

Aug. 24, 1926.

H. THURSTON ET AL

1,597,331

NOSTRIL EXPANDER

Filed July 13, 1925

Fig. 1.

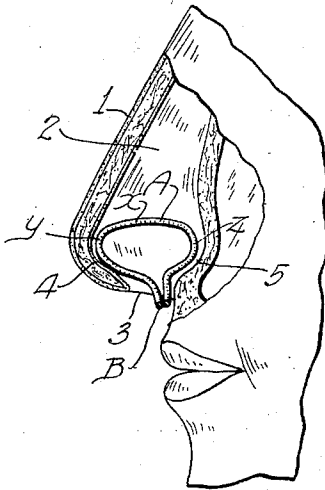


Fig. 2.

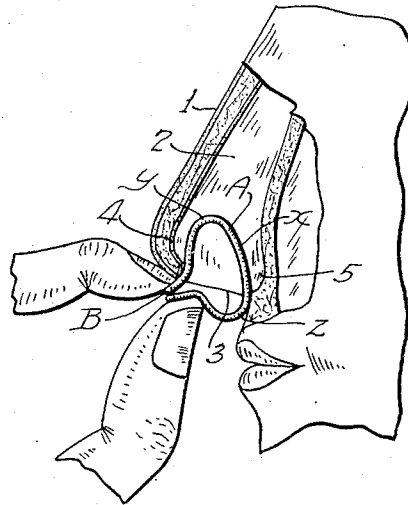


Fig. 3.

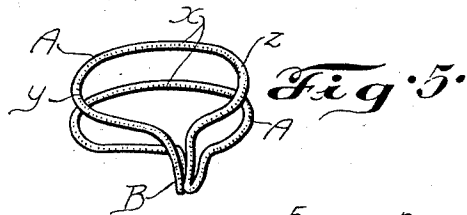
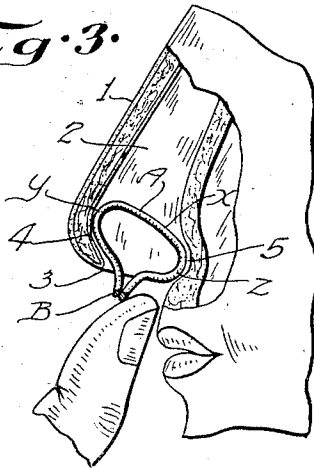


Fig. 5.

Fig. 4.

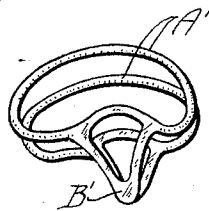
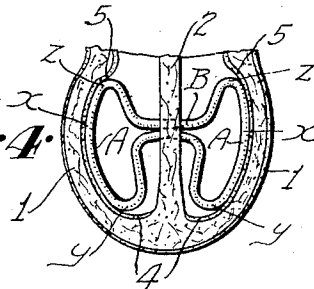


Fig. 6.

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Patented Aug. 24, 1926.

1,597,331

UNITED STATES PATENT OFFICE.

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NOSTRIL EXPANDER.

Application filed July 13, 1925. Serial No. 43,232.

This invention relates to devices of the kind commonly termed nostril expanders which are adapted to be inserted in the nose so as to hold the outer walls of the nostrils distended, and thus insure a free circulation of air through the nostrils when the user breathes.

It is well recognized that devices of the character referred to, if properly constructed, are capable of curing and preventing various ailments resulting from undue contraction of the walls of the nostrils during the operation of breathing, but the devices of this general character which have been offered to the public have not proved commercially successful, owing to the fact that they were of such design that they irritated the nose of the user and had a tendency to make the user nervous by constantly exerting a perceptible pressure on sensitive portions of the nose.

The object of our invention is to provide a nostril expander that will not only effectively hold the outer walls of the nostril distended, but which will be perfectly comfortable to the user, easy to apply and remove and incapable of irritating the portions of the nose with which it contacts, or exerting sufficient pressure on said portions to result in nervousness in the user.

