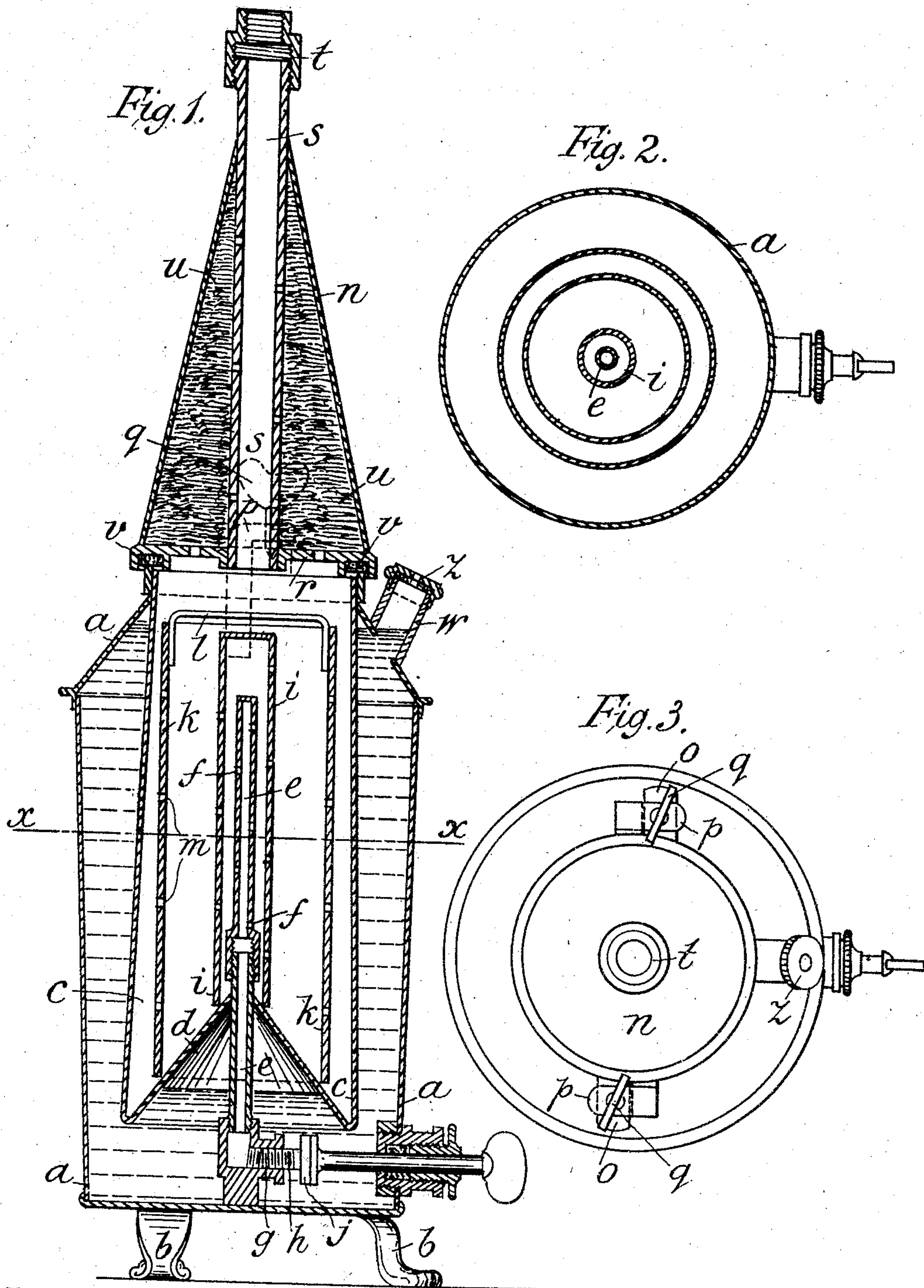


No. 780,967.

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J. BARTLETT.
ACETYLENE GAS GENERATOR.
APPLICATION FILED NOV. 1, 1902.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES BARTLETT, OF SOUTH TOTTENHAM, ENGLAND.

ACETYLENE-GAS GENERATOR.

SPECIFICATION forming part of Letters Patent No. 780,967, dated January 31, 1905.

Application filed November 1, 1902. Serial No. 129,763.

To all whom it may concern:

Be it known that I, JAMES BARTLETT, plumber and electrician, a subject of the King of Great Britain and Ireland, residing at 42 Broad Lane, South Tottenham, in the county of Middlesex, England, have invented certain new and useful Improvements in Acetylene-Gas Generators Applicable as Lamps, of which the following is a specification.

