E. V. GALIARDO.

APPARATUS FOR CONTROLLING RESPIRATION.

APPLICATION FILED APR. 4, 1918.

1,296,946. Patented Mar. 11, 1919.

Fig: 1.

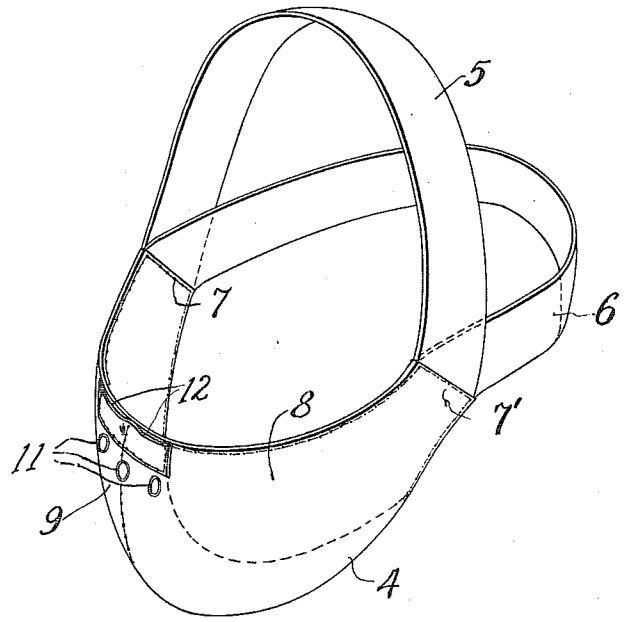


Fig: 2

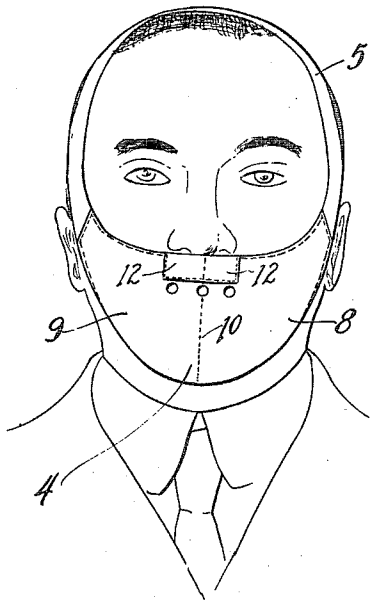
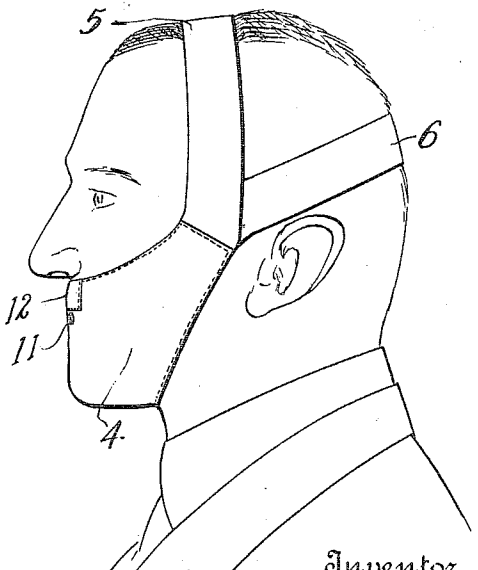


Fig: 3



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR CONTROLLING RESPIRATION.

1,296,946. Specification of Letters Patent. Patented Mar. 11, 1919.

Application filed April 4, 1918. Serial No. 226,580.

To all whom it may concern:

Be it known that I, ERNEST V. GALIARDO, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Apparatus for Controlling Respiration, of which the following is a specification.

This invention relates to the control of respiration and the object of the invention is to obviate improper mouth breathing and encourage natural breathing through the nose.

Many persons habitually breathe through their mouths, particularly when sleeping, so that the discharges of the nasal cavities accumulate in an unhealthful manner giving rise to or aggravating obstructive and inflammatory conditions such as catarrh, laryngitis, etc. By encouraging and making easy natural breathing through the nose the diseased conditions are alleviated and cured and healthful habits of breathing inculcated. According to the apparatus of this invention a yielding upward pressure is maintained on the lower jaw to urge it closed and the mouth is covered with a mask so that the wearer has a feeling of difficulty in breathing through the mouth. The yielding pressure, however, permits the mouth and lips to be opened and the mask is of permeable material to permit ready passage of the breath so that there is only very slight actual resistance in breathing and the wearer may, therefore, by little effort breathe as he wishes but will be constantly encouraged to breathe through the nose.

To clear the nasal passages and further encourage natural breathing through the nose, there is held in the path of the inhaled breath a medicinal composition emitting gases which, mingling with the breath, have a curative and clearing effect on the mucous membranes of the head. Breathing, therefore, progressively becomes easier and more natural and all sense of suffocation is avoided so that the cure is pleasant and effective even in the most stubborn cases of mouth breathing. The immediate and increasing relief felt with each inhaled breath encourages that continued use of the apparatus desired for full relief and makes it particularly successful with many patients, such as children, who would struggle against less gentle and persuasive restraints.

