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Datasheet for the decision of 7 October 2010

Case Number: T 0069/08 - 3.2.06

Application Number: 01304608.1

Publication Number: 1157963

IPC: B66F 9/22

Language of the proceedings: EN

Title of invention:
Hydraulic system for wheeled loader

Patentee:
J.C. BAMFORD EXCAVATORS LIMITED

Opponents:
CNH Belgium N.V.
MANITOU BF
Deere & Company
Caterpillar (U.K.) Limited

Headword:
-

Relevant legal provisions:
EPC Art. 123(2)

Relevant legal provisions (EPC 1973):
-

Keyword:
"Claim 1 - Article 123(2) - requirement not fulfilled"

Decisions cited:
-

Catchword:
-

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Case Number: T 0069/08 - 3.2.06

D E C I S I O N
of the Technical Board of Appeal 3.2.06
of 7 October 2010

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Decision under appeal:

Interlocutory decision of the Opposition Division of the European Patent Office posted 10 December 2007 concerning maintenance of European patent No. 1157963 in amended form.

Composition of the Board:

Chairman: P. Alting van Geusau
Members: M. Harrison
W. Sekretaruk

Summary of Facts and Submissions

I. With its decision of 10 December 2007, the opposition division found that European patent No. 1 157 963 in its amended form according to the proprietor's third auxiliary request met the requirements of the European Patent Convention (EPC).

II. The appellant/proprietor filed an appeal against this decision and requested maintenance of the patent as granted as its main request. A first auxiliary request was also filed.

III. The appellant/opponents OI, OII and OIV each also filed an appeal against the decision and requested that the patent be revoked. Appellant/opponent OII further requested recording of any oral proceedings before the Board, while appellant/opponent OIV requested reimbursement of the appeal fee due to an alleged substantial procedural violation by the opposition division.

With its submission, appellant/opponent OII filed *inter alia*

Annex 8: Declaration of Mr Braud, dated 21 March 2008, including annexes 8A, 8B and 8C.

IV. Opponent OIII filed observations in its letter of 25 August 2008 and requested revocation of the patent.

V. In its submission of 3 November 2008, the appellant/proprietor filed further auxiliary requests.

VI. The Board issued a summons to oral proceedings followed by a communication stating its provisional opinion, in which the Board opined *inter alia* that claim 1 of all requests did not appear to fulfil the requirements of Article 123(2) EPC. The Board also gave its view on the appellant/opponent OIV's request for reimbursement of the appeal fee.

VII. In its submission of 24 September 2010, the appellant/proprietor filed a replacement main request together with replacement auxiliary requests.

VIII. In appellant/opponent OIV's submission of 24 September 2010, its request for reimbursement of the appeal fee was withdrawn.

IX. During the oral proceedings held before the Board on 7 October 2010, the appellant/proprietor requested that the decision under appeal be set aside and that the patent be maintained on the basis of a single request filed during the oral proceedings, being a replacement request for all previous requests and consisting of claims 1 to 6, entitled "New Second Auxiliary Request".

Appellant/opponents OI, OII and OIV and opponent OIII all requested, as their sole requests, that the decision under appeal be set aside and that the European patent No. 1 157 963 be revoked.
Appellant/opponent OII withdrew its request to record the oral proceedings.

X. Claim 1 of the sole request reads as follows:

"A wheeled loader having a hydraulic system for providing a ride improvement means, the hydraulic system including a loader arm assembly (16) which carries a working implement (18) and which is connected to a body (10) of the loader, and which loader arm assembly (16) is moveable between raised and lowered positions by means of a hydraulic ram means (20), the hydraulic ram means (20) including a piston rod (22) which is pivotally connected to an outer part (16a) of the loader arm assembly (16), and a cylinder part (21) which is pivotal connected to a part of the body (10), and in which a hydraulic accumulator (30) is connected to the hydraulic ram means (20) wherein the loader arm assembly (16) is connected at, or adjacent to, the rear end thereof to the body (10) at, or adjacent to, the rear end thereof so that the loader arm assembly (16) extends forwardly whereby, in a lowered position of the loader arm assembly (16), the working implement (18) is disposed in front of the body (10) wherein the first chamber (25) and the second chamber (26) of the hydraulic ram means (20) are connected to a selection valve means (40) adapted to feed fluid under pressure to the first chamber (25) of the ram means (20) and to receive fluid at a lower pressure from the second chamber (26) of the ram means (20) in order to raise the loader arm assembly (16) or to feed fluid under pressure to said second chamber (26) of the ram means (20) and receive fluid at a lower pressure from said first chamber (25) of the ram means (20) to lower the loader arm assembly (16), the hydraulic system including further a first and a second control valve (32, 33) characterised in that the first control valve

