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Patented Nov. 28, 1899.

E. J. DOLAN.  
METHOD OF GENERATING ACETYLENE GAS.

(Application filed July 1, 1899.)

(No Model.)

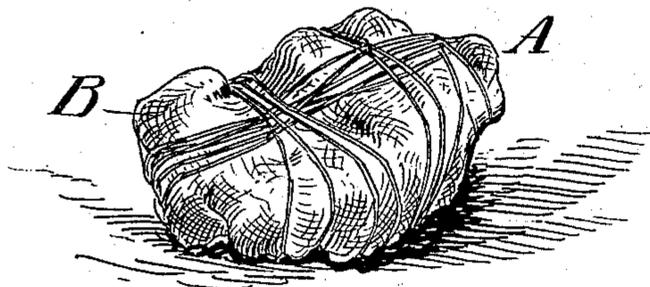
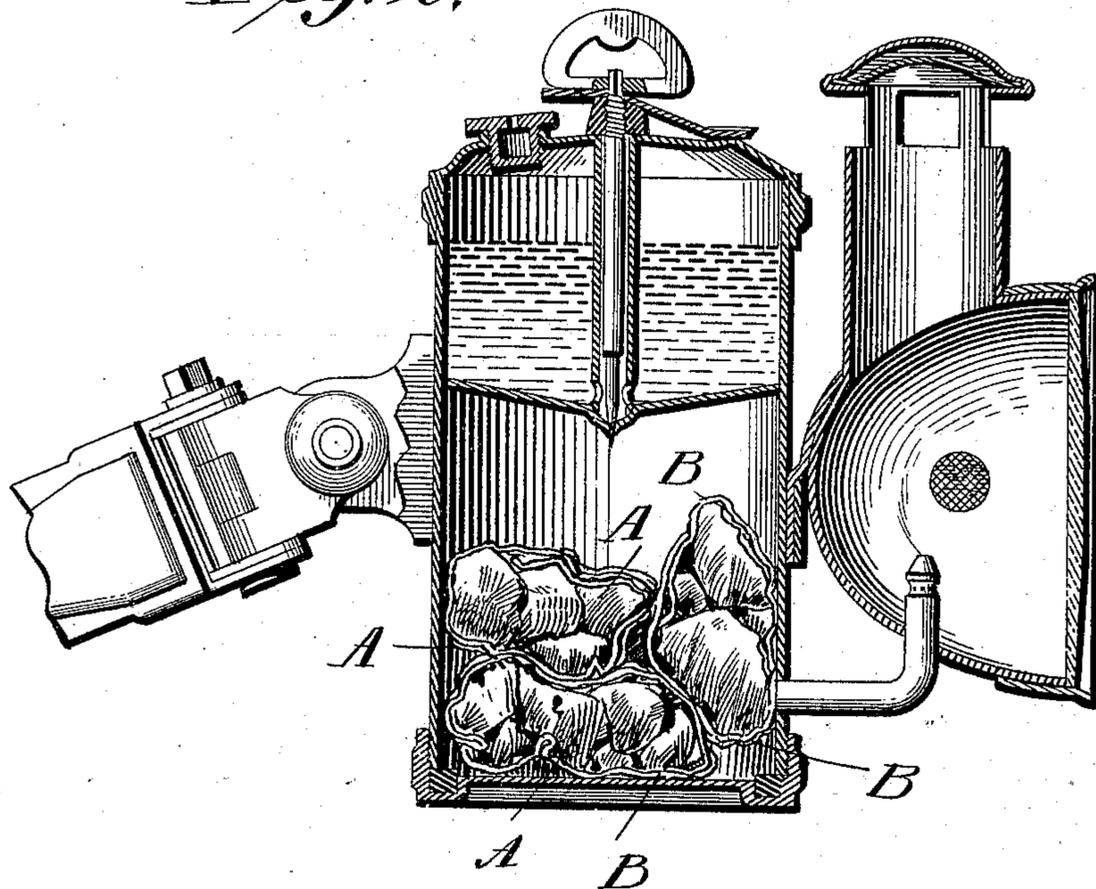


Fig. 1.

