

S. P. MATHER.  
Submarine Telescope and Lamp.

2 Sheets—Sheet 1.

No. 3,995.

Patented April 16, 1845.

Fig. 2

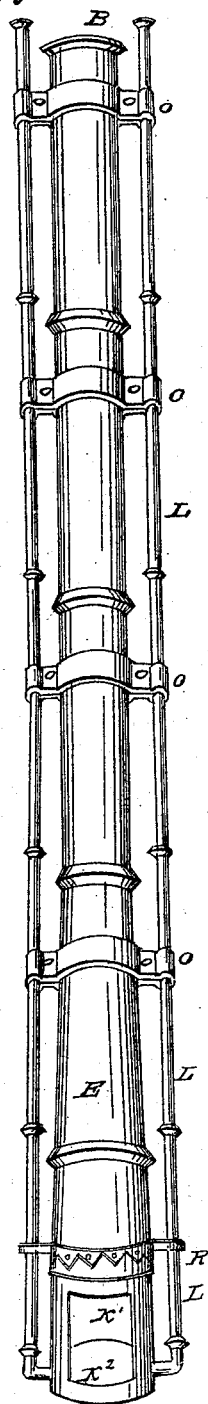
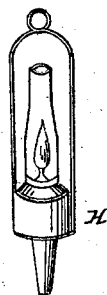
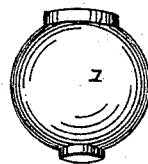
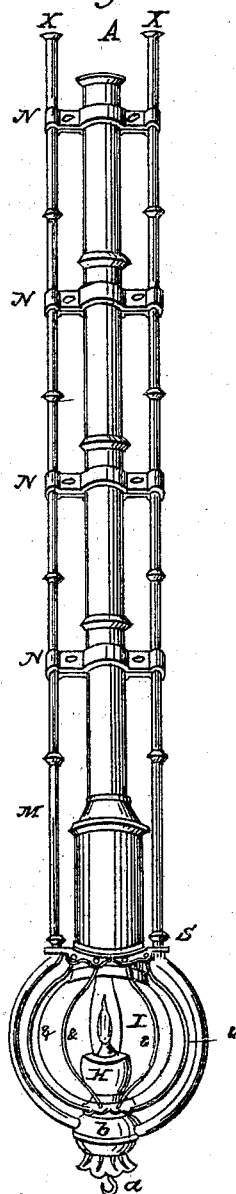


Fig. 1

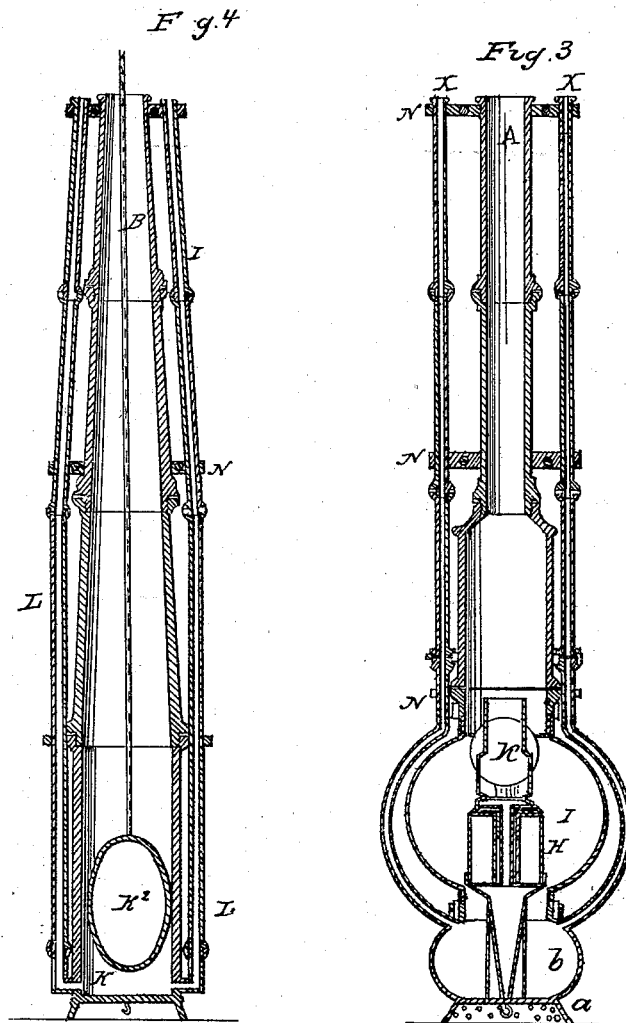


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# UNITED STATES PATENT OFFICE.

