

(No Model.)

F. A. E. WENZEL.
SAFETY LAMP.

No. 577,090.

Patented Feb. 16, 1897.

Fig. 1.

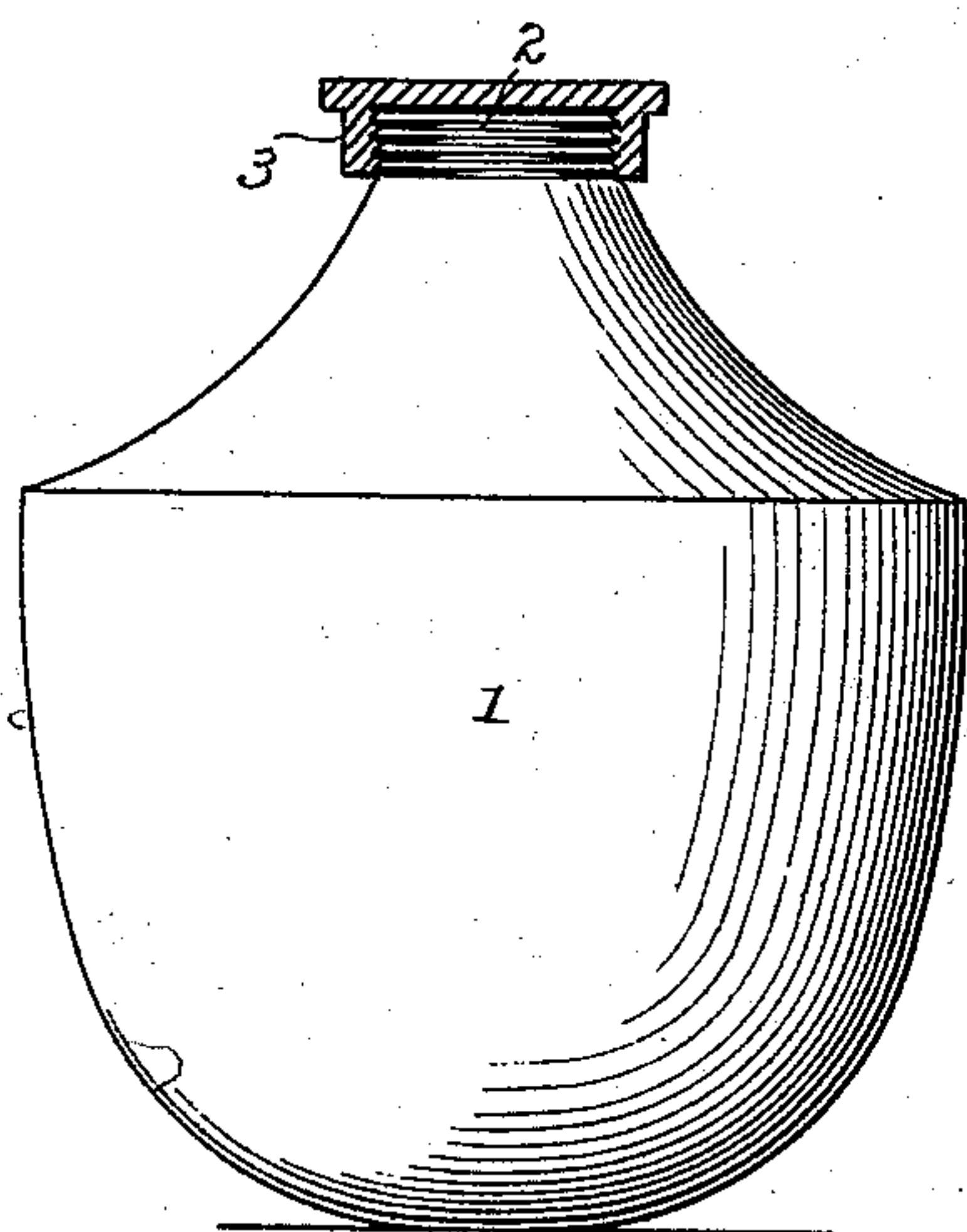
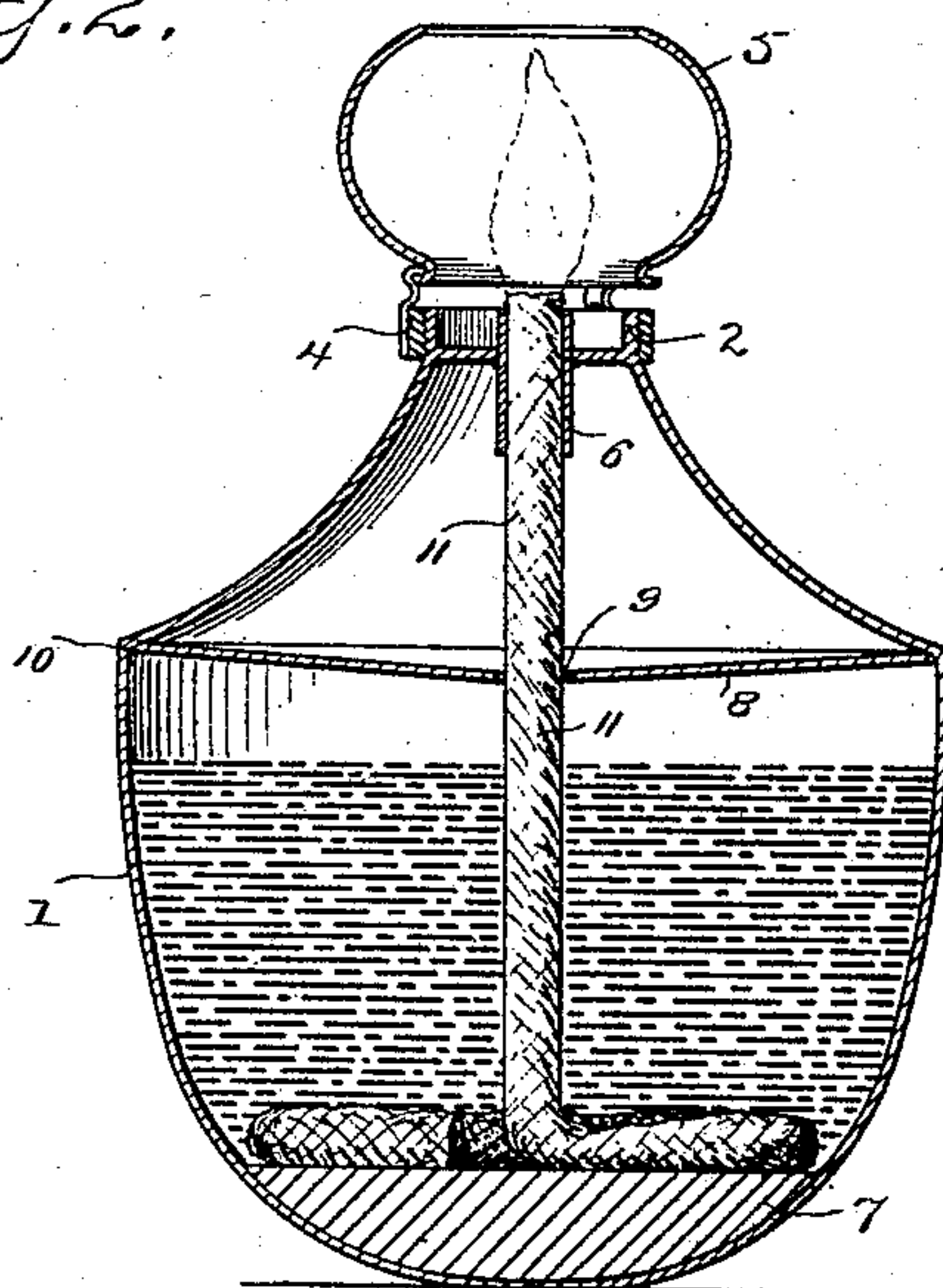


