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(54) **AEROSOL GENERATING DEVICE HOLDER**

(57) A holder 8 is disclosed comprising a mouthpiece end 10 and an aerosol generating device end 12 for accommodating an aerosol generating device 2, such as a smoking article. The holder 8 has a longitudinal fold line 14 about which first and second holder portions 18, 20 of the holder can be folded between an unassembled

configuration and an assembled configuration. In the assembled configuration longitudinal free edges 19, 21 of the first and second holder portions are joined together to accommodate the aerosol generating device 2 and to provide an airflow channel that extends from the mouthpiece end 10 to the aerosol generating device end 12.

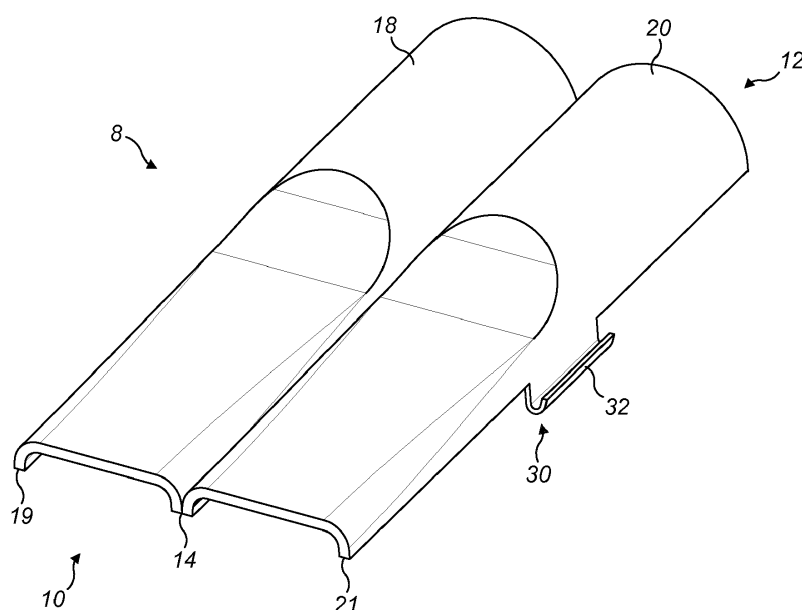


FIG. 1

Description

[0001] The present invention relates to a holder for an aerosol generating device such as a smoking article.

[0002] Personal hygiene and freshness is an important consideration for cigarette smokers. Side stream smoke is generated at the lit end of a conventional cigarette and this can flow towards a user's fingers causing potential discolouration and a lingering smell. Similar issues can arise with other aerosol generating devices, such as heat-not-burn devices. Holders are well known for positioning the fingers further away from the lit end and therefore reducing the interaction between fingers and side stream smoke. However, these cigarette holders are often bulky items that are purchased separately from a packet of cigarettes. For these reasons it is not always convenient or possible to use a cigarette holder, and an object of the present invention is to address this issue.

[0003] According to an aspect of the present invention there is provided a holder for an aerosol generating device, comprising: a first holder portion and a second holder portion pivotally arranged about a fold line, wherein each of the first and second holder portions extend in a longitudinal direction parallel to the fold line and comprise a mouthpiece end, an aerosol generating device end and a longitudinal free edge, and wherein the holder can be folded about the fold line between an unassembled configuration and an assembled configuration, wherein in the assembled configuration the longitudinal free edges of the first and second holder portions are joined together to accommodate the aerosol generating device and to provide an airflow channel that extends from the mouthpiece end to the aerosol generating device end.

[0004] In this way, the smoking article holder can be easily assembled by joining together the longitudinal free edges of the first and second holder portions. In its unassembled configuration the holder can be accommodated within a packet, such as a packet of cigarettes, so that it can be easily accessed by a user.

[0005] Preferably the holder provides substantially no inner volume in its unassembled configuration. This substantially reduces the amount of volume occupied by the holder in its unassembled configuration which means that the holder can easily be accommodated within a small volume, such as a smoking article container.

[0006] Preferably the fold line is a longitudinal fold line that is provided centrally between the first and second holder portions. This provides a symmetric holder having two halves, which correspond to the first and second holder portions. In its assembled configuration the longitudinal free edges are preferably joined together at a position that is diametrically opposite the fold line. Any of a number of techniques can be used for joining together the longitudinal free edges; in one example a hook or flap can be provided on one longitudinal free edge to engage with a complementary feature on the other longitudinal free edge.

