



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 1 028 482 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
20.02.2002 Bulletin 2002/08

(51) Int Cl.7: **H01Q 1/12**

(43) Date of publication A2:
16.08.2000 Bulletin 2000/33

(21) Application number: **00660007.6**

(22) Date of filing: **17.01.2000**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

(72) Inventors:
• **Kaasalainen, Kauko**
00881 Helsinki (FI)
• **Martikainen, Hannu**
05460 Hyvinkää (FI)
• **Hemminki, Timo**
13500 Hämeenlinna (FI)

(30) Priority: **11.02.1999 FI 990274**

(71) Applicant: **Patria Vehicles Oy**
13100 Hämeenlinna (FI)

(74) Representative: **Tanskanen, Jarmo Tapio et al**
Papula Rein Lahtela Oy, P.O. Box 981
00101 Helsinki (FI)

(54) **Telescopic mast system**

(57) A telescopic mast system, comprising a movable base (1); a telescopic mast (2) comprising an outer mast section (3) and an inner mast section (5); a power means (6) for turning the mast; stay ropes (10, 11, 12) for staying the mast so as to render it substantially immovable in the operating position; a stay beam (13, 14) which in the operating position (II) of the mast (2) can be extended laterally from the mast; a diverting element (15, 16) placed at the end of the stay beam; a coiling device (17, 18) for receiving the stay rope passed over the diverting element (15, 16) so as to coil up and tighten the stay rope. The stretcher device (19) comprises a slide (20) movable on and guided by the outer mast section (3); a bearing rod (21) pivotally connected by one end (22) to the slide (20) and by the other end to the base (1) so that the bearing rod (21) turns in a parallel plane with the mast and the power means (6); and a turning rod (25) pivotally connected by one end (26) to the slide (20) and by the other end (27) to the stay beam (13, 14) to turn the stay beam between the position (A) where it lies parallel to the mast and the outstretched position (B) as the slide is moved along the outer mast section by the action of the bearing rod when the mast is being turned by the power means between the transport position and the operating position.

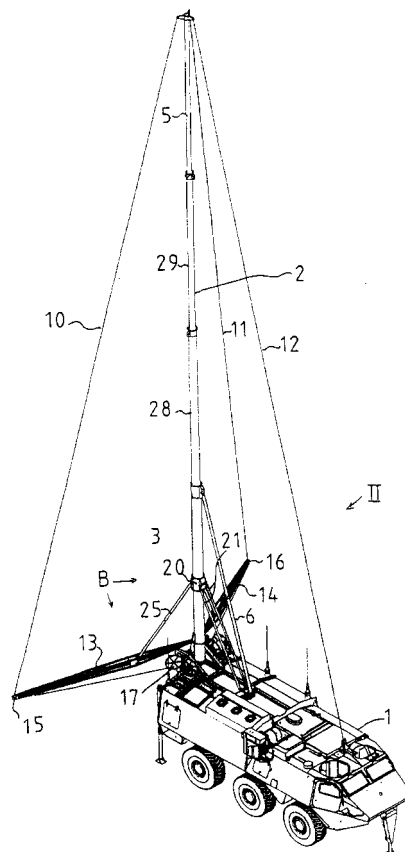


Fig 2

EP 1 028 482 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 00 66 0007

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	US 5 426 444 A (SAUTER JOSEF ET AL) 20 June 1995 (1995-06-20) * figure 1C *	1-10	H01Q1/12
A	EP 0 296 957 A (GUENIN ROGER ANDRE) 28 December 1988 (1988-12-28) * abstract *	1-10	
A	EP 0 370 314 A (SALZGITTER MASCHINENBAU) 30 May 1990 (1990-05-30) * abstract *	1-10	
A	FR 2 476 727 A (ICPP) 28 August 1981 (1981-08-28) * the whole document *	1-10	
A	GB 1 315 794 A (KLOECKNER HUMBOLDT DEUTZ AG) 2 May 1973 (1973-05-02) * figures 1,2 *	1-10	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7) H01Q
Place of search THE HAGUE		Date of completion of the search 20 December 2001	Examiner Wattiaux, V
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 66 0007

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

20-12-2001

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5426444	A	20-06-1995	DE 4119321 A1	17-12-1992
			CS 9201788 A3	16-12-1992
			DE 59204399 D1	04-01-1996
			EP 0518139 A1	16-12-1992
			HU 62534 A2	28-05-1993
			JP 6029710 A	04-02-1994
			PL 294832 A1	08-03-1993
EP 0296957	A	28-12-1988	FR 2616830 A1	23-12-1988
			AT 80197 T	15-09-1992
			DE 3874236 D1	08-10-1992
			DE 3874236 T2	01-04-1993
			EP 0296957 A2	28-12-1988
			ES 2035335 T3	16-04-1993
EP 0370314	A	30-05-1990	DE 3839858 A1	31-05-1990
			DE 58902202 D1	08-10-1992
			EP 0370314 A2	30-05-1990
			JP 2202101 A	10-08-1990
FR 2476727	A	28-08-1981	FR 2476727 A2	28-08-1981
GB 1315794	A	02-05-1973	DE 2102556 A1	24-08-1972
			FR 2122860 A5	01-09-1972
			NL 7115693 A	24-07-1972