To this end we have devised a nostril expander which consists of a skeleton-like device composed of two members of substantially ellipsoidal shape in general outline joined together by a substantially U-shaped bridge piece whose side portions are connected at their upper ends to intermediate portions of the lower sides of said members. The device is preferably made of some suitable non-corrosive metal, and it can be constructed either from wire, from sheet metal or from cast metal. When the device is arranged in operative position in the user's nose, the bridge piece of the device straddles the lower edge portion of the septum of the nose without gripping the same or contacting with sensitive portions of the septum located inside of the nostrils, and the ellipsoidal-shaped members of the device contact with the outer walls of the nostrils and prevent them from flexing inwardly, the convexed front and rear end portions of said members overhanging the portions of the nostril cavities in front of and at the rear end of the nostril openings, and thus ef-

fectively retaining the device in operative position. The device is practically rigid or inflexible and is so proportioned that when it is arranged in operative position, no portions of same exert sufficient pressure on the nose to eventually result in nervousness in the user, as is apt to occur when any delicate portion of a person's nose is constantly subjected to even a slight pressure from a device which tends to stretch or deform said delicate portion. Moreover, as there are no sharp portions on the device, or portions of relatively small area that bear constantly on small areas of the nostrils, there is no liability of the device irritating the user's nose. Notwithstanding the fact that the device can be easily inserted in the nose, there is no liability of its accidentally dropping out of the nose or shifting into an incorrect position, due to the fact that the length of the major axes of the ellipsoidal-shaped members is enough greater than the length of the nostril openings to insure the convexed end portions of said members overhanging the portions of the nostril cavities in front of and at the rear of the nostril openings.

Figure 1 of the drawings is a side elevational view of a portion of a person's face, with the nose broken away, showing our improved nostril expander arranged in operative position.

Figure 2 is a similar view, illustrating the first step in the operation of inserting said expander in the user's nose.

Figure 3 is a similar view, illustrating the first step in the operation of removing said expander from the nose.

Figure 4 is a transverse horizontal sectional view through the nose, taken at a point above the expander and looking downwardly on same.

Figure 5 is a perspective view of the expander; and

Figure 6 is a perspective view, illustrating a nostril expander of slightly different form and construction from the one shown in Figure 5.

In the drawings the reference character 1 designates the outer walls of the nostrils of a person's nose, 2 designates the septum of the nose, 3 designates the nostril openings, 4 designates the portions of the nostril cavities in the tip of the nose that are located in front of the nostril openings, and 5 designates the portions of the nostril cavities that

are located at the rear ends of the nostril openings.

Our improved nostril expander is of skeleton construction and is composed of two members A of substantially ellipsoidal shape in general outline, and a bridge piece B that connects said members together and holds them in spaced relation. The bridge piece B is substantially U-shaped and the side portions of same are connected at their upper ends to the lower sides of the members A at points substantially midway the front and rear ends of said members. Each of the members A has a top portion x that is preferably convexed slightly and bowed outwardly intermediate its ends so that when the device is arranged in operative position in the user's nose, the curved top portions of the members A will contact with the side walls 1 of the nostrils, as shown in Figure 4, and thus prevent said walls from flexing inwardly, thereby insuring a free circulation of air through the nostrils when the user breathes. The bridge piece B is so proportioned that the side portions of same straddle the septum 2 of the nose without liability of gripping the same or contacting with the mucous membrane of the septum, and the members A are so proportioned that while they effectively hold the side walls of the nostrils distended, they do not exert sufficient outward pressure on same to stretch or deform said side walls to an extent that will result in discomfort or annoyance to the user.