(32) is connected by a rigid pipe (37) to a line (38), which line comprises a rigid pipe (38a) and a flexible line (38b), the rigid pipe (38a) being connected to the first chamber (25) and to a hose burst check valve (39) and the line (38) being connected to a first port (40a) of the selection valve means (40), between said first chamber (25) and the selection valve means (40), and to said accumulator (30) by a pipe (31), the first control valve (32) being movable between a first position in which passage of hydraulic fluid therethrough to the accumulator (30) is prevented, to a second position in which passage of hydraulic fluid therethrough is permitted, and that the second control valve (33) is connected between said second chamber (26) and a low pressure region (35), the second control valve (33) being movable between a first position in which passage of hydraulic fluid therethrough to and from the low pressure region is prevented, to a second position in which passage of hydraulic fluid therethrough to or from the low pressure region is permitted, and the hose burst check valve (39) being in the line (38) between the first chamber (25) and the selection valve means (40), between the selection valve means (40) and the connection of the first control valve (32) to the said line (38) such that the hose burst check valve (39) is normally closed to prevent fluid under pressure passing from said first chamber (25) to the selection valve means (40) and the hose burst check valve (39) being a pilot valve that is normally maintained closed in the direction to prevent flow of fluid under pressure from the first chamber (25) to the selection valve means (40) but may be opened by a supply of pilot pressure on a line (41) comprising a rigid pipe from a line (42), comprising a rigid pipe (42a) and flexible hoses (42b),

which extends between a second port (40b) of the selection valve means (40) and the second chamber (26) of the ram means (20), the line (42) being connected by a line (43) to the second control valve (33), there being a one way check valve within the hose burst check valve (39), the pilot valve having hydraulic fluid responsive means responsive to hydraulic fluid pressure in the second chamber (26) to open said pilot valve and there being means (41) to connect said hydraulic fluid responsive means to said second chamber (26), and wherein the first control valve (32) and the hose burst check valve (39) are mounted directly on the hydraulic ram means (20)."

XI. The appellant/proprietor's arguments in regard to the issue of Article 123(2) EPC may be summarised as follows:

Claim 1 met the requirements of Article 123(2) EPC. The features of claim 1 were disclosed in combination in the Figures and the description. In particular, regarding the last features of claim 1:

"and wherein the first control valve (32) and the hose burst check valve (39) are mounted directly on the hydraulic ram means (20)",

this combination of features was disclosed by Figure 1 when read with the associated description, since in Figure 1 it could be seen that due to the rigid pipe 38a connected to both the front chamber 25 of the ram means 20 and to the hose burst check valve 39, and connected to the first control valve 32 by a rigid pipe 37, all of which was already defined in the claim, the

first control valve 32 and the hose burst check valve were the only elements which were necessarily mounted on the ram means 20. As shown in Figure 1, the second control valve 33 was specifically not mounted on the ram means 20, even though paragraph [0027] of the filed application (published A2 version) stated that "in this example the accumulator 30, valves 32, 33 and check valve 39 are all disposed on the cylinder 21...". Paragraph [0027] additionally stated that "if desired one or more of these components may be positioned as desired ...", whereby the components identified were specifically components 30, 32, 33 and 39. The skilled person was thus presented unambiguously with the disclosure that - in view of the necessity to have components 32 and 39 on the ram means due to the rigid connections therewith, and component 33 off the ram means as shown - the only remaining component in this embodiment of those listed, i.e. the accumulator, had necessarily to be the one which was not mounted on the ram means. Indeed, whilst various connecting elements in the description were described as being rigid, it was notable that pipe 31 which connected the first control valve 32 to the accumulator 30 was specifically not described in this way, which meant that it could even be flexible. The only logical and thus unambiguous conclusion to be drawn was that the accumulator did not need to be mounted on the ram means when the first valve and hose burst valve 39 were. This was reinforced for example by the declaration in annex 8 and in particular annexes 8B and 8C thereof, where the photographs numbered 13 to 15 in annex 8C showed that the accumulator need not be mounted on the cylinder and that the connecting pipe to the accumulator would not need to be rigid.

There was also no reason, when considering the purpose of the invention and the essential features thereof, to define the accumulator 30 as being mounted on the ram means; in particular, there was no technical reason for such a mounting and this was clear from reading paragraph [0027] which allowed a different placement. The description of the embodiment was also more general than the specific embodiment shown and this would be recognised by a skilled reader when considering the filed application, even without the specific indication in paragraph [0027]. The mounting of the accumulator on the ram would thus not be understood as limiting the disclosure.

XII. The respective arguments of the appellants/opponents may be summarised as follows:

OI: The requirement of Article 123(2) EPC was not met, because the only embodiment using a pivoting ram means, as now defined, had the accumulator 30 mounted on the cylinder 21 of the ram means 20. This was also confirmed in paragraph [0018].

