Datasheet for the decision of 20 June 2014

Case Number: T 2484/10 - 3.2.06
Application Number: 05000406.8
Publication Number: 1522520
IPC: B66F9/22, E02F9/22
Language of the proceedings: EN

Title of invention:
Method of lowering a loader arm

Patent Proprietor:
J.C. BAMFORD EXCAVATORS LIMITED

Opponents:
CNH Belgium N.V.
MANITOU BF
Deere & Company

Headword:

Relevant legal provisions:
EPC Art. 123(2)

Keyword:
Amendments - added subject-matter (yes)

Decisions cited:
Catchword:
DECISION
of Technical Board of Appeal 3.2.06
of 20 June 2014

Appellant: J.C. BAMFORD EXCAVATORS LIMITED
(Patent Proprietor)
Rocester
Uttexeter
Staffordshire ST14 5JP (GB)

Representative: Jones, John Bryn
Withers & Rogers LLP
4 More London Riverside
London
SE1 2AU (GB)

Respondent: CNH Belgium N.V.
(Opponent 1)
Leon Claeysstraat, 3A
8210 Zedelgem (BE)

Representative: Feldkamp, Rainer
Garmischer Strasse 4
80339 München (DE)

Respondent: MANITOU BF
(Opponent 2)
430, rue de l'Aubinière
44158 Ancenis (FR)

Representative: Kaspar, Jean-Georges
Brema-Loyer
Le Centralis
63 avenue du Général Leclerc
92340 Bourg-la-Reine (FR)

Respondent: Deere & Company
(Opponent 3)
One John Deere Place
Moline, IL 61265-8098 (US)

Representative: Holst, Sönke
John Deere GmbH & Co. KG
Global Intellectual Property Services
John-Deere-Strasse 70
68163 Mannheim (DE)
Decision under appeal: Decision of the Opposition Division of the European Patent Office posted on 19 October 2010 revoking European patent No. 1522520 pursuant to Article 101(3)(b) EPC.

Composition of the Board:
Chairman  M. Harrison
Members: M. Hannam
          W. Sekretaruk
Summary of Facts and Submissions

I. An appeal was filed by the proprietor against the decision of the opposition division revoking European Patent No. 1 522 520, in which it found that the ground for opposition under Article 100(c) EPC prejudiced the maintenance of the patent due to the subject-matter of claim 1 extending beyond the content of the application as filed.

II. With its grounds of appeal, the appellant requested that the decision under appeal be set aside and that the claims according to a main request be admitted and the case be remitted to the opposition division for further prosecution. Auxiliarily the appellant requested that the case be remitted to the opposition division on the basis of one of the auxiliary requests 1 - 4.

III. The respondents (opponents I, II and III - hereafter OI, OII and OIII respectively) each requested that the appeal be dismissed, arguing that the subject-matter of claim 1 of the main request and of each of the auxiliary requests 1 - 4 at least did not meet the requirement of Article 123(2) EPC.

IV. The Board issued a summons to oral proceedings including a communication containing its provisional opinion, in which it indicated inter alia that the subject-matter of claim 1 of the main request and of each of the auxiliary requests 1 - 4 appeared not to meet the requirement of Article 123(2) EPC for several reasons.

V. With letter of 15 April 2014 the appellant withdrew its request for oral proceedings.
VI. With letter dated 23 May 2014, the Board cancelled the scheduled oral proceedings.

