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(54) **FACE MASK SECURING DEVICE**

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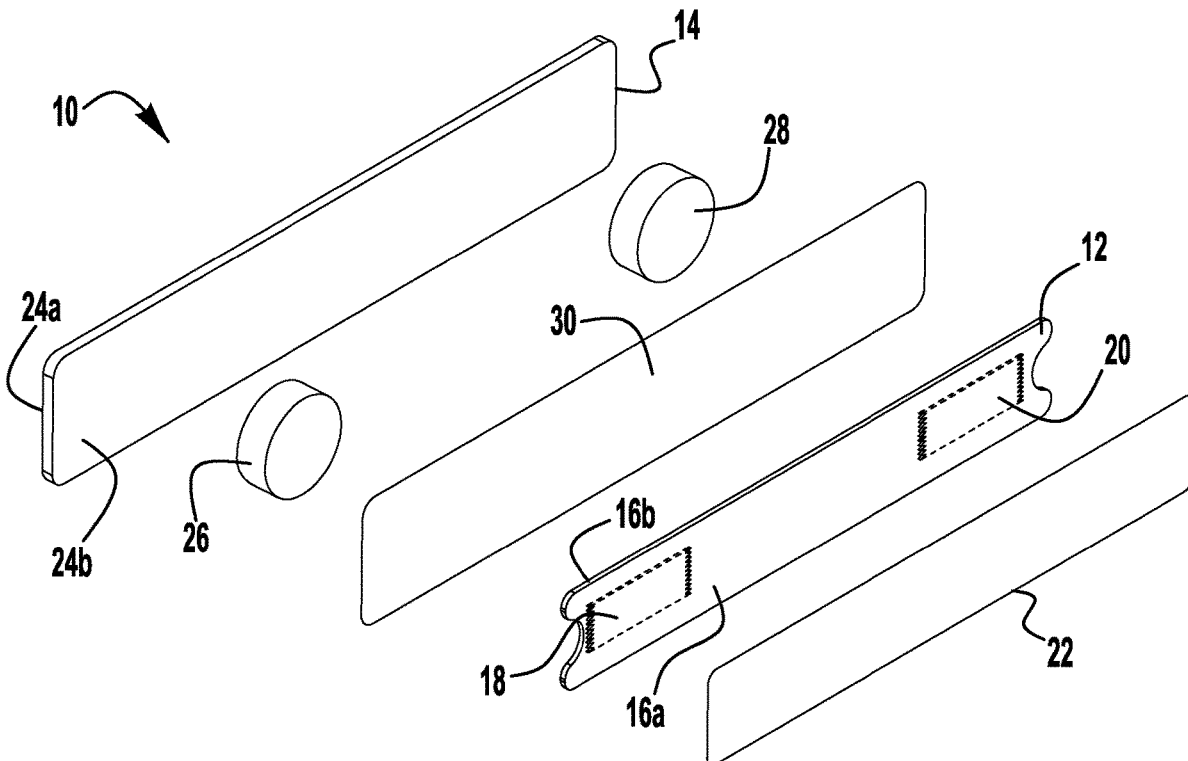
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ABSTRACT

A face mask securing device to inhibit the passage of water vapor between a face mask and a user's face. The securing device includes a disposable adhesive strip to be temporarily mounted to the bridge of a user's nose. The nasal strip has an adhesive on a first side and one or more metal tabs on a second side. Finally, a flexible, nose bridge having one or more magnets disposed thereon is to be placed upon the face mask and connect to the one or more metal tabs of the nasal strip.