[0007] Preferably the holder is made of a paper mate-

rial. This means that the holder can be easily folded about the fold line and can be produced at low cost. In one example, the holder may be injection moulded.

[0008] In its assembled configuration, the mouthpiece end preferably has a non-circular cross-sectional shape with a major axis and a minor axis, wherein the major axis is longer than the minor axis. The aerosol generating device end is preferably substantially circular in its assembled configuration so that it can accommodate an aerosol generating device such as a smoking article.

[0009] The distance from the mouthpiece end to the aerosol generating device end may be at least 20mm, and preferably at least 25mm. It has been found that this is a sufficient additional separation from the user's fingers to the lit end to noticeably decrease the undesirable effects of side stream smoke.

[0010] According to another aspect of the invention there is provided a plurality of holders as defined above, wherein the plurality of holders are nested together in their unassembled configurations. In this way, the volume occupied by a stack of holders can be reduced as much as possible so that they can easily be accommodated within a container.

[0011] According to another aspect of the invention there is provided a container comprising: a first compartment for accommodating a plurality of aerosol generating devices; and a second compartment for accommodating the holder as previously defined.

[0012] Embodiments of the invention are now described, by way of example, with reference to the drawings, in which:

Figure 1 is a perspective view of a holder in an unassembled configuration in an embodiment of the invention;

Figure 2 is a schematic perspective view showing flaps that can join together longitudinal edges of a holder in an embodiment of the invention;

Figure 3A is a front view of an arrangement including a smoking article with a holder in its assembled configuration, in an embodiment of the invention;

Figure 3B is a side view of the arrangement shown in Figure 3A;

Figure 4 is a perspective view of a holder in an assembled configuration, separated from a smoking article in an embodiment of the invention;

Figure 5 is a perspective view of a holder in an assembled configuration, joined with a smoking article in an embodiment of the invention;

Figure 6 is a perspective view of three holders nested together in their unassembled configurations in an embodiment of the invention; and

Figure 7 is a cross-sectional view of a container including a compartment with smoking articles and a compartment with holders in an embodiment of the invention.

[0013] Figure 1 is a perspective view of a holder 8 for an aerosol generating device in an unassembled configuration. The holder 8 has a first portion 18 and a second portion 20, provided on either side of a longitudinal fold line 14. First and second longitudinal free edges 19, 21 are provided in the first and second portions 18, 20 respectively, and these edges 19, 21 are parallel with the fold line 14. The holder 8 is made of injection moulded paper and comprises a mouthpiece end 10 and an aerosol generating device end 12.

[0014] The holder 8 is assembled by folding the first and second portions 20 about the longitudinal fold line 14 until the first and second longitudinal free edges 19, 21 come into contact with one another. In this position the first and second longitudinal free edges 19, 21 can be joined together.

[0015] In this example embodiment the second portion 20 includes a tab 30 that projects from the second longitudinal free edge 21. The tab 31 includes a flap 32 that is folded outwardly from the remainder of the holder 8. As shown schematically in Figure 2, when the first and second portions 18, 20 are folded about the fold line 14, the flap 32 is configured to engage with a corresponding flap 28 that is provided on the first longitudinal free edge 19, and which is folded inwardly, towards the remainder of the holder 8. In this way, the flaps 28, 32 can engage with one another when the flap 32 is slid radially inwardly of the flap 28 as the first and second longitudinal edges 19, 21 come together. This creates a connection between the first and second longitudinal free edges 19, 21 so that they do not come apart and so that the holder 8 can remain in its assembled configuration.

[0016] A wide variety of alternative techniques can be used to join together the first and second longitudinal free edges 19, 21. One technique, as exemplified by Figure 2, involves providing a flap or hook on one longitudinal free edge that can engage with a flap or hook on the other longitudinal free edge. Another technique simply involves gluing the first and second longitudinal free edges 19, 21 together. Such gluing could be allowed through the provision of non-permanent adhesive (of the kind found on re-stickable papers such as Post-it®) on the free edges 19, 21 of each half 18, 20 of the mouthpiece. Alternatively, it could also be granted by permanent adhesive arranged on at least one of the longitudinal free edges 19, 21, which permanent adhesive is covered with a removable, protective, liner material which a user would remove before adjoining the free edges against each other to form the assembled mouthpiece 8.

