

H. S. WHITFIELD.
Hydrostatic Safety-Lamp.

No. 127,004.

Patented May 21, 1872.

Fig. 1.

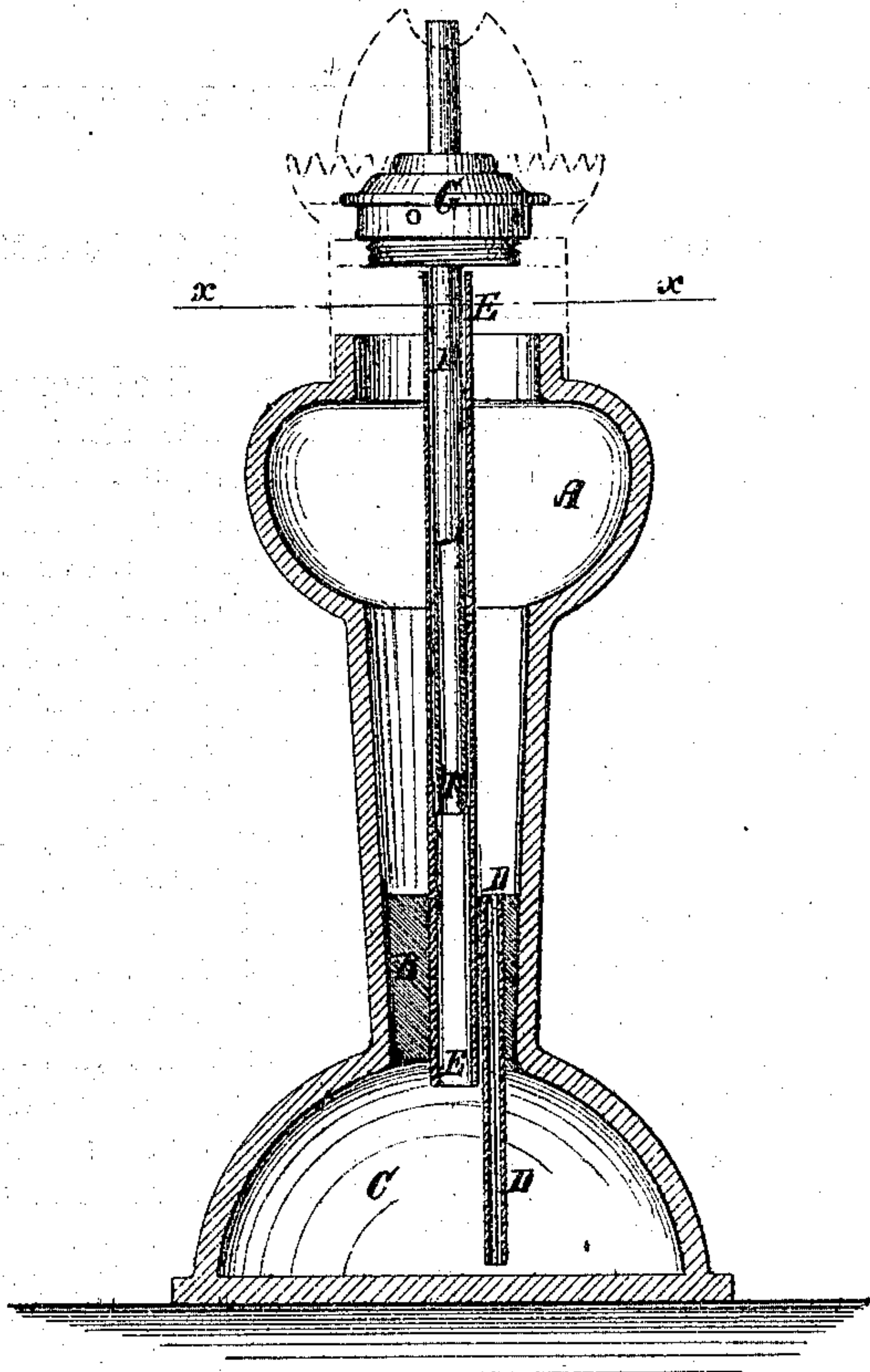
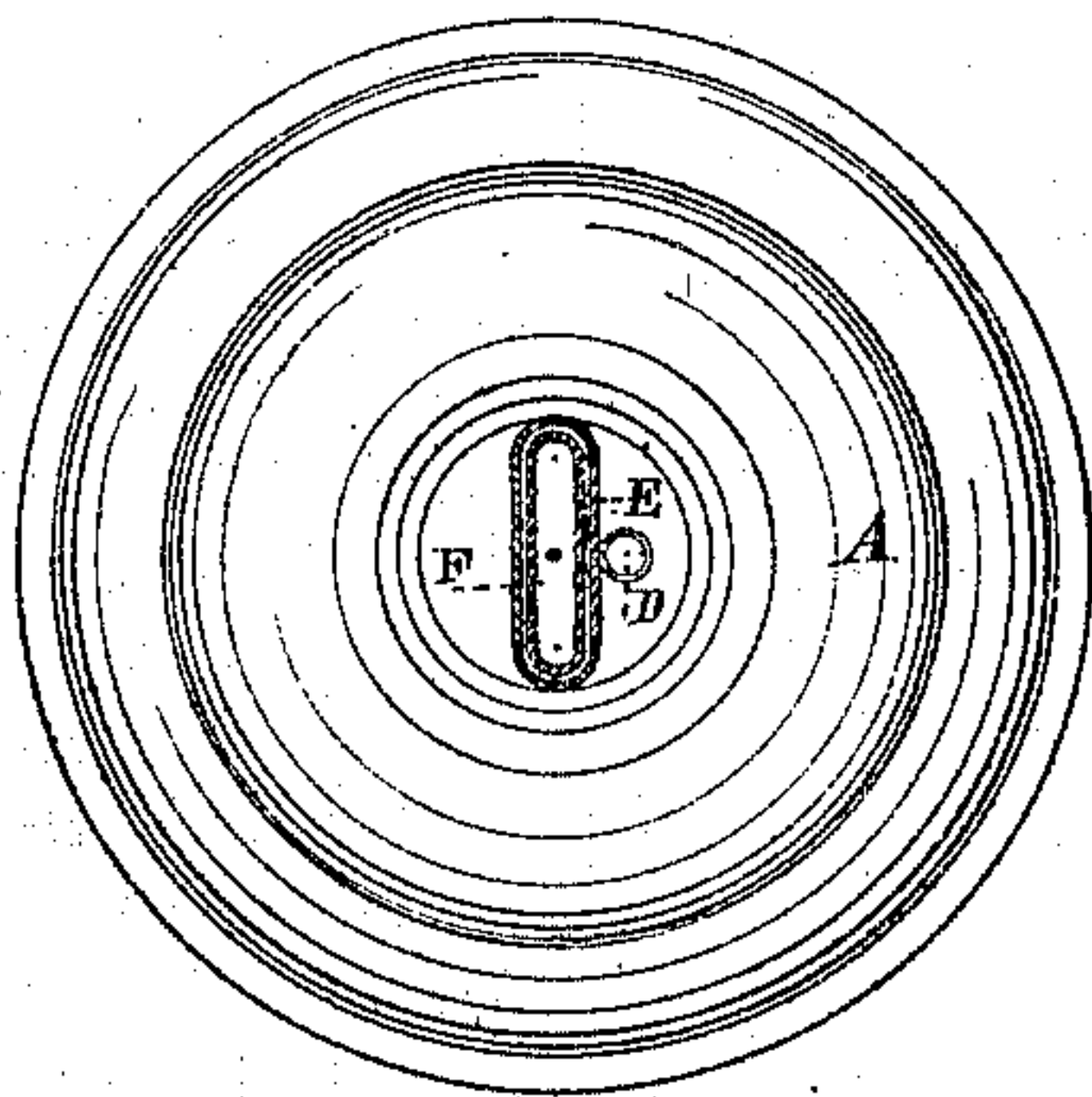


Fig. 2.



