

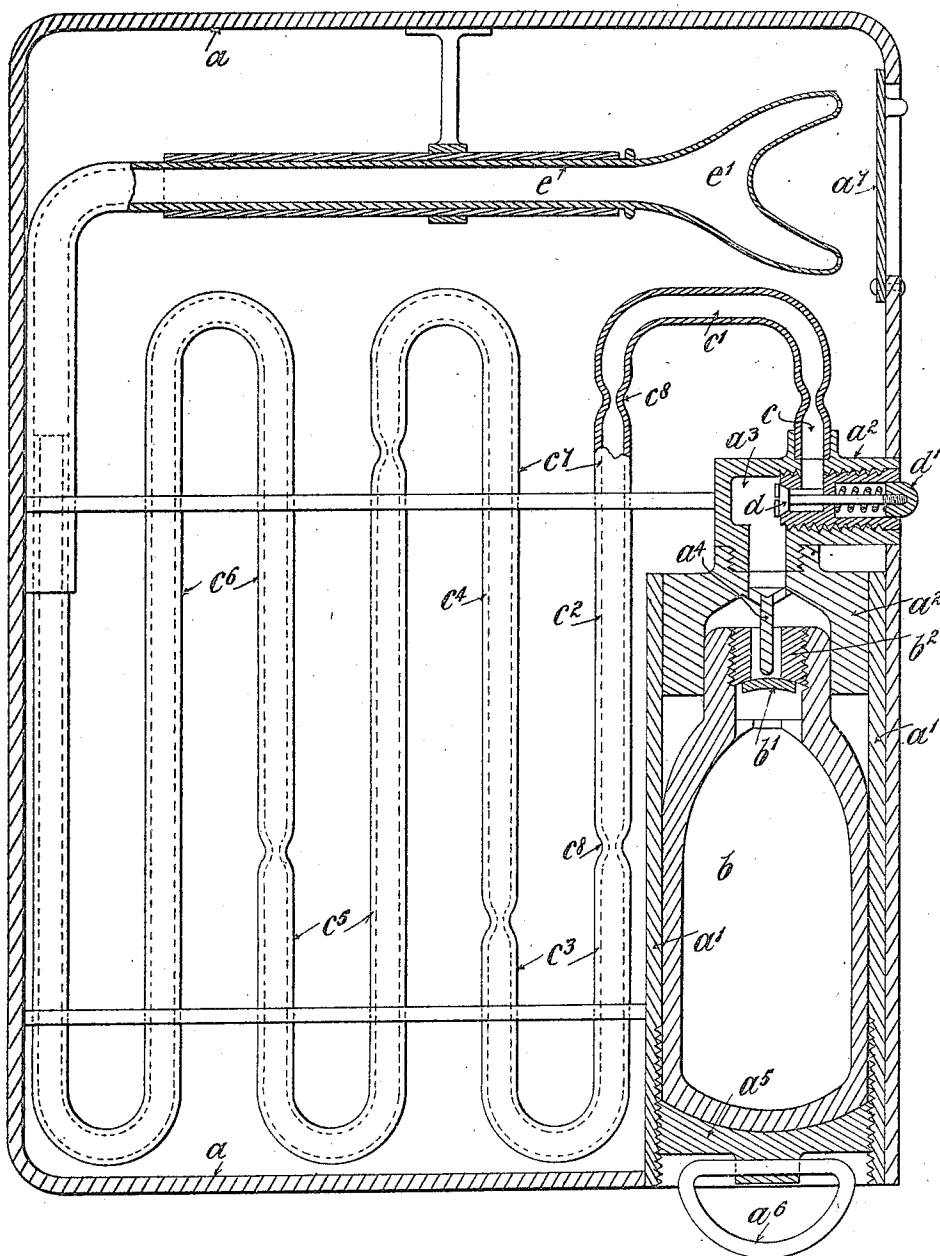
Mar. 20, 1923.

1,449,047

G. H. JOHNSON

POCKET INHALATION APPARATUS

Filed Apr. 1, 1922



INVENTOR.

G. H. Johnson.

By

A. Willard Slack.

his Attorney.

Patented Mar. 20, 1923.

1,449,047

UNITED STATES PATENT OFFICE.

GODWIN HARRY JOHNSON, OF SHEPPERTON-ON-THAMES, ENGLAND.

POCKET INHALATION APPARATUS.

Application filed April 1, 1922. Serial No. 548,676.

To all whom it may concern:

Be it known that I, GODWIN HARRY JOHNSON, a subject of the King of Great Britain, residing at Elvetham, Shepperton-on-Thames, Middlesex, England, have invented a new or Improved Pocket Inhalation Apparatus, of which the following is a specification.

This invention relates to a new or improved pocket inhalation apparatus and has for its object the production of a highly efficient inhaler, of compact form and inexpensive manufacture.