[0017] Figures 3A, 3B, 4 and 5 show the smoking article holder 8 in its assembled configuration. The assembled holder 8 can receive an end of an aerosol generating device 2, which may be a smoking article 2 having a

tobacco rod 4 and a filter 6. The reference to a smoking article 2 shall in the context of the present invention and description not be construed as limited to cigarettes or other kinds of tobacco products requiring burning of tobacco material to generate an aerosol inhaled by a user. The terms smoking article shall to the contrary apply and be construed to also encompass any kind of aerosol generating devices making use of tobacco containing substrates, be it plain tobacco leaves, tobacco cut-filler, re-constituted tobacco or tobacco extracts in all forms, for generating an inhalable aerosol through any kind of heating technique. It may in particular encompass any heat-not-burn tobacco containing consumable device used in connection with a filter for consumption by users.

[0018] In its assembled configuration the holder 8 has an inner volume defined between the first and second portions 18, 20, within which an airflow channel extends from the aerosol generating device end 12 to the mouthpiece end 10. The holder 8 has a circular cross-sectional shape at the aerosol generating device end 12 so that it can accommodate the filter end 6 of the smoking article 2. The cross-sectional shape of the holder 8 is different at the mouthpiece end 10, as shall be explained, so that the holder 8 is shaped substantially like the mouthpiece of a whistle.

[0019] The mouthpiece end 10 has a cross-sectional shape defined by a major axis and a minor axis. The major axis extends between the longitudinal fold line 14 and the first and second longitudinal free edges 19, 21 where they are joined together. The major axis is longer than the minor axis to provide a cross-sectional shape that is like an athletics track, constructed of a rectangle with semicircles at opposite sides. The cross-sectional shape of the holder 8 is substantially constant from the mouthpiece end 10 to a position that is around one half to two thirds of the length of the holder 8. At this point the cross-sectional shape changes in a gradual way, and flares outwardly towards a circular cross-sectional shape. The circular cross-sectional shape is provided between this position and the aerosol generating device end 12 of the holder 8. The flared shape of the holder 8 can provide a limit to the depth of insertion of the aerosol generating device 2 within the holder 8.

[0020] As shown in Figure 3B, the aerosol generating device 2 is inserted into the aerosol generating device end 12 of the holder 8, in use. Alternatively, the holder 8 can be assembled around the end of the aerosol generating device 2, such that the aerosol generating device 2 is positioned in one of the first and second portions 18, 20, and then the holder 8 is folded about the fold line 14 so that the aerosol generating device 2 is captured within the assembled holder 8. When fully inserted in the holder 8, the aerosol generating device 8 is separated from the mouth end 10 of the holder by approximately 27mm. It has been found that this provides enough separation to significantly reduce the interaction between a user's fingers and the side stream smoke or aerosol that is generated during use. In other embodiments the distance

from the aerosol generating device 2, when fully inserted, and the mouthpiece end 10 may be at least 20mm, and preferably at least 25mm.

[0021] Figure 6 is a perspective view of three holders 8a, 8b, 8c. The holders 8a, 8b, 8c are shown in a stacked configuration. This provides a compact arrangement of holders 8. When a user requires a single holder it can be easily separated from the stack for use, while the remaining holders can remain unassembled and occupying as small a volume as possible. The holders 8 are neatly stacked above or below one another because the adjacent first and second portions 18, 20 of respective holders have shapes that conform with one another. This allows a number of smoking article holders 8 to be nested within one another so that they occupy a small combined volume.

[0022] Figure 7 is a cross-sectional view of a smoking article container 22 including a first compartment 24 with smoking articles 2 and a second compartment 26 with holders 8. Twenty smoking articles 2 in the first compartment 24 are provided in a standard 7-6-7 configuration. Twenty holders 8 are provided stacked one on top of the other. This allows production of a container that can contain twenty smoking articles and twenty holders. The smoking article holders 8 can therefore be packaged with the smoking articles 2 and designed for a single use.