VII. Claim 1 of the main request reads as follows:
"A method of lowering a loader arm assembly (16) of a wheeled loader in which the loader arm assembly (16) is connected to a body (10) of the loader so that in a lowered position of the loader arm assembly (16), a working implement (18) carried at an outer end of the loader arm assembly (16) is disposed in front of the body (10), the body (10) having a rear end (13) and a front end (14), the loader arm assembly (16) being pivotally mounted to the body (10) about an axis (15) adjacent the rear end (13) of the body (10), the loader including a hydraulic system, and the loader arm assembly (16) being movable between raised and lowered positions by means of a hydraulic ram means (20) of the hydraulic system, the hydraulic ram means (20) including first (25) and second (26) chambers and comprising a cylinder part (21) pivotally connected at its lower end to a part of the body (10) and a piston rod (22) pivotally connected an outer part (16a) of the loader arm assembly (16), the hydraulic system further including a selection valve means (40) connected to each of the first and second chambers (25, 26) of the hydraulic ram means (20), a hose burst check valve (39) connected between the first chamber (25) and the selection valve means (40), the hose burst check valve (39) being a pilot valve such that the pilot valve is normally closed to prevent fluid under pressure passing from the first chamber (25) to the selection valve means (40), and the pilot valve having hydraulic fluid responsive means responsive to hydraulic fluid pressure in a line (41), connecting the hydraulic fluid responsive means to the second chamber (26), to open
the pilot valve, the 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), there being a one-way check valve within the hose burst check valve (39), and there being a ride improvement means including a hydraulic accumulator (30) mounted on the cylinder (21) which is connected to the first chamber (25) of the hydraulic ram means (20) by a pipe (31) which connects the hydraulic accumulator (30) to a first control valve (32) and a line (37), comprising a rigid pipe, which connects the first control valve (32) to a line (38) between the first chamber (25) and a first port (40a) of the selection valve means (40) via the hose burst check valve (39), the line (38) comprising a rigid pipe (38a) and a flexible line (38b), the rigid pipe (38a) being connected to the first chamber (25) and the hose burst protection vale (sic, 39), the first control valve (32) being movable between a first position in which passage of hydraulic fluid therethrough is prevented in one direction and a second position in which passage of hydraulic fluid therethrough is permitted and there being a second control valve (33) which is connected between the second chamber (26) and a low pressure region (35), a line (43) connecting the second control valve (33) to the line (42), the second control valve (33) being moveable between a first position in which passage of hydraulic fluid therethrough to and from the low pressure region (35) is prevented, and a second position in which the flow of hydraulic fluid therethrough to or from the low pressure region (35) is permitted, the first control valve (32) and hose burst check valve (39) being disposed on the cylinder part (21) of the hydraulic ram means (20), such that:
when it is desired to lift the loader arm assembly (16), fluid under pressure is fed from the first port (40a) of the selection valve means (40) along the line (38) through the one-way check valve within the hose burst check valve (39), there is no electrical supply to the first and second control valves (32, 33) which are both in their first positions, the loader arm assembly (16) is raised, by the supply of fluid to the first chamber (25), fluid under lower pressure is fed from the second chamber (26) along the line (42) into the second port (40b) of the selection valve means (40),

when it is desired to lower the loader arm assembly (16) the selection valve means (40) is actuated to feed fluid under pressure through the second port (40b) along the line (42) into the second chamber (26) and thus fluid under lower pressure is fed from the first chamber (25) along the line (38) through the pilot valve which is maintained in an open position by virtue of supply of pilot pressure on the line (41),

when it is desired to operate the ride improvement means, an electrical supply is provided to the first and second control valves (32, 33) to move the first control valve (32) to the second position and to move the second control valve (33) to the second position,

when it is desired to raise the loader arm assembly (16) whilst the ride improvement means is engaged, the selection valve menas (sic, 40) is actuated to feed fluid from the first port (40a) of the selection valve means (40) under pressure along line (38) into the first chamber (25) whilst fluid from the second chamber (26) passes along the line (42) back to the selection valve means (40), the first control valve (32) being in the second position and the second control valve (33) being in the second position,

when it is desired to lower the loader arm assembly
(16) whilst the ride improvement means is engaged, the selection valve means (40) is actuated to raise pressure at second port (40b), collapsing the electrical signal to the second control valve (33), the pilot valve being maintained open by pilot pressure fluid on line (41), the second control valve (33) being in the first position and the first control valve (32) being in the second position,

the method including operating the selection valve means (40) to feed fluid under pressure to the second chamber (26) of the hydraulic ram means (20) and to receive fluid at a lower pressure from said first chamber (25) of the hydraulic ram means (20) to lower the loader arm assembly (16), the method including sensing the position of the selection valve with a switch means (44) when the loader arm assembly (16) is lowered, whereupon the second control valve (33) is moved to the first position in response, to prevent the passage of hydraulic fluid to the low pressure region (35)."

