

(No Model.)

F. DAINTREE.
SAFETY LAMP.

No. 589,936.

Patented Sept. 14, 1897.

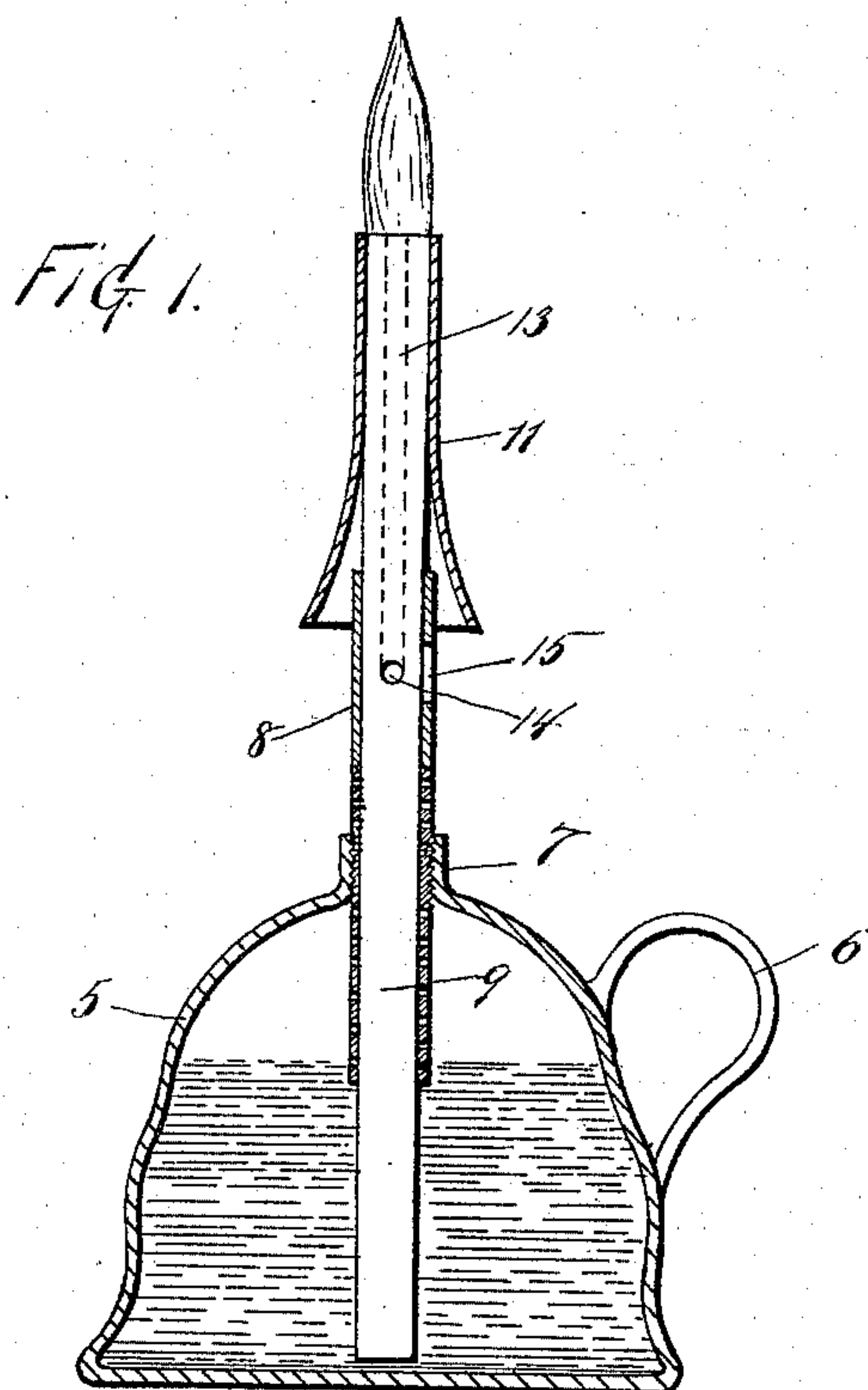


FIG. 2.

