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(54) **A facemask having an aromatic capsule**

(57) A facemask comprising:

(a) a mask body, having an inner cover layer and an outer cover layer;
(b) two bands disposed at the two sides of said mask body

characterized by at least one press-to-crack aromatic capsule, fixed between said inner cover layer and said outer cover layer and provided with a composition containing a fragrance therein.

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Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention is related to facemasks having aromatic capsules, and more particularly, to a facemask having a press-to-crack aromatic capsule fixed within the facemask thereof, such that the facemask releases fragrances, dissolves unfavorable odors, and renews vigor through aroma therapy.

2. Description of Related Art

[0002] Facemasks are commonly used for separating the respiratory system of the wearer from the outside environment to prevent them from breathing in viruses, bacteria, or polluted air, thus filtering out viruses and bacteria making air cleaner for the wearer.

[0003] Refer to Fig. 1, which illustrates a partially exploded perspective diagram of a conventional facemask. The conventional facemask has a mask body 10 and two bands 30 disposed at the two sides of the mask body 10. The mask body 10 consists of an outer cover layer 10a and an inner cover layer lob. To enhance the functions of the facemask, various filtration layers such as activated carbon layers for adsorbing unfavorable smells are added to the outer cover layer 10a and the inner cover layer 10b.

[0004] However, after being used for a period of time, the conventional facemask is liable to produce some unfavorable smells due to the exhalations of the wearer. Moreover, breathing is impeded due to the multitude of layers of the mask. Over a period of time this causes the wearer to become dazed and unable to concentrate, thus affecting their work and/or ability to operate a vehicle safety.

[0005] Therefore, the inconvenience and disadvantages of the conventional facemask are intended to be improved.

SUMMARY OF THE INVENTION

[0006] The objective of the present invention is to provide a facemask with aromatic capsules, which a wearer can use the aromatic capsule placed therein when needed so that the wearer may enjoy a pleasant scent, avoid unfavorable odors, and maybe become revitalized.

[0007] To achieve the objective described above, this invention provides a facemask having aromatic capsules, wherein the facemask comprises a mask body having an inner cover layer and an outer cover layer, and with at least one press-to-crack aromatic capsule held fixed in between the inner cover layer and the outer cover layer, and two bands disposed at the two sides of the mask body. The aromatic capsule is provided with the fragrance therein. The inner layer and outer layer may be part of a multilayer structure. Accordingly, the multilayer structure comprises the inner layer and outer layer as any two adjacent layers of the multiple layers.

[0008] Specifically, the present invention provides a facemask comprising:

(a) a mask body, having an inner cover layer and an outer cover layer;
(b) two bands disposed at the two sides of said mask body

characterized by at least one press-to-crack aromatic capsule, fixed between said inner cover layer and said outer cover layer and provided with a composition containing a fragrance.

[0009] A press-to-crack aromatic capsule is a container wherein a composition containing a volatile fragrance may be stored in a sealing manner over an extended period of time, said container being adapted to be activated by mechanical force or impact so as to liberate the fragrance in a controlled manner over a certain time. Preferably, the press-to-crack aromatic capsule is provided with one or more predetermined breaking points which provide defined openings in the press-to-crack aromatic capsule for the fragrance to dissipate.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The foregoing aspects and many of the attendant advantages of this invention will become more readily appreciated as the same becomes better understood by reference to the following detailed description, when taken in conjunction with the accompanying drawings, wherein:

Fig. 1 is a partially exploded perspective of a conventional facemask;

Fig. 2 is a partially exploded perspective showing the facemask having an aromatic capsule in accordance with this invention;

Fig. 3 is a cross-sectional view along the transverse of the aromatic capsule of the facemask in accordance with this invention; and

Fig. 4 is a schematic diagram showing the aromatic capsule of Fig. 3 after it has been pressed.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0011] Referring to Fig. 2, a facemask 1 having an aromatic capsule provided by this invention comprises a mask body 10 having an outer cover layer 10a and an inner cover layer 10b, and a respective band 30 disposed at the two sides thereof for looping around the ears of the wearer. A bridge attachment piece 11 is disposed on

the mask body 10 to enable the facemask 1 to be more closely fitted to the bridge of the nose of the wearer, such that the facemask is able to filtrate air efficiently.

