No. 814,484. PATENTED MAR. 6, 1906.

A. VELSCHOW.

INHALING APPARATUS.

APPLICATION FILED MAY 26, 1905.

Fig. 1.

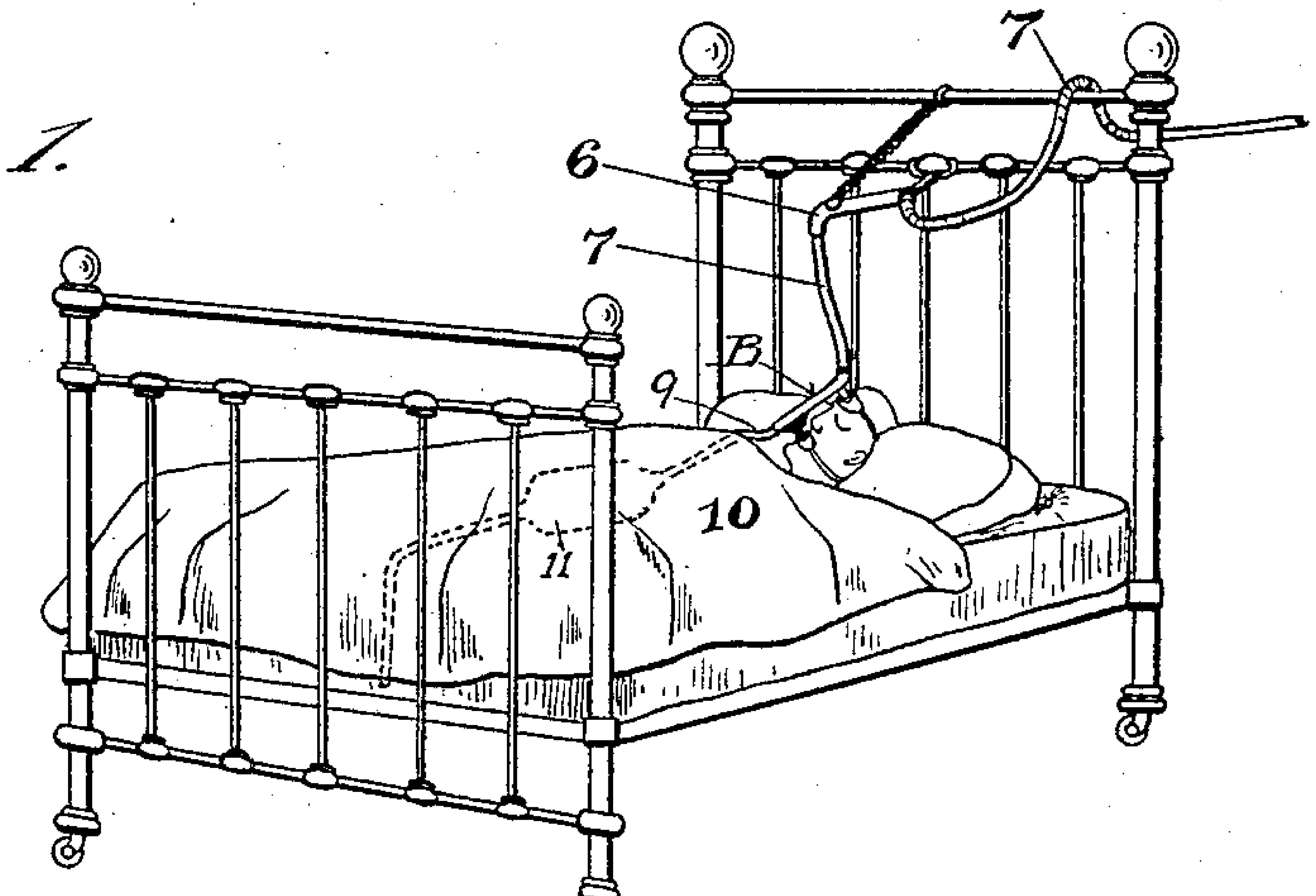


Fig. 2.

