Office de la Propriété Intellectuelle du Canada

Un organisme d'Industrie Canada Canadian Intellectual Property Office

An agency of Industry Canada CA 2569323 A1 2006/04/20

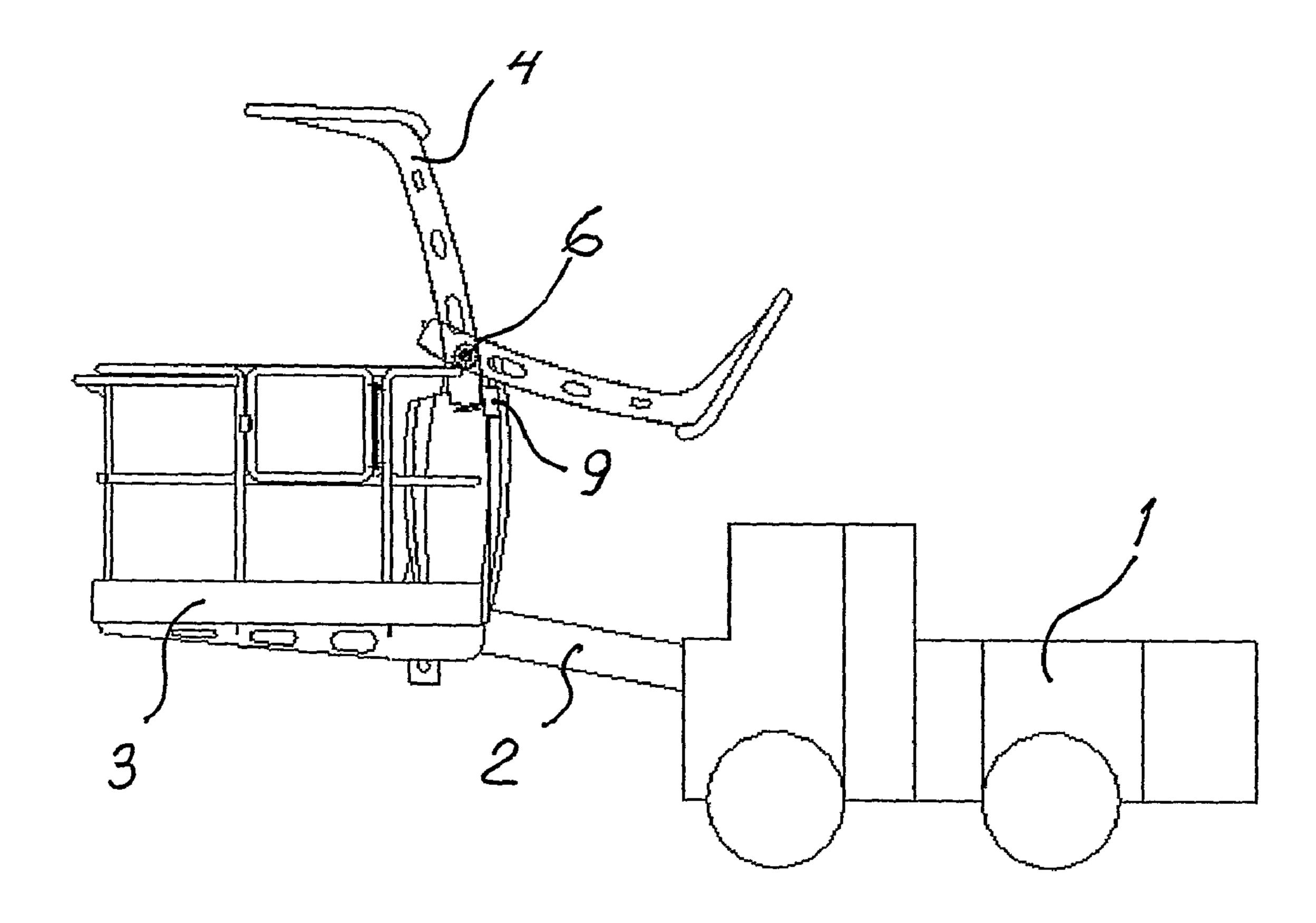
(21) 2 569 323

(12) DEMANDE DE BREVET CANADIEN CANADIAN PATENT APPLICATION

(13) **A1**

- (86) Date de dépôt PCT/PCT Filing Date: 2005/08/18
- (87) Date publication PCT/PCT Publication Date: 2006/04/20
- (85) Entrée phase nationale/National Entry: 2006/11/30
- (86) N° demande PCT/PCT Application No.: SE 2005/001217
- (87) N° publication PCT/PCT Publication No.: 2006/041343
- (30) Priorité/Priority: 2004/09/07 (SE0402134-1)