OII: Further to OI's comments, it should be added that paragraph [0027] merely indicated that the location on the cylinder 21 could be as desired, not that a mounting might be elsewhere than the cylinder. The mounting of the hose burst valve and first check valve on the ram means, and their connection by rigid pipes, required that the accumulator was also rigidly mounted with respect to the ram means, as shown. Use of a further hose burst check valve would otherwise be required and such an arrangement was not disclosed, in

particular if the Board determined that the term "connected" in claim 1, as used to define the extent of pipe 38a, excluded further flexible hoses. Pipe 31 was obviously rigid.

OIV - The requirement of Article 123(2) EPC was not met. The term "connected" in claim 1 could imply a physical or a fluid connection. The location of hose burst check valve 39 and the connection of line 37 with line 38 were thus not defined in the manner disclosed but instead left open further connections possibilities such as extra hoses. At least one further hose burst check valve would be needed if another flexible hose other than at line 38b was included, and this was not disclosed.

XIII. The arguments of opponent OIII may be summarised as follows:

The requirement of Article 123(2) EPC was not met since, if claim 1 was understood to mean that line 38a was rigid along its entire length, the pipe 31 also had to be rigid. This also meant the accumulator 30 was mounted on the cylinder, as was stated in paragraph [0018]. This specific arrangement had not been defined.

Reasons for the Decision

1. *Article 123(2) EPC*

1.1 Claim 1 defines an arrangement of a wheeled loader with a hydraulic system, in which the hydraulic ram means is connected to the wheeled loader body and to the loader

arm assembly. This is defined in claim 1, in part, as follows:

"the hydraulic ram means (20) including a piston rod (22) which is pivotally connected to an outer part (16a) of the loader arm assembly (16), and a cylinder part (21) which is pivotal connected to a part of the body (10),"

These features are taken from paragraphs [0014] and [0017] of the filed application seen in combination.

1.2 Claim 1 also defines the mounting of the first control valve and the hose burst check valve as follows:

"the first control valve (32) and the hose burst check valve (39) are mounted directly on the hydraulic ram means (20)."

1.3 The only disclosure of a ram means in the application as filed is that described with respect to the pivotal ram means of Figure 1. The description of this embodiment discloses, in paragraph [0018], in addition to the mounting of the first control valve and the hose burst check valve as defined above (which is described in paragraph [0020]), the following:

"Mounted on the cylinder 21 is a conventional accumulator means 30 ... connected by a pipe 31 to a first control valve 32."

1.4 Thus, the application as originally filed, in respect of the pivotal arrangement of the ram means, discloses that the accumulator is mounted on the cylinder 21 of

the ram means. Indeed, since it is not disclosed that pipe 31 is flexible in the embodiment of Figure 1 and since flexible connections have been clearly indicated in other parts of the Figure, it is evident that the terminology "mounted on the cylinder" as used to describe the accumulator mounting is entirely in keeping with the use of a rigid pipe 31. The second control valve 33 is described in paragraph [0018] as being "connected by a line 34 comprising flexible hoses and/or rigid pipes to an hydraulic reservoir or other low pressure area". Due to the use of flexible hoses, the position of the second control valve 33 as shown (i.e. not mounted on the cylinder) is also entirely in accordance with the arrangement in Figure 1.

1.5 Paragraph [0027] of the application as originally filed states the following:

"Whilst in this example the accumulator 30, valves 32, 33 and check valve 39 are all disposed on the cylinder 21, if desired one or more of these components may be positioned as desired and made of material as desired where permitted by local regulations."

This paragraph does not provide a disclosure of an arrangement where "only" two valves, namely the valve 32 (i.e. the first control valve of claim 1) and the check valve 39 (i.e. the hose burst check valve of claim 1), are mounted on the cylinder, as now covered by claim 1. In fact, this paragraph makes no unambiguous disclosure of how an arrangement is structured in which one or more valves might be mounted as desired. There is thus no disclosure as defined in claim 1, where specifically only the first control

valve 32 and the check valve 39 are on the cylinder while the accumulator and second control valve are merely connected in the way defined in claim 1.

The combination of features now claimed thus constitutes a selection of a specific arrangement from the number of non-specific arrangements allowed by paragraph [0027], without a basis in the disclosure existing for such a specific selection. Further, such a selection has also been made on the assumption that a skilled person would unambiguously derive that all the other connections and components defined in the claim (and disclosed with regard to the embodiment of Figure 1) would remain unaltered when mounting merely components 32 and 39 on the ram means, for which there is also no basis in the disclosure, contrary to Article 123(2) EPC.

