

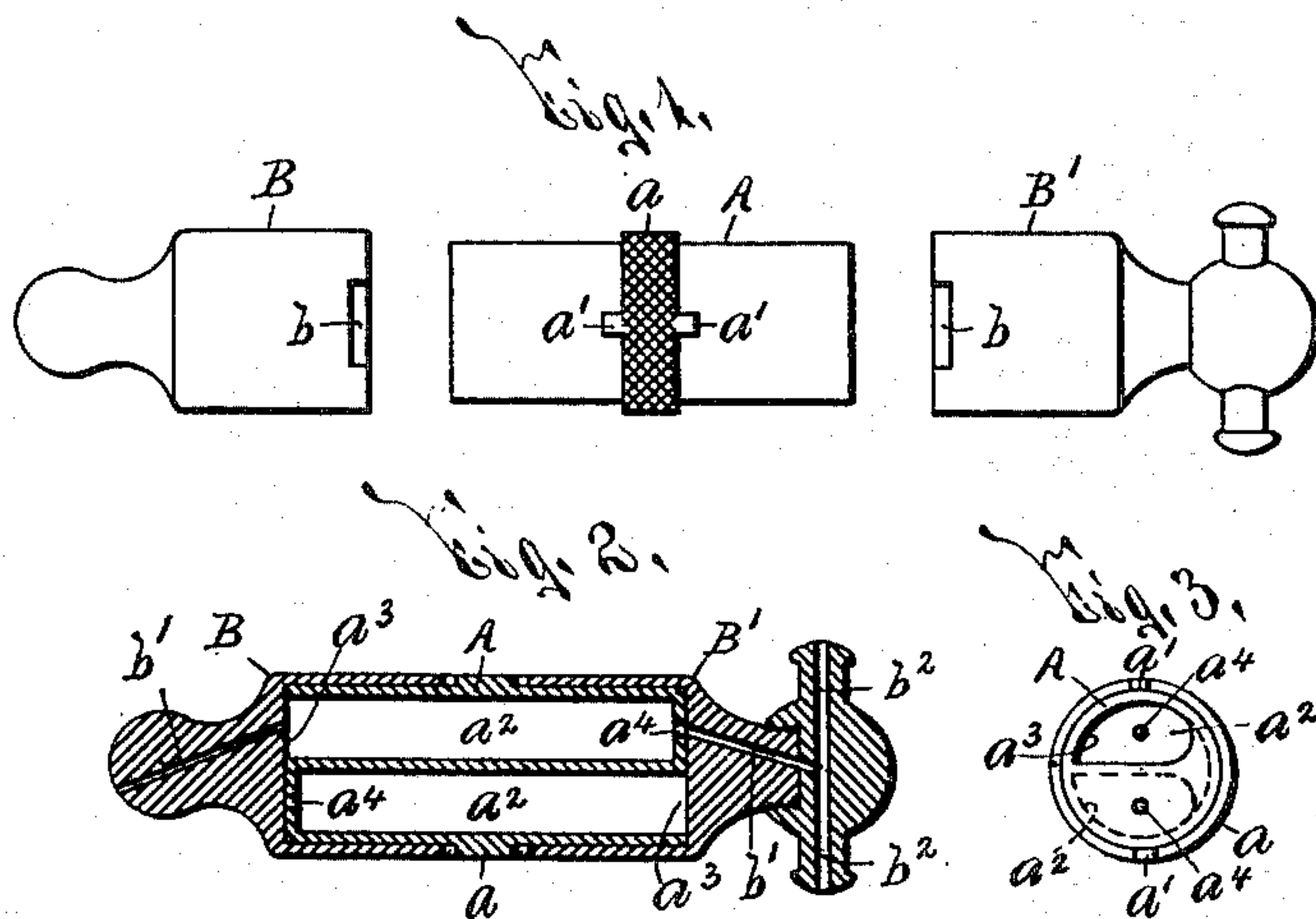
No. 640,259.

Patented Jan. 2, 1900.

G. D. BALLOU.  
INHALER.

(Application filed Jan. 14, 1898.)

(No Model.)



WITNESSES:

M. D. Lewis,

W. C. Chase,

INVENTOR

George D. Ballou

BY

Wey & Parsons,

ATTORNEYS,

# UNITED STATES PATENT OFFICE.

GEORGE D. BALLOU, OF SYRACUSE, NEW YORK.