- (51) Cl.Int./Int.Cl. *E21B 7/02* (2006.01), *E21B 15/00* (2006.01)
- (71) Demandeur/Applicant: ATLAS COPCO ROCK DRILLS AB, SE
- (72) Inventeurs/Inventors: OEBERG, PETER, SE; NILSSON, PETER, SE
- (74) Agent: FETHERSTONHAUGH & CO.
- (54) Titre : APPAREIL DE FORAGE DE ROCHES, PLATE-FORME DE SERVICE RELIEE A L'APPAREIL DE FORAGE DE ROCHES ET TOIT POUR LA PLATE-FORME DE SERVICE
- (54) Title: ROCK DRILLING RIG, SERVICE PLATFORM CONNECTED TO A ROCK DRILLING RIG AND A ROOF FOR A SERVICE PLATFORM



(57) Abrégé/Abstract:

Rock drilling rig including a carrier (1), a beam (2) which is pivotally connected to the carrier (1), a service platform (3) which is pivotally connected to the beam (2) and a roof (4) which is connected to the service platform (3), wherein the roof (4) by means of a turning device (5) is pivotally connected to the service platform (3) between a position above the service platform (3) and a position beside the service platform.





(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



PCT



(43) International Publication Date 20 April 2006 (20.04.2006)

(10) International Publication Number WO 2006/041343 A1

- (51) International Patent Classification⁷: E21B 7/02, 15/00
- (21) International Application Number:

PCT/SE2005/001217

- (22) International Filing Date: 18 August 2005 (18.08.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:

0402134-1 7 September 2004

7 September 2004 (07.09.2004) SE

- (71) Applicant (for all designated States except US): ATLAS COPCO ROCK DRILLS AB [SE/SE]; S-701 91 Örebro (SE).
- (72) Inventors; and

- (75) Inventors/Applicants (for US only): ÖBERG, Peter [SE/SE]; Stenstugevägen 1 B, S-702 29 Örebro (SE). NILSSON, Peter [SE/SE]; Trädgärdsgatan 16, S-702 12 Örebro (SE).
- (74) Agent: JANSSON, Margareta; Atlas Copco Rock Drills AB, S-701 91 Örebro (SE).

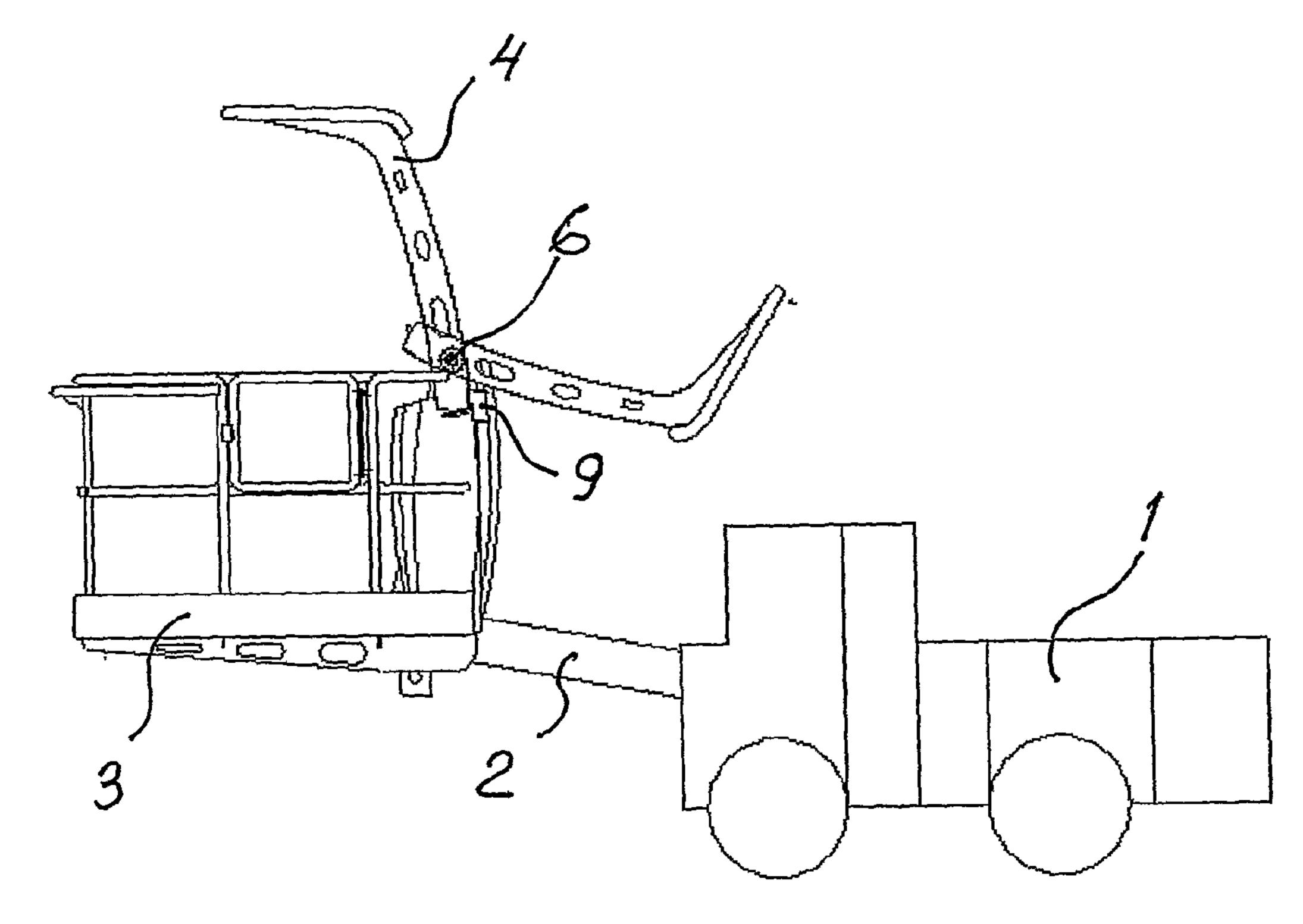
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ROCK DRILLING RIG, SERVICE PLATFORM CONNECTED TO A ROCK DRILLING RIG AND A ROOF FOR A SERVICE PLATFORM



