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# EUROPEAN PATENT APPLICATION

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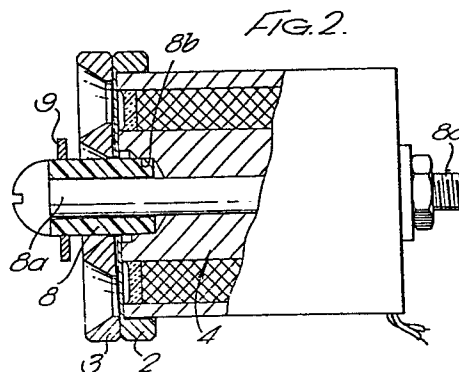
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## 54 Thread brake.

57 A thread brake (1) is described which is particularly suitable for regulating the tension of sewing thread (5) during winding. In a preferred arrangement, the thread brake comprises two coaxial brake discs (2, 3) rotatably mounted on a wear-resistant sleeve (8) which is supported on a pin (8a) passing axially through the body of an electromagnet (4). The outermost disc (3) is made of ferromagnetic material and, when the electromagnet (4) is energised, it is urged towards the other disc (2) so as to apply a braking pressure to the thread (5). A series of countersunk and radial apertures (7) are provided in the outermost disc (3) and are disposed in a circle concentric to axis of rotation. This disc (3) also has a slight concave depression (13) on its braking side directly opposite the other disc (2). Both discs have central apertures and the central aperture (16) of the outermost disc (3) is also countersunk. Both discs can tilt through a predetermined angle on the sleeve (8). The apertures (7, 16) provide an exit for material abraded from the thread due to passage between the braking discs (2, 3).





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# EUROPEAN SEARCH REPORT

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| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                   |                                                                                       |                                                  | CLASSIFICATION OF THE APPLICATION (Int. Cl. <sup>3</sup> )                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Category                                                                                              | Citation of document with indication, where appropriate, of relevant passages         | Relevant to claim                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                                                                                       | <p><u>US - A - 3 996 866</u> (BIANCHI)</p> <p>* abstract *</p> <p>---</p>             | 1,6                                              | D 05 B 47/04                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| A                                                                                                     | <p><u>FR - A - 2 336 333</u> (MEFINA)</p> <p>* figures 6,7,12 *</p> <p>---</p>        | 1                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| A                                                                                                     | <p><u>DE - A - 1 487 014</u> (SINGER)</p> <p>* page 5, paragraph 7 *</p> <p>-----</p> | 1                                                | <p>TECHNICAL FIELDS SEARCHED (Int.Cl. <sup>3</sup>)</p> <p>D 05 B</p>                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                                                       |                                                                                       |                                                  | <p>CATEGORY OF CITED DOCUMENTS</p> <p>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<br/> 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</p> |
| <p><input checked="" type="checkbox"/> The present search report has been drawn up for all claims</p> |                                                                                       |                                                  | <p>&amp;: member of the same patent family, corresponding document</p>                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Place of search<br>The Hague                                                                          |                                                                                       | Date of completion of the search<br>January 1982 | Examiner<br>VUILLEMIN                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |