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(54) **WET GOODS CARRIER FOR USE WITH HAIR CARE APPARATUS AND CORRESPONDING HAIR CARE APPARATUS**

(57) Embodiments of the present invention relate to a wet goods carrier for use with a hair care apparatus and a hair care apparatus. The wet goods carrier (10) is configured to absorb wet goods and apply the wet goods to hair of a user. the wet goods carrier (10) comprises: a first part (11) having a first absorption capability to absorb the

wet goods; and a second part (12) having a second absorption capability to absorb the wet goods greater than the first absorption capability to absorb the wet goods. According to example embodiment of the present invention, absorbing material and the wet goods can be saved, which significantly reduces waste and cost.

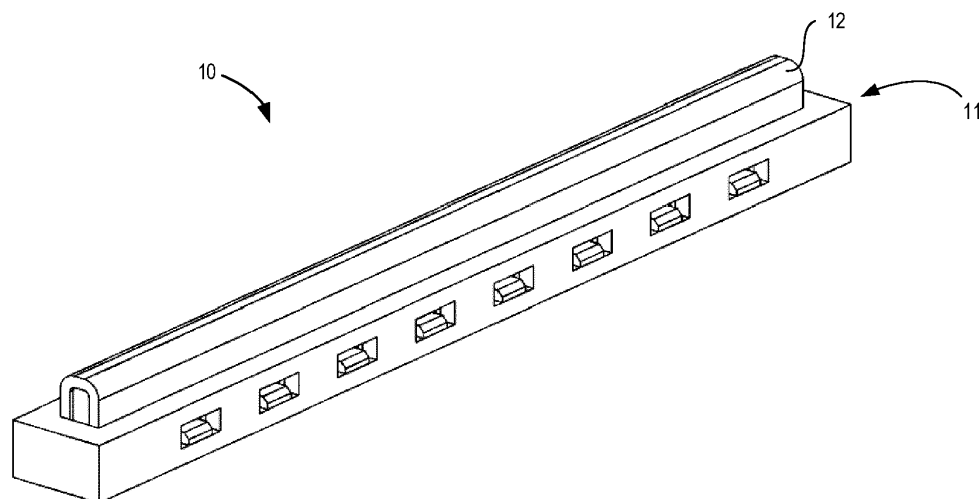


Fig. 2

## Description

### FIELD OF THE INVENTION

**[0001]** Embodiments of the present invention generally relate to the field of personal care, more particularly, to a wet goods carrier for use with a hair care apparatus and a corresponding hair care apparatus.

### BACKGROUND OF THE INVENTION

**[0002]** In the field of personal care, people often use hair care apparatus such as hair curler or hair straightener to care for their hairs. With these hair care devices, users can perform different kinds operations such as curling, styling, or other operations on their hairs.

**[0003]** The hair care apparatus may include an absorbing material which may be porous materials. The absorbing material is configured to absorb or contain a variety of wet goods. With the absorbing material, the wet goods may be applied to user's hair.

### SUMMARY OF THE INVENTION

**[0004]** However, in existing approaches, the absorbing material and the wet goods are not fully used and their usage ratios are relatively low. Embodiments of the present invention propose some solutions to address the problem.

**[0005]** In a first aspect, a wet goods carrier for use with a hair care apparatus is provided. The wet goods carrier is configured to absorb wet goods and apply the wet goods to hair of a user, the wet goods carrier comprising: a first part having a first absorption capability to absorb the wet goods; and a second part having a second absorption capability to absorb the wet goods greater than the first absorption capability to absorb the wet goods.

**[0006]** According to example embodiment of the present invention, the absorbing material and the wet goods can be saved, which significantly reduces waste and cost.

**[0007]** In some embodiments, the first part is provided adjacent to the second part and is configured to support the second part.

**[0008]** In some embodiments, the first part is detachably coupled to the second part.

**[0009]** In some embodiments, the first part is fixedly coupled to the second part.

**[0010]** In some embodiments, the first part is made of a material that does not absorb the wet goods.

**[0011]** In some embodiments, the first part comprises: a supporting element configured to connect to the second part; and a housing configured to hold the supporting element and the second part.

