

No. 636,601.

Patented Nov. 7, 1899.

C. L. WILKINS.  
ACETYLENE GAS GENERATOR.

(Application filed Jan. 7, 1899.)

(No Model.)

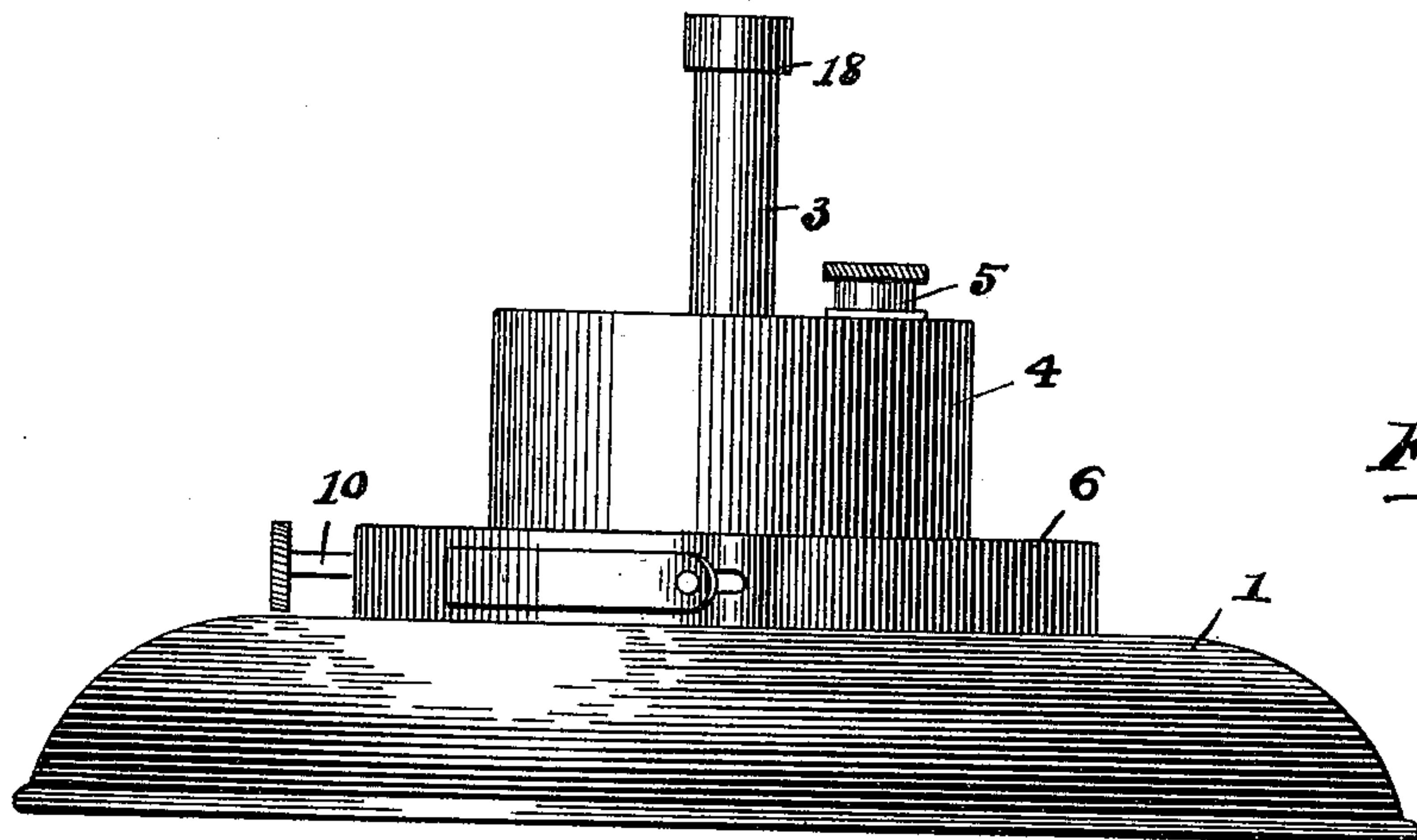


Fig. 1.

