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(54) **SPLITTABLE CHARGEABLE FIBER, SPLIT MULTICOMPONENT FIBER, A SPLIT MULTICOMPONENT FIBER WITH A DURABLE CHARGE, NONWOVEN FABRIC, FILTER, AND YARN CONTAINING THE SPLIT FIBER, AND MANUFACTURING PROCESSES THEREFOR**

(57) A process for forming a splittable fiber having the steps of providing a multicomponent fiber; or a multicomponent staple fiber, providing a finish material, and at least partially coating the multicomponent fiber with the finish material to form a splittable fiber. The multicomponent fiber; or a multicomponent staple fiber, contains a first thermoplastic segment comprising polymer

component A and a second thermoplastic segment comprising polymer component B. The finish material has an evaporation point of less than about 160°C. A process for forming a nonwoven fabric, a split multicomponent fiber, a split multicomponent fiber with a durable charge, a nonwoven fabric, and a filter and/or a spun yarn formed by the fibers herein is also described.

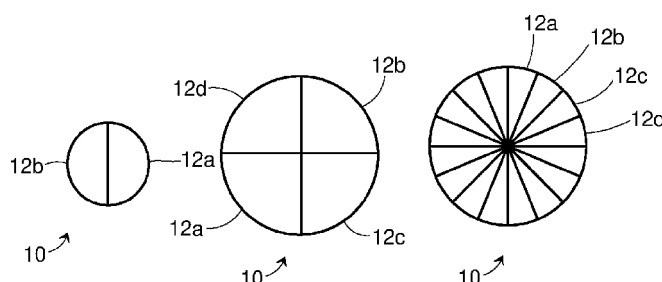


Fig. 1a

Fig. 1b

Fig. 1c



## EUROPEAN SEARCH REPORT

Application Number

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| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                                                    |                                                                                                                                                                      |                                                                                                                                                                                                                                                                                       |                                                                                                     |
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| Category                                                                                                                                                                                                                                               | Citation of document with indication, where appropriate, of relevant passages                                                                                        | Relevant to claim                                                                                                                                                                                                                                                                     | CLASSIFICATION OF THE APPLICATION (IPC)                                                             |
| X                                                                                                                                                                                                                                                      | US 6 444 312 B1 (DUGAN JEFFREY S [US])<br>3 September 2002 (2002-09-03)                                                                                              | 1-6, 8-15                                                                                                                                                                                                                                                                             | INV.<br>D01F8/04                                                                                    |
| Y                                                                                                                                                                                                                                                      | * figures 1A-1E, 2A-2B, 3, 4 *<br>* claims 1-38 *<br>* example 1 *<br>* column 12, lines 14-21 *<br>* column 7, lines 42-54 *<br>* column 13, lines 16-24 *<br>----- | 7                                                                                                                                                                                                                                                                                     | D01F8/06<br>D01F8/12<br>D01F8/14<br>D04H1/4382<br>D01D5/096<br>D06M13/52<br>D06M13/224<br>D06M10/02 |
| X                                                                                                                                                                                                                                                      | US 2020/155358 A1 (WHELDRAKE AMY NICOLE [GB]) 21 May 2020 (2020-05-21)                                                                                               | 1-13, 15                                                                                                                                                                                                                                                                              |                                                                                                     |
| Y                                                                                                                                                                                                                                                      | * claim 1 *<br>* example 2 *<br>* figure 3 *<br>* paragraphs [0046], [0047], [0050], [0052] - [0053], [0066] *<br>-----                                              | 7                                                                                                                                                                                                                                                                                     |                                                                                                     |
| X                                                                                                                                                                                                                                                      | US 6 387 141 B1 (HOLLINGSWORTH ANTHONY [DE] ET AL) 14 May 2002 (2002-05-14)<br>* example 2 *<br>* figures 3, 4 *<br>* column 4, lines 34-67 *<br>-----               | 10-12                                                                                                                                                                                                                                                                                 | TECHNICAL FIELDS SEARCHED (IPC)<br><br>D01F<br>D01D<br>D04H                                         |
| The present search report has been drawn up for all claims                                                                                                                                                                                             |                                                                                                                                                                      |                                                                                                                                                                                                                                                                                       |                                                                                                     |
| Place of search<br><b>The Hague</b>                                                                                                                                                                                                                    |                                                                                                                                                                      | Date of completion of the search<br><b>22 February 2023</b>                                                                                                                                                                                                                           | Examiner<br><b>Verschuren, Jo</b>                                                                   |
| CATEGORY OF CITED DOCUMENTS<br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document |                                                                                                                                                                      | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>.....<br>& : member of the same patent family, corresponding document |                                                                                                     |

**ANNEX TO THE EUROPEAN SEARCH REPORT  
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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 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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