## INHALER.

SPECIFICATION forming part of Letters Patent No. 640,259, dated January 2, 1900.

Application filed January 14, 1898. Serial No. 666,639. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE D. BALLOU, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Inhalers, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in inhalers, and has for its object the production of a device which can be readily carried and used and normally prevents the evaporation of the medicine to be inhaled; and to this end it consists in the combination, construction, and arrangement of the component parts of an inhaler, as hereinafter particularly described, and pointed out in the claims.

In describing this invention reference is had to the accompanying drawings, forming part of this specification, in which like letters indicate corresponding parts in all the views.

Figure 1 is a face view of the detached parts of my improved inhaler. Fig. 2 is a vertical section of said inhaler. Fig. 3 is an end view of the inner section thereof.

My improved inhaler preferably consists of inner and outer tubular sections A B B'. The inner section A is preferably formed with a peripheral engaging face  $a$ ; stop-shoulders  $a'$ , projecting in opposite directions from the sides of the face  $a$ ; internal substantially parallel disconnected chambers  $a^2$ , arranged side by side; air-passages  $a^3$ , of substantially the same cross-sectional area as the chambers  $a^2$ , opening from one end of one chamber  $a^2$  and the opposite end of the other chamber  $a^2$ , and air-passages  $a^4$  of reduced size opening from the opposite ends of said chambers  $a^2$ . The air-passages  $a^3 a^4$  may, however, be formed of substantially equal size. The outer sections B B' surround the opposite ends of the inner section A and are provided with stop-guides  $b$ , extending inwardly from their adjacent edges for receiving the stops  $a'$ , and air-passages  $b'$ , which extend inwardly from the outer surfaces of said sections, are normally arranged out of alinement with the passages  $a^3 a^4$  for preventing evaporation of the medicine to be inhaled and are alined with said passages by the axial movement of the inner or outer sections when it is desired to

use the inhaler. One of the passages  $b'$  is usually provided with diverging branches  $b^2$ , which permit the use of this inhaler as an inflator for the middle ear.

The construction and operation of my improved inhaler will now be readily understood upon reference to the foregoing description and the accompanying drawings, and it will be obvious that the exact construction and arrangement of its component parts may be varied without departing from the spirit of my invention.

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

1. The herein-described inhaler consisting of telescoping inner and outer tubular sections, the outer section being provided with an air-passage extending inwardly from its outer surface, and the inner section being formed with a plurality of internal disconnected chambers arranged side by side, and air-passages leading from said chambers and normally arranged out of alinement with the former passage, one of said sections being movable from its normal position for alining the air-passage of the outer section with either of the air-passages of the inner section, substantially as and for the purpose specified.

2. The herein-described inhaler consisting of telescoping inner and outer tubular sections, the outer sections being provided with a stop-guide and an air-passage extending inwardly from the outer surface of said section, and the inner section being formed with a stop movable in the stop-guide, a plurality of internal disconnected chambers arranged side by side, and air-passages leading from said chambers and normally arranged out of alinement with the former passage, one of said sections being movable from its normal position for alining the air-passage of the outer section with either of the air-passages of the inner section, substantially as and for the purpose described.

3. The herein-described inhaler consisting of an inner tubular section and outer tubular sections surrounding the ends of the inner section, the inner section being formed with substantially parallel disconnected chambers, air-passages of substantially the same area as the cross-sectional area of the cham-



bers opening from one end of one chamber and the opposite end of the other chamber, and additional air-passages of reduced size opening from the opposite ends of said chambers, 5 and the outer sections being provided with air-passages for communicating with the former passages, substantially as and for the purpose described.

4. The herein-described inhaler consisting 10 of an inner tubular section and outer tubular sections surrounding the ends of the inner section, the inner section being formed with a peripheral engaging face, stop-shoulders, substantially parallel internal chambers, air- 15 passages of substantially the same area as the cross-sectional area of the chambers opening from one end of one chamber and the oppo-

site end of the other chamber, and additional air-passages of reduced size opening from the opposite ends of said chambers, and the outer 20 sections being provided with stop-guides for receiving the stops, and air-passages for communicating with the former passages, substantially as and for the purpose specified.

In testimony whereof I have hereunto 25 signed my name, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 6th day of January, 1898.

GEORGE D. BALLOU.

Witnesses:

K. H. THEOBALD,  
D. LAIRNE.