

(No Model.)

J. A. GRIFFITHS.
CARBONIC ACID RESERVOIR.

No. 586,684

Patented July 20, 1897.

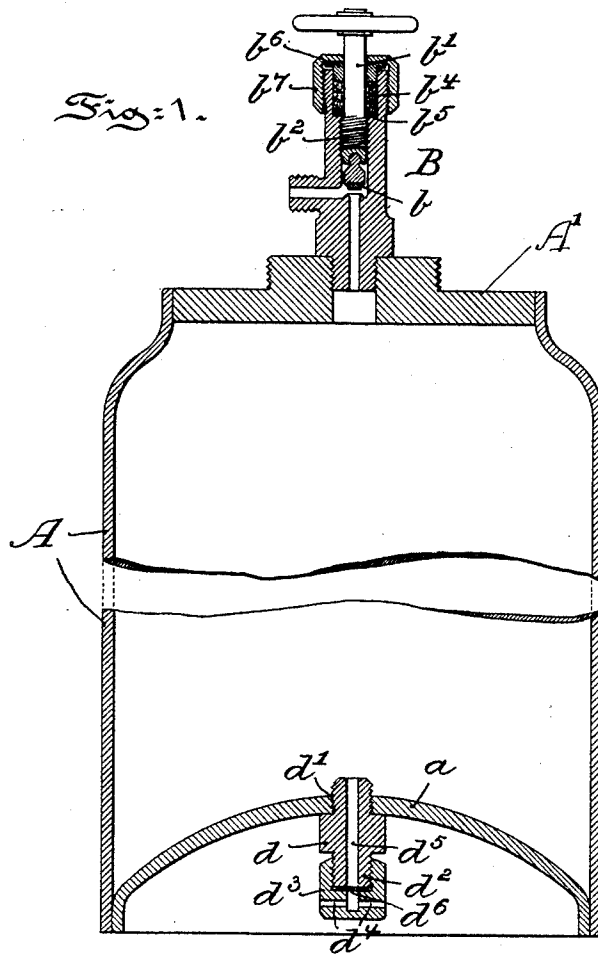
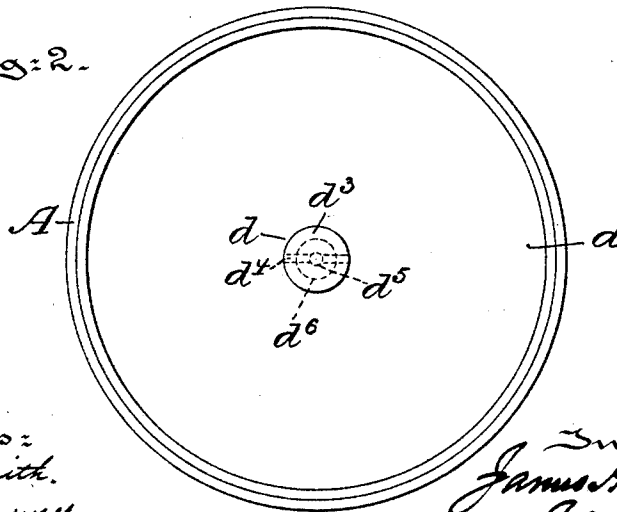


Fig: 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES A. GRIFFITHS, OF PHILADELPHIA, PENNSYLVANIA.

CARBONIC-ACID RESERVOIR.

SPECIFICATION forming part of Letters Patent No. 586,684, dated July 20, 1897.

Application filed April 12, 1897. Serial No. 631,665. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. GRIFFITHS, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Carbonic-Acid and Similar Gas Reservoirs, of which the following is a specification.

My invention has relation to a carbonic-acid-gas or similar reservoir provided with a main valve in the top thereof and with a safety attachment provided in the bottom of the same, and in such connection it relates particularly to the construction and arrangement of the safety attachment and of the reservoir to which applied in conjunction with a main valve in the top thereof.

The principal object of my present invention is to provide a gas-reservoir with a concave or bowed bottom, within which is detachably applied a safety attachment consisting of a threaded nipple adapted to enter the reservoir, a diaphragm closing the outlet from the nipple, and a cap adapted to be screwed onto the nipple to hold the diaphragm in position, the cap being provided with outlet-ports leading from below the diaphragm to the atmosphere, said safety attachment being located within the concavity above the base-rim of the reservoir, and the reservoir provided in the top with a casting or reinforced head for the reception of a main valve of suitable construction for controlling the introduction or supply and discharge of the gas into and from said reservoir.

My invention, stated in general terms, consists of a carbonic-acid-gas reservoir constructed and arranged in substantially the manner hereinafter described and claimed.

The nature and scope of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, in which—

Figure 1 is a vertical central section of a gas-reservoir with a safety attachment embodying main features of my invention, and Fig. 2 is an underneath plan view of the bot-

tom of the reservoir with the safety attachment applied thereto.

Referring to the drawings, A represents the reservoir, having at its upper end a main or discharge valve B, removably fitted to a reinforced head or casting A' of said reservoir. The main valve B consists, preferably, of the valve-seat *b*, the stem *b'*, partially threaded, as at *b*², the stuffing-box *b*⁴, the washer *b*⁵, gland *b*⁶, and removable cap *b*⁷. The bottom *a* of the reservoir A is constructed in concave form or inwardly bowed and preferably about the center perforated, as at *d'*, and threaded to receive one end of a shouldered and recessed nipple *d*. The other end or recessed portion *d*² of the nipple is also threaded to receive a cap *d*³, having the transverse openings or ports *d*⁴, leading from the interior of the cap *d*³ to the atmosphere. The opening *d*⁵ of the nipple *d* is adapted to be closed by a membrane or diaphragm *d*⁶, held in position in the nipple *d* by means of the cap *d*³.

The nipple, membrane, and cap, when assembled, as illustrated in Fig. 1, constitute a safety attachment for the reservoir, inasmuch as the pressure on the interior of the reservoir when the valve B is closed is directed against the membrane or diaphragm *d*⁶. This membrane is made of a material adapted to burst when the pressure in the reservoir becomes abnormal, and in bursting the gas will escape from the reservoir through the nipple to the external atmosphere, thus relieving the valve B and reservoir A from excessive pressure and preventing thereby bursting of the valve B or of the reservoir A. By locating the safety attachment in the concave or bowed bottom *a* of the reservoir the attachment is protected from accidental breakage in shipment or use, since no portion of the attachment is exposed to accidental or intentional blows or jars.

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

A carbonic-acid-gas or similar reservoir A, provided with a head or casting A', having a detachable main valve B, with its accessories, the bottom of said reservoir concaved or

bowed and perforated to receive a nipple *d*,
reduced at the top and bottom and having an
intermediate shoulder, a membrane or dia-
phragm and an internally-threaded cap *d*³,
5 provided with outlet-ports *d*⁴, detachably
fitted to one of the reduced portions of said
nipple, substantially as and for the purposes
described.

In testimony whereof I have hereunto set
my signature in the presence of two subscrib- 10
ing witnesses.

JAMES A. GRIFFITHS.

Witnesses:

J. WALTER DOUGLASS,
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