Witnesses:

A. Bernumendof
S. S. Makee

Inventor:

H. S. Whitfield

PER

Wm. C.

Attorneys.

UNITED STATES PATENT OFFICE.

HAMPTON S. WHITFIELD, OF TUSCALOOSA, ALABAMA.

IMPROVEMENT IN HYDROSTATIC SAFETY-LAMPS.

Specification forming part of Letters Patent No. 127,004, dated May 21, 1872.

To all whom it may concern:

Be it known that I, HAMPTON S. WHITFIELD, of Tuscaloosa, in the county of Tuscaloosa and State of Alabama, have invented a new and useful Improvement in Hydrostatic Safety-Lamps; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is one vertical section of a safety-lamp as now known to the public; and Fig. 2 is a second vertical section at right angles to the first, and exhibiting the oblong or flattened form of the wick-tube.

My invention relates to that class of well-known lamps where the oil is forced up by another liquid; and consists in the improvement thereof, as hereinafter fully described and subsequently pointed out in the claim.

The body of the lamp consists of an upper reservoir, A, a lower reservoir, C, and a connecting neck, stopper, or partition, B. The neck B has two holes formed through it, one to receive the pipe D, which extends nearly to the bottom of the lower reservoir C, and the other to receive the flattened tube E, which extends up to the top of the upper reservoir A, and is designed to receive the elongated flattened wick-tube F, which is attached to an ordinary burner, G, which burner may be provided with a chimney, in the ordinary manner. The lower end of the tube E projects a little below the bottom of the stopper, neck, or partition that separates the upper and lower reservoirs, so that there will always be a stratum of air in the upper part of the reservoir C, which cannot escape, and which keeps the oil from penetrating the said stopper, neck, or partition.

In preparing the lamp for use, the lower reservoir C is filled with oil through the tube E, and the upper reservoir A is filled with water through the opening in its top. This water passes through the tube D to the bottom of the reservoir C and forces the oil to rise in the tube E above its level in the body of

the lamp. The long wick-tube F of the burner G is then inserted in the tube E and the lamp is ready for use. The oil can be replenished at any time by pouring it into the tube E, forcing the water back through the tube D into the reservoir A. By this construction no gas can be formed in the lamp, as no vacant space is left for it. The flame cannot pass down the wick-tube F, as the water in the upper reservoir A keeps the said wick-tube always cool; and should the lamp be overturned the water will at once flow out and extinguish the flame, thus forming a complete safety-lamp.

I am aware that the principle of forcing oil up the wick-tube of a burner by a liquid of greater specific gravity is well-known to the public, and I desire distinctly to disclaim this as any part of my invention. My invention is a change from this special class of prior inventions in that I introduce the flat tube E, which has never been employed, in conjunction with a flattened wick-tube, F, by any manufacturer. I am thus enabled to sustain the chimney, burner, and wick-tube detachably, and yet without liability to turn. Hence these parts can be removed together, cleaned, and then replaced without trouble or chance of accident. Then, again, I cause the auxiliary tube E to project to some distance within the oil-reservoir, so as to leave an air-space between the stopper and the oil so as to prevent the latter from touching and permeating the former.

Having thus described all that is necessary to a full understanding of my invention, what I esteem to be new, and desire to protect by Letters Patent, is—

The flattened wick-tube F, combined with an auxiliary flattened tube, E, made fast in the lower part of the lamp, as described, so that the latter will support the former detachably, and without allowing it to turn thereon.

H. S. WHITFIELD.

Witnesses:

L. V. B. MARTIN,
J. M. VAN HOOSE.