

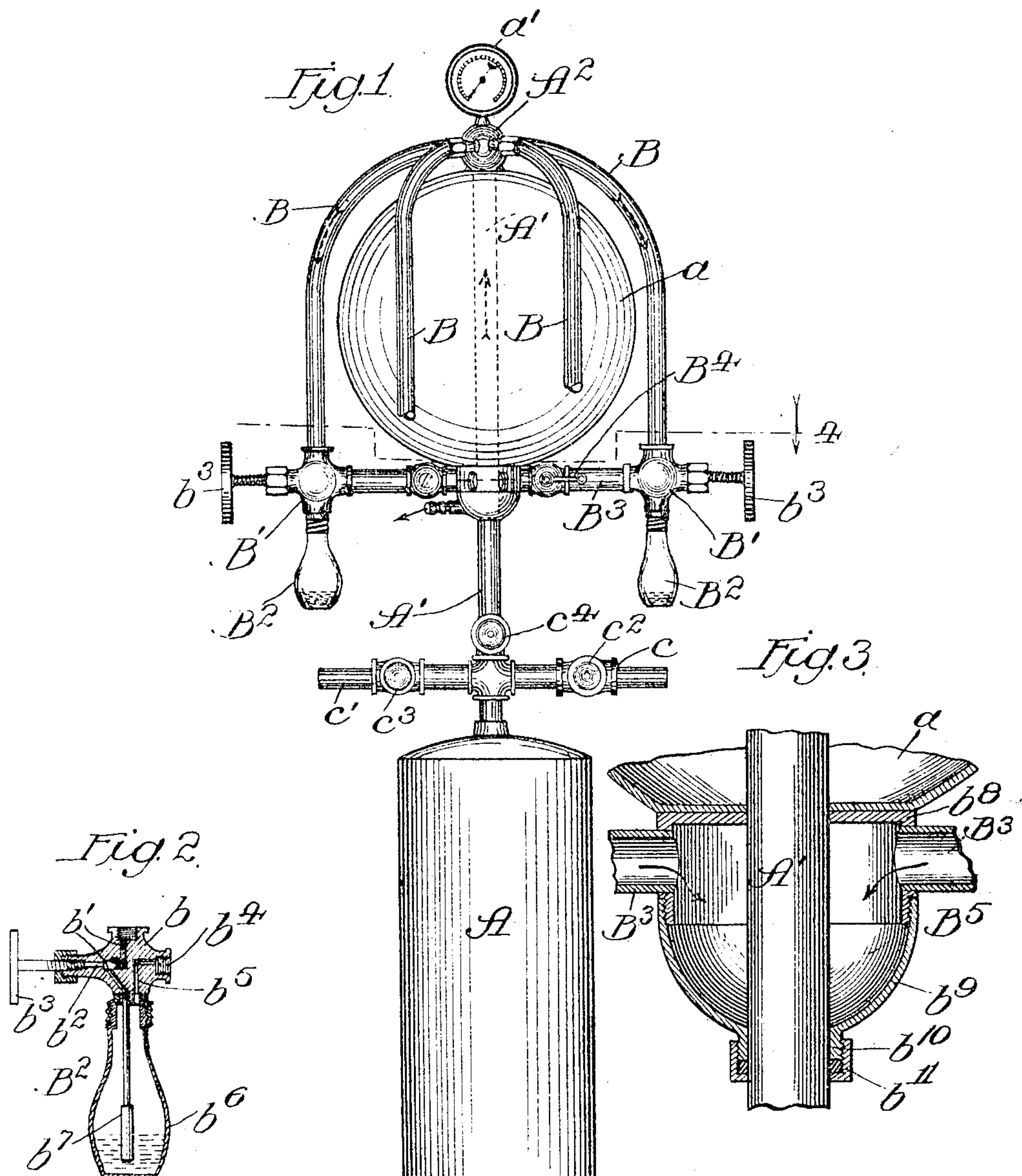
No. 798,802.

PATENTED SEPT. 5, 1905.

J. KRANZ.
ATOMIZER.

APPLICATION FILED MAR. 14, 1904.

2 SHEETS—SHEET 1.



WITNESSES:

Walter N. Winberg.
H. B. Davies.

INVENTOR

John Kranz

By *[Signature]*
ATTORNEYS.

