

No. 727,609.

PATENTED MAY 12, 1903.

E. FOUCHÉ.
APPARATUS FOR STORAGE OF GASES.

APPLICATION FILED MAY 24, 1901.

NO MODEL.

Fig. 1

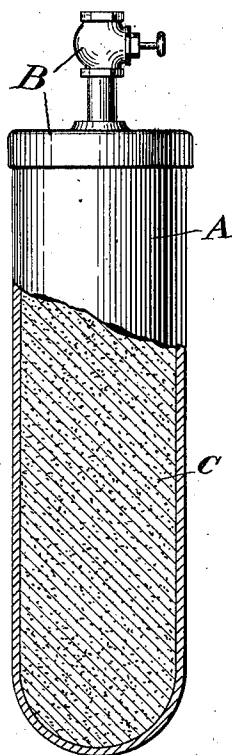
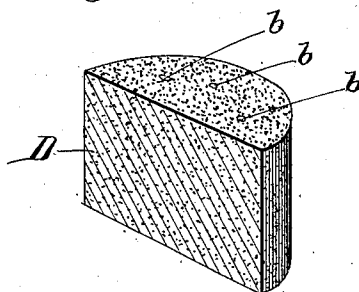


Fig. 2



Witnesses
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UNITED STATES PATENT OFFICE.

EDMOND FOUCHÉ, OF PARIS, FRANCE, ASSIGNOR TO E. CORNELIUS BENEDICT, JOHN S. SEYMOUR, AND EUGENE BOURNONVILLE, OF NEW YORK, N. Y.

APPARATUS FOR STORAGE OF GASES.

SPECIFICATION forming part of Letters Patent No. 727,609, dated May 12, 1903.

Application filed May 24, 1901. Serial No. 61,726. (No model.)

To all whom it may concern:

Be it known that I, EDMOND FOUCHÉ, a citizen of France, residing at Paris, France, have invented certain new and useful Improvements in Apparatus for the Storage of Gases, of which the following is a specification.

The object of my invention is to provide a receptacle for the storage of explosive or inflammable gases and such a filling therefor that in the event of an explosion or the ignition of a portion of the gas only a small volume will be affected, whereby danger from explosion is avoided.

In the drawings forming part of this specification, Figure 1 is a section of my improved receptacle. Fig. 2 is a view showing one form of the porous substance used therein.

A is the receptacle, which is made of any suitable material, such as steel, of sufficient strength to resist the pressure at which the gas is stored. This vessel is provided with a closure B of any suitable or desired kind. The receptacle A is filled with a porous substance C. Many different substances may be used, such as asbestos, mineral wool, carbon, pumice-stone, and ceramic materials. One substance which I find very advantageous for this use is porous brick. For the best results the material should be of such a character that were it reduced to powder it would occupy from twenty to twenty-five per cent. only of the space it occupies in its normal condition. In using porous brick of this kind or similar material I may form in the brick numerous small bores or perforations *b* for the purpose of facilitating the permeation of gas through the porous substance.

In preparing my receptacle for the storage of the gas in compressed form I saturate the porous substance with some solvent of the gas—as, for instance, in storing acetylene gas I would saturate the porous substance with acetone.

By "saturated" I mean that the amount of solvent used must be such that the danger from liquid expansion is avoided.

If the gas is to be charged under a pressure

sufficient to liquefy it, it is forced into the receptacle by a suitable apparatus until the liquefying pressure is reached. The liquefied gas will permeate the porous substance and be held there in numerous small and partially-isolated charges.

In case the solvent is to be used the porous substance is ordinarily first saturated with the solvent. The gas is then forced in and through the pores in the filling material. The gas will then circulate through the pores of the filling material, come in contact with the solvent liquid, and be absorbed thereby.

By this apparatus explosive or inflammable gases of any kind may be stored without danger from explosion. The explosion will be confined to the inconsiderable amount stored in one, or at most in few, of the cells and would not be communicated to the body of stored gas. It is particularly useful in the storing of acetylene gas either in its compressed form or as a liquid or dissolved in a suitable solvent.

It is desirable that the filling substance be an integral mass; but I may employ a number of blocks of the porous material and completely fill the receptacle with the same, or I may partly fill the receptacle with blocks and pack them round with fibrous or granular filling.

What I claim, and desire to secure by Letters Patent, is—

1. An apparatus for storing gas consisting of a receptacle filled with a porous substance, such porous substance being saturated with a solvent of the gas to be stored, substantially as described.

2. An apparatus for storing gas consisting of a receptacle filled with porous material molded to fit the interior thereof, substantially as described.

Signed at Paris, France, this 29th day of April, 1901.

EDMOND FOUCHÉ.

Witnesses:

HENRY B. LOOMIS,
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