

No. 680,199.

Patented Aug. 6, 1901.

A. DAVIS.  
GAS HOLDER.

(Application filed Sept. 6, 1899.)

(No Model.)

Fig. 2.

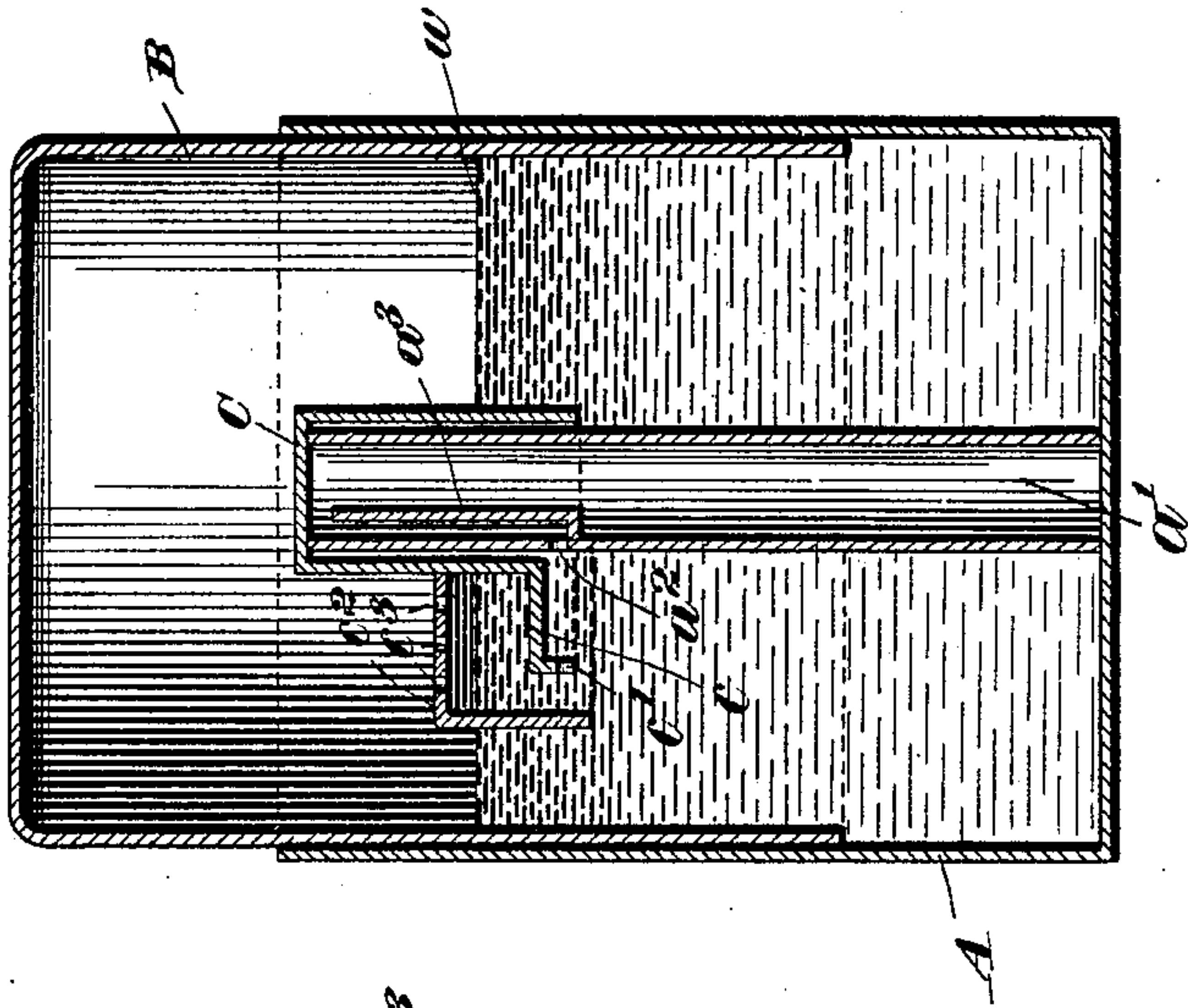


Fig. 3.

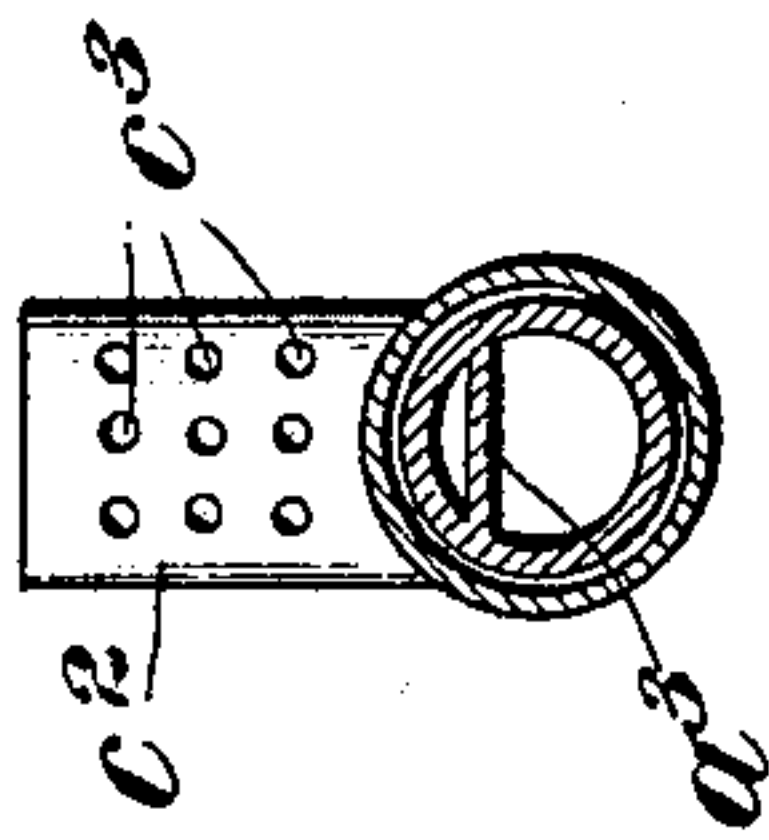
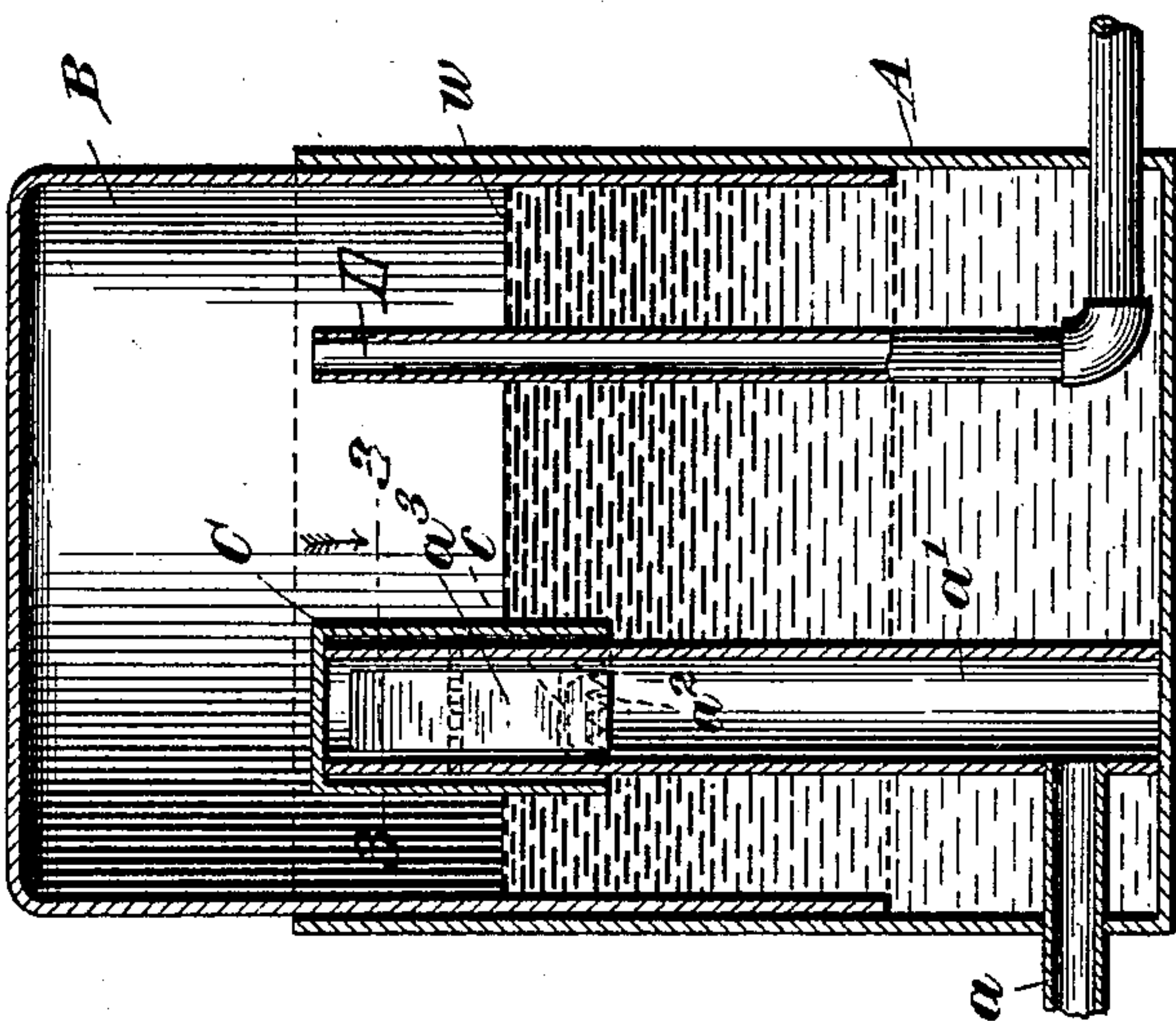