Claim 1 of auxiliary request 1 reads as follows:

"A method of lowering a loader arm assembly (16) of a wheeled loader in which the loader arm assembly (16) is connected to a body (10) of the loader so that in a lowered position of the loader arm assembly (16), a working implement (18) carried at an outer end of the loader arm assembly (16) is disposed in front of the body (10), the body (10) having a rear end (13) and a front end (14), the loader arm assembly (16) being pivotally mounted to the body (10) about an axis (15) adjacent the rear end (13) of the body (10), the loader including a hydraulic system, and the loader arm assembly (16) being movable between raised and lowered positions by means of a hydraulic ram means (20) of the hydraulic system, the hydraulic ram means (20)
including first (25) and second (26) chambers and comprising a cylinder part (21) pivotally connected at its lower end to a part of the body (10) and a piston rod (22) pivotally connected an outer part (16a) of the loader arm assembly (16), the hydraulic system further including a selection valve means (40) connected to each of the first and second chambers (25, 26) of the hydraulic ram means (20), a hose burst check valve (39) connected between the first chamber (25) and the selection valve means (40), the hose burst check valve (39) being a pilot valve such that the pilot valve is normally closed to prevent fluid under pressure passing from the first chamber (25) to the selection valve means (40), and the pilot valve having hydraulic fluid responsive means responsive to hydraulic fluid pressure in a line (41), connecting the hydraulic fluid responsive means to the second chamber (26), to open the pilot valve, the 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), there being a one-way check valve within the hose burst check valve (39), and there being a ride improvement means including a hydraulic accumulator (30) mounted on the cylinder (21) which is connected to the first chamber (25) of the hydraulic ram means (20) by a pipe (31) which connects the hydraulic accumulator (30) to a first control valve (32) and a line (37), comprising a rigid pipe, which connects the first control valve (32) to a line (38) between the first chamber (25) and a first port (40a) of the selection valve means (40) via the hose burst check valve (39), the line (38) comprising a rigid pipe (38a) and a flexible line (38b), the rigid pipe (38a) being connected to the first chamber (25) and the hose burst protection valve (sic, 39), the first control
valve (32) being an electrically operated solenoid valve and being movable between a first position in which passage of hydraulic fluid therethrough is prevented in one direction and a second position in which passage of hydraulic fluid therethrough is permitted and there being a second control valve (33) which is connected between the second chamber (26) and a low pressure region (35), a line (43) connecting the second control valve (33) to the line (42), the first control valve (32) being spring biased by a spring means (36) to the first position, the second control valve (33) being an electrically operated solenoid valve and being moveable between a first position in which passage of hydraulic fluid therethrough to and from the low pressure region (35) is prevented, and a second position in which the flow of hydraulic fluid therethrough to or from the low pressure region (35) is permitted, the second control valve (33) being biased by a spring means (36) to the first position, the first control valve (32) and hose burst check valve (39) being disposed on the cylinder part (21) of the hydraulic ram means (20), such that:

when it is desired to lift the loader arm assembly (16), fluid under pressure is fed from the first port (40a) of the selection valve means (40) along the line (38) through the one-way check valve within the hose burst check valve (39), there is no electrical supply to the first and second control valves (32, 33) which are both in their first positions, the loader arm assembly (16) is raised, by the supply of fluid to the first chamber (25), fluid under lower pressure is fed from the second chamber (26) along the line (42) into the second port (40b) of the selection valve means (40),