Claims

1. A holder for an aerosol generating device, comprising:

a first holder portion and a second holder portion pivotally arranged about a fold line;
each of the first and second holder portions extending in a longitudinal direction parallel to the fold line and comprising a mouthpiece end, an aerosol generating device end and a longitudinal free edge;
wherein the holder can be folded about the fold line between an unassembled configuration and an assembled configuration, wherein in the assembled configuration the longitudinal free edges of the first and second holder portions are joined together to accommodate the aerosol generating device and to provide an airflow channel that extends from the mouthpiece end to the aerosol generating device end.

2. The holder of claim 1, wherein the fold line is provided centrally between the first and second holder portions.
3. The holder of claim 1 or claim 2, wherein the holder is made of a paper material.
4. The holder of claim 3, wherein the holder is injection

moulded.

5. The holder of any of the preceding claims, wherein, in the assembled configuration, the mouthpiece end has a non-circular cross-sectional shape with a major axis and a minor axis, wherein the major axis is longer than the minor axis.
6. The holder of any of the preceding claims, wherein the distance from the mouthpiece end to the aerosol generating device end is at least 20mm, and preferably at least 25mm.
7. The holder of any of the preceding claims wherein a connection mechanism is provided on each longitudinal free edge so that the longitudinal free edges can be joined together in the assembled configuration.
8. The holder of claim 7, wherein the connection mechanism comprises a flap or a hook.
9. A plurality of the holders of any of the preceding claims, wherein the plurality of smoking article holders are nested together in their unassembled configurations.
10. A container comprising:
 - a first compartment for accommodating a plurality of aerosol generating devices; and
 - a second compartment for accommodating the holder or any of claims 1 to 8.

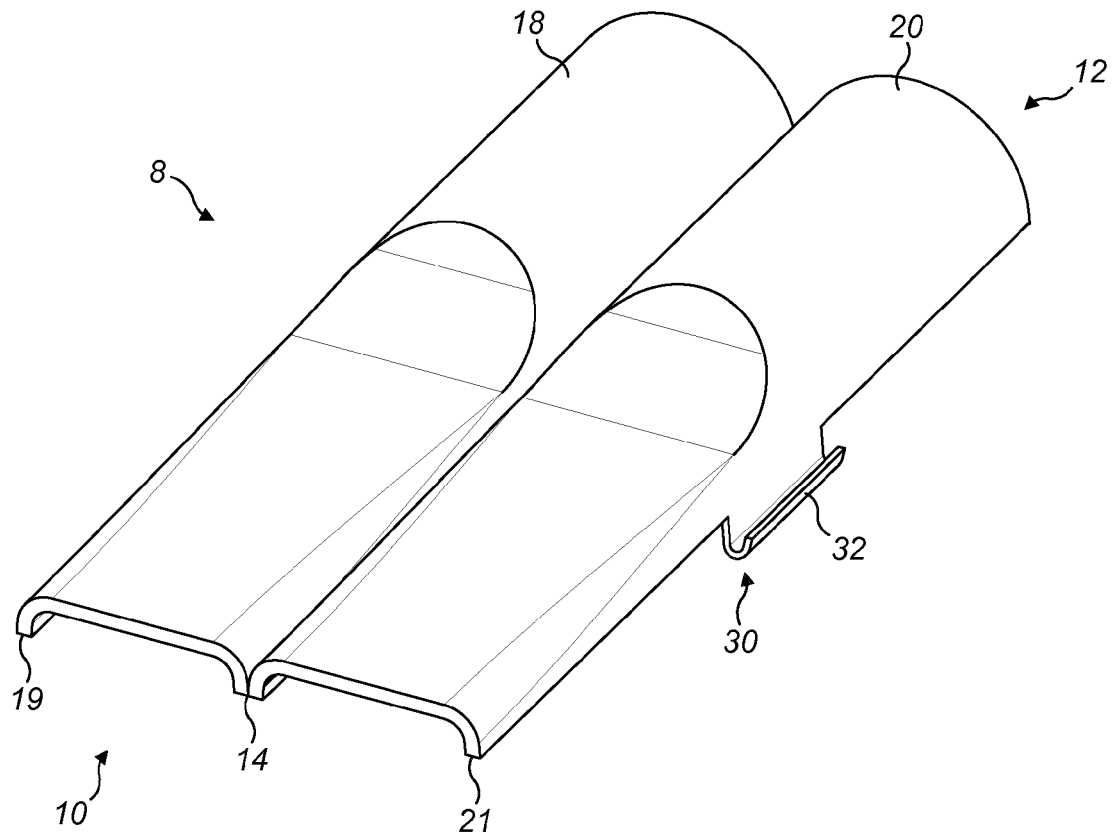


FIG. 1

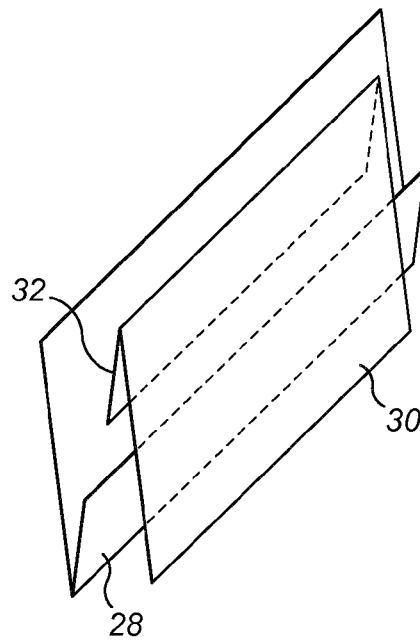


FIG. 2