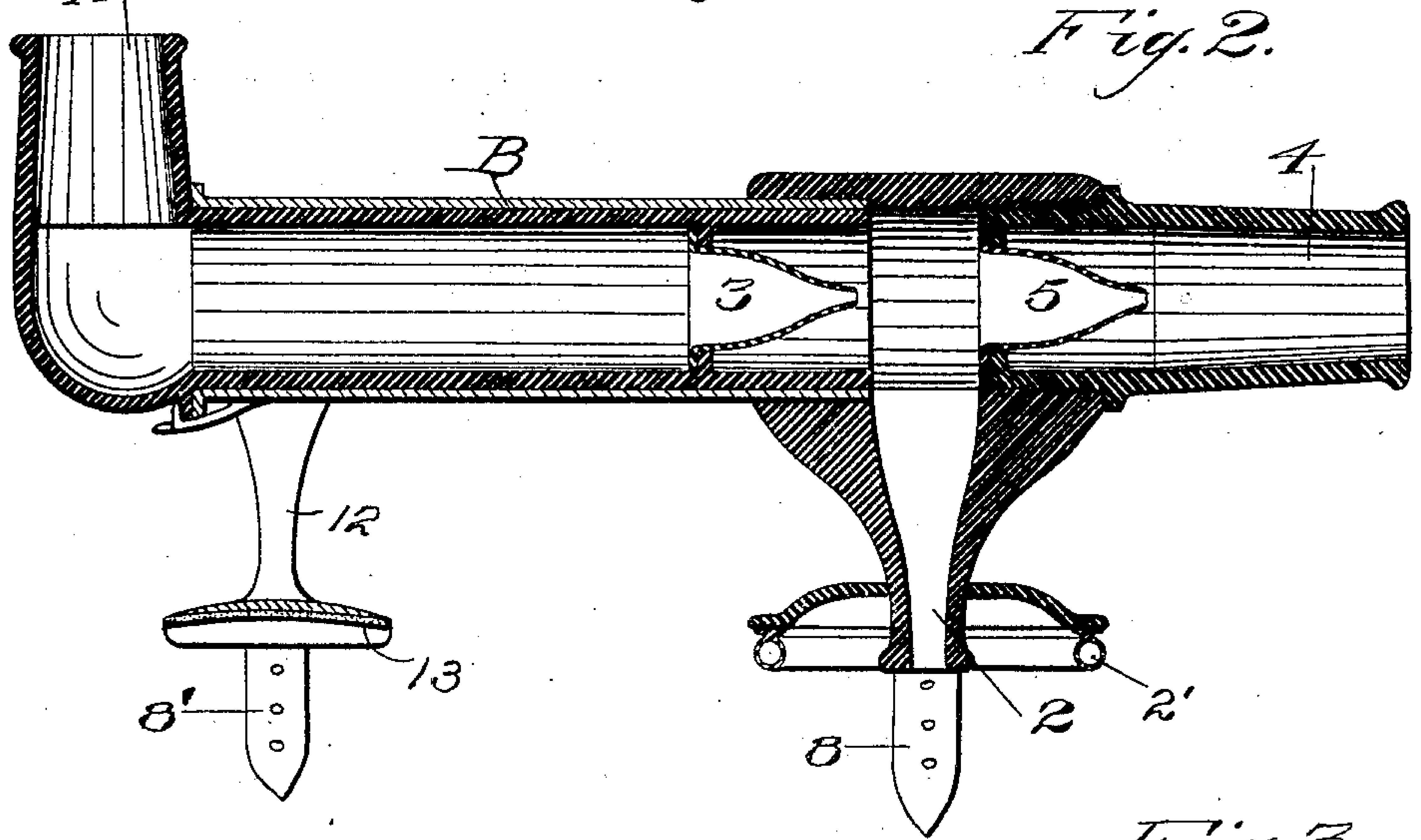
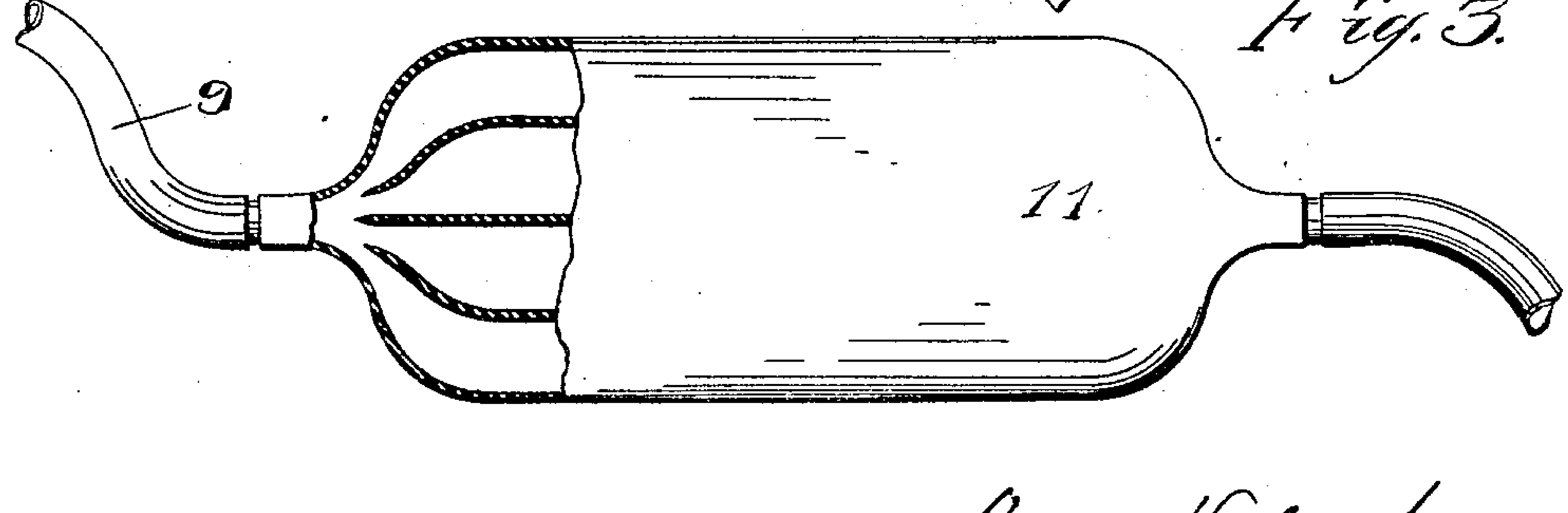