[0012] This invention is characterized by one or more aromatic capsules 20 provided with the mask body 10, either within or outside the mask body 10. Most preferably, the one or more of aromatic capsules 20 is provided between the outer cover layer 10a and the inner cover layer lob as shown in Fig.2. Alternatively, a fixer 22 in transverse bar shape for wrapping around and positioning the plurality of aromatic capsules 20 is placed between the outer cover layer 10a and the inner cover layer 10b through binding or stitching. If the inner layer and outer layer are part of a multilayer structure, the multilayer structure may comprise the fixer between any two adjacent layers of the multiple layers. The one or more of aromatic capsules 20 can be placed fixed at the two ends of the bridge attachment piece 11 or fixed adjacent to the nostrils. In particular, the aromatic capsules may be provided at the two ends or at the top and bottom sides of the bridge attachment piece, within the same two adjacent layers holding the attachment piece or in different adjacent layers, or on either of the exposed surfaces of the facemask. Since the aromatic capsule 20 is small, the wearer's breathing will not be affected.

[0013] Referring to Figs. 3 and 4, the aromatic capsule 20 is sealed ordinarily so as to prevent the aroma or fragrance from dissipating. The material used for the capsules can be easily snapped open when pressed upon. Each aromatic capsules 20 can further be filled with adsorbent 24 for adsorbing liquid fragrances. Before wearing the facemask, the wearer presses the aromatic capsule 20 so that the fragrance contained in the aromatic capsule 20 starts its gradual release. In preferred embodiment, the fragrance is released over a period of from 30 minutes to 5 hours, more preferably 1 hour to 4 hours. The fragrance is released essentially according to a 0 order kinetics. The fragrance may be selected from aliphatic compounds, such as aliphatic hydrocarbons, aliphatic alcohols, aliphatic aldehydes, aliphatic acetals, aliphatic ketones, aliphatic acids, and aliphatic esters; acyclic terpenes such as acyclic terpene and sesquiterpene hydrocarbons, acyclic terpene and sesquiterpene alcohols, acyclic terpene and sesquiterpene aldehydes, acyclic terpene and sesquiterpene acetals, acyclic terpene and sesquiterpene ketones, acyclic terpene and sesquiterpene acids, and acyclic terpene and sesquiterpene esters; cyclic terpenes such as cyclic terpene hydrocarbons, cyclic terpene alcohols, cyclic terpene ethers, cyclic terpene aldehydes, cyclic terpene ketones, cyclic terpene esters; other cycloaliphatic which are not cyclic terpenoids; aromatic compounds such as aromatic hydrocarbons, aromatic alcohols, aromatic ethers, aromatic aldehydes, aromatic acetals, aromatic ketones, esters of araliphatic alcohols and aliphatic acids, aromatic acids, esters derived from aromatic and araliphatic acids; phenols and phenol derivatives, such as phenols, phenyl esters, and phenyl ethers, phenol alcohols and their esters, phenol aldehydes, phenol ketones, and phenol carboxylates; O- and O,S-heterocycles such as cyclic ethers, lactones, and glycidates; and N- and N,S-heterocycles.

[0014] The adsobent may be any material capable of adsorbing the specific fragrance used in the facemask according to the invention. Specifically, the adsorbent material may be selected from inorganic or organic powders, fibers, or woven or nonwoven fabrics.

[0015] Since the material of the mask body 10 is also liquid absorbable, the closing part 26 of the aromatic capsule 20, which is also the cracked part 26 when pressed, can be placed inside the facemask adjacent to the inner cover layer 10b. When the aromatic capsule 20 is cracked, the fragrance is adsorbed by the inner cover layer lob of the mask body 10 as to be nearer to the wearer.

[0016] The facemask having an aromatic capsule of this invention is not limited to the planar type facemasks. Any type of facemask in which an aromatic capsule can be sandwiched between the layers of the facemask can use this invention.

[0017] Furthermore, the facemask having an aromatic capsule of this invention can contain a fragrance component able to adsorb and dissolve unfavorable odors. Moreover, it can contain one or more sterilization components.

[0018] When the conventional facemask collects sweat or other bodily fluids and is giving off unfavorable odors, the aromatic capsule 20 can be pressed to adsorb and dissolve the unfavorable odors to provide the wearer with a more pleasant smell, and thus making the wearer feel more comfortable and in better mood. Moreover, because the fragrance is stored in the capsule to keep from dissipating, the storage life of this facemask is simultaneously prolonged. In addition, since breathing is somewhat affected when wearing the facemask, the aromatic capsule may contain revitalizing fragrance component such as mint, camphor or borneol to reinvigorate the wearer. For example, when operating surgeons have to wear facemasks for a long time and are unable to take them off, then they can press the aromatic capsule to reenergize themselves. Alternatively, when riding a motorcycle, the wearer can press the aromatic capsule if they are feeling tired or unable to concentrate well.

