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(54) **Foldable respirator**

(57) A foldable respirator includes a respirator body (10) and a band (20) connected to the respirator body (10). The respirator body has an upper part (12) (12), a lower part (13) and a central part (11) that is between the upper part (12) and the lower part (13). The central part (11) has a central region (111) and a folded member extending from the central region (111). Due to the folded member extending from the central region (111), the respirator body (10) will avoid being dragged by the chin and the central region (111) will not distort or collapse easily while a wearer makes mouth movements, and thus the foldable respirator provides a good fit with the wearer's face, reduces leak rate and provides high protection efficiency.

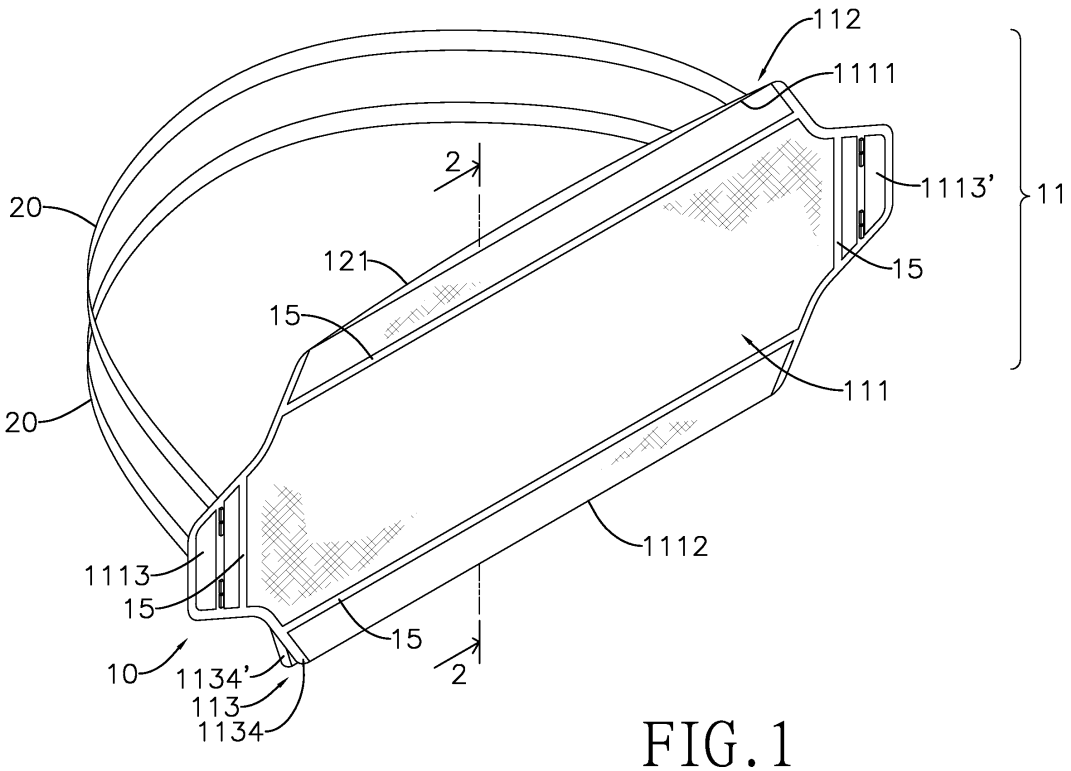

FIG. 1

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Description

1. Field of the Invention

[0001] The present invention relates to a respirator, and particularly to a foldable respirator.

2. Description of the Prior Arts

[0002] Filtration respirators have been widely used to protect wearers' respiratory systems. In general, filtration respirators can be classified into two types, which are cup type and fold-flat type. One of the advantages of fold-flat type respirators is convenience, as a wearer can carry a fold-flat type respirator by storing the respirator into a pocket. When the wearer needs to use the fold-flat type respirator, the wearer just unfolds the respirator. In addition to the ease of carrying, a fold-flat type respirator is more flexible than a cup type respirator, which has a rim configured in a fixed shape. As a result, when wearing a fold-flat type respirator, the fold-flat type respirator fits each particular face structure of different wearers better than a cup type respirator does.

[0003] With improvement in quality and filter efficiency of filter cloth, nowadays the filter efficiency of a respirator is high. According to the NIOSH standards, NIOSH certifies three levels of filter efficiency, which are 95%, 99%, and 99.97%. However, despite the filter efficiency of a respirator reaching a high level, if the fit of a respirator is poor, a wearer still inhales contaminants through the gap between the face and the respirator. Therefore, the fit of a respirator is as important as the filter efficiency of a respirator.

[0004] U.S. Pat. No.6123077 of 3M Innovative Properties Company discloses a flat-folded personal respiratory protection device, which is one-piece or composed of three individual members; thus the personal respiratory protection device will be a 3d structure after being unfolded. The first member and the second member of the personal respiratory protection device cover nose and chin of a wearer respectively in order to fit the wearer's face tightly. With reference to Fig.9 and Fig.10, when a wearer opens the mouth widely, the distance from the wearer's nose to chin increases from X1 to X2. The personal respiratory protection device 90has a length from top 91 to bottom 92, which is constant and is slightly longer than or equal to X1. When a wearer opens the mouth widely while wearing the personal respiratory protection device 90, the distance from the nose to the chin is X2, which is longer than X1; thus the chin will drag the personal respiratory protection device 90 and may further expose the nose, leading to the poor fit of the personal respiratory protection device 90 with the face, higher leak rate, and reduction of protection efficiency.

[0005] T.W. Pat. No.I1321056B1 also provides a fold-flat type respirator, which is an integral whole, and the integral whole is composed of an upper portion, a central portion and a lower portion. Multiple creases arranged in a step shape are formed on the central portion. When the multiple creases are unfolded, the effective filtration area increases. However, the lack of proper supporting structure for two sides of each crease will cause the central portion to distort and collapse due to some force such as the wearer's breathing airflow. As a result, the distorted fold-flat type respirator still fits the face poorly, leading to higher leak rate and reduction of protection efficiency.

[0006] To overcome the shortcomings, the present invention provides a foldable respirator to mitigate or obviate the aforementioned problems.

[0007] Given that the aforesaid drawbacks of the prior art such as poor fit of the respirator, higher leak rate and reduction of protection efficiency, the main objective of the present invention is to provide a foldable respirator, particularly, a foldable respirator that is not dragged by a wearer's chin when a wearer opens the mouth widely, and therefore avoids exposing the nose. In addition, the foldable respirator does not distort or collapse easily due to force, and thus improves the fit of the respirator with the face, reduces leak rate and has high protection efficiency.

[0008] Accordingly, the foldable respirator of the present invention comprises:

a respirator body having an upper part, a lower part, and a central part that is between the upper part and the lower part, and the central part having:

a central region; and
a folded member extending from the central region; and

a band connected to the respirator body.

[0009] According to the aforementioned structure, when the wearer makes mouth movements while wearing the present invention, due to the folded member extending from the central region, the present invention will not be dragged by the chin, and the central region will not distort and collapse while the wearer is breathing, and thus the present invention has a good fit with the face, reduces leak rate and provides high protection efficiency

[0010] Other objectives, advantages and novel features of the invention will become more apparent from the following detailed description when taken in conjunction with the accompanying drawings.

IN THE DRAWINGS

[0011]

Fig.1 is a front perspective view of a first embodiment of the foldable respirator in accordance with the present invention, shown when folded;
Fig.2 is a side view taken along line 2-2 of the foldable

respirator in Fig. 1, shown when folded;

Fig.3 is a front perspective view of a second embodiment of the foldable respirator in accordance with the present invention;

Fig.4 a rear perspective view in partial section of the foldable respirator in Fig, 1, shown when folded;

Fig.5 is a perspective view of a third embodiment of the foldable respirator in accordance with the present invention;

Fig.6 is a rear perspective view of the foldable respirator in Fig. 1, shown when unfolded;

Fig.7 is an operational side view of the foldable respirator in Fig. 1 when a wearer closes the mouth while wearing the respirator;

Fig.8 is an operational side view of the foldable respirator in Fig. 1 when a wearer opens the mouth while wearing the respirator;

Fig.9 is an operational side view of a conventional foldable respirator of the U.S. Pat. No. 6123077 when a wearer closes the mouth while wearing the respirator; and

Fig.10 is an operational side view of the conventional foldable respirator in Fig. 9 when a wearer closes the mouth while wearing the respirator.