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

FREDERICK A. E. WENZEL, OF DANBURY, CONNECTICUT, ASSIGNOR TO
ALBERT F. PIERCE AND REBECCA N. PIERCE, OF SAME PLACE.

SAFETY-LAMP.

SPECIFICATION forming part of Letters Patent No. 577,090, dated February 16, 1897.

Application filed December 26, 1895. Serial No. 573,324. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK A. E. WENZEL, a citizen of the United States, residing at Danbury, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Safety-Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide a safety-lamp adapted for general use in either a portable or stationary capacity, for example, as a pocket-lamp or a night-lamp, the special features of novelty being that the lamp is self-righting under all circumstances and that the body or reservoir is provided with a diaphragm which renders passage of the contents of the reservoir to the upper portion thereof practically impossible should the lamp be upset. With these ends in view I have devised the novel construction of which the following description, in connection with the accompanying drawings, is a specification, numbers being used to designate the several parts.

Figure 1 is an elevation, the closing-cap being in section; and Fig. 2 is a vertical section of the entire lamp, a globe-ring and globe being shown in position instead of a closing-cap.

1 denotes the body or reservoir of the lamp, which may be of any suitable shape, as my invention is not limited to any special configuration, but is preferably made of substantially the configuration shown in the drawings—that is to say, the bottom or lower portion of the body is spheroidal in form until a shoulder 10 is reached, from which point the body diminishes in diameter toward the top, the lines of the sides in the present instance being concave curves. The body may be made in one piece or two, as preferred. At the top of the body is the usual threaded ring 2, which is adapted to receive either a closing-cap 3, as in Fig. 1, or a globe-ring 4, as in Fig. 2.

5 indicates a globe or shade, which may or may not be used when the lamp is used as a night-light.

6 denotes a wick-tube, which may be of any

ordinary or preferred construction and may or may not be provided with a wick-raising device. I have shown a short tube adapted to receive a round wick and without a wick-raising device, it being preferred by many in this class of lamps to lift the wick when necessary with any sharp instrument and to do away wholly with a mechanical raising device.

The essential features of my novel lamp are, first, a weight 7, which is placed wholly at the bottom of the reservoir, so as to always hold the body in an upright position, and should the lamp be forcibly overturned to return it instantly to its upright position as soon as the influence which has carried it out of the upright position is removed, and, second, a diaphragm 8, placed entirely across the body of the lamp on its inner side and above the center, but below the top, said diaphragm inclining slightly downward from its edge to the center and being provided at the center with an opening 9, which just permits the wick to pass through. The action of this diaphragm is to retain the contents of the body or reservoir at the bottom thereof should the lamp be overturned. The position and shape of this diaphragm coact with the external shape of the body in insuring the return of the lamp to an upright position, for the reason that the oil is prevented from passing into the upper part of the body. Furthermore, this diaphragm being nearly flat and extending from the sides of the lamp-body below the top serves to prevent oil from passing to a part of the lamp that would tend to keep it on its side when knocked over. This function is not possessed by a tube or diaphragm which is cone-shaped and extends downward from the top of the lamp-body.

It is of course obvious that should the reservoir be more than half-full, and should it be held in a horizontal or nearly horizontal position for some little time, a portion of the contents of the reservoir might pass through the diaphragm at the wick-opening. This of course is unavoidable; but by making the diaphragm to incline downward from the edge toward the wick-opening I insure that the instant the lamp is righted again all of the contents of the reservoir that may have passed

through the wick-opening will at once pass back again into the reservoir below the diaphragm.

Owing to the arrangement of the diaphragm, 5 as above described, whereby the oil is confined to the lower part of the reservoir, the weight of the oil coöperates with the lead or other weight at the bottom in insuring the return of the lamp to an upright position. 10 Therefore a less amount of lead or other solid weight is required, and the lamp is in consequence lighter than would be the case in a self-righting lamp if the oil were free to flow into the upper part of the reservoir when the 15 latter is turned on its side.

Having thus described my invention, I claim—

1. A safety-lamp provided with a body having a weight at the bottom and a diaphragm 20 extending from the sides thereof below the top and which inclines slightly downward

from its edge to the center and is provided at the center with an opening through which the wick passes, said wick closely fitting the opening. 25

2. A safety-lamp having a body the lower portion of which is spheroidal in form and is provided with a weight placed wholly at the bottom and a diaphragm extending from the 30 sides thereof below the top and which inclines slightly downward from its edge to the center and is provided at the center with an opening through which the wick passes, said wick closely fitting the opening, substantially as described, for the purpose set forth. 35

In testimony whereof I affix my signature in presence of two witnesses.

FREDERICK A. E. WENZEL.

Witnesses:

JAMES B. WILDMAN,
CHARLES W. MURPHY.