The present invention comprises essentially a casing adapted to be comfortably carried in the pocket, one or more capsules or receptacles adapted to contain the gas or medicament and held within the casing, a chamber adapted to be put into communication with the interior of said capsule or capsules, means for putting said chamber into communication with the interior of said capsule or capsules, a series of expansion chambers communicating with one another and held within said casing, an outlet from the last chamber of the series provided with a nozzle or means for inhaling the gas or medicament, and a valved opening putting the gas or medicament chamber into communication with the first chamber of the series of expansion chambers.

I will now more particularly describe this invention making reference to the accompanying drawing in which the figure is a sectional view in side elevation—on an enlarged scale—of one embodiment of this invention.

Within a suitably shaped casing *a* which may conveniently be formed from sheet metal is formed a compartment *a'* for the reception of a removable capsule or receptacle *b* adapted to contain the gas or medicament under pressure. This capsule *b* is formed as a miniature high pressure gas bottle, preferably from steel, and is provided with a valve *b'* adapted to contact with a valve seating formed in a nozzle *b''* in the reduced end or mouth of the bottle. The upper end of the compartment *a'* is closed by a part *a''* provided with a chamber *a'''* the inlet to which is formed in one with a spigot *a''''* adapted to pass freely through the nozzle *b''* and engage the valve *b'* when desired. The lower side of the part *a''* is formed to receive the reduced end of the capsule or bottle *b* and make a gas tight joint there-

with. In order to put the interior of the capsule or bottle *b* into communication with the chamber *a'''*, the bottle *b* is moved upwardly so that the spigot *a''''* opens the valve *b'*, preferably by means of a plug *a'''''* screw threaded into the lower end of the compartment *a'*. The plug *a'''''* is provided with any suitable means for rotating it, for instance by means of a hinged finger piece *a''''''* or by forming a slot in its underside adapted to receive the edge of a coin or in other convenient manner.

The outlet from the chamber *a'''* is connected to a series of expansion chambers *c*—*c''* in communication with one another and suitably held within the casing *a*. These expansion chambers are preferably formed from a single length of tubing *c'* having restrictions *c''* suitably located within its length so as to form chambers having a gradually increasing capacity. The tubing *c'* may be arranged within the casing as shown or spirally or in other convenient manner.

The outlet from the chamber *a'''* is controlled by a valve preferably a spring controlled valve *d* operable by depressing a finger piece *d'* on the outside of the casing. The outlet from the last expansion chamber *c''* is in communication with a nozzle or means for inhaling the gas or medicament, preferably by arranging a telescopic tube *e*, the outer end of which is formed with a perforated forked termination *e'* adapted to be inserted within the nostrils of the user, capable of being withdrawn outside the casing *a*, for use, through a closable aperture *a''* therein.

Instead of forming the capsules as miniature steel bottles which is necessary when a gas or the like is employed under pressure, the capsules may be made of gelatine or similar material adapted to contain a volatile medicament in which case the spigot *a''''* is in the form of a hollow needle or pin adapted to perforate the capsule to release its contents.

In some cases provision may be made for the casing to contain two or more capsules or bottles adapted to contain different gases or medicament in which case two or more valves are provided for regulating the supply to the expansion chambers.

What I claim and desire to secure by Letters Patent is:

1. A pocket inhalation apparatus comprising in combination a casing, a capsule adapted to contain the gas or medicament

and held within the casing, a chamber adapted to be put into communication with the interior of said capsule means for putting the said chamber into communication with the interior of said capsule, a series of expansion chambers communicating with one another and held within said casing, an outlet from the last chamber provided with means for inhaling the gas or medicament and a valved opening putting the gas or medicament chamber into communication with the first chamber of the series of expansion chambers, as set forth.

2. A pocket inhalation apparatus comprising a casing, a compartment therein, a removable capsule adapted to contain the gas or medicament held within said compartment, a chamber formed adjacent to the said compartment and having an inlet there- to communicating with the interior of the capsule, means for putting the chamber and capsule into communication, a series of expansion chambers, each of increasing capacity held within the casing, an outlet from said chamber in communication with the first expansion chamber of the series, a spring controlled valve operable from the outside of the casing and controlling the out-

let from said chamber, and a nozzle for inhaling the gas or medicament normally held within the casing but adapted to project therefrom in use and connected with the last expansion chamber, as set forth.

3. A pocket inhalation apparatus comprising a casing adapted to be comfortably carried in a pocket, a compartment fixed therein having a closed upper end and an open lower end extending through the casing, a capsule adapted to contain the gas or medicament removably held gas tightly within the compartment, a chamber carried by the closed upper end of the compartment, a passage formed between the chamber and the compartment means for putting the interior of the capsule into communication with said chamber, a series of expansion chambers formed from a single tube with restrictions therein, an outlet from said chamber connected to the one end of the tube, a spring controlled valve operable from the outside of the casing and controlling the outlet from the chamber, and a nozzle for inhaling the gas or medicament connected with the other end of the tube, as set forth.

GODWIN HARRY JOHNSON.