[0012] With reference to Figs. 1 and 2, a first embodiment of a foldable respirator in accordance with the present invention comprises a respirator body 10 and two bands 20. The respirator body 10 is made of multi-layer non-woven fabric and has a central part 11, an upper part 12, and a lower part 13. The central part 11 is between the upper part 12 and the lower part 13 and is connected to the upper part 12 and the lower part 13. The multi-layer non-woven fabric is spunbond whose basis weight ranges from 16 g/m^2 to 60 g/m^2.

[0013] The respirator body 10 may also have a filtration medium that is melt-blown non-woven fabric.

[0014] The central part 11 has a central region 111 and one folded member extending from the central region 111. The folded member comprises an upper folded member 112 and a lower folded member 113. The upper folded member 112 is formed between the central region 111 and the upper part 12. The lower folded member 113 is formed between the central region 111 and the lower part 13. The central region 111 is flat and comprises an upper end 1111, a lower end 1112 and two binding areas 1113, 1113'. The lower end 1112 is opposite to the upper end 1111. Each of the two binding areas 1113, 1113'is between the upper end 1111 and lower end 1112 and the two binding areas 1113 and 1113' are opposite to each other. The upper folded member 112 is connected to the upper end 1111 and the lower folded member 113 is connected to the lower end 1112.

[0015] With reference to Figs. 1 to 3, the upper folded member 112 has a first upper face 1121, a second upper face 1122 and an upper fold 1123. The outward edge of the first upper face 1121 is connected to the upper end 1111 of the central region 111. The first upper face 1121 and the second upper face 1122 face each other. The outward edge of the first upper face 1121 and the outward edge of second upper face 1122 are opposite to the upper fold 1123, and the outward edge of the first upper face 1121 is parallel with the outward edge of second upper face 1122. The upper fold 1123 is formed between the first upper face 1121 and the second upper face 1122, and the distance from the upper fold 1123 to the outward edge of the first upper face 1121 or to the outward edge of the second upper face 1122 ranges from 3 millimeter (mm) to 60 mm. The first upper face 1121 has an upper left side 1124 and an upper right side 1125 opposite to the upper left side 1124. The second upper face 1122 has an upper left side 1124' and an upper right side 1125' opposite to the upper left side 1124'. The two upper left sides 1124, 1124' are overlapped and the two upper right sides 1125, 1125'are overlapped.

[0016] With reference to Figs. 1 and 4, the upper left side 1124 of the first upper face 1121 and the upper left side 1124' of the second upper face 1122 are joined through fusing and also the upper right side 1125 of the first upper face 1121 and the upper right side 1125' of the second upper face 1122 are joined through fusing. Furthermore, the two upper left sides 1124,1124' are bonded to the central region 111 and the upper part 12, and the two upper right sides 1125,1125' are bonded to the central region 111 and the upper part 12.

[0017] With reference to Figs. 1 to 3, the lower folded member 113 has a first lower face 1131, a second lower face 1132 and a lower fold 1133. The outward edge of the first lower face 1131 is connected to the lower end 1112 of the central region 111. The first lower face 1131 and the second lower face 1132 face each other. The outward edge of the first lower face 1131 and the outward edge of second lower face 1132 are opposite to the lower fold 1133, and the outward edge of the first lower face 1131 is parallel with the outward edge of the second lower face 1132. The lower fold 1133 is formed between the first lower face 1131 and the second lower face 1132 and the distance from the lower fold 1133 to the outward edge of the first lower face 1131 or to the outward edge of the second lower face 1132 ranges from 3mm to 60mm. The first lower face 1131 has a lower left side 1134 and a lower right side 1135 opposite to the lower left side 1134. The second lower face 1132 has a lower left side 1134' and a lower right side 1135' opposite to the lower left side 1134'. The two lower left sides 1134, 1134' are overlapped and the two lower right sides 1135, 1135'are overlapped.

[0018] With reference to Figs. 1, the lower left side 1134 of the first lower face 1131 and the lower left side 1134' of the second lower face 1132 are joined through fusing and also the lower right side 1135 of the first lower face 1131 and the lower right side 1135' of the second lower face 1132 are joined through fusing. The lower left side 1134 and the lower left side 1134' in Fig.1 are separated as to show the two lower left sides 1134, 1134' clearly. Furthermore, The two lower left sides 1134, 1134'

are bonded to the central region 111 and the lower part 13, and the two lower right sides 1135, 1135' are bonded to the central region 111 and the lower part 13.

[0019] With reference to Figs. 2 and 4, the upper part 12 is connected to the central part 11 via the upper folded member 112 and has an upper edge 121 and a front edge 122. The upper edge 121 is connected to the outward edge of the second upper face 1122 and the upper edge 121 is parallel with the upper end 1111 of the central region 111. The front edge 122 is opposite to the upper edge 121.The lower part 13 is connected to the central part 11 via the lower folded member 113 and has a lower edge 131 and a bottom edge 132. The lower edge 131 is connected to the outward edge of the second lower face 1132 and the lower edge 131 is parallel with the lower end 1112 of the central region 111. The bottom edge 132 is opposite to the lower edge 131.

[0020] The two bands 20 are elastic bands. Two ends of each band 20 bind to the two binding areas 1113, 1113' respectively, which makes the respirator a head belt type. In another embodiment of a foldable respirator in accordance with the present invention, the two ends of one band 20 binds to one of the two binding areas 1113, and the two ends of the other band 20 binds to the other binding areas 1113', which makes the respirator an ear belt type. In another embodiment, one of the two ends of one band 20 bonds to one of the two binding areas 1113, and one of the two ends of the other band 20 bonds to the other binding area 1113', and the other ends of each of the two bands 20 are connected through buckles. The method of bonding includes fastening by metal wires or ultrasonic fusing.

[0021] In another embodiment of a foldable respirator in accordance with the present invention, the folded member has a first upper folded member, a second upper folded member and a third upper folded member. The first upper folded member is connected to the upper end 1111. The second upper folded member is connected to the first upper folded member. The third upper folded member is connected to the second upper folded member and to the upper edge 121.The outward edge of the first upper face of the first upper folded member is connected to the upper end 1111. The outward edge of the second upper face of the first upper folded member is connected to the outward edge of the first upper face of the second upper folded member. The outward edge of the second upper face of the second upper folded member is connected to the outward edge of the first upper face of the third upper folded member. The outward edge of the second upper face of the third upper folded member is connected to the upper edge 121.

[0022] In another embodiment of a foldable respirator in accordance with the present invention, the folded member has a first lower folded member, a second lower folded member, and a third lower superposed member. The first lower folded member is connected to the lower end 1112. The second lower folded member is connected to the first lower folded member. The third lower folded member is connected to the second lower folded member and to the lower edge 131 .The outward edge of the first lower face of the first lower folded member is connected to the lower end 1112. The outward edge of the second lower face of the first lower folded member is connected to the outward edge of the first lower face of the second lower folded member. The outward edge of the second lower face of the second lower folded member is connected to the outward edge of the first lower face of the third lower folded member. The outward edge of the second lower face of the third lower folded member is connected to the lower edge 131.

[0023] With reference to Figs. 1 and 2, the respirator body 10 has a stiff support 14 that is made of polyester such as polyester fiber. The stiff support 14 is malleable and is fixed in the central region 111 by peripheral seal 15. The stiff support 14 supports the central region 111 and further helps the central region 111 stay in a fixed shape, preventing the central region 111 from distorting and collapsing.

