

No. 625,833.

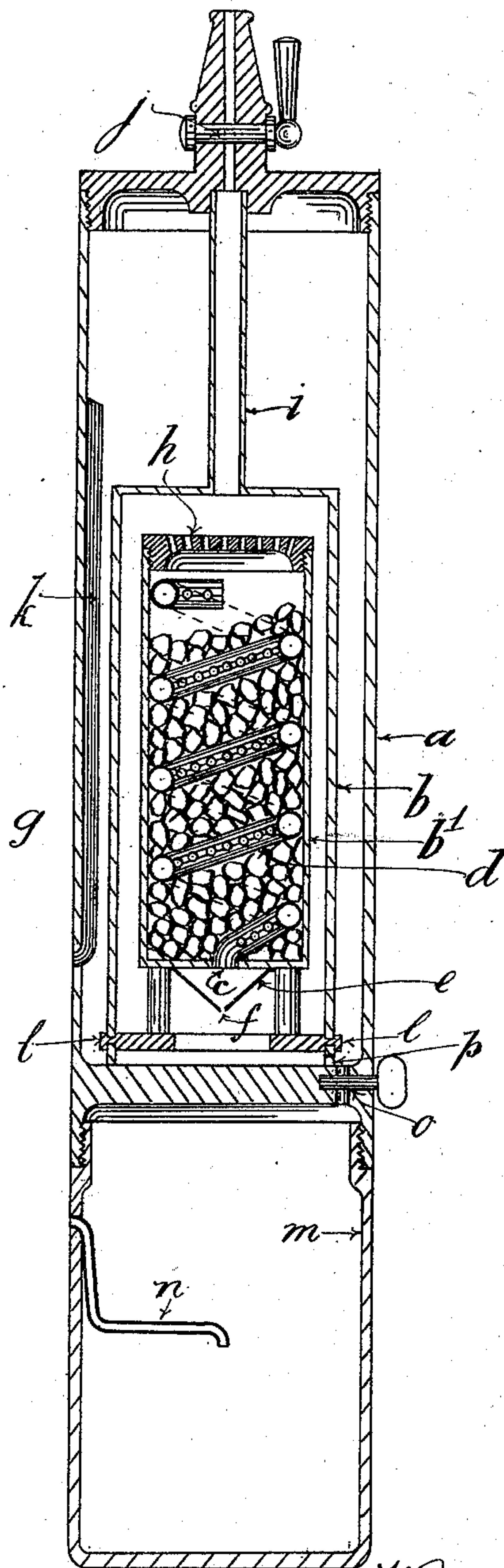
Patented May 30, 1899.

W. A. COULSON.
ACETYLENE GAS GENERATOR.

(Application filed Mar. 12, 1898.)

(No Model.)

Fig. 1.



Witnesses.

Benjamin Clark.
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UNITED STATES PATENT OFFICE.

WILLIAM A. COULSON, OF LONDON, ENGLAND.

ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 625,833, dated May 30, 1899.

Application filed March 12, 1898. Serial No. 673,640. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ALLEN COULSON, a subject of the Queen of Great Britain, and a resident of London, England, have invented certain new and useful Improvements in Acetylene-Gas Apparatus, (for which I have obtained a patent in Great Britain, No. 1,584, dated January 20, 1898; in Germany, Utility No. 96,670, dated May 26, 1898, and in France, Seal No. 277,892, filed May 10, 1898,) of which the following is a full, clear, and exact specification thereof.

This invention relates to an improved apparatus for the production of acetylene gas, the object being to provide an apparatus of compact form.

Referring to the annexed drawing, the figure is a sectional side elevation.

a is an outer cylinder or casing in which the receiver or container *b* for the carbid-of-calcium holder *b'* is contained, this reservoir being provided with aperture *c* for the purpose of allowing the water contained in the cylinder *a* to come into contact with the carbid of calcium through the medium of the spiral perforated tube *d*.

e is a cone attached to the carbid-of-calcium holder *b'* and having an aperture at *f*, this cone preventing extraneous entrance of water to the carbid-of-calcium holder *b'*. The position of the carbid is indicated at *g*. The top of the carbid-of-calcium holder is perforated at *h*, so that the gas generated will pass through the tube *i* to the tap or cock *j*, from which it may be used as required.

k is an escape-tube for the purpose of allowing any excess of gas generated after the water has been driven from contact with the carbid of calcium to escape.

The carbid-of-calcium holder *b'* is secured in the receiver *b* by means of any suitable device, such as a bayonet-joint, consisting of two projections *l*, which enter vertical slots in the receiver *b* and then partially turned, so as to lock the carbid-of-calcium holder in position.

m is a cylinder or casing which may be secured to the cylinder or casing *a* by being

screwed thereon and contains the air in the pipe *n* so arranged as to project toward the center of casing *m*.

o is a valve arranged in the casing *a* for the purpose of allowing the water contained in the casing *m* to pass into the casing *a*.

The action is as follows: A suitable amount of water is placed in the casing *m*, which is then screwed into the casing and the whole inverted. The tap or cock *o* is then opened, and the water then flows into the casing *a*. The tap *o* is then closed and the whole again inverted, when the water will flow through the apertures *p* and come into contact with the carbid of calcium through the perforated tube *d*, and generation of gas will then take place, which may be allowed to escape through the tap or cock *j*. In the event of the generation of gas being greater than its consumption or escape through the cock *j*, owing to the pressure generated, it will force the water out of contact with the carbid of calcium, and any excess of gas generated will pass through the apertures *p*, through the water, and thence through the escape-pipe *k*.

When the apparatus is required for use, by opening the tap the water will pass into the casing *m* and by closing the tap *o* will be prevented from passing into casing *a* until it is required. It will be seen that by the use of the air-vent tube *n*, which is centrally placed when the whole is inverted, the water will not naturally escape through this tube.

This form of apparatus is particularly applicable in cases such as for use with velocipedes, being compact and readily brought into and out of use.

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

An apparatus for producing acetylene gas: consisting of a casing containing a chamber communicating with an escape-valve in the chamber; a holder containing carbid of calcium said holder being provided with a conical depending piece and a spiral perforated tube through which the water comes into contact with the carbid of calcium when required;

a casing or cylinder containing an air-inlet tube prolonged toward the center of said casing the latter screwed into the end of the casing containing the receiver and carbid-of-calcium holder; a tap or valve in casing contain-
5 ing carbid-of-calcium holder so arranged that the water may pass from one casing to the other by inverting the apparatus as required and an outlet or escape pipe in the casing con-

taining the carbid-of-calcium holder for the purpose of allowing any surplus gas to escape.

In testimony that I claim the foregoing I have hereunto set my hand this 16th day of February, 1898.

W. A. COULSON.

Witnesses:

BENJAMIN CLARK,
WILLIAM JOHN WEEKS.