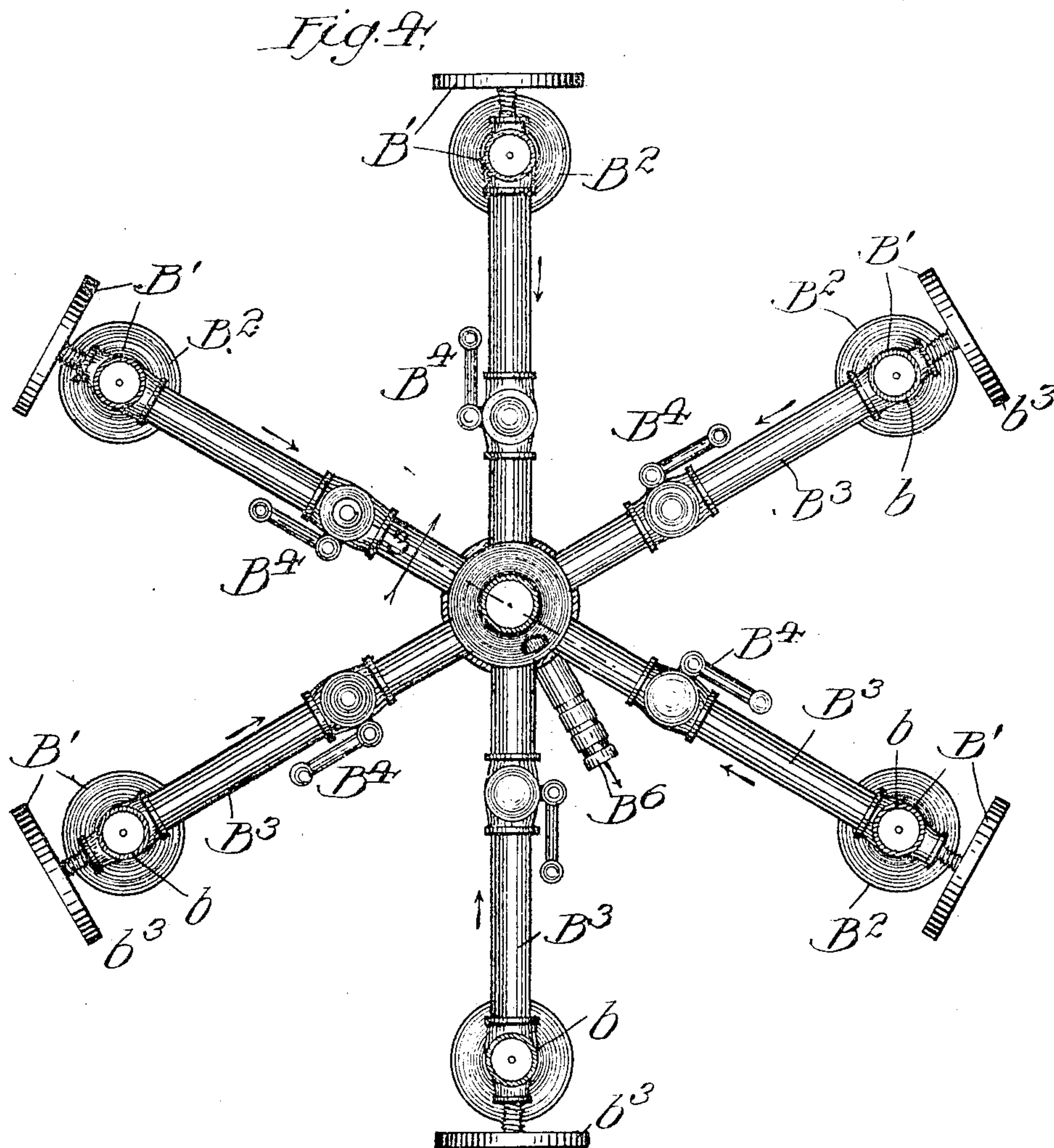
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INVENTOR

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UNITED STATES PATENT OFFICE.

JOHN KRANZ, OF CHICAGO, ILLINOIS.

ATOMIZER.

No. 798,802.

Specification of Letters Patent.

Patented Sept. 5, 1905.

Application filed March 14, 1904. Serial No. 197,954.

To all whom it may concern:

Be it known that I, JOHN KRANZ, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Atomizers, of which the following is a specification.

My invention relates particularly to medical atomizers; and my primary object is to provide simple mechanism for atomizing two or more kinds of medicines and mixing the vapors thereof, so that the mixture of vapors may be passed through a common tube to the throat or nostrils of the patient.

My invention is illustrated in its preferred embodiment in the accompanying drawings, in which—

Figure 1 is a broken elevational view of the improved device; Fig. 2, a vertical section showing a detail of one of the valves employed in connection with the atomizers; Fig. 3, an enlarged broken vertical section taken as indicated at line 3 of Fig. 4, and Fig. 4 an enlarged horizontal sectional view taken as indicated at line 4 of Fig. 1.

In the preferred form the device comprises an air-tank A, supporting an upwardly-extending pipe A', communicating at its upper end with a bulb A²; a plurality of pipes B communicating at their upper ends with the bulb A²; a plurality of valves B', connected with the lower ends of the pipes B and supporting atomizers B²; a plurality of horizontal pipes B³, which receive the vapor from the atomizers and which are equipped with individual valves B⁴; a common mixing-chamber B⁵, with which the inner ends of the pipes B³ communicate and which is equipped with a nipple B⁶, with which may be connected a tube for conveying the mixture of vapors to the throat or mouth of the patient.

