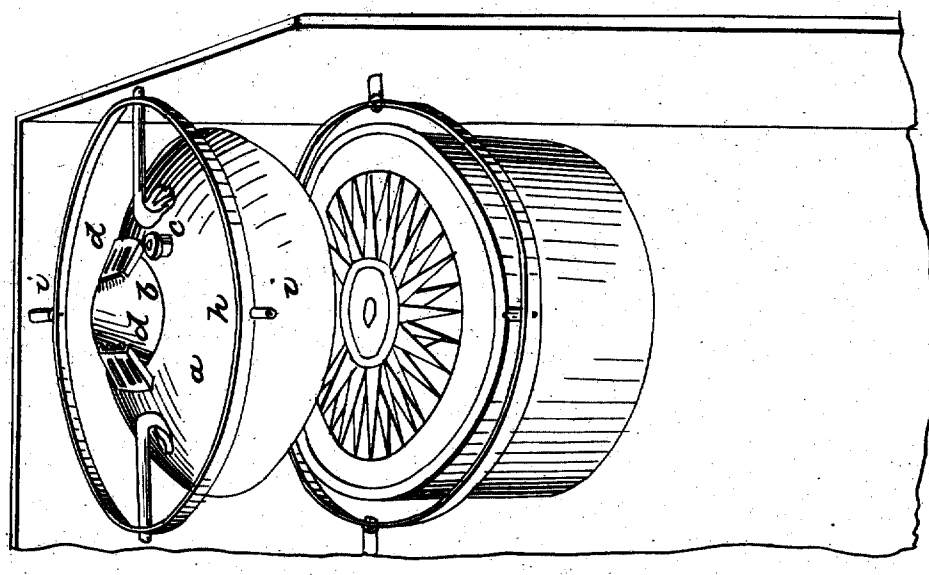
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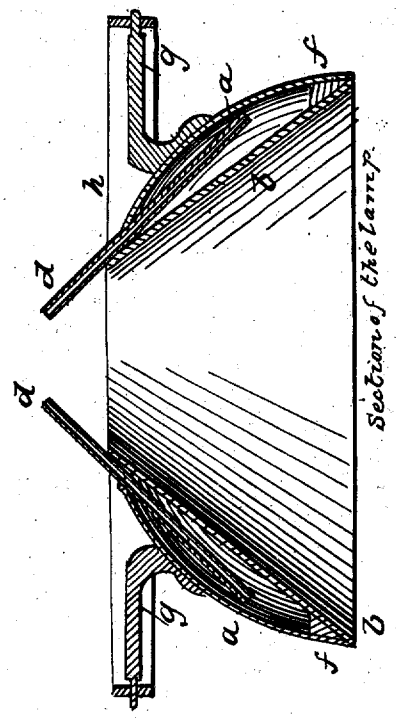
# W. LAWRENCE.

## Binnacle Lamp.

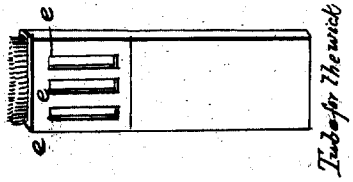
Patented Nov. 14, 1832.




Perspective view of the lamp, with the cover in the binacle.




Section of the Lamp.




Tube for the wick

N. PETERS, Photo-Lithographer, Washington, D.C.

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Nov. 14. 1882



William Lawrence of Meriden, Connecticut.

## Letters Patent.

The schedule referred to in these Letters Patent, and making part of the same containing a description in the words of the said William Lawrence of his improvement in giving light to Binnacle called "Lawrence's Binnacle Lamp."

To all to whom these presents shall come,

Be it known that I William Lawrence of Meriden in the County of Newhaven and State of Connecticut a native citizen of said State and of the United States have invented a new & useful improvement in giving light to Binnacles which I call Lawrence's Binnacle Lamp & that the following is a full and exact description of the construction & operation of said Machine as invented or improved by me.

The lamp is composed of two shells the outside shell resembling a bowl, about six inches in diameter & two & a half inches deep with a hole in the bottom about two inches in diameter. The bottom of the bowl turned up is the top of the lamp. The inside shell is of a bell or trumpet mouth shape, also of about six inches in diameter at the widest opening & of about two inches at the other, so that the openings of the two shells at top and bottom shall exactly correspond & these corresponding edges are to be closely & firmly soldered together forming by the dwelling of the outer shell, a cavity for oil.

Near the open orifice, on the top of the lamp is an opening about half an inch in diameter to pour in oil & may be closed by a cork or screw stopper. Also on each side of the open orifice on the top are cut, or formed, two or more openings about an inch in length and about one eighth of an inch broad, to receive corresponding tubes, for wicks, these tubes are about three inches long descending about two inches into the oil chamber and rising over the open orifice in the top about one inch at an angle of about forty five degrees, thereby bringing the blaze of the wicks when inserted in the tubes, directly over the open orifice of the lamp, this is what the light is diffused downward upon the compass & is increased by reflection from the external & brilliant surface of the inner shell.

These tubes may be made of copper wire, shaped to fit the orifices made

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for them, having two or more slits in the projecting part of each for the convenience of moving the wick & may be taken out for its insertion with ease & pleasure.

The body of the lamp or the shells may be made of any suitable metal from plate, or castings, I prefer to cast the shells separate of hard white tin in moulds & when put together they are turned & well burnished or polished especially on the inner shell.

To produce the balance of the lamp when filled with oil, a rim of lead is cast in a tin mould, of a shape equally fitted to the lower section of the inner space, between the shells weighing about seventeen ounces, which is inserted between the shells before they are soldered together.

This will over balance a pound of oil, which it is calculated the cavity may hold, and the horizontal level of the lamp when hung in the manner hereinafter specified will thereby always be preserved.

2d The lamp is suspended for use, in the same manner & on the same principle as the mariners compass is usually suspended viz, on two opposite arms projecting & extending, from near the top of the lamp, one on each side & terminating in pivots inserted into the opposite sides of a circle or hoop, about seven inches in diameter in which it freely vibrates, which hoop or ring, is also suspended on two pivots at right angles with the line of the first described pivots; & these last described pivots are attached to the sides or cap of the binnacle, or any other proper support.

By means of these pivots, the lamp thus suspended & balanced, directly over the compass, will yield to the motion of the ship & always keep a horizontal position, & diffuse its light downward on the compass below it. — I claim as my invention & improvement the peculiar construction of the lamp as above specified and the application to it, of the common & well known principle of suspending the mariners compass, as specified above, whereby the horizontal position of the lamp & the diffusion of the light down upon the compass, will be preserved & notwithstanding the rolling of the vessel, which invention, improvement & application are new & useful & therefore, I do claim the benefit thereof, secured to me by Patent according to law. In testimony whereof I have hereunto set my name in New Haven this 20th day of March A.D. 1848. William Cummings

Witness Edward Lewis

S.06.