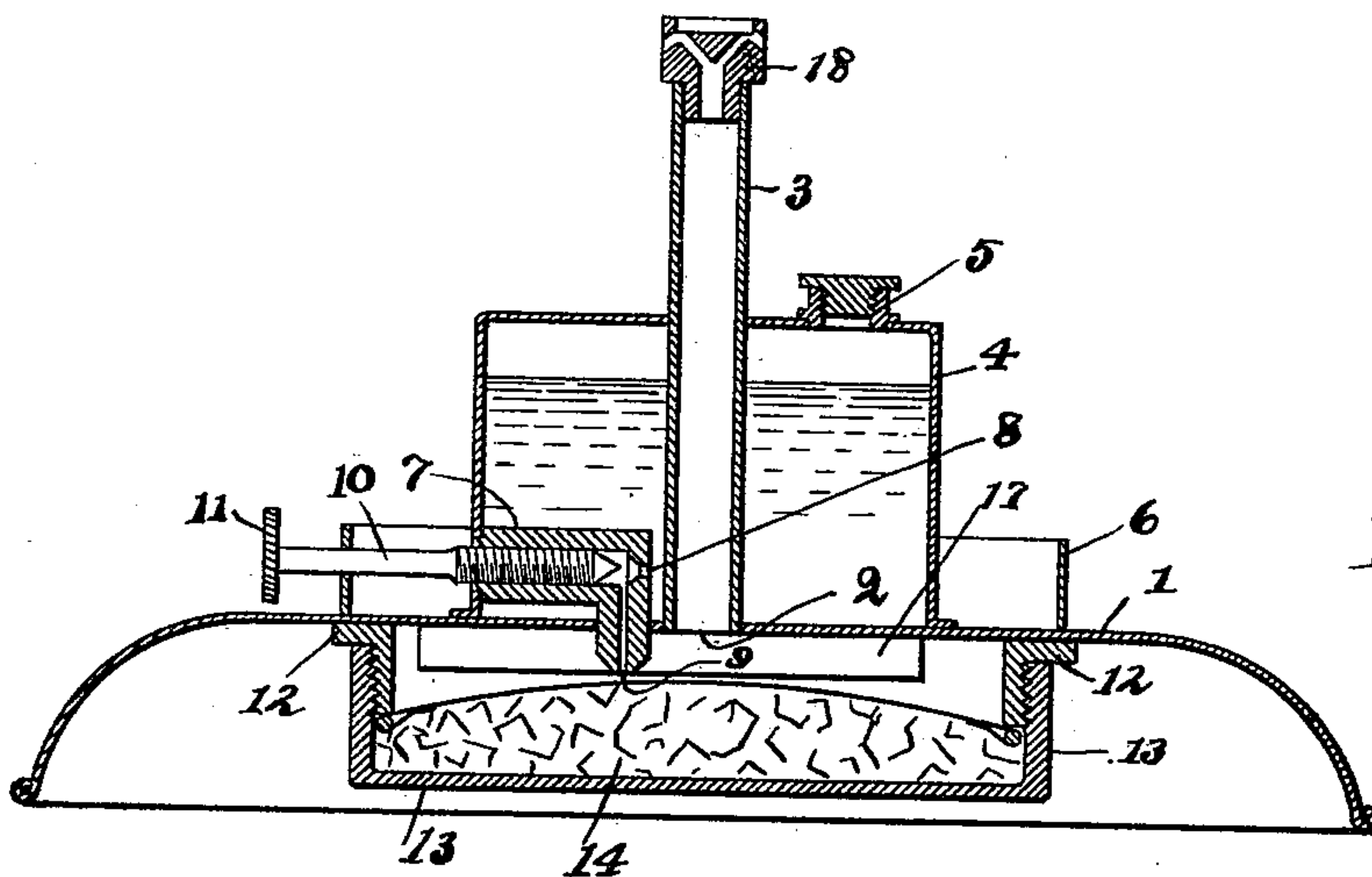


Fig. 2.