[0019] The invention may be embodied in other specific forms without departing from the Sprit or essential characteristics thereof. The present embodiments are therefore to be considered in all respects as illustrative and not restrictive, with the scope of the invention being indicated by the appended claims rather than by the foregoing description and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

Claims

1. A facemask comprising:

   (a) a mask body, having an inner cover layer and an outer cover layer;
   (b) two bands disposed at the two sides of said mask body

   characterized by at least one press-to-crack aromatic capsule, fixed between said inner cover layer and said outer cover layer and provided with a composition containing a fragrance therein.

2. The facemask having an aromatic capsule as claimed in claim 1, further comprises a fixer (22) for fixing said at least one press-to-crack aromatic capsule.

3. The facemask having an aromatic capsule as claimed in claim 2, further comprises a bridge attachment piece (11) disposed at the upper edge of said mask body, wherein said fixer is in a transverse bar shape to wrap around and hold fixed said at least one aromatic capsule at the two ends of said bridge attachment piece or at the top and bottom sides of the said bridge attachment piece.

4. The facemask having an aromatic capsule as claimed in claim 1, wherein said at least one aromatic capsulefurther contains an adsorbent for adsorbing liquid fragrances.

5. The facemask having an aromatic capsule as claimed in claim 1, wherein the capsule comprises a closing part (26) provided within the said facemask adjacent to the said inner cover layer.

6. The facemask of claim 5, wherein the closing part is the cracking part when pressed.

7. The facemask having an aromatic capsule as claimed in claim 1, wherein said at least one aromatic capsule contains a fragrance component able to adsorb and dissolve unfavorable odors.

8. The facemask having an aromatic capsule as claimed in claim 1, wherein said at least one aromatic capsule contains a revitalizing fragrance component.

9. The facemask of anyone of the preceding claims wherein the fragrance is released over a period of from 30 minutes to 5 hours, preferably 1 hour to 4 hours.

10. The facemask of claim 9, wherein the fragrance is released essentially according to a 0 order kinetics.

11. The facemask of claim 9 or 10, wherein the rate of release is controlled by an adsorbent component of the composition.

12. The facemask of any one of the preceding claims wherein the composition further contains a sterilizing component.

13. The facemask of any one of claims 1, 2 and 4 to 12, wherein the aromatic capsules are provided at the two ends or at the top and bottom sides of a bridge attachment piece, within the same two adjacent layers holding the attachment piece or in different adjacent layers, or on either of the exposed surfaces of the facemask.

14. The facemask of any one of the preceding claims, wherein the inner layer and outer layer are part of a multilayer structure comprising the inner layer and outer layer as any two adjacent layers of the multiple layers.

15. Use of a facemask as defined by any one of the preceding claims, which comprises the step of activating a press-to-crack aromatic capsule.