when it is desired to lower the loader arm assembly (16) the selection valve means (40) is actuated to feed
fluid under pressure through the second port (40b) along the line (42) into the second chamber (26) and thus fluid under lower pressure is fed from the first chamber (25) along the line (38) through the pilot valve which is maintained in an open position by virtue of supply of pilot pressure on the line (41), when it is desired to operate the ride improvement means, an electrical supply is provided to the first and second control valves (32,33) to move the first control valve (32) to the second position and to move the second control valve (33) to the second position, when it is desired to raise the loader arm assembly (16) whilst the ride improvement means is engaged, the selection valve means (40) is actuated to feed fluid from the first port (40a) of the selection valve means (40) under pressure along line (38) into the first chamber (25) whilst fluid from the second chamber (26) passes along the line (42) back to the selection valve means (40), the first control valve (32) being in the second position and the second control valve (33) being in the second position, when it is desired to lower the loader arm assembly (16) whilst the ride improvement means is engaged, the selection valve means (40) is actuated to raise pressure at second port (40b), collapsing the electrical signal to the second control valve (33), the pilot valve being maintained open by pilot pressure fluid on line (41), the second control valve (33) being in the first position and the first control valve (32) being in the second position, the method including operating the selection valve means (40) to feed fluid under pressure to the second chamber (26) of the hydraulic ram means (20) and to receive fluid at a lower pressure from said first chamber (25) of the hydraulic ram means (20) to lower the loader arm assembly (16), the method including
sensing the position of the selection valve with a switch means (44) when the loader arm assembly (16) is lowered, whereupon the second control valve (33) is moved to the first position in response, to prevent the passage of hydraulic fluid to the low pressure region (35)."

Claim 1 of auxiliary request 2 reads as per claim 1 of auxiliary request 1 with the following amendments:
- The single recitation of a 'switch means (44)' in auxiliary request 1 is amended to read 'switch (44)'; and
- The feature ', wherein the selection valve means (40) is manually operated' is appended to the claim.

Claim 1 of auxiliary request 3 reads as per claim 1 of auxiliary request 2 with the addition after '..when the loader arm assembly (16) is lowered,,' of the feature 'by sensing operation of the selection valve means (40) to raise pressure at the second port (40b),'.

Claim 1 of auxiliary request 4 reads as follows:
"A method of operating a loader arm assembly (16) of a wheeled loader in which the loader arm assembly (16) is connected to a body (10) of the loader so that in a lowered position of the loader arm assembly (16), a working implement (18) carried at an outer end of the loader arm assembly (16) is disposed in front of the body (10), the body (10) having a rear end (13) and a front end (14), the loader arm assembly (16) being pivotally mounted to the body (10) about an axis (15) adjacent the rear end (13) of the body (10), the loader including a hydraulic system, and the loader arm assembly (16) being movable between raised and lowered positions by means of a hydraulic ram means (20) of the hydraulic system, the hydraulic ram means (20)
including first (25) and second (26) chambers and comprising a cylinder part (21) pivotally connected at its lower end to a part of the body (10) and a piston rod (22) pivotally connected an outer part (16a) of the loader arm assembly (16), the hydraulic system further including a selection valve means (40) connected to each of the first and second chambers (25, 26) of the hydraulic ram means (20), a hose burst check valve (39) connected between the first chamber (25) and the selection valve means (40), the hose burst check valve (39) being a pilot valve such that the pilot valve is normally closed to prevent fluid under pressure passing from the first chamber (25) to the selection valve means (40), and the pilot valve having hydraulic fluid responsive means responsive to hydraulic fluid pressure in a line (41), connecting the hydraulic fluid responsive means to the second chamber (26), to open the pilot valve, the 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), there being a one-way check valve within the hose burst check valve (39), and there being a ride improvement means including a hydraulic accumulator (30) mounted on the cylinder (21) which is connected to the first chamber (25) of the hydraulic ram means (20) by a pipe (31) which connects the hydraulic accumulator (30) to a first control valve (32) and a line (37), comprising a rigid pipe, which connects the first control valve (32) to a line (38) between the first chamber (25) and a first port (40a) of the selection valve means (40) via the hose burst check valve (39), the line (38) comprising a rigid pipe (38a) and a flexible line (38b), the rigid pipe (38a) being connected to the first chamber (25) and the hose burst protection valve (sic, 39), the first control
valve (32) being an electrically operated solenoid valve and being movable between a first position in which passage of hydraulic fluid therethrough is prevented in one direction and a second position in which passage of hydraulic fluid therethrough is permitted and there being a second control valve (33) which is connected between the second chamber (26) and a low pressure region (35), a line (43) connecting the second control valve (33) to the line (42), the first control valve (32) being spring biased by a spring means (36) to the first position, the second control valve (33) being an electrically operated solenoid valve and being moveable between a first position in which passage of hydraulic fluid therethrough to and from the low pressure region (35) is prevented, and a second position in which the flow of hydraulic fluid therethrough to or from the low pressure region (35) is permitted, the second control valve (33) being biased by a spring means (36) to the first position, the first control valve (32) and hose burst check valve (39) being disposed on the cylinder part (21) of the hydraulic ram means (20), the method comprising:

