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54 **Highly-shrinkable polyester fiber, process for preparation thereof, blended polyester yarn and process for preparation thereof.**

57 A highly-shrinkable polyester fiber composed of a polyester comprising ethylene terephthalate units as main recurring units and having a birefringence ( $\Delta n$ ) of from 0.130 to 0.165, wherein the boiling water shrinkage is at least 30% and the peak temperature and peak value of the thermal stress are 90 to 105°C and at least 0.4 g/de, respectively. The fiber has excellent shrinkability as well as high heat resistance, dimensional stability and alkali resistance and provides a blended polyester yarn excellent in bulkiness and hand.

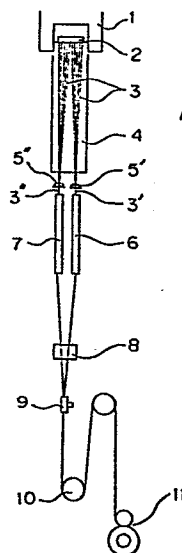


Fig. 4



EP 86 10 8904

| 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.4) |
| X                                                                                                                                                                                                                       | EP-A-0 042 664 (I.C.I.)<br>* Claims; page 6, lines 8-14;<br>page 7, lines 26-32 *                                                           | 1-7                                                                                                                                                                                                                                                                          | D 01 F 6/62<br>D 01 D 5/098<br>D 02 G 1/18    |
| X                                                                                                                                                                                                                       | ---<br>EP-A-0 034 880 (I.C.I.)<br>* Claims; page 5, lines 15-18;<br>page 6, lines 10-14 *                                                   | 1-7                                                                                                                                                                                                                                                                          |                                               |
| X                                                                                                                                                                                                                       | ---<br>EP-A-0 013 101 (FIBER INDUSTRIES)<br>* Claims *                                                                                      | 1,8-24                                                                                                                                                                                                                                                                       |                                               |
| A                                                                                                                                                                                                                       | ---<br>DE-A-2 741 193 (BAYER)                                                                                                               |                                                                                                                                                                                                                                                                              |                                               |
| A                                                                                                                                                                                                                       | ---<br>EP-A-0 095 712 (ASAHI KASEI KOGYO K.K.)                                                                                              |                                                                                                                                                                                                                                                                              | TECHNICAL FIELDS SEARCHED (Int. Cl.4)         |
| D,P                                                                                                                                                                                                                     | ---<br>PATENT ABSTRACTS OF JAPAN, vol. 10, no. 136 (C-347)[2193], 20th May 1986; & JP-A-60 259 616 (TEIJIN K.K.) 21-12-1985<br>* Abstract * |                                                                                                                                                                                                                                                                              | D 01 F<br>D 01 D                              |
| The present search report has been drawn up for all claims                                                                                                                                                              |                                                                                                                                             |                                                                                                                                                                                                                                                                              |                                               |
| Place of search<br>THE HAGUE                                                                                                                                                                                            |                                                                                                                                             | Date of completion of the search<br>27-10-1987                                                                                                                                                                                                                               | Examiner<br>VAN GOETHEM G.A.J.M.              |
| CATEGORY OF CITED DOCUMENTS                                                                                                                                                                                             |                                                                                                                                             |                                                                                                                                                                                                                                                                              |                                               |
| 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>& : member of the same patent family, corresponding document |                                               |