[0024] With reference to Fig. 3, in a second embodiment of a foldable respirator in accordance with the present invention, the upper left side 1124 and the upper right side 1125 of the first upper face 1121 are bonded to the central region 111, and the upper left side 1124' and the upper right side 1125' of the second upper face 1122 are bonded to the upper part 12. The lower left side 1134 and the lower right side 1135 of the first lower face 1131 are bonded to the central region 111, and the lower left side 1134' and the lower right side 1135' of the second lower face 1132 are bonded to the lower part 13.

[0025] With reference to Figs. 2 and 4, the respirator body 10 has a nose clip 17 in the upper part 12 and parallel to the front edge 122 in order to fit the nose tightly. In another embodiment, the nose clip 17 is on a surface of the upper part 12 and is parallel to the front edge 122.

[0026] In another embodiment, the respirator body 10 has foam in the upper part 12 and the foam is parallel to the front edge 122 in order to increase the comfort and provide a good fit with the face for the wearer.

[0027] With reference to Fig. 5, in a third embodiment of a foldable respirator in accordance with the present invention, the respirator body 10 has an exhalation valve 16 mounted thorough the middle portion of the central region 111. The exhalation valve 16 reduces the hot air produced by the wearer's breathing that remains in the respirator of the present invention.

[0028] With reference to Figs. 1 to 4, when the foldable respirator in accordance with the present invention is folded, the upper folded member 112 is overlapped with the central region 111 and the upper part 12. The lower folded member 113 is overlapped with the central region 111 and the lower part 13. The upper part 12 and the lower part 13 are also overlapped with the central region 111. In another embodiment, the upper part 12 is at the outermost and partially covers the central region 111, the upper edge 121 of the upper part 12 is parallel with the upper end 1111 of the central region 111, and the lower

edge 131 of the lower part 13 is parallel with the lower end 1112 of the central region 111.

[0029] With reference to Fig. 6, when the present invention is to be used, first, the upper part 12 and the lower part 13 are expanded toward opposite directions respectively, and thus the present invention becomes a 3D structure, wherein the central part 11, the upper part 12 and the lower part 13 form a space.

[0030] With reference to Figs. 7 and 8, when wearing the present invention, a wearer's nose and mouth are placed in the space formed by the central part 11, the upper part 12 and the lower part 13. The central part 11 faces the mouth, and the upper part 12 covers the wearer's nose, and the lower part 13 covers the wearer's chin. The nose clip 17 in the upper part 12 is used to increase the respirator's fit with the nose bridge. When the wearer closes the mouth, the distance from the wearer's nose to chin is X1, and the upper folded member 112 and the lower folded member 113 are folded. When the wearer opens the mouth widely, the distance from the wearer's nose to chin increases from X1 to X2, and the upper folded member 112 and the lower folded member 113 unfold due to the increase of the length, which is X2 minus X1. At this moment, the first upper face 1121, the second upper face 1122, the upper fold 1123, the first lower face 1131, the second lower face 1132 and the lower fold 1133 are expanded, resulting in a good fit with the wearer's face, reducing leak rate and providing effective protection efficiency.

[0031] Due to the folded member extending from the central region, a wearer can make mouth movements without exposing the nose and the central region 111 will not distort or collapse easily.

[0032] Furthermore, the folded member further has an upper folded member 112 or a lower folded member 113, and as the wearer closes the mouth, the upper folded member 112 or the lower folded member 113 is folded. When the wearer opens the mouth, the respirator body 10 is dragged by the chin, which makes the upper folded member 112 or the lower folded member 113 unfolded, and then expands the first upper face 1121, the second upper face 1122 and the upper fold 1123, or expands the first lower face 1131, the second lower face 1132 and the lower fold 1133. At this time, the central part 11 is totally unfolded.

[0033] Besides, when the upper left side 1124 and the upper right side 1125 of the first upper face 1121, the lower left side 1134 and the lower right side 1135 of the first lower face 1131 are bonded to the central region 111, the upper left side 1124' and the upper right side 1125' of the second upper face 1122 are bonded to the upper part 12, and the lower left side 1134' and the lower right side 1135' of the second lower face 1132 are bonded to the lower part 13, the strength of the folded member increases, which results in maintaining a proper space between the central part 11, the upper part 12 and the lower part 13 and keeping a good fit of the respirator body 10 with the wearer's face.

[0034] Even though numerous characteristics and advantages of the present invention have been set forth in the foregoing description, together with details of the structure and features of the invention, the disclosure is illustrative only. Changes may be made in the details, especially in matters of shape, size, and arrangement of parts within the principles of the invention to the full extent indicated by the broad general meaning of the terms in which the appended claims are expressed.

Claims

1. A foldable respirator, **characterized in that** comprising:

   a respirator body (10) having an upper part (12), a lower part (13) and a central part (11) that is between the upper part (12) and the lower part (13), and the central part (11) having:

   a central region (111); and
   a folded member extending from the central region (111); and

   a band (20) connected to the respirator body (10).

2. The foldable respirator according to claim 1,wherein the folded member has an upper folded member (112) between the central region (111) and the upper part (12).

3. The foldable respirator according to claim 2, wherein the folded member has a lower folded member (113) between the central region (111) and the lower part (13).

4. The foldable respirator according to claim 3, wherein the central region (111) has
   an upper end (1111);
   a lower end (1112) being opposite to the upper end (1111); and
   two binding areas (1113, 1113'), wherein each binding area (1113 or 1113') is between the upper end (1111) and lower end (1112), and the two binding areas (1113, 1113') are opposite to each other;
   wherein the upper folded member (112) is connected to the upper end (1111) and the lower folded member (113) is connected to the lower end (1112).

5. The foldable respirator according to claim 4, wherein the upper folded member (112) has
   a first upper face (1121) having an upper left side (1124) and an upper right side (1125) opposite to the upper left side (1124);
   a second upper face (1122) facing the first upper face (1121) and having an upper left side (1124') and

an upper right side (1125') opposite to the upper left side (1124'); and
an upper fold (1123) formed between the first upper face (1121) and the second upper face (1122);
wherein the two upper left sides (1124, 1124') are overlapped and the two upper right sides (1125, 1125') are overlapped, and the outward edge of the first upper face (1121) and the outward edge of the second upper face (1122) are opposite to the upper fold (1123), and the two outward edges are parallel;
wherein
the lower folded member (113) has
a first lower face (1131) having a lower left side (1134) and a lower right side (1135) opposite to the lower left side (1134);
a second lower face (1132) facing the first lower face (1131) and having a lower left side (1134') and a lower right side (1135') opposite to the lower left side (1134'); and
a lower fold (1133) formed between the first lower face (1131) and the second lower face (1132);
wherein the two lower left sides (1134, 1134') are overlapped and the two lower right sides (1135, 1135') are overlapped, and the outward edge of the first lower face (1131) and the outward edge of the second lower face (1132) are opposite to the lower fold (1133), and the two outward edges are parallel.

6. The foldable respirator according to claim 5, wherein the outward edge of the first upper face (1121) is connected to the upper end (1111) of the central region (111), and the distance from the upper fold (1123) to the outward edge of the first upper face (1121) or to the outward edge of the second upper face (1122) ranges from 3 millimeter (mm) to 60 mm, and the outward edge of the first lower face (1131) is connected to the lower end (1112) of the central region (111), and the distance from the lower fold (1133) to the outward edge of the first lower face (1131) or to the outward edge of the second lower face (1132) ranges from 3 mm to 60 mm.

7. The foldable respirator according to claim 6, wherein the two upper left sides (1124, 1124') are joined and the two upper right sides (1125, 1125') are joined, and the two lower left sides (1134, 1134') are joined and the two lower right sides (1135, 1135') are joined.

8. The foldable respirator according to claim 7, wherein the two upper left sides (1124, 1124') are bonded to the central region (111) and the upper part (12), and the two upper right sides (1125, 1125') are bonded to the central region (111) and the upper part (12), and the two lower left sides (1134, 1134') are bonded to the central region (111) and the lower part (13), and the two lower right sides (1135, 1135') are bonded to the central region (111) and the lower part (13).