1.6 The appellant/proprietor has argued that an unambiguous disclosure is however present because line 38a and line 37 are defined as rigid and line 38a is connected to the first chamber 25 of the ram means and because the second control valve 33 is depicted as not being on the ram, which requires only the fixed location of the first control valve 32 and hose burst check valve 39 as defined, leaving only the accumulator mounting to be chosen "as desired" from paragraph [0027] as the only possible option. However, the Board finds this argument unconvincing because paragraph [0027] does not state unambiguously how any of the valves may be arranged when one or more of these is "positioned as desired". It is thus pure speculation on behalf of the appellant/proprietor to suggest that a skilled person would deviate from the arrangement in Figure 1 by

keeping all positions and connections the same apart from the accumulator. Instead, the arrangement of a rigid pipe 38a connecting the first chamber 25 and the hose burst check valve 39, and the rigid pipe 37 connecting the first control valve to the line 38a (as defined already in claim 1) can only be derived from the Figure 1 embodiment (and the description thereof in the further hydraulics explanation). This pivotal ram embodiment thus only discloses, when selecting the particular arrangement of rigid pipes 37 and 38a with valves 32 and 39 on the ram, the mounting of the accumulator 30 on the cylinder 21 as in paragraph [0018].

1.7 The fact that paragraph [0027] mistakenly states that in the example (i.e. Figure 1) the second valve 33 is disposed on the cylinder, whereas in reality Figure 1 shows it off the cylinder, is also not a disclosure which would allow a skilled person unambiguously to derive that, from the possibilities within paragraph [0027], only the accumulator's mounting or position is left to be chosen in a way "as desired". Instead, this simply leaves it unspecified as to whether a position of valve 33 on or off the cylinder was intended, without any further information as to how arrangements might be structured when the valve 33 is mounted on the cylinder. In the situation in Figure 1, the reason that the second valve 33 can be off the cylinder (which is itself of course pivotally moving with respect to the body) is because a flexible line 43 is present in that particular embodiment. No flexible line is disclosed in claim 1 for example for connecting the second valve, merely a line 43.

1.8 The appellant/proprietor's argument that the accumulator can be mounted elsewhere than on the cylinder because pipe 31 (which connects the first control valve 32 to the accumulator 33) is not defined as being rigid does not alter the foregoing conclusions. Pipe 31 is defined neither as being flexible nor rigid, but merely as providing a connection. Indeed, the disclosure of this pipe in paragraph [0018] is in the same sentence describing the mounting of the accumulator 30 on the cylinder 21, so in as far as the disclosure of pipe 31 is concerned it is only associated with the accumulator 30 being on the cylinder. The fact that pipe 31 is not defined as either rigid or flexible therefore provides no disclosure from which the skilled person can unambiguously derive an arrangement in which the accumulator would be off the cylinder whilst the first control valve and hose burst check valve are on the ram means.

The appellant/proprietor's reference to annex 8 (Braud declaration) and the annexes 8B and 8C thereof, in particular the photographs in annex 8C, do not alter the foregoing conclusions because the Braud declaration is not part of the content of the application as filed. Furthermore, the photographs depict a particular arrangement where a seemingly rigid pipe (pipe 31) is used to connect the first control valve to the accumulator, by attaching the accumulator to the end of this. The accumulator thus moves in unison with the other components attached directly and indirectly to the ram means, whereby it is noted that this specific arrangement is anyway not defined in claim 1.

1.9 The appellant/proprietor also argued that when considering the purpose of the invention there was no technical reason to define the accumulator 30 as being mounted on the ram means and thus that it was not essential to define the accumulator as being mounted on the ram means, especially in light of paragraph [0027]. However, the Board does not find this argument convincing because the nature of features as being essential (or not) to the invention, is not a matter which relates to the derivation of a direct and unambiguous disclosure of a particular combination of features (i.e. that combination now defined in claim 1) from the content of the application as filed. Moreover, there appears to be nothing derivable from the application as originally filed which unambiguously discloses that the mounting of the accumulator 33 is not functionally related to the combination of the other features already defined in claim 1.

1.10 The appellant/proprietor's argument that the description is more general than the embodiment in Figure 1, whereby a skilled person would realise that a limitation to the embodiment in Figure 1 was not an intended requirement, is also not convincing because whilst the description indeed mentions some inessential features that might be omitted (such as e.g. the accumulator being made specifically of steel - "accumulator made of, in the present example, steel and ..."), this does not provide an unambiguous basis to derive that other features of a specific embodiment may be omitted or altered in an unknown way, especially as is the case with the mounting of the accumulator which is explicitly defined as being on the cylinder in the specific embodiment.

1.11 The requirement of Article 123(2) EPC is thus not met and the sole request is therefore not allowable.

1.12 In as far as the appellant/opponents made further objections under Article 123(2) EPC, these objections do not need to be considered for the purposes of this decision.

2. Since the appellant/proprietor's only request is not allowable, the patent must be revoked.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The European patent is revoked.

The Registrar: The Chairman:

M. Patin P. Alting van Geusau