Fig. 3.



Witnesses
T. Castberg
[signature]

Hager Velschow
Inventor

By his Attorney Geo H. Strong.

UNITED STATES PATENT OFFICE.

ASGER VELSCHOW, OF OAKLAND, CALIFORNIA.

INHALING APPARATUS.

No. 814,484. Specification of Letters Patent. Patented March 6, 1906.

Application filed May 26, 1905. Serial No. 262,356.

To all whom it may concern:

Be it known that I, ASGER VELSCHOW, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented new and useful Improvements in Inhaling Apparatus, of which the following is a specification.

My invention relates to an inhaling apparatus, and is especially designed for use at night and for the purpose of providing a constant supply of fresh air to the lungs.

It consists in the combination of parts and details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 shows the application of my apparatus. Fig. 2 is an enlarged section of the inhaling portion. Fig. 3 shows the discharge and heat-distributer.

Many of the ailments of the human race arise from the lack of a sufficiency of fresh air, and especially at night where persons are confined to rooms continuously for many hours. The effort to ventilate such rooms by opening the window and then pulling a heavy shade down over it is ineffective, and if the window is left full open and unprotected on cold or windy nights a great deal of discomfort and illness will follow.

It is the object of my invention to provide a continuous source of pure air for breathing purposes without exposing the person to too great a degree of cold and making it necessary to increase the bed-coverings to such an extent as to impede the cutaneous exhalations.

In my invention I employ a mouthpiece adapted to fit the mouth and nostrils of the user and a means for conveniently suspending it with relation to the bed or other position occupied by the user and a series of suitably-opening valves connecting with a source of pure-air supply and a discharge-opening through which the vitiated air may be delivered.