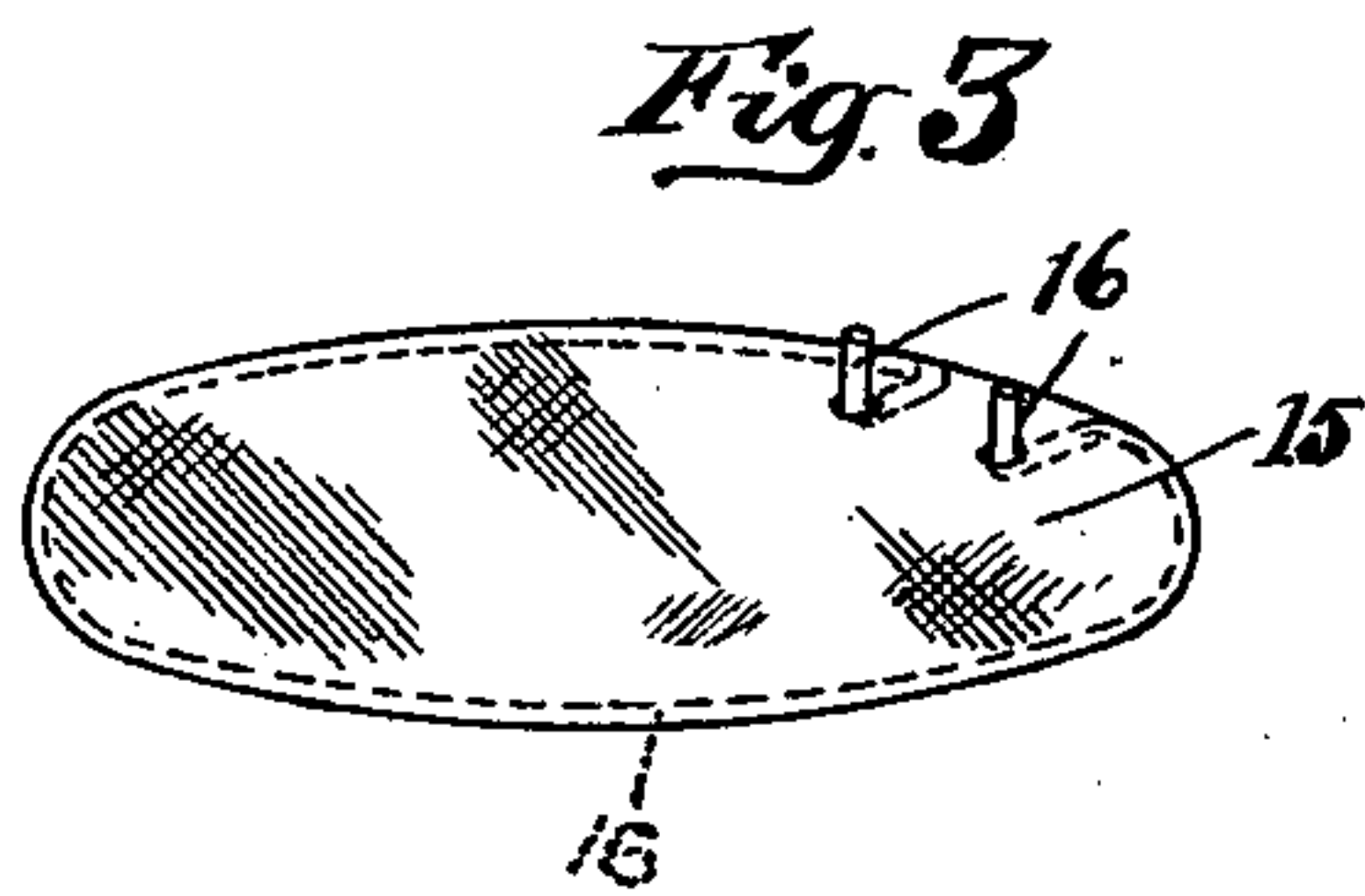


Fig. 3.

