(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 684 387 A3

(12) EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
30.10.1996 Bulletin 1996/44

(43) Date of publication A2:
29.11.1995 Bulletin 1995/48

(21) Application number: **95202286.1**

(22) Date of filing: **23.12.1992**

(51) Int. Cl.[6]: **F15B 11/05**, F15B 11/16

(84) Designated Contracting States:
DE FR GB

(30) Priority: **25.12.1991 JP 357128/91**
16.07.1992 JP 212244/92
26.08.1992 JP 250517/92

(62) Application number of the earlier application in accordance with Art. 76 EPC: **92311770.9**

(71) Applicant: **KAYABA INDUSTRY CO., LTD.**
Minato-Ku, Tokyo 105 (JP)

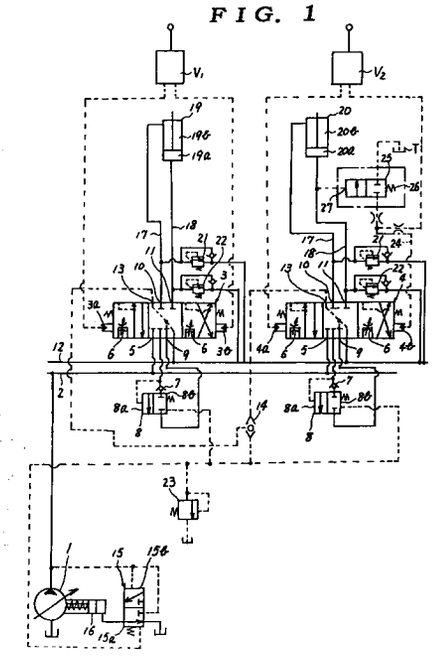
(72) Inventors:
- **Koiwai, Hideshi**
  Toda-shi, Saitama-ken (JP)
- **Naito, Hisato**
  Kanagawa-ken (JP)
- **Yonekubo, Yoshitake**
  Setagaya-ku, Tokyo (JP)
- **Nishiumi, Kenichi**
  Tama-ku, Kawasaki-shi, Kanagawa-ken (JP)
- **Hasegawa, Yoshimi**
  Yachiyo-Shi, Chiba-ken (JP)

(74) Representative: **Carpmael, John William Maurice**
CARPMAELS & RANSFORD
43 Bloomsbury Square
London, WC1A 2RA (GB)

(54) Load-sensing active hydraulic control device

(57) A load-sensing active hydraulic control device is disclosed in which a plurality of cylinders (19,20) are connected in parallel and fed with hydraulic fluid from a variable discharge pump (1), thereby to control the variable discharge pump depending on horsepower constant control characteristics and which is capable of preventing, when one cylinder (20) is increased in load pressure, actuation of the other cylinder (19) from being stopped due to a decrease in the amount of hydraulic fluid discharged from the pump. A pilot valve (25) is provided which is changed over by a pressure actuation of a passage (18) of the one cylinder (20). The pilot valve is open to communicate a pilot chamber (4b) of a change-over valve (4) with a tank (T) when a pressure in the passage approaches a set pressure of an overload relief valve (22) of the passage. This results in a degree of opening of a variable orifice (6) of the change-over valve being reduced to decrease the amount of hydraulic fluid fed to the cylinder (20), thereby to ensure feeding of hydraulic fluid to the cylinder (19) correspondingly.

FIG. 1



EP 0 684 387 A3

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 95 20 2286

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.5)
A	EP-A-0 433 454 (KOMATSU) * column 5, line 2 - column 6, line 33; claims 1,2; figure 2 * ---	1	F15B11/05 F15B11/16
A	DE-C-37 10 699 (HEILMEIER & WEINLEIN) * column 3, line 20 - column 4, line 2 * * column 6, line 58 - column 7, line 23; claim 1; figure 1A * ---	1	
A	WO-A-90 02882 (ATLAS COPCO) * page 7, paragraph 2; figure 2 * -----	1	

TECHNICAL FIELDS SEARCHED (Int.Cl.5)

F15B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
BERLIN	22 August 1996	Thomas, C

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)