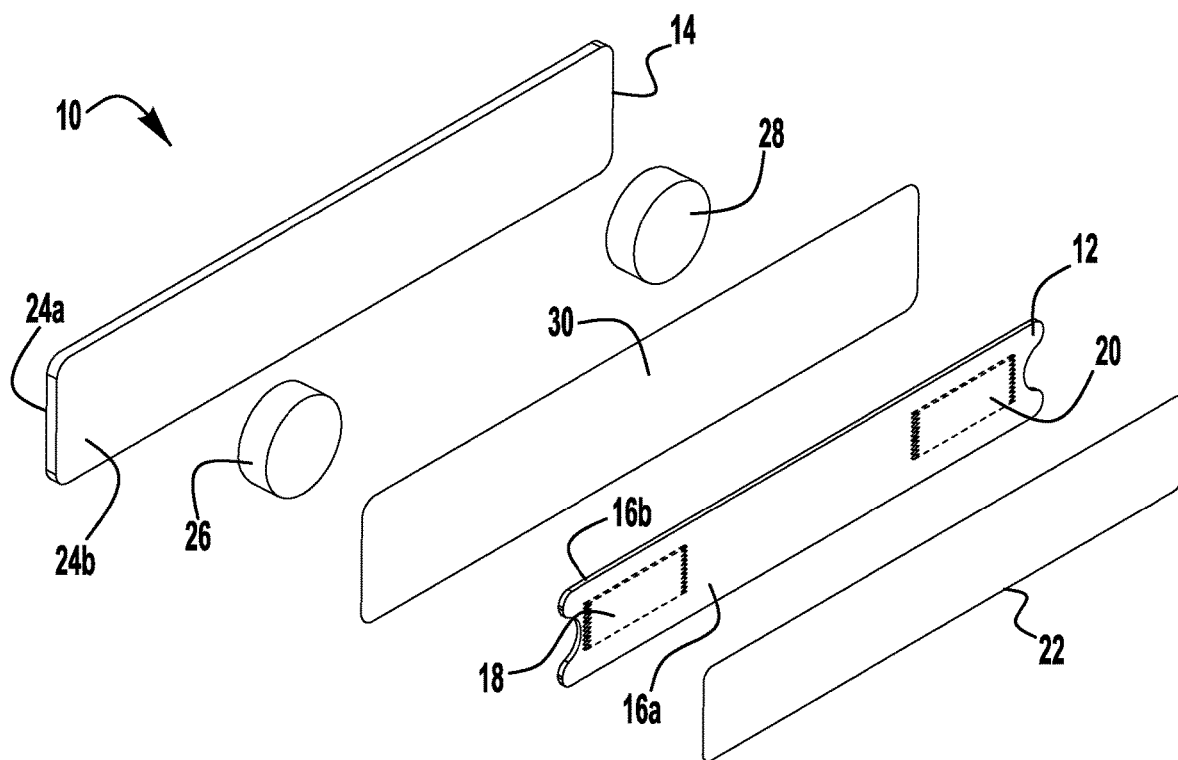


FIG. 1

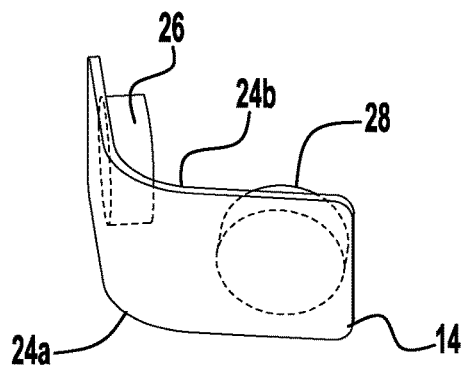


FIG. 2

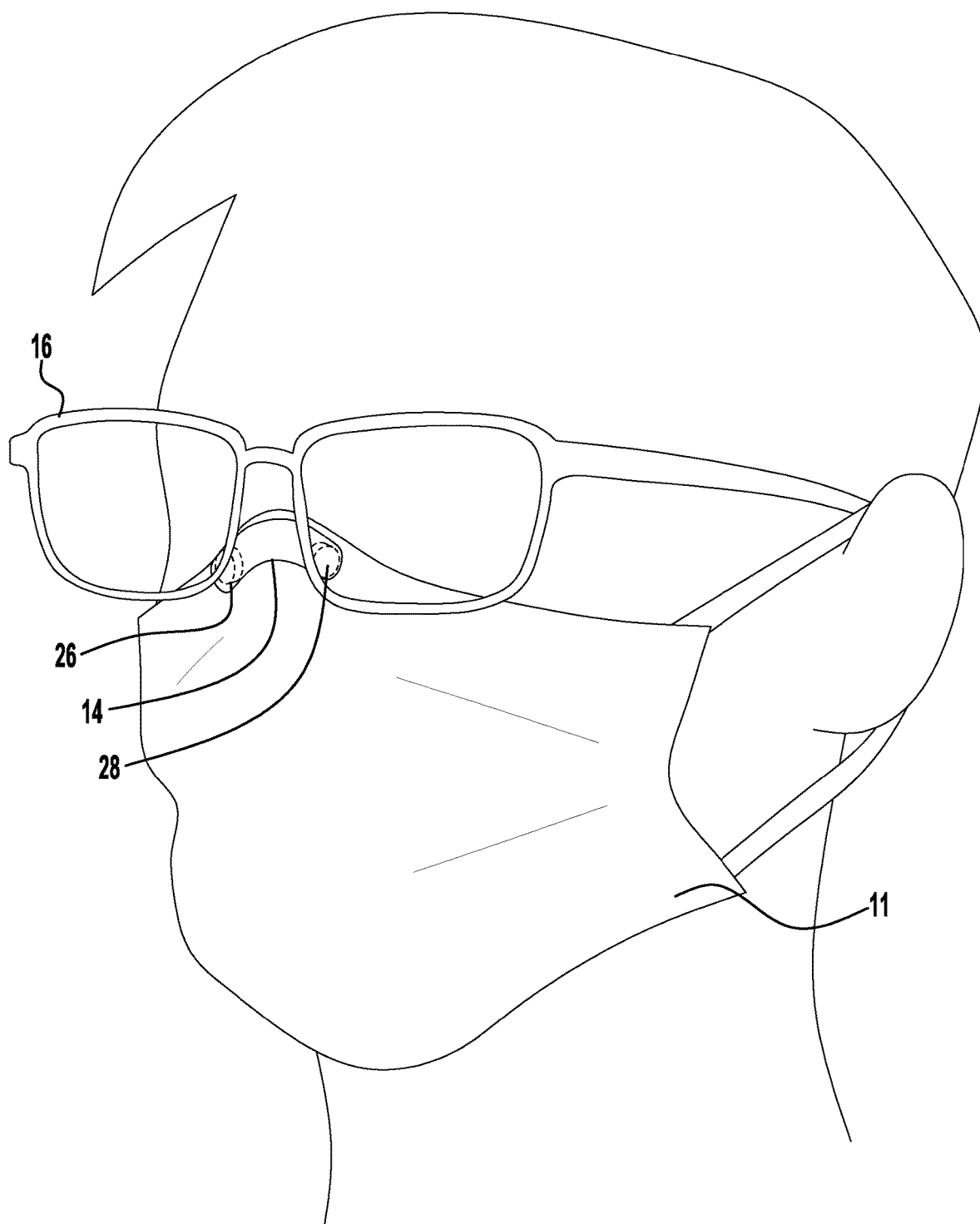


FIG. 3

FACE MASK SECURING DEVICE

TECHNICAL FIELD OF THE INVENTION

[0001] The present invention is directed to a face mask securing device, and more specifically for securing a user's mask between an adhesive strip with metal tabs and a complementary strip with magnets.

BACKGROUND OF THE INVENTION

[0002] Face masks are universally used in the medical profession and elsewhere to reduce the risk of transferring infectious bacteria, virus and the like between the health care provider and the patient (and/or client) or in any context where nose, mouth and eye protection may be indicated. The use of a face mask is important, for example, to lab technicians while conducting tests, to nurses during the care of patients, to physicians during surgery and other types of medical treatment, and to dentists working in a patient's mouth.

[0003] The rapid increase of infectious diseases, particularly Covid-19, has made the use of such protective equipment increasingly important. Further, face masks have a variety of other uses, such as protecting a user during constructions and yard work. Face masks having a transparent portion over the mouth area of the wearer, promote better communication between wearer and patient, reduce patient anxiety and improve the compliance of caregivers wearing the masks.

[0004] There are a variety of different types of facemasks that are commercially available (as used herein, the terms "mask" and "facemask" are used interchangeably and include, without limitation, face masks, respirators, face shields, surgical masks, filter masks, mouth masks, and gas masks). These facemasks serve various functions which include providing protection from splashes and filtering air-borne contaminants, including pathogens. Facemasks differ substantially in their filtering capacity and their comfort level. Loose fitting facemasks generally provide a significant level of comfort at the expense of filtration ability. As such, these facemasks provide little more than splash protection. On the other hand, facemasks that are designed to have excellent filtering properties do not provide a sufficient level of comfort. Masks solely held in place by elastics behind the ears or neck prove only moderately effective for holding the mask in place, especially when talking as the jaw pulls on the mask.

