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# EUROPEAN PATENT APPLICATION

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54 A unit for measurement of overturning moment of a heavy working machine, especially a crane.

57 The invention solves the problem of a simple unit for determination of overturning moment of a heavy working machine, especially a crane, by utilization of elastic strain of separable connections.

The unit has an indicator /1/ connected with a measuring instrument serving for determination of a total force R. The indicator /1/ is situated perpendicularly to the rotation plane of the crane and lies in the vertical plane of symmetry of the jib and is set at a constant distance of about

$$\frac{a}{2}$$

from the axis of rotation of the crane, that is, in the vicinity of rolling elements of the bearing /2/.

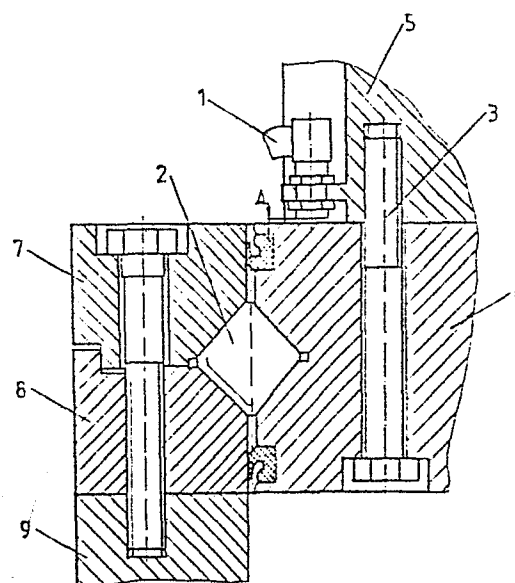


Fig. 4



European Patent  
Office

# EUROPEAN SEARCH REPORT

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Application Number

EP 85 11 6175

| 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                                                                                                                                                                                                                          | DE-A-1 556 339 (A. BENIRSCHKE)<br>* figures 1-3; claim 1; page 4,<br>paragraph 2 * | 1                                                                                                                                                                                                                                                                                           | B 66 C 23/90                                   |
| A                                                                                                                                                                                                                          | ---                                                                                | 2,3                                                                                                                                                                                                                                                                                         |                                                |
| A                                                                                                                                                                                                                          | FR-A-1 086 700 (SOCIETE AUXILIAIRE DE<br>L'ENTREPRISE AUXEN)<br>* whole document * | 1-3                                                                                                                                                                                                                                                                                         |                                                |
| A                                                                                                                                                                                                                          | ---                                                                                |                                                                                                                                                                                                                                                                                             |                                                |
| A                                                                                                                                                                                                                          | DE-U-1 804 094 (DEMAG-ZUG GMBH)<br>* whole document *                              | 1-3                                                                                                                                                                                                                                                                                         |                                                |
| A                                                                                                                                                                                                                          | ---                                                                                |                                                                                                                                                                                                                                                                                             |                                                |
| A                                                                                                                                                                                                                          | US-A-4 336 720 (J.A. PROKOP)<br>* whole document *                                 | 1-3                                                                                                                                                                                                                                                                                         |                                                |
|                                                                                                                                                                                                                            | -----                                                                              |                                                                                                                                                                                                                                                                                             |                                                |
|                                                                                                                                                                                                                            |                                                                                    |                                                                                                                                                                                                                                                                                             | TECHNICAL FIELDS<br>SEARCHED (Int. Cl.4)       |
|                                                                                                                                                                                                                            |                                                                                    |                                                                                                                                                                                                                                                                                             | B 66 C 23/00                                   |
| The present search report has been drawn up for all claims                                                                                                                                                                 |                                                                                    |                                                                                                                                                                                                                                                                                             |                                                |
| Place of search                                                                                                                                                                                                            |                                                                                    | Date of completion of the search                                                                                                                                                                                                                                                            | Examiner                                       |
| BERLIN                                                                                                                                                                                                                     |                                                                                    | 27-07-1988                                                                                                                                                                                                                                                                                  | GROETZINGER                                    |
| CATEGORY OF CITED DOCUMENTS                                                                                                                                                                                                |                                                                                    |                                                                                                                                                                                                                                                                                             |                                                |
| X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another<br>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<br>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<br>document |                                                |