Fig. 1.



Witnesses

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# UNITED STATES PATENT OFFICE.

AUGUSTINE DAVIS, OF CHICAGO, ILLINOIS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO CARBOLITE CONSTRUCTION COMPANY, OF SAME PLACE.

## GAS-HOLDER.

SPECIFICATION forming part of Letters Patent No. 680,199, dated August 6, 1901.

Application filed September 6, 1899. Serial No. 729,600. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUSTINE DAVIS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Gas-Holders, of which the following is a specification.

This invention relates to improvements in gas-holders, and is more particularly intended for application to holders used in connection with apparatus for generating acetylene gas by the reaction of water upon calcium carbide, although not necessarily confined thereto.

The invention more particularly contemplates certain improvements in the outlet devices through which the gas escapes from the conducting-pipe leading out of the generator into the gasometer or bell; and it has for its principal object to provide a construction by which the flow of gas into the bell, and consequently into the service-pipe, shall be more steadily maintained and its pressure kept more nearly constant with a view to prevent the flickering of the lights fed by the generator which so frequently results from the uneven pressures maintained therein.

The invention consists in the matters herein set forth, and particularly pointed out in the appended claims, and will be fully understood from the following detailed description of the construction illustrated in the accompanying drawings, in which—

Figure 1 is a sectional elevation of any suitable gas-holder provided with my improvement in one form. Fig. 2 is a similar sectional elevation on a plane transverse to that of Fig. 1. Fig. 3 is a sectional detail, in plan view, taken on line 3 3 of Fig. 1.