SUMMARY OF THE INVENTION

[0005] According to one embodiment of the present invention, there is disclosed a face mask securing device to inhibit the passage of water vapor between a face mask and a user's face. The securing device includes a disposable adhesive strip to be temporarily mounted to the bridge of a user's nose. The nasal strip has an adhesive on a first side and one or more metal tabs on a second side. Finally, a flexible, nose bridge having one or more magnets disposed thereon is to be placed upon the face mask and connect to the one or more metal tabs of the nasal strip.

[0006] According to another embodiment of this invention, there is disclosed a face mask securing device to inhibit the passage of water vapor between a face mask and a user's face. The securing device includes a nasal strip to be temporarily mounted to the bridge of a user's nose. The

nasal strip has an adhesive on a first side and one or more metal tabs on a second side. A silicone backer is disposed on the first side of the nasal strip to cover the adhesive layer. A flexible, nose bridge having one or more magnets disposed thereon is to be placed upon the face mask and connect to the one or more metal tabs of the nasal strip. The face mask is disposed between the disposable adhesive strip and the flexible, nose bridge, and secured in place between the one or more metal tabs of the nasal strip and the one or more magnets of the flexible, nose bridge.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] The structure, operation, and advantages of the present invention will become further apparent upon consideration of the following description taken in conjunction with the accompanying figures (FIGS.). The figures are intended to be illustrative, not limiting. Certain elements in some of the figures may be omitted, or illustrated not-to-scale, for illustrative clarity. The cross-sectional views may be in the form of "slices", or "near-sighted" cross-sectional views, omitting certain background lines which would otherwise be visible in a "true" cross-sectional view, for illustrative clarity.

[0008] In the drawings accompanying the description that follows, both reference numerals and legends (labels, text descriptions) may be used to identify elements. If legends are provided, they are intended merely as an aid to the reader, and should not in any way be interpreted as limiting.

[0009] FIG. 1 illustrates a front, exploded view of the face mask securing device, in accordance with the present invention.

[0010] FIG. 2 illustrates a front, three dimensional view of the flexible nose bridge of the face mask securing device, in accordance with the present invention.

[0011] FIG. 3 illustrates a front, three dimensional view of the face mask securing device in use, in accordance with the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0012] In the description that follows, numerous details are set forth in order to provide a thorough understanding of the present invention. It will be appreciated by those skilled in the art that variations of these specific details are possible while still achieving the results of the present invention. Well-known processing steps are generally not described in detail in order to avoid unnecessarily obfuscating the description of the present invention.

[0013] In the description that follows, exemplary dimensions may be presented for an illustrative embodiment of the invention. The dimensions should not be interpreted as limiting. They are included to provide a sense of proportion. Generally speaking, it is the relationship between various elements, where they are located, their contrasting compositions, and sometimes their relative sizes that is of significance.

[0014] In the drawings accompanying the description that follows, often both reference numerals and legends (labels, text descriptions) will be used to identify elements. If legends are provided, they are intended merely as an aid to the reader and should not in any way be interpreted as limiting.

[0015] Face masks serve many purposes including protecting the wearer from environmental contaminants and protecting those with whom the wearer comes into contact from the wearer's exhaled breath. Use of face masks in medical environments, filtering for dust in work environments, and to combat the spread of Covid-19 and other pathogens is a rapidly growing area of need. It is often desirable to wear eyewear such as eyeglasses or safety glasses in conjunction with a face mask to obtain additional protection. Unfortunately, warm, moist air escaping from the face mask tends to condense on eyewear causing fogging and, consequently, impairing visibility.

[0016] The face mask securing device **10** is designed to substantially reduce or eliminate the shortcomings previously associated with surgical style face masks. Further, the face mask securing device **10** is intended to make the mask more comfortable to wear. The securing device **10** functions by inhibits the passage of water vapor between the periphery of the face mask **11** and the wearer's face to prevent the user's glasses from fogging. Generally, the securing device fixes a user's mask between a nasal strip **12** and a flexible strip or nose bridge **14**. Thus, fluid is unable to escape the user's nose and mouth to reach the user's glasses **16**, as seen in FIG. 3. The face mask **11** is secured in place to maintain the effectiveness of the mask, and further, may be removed, and re-attached without causing damage to the mask.

