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Case Number: T 0660/05 - 3.2.01

Application Number: 02380180.6

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Title of invention:
Grab for the recovery of blocks for use under water

Applicant:
Sociedad Anonima Trabajos y Obras (SATO)

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 123(2)

Keyword:
"Added subject-matter (no)"

Decisions cited:
-

Catchword:
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Case Number: T 0660/05 - 3.2.01

D E C I S I O N
of the Technical Board of Appeal 3.2.01
of 24 October 2007

Appellant: Sociedad Anonima Trabajos y Obras (SATO)
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 3 January 2005 refusing European application No. 02380180.6 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: S. Crane
Members: P. L. P. Weber
T. Karamanli

Summary of Facts and Submissions

I. The appeal is against the decision of the Examining Division dispatched 3 January 2005 to refuse the European patent application because of infringement of Article 123(2) EPC.

The notice of appeal was filed on the 1 March 2005 and the appeal fee paid on the same day. The statement of the grounds of appeal was filed on the 28 April 2005.

II. After a change of representative new requests were filed with letter of 30 June 2006. These requests included a main request and several auxiliary requests.

III. In a communication of 17 November 2006, the Board informed the appellant that the set of claims according to the first auxiliary request filed with letter of 30 June 2006 could form the basis of a set of claims allowable under Article 123(2) EPC.

IV. With letter of 8 February 2007 the appellant filed a new main request based on the former first auxiliary request and requested the Board to remit the case to the Examining Division for further prosecution on the basis of this new main request.

V. Claim 1 according to the main request of 8 February 2007 reads as follows:

1. A retractile grab device, suitable for recovering blocks (6) of an approximate weight between one and one hundred metric tons submerged in a marine environment, comprising

a support base member (1) provided with

a downwardly projecting first train (13) of 2 to 20 first pulleys (13a,13b,13c,13d) arranged in a bank;

three pairs of radial lateral projecting first flanges (14) positioned parallel to each other in equiangular positions; and

an anchoring means on the upper surface (12) of the support base member (1)

an induction base member (3) provided with

an upwardly projecting second train (18) of 2 to 20 second pulleys (lSa,l8b,l8c,18d) arranged in a bank and matching with said lower pulleys (13a,13b,13c,l3d);

three pairs of radial lateral projecting second flanges (19) positioned parallel to each other in equiangular positions, matching with the first flanges (14); and

anchoring members (21,22) each arranged on one of the sides of the structure bearing the second pulleys (18a,18b,18c,18d);

three straight arm members (4), each suitable for being pivotally housed by one of its ends at the flanges of one of said pairs of first flanges (14), and having an opposite free end forming a pair of third flanges;

three claw members (5), each in the form of an angular element comprising a body portion (51), a wing portion (52) and an angular elbow portion between the body portion (51) and the wing portion (52), the body portion (51) having a free end pivotally housed at the flanges of one of said pairs of second flanges (19), the elbow portion being pivotally housed at the flanges of one of said pairs of third flanges, and the wing

portion (52) having a pointed free end (53) and being capable, when descending downwards, to project on the median line plane of the pair of third flanges (19) supporting the angular element;

at least one pair of cables (23,24), associated with a driving means selected from carrier cranes and similar driving means, each cable (23,24) passing through the support base member (1) and being anchored by a first end to one of the anchoring members (21,22) running in a helical progression from the centre of the second train (18) to an opposite end thereof, alternately linking one of said second pulleys (18a,18b,18c,18d) to one first pulley (13a,13b,13c,13d), and being attached finally at one of the anchoring members (21,22), in an overall arrangement in the form of a hoist block; said cables (23,24) being suitable to statically support the whole of the device so that the weight of the induction base (3) and of the thereto associated claw members (5) propitiate the movement of the induction base (3) away from the support base (1), and consequently, propitiate the pivoting movement of the pointed free ends (53) of the wing portions (52) of the claw members (5) away from the longitudinal axis of the device, due to the restriction of descending movement by their pivotal anchorage at the third flanges at the arm members; being suitable also for transmitting a progressive traction force induced from by the driving means so that the induction base member (3) is brought nearer to the support base member (1) and, consequently and with the aid of the weight of the arm members (4), the pivoting movement of the pointed free ends (53) of the wing portions (52) of the claw members (5) towards the longitudinal axis of the device, so that they

tightly hold any mass between them, specifically a block (6) to be extracted, and keep it firmly grasped until the traction force delivered by the cables (23,24) is greater than the resistance offered by the overall weight of the device and of the grasped mass, in which case the thus formed whole will be raised for optional transfer;

a third cable (25) being also associated with the driving means, attached firmly to the anchoring means (16), the third cable being suitable for supporting the device statically when so required and as a consequence of the cancellation of the traction force delivered by said at least one pair of cables (23,24) exerting said traction force, in which case opening process of the claw members (5) is reproduced and as a result the grasped mass is released by gravity,

characterized in that

the distance (R) from the longitudinal axis of the device to each of the points of connection (O) of the support base member (1) with each of the arm members (4) is between 0.10 - 2.00 m;

the distance (r) from the longitudinal axis of the device to each of the connection points (A) of the induction base member (3) with each of the claw members (5) is between 0.10 - 2.00 m;

the length (L_A) of the body portion (51) of each of the claw members (5) is between 0.30 - 4.00 m;

the length (L_C) of the wing portion (52) of each of the claw members (5) is between 0.30 - 4.00 m;

the angle (α) formed between the body portion (51) and wing portion (52) of each of the claw members (5) ranges from 25° to 145°; and

the length (L_O) of each of the arm members (4) is between 0.50 - 5.00 m.