(57) Abstract: Rock drilling rig including a carrier (1), a beam (2) which is pivotally connected to the carrier (1), a service platform (3) which is pivotally connected to the beam (2) and a roof (4) which is connected to the service platform (3), wherein the roof (4) by means of a turning device (5) is pivotally connected to the service platform (3) between a position above the service platform (3) and a position beside the service platform.

2006/041343 A1

WO 2006/041343 PCT/SE2005/001217

1

Rock Drilling Rig, Service Platform Connected to a Rock Drilling Rig and a Roof for a Service Platform

The present invention concerns a rock drilling rig and more in particular a rock drilling rig provided with a service platform with a protective roof. The protective roof is pivotal between a protection position above the service platform and a position where the space above the service platform is freely accessible without obstruction from the protective roof.

In underground rock working, the service platform has to be provided with an approved protective roof if work is performed below an unsecured rock roof. If the rock roof above the service platform has been secured by means of rock bolts or in any other way it is sometimes desirable to perform work without being obstructed by the protective roof.

According to a previously known construction, a fixed protective roof is used. According to another previously known construction a vertically adjustable roof is used. Hereby the roof posts are comprised of pipes that are displaceable with respect to each other by means of hydraulic cylinders. These solutions have the drawback that they can be obstructive with respect to work below secured roof. Then there is the risk that the protective roof is removed and subsequently remains removed when working below unsecured roof. This is quite unacceptable from a security point of view. The vertically adjustable protective roof further has the drawback that the construction becomes heavy and that it is still in the way when the protective roof is not necessary.

The present invention as defined in the following claim aims at providing a rock drilling rig which is provided with a

2

strong protective roof above the service platform that can be easily swung away, when it is not needed, to a position beside the service platform.

An embodiment of the invention is described below with reference to the annexed drawing, wherein fig 1 diagrammatically shows a rock drilling rig in a side view. Fig 2 shows a part of the device of fig 1.

The rock drilling rig shown in the drawing includes a carrier 1. A beam 2 is as customary pivotally connected to the carrier 1. A service platform 3 is as customary pivotally connected to the beam 2. A protective roof 4 is pivotally connected to the service platform 3, which is indicated by means of bearings 6. The pivoting action is achieved by means of a turning device 5 in the form of a hydraulic motor. The casing of the turning device 5 is connected to the service platform 3 over a protrusion 7. The roof 4 is swung by means of the axis 8 of the turning device 5. The service platform 3 is provided with stops 9 that take up the torsional moment around the bearings 6 in case of possibly falling rocks. The bearings 6 thereby only take up the vertical forces.

The protective roof construction is preferably made from ultra high-strength steel in order to achieve a light and strong construction.

3

CLAIM

- 1. Rock drilling rig including a carrier (1), a beam (2) which is pivotally connected to the carrier (1), a service platform (3) which is pivotally connected to the beam (2) and a roof (4) which is connected to the service platform (3), characterized in that the roof (4) by means of a turning device (5) is pivotally connected to the service platform (3) between a position above the service platform and a position beside the service platform.
- 2. Service platform (3) arranged to be connected to a rock drilling rig, said service platform including a roof (4), characterized in that the roof (4) by means of a turning device (5) is pivotally connected to the service platform (3) between a position above the service platform and a position beside the service platform.
- 3. Roof (4) for a service platform (3) arranged to be connected to a rock drilling rig, characterized in that the roof (4) by means of a turning device (5) is pivotally connected to the service platform (3) between a position above the service platform and a position beside the service platform.