In the accompanying drawings,

Figure 1 is a perspective view of one embodiment of apparatus adapted to practise this invention;

Fig. 2 is a front view of the same, and

Fig. 3 is a side view of the same.

In the specific embodiment of the apparatus adapted to practise this invention as illustrated in the drawings 4 is a mouth mask or chin piece held in place over the chin and mouth of the wearer by the retaining straps 5 and 6. These straps are preferably of yielding or elastic material and may be made adjustable to accommodate the device to fit different wearers. The strip 5 passes over the top of the head of the wearer and the strip 6 around the back of the head and the two strips are joined together at each end and to the mouth mask at points 7 and 7′ adjacent the points of articulation of the lower jaw with the head.

The mask or chin piece 4 is formed of two pieces 8 and 9 of double thickness sewed together and meeting at a central seam 10 and they are so shaped as to give a fullness or bulge to fit snugly over the mouth and chin of the wearer as shown. The material of the mask is preferably permeable so as to readily permit the breath of the wearer to pass therethrough without the collection of moisture and without sweating the chin. Additional openings may be provided for the passage of breath in the form of eyelets 11 fastened in place in perforations over the mouth as shown.

The component of the pulls of the straps 5 and 6 draws upwardly and rearwardly on the mask and exerts a gentle closing pressure on the lower jaw. The direction and amount of pressure on the jaw, however, is such as to permit it to be readily lowered to open the mouth while maintaining perfect articulation between the jaw and the head. With this device there is a constant tendency to lift the lower jaw and close the mouth while at the same time the covering of the mouth gives the wearer a feeling that it will be difficult to breathe through the mouth and encourages him to breathe through the nose. The wearer is, therefore, permitted to breathe as he wishes and this is particularly important in permitting one

to become gradually accustomed to the use of the device and to avoid all sense of suffocation and overpowering restraint.

In order to clear the nasal cavities and cure any diseased conditions that exist therein, the mask is preferably provided with the retaining pockets 12 just beneath the nostrils and adapted to hold cotton or other material impregnated with medicinal composition emitting gases which when inhaled have a cleansing, curative action upon the mucous membranes of the head. The odor of these gases is also pleasant and exhilarating to the wearer and this, together with the clearing effect, serves to further encourage him to breathe through the nose.

By the combined action of the mask and the medicinal preparation carried thereby the habit of mouth breathing even in the most stubborn cases is usually soon broken and the habit of breathing through the nose in a natural manner inculcated. The wearer of this device is not suddenly forced into an unaccustomed manner of breathing, but is gently and gradually persuaded into more healthful habits. No conscious effort on the part of the user is necessary at all and the cure is, therefore, particularly natural, pleasant and effective.

The device is intended to be worn to bed each night and each use of it will cause the discharges of the nasal cavities to become loosened and easily removable leaving the membranes in a clear and healthful condition so that continued use serves to cure diseased conditions and maintain the passages healthful and free from obstruction.

The device shown and described is simple and durable and easily applied and removed and the mouth mask may be readily displaced to temporarily uncover the mouth without removing the device from the head as a whole. At the same time it maintains itself in proper position and permits free movements of the head, even when reclining as in bed, without shifting or disarrangement. It is obvious that other apparatus may be used to practise the invention which is not confined to the particular embodiment shown but is intended to cover such modifications thereof as come within the scope of the appended claims.

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

1. Apparatus for controlling respiration and teaching breathing through the nose comprising the combination of a mask adapted to press upward on the lower jaw, head straps passing around the head of the wearer and adapted to exert a yielding upward pressure on said mask sufficient to gently hold said lower jaw closed but permitting said jaw to be easily opened when desired, retaining means carried by said mask for positioning a medicinal substance in the path of the breath inhaled through the nose and a medicinal substance in said retaining means adapted to clear the air passages through the nose and head and encourage breathing therethrough.

2. Apparatus for controlling respiration and teaching breathing through the nose comprising a mask fitting over the chin of the wearer and adapted to press upward on the lower jaw, head straps passing around the head of the wearer and adapted to exert a yielding upward pressure on said mask sufficient to gently hold said lower jaw closed but permitting said jaw to be easily opened when desired, and a permeable covering held in place over the mouth of the wearer at all times to give a feeling of difficulty in breathing through the mouth so that breathing through the nose is encouraged.

3. A device for controlling breathing comprising a mask adapted to fit over the mouth of the wearer and press upward on the lower jaw to hold the mouth closed, said mask being made of permeable material permitting breath to pass therethrough, and holding straps drawing upwardly on said mask adapted to pass around the head of the wearer, at least one of said straps being elastic to yield and permit the mouth to be opened.

ERNEST V. GALIARDO.