

(No Model.)

G. W. BENCE.
INHALER.

No. 412,908.

Patented Oct. 15, 1889.

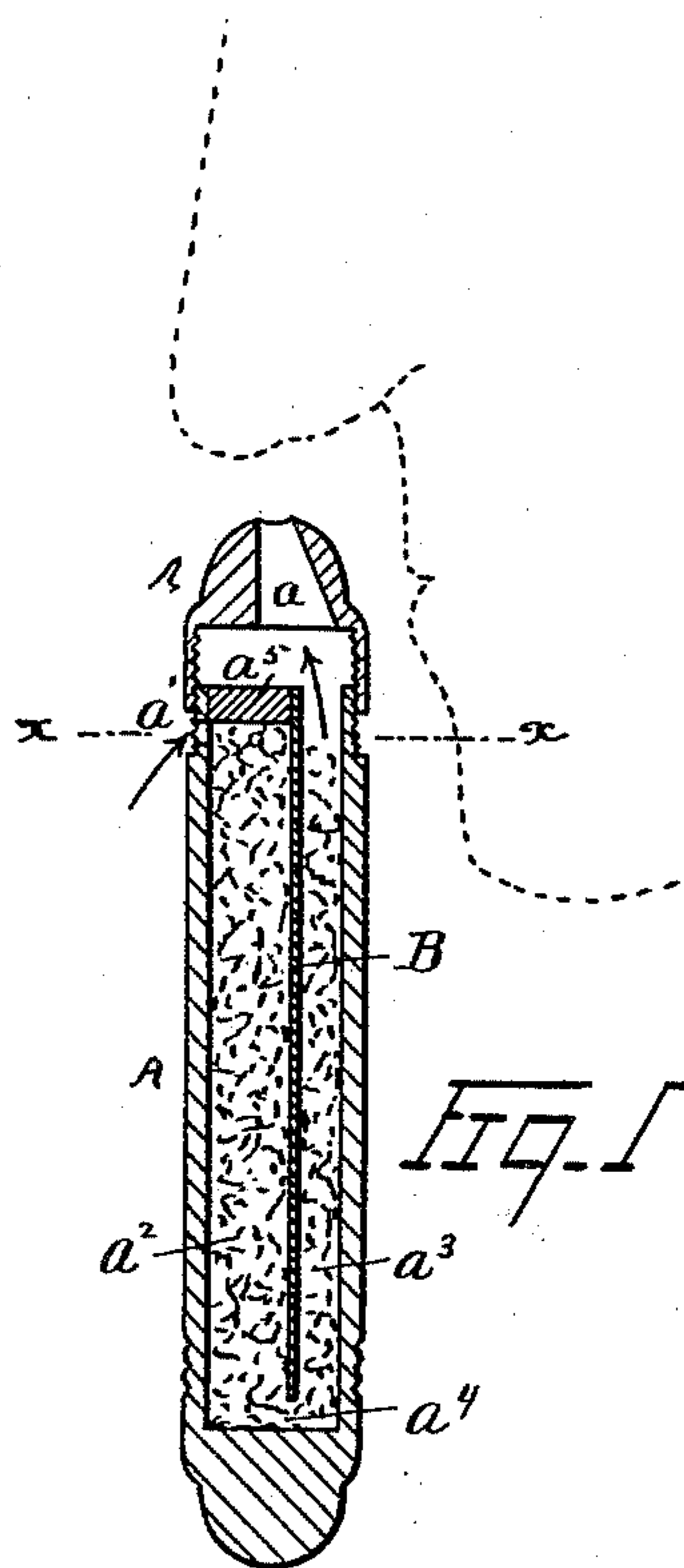


