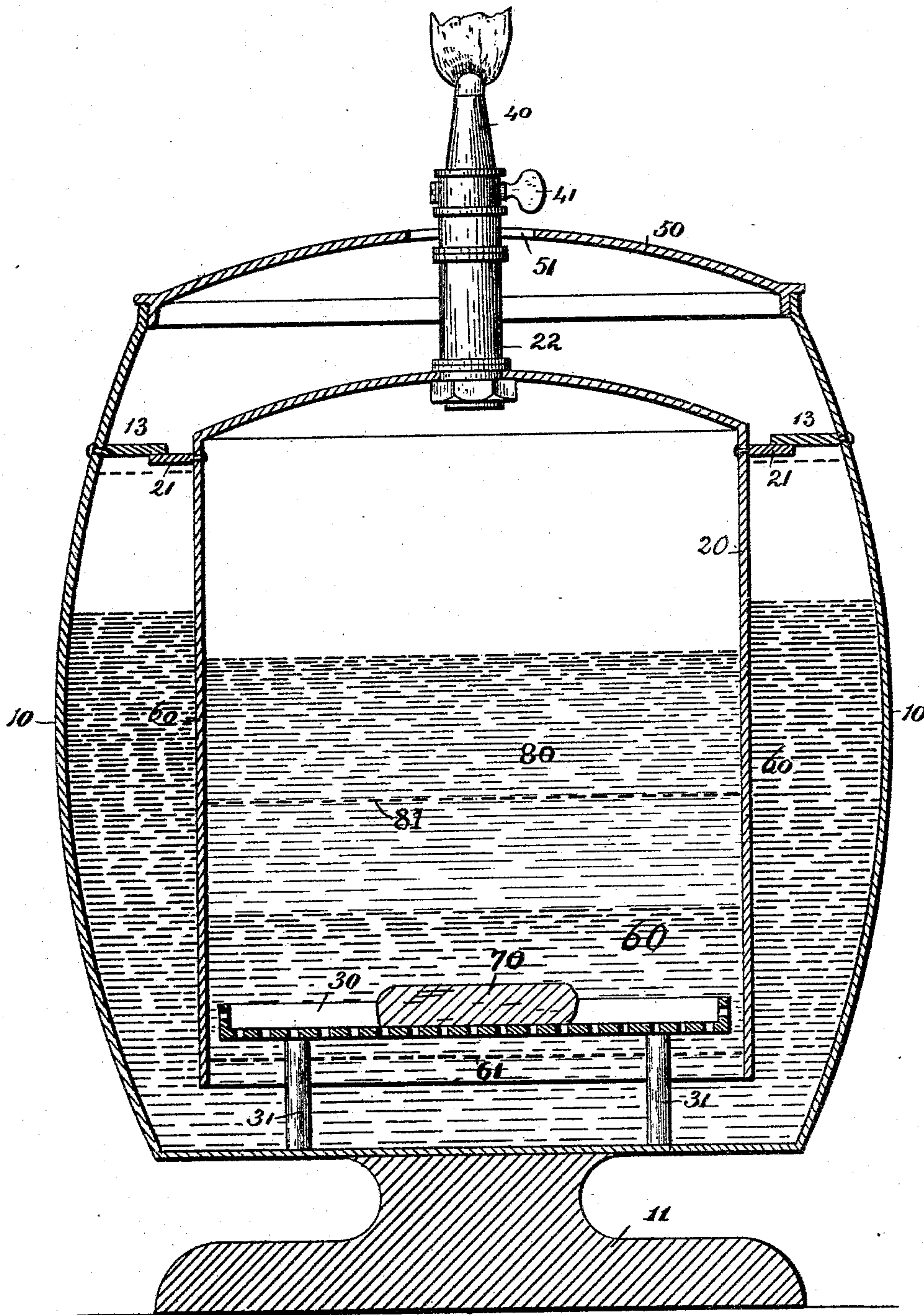


(No Model.)

J. W. TALLMADGE.
CARBURETING LAMP.

No. 412,348.

Patented Oct. 8, 1889.



ATTEST
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JAMES W. TALLMADGE, OF BOSTON, MASSACHUSETTS.

CARBURETING-LAMP.

SPECIFICATION forming part of Letters Patent No. 412,348, dated October 8, 1889.

Application filed April 6, 1889. Serial No. 306,230. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. TALLMADGE, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Carbureting-Lamps, of which the following is a specification.

The figure in the drawing represents a vertical transverse section of my improved lamp. My invention relates especially to a portable lamp, in which the supply of illuminating-gas is automatically generated; and it consists in certain novel features, as hereinafter fully set forth and claimed, the object being to produce a safe, simple, and inexpensive device of this character.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation.

This improved carbureting-lamp comprises a lamp-body 10, a small gas-holder 20 therein, and a perforated pan 30 also within said body. The body 10 is preferably constructed of copper in oval form, and provided with a stand or foot 11 at its bottom, an opening 12 at its top, and inwardly-projecting lugs 13 near its top. The perforated pan 30 is supported on legs 31. The gas-holder 20, in form of an inverted cup, is provided with outwardly-projecting lugs 21 at its sides and with a burner-tube 22 at its top. This cup is disposed within the lamp-body and incloses the perforated pan, the lower edge of the cup being below the plane of the pan and above the bottom of the lamp-body. A burner 40, having a cock 41, is screwed into the burner-tube 22. A cover 50, provided with a central opening 51, sufficiently large to enable the cover to pass over the cock of the burner, may be placed over the lamp-body to close the top opening thereof.

In the use of this lamp the lamp-body 10 is partially filled with a weak solution 60 of sulphuric acid, and zinc, marble dust, or its equivalent 70 is placed in the perforated pan 30. The burner is temporarily removed from the burner-tube, and a quantity of naphtha 80 is filled into the gas-holder through the

burner-tube and rests on the top of the acid solution. The quantity of acid solution is sufficient to fill the lamp-body to a plane above the zinc or other chemical in the pan, and the action of the acid thereon generates gas, which rising becomes impregnated with hydrocarbon vapor through the naphtha on the solution and fills the upper part of the gas-holder. On turning the cock 41 the gas escapes through the burner 40, and may be ignited for illuminating purposes. When the burner is shut off, the gas accumulates in the gas-holder and its pressure forces down the liquid until the acid solution falls below the perforated pan containing the zinc, as indicated by dotted line 61, and the latter becomes submerged in the naphtha and the formation of gas ceases.

The dotted line 81 represents the top of the naphtha when the cock is closed.

The lugs on the gas-holder and within the lamp-body prevent the gas-holder from rising above the perforated pan, and the acid solution constitutes a liquid seal between the gas-holder and the lamp-body, and prevents the escape of gas when the lamp is not in use.

The combination and arrangement of parts herein described constitute a very simple and effective automatic carbureting-lamp.

I claim—

The portable carbureting hydrogen lamp herein described, consisting of the portable lamp-body 10, provided with inwardly-projecting lugs 13, a supporting-stand 11 at its bottom, and a removable cover 50 at its top, said cover having a central aperture 51, the pan 30, supported on legs 31 within said body, the gas-holder 20 also within said body and inclosing said pan, said gas-holder being provided with outwardly-projecting lugs for engaging the lugs of said body, and the pillar-cock burner 40, detachably secured to the top of said gas-holder and extending loosely through the central aperture of said cover, substantially as set forth.

JAMES W. TALLMADGE.

Witnesses:

F. C. SOMES,
C. A. WEED.