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D E C I S I O N
of 16 May 2006

Case Number: T 0106/04 - 3.2.04

Application Number: 96303696.7

Publication Number: 0744144

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Title of invention:
Berth arrangement

Patentee:
KVAERNER MASA-YARDS OY

Opponent:
Compin
Aljo Aluminium-Bau Jonuscheit GmbH

Headword:
Berth/KVAERNER

Relevant legal provisions:
EPC Art. 54, 56, 84, 123

Keyword:
"Main request and second auxiliary request - inventive step (no)"
"First auxiliary request filed during oral proceedings inadmissible because raised issues could not be dealt with without adjournment of the oral proceedings"
"Third auxiliary request - inventive step (yes)"

Decisions cited:
T 1105/98

Catchword:
-

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Case Number: T 0106/04 **-** 3.2.04

D E C I S I O N
of the Technical Board of Appeal 3.2.04
of 16 May 2006

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Decision under appeal: **Interlocutory decision of the Opposition Division of the European Patent Office posted 25 November 2003 concerning maintenance of European patent No. 0744144 in amended form.**

Composition of the Board:

Chairman: M. Ceyte
Members: P. Petti
H. Preglau

Summary of Facts and Submissions

I. Two oppositions were filed against the European patent No. 0 744 144. In its interlocutory decision dated 25 November 2003 the opposition division found that the patent in an amended version based upon claim 1 filed during oral proceedings on 12 June 2003 met the requirements of the European Patent Convention.

II. On 23 January 2004 opponent I (hereinafter appellant I) lodged an appeal against this decision and simultaneously paid the appeal fee. A statement setting out the grounds of appeal was received on 19 March 2004.

On 26 January 2004 opponent II (hereinafter appellant II) lodged a further appeal against this decision and simultaneously paid the appeal fee. A statement setting out the grounds of appeal was received on 25 March 2004.

III. During the appeal proceedings the parties referred *inter alia* to the documents EP-A-630 600 (E2) and AT-B-271 789 (E13), to the drawing No. 65427, dated 22 March 1994, of COMPIN, the opponent's company, (hereinafter document E4) and the leaflet "Balofedern" of the company "Herrman Bansbach GmbH" (hereinafter document E11.3).

IV. By letter dated 13 April 2006 the patent proprietor (hereinafter respondent) filed four sets of amended claims on which a main request and three auxiliary requests were based.

V. Oral proceedings before the board were held on 16 May 2006.

At the oral proceedings the respondent filed an amended main request and three amended auxiliary requests.

Claim 1 of the main request reads as follows:

"1. A ship berth arrangement comprising
a holder (5),
journalling means for enabling the holder (5) to be turnably moved about a first turning axis (4) between a generally horizontal raised storage position and a generally vertical lowered position, and
a berth (1) turnably mounted on the holder (5) for turning movement, when the holder (5) is in the lowered position, about a second turning axis (6) between a folded up position close to the holder (5) and a horizontal use position,
the berth arrangement further comprising
a first gas spring means (10) which, when the berth (1) is in the folded up position, applies to the holder (5) over at least substantially the entire range of angular positions of the holder between the storage position and the lowered position a torque directed to turn the holder (5) in the direction from the lowered position to the storage position, and a second gas spring means (14) which, when the holder (5) is in the lowered position, applies to the berth (1) a torque directed to turn the berth (1) from the use position to the folded up position,
characterised in that
- the first gas spring means (10) is arranged to apply to the holder (5), when the holder is in the lowered

position, a holding torque directed to urge the holder (5) to turn toward the lowered position about the turning axis (4) and to be supported against a buffer structure (8) acting as a fixed stop,
and in that
- the second gas spring means (14) is arranged in such a manner that it exerts a torque turning the berth (1) toward the holder (5) in each position of the berth (1), whereas in the use position of the berth (1), the weight of the berth (1) overcomes this torque and keeps the berth in position."