The pipe A' passes through the mixing-chamber B⁵, making vapor-tight connections with the walls of the mixing-chamber. Surrounding the mixing-chamber is a globe a, through which the pipe A' extends and which in the construction here described has no other purpose than that of ornamentation. The bulb A² is surmounted by a pressure-gage a'. The pipes B curve downwardly over the globe, and the pipes B³ are radially arranged and in communication with the lower ends of the pipes B through the medium of the valves B' and atomizers B². Each valve B' comprises a casing b, having a vertical passage b' with an offset portion controlled by a

valve b², having a horizontal stem equipped with a handle b³, and each casing b has an internally-threaded nipple b⁴ for connection with the corresponding pipe B³ and with which which communicates a passage b⁵, which has a downwardly-extending portion with an opening adjacent to the opening at the lower end of the passage b'. Each atomizer comprises a glass bulb b⁶, connected at its upper end with the lower end of the casing b, and an internal atomizing-tube b' of well-known construction, which receives air from the passage b'. The valves B⁴ are stop-cocks of ordinary construction.

The mixing-chamber B⁵ comprises an inverted-cup-shaped member b⁸, having vapor-tight connection with the pipe A', and an upright complementary member b⁹, having threaded connection at its upper portion with the lower portion of the member b⁸ and provided at its lower portion with a nipple b¹⁰. Connected with the nipple b¹⁰ is a packing-ring b¹¹, by means of which vapor-tight connection may be maintained between the pipe A' and the lower portion of the member b⁹.

Connected with the pipe A' are pipes c c', one of which may be employed as a means for introducing air into the tank and the other as a means for taking air directly from the tank for any desired purpose. The pipe c is equipped with a valve c², the pipe c' is equipped with a valve c³, and the pipe A' is equipped with a valve c⁴. In ordinary use the valve c³ is closed and the valves c² c⁴ open, the pipe c being connected with a suitable pump.

From the foregoing description it will be understood that the atomizers may be charged with different kinds of medicines, the bulbs b⁶ being removable for this purpose, as well as to permit cleansing of the atomizers. Assuming the tank A to be supplied with air under pressure and the atomizers to be properly charged and the several valves controlling the passage leading to the mixing-chamber open, the air passes to the bulb A², thence through the pipes B, and thence through the atomizers, causing the medicines to be vaporized in the usual manner and the vapors to meet and become mixed in the chamber B⁵, from which they may be taken by a tube (not shown) connected with the nipple B⁶.

It will be understood that as many atomizers may be charged as desired and that the operation of one or more of the atomizers may be stopped by closing the appropriate valves. I have shown my improved device provided

with six atomizers; but it will be understood that any desired number may be provided.

Changes in details of construction within the spirit of my invention are contemplated.

5 Hence no undue limitation should be understood from the foregoing detailed description.

What I regard as new, and desire to secure by Letters Patent, is—

10 1. A device comprising a central vertical pipe, branch pipes connected with the upper portion thereof, a central mixing-chamber, an
15 education-passage connected with said central mixing-chamber, a plurality of radial pipes communicating with said mixing-chamber, a
20 plurality of valve-casings, each having a passage communicating with one of said branch pipes and a passage communicating with one
25 of said radial pipes, an atomizer depending from the lower portion of each of said valve-casings and in communication with the passages thereof, radial valves connected with the outer portions of said valve-casings and controlling the air-passages leading to the atomizers, and valves connected with said radial pipes between said valve-casings and said mixing-chamber, for the purpose set forth.

30 2. A device comprising a vertical pipe, branch pipes communicating with the upper portion thereof and having depending free ends, valve-casings connected with the branch pipes and each having two fluid-passages, atomizers depending from said valve-casings,

and having passages registering with the passages of the valve-casings, radial valves controlling one set of the passages of the valve-casings, radial pipes connected with said valve-casings, and a central mixer-chamber communicating with said radial pipes, for the purpose set forth. 35 40

3. A device of the character described, comprising a central mixing-chamber having a removable section, radial pipes connected with the upper portion of said mixing-chamber, atomizers connected with said radial pipes, a 45 central air-pipe extending upwardly through said mixing-chamber, and branch pipes connected with the upper portion of said last-named pipe with said atomizers, for the purpose set forth. 50

4. A device comprising a central mixing-chamber having a perforate upper wall and a removable lower section having a threaded nipple, a packing-ring connected with said nipple, radial pipes connected with the upper 55 portion of said mixing-chamber, atomizers connected with said radial pipes, a central air-pipe extending upwardly through said mixing-chamber, and branch pipes connected with the upper portion of said last-named pipe and 60 with said atomizers, substantially as and for the purpose set forth.

JOHN KRANZ.

In presence of—

WALTER N. WINBERG,
W. B. DAVIES.