9. The foldable respirator according to claim 6, wherein the upper left side (1124) and the upper right side (1125) of the first upper face (1121) are bonded to the central region (111), and the upper left side (1124') and the upper right side (1125') of the second upper face (1122) are bonded to the upper part (12), and the lower left side (1134) and the lower right side (1134') of the first lower face (1131) are bonded to the central region (111), and the lower left side (1135) and the lower right side (1135') of the second lower face (1132) are bonded to the lower part (13).

10. The foldable respirator according to any one of claims 5 to 9, wherein the upper part (12) has
an upper edge (121) connected to the outward edge of the second upper face (1122) and parallel with the upper end (1111) of the central region (111); and
a front edge (122) opposite to the upper edge (121);
wherein
the lower part (13) has
a lower edge (131) connected to the outward edge of the second lower face (1132) and parallel with the lower end (1112) of the central region (111); and
a bottom edge (132) opposite to the lower edge (131).

11. The foldable respirator according to claim 1, wherein the folded member has
a first upper folded member connected to the central region (111);
a second upper folded member connected to the first upper folded member; a third upper folded member connected to the second upper folded member and to the upper part (12);
a first lower folded member connected to the central region (111);
a second lower folded member connected to the first lower folded member; and
a third lower folded member connected to the second lower folded member and to the lower part (13).

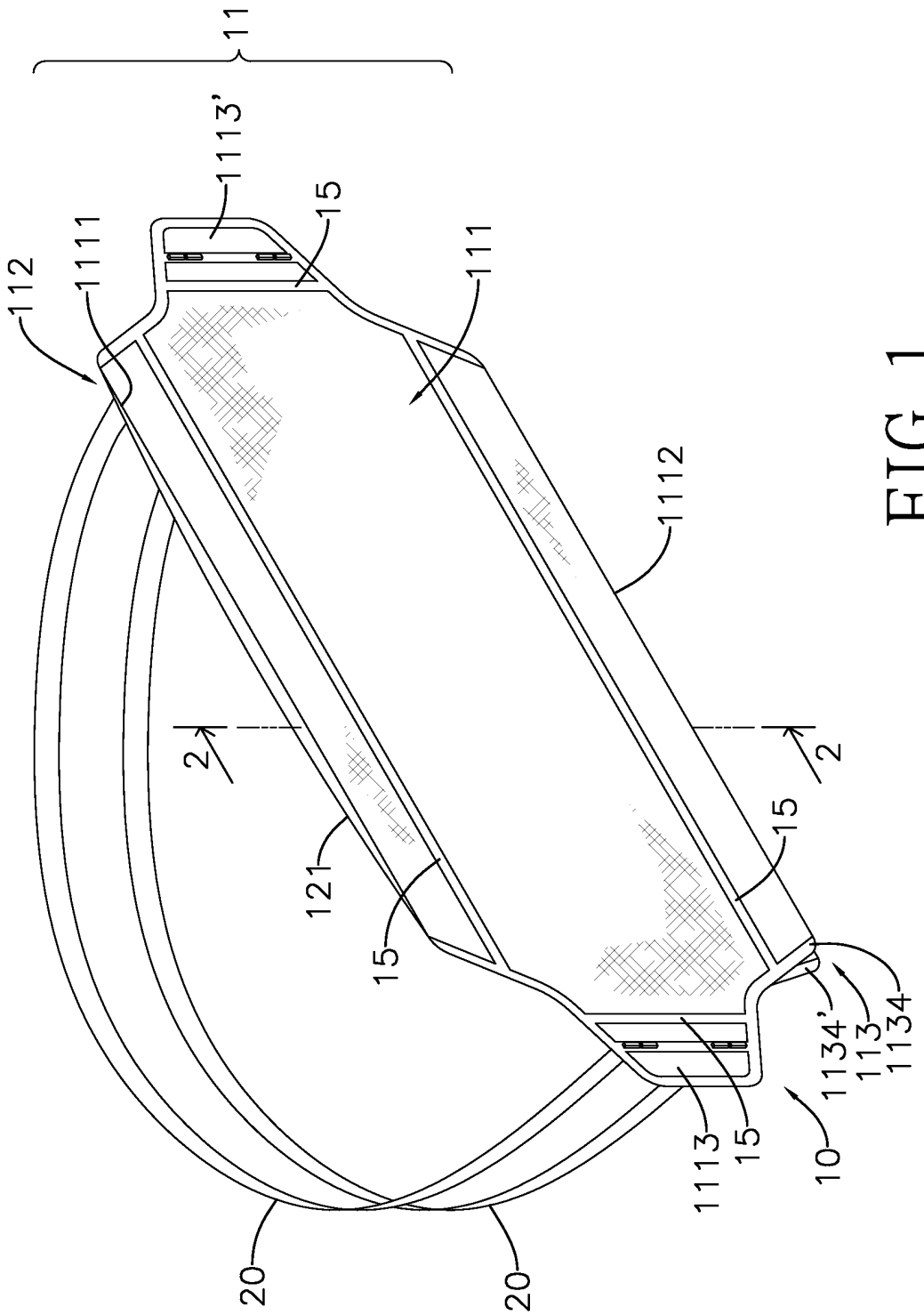
12. The foldable respirator according to any one of claims 1 to 11, wherein the band (20) is an elastic band binding to the binding area (1113, 1113').

13. The foldable respirator according to any one of claims 1 to 12, wherein the respirator body (10) has a stiff support (14), and the stiff support (14) is fixed in the central region (111) and the stiff support is malleable.

14. The foldable respirator according to any one of claims 1 to 13, wherein the respirator body (10) has a nose clip (17) in the upper part (12) or on the surface of the upper part (12).

15. The foldable respirator according to any one of claims 1 to 14, wherein the respirator body (10) has

foam in the upper part (12), and the respirator body (10) is made of multi-layer non-woven fabric that is spunbond whose basis weight ranges from 16 g/m^2 to 60 g/m^2, and the respirator body (10) has a filtration medium that is melt-blown non-woven.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1113'
15
1111
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15
1134'
113
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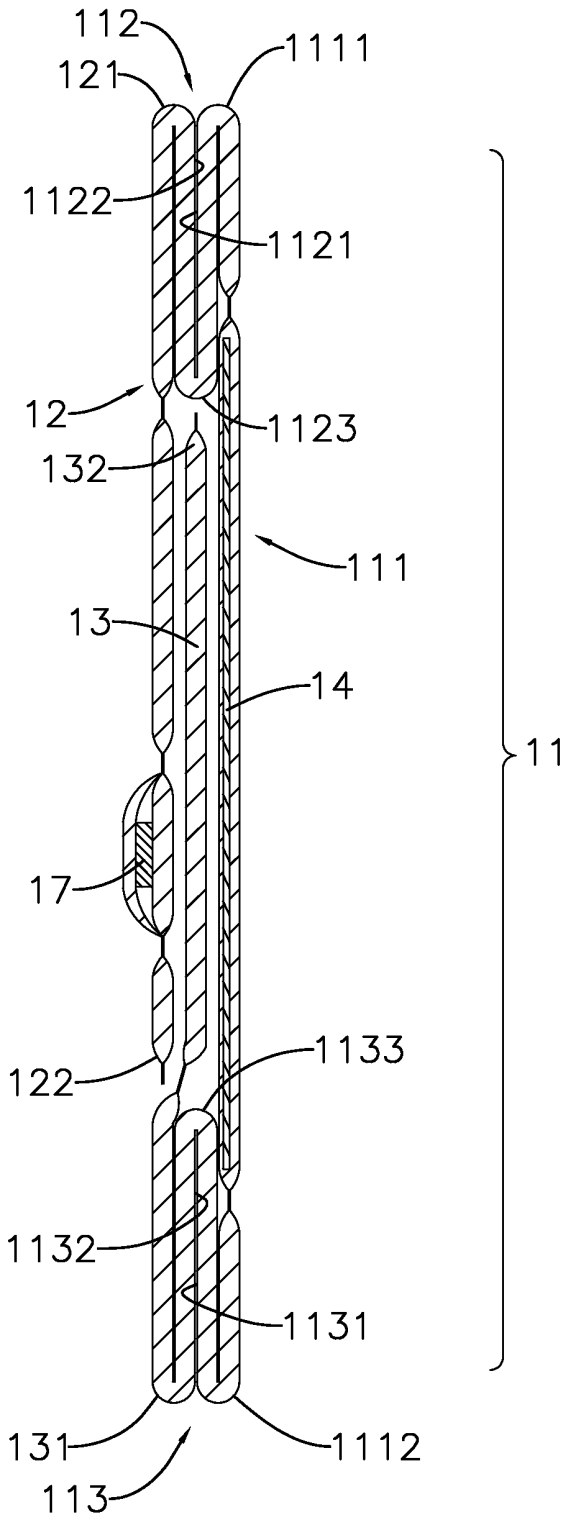
20
20

