Abstract: A prophylaxis angle includes a driven shaft and a driving shaft. The driving shaft as an integrally molded crown gear disposed coaxially thereon. The driven shaft as a carousel gear including a plurality of pins, each pin having a longitudinal axis parallel to a longitudinal axis of the driving shaft. Each pin is coupled to the driving shaft by a fillet. The prophylaxis angle includes a housing that has a major part and a minor part. The driving shaft is inserted into the housing from an open distal end of the major part. The driven shaft is also inserted into the housing at the open distal end of the major part. Thereafter, the minor part of the housing is connected to the major part of the housing to close the open distal end of the major part of the housing.
Published:
— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
4 January 2007

For two-letter codes and other abbreviations, refer to the “Guidance Notes on Codes and Abbreviations” appearing at the beginning of each regular issue of the PCT Gazette.
A. CLASSIFICATION OF SUBJECT MATTER
INV. A61C17/00 A61C1/12 A61C1/18

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
A61C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
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<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<tr>
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<td>US 5 730 595 A (BAILEY ET AL) 24 March 1998 (1998-03-24) the whole document</td>
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<td>column 6, line 28 - line 53</td>
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Further documents are listed in the continuation of Box C.

See patent family annex.

Date of the actual completion of the international search
31 July 2006

Date of mailing of the international search report
06. 11. 2006

Authorized officer
Salvatore, Claudio

Form PCT/ISA/210 (second sheet) (April 2006)
### Box II Observations where certain claims were found unsearchable (Continuation of Item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box III Observations where unity of invention is lacking (Continuation of Item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

*see additional sheet*

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☑ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

   1-7

**Remark on Protest**

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.
This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-7

   A prophy angle comprising:
   - a first and second axial bore in communication with each other
   - a driving gear disposed in the 1° bore, the gear having a gear part with a vertical surface with depressions, and a shaft part
   - a driven gear disposed in the 2° bore, the gear having a gear part with a horizontal surface with projections, and a shaft part
   such that the depressions and projections mate operatively.

2. claims: 8-16

   A prophy angle comprising:
   - a prophy cup having a cylindrical body member and a recessed upper surface
   - a driven shaft having a "formation" covered by the proximal end of the cup,
     the cup being characterized by a larger circumferential span than that of the driven shaft part attached to the proximal end of the cup.

3. claims: 17-20

   A drive shaft suitable for a prophy angle comprising:
   - a gear
   - a shaft being divided into three regions by the presence of two integral collars, with the diameter of each region being related to the others as disclosed in claim 17.

4. claims: 21-23

   A transmission element suitable for a prophy angle comprising:
   - a shaft
   - a circular disk coupled to the shaft
   - a plurality of pins disposed perpendicular to the upper surface of the disk
   - a plurality of fillets disposed between the pins and the shaft
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<tr>
<td>US 5730595 A</td>
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