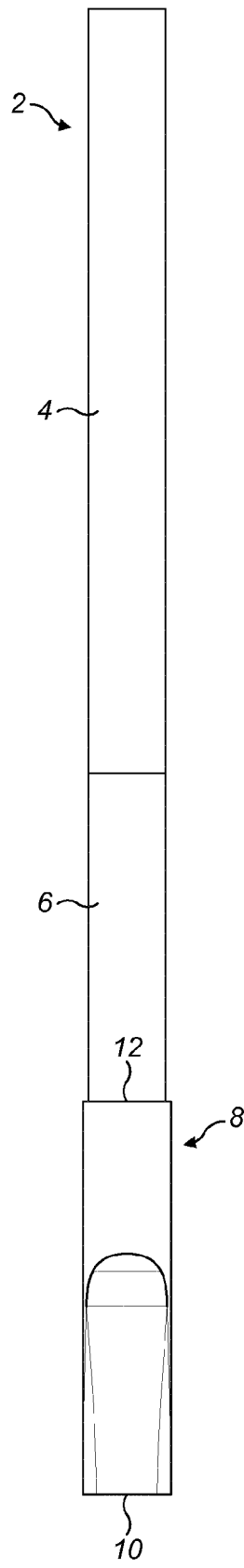


FIG. 3A

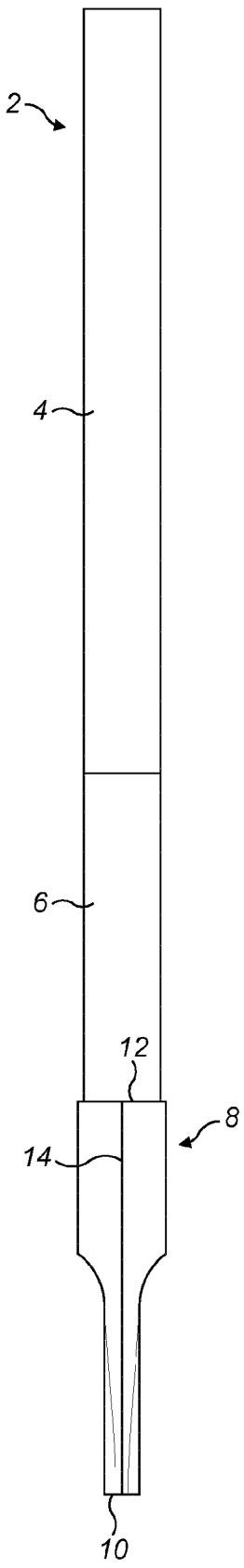
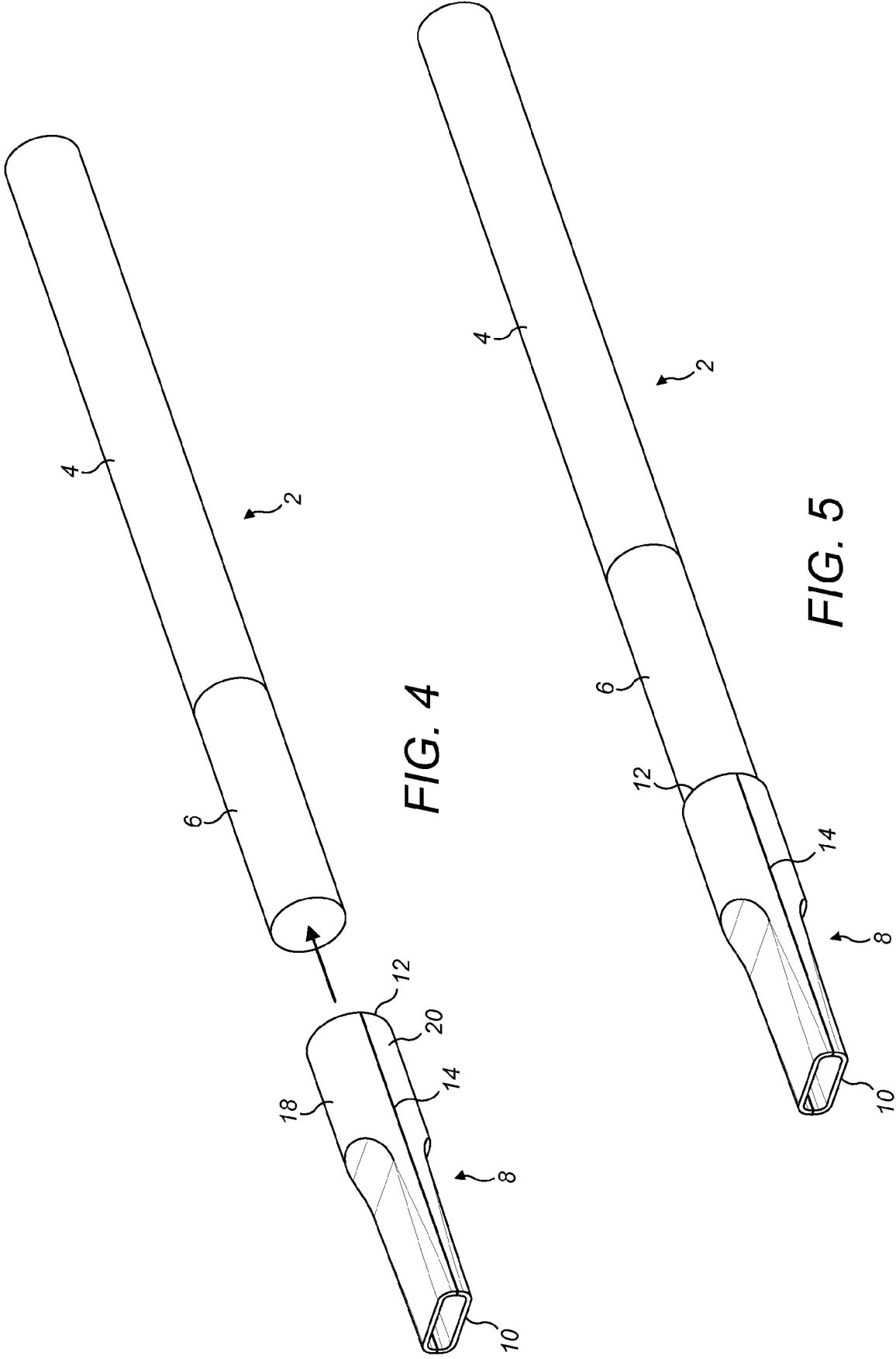