**[0012]** In some embodiments, the housing is further configured to be coupled to the hair care apparatus.

**[0013]** In some embodiments, the housing comprises a

plurality of holes, the supporting element comprises a plurality of protrusions and the second part comprises a plurality of holes; wherein the plurality of protrusions of the supporting element are configured to couple to the plurality of holes of the second part to couple the supporting element to the second part, the plurality of protrusions of the supporting element are further configured to couple to the plurality of holes of the housing to couple the supporting element and the second part to the housing.

**[0014]** In some embodiments, the second part is an elongated strip and comprises: a U-shaped body; and two tails extending from both terminals of the U-shaped body respectively, wherein a distance between the two tails is greater than a width of a channel of the housing perpendicular to a longitudinal direction of the housing, the channel being configured to allow the connected supporting element and the second part to penetrate through.

**[0015]** In a second aspect, there is provided a hair care apparatus. The hair care apparatus comprises a wet goods carrier described in the above first aspect.

**[0016]** In some embodiments, the wet goods carrier is positioned such that the second part faces hair of a user when being used.

### BRIEF DESCRIPTION OF THE DRAWINGS

**[0017]** Through the following detailed description of the embodiments of the present invention with reference to the accompanying drawings, the above and other objectives, features and advantages of the present invention will become more apparent. In the drawings, a plurality of embodiments of the present invention is explained in a non-restrictive manner by way of examples.

Fig. 1 illustrates a perspective view of a hair care apparatus in accordance with an existing approach. Fig. 2 illustrates an assembly view of a wet goods carrier for use with a hair care apparatus in accordance with an example embodiment of the present invention.

Fig. 3 illustrates an explosive view of the wet goods carrier of Fig. 2.

Fig. 4 illustrates a sectional view of a wet goods carrier for use with a hair care apparatus in accordance with a further example embodiment of the present invention.

### DETAILED DESCRIPTION OF THE EMBODIMENTS

**[0018]** Principles of the present invention will now be described with reference to various embodiments illustrated in the drawings. It should be appreciated that description of those embodiments is merely to allow those skilled in the art to better understand and further implement embodiments disclosed herein and is not intended to limit the scope disclosed herein in any manner. It should be noted that similar or same reference

signs can be used in the drawings when feasible, and similar or same reference signs can represent the similar or same functions. Those skilled in the art can readily recognize that alternative embodiments of the structure and method described herein can be employed from the following description without departing from the principles of the present invention described herein.

**[0019]** As used herein, the term "comprises" and its variants are to be read as open-ended terms that mean "comprises, but not limited to." The term "based on" is to be read as "based at least in part on." The terms "one embodiment" and "embodiment" are to be read as "at least one embodiment." The term "a further embodiment" is to be read as "at least a further embodiment." The terms "first", "second" and so on can refer to same or different objects. The following text also can include other explicit and implicit definitions. Definitions of the terms are consistent throughout the description unless the context indicates otherwise.

**[0020]** Fig. 1 illustrates a perspective view of a hair care apparatus 1' in accordance with an existing approach. The hair care apparatus 1' may be a hair straightener, hair volumizer, hair dryer, hair curler, etc. As shown in Fig. 1, the hair care apparatus 1' includes absorbing material 10'. The absorbing material 10' may be of a stripe shape. The absorbing material 10' performs the function of containing the wet goods and releasing them when it comes into contact with the hair of the user.

**[0021]** As mentioned above, however, in the existing approach, a great portion of the absorbing material 10' is usually wasted during the usage of the hair care apparatus 1'. For example, in most cases, only an outer surface 12' of the absorbing material 10' contact the user's hair. After the wet goods absorbed within the outer surface 12' of the absorbing material 10' runs out, the outer surface 12' will become dry and the whole absorbing material 10' may be discarded with the rest portion of the absorbing material 10' still unused. Therefore, the usage ratio of the wet goods and the absorbing material 10' are very low. That is a big waste on the absorbing material 10' as well as the wet goods.