2. A device according to claim 1 for handling blocks (6) having a weights of approximately 10 metric tons, characterized in that

the distance (R) from the longitudinal axis of the device to each of the points of connection (O) of the support base member (1) with each of the arm members (4) is 0.55 m;

the distance (r) from the longitudinal axis of the device to each of the connection points (A) of the induction base member (3) with each of the claw members (5) is 0.43 m;

the number of pulleys (13a,13b,13c,13d) of the support base member (1) is 5, and the number of pulleys (18a,18b,18c,18d) of the induction base member (3) is 5.

the length (L_A) of the body portion (51) of each of the claw members (5) is 1.19 m;

the length (L_C) of the wing portion (52) of each of the claw members (5) is 1.53 m;

the angle (α) formed between the body portion (51) and wing portion (52) of each of the claw members (5) is 71°; and

the length (L_O) of each of the arm members (4) is 2.19 m.

3. A device according to claim 1 for handling blocks (6) having a weights of approximately 90 metric tons, characterized in that

the distance (R) from the longitudinal axis of the device to each of the points of connection (O) of the support base member (1) with each of the arm members (4) is 1,20 m;

the distance (r) from the longitudinal axis of the device to each of the connection points (A) of the induction base member (3) with each of the claw members (5) is 1.20 m;

the number of pulleys (13a,13b,13c,13d) of the support base member (1) is 4, and the number of pulleys (18a,18b,18c,18d) of the induction base member (3) is 4.

the length (L_A) of the body portion (51) of each of the claw members (5) is 2.75 m;

the length (L_C) of the wing portion (52) of each of the claw members (5) is 3.00 m;

the angle (α) formed between the body portion (51) and wing portion (52) of each of the claw members (5) is 70°; and

the length (L_O) of each of the arm members (4) is 4.60 m.

4. A device according to claim 1 for handling blocks (6) having a weights of approximately 90 metric tons, characterized in that

the distance (R) from the longitudinal axis of the device to each of the points of connection (O) of the support base member (1) with each of the arm members (4) is 1,20 m;

the distance (r) from the longitudinal axis of the device to each of the connection points (A) of the

induction base member (3) with each of the claw members (5) is 0.80 m;

the number of pulleys (13a,13b,13c,13d) of the support base member (1) is 3, and the number of pulleys (18a,18b,18c,18d) of the induction base member (3) is 3.

the length (L_A) of the body portion (51) of each of the claw members (5) is 2.50 m;

the length (L_C) of the wing portion (52) of each of the claw members (5) is 1.60 m;

the angle (α) formed between the body portion (51) and wing portion (52) of each of the claw members (5) is 80°; and

the length (L_O) of each of the arm members (4) is 4.40 m.

Reasons for the Decision

1. The appeal complies with the requirements of Articles 106 to 108 and Rule 64 EPC. It is therefore admissible.

2. For ease of reference to paragraph and line numbering the Board will refer to the published version of the application, it being identical to the originally filed application documents.

3. Present claim 1 corresponds to the combination of originally filed claim 1 and originally filed claim 2, so that this claim clearly fulfils the requirements of Article 123(2) EPC .

4. Claims 2, 3, 4 were not in the originally filed set of claims.

4.1 The specific values of the different parameters given in claim 2 are originally disclosed in paragraph [0032] of the description: *As examples of the above, in a device suitable for handling blocks of approximately 10 MT, the ideal value for its parameters and wherein N is the number of pulleys intervening in it, is: N = 5; R = 0.55 m; r = 0.43 m;* δ *= 0.12 m;* L_0 *= 2.19 m;* L_A *= 1.19 m;* L_C *= 1.53 m;* α *= 71 DEG ; and P = 0.33...*

4.2 The specific values of the different parameters given in claim 3 are originally disclosed in paragraph [0033] of the description: *And when it is case of a purpose-built device for handling blocks of around 90 MT, the preferred value for the device parameters will be: N = 4; R = 1.20 m; r = 1.20 m;* δ *= 0.00 m;* L_0 *= 4.60 m;* L_A *= 2.75 m;* L_C *= 3.00 m;* α *= 70 DEG ; and P = 0.33...*

4.3 The specific values of the different parameters given in claim 4 are originally disclosed in paragraph [0036] of the description: *...In fact, for example for the block of 90 MT mentioned above, a device with the parameters N = 3; R = 1.20 m; r = 0.80 m;* δ *= 0.40 m;* L_0 *= 4.40 m;* L_A *= 2.50 m;* L_C *= 1.60 m;* α *= 80 DEG ; and P = 0.33...*

4.4 It is to be noted that the value of "delta" mentioned in these paragraphs does not have to be explicitly taken over into the present claims since it is already implicitly there, it being nothing else than the value of the difference R – r (see column 5, line 47 of the description *... and as ancillary parameters delta*

(misalignment) represents the difference between the radius of the induction base 3 and the radius of the support base 1 (δ = *r - R*)...).

4.5 The same is true for the mentioned parameter P which expresses the part of the weight of the blocks to be handled born by each of the claw members (see column 5, lines 42 to 44 of the description ... *and P indicates the relative weight per element of claw 5 and the block to be handled*...). Claim 1 of the present set of claims requiring the presence of three claw members, it is implicit that each claw member bears 33% of the weight of the block.

4.6 The set of documents according to the main request, comprising claims 1 to 4 as filed on 8 February 2007, the description as originally filed and the drawings as originally filed, thus fulfils the requirements of Article 123(2) EPC.

5. The Examining Division not having decided on novelty and inventive step of the present subject-matter of the claims and the appellant requiring the remittal of the case to the first instance, the Board makes use of its discretionary power under Article 111(1) EPC and remits the case to the first instance for the examination of the further requirements for grant.

Order

For these reasons it is decided that:

1. The impugned decision is set aside.

2. The case is remitted to the first instance for further prosecution.

The Registrar: The Chairman:

A. Vottner S. Crane