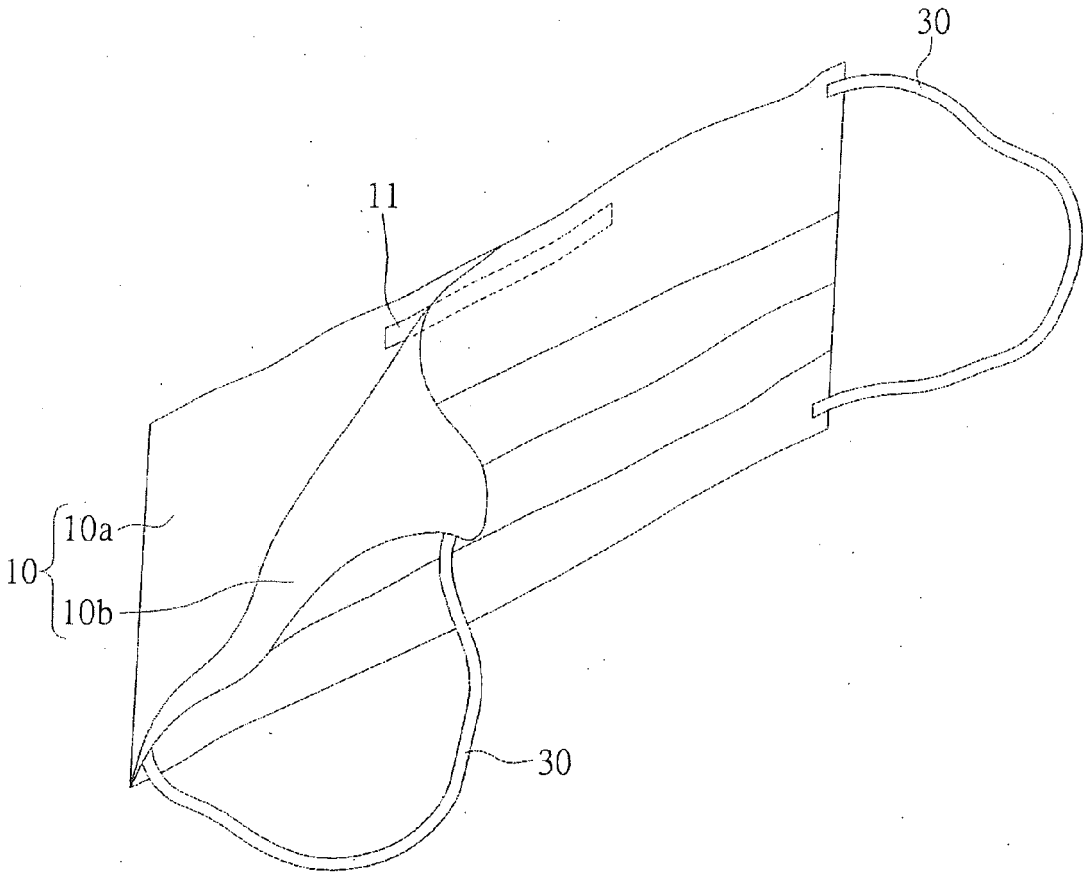

FIG. 1
PRIOR ART

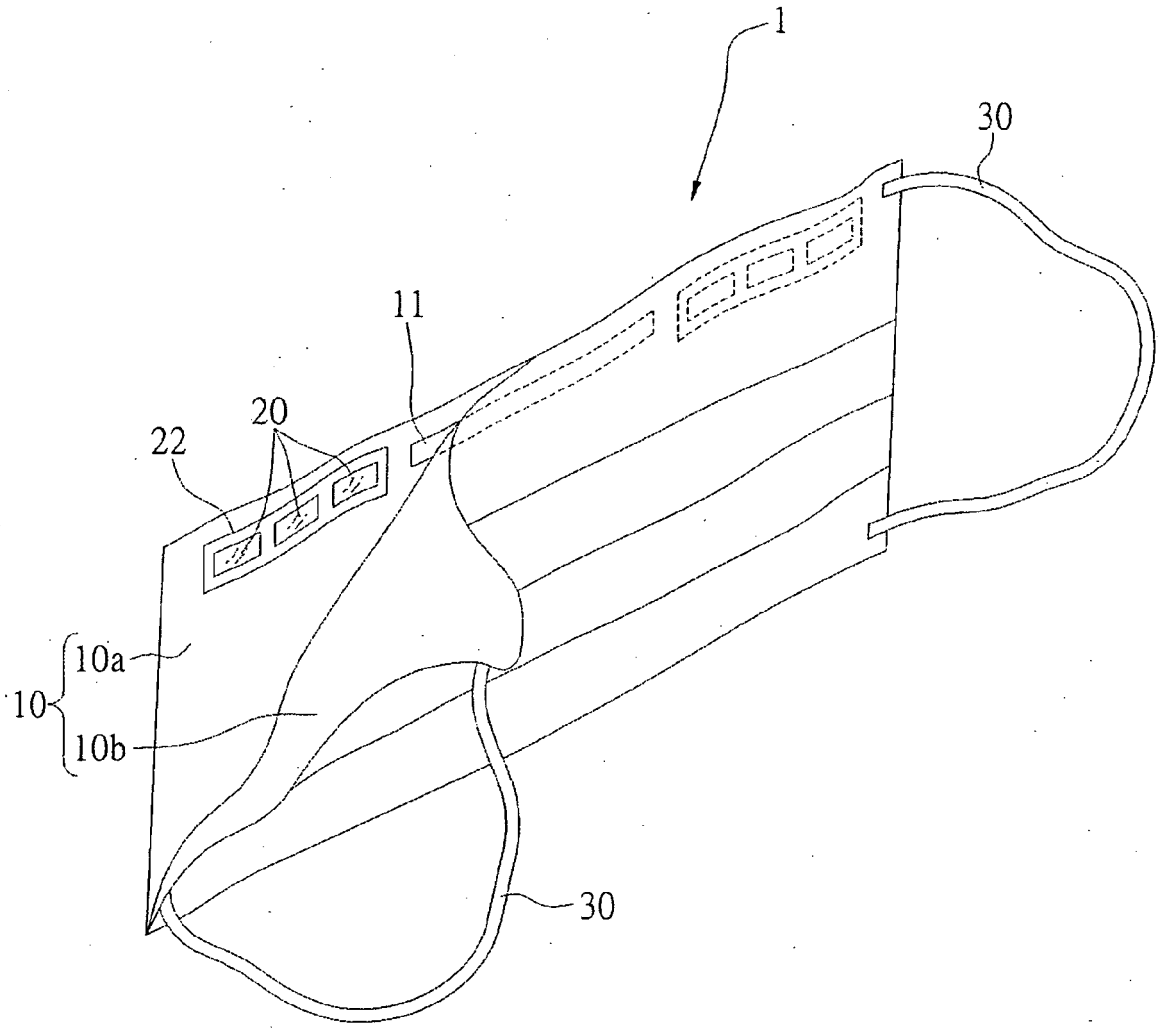

FIG. 2

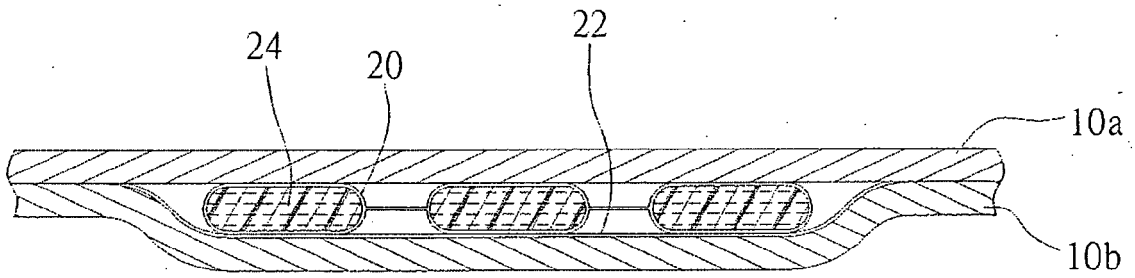

FIG. 3

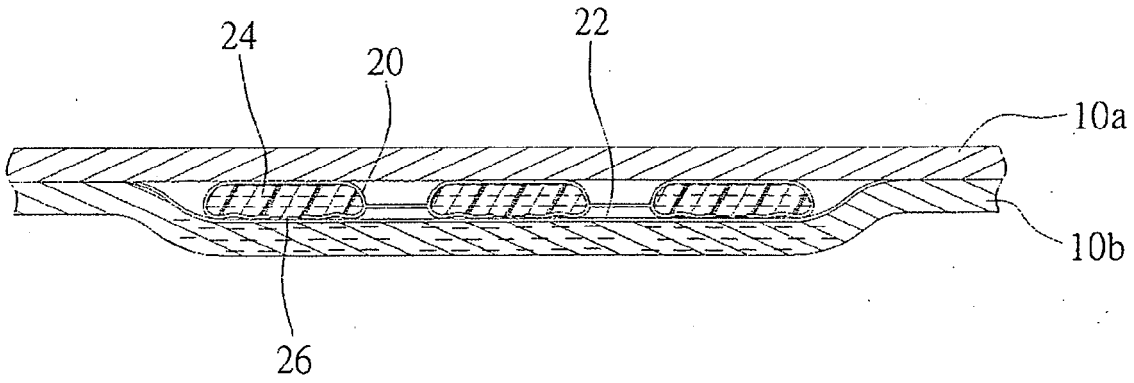

FIG. 4

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EUROPEAN SEARCH REPORT

Application Number
EP 04 02 9728

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Y	US 4 503 851 A (BRAUNROTH ET AL) 12 March 1985 (1985-03-12)	1,2, 4-12,14, 15	A41D13/11
A	* column 3, line 9 - line 39; figures 1-7 *	3,13	

Y	US 4 790 307 A (HABER ET AL) 13 December 1988 (1988-12-13)	1,2, 4-12,14, 15	
A	* column 2, line 23 - column 4, line 5; figures 1-7 *	3,13	

A	US 4 271 834 A (TANAKA ET AL) 9 June 1981 (1981-06-09) * column 2, line 13 - line 65; figures 1-3 *	1-15	

			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			A41D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	2 June 2005	Henningsen, O

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 04 02 9728

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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02-06-2005

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82