[0017] FIG. 1 illustrates the components of the face mask securing device **10**. The adhesive nasal strip **12** is designed to be temporarily mounted to the bridge of the user's nose. The nasal strip **12** is disposable and intended to be applied daily. The nasal strip **12** is a novel element, that utilizes a traditional nasal strip. The face mask securing device **10** may have any appropriate dimensions, such as a length with a range between 1.5 inches and 4 inches, with a preferable length of 2.75 inches, and a width with a range between 0.25 inches and 0.5 inches, with a preferable width of 0.5 inches.

[0018] The nasal strip **12** is formed of an elongated substrate which generally may include any thin, flexible, breathable material for maximizing comfort. Preferably this material permits the passage of air and moisture vapor, such as perspiration, but inhibits the passage of dirt and liquid perspiration or rain water, etc. The material of the nasal strip **12** can include, for example, a woven or non-woven fabric material, such as non-woven, polyester fabric. Alternatively, the nasal strip **12** can include a thermoplastic woven or non-woven fabric, such as spun-bonded, or melt-blown, polyethylene or polypropylene fibers.

[0019] The nasal strip **12** of the current invention includes first and second sides **16a** and **16b**. Disposed on the first side **16a** of the nasal strip **12** is an adhesive layer for permitting easy attachment to the bridge of the user's nose. This adhesive layer, can be made of a pressure sensitive, hypo-allergenic, biocompatible adhesive material. As used herein, "pressure-sensitive" refers to any releasable adhesive or releasable tenacious means. Adhesive compositions suitable for nasal dilators and nasal strips include water-based pressure-sensitive adhesives, such as acrylate adhesives, thermoplastics "hot melt" adhesives, two-sided adhesive tape, elastomer-based adhesives, and acrylic adhesives.

[0020] Disposed on the second side **16b** of the nasal strip **12** are one or more ferrous metal tabs **18** and **20**. Each of the first and second ferrous metal tabs **18** and **20** are designed to be removably secured to the flexible strip **14**, as discussed hereinafter. The metal tabs **18** and **20** may have any appro-

priate dimensions, such as $\frac{3}{16}$ inches by 0.5 inches. Although the preferred embodiment includes first and second ferrous metal tabs **18** and **20**, it is contemplated within the terms of the embodiment that the entire second side **16b** be overlaid with a metal mesh. It is contemplated that there be a covering layer **30** to hide the metal tabs **18** and **20** and provide a variety of different colors for the nasal strip **12**.

[0021] Silicone backer **22** is disposed on first side **16a** of the nasal strip **12**. Before use, the silicone backer **22** is utilized to cover the adhesive layer. When ready for use, the silicone backer **22** is peeled away to uncover the adhesive layer to be placed upon the user's nose.

[0022] FIGS. 1 and 2 illustrate the flexible, nose bridge **14** of the face mask securing device **10**. The nose bridge **14** has first and second sides **24a** and **24b**, and may be constructed of any desired material, such as stainless steel or nickel-plated material. The nose bridge **14** generally has a straight shape, which may then be bent by the user to accommodate the user's nose. Alternatively, it is within the terms of the embodiment that that nose bridge **14** be constructed of a flexible material, such as rubber or plastic. As opposed to the nasal strip **12**, the nose bridge **14** is designed to re-usable and non-disposable.

[0023] Disposed on the second side **24b** of the nose bridge **14** are one or more magnets **26** and **28**. Preferably, the magnets **26** and **28** are $\frac{3}{8}$ inches by $\frac{1}{8}$ inches neodymium disc magnets, nickel coated, with a pull force of 5 pounds. The magnets **26** and **28** permanently attached to the nose bridge **14** with any desired and appropriate means, such as an adhesive. The magnets **26** and **28** are designed to temporarily connect to the metal tabs **18** and **20** of the nasal strip **12**, respectively. Thus, the face mask **11** is secured between the nasal strip **12** and the nose bridge **14**.

[0024] In use, as illustrated in FIG. 3, the user first removes the silicone backer **22** from the first side **16a** of the nasal strip **12**, thereby revealing the adhesive layer. The user then places the nasal strip **12** across the bridge of his nose. Then, the user places the upper portion of his face mask **11** over the second side **16b** of the nasal strip **12**. The user places the nose bridge **14** over the upper portion of the face mask **11**, which in turn is temporarily attached to the nasal strip **12** via the magnets **26** and **28** and the tabs **18** and **20**, respectively.