FIG. 1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1122
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1112
113

FIG. 2

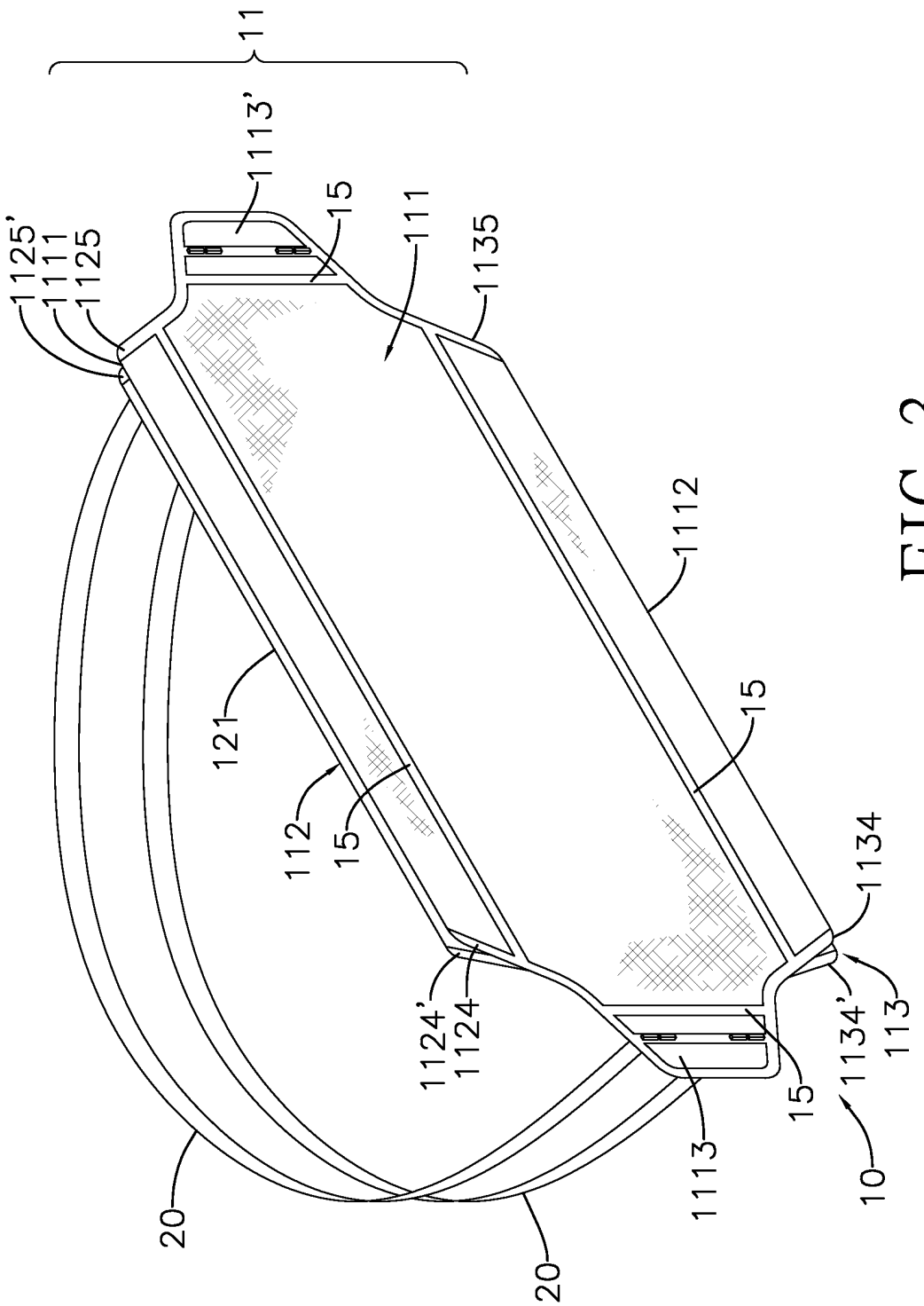
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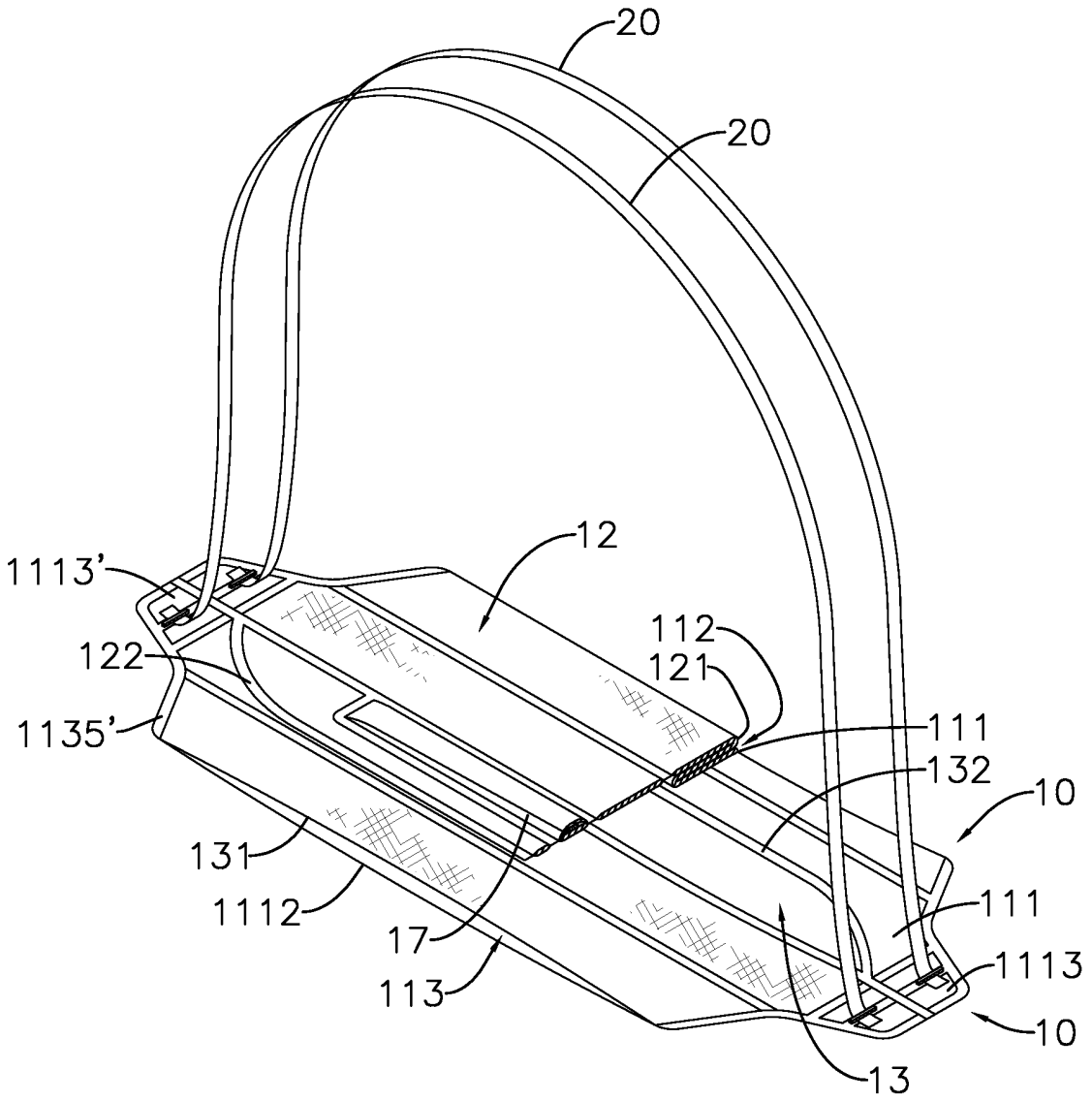
FIG. 3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20
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122
112
121
1135'
111
132
10
131
1112
17
113
111
1113
10
13

