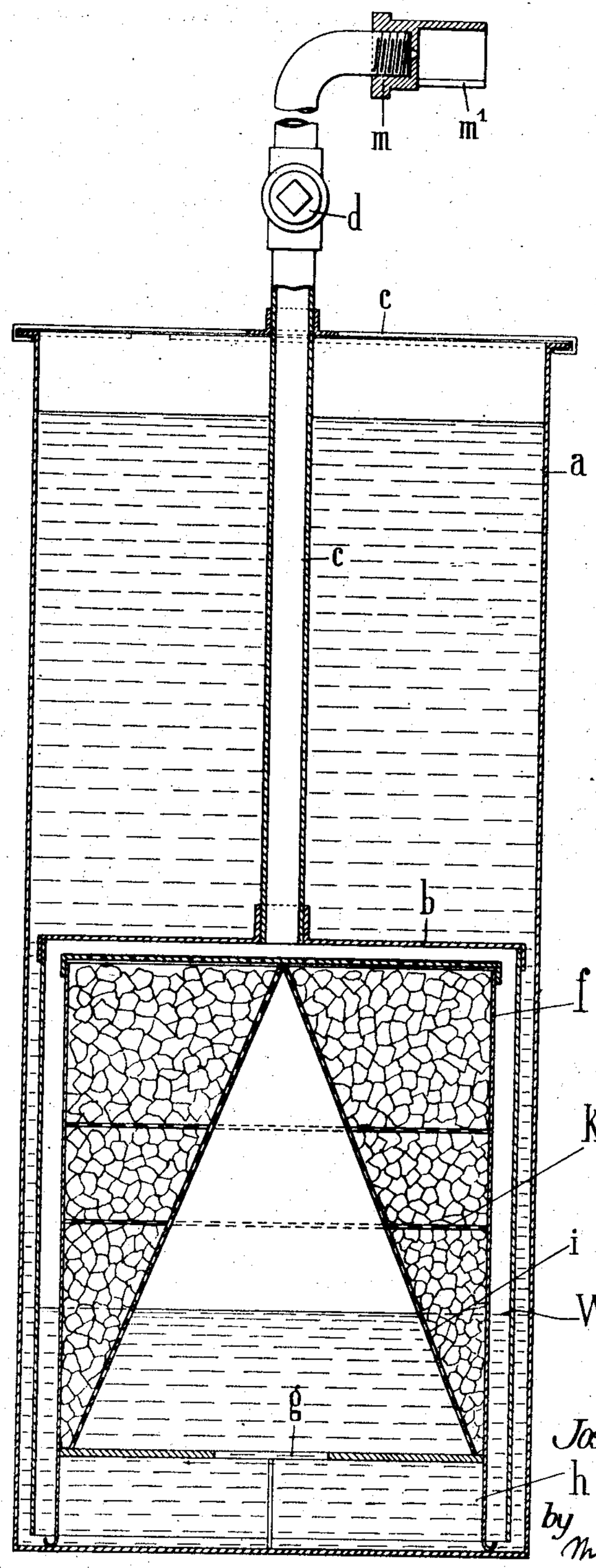
No. 834,831. PATENTED OCT. 30, 1906.

J. MARGRETH.

ACETYLENE GAS GENERATOR.

APPLICATION FILED JULY 16, 1906.



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ACETYLENE-GAS GENERATOR.

No. 834,831. Specification of Letters Patent. Patented Oct. 30, 1906.

Application filed July 16, 1906. Serial No. 326,424.

To all whom it may concern:

Be it known that I, JOSEPH MARGRETH, manufacturer, a citizen of Switzerland, residing at Bergedorf, near Hamburg, Germany, have invented certain new and useful Improvements in Portable Acetylene-Generators; and I do hereby 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.

My present invention relates to a portable acetylene-generator which has very small dimensions in proportion to its capacity, and it is possible, in common with these advantages, to use unprepared carbid without an overflow of gas taking place. This is obtained by the arrangement of a vertical reticulated fitting of pyramidal or conical shape in a carbid-receptacle supported close to the casing of the water-reservoir, round which fitting the carbid is placed. The width of the base of the inserted fitting as well as its height agree with the corresponding measurements of the carbid-receptacle. The water can flow unimpeded in a full current to the carbid, for the purpose of the sieve is not to render the passage of the water difficult. Accordingly it is also not made too small-meshed. Nevertheless, the water has here little opportunity of action in consequence of the peculiar position in which the carbid is placed. Moreover, an overflow of gas is avoided, for the reason that the space for the gas increases to a corresponding extent as the layers of carbid which become transformed into gas become wider.

The accompanying drawing is a vertical section through the generator.

The gas-generator consists of a reservoir *a*, in which a bell *b* is arranged so that it can be removed. The bell *b* is open below and provided above with an outlet-tap *d*. The bell *b* is fastened in the reservoir *a* by a wedge-like clamping-spring pushed in between these or, as shown in the figure, by fastening a cross-bar *e* to the pipe *c*, which bar engages under the flange of the reservoir *a*. The flange is, however, cut away at one place, so that the bell *b* can be taken out as soon as the cross-bar *e* is over the opening. The height of the reservoir *a* is proportioned relatively to the height of the bell *b* in such a way that the bell is only about half the height of the reservoir. The latter is the height of the required gas-pressure—thus about eighty to one hundred centimeters.

The carbid-receptacle *f* is in the bell *b*, said receptacle *f* consisting of a receptacle covered over above, but open below at *g*. The upper lid is provided with openings for the emission of gas, so that the gas generated in the receptacle can escape through the pipe *c*. The base of the carbid-receptacle stands somewhat above the base of the reservoir *a*, which can be arranged by means of feet *h* or the like.

The receptacle *f* may be held in the bell *b* by optional fastening devices which are not shown on account of clearness.

A cone or a pyramid *i*, of wire-gauze or perforated sheet metal, is placed in the receptacle *f* in such a way that only the space outside said pyramid can be filled with carbid. It is clear that with this arrangement only quite small annular surfaces are in the first place attacked by the water in the lower part of the carbid-receptacle, and only later, when the lower layers are used up, the surface of the carbid in contact with the water becomes gradually greater. It has been found that an exceedingly constant generation of acetylene gas thus takes place. In order to prevent the upper pieces of carbid being able to fall down into the mud underneath when the lower layers are used up, transverse pieces of metal *k* are put over the pyramid, which in this case carry the carbid.

The burner has a simple sleeve *m*, which is able to be screwed onto the gas-pipe, said sleeve being preferably provided with a slit *m'*. The purpose of the latter is to conduct away water of condensation collecting in the sleeve.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In an acetylene-generator, the combination of a water-reservoir, a gas-bell supported therein, and a carbid-receptacle within said gas-bell, said carbid-receptacle being composed of a vessel having imperforate walls and openings at the bottom and top for the inflow of water and exit of gas, said receptacle being provided with supporting-legs, and a perforated conical fitting located within said receptacle and running from the center of the top thereof approximately to the circumference of the bottom thereof, substantially as described.

2. In an acetylene-generator, the combination of a water-reservoir a gas-bell located therein, and a carbid-receptacle within said gas-bell, said receptacle being about half the height of said water-reservoir, and said receptacle comprising imperforate walls, supporting-legs, a perforated bottom and top, horizontal partitions, and a perforated conical fitting within said receptacle arranged with its base directed downward and running from the center of the top of the receptacle approximately to the circumference of the bottom of the receptacle, substantially as described.

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

JOSEPH MARGRETH.

Witnesses:

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