10 The object of this invention is to provide an improved acetylene-gas generator which may also be combined with or used as a lamp applicable to bicycles, carriages, households, and generally to all lighting purposes.

15 The light produced by means of the apparatus hereinafter described is free from smoke and is of a clear, white, and powerful nature especially suitable for lighting large halls and the like.

20 The said invention consists, essentially, in providing an outer case or chamber containing water and an inner chamber containing calcium carbide, the water being fed from below to the latter by means of a regulating-valve and central perforated pipe and the inner chamber being formed with a cone-shaped bottom, so that the water trickles down to the lowest part of the same and gradually rises to its upper part, thus saturating the carbide contained therein from the bottom upward.

30 In order to fully understand my said invention, reference is made to the accompanying drawings, in which—

35 Figure 1 is a central vertical section of the improved generator, in this case used as a standing lamp. Fig. 2 is a horizontal section on the line $x-x$, and Fig. 3 is a plan of the same.

40 In Figs. 1 to 3, a is the outer case or chamber, provided with feet or supports b , and c is the inner chamber, which may be formed in one with the chamber a .

45 d is the cone-shaped bottom of the chamber c , and e is the central vertical pipe perforated at f .

g is a hollow spindle provided with a slit h and screwing into the lower branch of pipe e to act as a water-regulating valve.

i is a large perforated hood or tube sur-

rounding the pipe e for preventing contact of the carbide with the latter.

The spindle g is fitted with a compressible washer j , providing a water-tight closure when the valve is screwed up tight.

55 k is the cylinder for holding the carbide. l is a handle for the same to facilitate its removal from the inner chamber, and m are perforations in its sides.

60 n is the upper chamber, fixed to the case a by means of the lugs o , clamping-pieces p , and screws q . The chamber n is formed with a perforated bottom r , fitted with a central perforated tube s , and is provided at its upper end with a screw-socket t for holding an ordinary acetylene-burner.

65 u is the wadding or other packing with which the chamber n is filled, and v is a rubber washer or packing for providing an airtight connection between the chamber n and the case a .

70 In order to produce the gas, the cylinder k is placed in the chamber c and is then filled to within about half an inch of the top with the best calcium carbide, after which the chamber n is secured in position by the screws q . The case a is then filled with water through the tube w , which is then closed by the screw-cap z , formed with an air-hole, as shown.

75 The operation is as follows: The spindle g is screwed outward by its handle, so as to open or uncover the slit h , thereby admitting the water in the case a to the pipe e . The water so admitted is forced up the said pipe by its head or pressure and passes through the lowest perforation f and out through the perforated tube i , from whence it falls down the conical bottom d to the lowest point of the cylinder k , thereby saturating the carbide in the latter from the bottom upward. The gas formed passes through the perforations m into the inner chamber c , from whence it escapes through the pipe s to the socket t , which is fitted with a burner provided with a cock for lighting purposes. When the said cock is turned off, the accumulated gas escapes through the perforations in the pipe s and the perforations r into the chamber n , where it passes through the wadding or other packing

u for purification, and from which chamber it again passes up the pipe *s* to the socket *t* and burner, for use when the cock is turned on by the perforations in the bottom *r* of the chamber *n* and also by the perforated pipe *s*, into the said chamber and passes through the wadding or other packing therein to the socket *t*, which is fitted with a burner for lighting purposes.

To put out the light, the spindle *g* is screwed in so as to cover the slit *h*, thus shutting off the water from the pipe *e* and stopping any further generation of gas. As the lowest perforation in tube *i* becomes covered or blocked by the saturated carbid the water passes out through the upper perforations, and in order to fill the cylinder *k* with fresh carbid it is lifted out by its handle *l*, when the caked or used carbid may be easily shaken out of the said cylinder by reason of its hollow formation at the bottom.

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

The improved acetylene-gas generator, applicable as a lamp for various purposes consisting of an outer case containing water, an inner chamber formed with a conical bottom, a vertical perforated pipe passing centrally through the said chamber and fitted with a valve for regulating the admission of the water thereto, a perforated hood or tube covering the said pipe, a loose perforated cylinder holding carbid of calcium through which the said hooded pipe passes, and a removable upper chamber attached to the outer case having a central tube provided with perforations the said chamber being filled with wadding, tow, or other packing material through which the gas passes from the inner chamber on its way to the burner fixed to the top of said upper chamber, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JAMES BARTLETT.

Witnesses:

FREDERICK MICAH MELLOR,
JOHN JAMES ROWLEY.