Claim 1 of the first auxiliary request reads as follows:

"1. A ship berth arrangement comprising
a holder (5),
journalling means for enabling the holder (5) to be turnably moved about a first turning axis (4) between a generally horizontal raised storage position and a generally vertical lowered position, and
a berth (1) turnably mounted on the holder (5) for turning movement, when the holder (5) is in the lowered position, about a second turning axis (6) between a folded up position close to the holder (5) and a horizontal use position,
the berth arrangement further comprising
a first gas spring means (10) which, when the berth (1) is in the folded up position, applies to the holder (5) over at least substantially the entire range of angular positions of the holder between the storage position and the lowered position a torque directed to turn the holder (5) in the direction from the lowered position to the storage position, and a second gas spring means

(14) which, when the holder (5) is in the lowered position, applies to the berth (1) a torque directed to turn the berth (1) from the use position to the folded up position,

characterised in that

- the first gas spring means (10) is arranged
  - to apply to the holder (5), when the holder is in the lowered position, a holding torque directed to urge the holder (5) to turn toward the lowered position about the turning axis (4) and to be supported against a buffer structure (8) acting as a fixed stop,
  - and, as the berth/holder combination is lifted to the storage position, to exert a maximum torque just before the berth/holder combination reaches its fully retracted position in the storage position, whereas the torque exerted by the first gas spring means (10) on the berth/holder combination reaches the maximum value when the line joining the first turning axis (4) to the loading point (13) of the first gas spring means (10) on the holder (5) is at a right angle to the line joining to loading point (13) to the fixed bearing point (11) of the first gas spring means (10), and the torque exerted by the first gas spring means (10) is arranged to balance the gravitational force acting on the berth/holder combination when the combination is positioned between the fully retracted position and a position where the first spring means (10) exerts its maximum torque,
- and in that the second gas spring means (14) is arranged in such a manner that it exerts a torque turning the berth (1) toward the holder (5) in each position of the berth (1), whereas in the use position

of the berth (1), the weight of the berth (1) overcomes this torque and keeps the berth in position."

Claim 1 of the second auxiliary request reads as follows:

"1. A ship berth arrangement comprising
a holder (5),
journalling means for enabling the holder (5) to be turnably moved about a first turning axis (4) between a generally horizontal raised storage position and a generally vertical lowered position, and
a berth (1) turnably mounted on the holder (5) for turning movement, when the holder (5) is in the lowered position, about a second turning axis (6) between a folded up position close to the holder (5) and a horizontal use position,
the berth arrangement further comprising
a first gas spring means (10) which, when the berth (1) is in the folded up position, applies to the holder (5) over at least substantially the entire range of angular positions of the holder between the storage position and the lowered position a torque directed to turn the holder (5) in the direction from the lowered position to the storage position, and a second gas spring means (14) which, when the holder (5) is in the lowered position, applies to the berth (1) a torque directed to turn the berth (1) from the use position to the folded up position,
characterised in that
- the first gas spring means (10) is arranged
  - to apply to the holder (5), when the holder is in the lowered position, a holding torque directed to urge the holder (5) to turn toward the lowered

position about the turning axis (4) and to be supported against a buffer structure (8) acting as a fixed stop,

- and, as the berth/holder combination is lifted to the storage position, to exert a maximum torque just before the berth/holder combination reaches its fully retracted position in the storage position, whereas the torque exerted by the first gas spring means (10) on the berth/holder combination reaches the maximum value when the line joining the first turning axis (4) to the loading point (13) of the first gas spring means (10) on the holder (5) is at a right angle to the line joining the loading point (13) to the fixed bearing point (11) of the first gas spring means (10),

- in that the second gas spring means (14) is arranged in such a manner that it exerts a torque turning the berth (1) toward the holder (5) in each position of the berth (1), whereas in the use position of the berth (1), the weight of the berth (1) overcomes this torque and keeps the berth in position,

- and in that the second spring means (14), at one of its ends, is journalled at a point (15) fixed relative to the holder (5), and, at its opposite end, is journalled to a point (16) of the berth (1), between the second turning axis (6) and the back wall of the holder (5), when the berth (5) is in the use position."