lifting the loader arm assembly (16), by feeding fluid under pressure from the first port (40a) of the selection valve means (40) along the line (38) through the one-way check valve within the hose burst check valve (39), there being no electrical supply to the first and second control valves (32, 33) which are both in their first positions, the loader arm assembly (16) being raised, by the supply of fluid to the first chamber (25), fluid under lower pressure being fed from the second chamber (26) along the line (42) into the second port (40b) of the selection valve means (40),

lowering the loader arm assembly (16) by actuating the selection valve means (40) to feed fluid under pressure through the second port (40b) along the line
(42) into the second chamber (26) and thus fluid under lower pressure is fed from the first chamber (25) along the line (38) through the pilot valve which is maintained in an open position by virtue of supply of pilot pressure on the line (41),

operating the ride improvement means by providing an electrical supply to the first and second control valves (32,33) to move the first control valve (32) to the second position and to move the second control valve (33) to the second position,

raising the loader arm assembly (16) whilst the ride improvement means is engaged by actuating the selection valve means (40) to feed fluid from the first port (40a) of the selection valve means (40) under pressure along line (38) into the first chamber (25) whilst fluid from the second chamber (26) passes along the line (42) back to the selection valve means (40), the first control valve (32) being in the second position and the second control valve (33) being in the second position,

lowering the loader arm assembly (16) whilst the ride improvement means is engaged, by actuating the selection valve means (40) to raise pressure at second port (40b), collapsing the electrical signal to the second control valve (33), the pilot valve being maintained open by pilot pressure fluid on line (41), the second control valve (33) being in the first position and the first control valve (32) being in the second position, such that the method includes operating the selection valve means (40) to feed fluid under pressure to the second chamber (26) of the hydraulic ram means (20) and to receive fluid at a lower pressure from said first chamber (25) of the hydraulic ram means (20) to lower the loader arm assembly (16), the method including sensing the position of the selection valve with a switch (44) when
the loader arm assembly (16) is lowered, whereupon the second control valve (33) is moved to the first position in response, to prevent the passage of hydraulic fluid to the low pressure region (35), wherein the selection valve means (40) is manually operated."

VIII. The appellant's arguments relevant to the decisive issues may be summarised as follows:

Regarding claim 1 of the main request, the added feature 'sensing the position of the selection valve with a switch means (44)' was disclosed in paragraph 20 along with the figures of the application as filed. This paragraph stated that the actuation of the selection valve means (40) to raise pressure at port (40b), by virtue of switch (44), had the effect of collapsing the electrical signal to the second control valve (33). Particularly with reference to Fig. 2 and the symbol used for the switch and valve therein, if actuation of the selection valve means caused the collapse of the electrical signal through operation of the switch, then it was clear that the switch sensed (directly or indirectly) the position of the selection valve means.

With respect to auxiliary requests 1 - 4, the comments presented in relation to the main request in this regard applied equally to these requests.

IX. The respondents' arguments relevant to the decisive issues may be summarised as follows:

Respondent OI
There was no disclosure of 'sensing the position of the selection valve with a switch means' in the application
as filed, contrary to the requirement of Article 123(2) EPC. Claim 1 as filed was directed to 'sensing operation of the selection valve' whilst col.4, lines 13-16 of the A2 publication disclosed the 'actuation of the valve (40)', i.e. not the claimed sensing of the position of the valve. The same objection applied to auxiliary requests 1-4.

Respondent OII
The opposition division had already decided that the feature 'sensing the position of the selection valve with a switch means' extended the European patent beyond the content of the application as filed. Since this feature was still in all requests, the same reasoning still held for the main request and auxiliary requests 1 - 4.