Fig. 1

Fig. 2

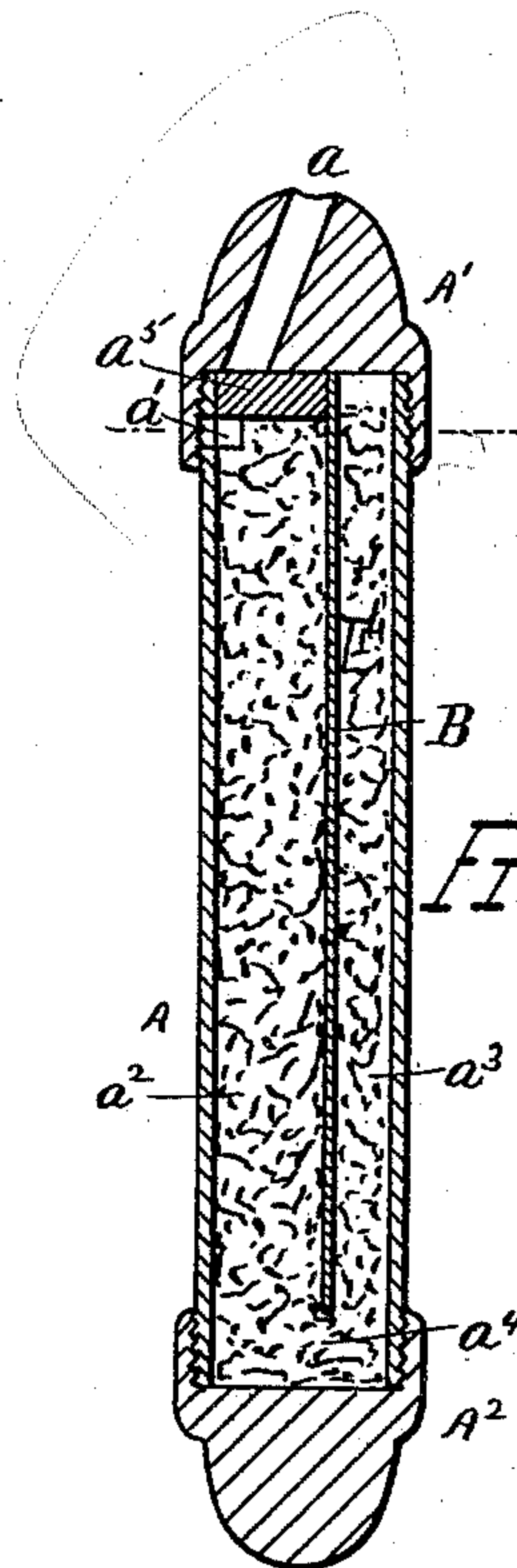
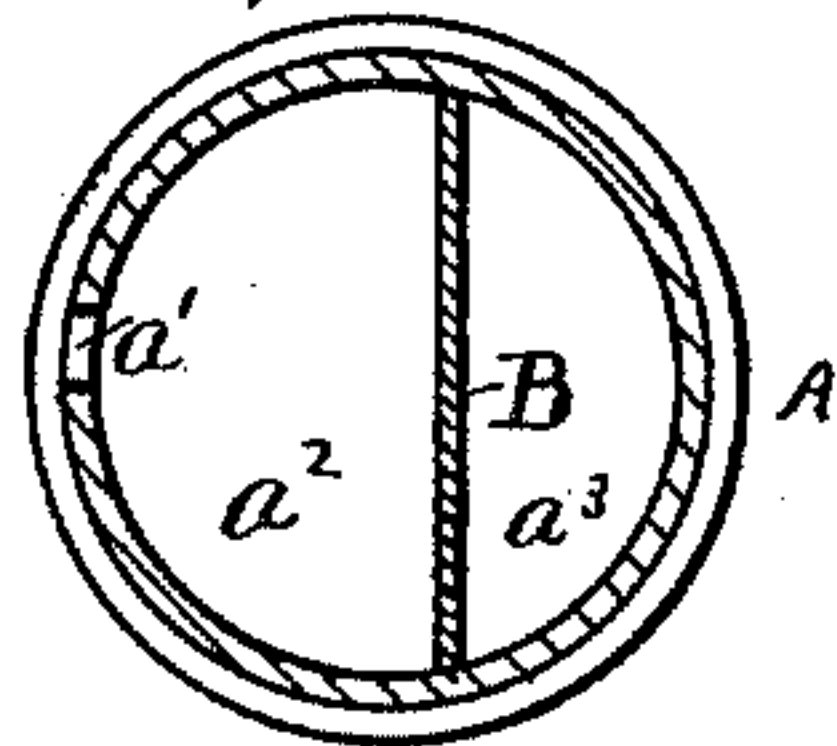