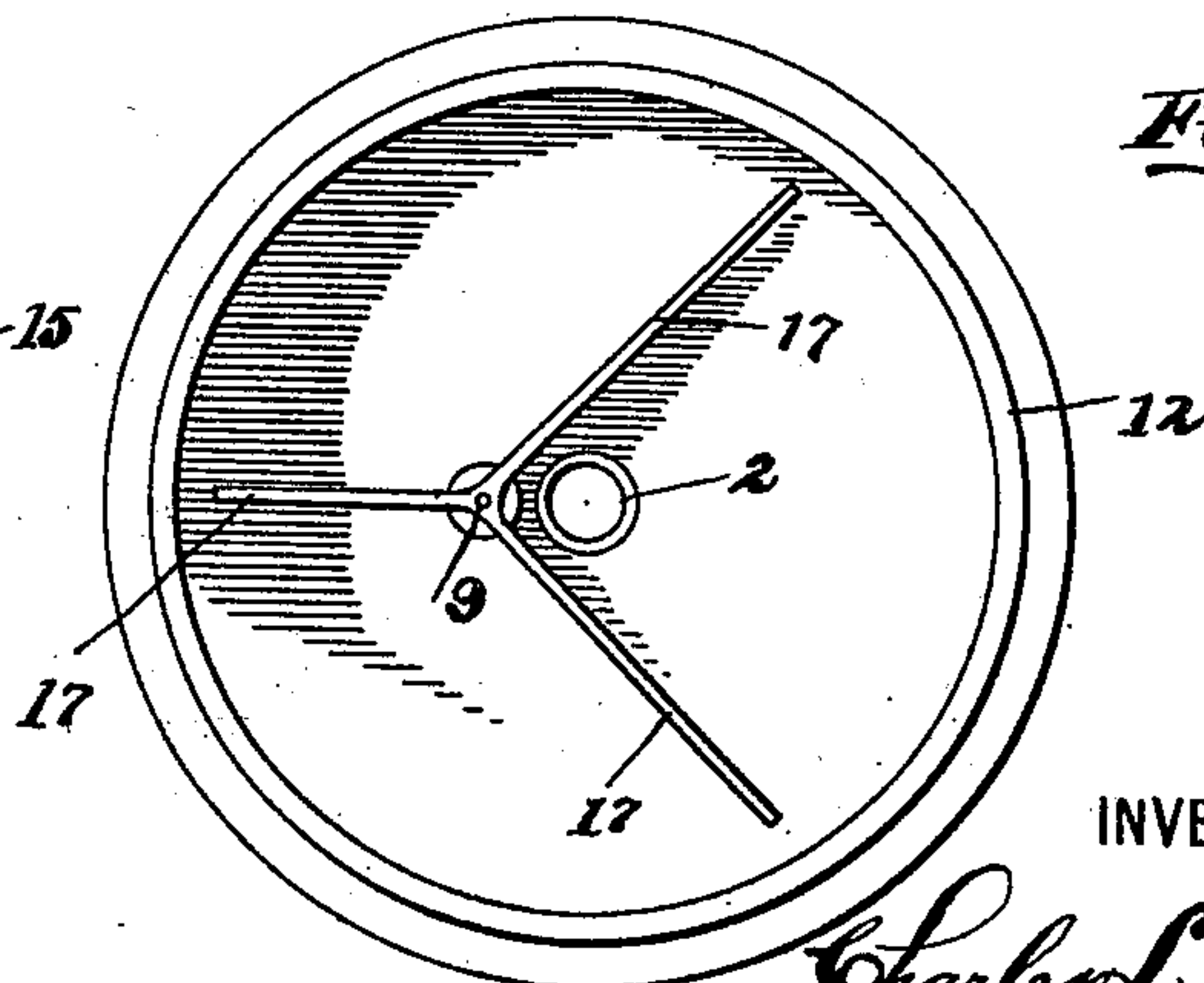


Fig. 4.