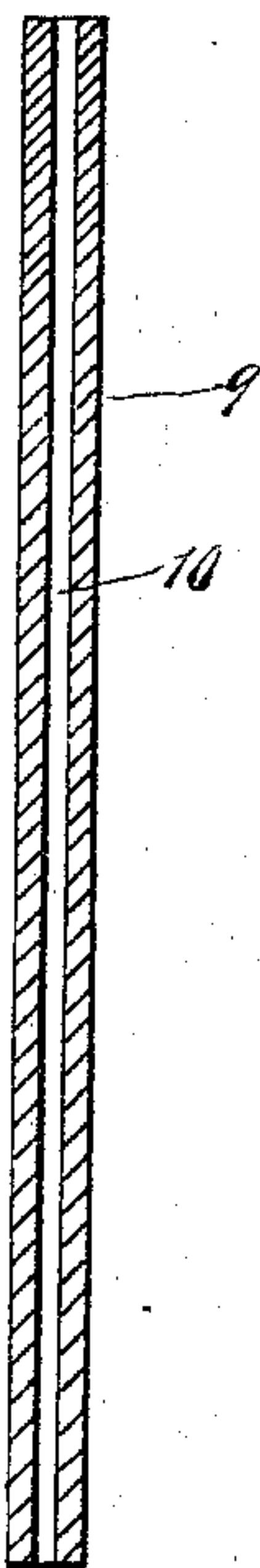


FIG. 4.