The device is retained in operative position in the user's nose by the engagement of the convexed front and rear end portions y and z , respectively, of the members A, with the front and rear portions 4 and 5, respectively, of the nostril cavities, as shown in Figure 1, and as said convexed portions y and z are of relatively great area, they have no tendency to irritate the portions of the nostril cavities on which they bear. To arrange the device in operative position the user grasps the bridge piece B between his thumb and one finger and then inserts the convexed front end portions y of the members A upwardly through the nostril openings, as shown in Figure 2. Thereafter, the device is rocked upwardly and rearwardly so as to cause the front end portions y of the members A to overhang the front portions 4 of the nostril cavities and cause the convexed rear end portions z of said members A to ride upwardly onto the rear end portions 5 of the nostril cavities, as shown in Figure 1. To remove the device the user simply places the tip of his thumb behind the bridge piece B, as shown in Figure 3, and then pushes forwardly on said bridge piece so as to tilt the front end portions of the members A upwardly and rock the rear end portions of said members downwardly.

It is not absolutely essential that the top portions x of the members A be convexed or curved upwardly, as shown in Figure 5, although we prefer to construct these members in this manner. Nor is it essential that the bridge piece B be of the particular shape shown in Figure 5. The essential thing is that the members A have no terminal portions which are liable to produce irritation by bearing continually on restricted areas of the nostril cavities; that said members be so shaped that they will hold the side walls of the nostrils distended without exerting sufficient outward pressure on same to be annoying or uncomfortable to the user and that the bridge piece B be so shaped and connected to the members A that it does not grip the septum of the nose or contact with delicate portions of the septum located within the nostril cavities and that it be located at the rear of the convexed front portions of the members A when the device is in use.

In the form of our invention shown in Figure 5 the expander is constructed from a piece of wire bent to form elements of the construction previously described and having its ends joined together so as to produce a nostril expander that is free from sharp projections or terminal portions that bear against restricted areas of the nostril cavities. If desired, however, the expander can be constructed from a piece of sheet metal that is cut and shaped in dies so as to produce a device of the kind illustrated in Figure 6, which device embodies all of the essential characteristics and desirable features of the device shown in Figure 5, except that the bridge piece B' of same is provided with substantially V-shaped side portions whose upper ends are joined together by parts of the bottom portions of the substantially ellipsoidal shaped members A' of the device.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

1. A nostril expander, composed of two skeleton-like members provided with convexed front and rear ends which overhang the portions of the nostril cavities in front of and at the rear of the nostril openings, and a bridge piece joined to said members intermediate the front and rear ends of same and proportioned so that it does not pinch or grip the septum of the nose or contact with delicate portions of the septum located in the nostril cavities.

2. A nostril expander, composed of two substantially ellipsoidal-shaped members proportioned so that the convexed front and rear ends of same will overhang the portions of the nostril cavities in front of and at the rear of the nostril openings, and a bridge piece joined to the lower sides of said members intermediate the front and rear ends of same and proportioned so that

it does not grip the septum of the nose or contact with the mucous membrane of the septum, the top portions of said members being bowed outwardly so that they will contact with the outer walls of the nostrils.

5 3. A nostril expander, composed of two substantially ellipsoidal-shaped members proportioned so that the convexed front and rear ends of same will overhang the portions of the nostril cavities in front of and at the rear of the nostril openings, and a bridge piece connecting said members together and located at the lower sides of said members intermediate the front and rear ends of same, said bridge piece being proportioned so that it does not grip the septum of the nose or contact with the mucous membrane of the septum and the top portions of said members being curved upwardly and bowed outwardly intermediate their ends.

20 4. A nostril expander, composed of two skeleton-like members, both of which have

convexed front and rear ends and a portion that is bowed outwardly intermediate said ends, and a substantially U-shaped bridge piece having the upper ends of its side portions connected to said members at points intermediate the front and rear ends of said members.

5. A nostril expander, composed of two skeleton-like members, both of which have convexed front and rear ends and a top portion that is bowed outwardly intermediate said ends, and a substantially U-shaped bridge piece having the upper ends of its side portions connected to the lower sides of said members at points substantially midway the front and rear ends of said members, said bridge piece being so proportioned that it will straddle the septum of the nose without contacting with portions of the septum located inside of the nostril cavities.

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