Fig. 3

Fig. 4

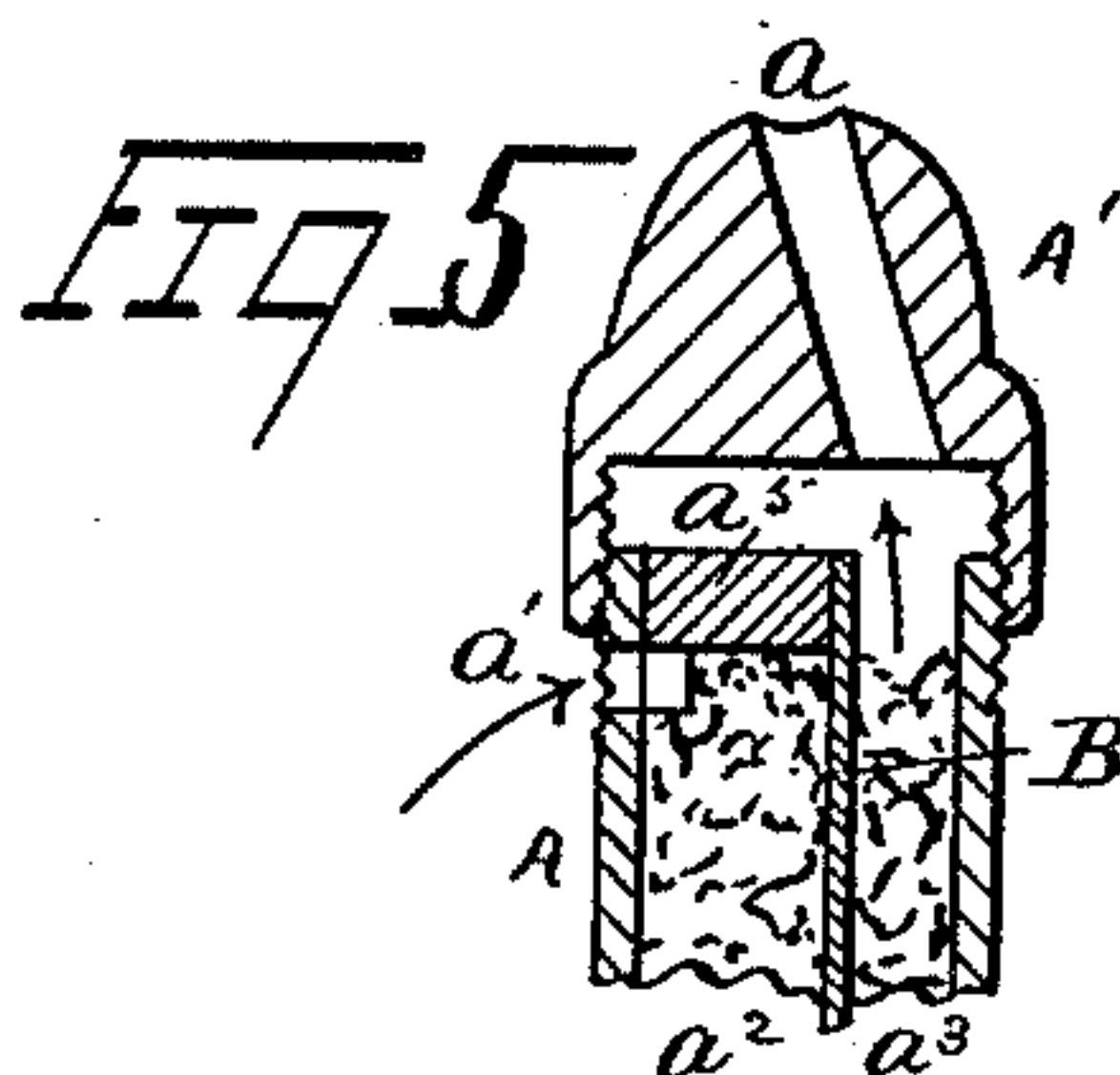