**[0022]** At least to address the above problems, the embodiment of the present invention proposes a wet goods carrier for using in a hair care apparatus, which will be described in more detail hereinafter with reference to Figs. 2-4. Fig. 2 illustrates an assembly view of a wet goods carrier 10 for use with a hair care apparatus in accordance with an example embodiment of the present invention; and Fig. 3 illustrates an explosive view of the wet goods carrier 10 of Fig. 2. The wet goods carrier 10 as shown in Fig. 2 may replace the absorbing material 10' in the existing approach as shown in Fig. 1.

**[0023]** As shown in Figs. 2-3, the wet goods carrier 10 generally includes two parts, i.e., a first part 11 and a second part 12. The first part 11 has a first absorption capability to absorb the wet goods, and the second part 12 has a second absorption capability to absorb the wet goods greater than the first absorption capability to ab-

sorb the wet goods. The second part 12 may be made from porous materials and serve as an absorbing material. The second part 12 may be made from materials with 50-80% porosity. In a possible embodiment, the second part 12 may be made from chemical fiber. For example, the chemical fiber may be plastic. In other embodiments, the second part 12 may be made from plant fiber. For example, the plant fiber may include wood, cloth, etc.

**[0024]** In some embodiments, the wet goods may refer to the material adapted to be applied onto the hair of the users. For example, the wet goods may include a variety of hair oil, hair cream, hair shampoo, hair spray and their combinations. Here are just a few examples, and the specific materials of the wet goods are not limited to embodiments of the present invention.

**[0025]** In some embodiments, as shown in Fig. 2, the second part 12 may be provided at a side of the wet goods carrier 10 facing hair of a user. In this way, during the usage of the hair care apparatus, the second part 12 will contact the hair of the users. According to embodiments of the present invention, since the second part 12 of the wet goods carrier 10 is located to face the hair of the user, the wet goods absorbed within the second part 12 will first release wet goods when it contacts the hair so as to apply the wet goods onto the hair. When the wet goods absorbed within the second part 12 runs out, the wet goods carrier 10 will be detached from the hair care apparatus and the second part 12 may be replaced with a new one.

**[0026]** In some embodiments, the first part 11 may be designed to support the second part 12. The first part 11 may be made of a material that does not absorb the wet goods. Since the first part 11 is made of a material that does not absorb the wet goods, and the first part 11 can be repeatedly used in daily use without being replaced. In this manner, by providing the first part 11 of the wet goods carrier 10 to be a non-absorbent part and providing the second part 12 of the wet goods carrier 10 to be an absorbent part, only a portion of the wet goods carrier 10 (i.e., the second part 12) will be replaced and discarded during daily use, the great amount of waste of the whole wet goods carrier 10 and the wet goods can be avoided.

**[0027]** In some embodiments, the second part 12 may be a replaceable element after being used. The second part 12 can be either soft or hard, depending on the specific application and performance requirements. For example, in some example embodiment, the second part 12 may be soft materials, including cloth or woven fiber materials made from crystalline or amorphous plastics. These materials provide high flexibility, conformability, and breathability for better absorption performance. It is to be understood that these are just a few examples, and the specific materials of the second part 12 are not limited to embodiments of the present invention.

**[0028]** With reference to Fig. 3, the second part 12 of the wet goods carrier 10 may be an elongated strip and may include a U-shaped body 120 and two tails 122 extending from both terminals of the U-shaped body

120 respectively.

**[0029]** As can be seen from Fig. 3, the first part 11 of the wet goods carrier 10 may include a housing 111 and a supporting element 112. The housing 111 primarily serves as the holder for the second part 12 and supporting element 112 and also provides necessary support and protection for the second part 12 and the supporting element 112, ensuring the integrity and performance of the wet goods carrier 10 during use. The housing 111 can also be designed to mount the second part 12 and the supporting element 112 to the hair care apparatus. The main function of the supporting element 112 is to hold the second part 12 securely with respect to the housing 111.

