

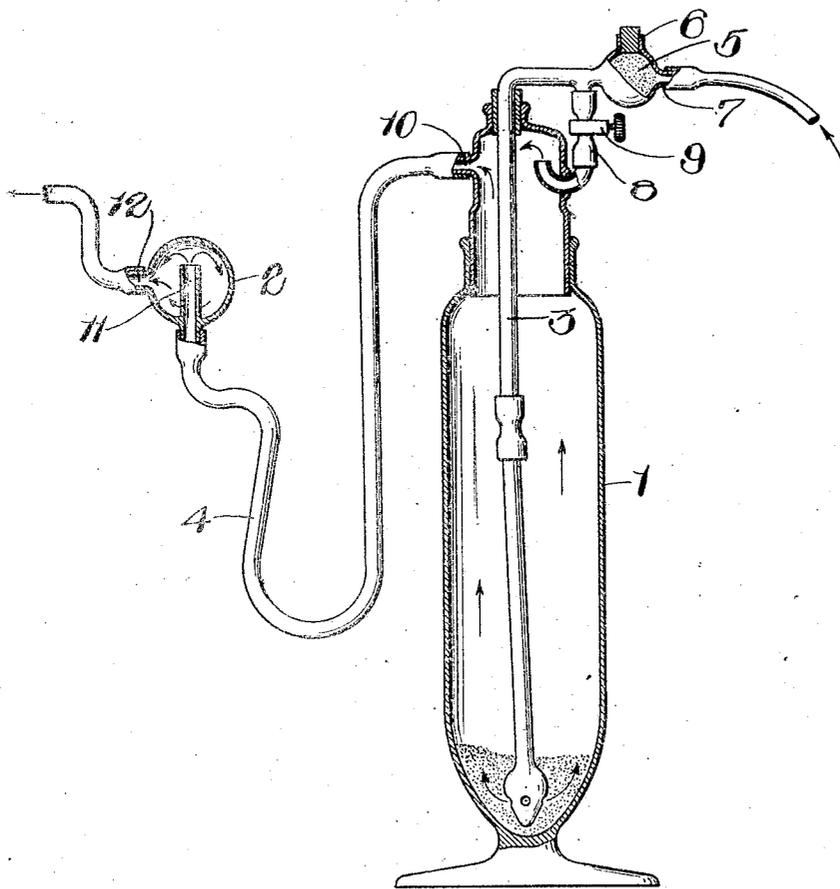
Sept. 14, 1926.

1,599,959

B. FUJIMOTO

ATOMIZER

Filed March 4, 1924



INVENTOR:  
BUHEIJI FUJIMOTO  
BY: Francis E. Bayne  
ATTORNEY

## UNITED STATES PATENT OFFICE.

BUHEIJI FUJIMOTO, OF TOKYO, JAPAN.

## ATOMIZER.

Application filed March 4, 1924, Serial No. 696,752, and in Japan March 23, 1923.

This invention relates to improvements in atomizers, and more particularly to that class in which the spray to be used is in powder form.

5 The principal object of this invention is to provide a simple and economical means by which medicine in powdered form may be sprayed and inhaled into the innermost recesses of the respiratory organs.

10 Hitherto medicine in the form of powder has been used to treat affections in the upper parts of the respiratory organs, such, for example, as the nasal cavities, pharynx and larynx, but no means has been provided  
15 up to this time by which medicine in the form of powder may be administered to remedy affections of the air passages in the less accessible portions of the respiratory organs.

20 It is also the fact that heretofore affections of the lower respiratory organs have been treated through the internal consumption of medicines, or by injection. In such cases, the medicine passes through blood vessels with the result that the greater portion  
25 of it reaches unaffected parts with only a minor portion of the remedy reaching the affected organs, whereas by the use of the present invention the remedy may be applied  
30 directly to the affected organs with a resulting material increase in its effectiveness.

The drawing accompanying and forming a part of the present specification is a vertical sectional view of an atomizer constructed according to the present invention.

Referring to the drawing, 1 indicates a bottle or container for the powder to be sprayed. 2 is a chamber adapted to entrap coarse particles which chamber is in communication with the interior of the container 1 by means of a tube or pipe 4. A blow pipe 3 is secured within the container 1 with one end terminating and opening in the powder in said container. The other end of said blow pipe 3 passes through the upper end of the container 1 and is connected with a blower (not shown) through a chamber 5 adapted to contain a filtering material such as absorbent cotton thereby to purify the air blown into the container by the elimination of bacilli, dust and other impurities contained therein, said filter chamber being provided on its top side with a port 6 which is normally maintained closed  
55 by means of a stopper. If desired, the ab-

sorbent cotton in the filter may be treated with any suitable remedy of a volatile nature and inhaled in conjunction with the spray of powder. The blow pipe 3 is provided at its upper portion with a branch or auxiliary pipe 8 which extends into the upper wall of the container 1 at a point opposite the opening 10 where the pipe 4 communicates with the container 1. The said auxiliary pipe 8 is provided with a valve 9, the object of said auxiliary pipe and valve being to enable the user to vary at will the density of the spray by the suitable admixture of air with the powder.

If desired, oxygen or gas in any form may be injected into the spray through said auxiliary pipe by removing the stopper from the port 6 and placing said port in communication with a source of supply of such gas (not shown).

The material to be sprayed is forced by pressure of air or gas out of the container 1 through the outlet port 10, through the pipe 4 and into the chamber 2 where it is broken up into a fine spray by contact with the walls of said chamber and finally sprayed into the mouth of the user through an outlet port 12.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. An atomizer for powdered medicine, comprising a container having a blow pipe which opens near the bottom and an exit port near its top, a valved air pipe communicating with said container at a point approximately diagonally opposite said exit port for admitting air into said container thereby to control the density of the powder, and a chamber communicating with said exit port and adapted to form a trap for the coarser particles of powdered medicine.

2. An atomizer for powdered medicine, comprising a container having a blow pipe which opens near the bottom and an exit port near its top, a chamber adapted to contain a filter in communication with said blow pipe, a valved air pipe communicating with said container at a point approximately diagonally opposite said exit port for admitting air into said container thereby to control the density of the powder, and a chamber communicating with said exit port and adapted to form a trap for the coarser particles of powdered medicine.

3. In an atomizer for the inhalation of a

powdered spray, the combination of a container for the material to be sprayed provided with a blow pipe, one end of said pipe opening into the material to be sprayed and the other end extending out through the top of said container, a filter chamber located in proximity to said container and in communication with the upper end of said blow pipe, an auxiliary blow pipe one end of which communicates with and extends into the upper portion of the container, the other end of said auxiliary pipe communicating with the said first mentioned blow pipe adjacent to the said filter chamber, a valve in

said auxiliary blow pipe for regulating the amount of air or gas to be blown into the container, said container having an outlet port in its upper portion at a point substantially opposite the lower end of said auxiliary pipe, a trap chamber in communication with said container, a pipe in communication with the outlet port of the container and with said trap chamber, said trap chamber having an outlet port.

In testimony whereof I have signed my name to this specification.

BUHEIJI FUJIMOTO.