FIG. 3B



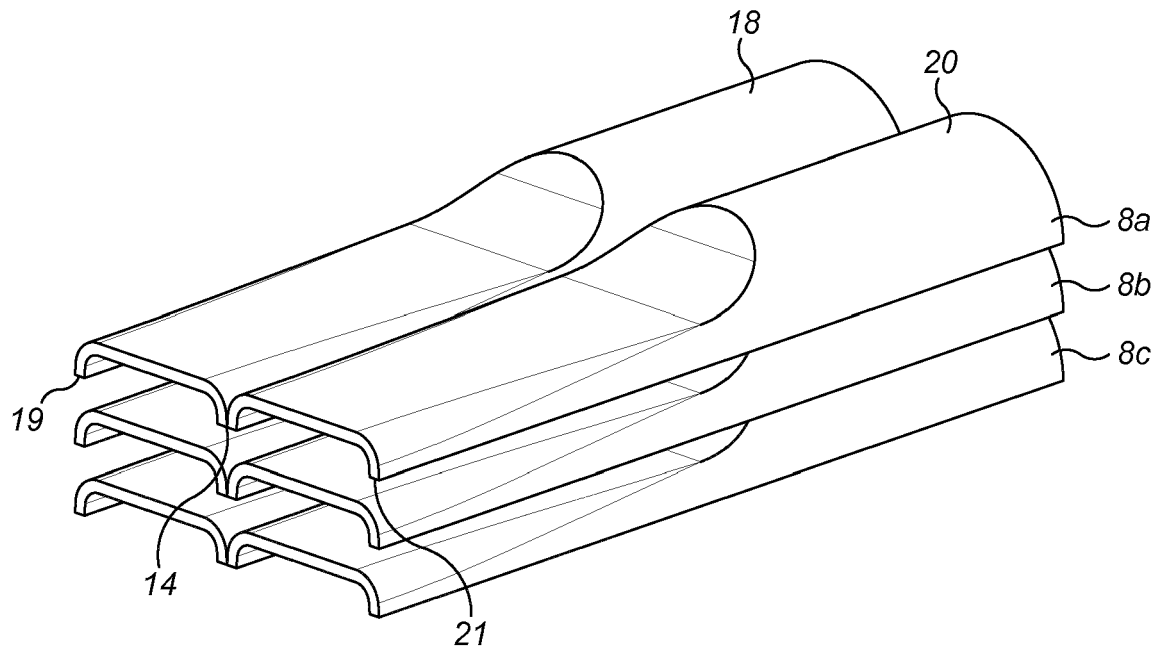


FIG. 6

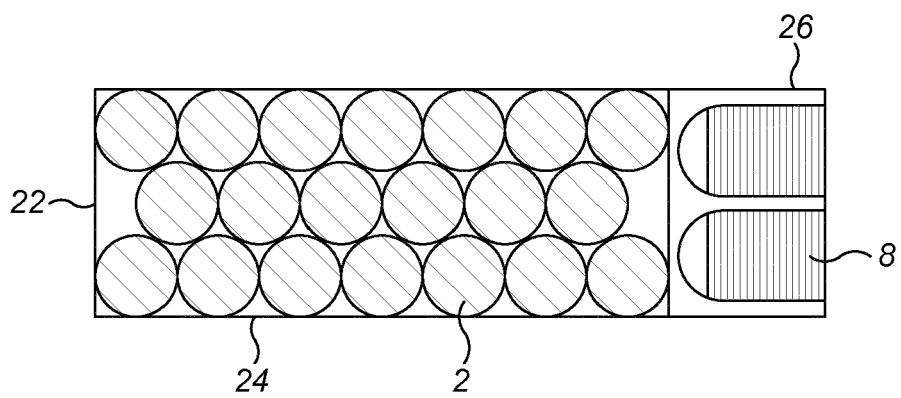


FIG. 7



EUROPEAN SEARCH REPORT

Application Number
EP 19 16 8689

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DOCUMENTS CONSIDERED TO BE RELEVANT			
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Y	* column 2, line 10 - column 3, line 30; figures *	5,9,10	A24F13/02
Y	DE 34 10 313 A1 (SCHMUDDE HERMANN) 3 October 1985 (1985-10-03) * page 7, paragraph 6 - page 8, paragraph 1; figures *	5	
Y	US 5 529 079 A (TU CHING C [TW]) 25 June 1996 (1996-06-25) * column 2, line 42 - column 3, line 40; figures *	9,10	
X	US 1 562 321 A (FRATTINGER ARTHUR F) 17 November 1925 (1925-11-17) * page 1, right-hand column, line 78 - page 2, right-hand column, line 79; figures *	1	
A	DE 200 02 883 U1 (HSUE CHING FANG [TW]) 6 July 2000 (2000-07-06) * pages 3-5; figures *	1-10	TECHNICAL FIELDS SEARCHED (IPC) A24F
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 7 October 2019	Examiner De Terlizzi, Marino
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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07-10-2019

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