Fig. 2.



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## METHOD OF GENERATING ACETYLENE GAS.

SPECIFICATION forming part of Letters Patent No. 638,175, dated November 28, 1899.

Application filed July 1, 1899. Serial No. 722,582. (No specimens.)

*To all whom it may concern:*

Be it known that I, EDWARD J. DOLAN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Methods of Generating Acetylene Gas; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in methods of generating acetylene gas; and it has for its object, among others, the provision of a simple, inexpensive, and efficient method for generating acetylene gas, whereby the rapidity of generation of the gas may be effectually controlled at all times, the deposition of the residue of the exhausted carbid within the generating or storage chamber may be avoided, and an increased amount of carbid over that possible by former methods may be stored within the generating-chamber.

To these ends and to such others as the invention may pertain the same consists in inclosing the carbid in small portions or charges within a wrapper of suitable material—such, for instance, as coarse cheese-cloth—and then binding tightly with a strong cord or its equivalent, so as to hold the contents of the package into as tightly compressed a bundle as possible, preferably two or more thicknesses of the wrapping material surrounding the bundle.

In the accompanying drawings, which form a part of this specification, Figure 1 is a perspective view of a bundle or charge of calcium carbid prepared in accordance with my invention. Fig. 2 is a central vertical section of a bicycle-lamp, showing the generating-chamber as provided with my prepared charges.

Reference now being had to the details of the drawings by letter, A represents a small package of calcium carbid, which is wrapped closely within a covering B of coarse cheese-cloth or other material of an open or porous nature, such as will allow the water when brought into contact with the covering or

wrapper to be carried by capillary attraction to the next adjacent package, thus insuring a uniform and gradual saturation of the several bundles of carbid contained within the generating-chamber. The packages should be wrapped in such a manner as to insure a covering of at least two or three thicknesses of cloth upon all sides of the package, and after wrapping the bundle should be compressed as much as possible and held in its compressed form by a strong string or cord passed around the bundle and securely tied. I have found as the result of practical experiment that this wrapping of the carbid tightly is a great improvement over the methods heretofore employed, as it is more cleanly in handling, both in charging and in discharging generators or lamps. It prevents expansion of the residue, thereby requiring less water, and also prevents too-rapid generation of the gas. This wrapping of the carbid within tightly-compressed bundles serves, further, to keep all dust or other materials or impurities from escaping into the generating-chamber, and thus clogging the valves or pipes, which has heretofore been so objectionable and troublesome in acetylene-lamps.

In Fig. 2 I have shown a central vertical section of one of the ordinary forms of acetylene bicycle-lamps, the gas-generating chamber of which is shown as containing several of my compressed packages of calcium carbid.

While I intend the invention for use in all forms of gas-generators, I find that it is of especial value when used in connection with acetylene-lamps, for the reason that the full charge can be divided into several parts, thus rendering it possible and convenient to accurately measure the amount of gas required.

While I have shown in the accompanying drawings the gas-generating chamber of a lamp as provided with a plurality of packages, it is at once evident that, if preferred for any reason, the entire quantity of carbid contained within the chamber may be inclosed within a single package.

My invention while herein described as used in connection with a gas-generating chamber is, as will be at once evident, equally adapted for use in connection with the shipment or storage of calcium carbid. By first packing the material within cloth-covered and

closely-compressed bundles the danger of possible explosions caused by frictional contact between the loose pieces of carbid in shipment is obviated, as the covering or wrapper of the package will prevent friction. It is also evident that where carbid is thus packed the danger from accidental flooding of the storage-chamber will be greatly lessened, as in case fire should result the generation of the gas would be much slower than would be the case if the carbid were loose or uncovered.

Having thus described my invention, what I claim to be new, and desire to secure by Letters Patent, is—  
15 The method herein described of generating

acetylene gas, the same consisting in tightly wrapping small quantities of calcium carbid within an outer covering consisting of a plurality of thicknesses of pliable, porous material, placing several of the packages thus prepared within a gas-generating chamber in contact with each other, and bringing water into contact therewith, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD J. DOLAN.

Witnesses:

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