In the drawings, A designates a gasometer-tank, and B an inverted bell floating therein after the usual manner. An inlet-pipe  $a$  leads from any suitable generating-chamber (not herein illustrated) into the lower portion of the tank A and thence upwardly in a vertical length  $a'$  through the water in the tank to the gas-receiving space above the water in the bell B. Said pipe  $a'$  is closed at its upper end by an inverted cap C, the lower edges of which extend down well below the water line or level  $w$ . The gas escapes from the pipe  $a'$  into the cap C through an opening  $a^2$  provided in the side of the pipe just above the

lower margin of the cap, and said opening is guarded on its inner side by a partition-wall  $a^3$ , which extends from the wall of the pipe  $a'$  at a point below the opening  $a^2$  nearly to the top of the pipe. Opposite the opening  $a^2$  the cap C is provided with a laterally-projecting spout  $c$ , the outer margin  $c'$  of which is shown as notched or serrated, and above and around this spout the cap is provided with a hood  $c^2$ , the top of which extends above the water-level and is pierced with a number of rather minute openings  $c^3$ . With this construction the gas from the generating-chamber passes up through the pipe  $a'$ , over the top of the partition  $a^3$ , and thence downwardly through the opening  $a^2$  beneath the spout  $c$ . This spout is wholly submerged, and the gas escapes beneath its serrated edge  $c'$  and is broken up thereby into minute bubbles, which rise through the water, gather beneath the hood  $c^2$ , and gradually pass through the minute openings  $c^3$  in said hood into the storage-reservoir formed by the bell. This gradual passage through the path described and beneath the spout and through the minute openings of the hood serves to even up the gas-pressure in the bell and prevents the transmission to the bell of the vibrations in pressure ordinarily caused by the bubbling of the gas in comparatively large masses up through the water in which the bell is floated, these vibrations being frequently sufficient to appreciably affect the lights, especially in small machines which are pushed to or beyond their intended capacity. The under side of the spout and hood are shown as left open or uncovered, and any sudden rush of gas too great to escape through the perforated top of the hood, as described, will thus be relieved by escaping beneath the edges of the hood, whence it will bubble up through the water and directly under the bell. The gas is then conducted from the bell in the usual manner through any suitable outlet or service pipe D to the burners or points of consumption. (Not herein illustrated.)

I claim as my invention—

1. The combination with a water-tank, a gas-holder floating within said tank, a gas-conducting pipe leading up through the wa-



ter into the gas-holder, a cap closing the upper end of said pipe and extending beneath the surface of the water, an outlet-opening in the side wall of the pipe within the cap, 5 and an outlet-passage leading from the upper end of the pipe down to the outlet-opening.

2. The combination with a water-containing gas-holder, of a gas-conducting pipe leading into said holder and provided with an 10 outlet-passage discharging the gas beneath the surface of the water, and a hood surrounding the outlet-passage and extending above the surface of the water and provided in its portion above the water with minute 15 perforations through which the gas is forced into the holder.

3. The combination with a water-containing gas-holder, of a gas-conducting pipe leading into said holder through the water therein, a cap covering the upper end of said pipe, 20 an outlet-opening in the side of the pipe below its top, and a partition within the pipe extending from below the opening nearly to the top of the pipe.

25 4. The combination with a water-containing gas-holder, of a gas-conducting pipe lead-

ing into said holder through the water contained therein, a cap covering up the end of said pipe, an outlet-opening in the side of the pipe below the top, a partition within the 30 pipe leading from below the opening nearly to the top of the pipe, a downwardly-open spout beneath which the gas is discharged from the opening, and a serrated margin on said spout. 35

5. The combination with a water-containing gas-holder, of a gas-conducting pipe leading into said holder, a submerged open discharge-spout beneath which the gas is discharged from the pipe, and a hood surround- 40 ing said spout and extending above the surface of the water and provided in its portion above the water with minute perforations through which the gas passes into the holder.

In testimony that I claim the foregoing as 45 my invention I affix my signature, in presence of two subscribing witnesses, this 2d day of September, A. D. 1899.

AUGUSTINE DAVIS.

Witnesses:

HENRY W. CARTER,  
ALBERT H. GRAVES.