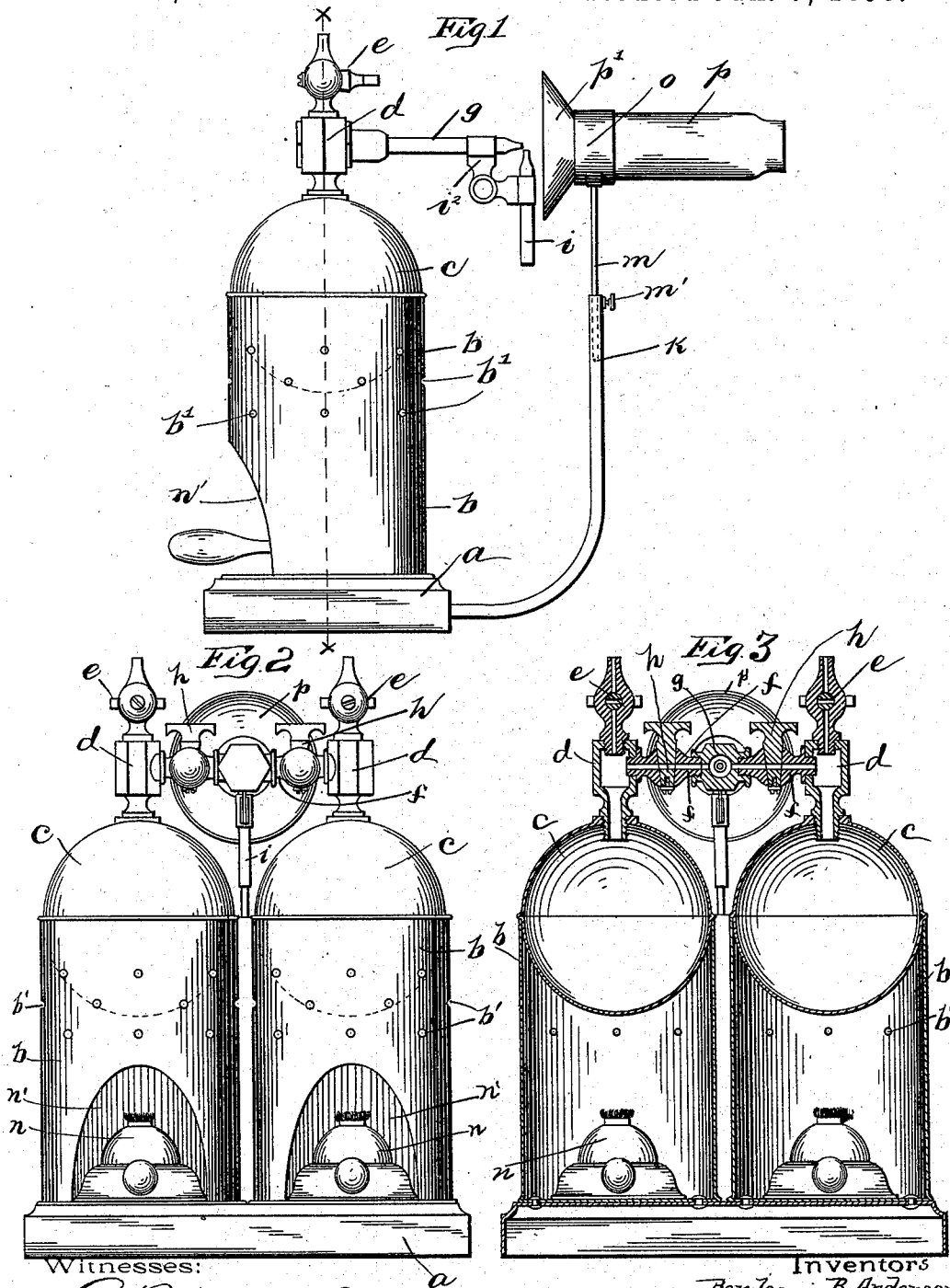


(No Model.)

B. B. ANDERSON & F. S. WAGENHALS.
INHALER.

No. 552,656

Patented Jan. 7, 1896.



Witnesses:
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UNITED STATES PATENT OFFICE.

BENJAMIN B. ANDERSON AND FRANK S. WAGENHALS, OF COLUMBUS, OHIO.

INHALER.

SPECIFICATION forming part of Letters Patent No. 552,656, dated January 7, 1896.

Application filed October 13, 1894. Serial No. 525,762. (No model.)

To all whom it may concern:

Be it known that we, BENJAMIN B. ANDERSON and FRANK S. WAGENHALS, citizens of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Atomizers, of which the following is a specification.

