

(No Model.)

W. B. SPENCER.
INHALER.

No. 513,153.

Patented Jan. 23, 1894.

Fig. 1.

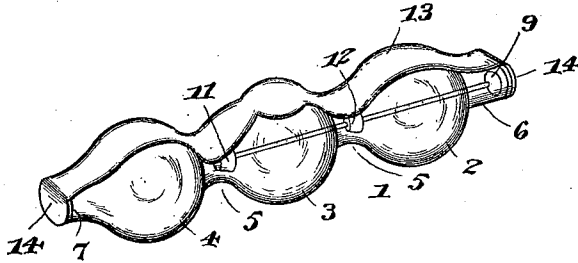


Fig. 2.

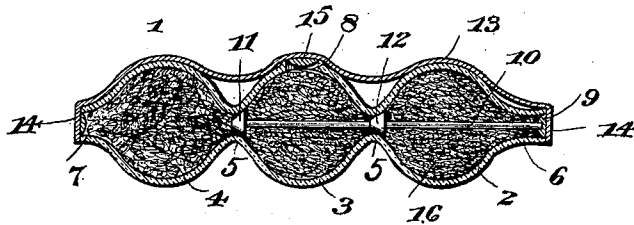


Fig. 3.

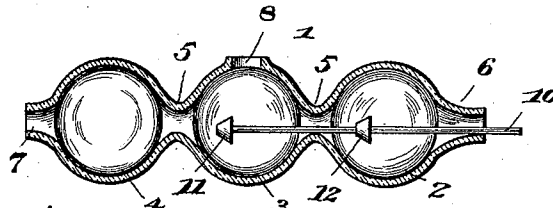
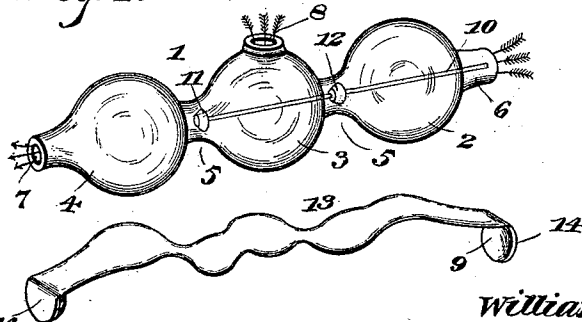


Fig. 4.



Witnesses

B. S. O'Brien
Chas. S. Hoyer

Inventor

William B. Spencer,

By *his* Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

WILLIAM B. SPENCER, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
T. W. KNILL, OF SAME PLACE.

INHALER.

SPECIFICATION forming part of Letters Patent No. 513,153, dated January 23, 1894.

Application filed April 1, 1893. Serial No. 468,676. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. SPENCER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Inhaler, of which the following is a specification.

This invention relates to inhalers, and it has for its object to provide means for placing several chemical primary substances having remedial vapors, and that are chemically incompatible, and rendering the same therapeutically compatible, and to obviate precipitation to such a degree as would abort the curative influence of the several vapors.

With these and other objects in view the invention consists of the construction and arrangement of the parts thereof as will be hereinafter more fully described and claimed.

In the drawings: Figure 1 is a perspective view of an inhaler embodying the invention. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a view similar to Fig. 2, with the spring-clamp removed. Fig. 4 is a detail perspective view of the clamp and the body detached from each other and showing the course of the air through the said body.

Similar numerals of reference indicate corresponding parts in the several figures of the drawings.

Referring to the drawings, the numeral 1 designates the body, which is composed of a series of continuous cells 2, 3, and 4, of bulbous form connected by contracted necks 5, and the bulb 2 provided with an open neck 6 at its outer end. The outer end of the cell 4 is formed with an opening 7, and centrally of the cell 3 is an opening 8 in the side thereof. Within the neck 6 a cork or stopper 9 is loosely fitted, to which the outer end of a valve-rod 10 is secured, having thereon valves 11 and 12 that engage the necks between the cells 2 and 3 and 3 and 4 to close the same. Over the body is movably fitted a spring-clamp 13, having angularly-bent ends 14, one of which carries a stopper or cork to fit in the opening 7 of the cell 4, and the other engages the stopper or cork 9. At the central part of the said clamp is mounted a stopper or closing device 15, that is arranged to coact with the opening 8 in the side of the cell 3, and by this means it will be observed that the open-

ings 7 and 8 are directly closed by the said clamp and the parts carried thereby, and the neck 6, together with the necks between the cells 2 and 3, and 3 and 4, are indirectly closed by the action of the angularly-bent end 14 of the said clamp bearing against the stopper or cork 9.

