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**(54)** Improvements in or relating to hydraulic control system.

**(57)** A hydraulic control system is disclosed comprising two actuators 10A, 10B operating in parallel or tandem each having a separate supply of hydraulic fluid and two electrohydraulic servo control valves 20, 21; 24, 25 interposed between each actuator and its respective hydraulic supply 22, 26 each control valve having two operating coils for the electrical operation thereof, the said coils being connected to four electrical control lanes 15, 16, 17, 18 in such a manner that each lane is connected to one coil of a control valve associated with one actuator and with one coil of a control valve associated with the other actuator. Feedback control of the valves is preferably provided to equalise hydraulic imbalance, the valves for each actuator having differing overlap characteristics such that the feedback signal may apply selectively to the valves of one or other actuator.

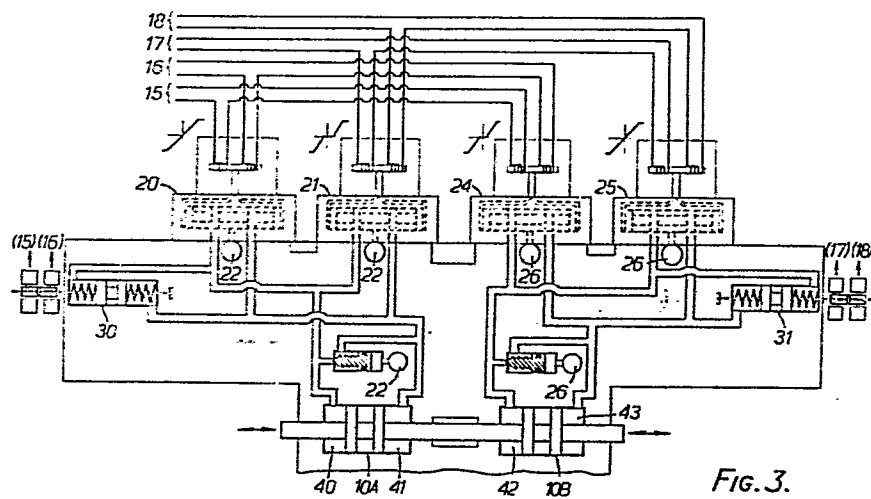


FIG. 3.



European Patent  
Office

# EUROPEAN SEARCH REPORT

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EP 83 30 2247

| 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. 3) |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | GB-A-2 082 799 (ELLIOTT BROTHERS [LONDON] LTD.)<br>* Page 1, lines 25-55; page 2, lines 38-40; page 2, lines 51-58; figure 1 * | 1,2                                            | F 15 B 18/00                                   |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | GB-A-1 029 527 (MOOG SERVOCONTROLS)<br>* Page 7, line 112 - page 8, line 3; figure 9 *                                         | 1                                              |                                                |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | US-A-3 915 427 (E. SWOGGER)<br>* Column 4, lines 32-33; column 5, lines 30-40; figures 1-3 *                                   | 1                                              |                                                |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | GB-A- 940 942 (AMERICAN BRAKE SHOE CO.)<br>* Page 3, lines 30-47; figures 1,2 *                                                | 2                                              |                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                |                                                | TECHNICAL FIELDS SEARCHED (Int. Cl. 3)         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                |                                                | F 15 B<br>B 64 C                               |
| The present search report has been drawn up for all claims                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                |                                                |                                                |
| Place of search<br>THE HAGUE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                | Date of completion of the search<br>02-02-1984 | Examiner<br>FRANKS N.M.                        |
| <p><b>CATEGORY OF CITED DOCUMENTS</b></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</p> <p>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/> &amp; : member of the same patent family, corresponding document</p> |                                                                                                                                |                                                |                                                |