Our invention relates to improvements in inhalers, and the objects of our invention are to produce a steam-inhaler of superior construction and arrangement of parts, to so construct the same as to provide improved means for combining separate liquids in a steam or vapor form and to produce other improvements which will be more fully pointed out hereinafter. These objects we accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of our improved inhaler. Fig. 2 is a rear view of the same, and Fig. 3 is a central vertical section on line *x x* of Fig. 1.

Similar letters refer to similar parts throughout the several views.

In the construction of our improved inhaler we employ a suitable horizontal base *a*, upon which are supported two vertical cylindrical casings *b*, the latter being arranged adjacent to each other, as shown. These cylinders *b* are provided, as indicated at *b'*, with suitably-arranged perforations, and within the upper portion of each of said cylinders is seated the lower half of a preferably bulb-shaped vessel *c*. Screwed into or otherwise detachably connected with the upper side of each of the bulbs *c* is a short vertical outlet tube or stem *d*, the lower end of the latter communicating with the interior of the bulb with which it is connected and the upper end portion thereof being provided with a suitable valve, as indicated at *e*. These tubes *d* are connected, as indicated, by a transverse tubular portion *f*. The tubular portion *f* connects the interiors of the tubes *d* through the inner end of an outwardly or forwardly projecting vapor-tube *g*, which intersects said tubular portion *f* centrally. On each side of the vapor-tube *g* we provide the tubular portion *f* with an intersecting valve *h* of any well-known form, and through which communication may be formed

or cut off between the vertical outlet-tubes *d* and the vapor-tube *g*.

The outer end portion of the vapor-tube has the usual pointed form and needle-opening which is adapted to discharge in the usual manner immediately over the upper end of a short vertical air-tube *i*, which may be supported in the usual manner by an angular bracket *i'* which depends from the tube *g*.

From the forward side of the base *a* we cause to extend outward and thence upward a supporting-arm *k*, the upper end portion of which is in the form of a socket, said socket being adapted to receive a portion of a supporting-rod *m*, the latter being adjustably held in said socket by means of a set-screw *m'*, which passes through the upper portion of the arm *k*. This arm *m* supports on its upper end a band or ring *o*. *p* represents a vapor-receiving tube or mouthpiece which is adjustably supported within the ring *o* and which has its inner end provided with a flaring mouth portion *p'*, the latter being adapted to be supported opposite the outer end of the tube *g*.

Within the lower portion of each of the cylinders *b* we provide a suitable form of lamp *n*, said lamps being inserted through doorways *n'* formed in the rear sides of said cylinders.

The manner of utilizing and operating our improved inhaler is substantially as follows: It being desired to combine in a steam vapor two different liquids, said liquids are passed respectively into the receptacles *c*, this being accomplished by first removing said receptacles from the tubes *d*. The lamps *n* are then lighted and the steam or vapor which rises from the vessels *c* will be conducted outward through the tubes *d*, *f* and *g* and discharged from the outer end of the latter through the tube *p* in the form of vapor. In this manner it will be seen that the two volumes of steam which rise from the bulbs *c* and which are impregnated with different liquids will be combined and the patient or person inhaling or using the vapor will derive the benefit of the combined medicines. In case it is desired to employ the steam from but one of the bulbs or to alternate the discharge from said bulbs, it is evident that this may be accom-

plished by proper manipulation of the valves *h*. In order to admit of the escape of any surplus steam contained within the bulbs, we have provided the valves *e*, which may be readily turned, allowing the steam or vapor to escape therethrough, or may be of the ordinary form of safety-valves.

From the construction which we have shown herein and described it will be seen that simple and reliable means are provided for combining separate chemical elements in a vapor form and that our improved atomizer is of neat construction and may be produced at a reasonable cost of manufacture.

Having now fully described our invention, what we claim, and desire to secure by Letters Patent, is—

In an inhaler the combination with the ad-

jacently arranged cylinders *b*, lamps supported therein, a vessel *c* seated in the upper end of each of said cylinders and a tubular outlet *d* for each of said vessels, of a tubular portion *f* connecting said tubes *d*, valves *h* intersecting said tubular portion *f* on opposite sides of its center, a vapor tube or nozzle communicating with and intersecting the central portion of the tube *f*, a supporting arm *k* and a vapor receiving tube adjustably supported therefrom in front of said vapor nozzle, substantially as and for the purposes specified.

BENJAMIN B. ANDERSON.

FRANK S. WAGENHALS.

In presence of—

C. C. SHEPHERD,

C. M. VOORHEES.