Claim 1 of the third auxiliary request reads as follows:

"1. A ship berth arrangement comprising
a holder (5),
journalling means for enabling the holder (5) to be turnably moved about a first turning axis (4) between a generally horizontal raised storage position and a generally vertical lowered position, and
a berth (1) turnably mounted on the holder (5) for turning movement, when the holder (5) is in the lowered position, about a second turning axis (6) between a folded up position close to the holder (5) and a horizontal use position,
the berth arrangement further comprising
a first gas spring means (10) which, when the berth (1) is in the folded up position, applies to the holder (5) over at least substantially the entire range of angular positions of the holder between the storage position and the lowered position a torque directed to turn the holder (5) in the direction from the lowered position to the storage position, and a second gas spring means (14) which, when the holder (5) is in the lowered position, applies to the berth (1) a torque directed to turn the berth (1) from the use position to the folded up position,
characterised in that
- the first gas spring means (10) is arranged
  - to apply to the holder (5), when the holder is in the lowered position, a holding torque directed to urge the holder (5) to turn toward the lowered position about the turning axis (4) and to be supported against a buffer structure (8) acting as a fixed stop,
  - and, as the berth/holder combination is lifted to the storage position, to exert a maximum torque just before the berth/holder combination reaches its

fully retracted position in the storage position, whereas the torque exerted by the first gas spring means (10) on the berth/holder combination reaches the maximum value when the line joining the first turning axis (4) to the loading point (13) of the first gas spring means (10) on the holder (5) is at a right angle to the line joining the loading point (13) to the fixed bearing point (11) of the first gas spring means (10),

- in that the second gas spring means (14) is arranged in such a manner that it exerts a torque turning the berth (1) toward the holder (5) in each position of the berth (1), whereas in the use position of the berth (1), the weight of the berth (1) overcomes this torque and keeps the berth in position,
- and in that the second spring means (14), at one of its ends, is journalled at a point (15) fixed relative to the holder (5), and, at its opposite end, is journalled to a point (16) of the berth (1), between the second turning axis (6) and the back wall of the holder (5), which point (16) on the berth (1) is spaced laterally from said second turning axis (6) approximately the same distance when the berth (1) is in its folded up position and its use position."

VI. The appellants requested that the decision under appeal be set aside and the patent be revoked.

The respondent requested that the decision under appeal be set aside and the patent be maintained on the basis of the main request or, in alternative, on the basis of one of the three auxiliary requests filed during the oral proceedings.

VII. The appellants essentially submitted that the first auxiliary request filed at the oral proceedings raised issues which called for additional investigations and should be regarded as late-filed.

The appellants also argued that the feature (specified in the pre-characterising portion of claim 1 of each request) according to which the first gas spring means applies to the holder a torque "over at least substantially the entire range of angular positions of the holder between its storage and lowered positions" was inconsistent with the features specified in the characterising portion and rendered the claim unclear (Article 84 EPC).

Furthermore, appellant II argued that the feature according to which "the first gas spring means (10) is arranged to apply to the holder (5) ... a holding torque directed to urge the holder ... to be supported against a buffer structure ...", which is specified in the independent claims of each of the respondent's requests, contravened the requirements of Article 123 EPC.

Both appellants essentially argued that the claimed subject-matter of all requests did not involve any inventive step (Article 56 EPC). Appellant I also argued that the subject-matter of claim 1 of the main request lacked novelty with respect to document E2 (Article 54 EPC).

The arguments of the appellants were contested by the respondent.

Reasons for the Decision

1. The appeals are admissible.

2. *The prior art*

2.1 **Document E2** discloses a ship berth arrangement comprising

- a holder (4),
- journalling means for enabling the holder (4) to be turnably moved about a first turning axis (5) between a generally horizontal raised position (see Figure 1) and a generally vertical lowered position (see Figure 2),
- a berth (6) turnably mounted on the holder (4) for turning movement, when the holder is in the lowered position, about a second turning axis (7) between a folded up position close to the holder (see Figure 2) and a horizontal use position (see Figure 3),

the ship berth arrangement further comprising

- a first gas spring means (8) which, when the berth (6) is in the folded up position, applies to the holder over at least substantially the entire range of angular positions of the holder between the horizontal storage position and the vertical lowered position a torque directed to turn the holder in the direction from the lowered position to the storage position,

– a second gas spring means (9) which, when the holder is in the lowered position, applies to the berth a torque directed to turn the berth from the horizontal use position to the folded up position.