[0025] Although the invention has been shown and described with respect to a certain preferred embodiment or embodiments, certain equivalent alterations and modifications will occur to others skilled in the art upon the reading and understanding of this specification and the annexed drawings. In particular regard to the various functions performed by the above described components (assemblies, devices, etc.) the terms (including a reference to a "means") used to describe such components are intended to correspond, unless otherwise indicated, to any component which performs the specified function of the described component (i.e., that is functionally equivalent), even though not structurally equivalent to the disclosed structure which performs the function in the herein illustrated exemplary embodiments of the invention. In addition, while a particular feature of the invention may have been disclosed with respect to only one of several embodiments, such feature may be combined with one or more features of the other embodiments as may be desired and advantageous for any given or particular application.

1. A face mask securing device to inhibit the passage of water vapor between a face mask and a user's face, comprising;

a disposable adhesive strip to be temporarily mounted to the bridge of a user's nose;

the nasal strip having an adhesive on a first side and one or more metal tabs on a second side; and

a flexible, nose bridge having one or more magnets disposed thereon to be placed upon the face mask and connect to the one or more metal tabs of the nasal strip.

2. The face mask securing device of claim 1, wherein the nasal strip is disposable and intended to be applied daily.

3. The face mask securing device of claim 1, wherein disposed on the first side of the nasal strip is an adhesive layer for permitting easy attachment to the bridge of a user's nose.

4. The face mask securing device of claim 3, wherein disposed on the second side of the nasal strip are first and second metal tabs.

5. The face mask securing device of claim 4, wherein the nasal strip has a length of 2.75 inches, and a width of 0.5 inches.

6. The face mask securing device of claim 1, wherein the nasal strip is formed of an elongated substrate which includes any thin, flexible, breathable material for maximizing comfort.

7. The face mask securing device of claim 6, wherein the adhesive layer on the first side of the nasal strip is made of made of a pressure sensitive, hypoallergenic, biocompatible adhesive material.

8. The face mask securing device of claim 4, wherein a covering layer covers the first and second metal tabs and provide a variety of different colors for the nasal strip.

9. The face mask securing device of claim 1, wherein a silicone backer is disposed on the first side of the nasal strip to cover the adhesive layer.

10. The face mask securing device of claim 1, wherein the flexible, nose bridge has first and second sides and has a curved shape to accommodate the user's nose.

11. The face mask securing device of claim 10, wherein the flexible, nose bridge is designed to re-usable and non-disposable.

12. The face mask securing device of claim 11, wherein the first and second magnets are disposed on the second side of the nose bridge.

13. The face mask securing device of claim 12, wherein the first and second magnets are $\frac{3}{8}$ inches by $\frac{1}{8}$ inches neodymium disc magnets, and nickel coated.

14. The face mask securing device of claim 13, wherein the first and second magnets are permanently attached to the nose bridge with an adhesive.

15. A face mask securing device to inhibit the passage of water vapor between a face mask and a user's face, comprising;

a nasal strip to be temporarily mounted to the bridge of a user's nose;

the nasal strip having an adhesive on a first side and one or more metal tabs on a second side;

a silicone backer disposed on the first side of the nasal strip to cover the adhesive layer;

a flexible, nose bridge having one or more magnets disposed thereon to be placed upon the face mask and connect to the one or more metal tabs of the nasal strip; and

the face mask disposed between the disposable adhesive strip and the flexible, nose bridge, and secured in place between the one or more metal tabs of the nasal strip and the one or more magnets of the flexible, nose bridge.

16. The face mask securing device of claim 15, wherein the nasal strip is disposable and intended to be applied daily.

17. The face mask securing device of claim 16, wherein disposed on the second side of the nasal strip are first and second metal tabs.

18. The face mask securing device of claim 15, wherein a covering layer covers the first and second metal tabs and provide a variety of different colors for the nasal strip.

19. The face mask securing device of claim 15, wherein the flexible, nose bridge has first and second sides and has a straight shape, which is bendable to accommodate the user's nose.

20. The face mask securing device of claim 19, wherein the first and second magnets are disposed on the second side of the nose bridge.

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