FIG.4

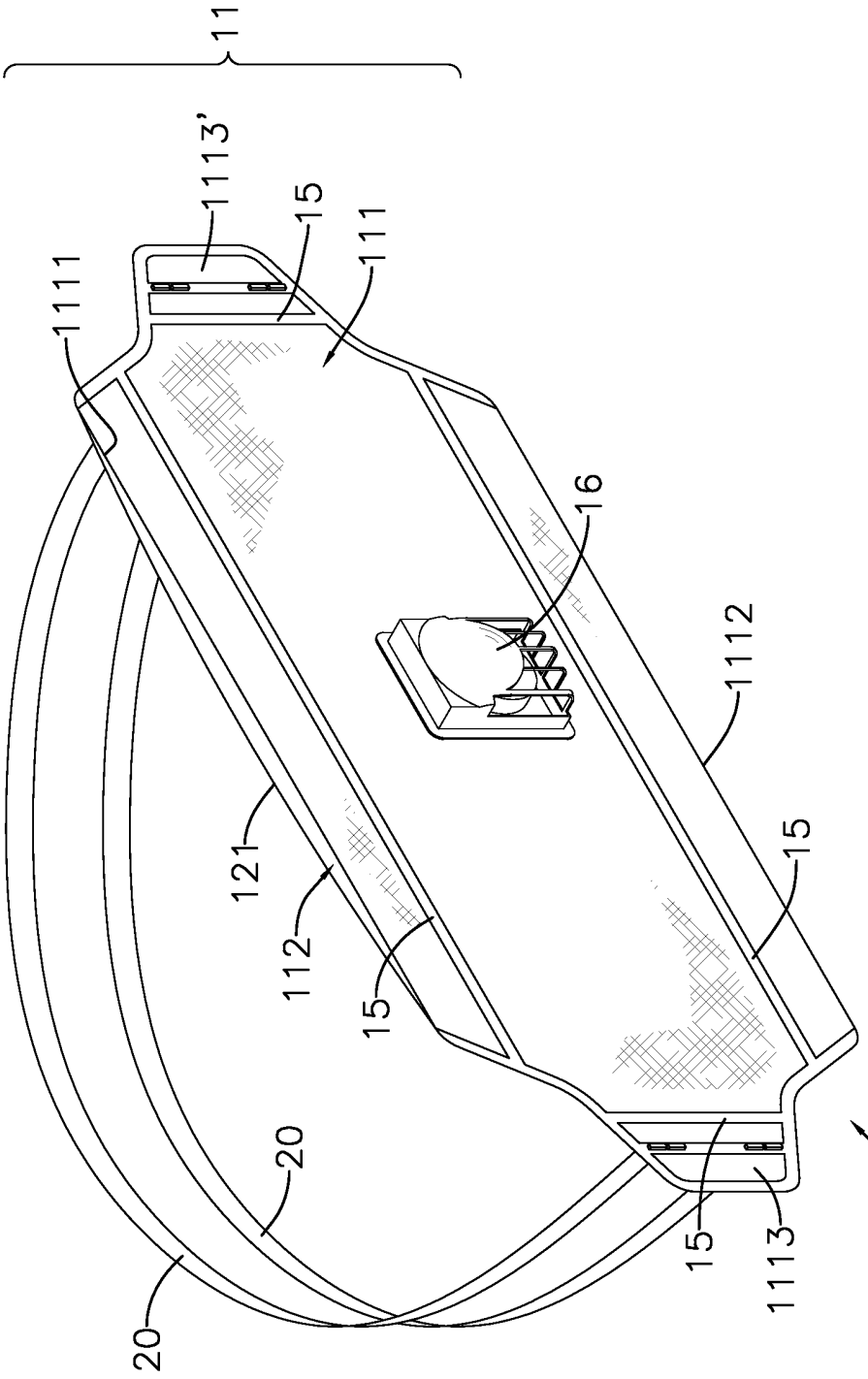

FIG. 5

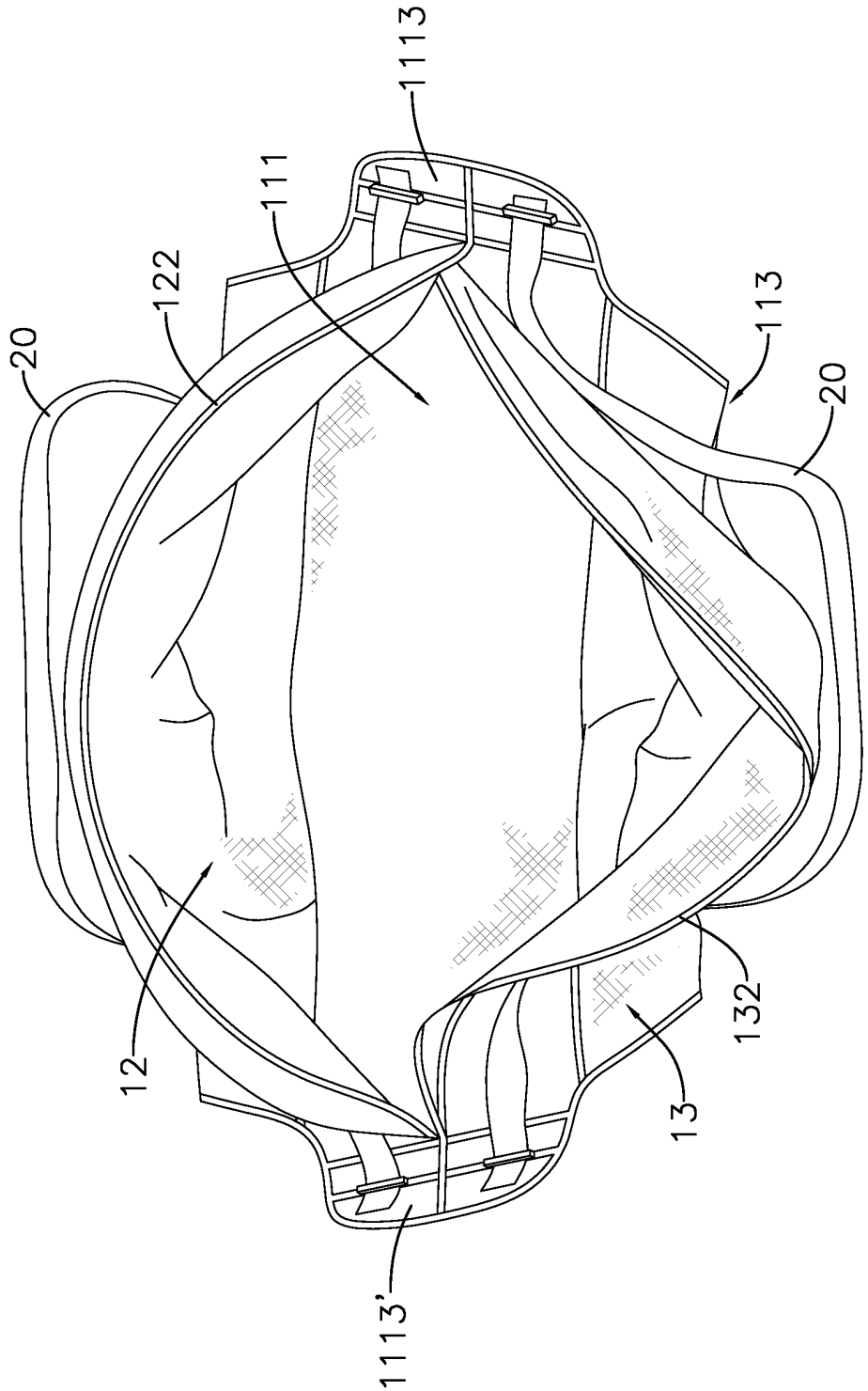

FIG.6

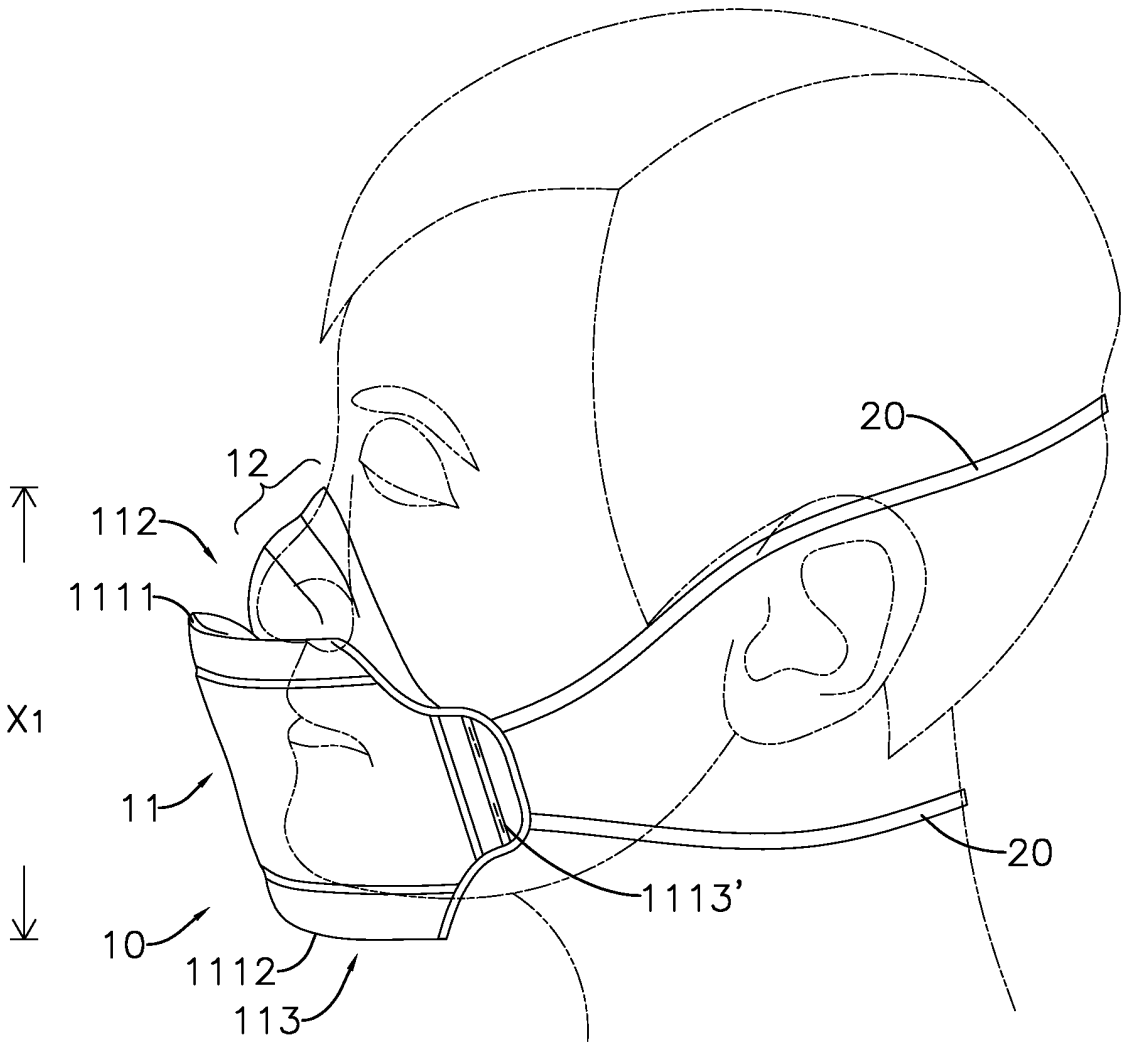