Moreover, latch means ("organes de verrouilage") are provided for retaining the holder in its vertical lowered position (see column 3, lines 38 to 42). Thus, as admitted by the respondent himself during oral proceedings, the skilled person reading document E2 will immediately understand that the berth arrangement is provided with a fixed stop against which the holder is held in its lowered vertical position.

Document E2 does not specifically disclose the position of the journalling points of first gas spring means relative to the first turning axis (7) of the holder. However, the parties agreed that in the vertical lowered position of the holder the two journalling points of the first gas spring means and the turning axis (7) of the holder are aligned, such that the first gas spring means (8) does not apply any torque directed to turn the holder in the direction from the lowered position to the storage position.

2.1.1 The second gas spring means (9) is arranged to balance the torque caused by the weight of the berth so that it exerts a torque turning the berth (6) toward the holder in each position of the berth.

Moreover, a skilled reader would immediately realize that, in the use position of the berth, the weight of the berth overcomes the torque exerted by the second

gas spring means and keeps the berth in the horizontal use position.

2.1.2 The second gas spring means (9), at one of its ends, is journalled at a first point fixed relative to the berth, and, at its opposite end, is journalled to a second point of a link (10) which is rigidly attached to the holder. It follows that the second gas springs are supported by the berth and this increases the load to be lifted when the berth is folded up against the holder.

2.1.3 It is also clear from document E2 that the torque exerted by the first gas spring (8) reaches the maximum value when its lever arm reaches its maximum value. This occurs when the line joining the first turning axis to the loading point of the gas spring (8) on the holder is at right angles to the line joining the loading point to the fixed bearing point of the first gas spring.

2.2 **Document E4** is a technical drawing No. 65427 of appellant I's company showing a berth arrangement analogous to the berth arrangement according to document E2, which is a patent application of appellant I's company. During the previous opposition proceedings appellant I referred to document E4 as representing a berth arrangement which was sold to "Chantiers de l'Atlantique" before the priority date of the patent under appeal. The opposition division considered this prior use as proved. This was not contested by the respondent. Therefore, the board considers document E4 as representing a known berth arrangement.

2.2.1 Appellant I argued that this document represents a berth arrangement which is provided with all the features of the berth arrangement disclosed in document E2 and in which, additionally, the first gas spring is arranged so as to exert a maximum torque before the berth/holder combination reaches its fully retracted position in the storage position. This was not contested by the respondent.

2.3 **Document E11.3** shows examples of installations of gas springs in a flap. According to one of these examples (see page 4), the pivot point of the flap must be positioned relative to the gas spring so that in the closed lower position of the flap (in which the weight of the flap causes either no torque or a minimal torque) the gas spring exerts a torque for holding the flap in its closed lower position (see the right-hand drawing on page 4).

Moreover, the graph representing the torque on page 4 as well as the graph on page 9 of document E11.3 make it clear that the gas spring, as the flap is lifted from its vertical position, exerts a maximum torque just before the flap reaches its end position.

2.4 **Document E13** discloses a folding bed having a bed structure (11) turnably mounted on a fixed structure (10) about a turning axis (12), wherein two gas springs (14) apply to the bed structure (11) a torque directed to turn the bed structure (11) from its (horizontal) use position to its (vertical) folded up position.

2.4.1 Each gas spring (14), at one of its ends, is journalled at a first point (15) fixed relative to the fixed

structure (10), and, at its opposite end, is journalled at a second point on the movable bed structure (11).

Although Figure 1 is a diagrammatic drawing, it can be clearly derived from this figure that, when the bed structure (11) is in its (horizontal) use position, the (second) journalling point of the gas spring on the bed structure is located between the turning axis (12) and the back wall of the fixed structure (10).