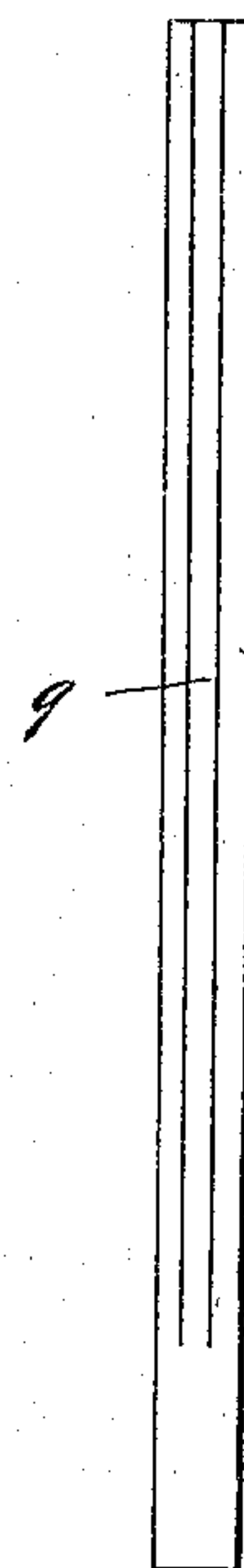
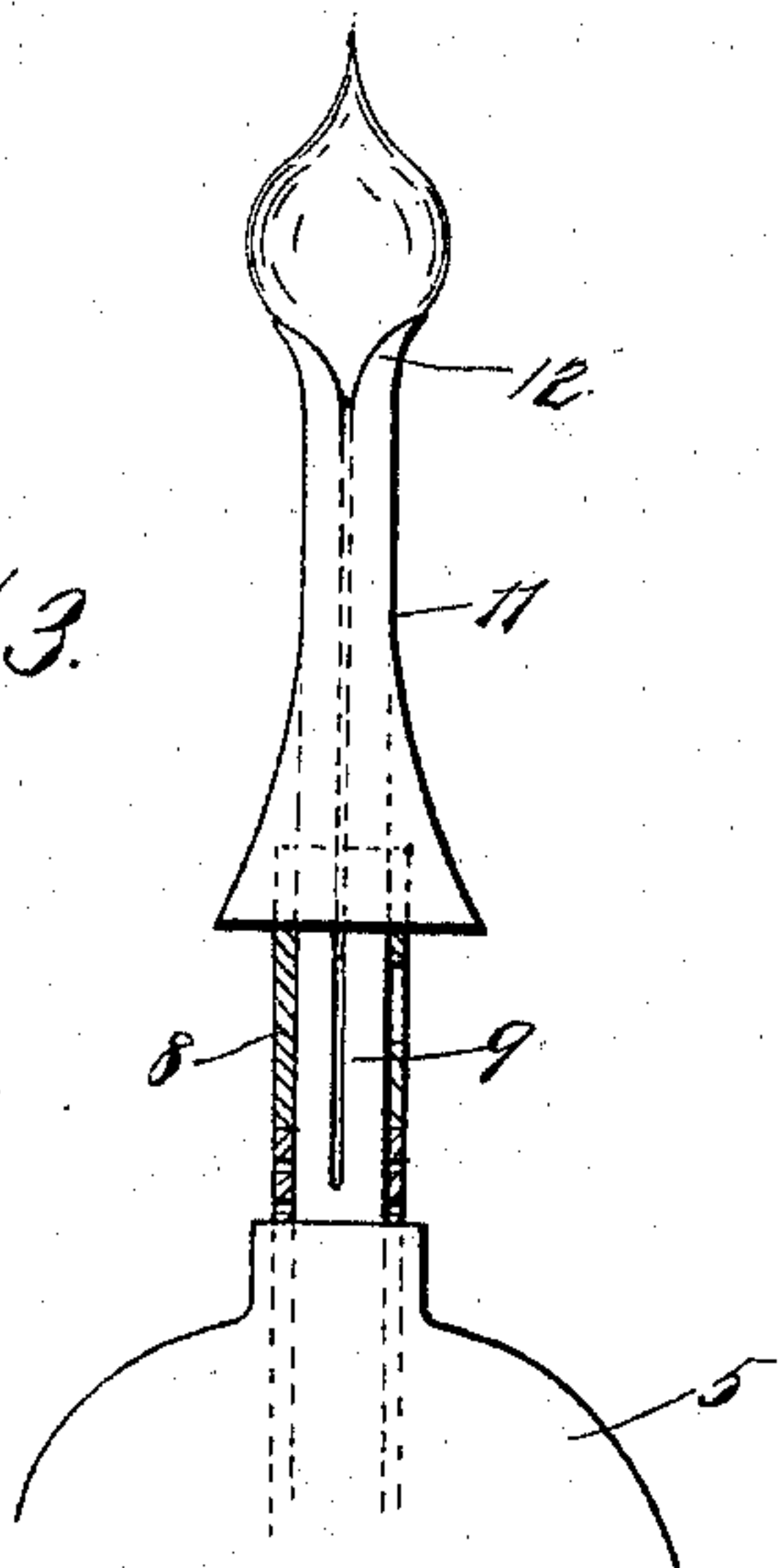


FIG. 3.



WITNESSES

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SAFETY-LAMP.

SPECIFICATION forming part of Letters Patent No. 589,936, dated September 14, 1897.

Application filed February 2, 1897. Serial No. 621,610. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK DAINTREE, a subject of the Queen of Great Britain, residing at Richmond, in the county of York, England, have invented certain new and useful Improvements in Safety-Lamps, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

10 This invention relates to safety-lamps, and to that class which are adapted to burn paraffin or other light hydrocarbons; and the object thereof is to provide an improved device of this class which is simple in construction
15 and operation and which is also comparatively inexpensive, while being well adapted to accomplish the result for which it is intended.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

20 Figure 1 is a central vertical section of my improved lamp, the wick being shown in full lines; Fig. 2, a central longitudinal section of the wick; Fig. 3, a side view of a modified form of construction, and Fig. 4 a similar view of another modification.