It will be understood that the inhaler is designed for use in treating catarrhal and other forms of disease of the respiratory organs, and the cells as set forth are provided for the reception of a special or individual medicinal agent or agents, which are fixed *in situ* in each cell by means of surgeon's wool, as at 16. In the cell 4, for example, iodine in the scale or crystal form is placed; carmenthol in the cell 3; and eucalyptol in the cell 2, by inserting the same at the opposite open ends of the cells 2 and 4, and the opening in the side of the cell 3. As thus charged, the inhaler is ready for use, and by reason of the isolation of the vaporizing agents in separate cells, possibilities in vapor generation and diffusion are obtained which are almost completely stifled by the chemical reaction that takes place when medicinal agents are located in the same, or more openly-connected apartments.

In use the open end of the cell 4 should be placed in the nostril and the air lightly drawn through the said cells 2, 3, and 4 in the direction shown by the arrows in Fig. 4. The air in passing through from cell to cell enters the nostrils saturated, as it were, with the essential substances occupying the isolated cells, thereby producing a therapeutic influence of a remedy so far as a curative action is concerned in catarrh and other forms of disease of the air-passages. Regardless of the behavior of the substances, the device shows that vapors may be both chemically and therapeutically compatible when their prototypes are not, on account, for the most part, of other matter with which they are associated and which does not vaporize.

It will be observed that the vapors from the form of inhaler set forth are freshly compounded or mixed at each inhalation and each ingredient is regulated in point of strength by regulating the material present from which it is generated.

Of course it will be understood that the

clasp is removed when the inhaler is in use, and the communication between cells 2 and 3, and 3 and 4, will be regulated by the operation of the valves 11 and 12. It will be understood that a complete closing of the cells in the manner set forth is not absolutely necessary when the generating substances and their vapors are chemically compatible, but it is preferable even in this instance to close the cells because it greatly economizes the inhalants, for when kept closed recharging is not so frequently required.

From what has been previously stated it will be seen that the three separate chambers augment and expedite the capacity of vaporization, and also the regulation of constituent elements or changing of the same in compounding to meet indications in practice or application are greatly facilitated and simplified, and as a natural consequence better results are obtained in the way of cures than from the ordinary inhalers. It brings greater possibilities from inhalers, is more economical, less bulky and more handy, permits less odor when carried in the pocket, and may be used in making applications with a "hand bulb, compressed air apparatus, or drawn by the user in treatment."

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having described the invention, what is claimed as new is—

1. In an inhaler, the combination of a series of cells of bulbous form and of continuous formation communicating with each other and having exterior openings, contracted necks being formed between said cells, and a rod having valves thereon to engage said

necks to close communication between the said cells, substantially as described.

2. In an inhaler, the combination of a series of bulbous communicating cells having contracted connecting necks provided with openings and also having exterior openings, a rod extending through a part of said cells and carrying valves to control the openings in the said necks, and a spring-clasp exteriorly embracing the cells and having devices in connection therewith for directly regulating the exterior openings and indirectly controlling the rod and valves, substantially as described.

3. In an inhaler, the combination of a series of bulbous cells continuous of and communicating with each other, the terminal cells having end openings and the intermediate being provided with a side opening, a filling in the said cells serving as a vehicle to carry the medicaments, a rod extending inward from one end and having valves thereon to control communication between the cells, and a spring-clasp embracing the said cells exteriorly and having angularly-bent ends to both directly and indirectly control the exterior openings of the cells and the rod carrying the valves, substantially as described.

4. An inhaler, consisting of a series of communicating cells having connecting necks and adapted to contain the medicament vehicle, a series of connected valves arranged to control the passages between the cells, and means for operating said valves, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM B. SPENCER.

Witnesses:

A. E. ANDERSON,
H. K. SCHUSTER.