Figure 2 of document E13 represents the bed structure (11) in its (vertical) folded up position. However, even if it is not absolutely clear from this figure whether the (second) journalling point of the gas spring on the bed structure is located between the turning axis (12) and the back wall of the fixed structure (10), when the bed structure (11) is in its (vertical) folded up position, a comparison between Figures 1 and 2 clearly shows that first and second journalling points of each gas spring are arranged in such a way that the lever arm of the spring force when the bed structure is in its (horizontal) use position is much greater than the lever arm of the spring force when the bed structure is in its folded up position.

3. *Main request*

3.1 Having regard to the considerations in the following sections 6.1 to 6.1.6, the amendments made did not raise issues which the board or the parties could not reasonably be expected to deal with during the oral proceedings, and comply with Article 84 and do not contravene Article 123 EPC.

3.2 Having regard to the considerations in sections 2.1 and 2.2 above, the berth arrangement as disclosed in document E2 (or as represented in document E4) comprises not only all the features specified in the pre-characterising portion of claim 1 but also the features that "the second gas spring means (14) is arranged in such a manner that it exerts a torque turning the berth (1) toward the holder (5) in each position of the berth (1)", and that "in the use position of the berth (1), the weight of the berth (1) overcomes this torque and keeps the berth in position" (hereinafter this feature will be referred to as feature F).

3.2.1 Claim 1 of the main request thus differs from each of these prior art arrangements in that "the first gas spring means (10) is arranged to apply to the holder (5), when the holder is in the lowered position, a holding torque directed to urge the holder (5) to turn toward the lowered position about the turning axis (4) and to be supported against a buffer structure (8) acting as a fixed stop" (hereinafter this feature will be referred to as feature C).

3.2.2 Therefore, the subject-matter of claim 1 is novel (Article 54 EPC) over the ship berth arrangement as disclosed in document E2 (or as represented in document E4).

3.3 Feature C, in combination with the feature that "the first gas spring means (10) ... applies to the holder over at least substantially the entire range of angular positions of the holder ... a torque directed to turn the holder in the direction from the lowered position

to the storage position", implicitly defines the inversion of the torque exerted by the gas spring means. In other words, the first gas spring means applies to the holder not only a torque in opposition to the torque exerted by the weight of the holder, when it moves from its (substantially vertical) lowered position towards its (substantially horizontal) storage position, but also an "inverted" torque when the holder is in its (substantially vertical) lowered position.

3.3.1 Thus, feature C ensures that the first gas spring means contributes to keep the holder in its lowered position.

Therefore, starting from this prior art, the technical problem to be solved may be seen in achieving a better stabilization of the holder in its lowered position.

Having regard to the considerations in the above section 2.3, document E11.3 (which deals with the installation of gas springs) teaches how to arrange a gas spring so as to apply to a turning element (i.e. the flap) not only a torque in opposition to the torque exerted by the weight of the turning element, when the latter turns away from its (substantially vertical) lowered position, but also a holding torque directed to urge the turning element to turn toward the lowered position about its turning axis so that the turning element can be maintained in this lowered position in a more stable way.

Therefore, the skilled person would apply the teaching of document E11.3 to the first gas spring means of the berth arrangement known from document E2 (or as shown

in document E4) and arrive in an obvious way at a ship berth arrangement comprising feature C.

3.3.2 The respondent argued that the subject-matter of claim 1 differs from the ship berth arrangement disclosed in document E2 also by virtue of feature F.

As has been explained in the above section 2.1.1 above, it is immediately apparent for the skilled person that in the use position of the berth the weight of the berth according to document E2 overcomes the torque exerted by the second gas spring and keeps the berth in the use position.

In any case, as admitted by the respondent himself, feature F would not have any inventive significance, in so far as it only concerns the dimensioning of the torque of a gas spring in relation to the weight of the turning element. Therefore, even if feature F were to be considered as a distinguishing feature, the skilled person would provide the berth arrangement known from document E2 with this feature without exercising any inventive skill.

