



(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
30.09.1998 Bulletin 1998/40

(51) Int Cl. 6: H01Q 1/08

(43) Date of publication A2:
24.06.1998 Bulletin 1998/26

(21) Application number: 97310209.8

(22) Date of filing: 17.12.1997

(84) Designated Contracting States:
AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC
NL PT SE

Designated Extension States:
AL LT LV MK RO SI

(30) Priority: 18.12.1996 JP 338237/96

(71) Applicant: HARADA INDUSTRY CO., LTD.
Shinagawa-ku Tokyo (JP)

(72) Inventor: Kohinata, Junichi
Tokyo (JP)

(74) Representative: Crawford, Andrew Birkby et al
A.A. THORNTON & CO.
Northumberland House
303-306 High Holborn
London WC1V 7LE (GB)

(54) Antenna support angle adjustment mechanism and vehicular rod antenna device

(57) An antenna support angle adjustment mechanism (20) according to the present invention is detachably interposed between an antenna mounting base (11) attached to a vehicle body wall (1) and a rod antenna (12) having a proximal end portion fixedly screwed on the base (11), and which comprises an antenna support angle adjustment member (24) composed of first and second coupling elements (21, 22) pivotally supported so that one end portion of the first coupling element (21) and one end portion of the second coupling element (22) are rockable with respect to each other, the other end portion of the first coupling element (21) forming a screw rod (25) capable of being removably screwed into the antenna mounting base (11) or the rod antenna (12), the other end portion of the second coupling element (22) forming an internal thread portion (26) capable of being removably screwed on the rod antenna (12) or the antenna mounting base (11), and a fixing nut (28) for fixing the state of screwed engagement of the screw rod (25) with the antenna mounting base (11) or the rod antenna (12), the rod antenna (12) being variably adjusted at a given support angle (θ) in a given azimuthal direction.

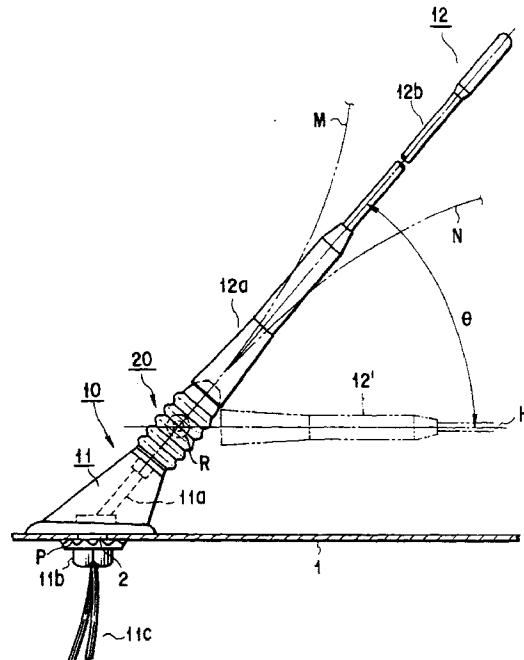
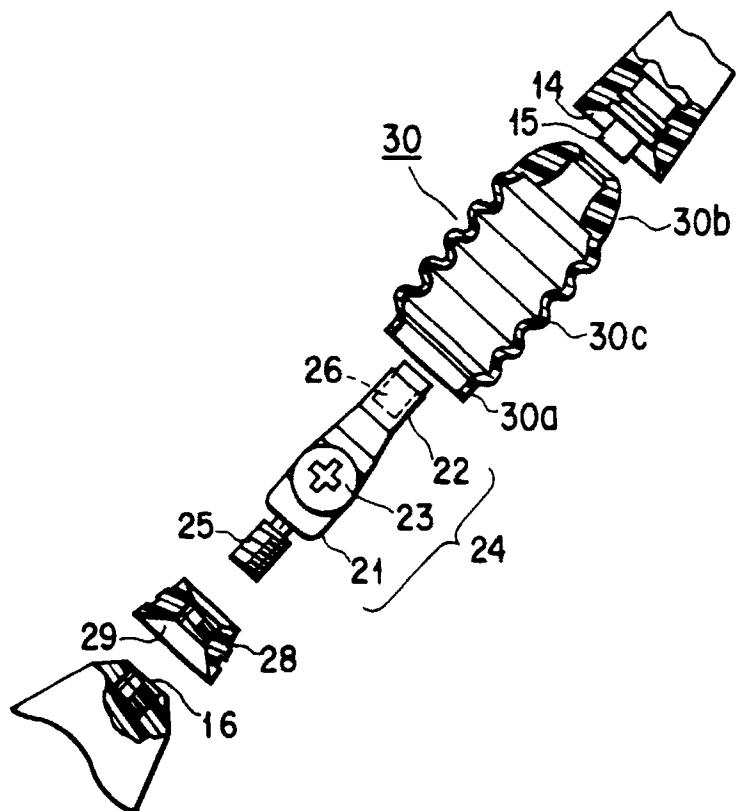


FIG. 1





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.6)
X	US 5 252 985 A (CHRISTINSIN ALAN S) 12 October 1993 * column 3, line 60 - column 4, line 41 * * column 5, line 12 - column 6, line 12; figures 1,4-7 * ---	1-4	H01Q1/08
X	AU 518 846 B (ACKMAN G O) 22 October 1981 * the whole document *	1,2,4	
X	FR 2 589 010 A (ERDI SA) 24 April 1987 * page 2, line 29 - page 4, line 22; figures 1-4 *	1,4	
A	---	3	
A	FR 2 514 571 A (HMP ANTENNEFABRIK APS) 15 April 1983 * page 3, line 21 - page 4, line 10; figures 1-5 *	1,4	
A	EP 0 589 450 A (SIGMA ANTENNE S R L) 30 March 1994 * figures 1,2 *	1,4	
A	US 4 074 271 A (SAKUMA KOTOKU) 14 February 1978 * figures 1-3 *	1,4	H01Q
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search		Examiner
THE HAGUE	4 August 1998		Van Dooren, G
CATEGORY OF CITED DOCUMENTS		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	
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			