**[0030]** As shown in Fig. 3, the shape and dimension of the supporting element 112 is designed to generally match the shape and dimension of the second part 12. When assembling, the second part 12 may be first connected to the supporting element 112 via the holes 123 of the second part 12 and the protrusions 113 of the supporting element 112 to assemble the second part 12 with the supporting element 112 together. Then, the connected second part 12 and the supporting element 112 may be coupled to the housing 111. With reference to Figs. 3 and 4, the connected second part 12 and the supporting element 112 may penetrate through a channel 116 of the housing 111 to locate the connected second part 12 and the supporting element 112 to the housing 111. With the protrusions 113 of the supporting element 112 extending through the holes 115 of the housing 111, the assemble of the wet goods carrier 10 is completed. As shown in Fig. 2, the housing 111 may accommodate at least a portion of the supporting element 112 and at least a portion of the second part 12.

**[0031]** In some embodiments, as shown in Fig. 3, the distance D between the two tails 122 may be greater than the width W of the channel 116 normal to the longitudinal direction L. In this way, the two tails 122 may act as stop steps when mounting the connected second part 12 and the supporting element 112 to the housing 111. With the two tails 122, the relative position between the connected second part 12 and the housing 111 can be determined. After the second part 12, the supporting element 112 and the housing 111 are assembled together, they can be firmly coupled to hair care apparatus by means of the housing 111. Therefore, the user can use the hair care apparatus smoothly.

**[0032]** With reference back to Fig. 1, the hair care apparatus 1' may include at least one clamping body 13', which encloses a clamping slot 14' to contain the wet goods carrier 10. The housing 111 may also couple to the clamping body 13' of the hair care apparatus in a snap-fit manner to clamp the wet goods carrier 10 into the clamping slot 14', so as to ensure that the wet goods carrier 10 is ready for use. In this way, by means of the housing 111, the wet goods carrier 10 may be used with an existing hair care apparatus and there is no need to change the existing structure of the hair care apparatus.

**[0033]** It is to be understood that the embodiments as

shown in Figs. 2-3 are merely illustrative, rather than restrictive. For example, in other embodiment, the first part 11 and the second part 12 can be joined together in a sliding manner. In other possible embodiments, the connected second part 12 and the supporting element 112 may be coupled to a connecting portion of the hair care apparatus directly without the housing 111.

**[0034]** When the second part 12 or the wet goods absorbed by the second part 12 are exhausted, the supporting element 112 can be easily detached from the housing 111 to facilitate the replacement of the second part 12 or the wet goods. This allows for convenient and hygienic disposal of the used second part 12 or the wet goods. Also, the insertion of a new one with wet goods into the housing 111 is fast and hygienic. The supporting element 112 can then securely hold the new second part 12 relative to the housing 111. According to the embodiments of the present invention, only the second part 12 need to be replaced if the wet goods are run out.

**[0035]** Fig. 4 illustrates a sectional view of a wet goods carrier for use with a hair care apparatus in accordance with a further example embodiment of the present invention. As shown, the first part 11 and the second part 12 are integrated into a single piece and the two parts are fixedly coupled to each other. In this manner, the first part 11 and the second part 12 can be replaced together. Similar to the embodiments discussed above, in some embodiments, an additional housing may be required to mount the first part 11 and the second part 12 to the hair care apparatus; while in other embodiments, no additional housing is required.

**[0036]** With still reference to Fig. 4, the first part 11 and the second part 12 may be connected in a variety of manner. For example, they may be glued together. It is to be understood that these are just some of the possible manners and they are for illustrative purpose without suggesting any limitations as to the scope of the subject matter described herein. With these embodiments, the waste ratio of the wet goods can be reduced significantly.

**[0037]** According to the embodiments of the present invention, the material for absorbing wet goods are only provided at just a portion of the wet goods carrier 10, i.e., at the second part 12, rather than the entire wet goods carrier 10. Compared to existing strip bar designs, the embodiments of the present invention save the absorbing material, which significantly reducing waste and cost. Moreover, the assembly and replacement of the wet goods carrier 10 is convenient, fast and clean.