3.3.3 Therefore, the main request cannot be allowed because the subject-matter of claim 1 does not involve any inventive step (Article 56 EPC).

4. *First auxiliary request*

4.1 Claim 1 of this request differs from the granted claim 1 *inter alia* in that "the torque exerted by the first gas spring means (10) is arranged to balance the gravitational force acting on the berth/holder

combination when the combination is positioned between the fully retracted position where the first spring means (10) exerts its maximum torque" (hereinafter this feature will be referred to as feature H). This feature is disclosed in the patent specification (from column 5, line 56 to column 6, line 4).

4.2 The amended first auxiliary request with the added feature H was submitted for the first time during oral proceedings.

The board observes that feature H has been taken from the description and has presumably not been searched since this feature was not claimed either in the application as filed or in the patent as granted.

Thus, the respondent's first auxiliary request raises new issues which have not been considered so far in the opposition or appeal proceedings.

Admitting this request into the proceedings would have obliged the board to adjourn the oral proceedings and possibly to remit the case to the opposition division so as to avoid the loss of an instance by the loosing party.

In this respect, reference is made *inter alia* to T 1105/98 where the board rejected as inadmissible claims filed at the oral proceedings in which a feature from the description was introduced into claim 1 and thus rendered an additional search necessary.

4.2.1 The respondent essentially argued that feature H had already been included in the independent claim 1 filed

during the previous opposition proceedings by letter dated 24 October 2001 and was the subject-matter of dependent claim 4 of the set of claims filed as first auxiliary request by letter dated 13 April 2004 and that, therefore, the introduction of feature H into claim 1 of the first auxiliary request was a foreseeable amendment.

4.2.2 The board cannot accept these arguments for the following reasons:

(i) Claim 1 filed with the letter dated 24 October 2001 does not recite feature H but the feature that "the torque exerted by the first gas spring means (10) on the berth/holder combination reaches the maximum value just before the berth/holder combination reaches its fully retracted position in the storage position in a recess (3) and as the combination moves into its storage position the torque by the gas springs (10) on the combination is gradually decreasing from this maximum value".

(ii) The introduction of a feature having no counterpart in the granted claims into a dependent claim of one of the requests filed with the letter dated 13 April 2004 does not necessarily render foreseeable the later introduction of this feature into an independent claim, especially because the respondent had filed with the same letter four requests each containing an independent claim.

Moreover, dependent claim 4 of the first auxiliary request filed by letter dated 13 April 2004 is not an amendment "occasioned by grounds for opposition specified in Article 100" (see Rule 57a EPC). Amendments of this kind are normally rejected as inadmissible (see Case Law of the Boards of Appeal of the EPO, VII.C.10.1.4, pages 487 and 488). Thus, the appellants did not need to deal substantially with the feature of dependent claim 4 since they could assume that it was inadmissible under Rule 57a EPC.

4.3 According to Rule 10b of the Rules of Procedure of the Boards of Appeal (RPBA), "amendments sought to be made after oral proceedings have been arranged shall not be admitted if they raise issues which the Board or the other party or parties cannot reasonably be expected to deal with without adjournment of the oral proceedings". This applies *a fortiori* for the first auxiliary request which was submitted during the oral proceedings.

Accordingly, the board has decided not to admit the late-filed first auxiliary request into the proceedings.

5. *Second auxiliary request*

5.1 Having regard to the considerations in the following sections 6.1 to 6.1.6, the amendments did not raise issues which the board or the parties could not reasonably be expected to deal with during the oral proceedings, comply with Article 84 EPC and do not contravene Article 123 EPC.