In the drawings forming part of this specification the separate parts of my improvement are designated by the same numerals of reference throughout the several views, and in the practice of my invention I provide any suitable reservoir 5, provided with a handle 6 and a neck 7, and mounted in said neck is a tube 8, which may be held stationary
35 therein or be vertically adjustable therein, and said tube is perforated above and below the neck 7. I also provide a wick 9, which is composed of what is known as the "sap" of white wood, red wood, or other wood suitable
40 for the purpose, and this wick may be provided with a central longitudinal bore 10, as shown in Fig. 2, or it may be split into one or more sections from the upper end downwardly for a portion of its length, as shown
45 in Fig. 4, or it may be made of two or more separate lengths or pieces bound together.

The wick is surrounded at the top by a regulating-tube 11, which is bell-shaped at its lower end and which is adapted to turn and slide
50 longitudinally on the wick, and this regulating-tube may be composed of hollow bamboo

or other suitable wood, or it may be composed of china or any substance suitable for the purpose.

The regulating-tube is of such dimensions 55 as to be easily moved around and up and down on the wick and extends downwardly thereon, so as to leave a predetermined portion of the wick above the tube 8 free, so as to admit air thereto, and the vertical adjustment of the
60 regulating-tube regulates, as will be readily understood, the size of the flame.

The upper end of the regulator-tube may be so shaped as to produce a spread flame, as shown in Fig. 3, or a small candle-flame, 65 as shown in Fig. 1, and in order to produce the spread flame shown in Fig. 3 the walls of the regulator are carried outwardly in opposite directions, while between the outwardly-curved portions are formed triangular notches
70 or recesses 12.

Any suitable means may be provided for vertically adjusting the tube 8 in the neck 7, and said tube may be adjusted by hand, if desired, and my invention is not limited to 75 the exact form, construction, and arrangement of the various parts thereof as herein shown and described, as it is evident that changes in and modifications of the same may be made without departing from the spirit of 80 my invention or sacrificing its advantages.

By means of my improvement I secure perfect safety, as the lamp cannot explode. I also provide a better and stronger light than is common with lamps of this class, and secure 85 greater economy and at the same time greater cleanliness and freedom from disagreeable odors.

In the form of wick shown in Fig. 1 the upper end of the wick is provided with a central bore 13, which is shown in dotted lines, 90 and extends downwardly and communicates with a transverse bore 14, and the tube 8 at this point is provided with a transverse slot or opening 15, by means of which air is admitted through the transverse bore 14 and
95 into the vertical bore 13 in the upper end of the wick, and the object of forming the wick in this manner is to provide means for feeding air into the flame, and it will be understood that in the split wick shown in Fig. 4
100 air may be fed in through the slot or open-

ing 15 and also above the tube 8, and will pass up between the separate portions of the wick, and the oil is fed up through the wick by capillary attraction in the usual manner.

5 The wick shown in Fig. 2 may also be provided with the transverse bore 14, and various other forms of wicks may be employed, the only object in this connection being to provide a wick made of the material herein
10 specified, and which will serve in the same manner as those herein shown and described.

Having fully described my invention, I claim as new and desire to secure by Letters Patent—

15 1. A safety-lamp comprising a reservoir, which is provided with the usual neck, a tube mounted therein, and a wick composed of wood or similar material, which is mounted in said tube, said wick being extended above
20 said tube, and provided with a flame-regulating tube, which is adjustable thereon, and said wick being provided with means for feeding air upwardly through the upper end thereof, consisting of a central longitudinal bore
25 which is in communication with the air at

the side of said wick, substantially as shown and described.

2. A safety-lamp comprising a suitable reservoir, provided with the usual neck, a vertically-adjustable tube mounted in said neck, 30 a wick composed of wood, mounted in said vertically-adjustable tube, said wick being split for a portion of its length, and the split portion being directed upwardly, said tube being provided with apertures which com- 35 municate with the said split portion and cooperate therewith to supply air to the flame, said wick being provided with a vertically-adjustable flame-regulating tube which is mounted thereon, substantially as shown and 40 described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 9th day of January, 1897.

FREDERICK DAINTREE.

Witnesses:

WILLIAM RYAN WILES,
FREDERICK GEORGE NESBITT.