**[0038]** Various embodiments of the present invention have been described above, and the above explanation is illustrative rather than exhaustive and is not limited to the disclosed embodiments. Without departing from the scope and spirit of each explained embodiment, many alterations and modifications are obvious for those ordinary skilled in the art. The selection of terms in the text aims to best explain principle, actual application or technical improvement in the market of each embodiment or

make each embodiment disclosed in the text comprehensible for those ordinary skilled in the art.

## Claims

1. A wet goods carrier (10) for use with a hair care apparatus, **characterized in that** the wet goods carrier (10) is configured to absorb wet goods and apply the wet goods to hair of a user, the wet goods carrier (10) comprising:
  - a first part (11) having a first absorption capability to absorb the wet goods; and
  - a second part (12) having a second absorption capability to absorb the wet goods greater than the first absorption capability to absorb the wet goods.
2. The wet goods carrier (10) according to claim 1, wherein the first part (11) is provided adjacent to the second part (12) and is configured to support the second part (12).
3. The wet goods carrier (10) according to any of claims 1-2, **characterized in that** the first part (11) is detachably coupled to the second part (12).
4. The wet goods carrier (10) according to any of claims 1-2, **characterized in that** the first part (11) is fixedly coupled to the second part (12).
5. The wet goods carrier (10) according to any of claims 1-4, **characterized in that** the first part (11) is made of a material that does not absorb the wet goods.
6. The wet goods carrier (10) according to any of claims 1-5, **characterized in that** the first part (11) comprises:
  - a supporting element (112) configured to connect to the second part (112); and
  - a housing (111) configured to hold the supporting element (112) and the second part (12).
7. The wet goods carrier (10) according to claim 6, **characterized in that**, the housing (111) is further configured to be coupled to the hair care apparatus.
8. The wet goods carrier (10) according to any of claims 6-7, **characterized in that**,
  - the housing (111) comprises a plurality of holes (115), the supporting element (112) comprises a plurality of protrusions (113) and the second part (12) comprises a plurality of holes (123);
  - wherein the plurality of protrusions (113) of the supporting element (112) are configured to couple to the plurality of holes (123) of the second part (12) to couple the supporting element (112) to the second part (12), the plurality of protrusions (113) of the supporting element (112) are further configured to couple to the plurality of holes (115) of the housing (111) to couple the supporting element (112) and the second part (12) to the housing (111).
9. The wet goods carrier (10) according to claim 8, **characterized in that** the second part (12) is an elongated strip and comprises:
  - a U-shaped body (120); and
  - two tails (122) extending from both terminals of the U-shaped body (120) respectively, wherein a distance (D) between the two tails (122) is greater than a width (W) of a channel (116) of the housing (111) perpendicular to a longitudinal direction (L) of the housing (111), the channel (116) being configured to allow the connected supporting element (112) and the second part (12) to penetrate through.
10. A hair care apparatus comprising a wet goods carrier (10) according to any of claims 1-9.
11. The hair care apparatus according to claim 10, **characterized in that** the wet goods carrier (10) is positioned such that the second part (12) faces hair of a user when being used.