5.2 Claim 1 of this request differs from claim 1 of the main request by addition of the features that

– "[the first gas spring means is arranged], as the berth/holder combination is lifted to the storage position, to exert a maximum torque before the berth/holder combination reaches its fully retracted position in the storage position" (hereinafter this feature will be referred to as feature D),

– "the torque exerted by the first gas spring means (10) on the berth/holder combination reaches the maximum value when the line joining the first turning axis (4) to the loading point (13) of the first gas spring means (10) on the holder (5) is at right angles to the line joining the loading point (13) to the fixed bearing point (11) of the first gas spring means (10)" (hereinafter this feature will be referred to as feature D1),

– "the second gas spring means (14), at one of its ends, is journalled at a point (15) fixed relative to the holder (5), and, at its opposite end, is journalled to a point (16) of the berth (1), between the second turning axis (6) and the back wall of the holder (5), when the berth is in the use position" (hereinafter this feature will be referred to as feature G).

5.2.1 Having regard to the considerations in the above sections 2.1.3, 2.2.1 and 3.2, the berth arrangement of the prior use as represented in document E4 is also provided with features D and D1. Therefore, the subject-matter of claim 1 of the second auxiliary

request differs from the berth arrangement as represented in document E4 by virtue of the following features:

– "the first gas spring means (10) is arranged to apply to the holder (5), when the holder is in the lowered position, a holding torque directed to urge the holder (5) to turn toward the lowered position about the turning axis (4) and to be supported against a buffer structure (8) acting as a fixed stop" (i.e. feature C),

– "the second gas spring means (14), at one of its ends, is journalled at a point (15) fixed relative to the holder (5), and, at its opposite end, is journalled to a point (16) of the berth (1), between the second turning axis (6) and the back wall of the holder (5), when the berth is in the use position" (i.e. feature G).

5.2.2 As has been stated in sections 3.3 to 3.3.1 above, feature C does not contribute to the inventiveness of the claimed subject-matter.

5.2.3 According to feature G, the second gas spring means which acts on the berth is so arranged that it exerts its force at a point on the berth which, when the berth is in its use position, is between the second turning axis and the back wall of the holder. As stated at column 2, lines 51 to 54 of the patent specification, "the force of the second gas spring means then efficiently acts in a direction lifting the berth and in addition the second gas spring means does not form

an additional load when the berth is folded up against the holder".

Having regard to sections 2.4 and 2.4.1 above, document E13 suggests feature G. Since this document concerns a folding bed, the skilled person would take it into consideration and immediately realize that the arrangement of the second gas springs proposed in this citation is such that the second gas springs do not form an additional load when the berth is folded up against the holder.

Therefore, the skilled person would apply this teaching to the berth arrangement represented in document E4 without exercising any inventive skill.

5.2.4 Furthermore, it has to be noted that feature F (as explained in section 3.3.2 above) would not have any inventive significance, even if it were to be considered as a distinguishing feature.

5.2.5 Thus, the skilled person would arrive in an obvious way at the claimed subject-matter.

Therefore, this request cannot be allowed because the subject-matter of claim 1 lacks an inventive step (Article 56 EPC).

6. *Third auxiliary request*

6.1 Claim 1 of the third auxiliary request differs from that of the second auxiliary request by addition of the feature that "[the] point (16) on the berth (1) [to which the second gas spring means is journalled on the

berth] is spaced laterally from said second turning axis (6) approximately the same distance when the berth (1) is in its folded up position and its use position".

This added feature was claimed in granted claim 7.

6.1.1 The nature of the amendments leading to claim 1 of the third auxiliary request was such that the board and the parties could easily deal with them during oral proceedings.

6.1.2 With respect to the clarity of the amendments, the appellants alleged that there was an inconsistency in claim 1 which rendered it unclear in so far as the pre-characterising portion of the claim refers to a first gas spring means applying a torque to the holder in a first direction "over at least substantially the entire range of its angular positions", while according to the characterising part a torque is applied in the opposite direction at the beginning of the lift of the holder (see feature C).

The board cannot accept these arguments because the terms "at least substantially" before the terms "the entire range of its angular positions" make it clear that the gas spring means applies a torque to the holder from the lowered position to the storage position not over the entire range of its angular positions but over a major part of this range. This is also consistent with the description of the patent which refers to "a major part ... of the movement of the holder ..." (see column 5, lines 45 to 49).