FIG. 7

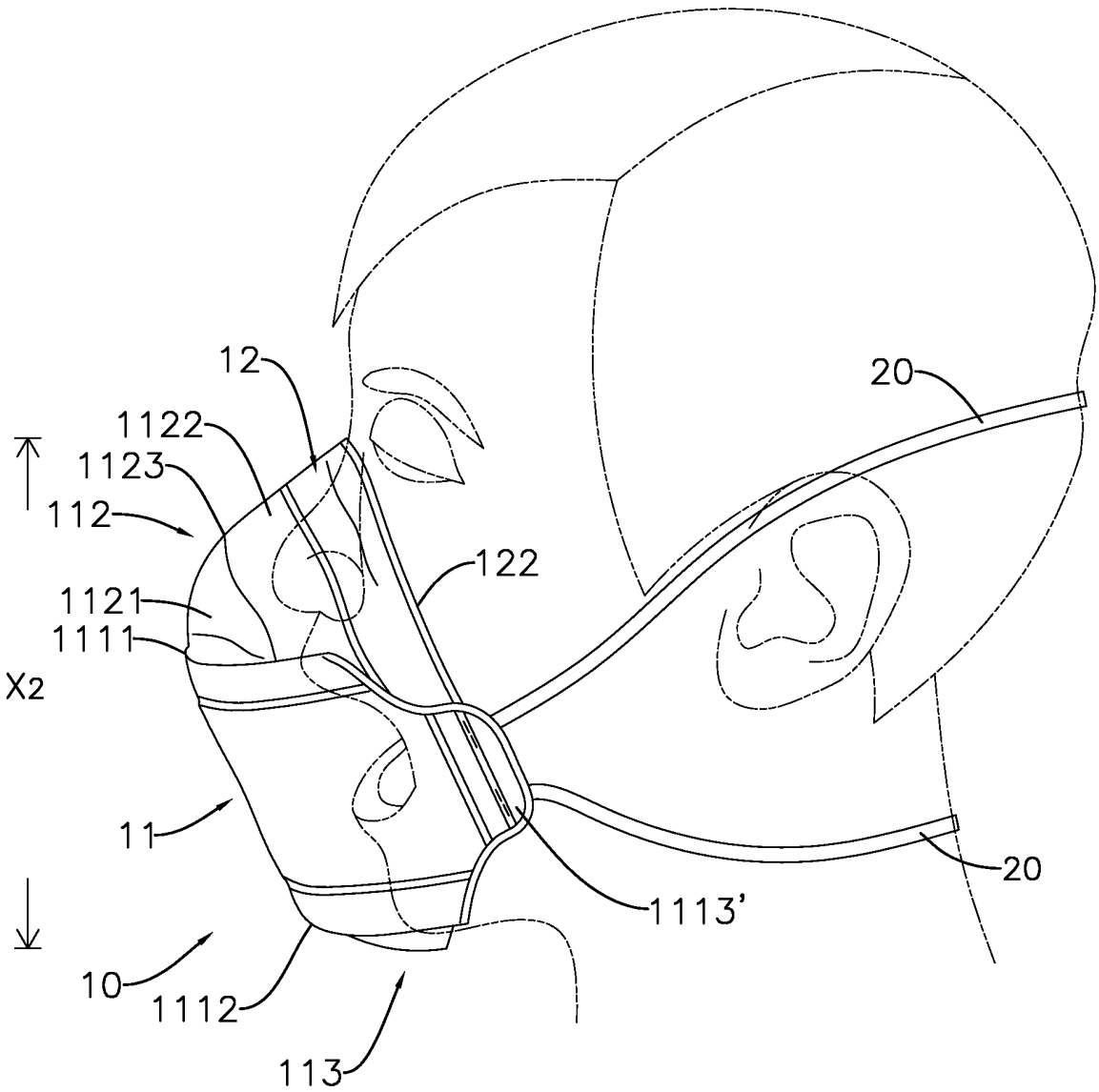

FIG.8

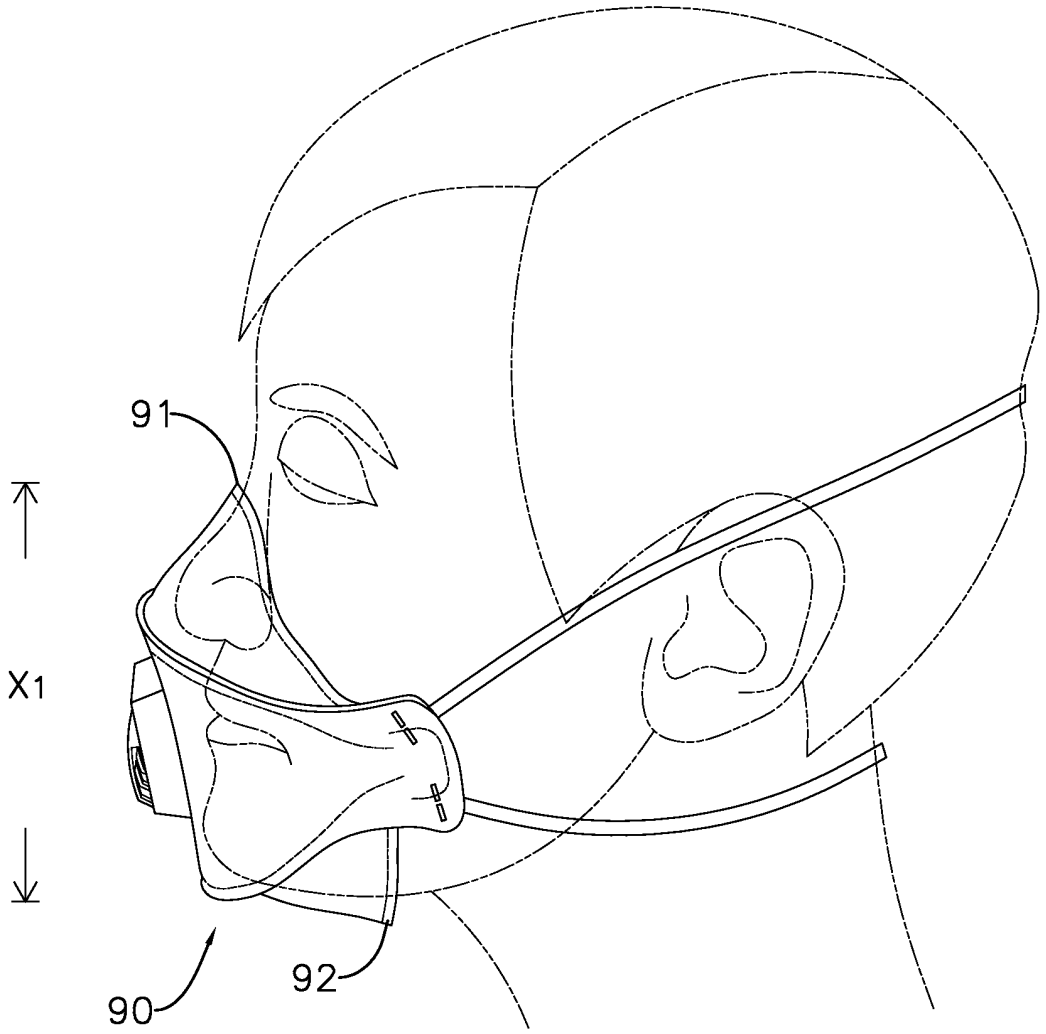

FIG.9
PRIOR ART