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## ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 636,601, dated November 7, 1899.

Application filed January 7, 1899. Serial No. 701,488. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES L. WILKINS, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Acetylene-Gas Attachments for Lanterns or Lamps, of which the following is a specification.

My invention relates to the improvement of acetylene-gas-burning attachments for lanterns or lamps; and the objects of my invention are to provide a simple and effective acetylene-gas burning and generating device of improved construction which may be readily connected with an ordinary form of lantern or lamp body and to produce certain improvements in details of construction and arrangement of parts, which will be more fully pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a view in elevation of my improved generating and burning attachment. Fig. 2 is a central sectional view of the same. Fig. 3 is a detail view in perspective of the carbide-cover, and Fig. 4 is a view of the underside of the attachment-body with the carbide-holder removed.

Similar numerals refer to similar parts throughout the several views.

In carrying out my invention I employ a base-plate 1, which is preferably of the flat dome shape indicated or of the ordinary lantern-base form. Rising from a central opening 2 in the upper side of said base-plate is a vertical burner stem or tube 3, the latter passing centrally through a water-reservoir 4, which is also secured upon said base-plate and which is provided with a suitable water-inlet 5. The upper side of the base-plate on the outer side of the water-reservoir is provided with a ring or socket flange 6, with which may be engaged in the ordinary manner the base of a lamp or lantern body. (Not herein shown.)

7 represents an angular casting, the upper horizontal arm of which extends through the wall of the reservoir 4 and the inner downwardly-extending arm of which passes through the upper side of the base-plate within said reservoir and terminates at a point below said base-plate. The angular casting

7 serves as a valve-casing and has its upper arm provided with a central threaded bore, the inner end of which communicates through a reduced valve-opening 8 with the interior of the reservoir 4. The inner end portion of the casting-arm 7 has communicating therewith a reduced central passage 9, which extends through the vertical arm of said casting, as shown. Adjustably supported in the threaded upper arm of the valve-casing is a threaded needle-point valve 10, the stem of which extends outward through the socket-wall 6 and is provided with a suitable finger-disk 11.

To the under side of the upper horizontal portion of the base 1 I secure a depending ring 12, the externally-threaded portion of which is adapted to have screwed thereon a bottom cap 13, which forms, in conjunction with said depending ring, a cup-shaped body. This cup-shaped body 13 is adapted to contain, as indicated at 14, a suitable quantity of carbide or similar gas-generating material, which is covered by a disk 15, of suitable fabric, said cover-disk preferably being constructed by securing the edge of the fabric about a wire 16, which is bent to the greater part of a circle and is provided, as shown in Fig. 3, with upturned ends, which project through the goods forming said cover-disk. On the under side of the base-plate 1 and within the ring 12 I form downwardly-extending flanges or ribs 17, which radiate from the lower extension of the valve-casing.

In the upper end of the burner-tube 3 I support a suitable burner-head 18, said tube being of such length as to project or extend to a desirable point within the body of a lamp or lantern globe.