As explained in the above section 3.3, feature C implicitly defines the inversion of the torque exerted by the gas spring means. Therefore, this amendment does not introduce any inconsistency into claim 1.

6.1.3 With respect to Article 123(2) EPC, appellant II argued that the terms "to be supported" in the characterising part of the claim (feature C) means that the buffer structure supports at least partially the weight of the holder and therefore are not disclosed in the application as filed which refers to a vertical buffer structure which does not carry the weight of the holder.

The board cannot accept this argument because the terms "to be supported" have to be construed in the context of a buffer structure applying a reaction force to the holder when it is in the lowered position. This interpretation is consistent with the description (see column 5, lines 11 to 17) and the drawings of the patent.

Therefore, the amendment concerning the terms "to be supported" in claim 1 of the third auxiliary request can be clearly and unambiguously derived from the application as filed.

6.1.4 Granted claim 1 requires that in the vertical lowered position, "the holder is supported against a stationary structure".

In this respect, appellant II argued that the suppression of the above-quoted feature contravened Article 123(3) EPC.

The board cannot accept this argument because the characterising part of the claim defines a first gas spring means which in the lowered position of the holder is arranged to apply a holding torque such that the holder can be "supported against the buffer acting as a fixed stop".

Therefore, the amended claim 1 of the third auxiliary request does not extend the protection conferred.

6.1.5 Claims 2 to 11 are identical to dependent claims 2, 4, 5, 8 to 10 and 12 to 15 of the granted patent as well as of the application as filed.

The amendments to the description represent its adaptation to the amended claims.

6.1.6 Therefore, the board is satisfied that the amendments leading to the third auxiliary request comply with Article 84 EPC and do not contravene Articles 123(2) and 123(3) EPC.

6.2 The ship berth arrangement as represented in document E4 is considered as being the closest prior art.

The subject-matter of claim 1 of the third auxiliary request differs from this ship berth arrangement *inter alia* in that the point (16) to which the second gas spring means is journalled on the berth (1) "is spaced laterally from said second turning axis (6) approximately the same distance when the berth (1) is in its folded up position and its use position".

According to this added feature, the second gas spring means is arranged in such a way that the lever arm of the force exerted by the second gas spring is approximately the same when the berth is in its folded up position and its use position. In this manner, the berth, in its folded up position, remains reliably against the holder (see column 3, lines 1 to 3 of the patent specification).

Therefore, the technical problem underlying the claimed ship berth arrangement according to the third auxiliary request may be seen in providing a berth arrangement with a better safety in use.

The above added feature is neither disclosed nor suggested by the available prior art. Document E13 does not suggest this feature but gives the opposite teaching of arranging the journalling points of gas spring means so as to have a lever arm which is **much shorter** in the folded up position than in the use position.

Therefore, document E13 teaches away from the claimed solution.

The other documents cited during the opposition or appeal proceedings do not disclose any more relevant subject-matter. There is no need to discuss them in detail. In summary, therefore, none of the documents put forward by the appellants points to the claimed solution of the problem of improving the safety in use.

6.2.1 The appellants argued that the added feature is essentially known from document E4 (or E2) in so far as

this document shows a gas spring means whose journalling point **on the holder** is always spaced from the second turning axis the same distance during the whole movement of the berth from its folded up position to its use position.

The board cannot accept this argument, because the added feature concerns the journalling point of the second gas spring means **on the berth**.

6.2.2 It follows from the above that the subject-matter of claim 1 according to the third auxiliary request involves an inventive step (Article 56 EPC).

Dependent claims 2 to 11 relate to further developments of the invention claimed in claim 1 and contain all the features of claim 1. The above conclusions regarding novelty and inventive step apply equally to these claims which likewise meet the requirements of the EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance with the order to maintain the patent on the basis of the following documents:

description: columns 1 to 6 as filed during the oral proceedings,

claims: 1 to 11 also filed during the oral proceedings as third auxiliary request and the

drawings: as in the patent specification.

The Registrar: The Chairman:

G. Magouliotis M. Ceyte