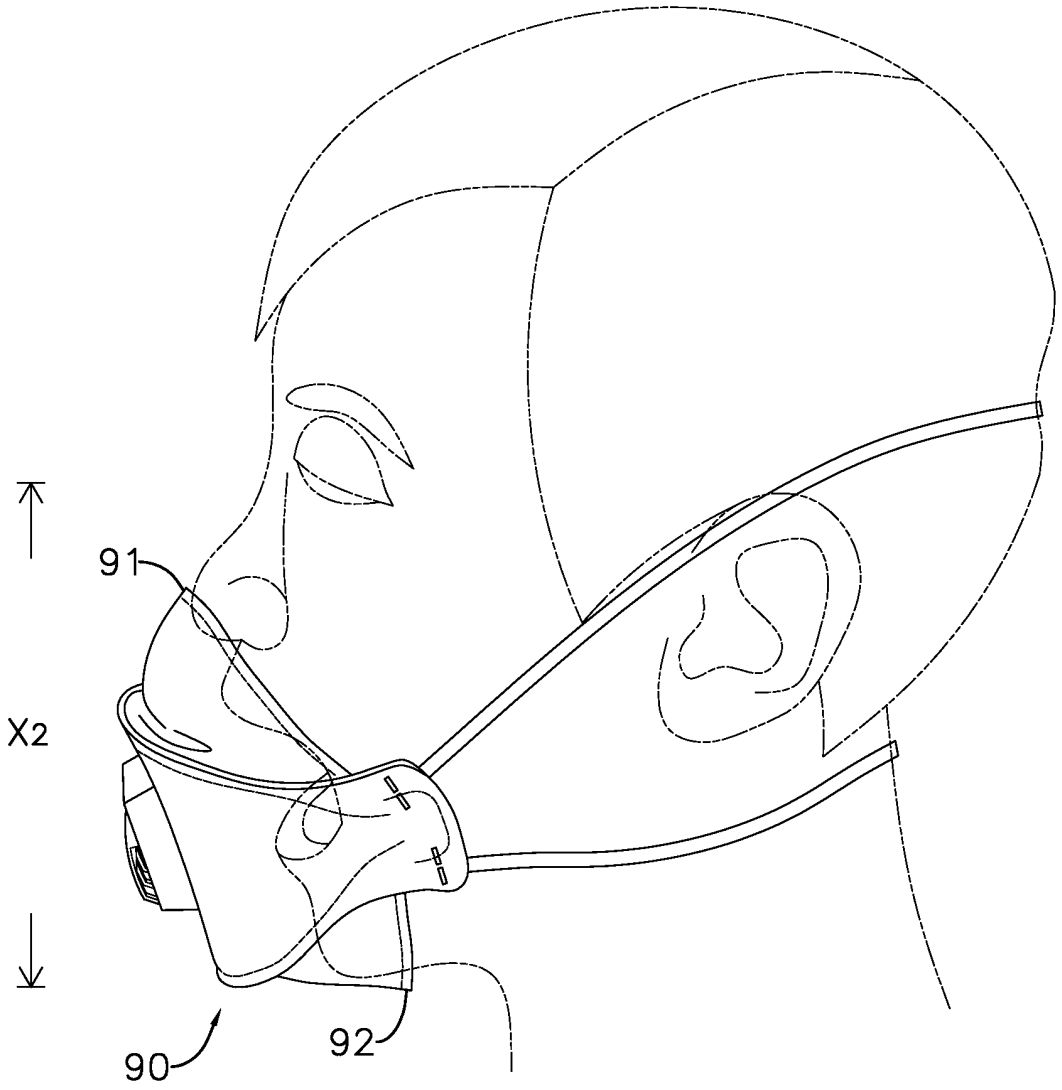

FIG.10
PRIOR ART

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 6123077 A **[0004] [0011]**