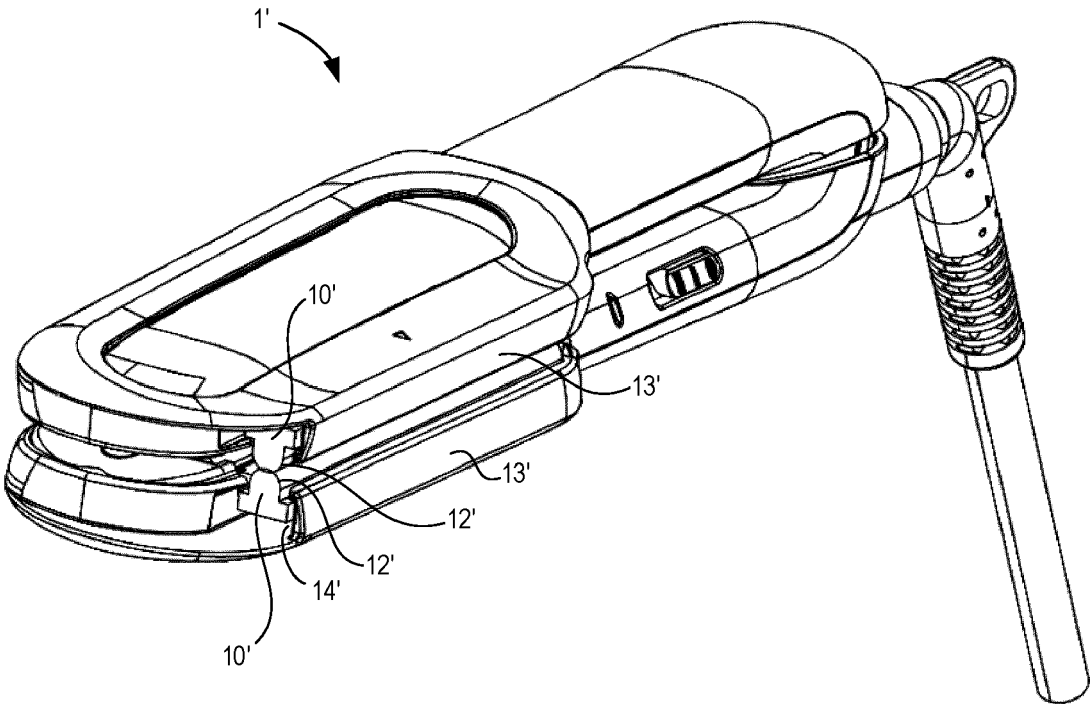


Fig. 1

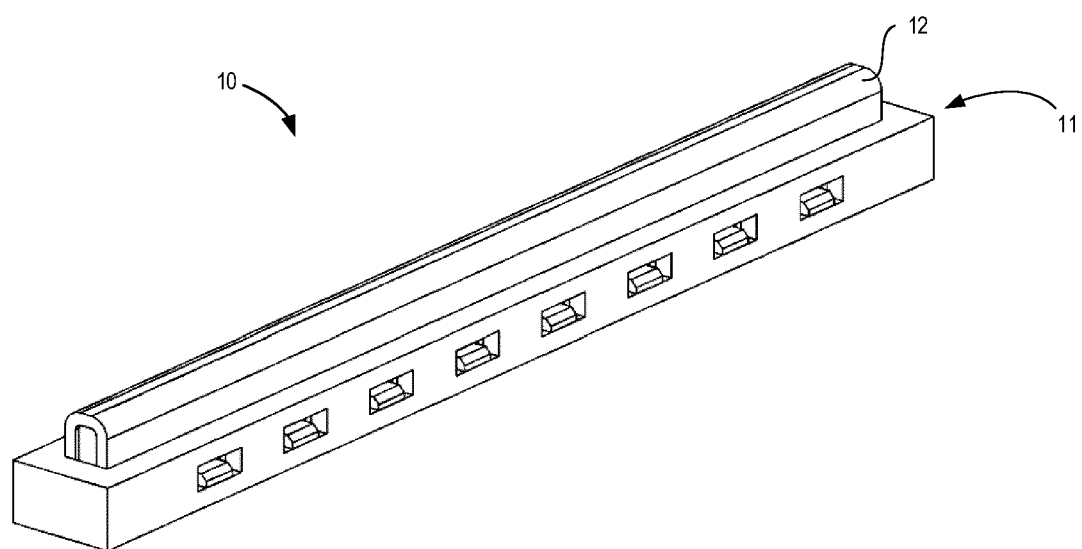


Fig. 2

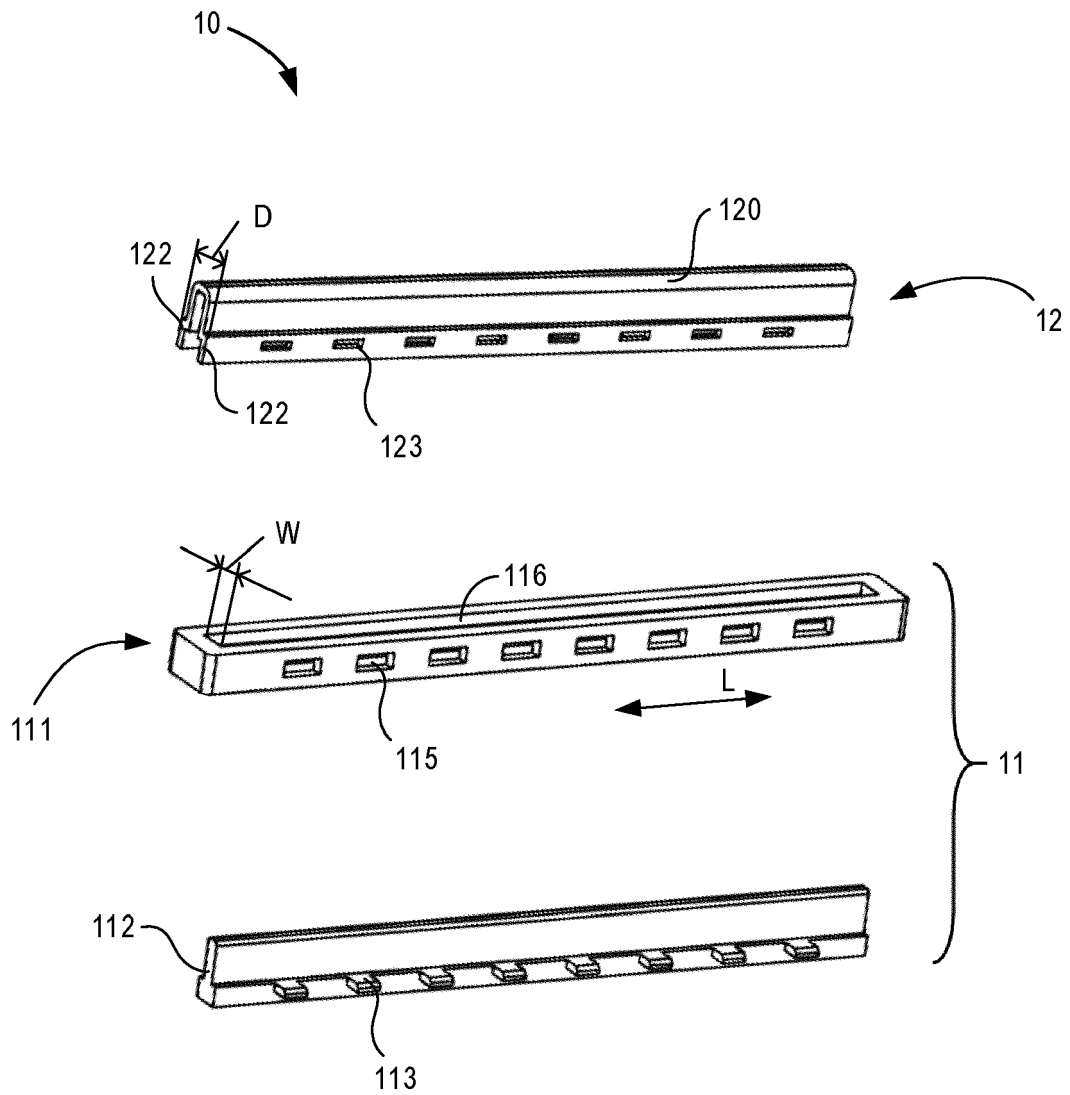


Fig. 3



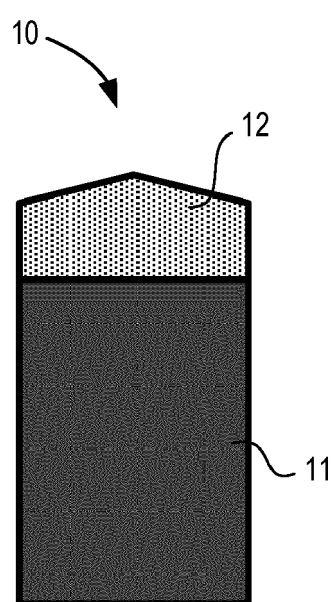


Fig. 4



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Application Number

EP 24 16 8148

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The present search report has been drawn up for all claims			
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