Respondent OIII
The disclosed sensing of the operation of the valve did not provide a basis for the position of the valve to be sensed. With no detail of how the valve was operated in the description, the alleged direct or indirect sensing of the valve position could not be considered disclosed. The same arguments applied to the auxiliary requests 1 - 4. All requests thus failed to meet the requirement of Article 123(2) EPC.

Reasons for the Decision

1. Main request

1.1 The subject-matter of claim 1 does not meet the requirement of Article 123(2) EPC.

1.2 In its preliminary opinion annexed to the summons to oral proceedings, the Board expressed its view that
claim 1 of the main request had been so amended that its subject-matter extended beyond the content of the application as filed, contrary to the requirement of Article 123(2) EPC, based inter alia on the presence of the feature "sensing the position of the selection valve with a switch means (44)" (see item 2.2 of that opinion). No evidence or arguments to the contrary were filed by the appellant in response to the preliminary opinion, its response simply being to withdraw its request for oral proceedings, adding that it would not be attending the scheduled oral proceedings. In view of this, in combination with the preliminary opinion expressed by the Board and the lack of substantive response to the objections contained therein from the appellant, the oral proceedings were cancelled.

1.3 In the absence of any argument to the contrary from the appellant, the Board confirms its preliminary opinion that at least the added feature in claim 1, 'sensing the position of the selection valve with a switch means (44)’ is not disclosed in the application as originally filed, contrary to the requirement of Article 123(2) EPC.

1.4 There is neither an explicit nor an implicit disclosure of 'sensing the position' of the valve 40 with a switch means in the application as filed, rather the valve 40 is disclosed to be actuated by virtue of switch 44 (see col.4, lines 13-14 of the A-Publication – which corresponds to the text of the application as originally filed). Whilst operation of switch 44 is stated to collapse the electrical signal to valve 33 (see col.4, lines 14-15), this fails to provide the switch 44 with the ability to sense the position of the selection valve 40. Indeed, the only way for a switch
to 'sense' the position of a valve, by way of the presence or not of an electrical signal, is for an appropriate sensor to be included in the switch. There is, however, no mention or suggestion of any such sensor or sensing ability (be it direct or indirect) in the application as filed.

1.5 The main request is thus not allowable.

2. Auxiliary request 1

2.1 The subject-matter of claim 1 of auxiliary request 1 does not meet the requirement of Article 123(2) EPC.

2.2 As is the case for the main request, equally for auxiliary request 1 the appellant has provided no evidence or arguments to counter the preliminary opinion of the Board regarding this request. The Board thus confirms its finding that at least the added feature in claim 1 of auxiliary request 1, 'sensing the position of the selection valve with a switch means (44) ' is not disclosed in the application documents as filed. None of the features added to claim 1 by way of this request alters the foregoing reasoning; nor was it argued that they did.

2.3 Auxiliary request 1 is thus not allowable.

3. Auxiliary requests 2 - 4

3.1 The subject-matter of claim 1 of each of the auxiliary requests 2 - 4 does not meet the requirement of Article 123(2) EPC.

3.2 Claim 1 of each of these requests includes the feature 'sensing the position of the selection valve with a
switch (44)', rather than '...with a switch means (44)' as in claim 1 of the main request and auxiliary request 1. It is noted, however, that this amendment has no effect on the objection under Article 123(2) EPC raised against the main request and auxiliary request 1, since it is the sensing of the position of the valve which is found to offend Article 123(2) EPC, irrespective of whether this sensing is carried out with a switch or a switch means. Indeed, the appellant has not argued this to be the case either, stating for each of the auxiliary requests 2 - 4 that 'the comments presented above in relation to the main request apply equally to this request.'

3.3 Additionally, the appellant has provided no evidence or arguments to counter the preliminary opinion of the Board regarding these requests. The Board thus confirms its provisional opinion that at least the added feature in claim 1 of auxiliary requests 2 - 4, 'sensing the position of the selection valve with a switch (44)' is not disclosed in the application as originally filed, contrary to the requirement of Article 123(2) EPC.

3.4 Auxiliary requests 2 - 4 are thus not allowable.
Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

M. H. A. Patin M. Harrison

Decision electronically authenticated