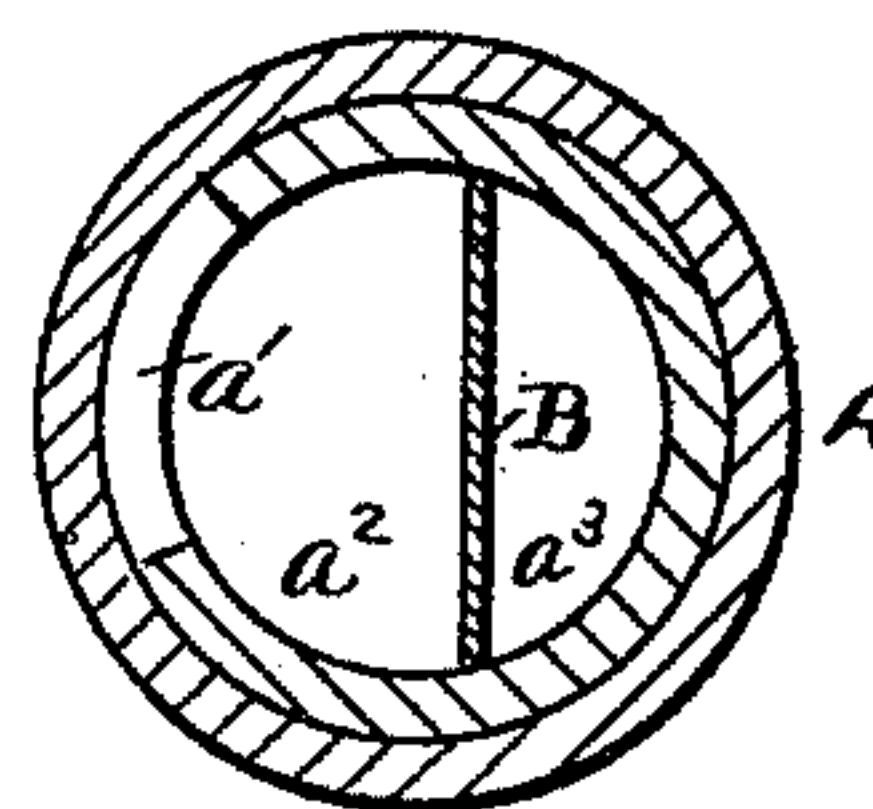