SARAH P. MATHER, OF BROOKLYN, NEW YORK.

## SUBMARINE TELESCOPE.

Specification of Letters Patent No. 3,995, dated April 16, 1845.

*To all whom it may concern:*

Be it known that I, SARAH P. MATHER, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement or Apparatus for Examining Objects Under the Surface of the Water; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1, is a submarine lamp Fig. 2, is a submarine telescope. Fig. 3, section of Fig. 1. Fig. 4 section of Fig. 2, longitudinally through the tubes.

The nature of my invention consists in constructing a tube with a lamp attached to one end thereof so as to be sunk in the water to illuminate objects therein, and a telescope to view said objects and make examinations under water.

The construction of these instruments is as follows; The lamp which I denominate submarine, is composed of a tube A Figs. 1, and 3, formed of several joints which are screwed together, with leather or other suitable washers between them to make the joints water tight; the lower joint should be somewhat larger than the others as represented in the drawing, and to its lower end is cemented a glass globe I; said globe having an aperture with a neck surrounding it at top for that purpose; (this is most clearly represented in Fig. 3,) at its bottom there is also another opening, around which the top of the reservoir (b) is fastened, this reservoir contains the socket of the lamp when one is used, or sustains any of the other apparatus for making light that would be suitable such as the Drummond, or other powerful light. The tube can be extended to any desired length by adding more joints to it and it should have a slight taper toward the top on each side of the main tube A, that forms the chimney of the lamp there is a smaller tube X, that descends parallel with tube A, to the globe of glass I which they curve outward around and enter the reservoir (b) below, these tubes are for the purpose of supplying air to the lamp and preventing the collapse of the flue or tube A, there are several curved rods &c. extending from the lower joint of tube A to the reservoir (b) that serve as guards to prevent the globe from getting broken. At the bottom of the reservoir there is a staple or hook (a) by which the lamp is sunk either

by a weight attached thereto; or by means of a cord and pulley connected with an anchor below. The tubes X are united to the main one by cross braces N, extending from one to the other at proper intervals. To use the above described lamp, the depth of the objects to be examined under water should be ascertained, and as many joints of the chimney A, and side tubes X are then screwed together, as will extend down the required distance; the lamp or other light is fired in any convenient way either before or after the tubes are put together and the whole is lowered into the water the weight at the bottom causing it to sink, but if the water is very deep or the current so strong as to render the handling of the apparatus difficult an anchor is to be thrown out with a pulley affixed thereto by which the lamp is hauled down. To the lamp H there is attached a reflector K, inside the globe which throws the light in any given direction. It is of common construction and can be made to turn around the lamp.

The telescope is constructed with a similar tube B with side pipes (L) see Figs. 2 and 4, to the lamp just described but instead of the lamp and glass globe its lower end is furnished with a tumbler shaped glass K' which is covered by a case only open on one side as shown in the Fig. 2, or it may be only a glass window set in one side of the lower joint the small tubes (L) connect with the bottom of the telescope and are for the purpose of preventing the collapse of the main tube; in the lower part, and opposite the window K' there is a small mirror K<sup>2</sup>, hung so as to turn on an axis a wire or cord is connected with this mirror that extends up to the top of the telescope by means of which the mirror can be turned to any angle desired; this instrument can be handled and sunk by a similar apparatus to the lamp as above described. In examining at great depths there can be a telescope introduced at the upper end of tube B.

It will at once be obvious that the above named lamp and telescope can be used for various purposes, such as the examination of the hulls of vessels, to examine or discover objects under water, for fishing, blasting rocks to clear channels, for laying foundations or geological formations, the lamp being used for lighting the objects while inspected by the telescope.

Having thus fully described my improve-

ments what I claim as my invention and desire to secure by Letters Patent is—

1. The combination of the lamp or other light and tubes substantially in the manner  
5 and for the purpose above described.

2. I also claim the telescope herein made known having glass at its lower end and a

mirror therein and side pipes attached thereto the whole being combined and arranged as hereinbefore made known.

SARAH P. MATHER.

Witnesses:

J. J. GREENOUGH,  
J. H. GODDARD.