As shown in the drawings, A is an inlet-passage, which may be connected with the open air or source of supply at one end, and the other end connects with the mouthpiece, as at 2. This mouthpiece projects transversely from the tube B at a point between the inlet A and discharge-passage 4. Intermediate between the inlet-passage and the mouthpiece are one or more soft flat valves, as at 3. Such valves may be of substantially cone shape and made of thin rubber or other equivalent tubing, having the periphery at one end attached to the interior of the tube A and the other or smaller end adapted to close with the edges flat against each other, so that while air is allowed to freely enter through such valves it is prevented from returning by the closing of the flaps or edges of the tube. One or more of these flaps may be employed, as found requisite or desirable. The mouthpiece 2 also serves for the attachment of pneumatic cushions 2′ of any suitable character which will easily fit over the mouth and nostrils, and, if preferred, these cushions may be secured by bands 8 or otherwise, so that they will not become displaced while the user is asleep. This apparatus may be suspended from a bracket 6 from the head of the bed, wall, or ceiling and having a sufficiently free movement to adapt itself to any changes of position of the user. Flexible tubing 7 may form the connections.

Connecting with the mouthpiece and with that part of the apparatus from which it projects is a discharge-passage 4, this passage having flat valves 5, of a character similar to those previously described and opening outwardly, so that air is drawn in through the pipe A and valves 3, and that when exhaled the valves 3 are closed and the valves 5 will open to allow the escape of the vitiated air. This passage 4 may either discharge directly into the room or it may lead entirely out of the room, if preferred.

To assist in maintaining the device in position over the face of the patient, the tube B is provided near its inlet end with a transverse arm or support 12, having a cushion or pad 13 shaped to fit the forehead of the patient, with straps 8′ adapted to pass around the head, as shown in Fig. 1.

In order to utilize the heat of the exhaled air and to apply it so as to assist in keeping the body warm, the exhaust-passage may have connected with it a conductor 9 to deliver the warm air into or through the space occupied by the person using the apparatus. Such space may consist of the inclosure 10 between the blankets and bedclothing, or it may consist of a sleeping-bag or other outdoor convenience.

The tube is preferably flexible and expanded into or connected with a receiver of bag-like form, as shown at 11 in Fig. 3, and this tube or bag may be applied to the back between the shoulders or to other parts of the body in the case of persons of low vitality,

and when used in cold climates or in outdoor sleeping it enables the user to resist a much lower temperature than otherwise. As the air exhaled from the lungs is loaded with moisture, it is preferable to retain it in the tube or conductor, which will be heated by its passage, and to discharge it after it has served its purpose by leading it outside the bag or bedclothing.

The device may also be made a vehicle for applying remedies which can be made the subject of inhalation. It enables delicate persons to secure the benefit of pure air to breathe without subjecting the body to severe cold or the discomfort of too heavy or oppressive bedclothing and is especially valuable to retain as much heat as possible around the body when exposed to very low temperatures.

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

1. In an apparatus for providing fresh air for breathing purposes, a tube having an inlet and outlet at opposite portions, means on said tube at points between its ends for supporting the tube relative to the face of the patient, one of said supports constituting a mouthpiece, valves in the tube operating to admit fresh air during the inhalations of the patient and to discharge vitiated air during exhalation, and a conductor for the exhaled air adapted to convey the warmth of said air to the patient's body.

2. An apparatus of the character described comprising a tube with inlet and discharge passages, side projections on the tube fashioned to fit the mouth and forehead of the patient and provided with means for maintaining the tube in position, a fresh-air-admission tube and means suspending the same from an article of furniture, valves in the first tube and alternately acting to admit to the mouthpiece fresh air and to exhale vitiated air, a conductor for vitiated air connecting with the discharge-passage, and a receiver in the length of the conductor through which the vitiated air is caused to pass before final delivery.

3. In a fresh-air apparatus, an inlet-tube and valves, a mouthpiece, an outlet-tube and valves, and a conductor of bag form connected with the outlet, and adapted as a receiver for exhaled air and to be applied to the person of the user said receiver having a discharge-passage through which the exhaled air is successfully delivered.

4. In a fresh-air-supply apparatus, a mouthpiece and means for attaching it, a connecting inlet-tube with inwardly-opening valve, a discharge-tube with outwardly-opening valve, a flexible bag adapted to fit the person of the user, and through which the discharged air is caused to pass said bag having a delivery-tube through which the exhaled air is discharged.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ASGER VELSCHOW.

Witnesses:
S. H. NOURSE,
HENRY P. TRICOU