Fig. 5

Witnesses:
John Schuman.
Charles F. Salow.

Inventor:
George W. Bence
by Newell S. Wright.
Att'y

UNITED STATES PATENT OFFICE.

GEORGE W. BENCE, OF DETROIT, MICHIGAN, ASSIGNOR TO GEORGE H. NELSON, OF SAME PLACE.

INHALER.

SPECIFICATION forming part of Letters Patent No. 412,908, dated October 15, 1889.

Application filed January 11, 1889. Serial No. 296,050. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. BENCE, a citizen of the United States; residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Inhalers; and I 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, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to certain new and useful improvements in inhalers—such, for instance, as a menthol inhaler and analogous devices; and it consists of the devices and appliances and their combinations and arrangements, as more fully illustrated in the accompanying drawings, and more particularly hereinafter described, and set forth in the claims.

In the drawings, Figure 1 is a longitudinal section of an inhaler embodying my invention, showing the device ready for use. Fig. 2 is a cross-section of the same on the line xx . Fig. 3 is a longitudinal section similar to Fig. 1, but showing a removable cap at each end. Fig. 4 is a cross-section thereof on the line zz . Fig. 5 is a separate view of the device shown in Fig. 3, showing the device ready for use, while Fig. 3 shows the device closed.

I carry out my invention as follows:

A represents the case of the inhaler, which may be made of any desired material.

A' represents a combined adjustable cap and nozzle engaged upon one end of the case, and for convenience may have a screw-threaded engagement with the case, as shown. In Fig. 3 at A², I also show an additional cap at the opposite end of the case. I would have it understood that I contemplate the use of a cap at one or at both ends of the case, as may be desired. The combined cap and nozzle A' is shown provided with a through-hole a of any proper construction to communicate with the interior of the case when the cap is properly adjusted, and to permit said communication to be cut off whenever it is desired. The interior of the case is so divided as to form, essentially, a U-shaped air-circuit therein, the air being admitted at one

end of the case and being compelled to traverse substantially the entire inner length of the hollow case, and thence back again, finding its exit at the end of its entrance. Thus in Fig. 1 the case is provided with an opening at the end adjacent to the cap, as shown at a' . A partition, consisting of the vertical wall B and a transverse wall a^5 , (shown in this instance as a plug,) divides the case longitudinally into two compartments a^2 a^3 , communicating with each other at the end opposite the opening a' , as shown at a^4 . The wall a^5 of the partition closes the upper end of the compartment a^2 above the opening a' .

The through-hole in the combined nozzle and cap is so arranged that when the cap is closed its base will rest upon the plug a^5 , closing communication with the channel or compartment a^3 , as shown in Fig. 3. When the combined nozzle and cap is slightly unscrewed, the through-hole will be brought into communication with the compartment a^3 , as shown in Figs. 1 and 5.

The device can be readily closed when not in use, and simply opened for use, as set forth, while the double circuit obtained provides for a more effective and powerful inhalation than where the circuit is simply from one end to the other alone.

I would have it understood that I do not limit myself to the screw-threaded engagement of the cap on the case, as it may simply have a frictional engagement therewith.

What I claim as my invention is—

1. In combination, a casing provided with an air-inlet and an air-outlet opening, a deflecting-partition within the casing projecting between said air inlet and outlet openings, and a combined nozzle and cap fitted to the air-outlet end of the casing, the base of the nozzle-cap within the casing having an engagement with the deflecting-partition to close the opening through the nozzle, and the base of the nozzle-cap exterior to the casing having an engagement with the casing to close the air-inlet opening, substantially as set forth.

2. In combination, a casing having an air-inlet and an air-outlet opening, a partition between said openings, a plug to close an opening in the partition at the air-outlet opening

of the casing, and a combined cap and nozzle fitted to the end of the casing and having an engagement at its base with the plug and with the casing about the air-inlet opening, 5 whereby the said openings may be simultaneously closed, substantially as set forth.

3. In combination, a casing having an air-inlet and an air-outlet opening, a partition between said openings, and a combined cap 10 and nozzle, the opening in the nozzle being oblique to the axis of the nozzle, the base of the cap-nozzle having an engagement with

the partition and with the casing about the air-inlet opening, whereby the lower end of the nozzle-opening may be swung over the air- 15 outlet in the casing to afford a free passage of air, and over the partition to shut off the passage of air, substantially as set forth.

In testimony whereof I sign this specification in the presence of two witnesses.

GEORGE W. BENCE.

Witnesses:

N. S. WRIGHT,

CHAS. F. SALOW.

It is hereby certified that the name of the assignee in Letters Patent No. 412,908, granted October 15, 1889, upon the application of George W. Bence, of Detroit, Michigan, for an improvement in "Inhalers," was erroneously written and printed "George H. Nelson," whereas said name should have been written and printed *Edwin H. Nelson*; and that the said Letters Patent should be read with this correction therein that the same may conform to the files and records of the case in the Patent Office.

Signed, countersigned, and sealed this 19th day of November, A. D. 1889.

[SEAL.]

Countersigned:

C. E. MITCHELL,
Commissioner of Patents.

CYRUS BUSSEY,
Assistant Secretary of the Interior.