The manner of utilizing my device consists in turning the valve 10 outward until the valve-opening 8 is sufficiently unclosed to admit of the passage of a desirable amount of water from the reservoir 4 downward through the passage 9 of the lower arm of the valve-casing. The water which is thus slowly directed through said passage 9, owing to the tendency of water when broken into drops or discharged in small quantities to cling to and run upon a metal surface, runs upon the radially-arranged distributing flanges or ribs 17, from which it drips onto the fabric forming



the cover-disk 15. Through this cover-disk the water filters onto the carbid and by the usual action thereon generates acetylene gas, which rising between the threads of the fabric cover may pass upward through the burner-tube 3 and be ignited in the usual manner at the burner-head 18. It is obvious that the quantity or volume of gas thus produced may be readily regulated by the supply of water to the carbid. Owing to the fact that I have employed the radially-arranged distributing-ribs 17 it will readily be seen that the tendency of the incoming water to distribute itself over the surface of the under side of the base in the form of depending drops, all of which might readily be detached therefrom at one time by jar of the lantern-body, is entirely obviated. It will also be seen that the water in following and dropping from said distributing-ribs will prevent the discharge of the water onto the carbid at one point.

In order to remove the cover-disk from or insert the same over the carbid when the cup 13 is disconnected from the ring frame 12, the upwardly-projecting end portions of the wire 16 may be temporarily squeezed together, so as to contract the wire ring and facilitate its being sprung into contact with or disengaged from the inner wall of the cup. It is obvious, however, that when the cup is screwed into connection with the ring frame the lower end of the latter will form a shoulder which will prevent the upward movement of said wire ring.

From the construction and operation which I have described it will readily be seen that a simple, reliable, and effective acetylene-gas burning and generating device is provided, which may be detachably connected with an ordinary form of lamp or lantern by substituting the device herein described for the usual lantern-base, burner, and oil-cup. It is obvious that by the use of my device the brilliancy of lantern-lights may be greatly increased.

The construction and arrangement of the parts of my device are such as to bring the water-reservoir immediately over the carbid-holder and point of gas generation, thus subjecting the water contained in said reservoir to the direct heat which results from the chemical action which takes place through the combination of the water and carbid. In this manner it will be observed that the water contained in the reservoir will at all times be sufficiently heated to admit of the lamp or lantern being used in places where the same is exposed to extremely cold weather without freezing.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In an acetylene-gas generating and burning attachment for lanterns or lamps, the combination with a base-plate, a burner-tube extending upward from an opening in said base-plate, and a water-reservoir upon said base-plate and about said burner tube, of a carbid-holder supported beneath said base-plate, the latter consisting of a ring frame rigidly connected with the under side of the base-plate and a cup 13 detachably connected with said ring frame, a valve controlling the supply of water from said reservoir to said carbid and a cover for the carbid within said holder consisting of a woven or similar fabric and means for connecting the base-plate with a lamp or lantern body, substantially as specified.

2. In an acetylene-gas generating and burning attachment for lanterns or lamps, the combination with a base-plate, a burner-tube rising from an opening therein, a water-reservoir upon said base-plate, and a carbid-holder suspended beneath said base-plate, of a valve controlling the supply of water from said reservoir to said carbid, the casing of said valve extending through said base-plate and radial ribs on the under side of said base-plate and leading from said valve-casing extension and means for connecting the base-plate with a lamp or lantern body, substantially as specified.

3. In an acetylene-gas generating and burning attachment for lanterns or lamps, the combination with a base-plate 1, a burner-tube rising from an opening therein, and a water-reservoir surrounding said burner-tube, of a fixed depending ring 12 on the under side of said base-plate, a carbid-holding cup detachably connected with said ring, a valve controlling the supply of water from said reservoir to said carbid and radially-arranged distributing-ribs 17 on the under side of the base-plate and means for supporting the base-plate and its connected parts from a lamp or lantern body, substantially as specified.

4. In an acetylene-gas generating and burning attachment for lanterns and lamps, the combination with a base-plate, a burner-tube extending upward from an opening therein and a water-reservoir upon said base-plate, a carbid-holding cup detachably supported beneath the base-plate, a carbid-cover disk contained in said carbid-holder consisting of a disk of loosely-woven fabric mounted on a spring-wire ring-segment having upturned ends, and a valve controlling the supply of water from said reservoir to said carbid, substantially as specified.

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In presence of—

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