 1 and 2. The shaft *f* of the wheel *e* is made hollow in the form of a frustum of a pyramid into which a corresponding key *g*, which has a crank *h*, on its end is to be adapted, which on being turned, causes the screws *h, h* to revolve and thereby raise the piston.

It was before mentioned that the space of the tube F, above the piston, communicates freely with the body or reservoir of the lamp containing the combustible material. On filling the lamp the piston should be lowered until it rests upon the bottom H, therefore the lard will descend and fill the tube F above the piston. In proportion as the lard is consumed, the piston is to be elevated by the screws *h, h*, and consequently the lard in the tube F will be forced upward into the reservoir A, and will supply the place of that gradually absorbed and burned by the wick.

The piston I has a circular hole *i* Figs. 1 and 3 bored through its center, over which a hinged valve *k* opening upward is arranged, the object of the same being to permit any lard, which may escape by the piston into the space beneath the same to flow upward through the aperture *i* into the space above the piston, when the piston is depressed or brought down so as to rest upon

the bottom H of the tube F when the piston is elevated the valve closes and will remain so until depressed as before mentioned.

Having thus described our improved lamp  
5 we shall claim—

The method of feeding the same or elevating the lard into the reservoir which contains the wick, by means of a movable piston inserted in the tube or neck and operated by  
10 means of two long screws arranged in said tube and adapted to work in corresponding screws formed through the piston and revolved by the geared pinions toothed wheel

and key, the whole being constructed and arranged substantially as herein above set  
15 forth.

In testimony that the above is a true description of our said invention and improvement we have hereto set our signatures this  
20 twenty-sixth day of April in the year eighteen hundred and forty-one.

EDWARD T. WILLIAMS.  
LATHAM T. TEW.

Witnesses:

JOHN STERNE.  
SAM'L STERNE.