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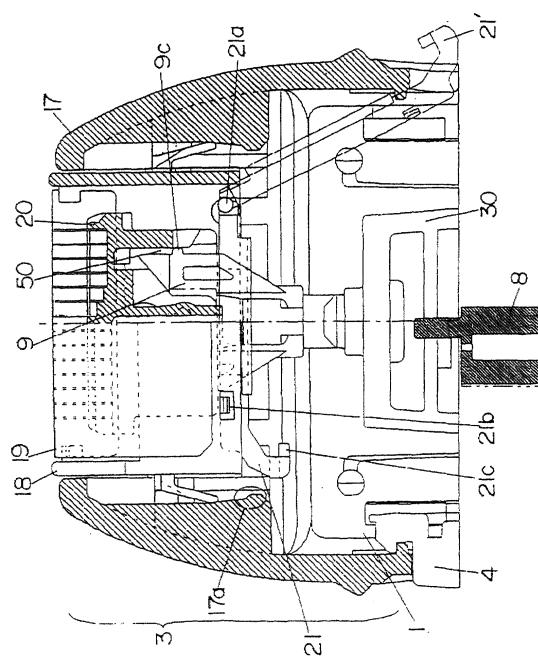
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(54) **Electric hair cutter or styling apparatus**

(57) A rotating/reciprocating movement converting part is provided in a main body (1) and a connecting arrangement rod (9) is projected from the upper surface of the main body (1). When a shaver head (3) is mounted on the main body, the connecting arrangement is fitted to a connecting part (50) in the side of an inner cutting blade to transmit a reciprocating movement to an inner cutting blade (20). When a trimmer head is mounted on the main body, the recessed inside part of the driving rod 9 is fitted to a connecting part in the side of a movable cutting blade to transmit a reciprocating movement to a movable cutting blade. Thus, according to the present invention, problems such as an enlarged head and the deterioration of sharpness of a conventional electric hair cutter having a rotating/reciprocating movement converting part provided in the head can be overcome.

Fig. 1





DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	US 3 869 790 A (IHASZ RICHARD) 11 March 1975 (1975-03-11) * column 1, line 1 - line 27 * * column 2, line 29 - column 8, line 26; figures 1-5 * ----	1	B26B19/10
Y	US 5 189 792 A (IWASAKI JYUZAEMON ET AL) 2 March 1993 (1993-03-02) * column 3, line 52 - column 4, line 40; figures 1-4,6 *	2	
X	US 3 290 781 A (PAUL KRATZ GERD) 13 December 1966 (1966-12-13) oscillating motor * column 1, line 1 - line 60 * * column 2, line 52 - column 7, line 11; figures 1,2,15-17 *	1	
X	US 3 672 049 A (DEMCI MICHAEL ET AL) 27 June 1972 (1972-06-27) * the whole document *	1	
X	DE 198 50 919 A (MOSER ELEKTROGERAETE GMBH) 11 May 2000 (2000-05-11) * the whole document *	1	B26B
X	DE 198 59 017 C (BRAUN GMBH) 3 February 2000 (2000-02-03) * the whole document *	1	
A	US 6 044 558 A (WU JACK) 4 April 2000 (2000-04-04) * the whole document *	1	
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search		Examiner
MUNICH	6 December 2002		Maier, M
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone	T : theory or principle underlying the invention		
Y : particularly relevant if combined with another document of the same category	E : earlier patent document, but published on, or after the filing date		
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06-12-2002

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 3869790	A	11-03-1975	AU CA DE FR GB JP JP	7051674 A 1007441 A1 2437101 A1 2239322 A1 1456875 A 1146877 C 50042953 A 57038269 B	08-01-1976 29-03-1977 13-02-1975 28-02-1975 01-12-1976 12-05-1983 18-04-1975 14-08-1982
US 5189792	A	02-03-1993	JP JP DE GB JP JP	3081001 B2 4220282 A 4142070 A1 2251573 A ,B 3059501 B2 4250187 A	28-08-2000 11-08-1992 02-07-1992 15-07-1992 04-07-2000 07-09-1992
US 3290781	A	13-12-1966	DE DE DE GB	1177976 B 1149093 B 1221580 B 1009659 A	10-09-1964 22-05-1963 21-07-1966 10-11-1965
US 3672049	A	27-06-1972	AT AU AU CA DE FR GB NL	310614 B 453490 B 3426571 A 960848 A1 2152082 A1 2111446 A5 1300020 A 7114001 A ,B	10-10-1973 03-10-1974 12-04-1973 14-01-1975 27-04-1972 02-06-1972 20-12-1972 25-04-1972
DE 19850919	A	11-05-2000	DE AT CN DE WO EP ES TR	19850919 A1 224263 T 1324288 T 59902790 D1 0027598 A1 1126955 A1 2160565 T1 200101244 T2	11-05-2000 15-10-2002 28-11-2001 24-10-2002 18-05-2000 29-08-2001 16-11-2001 21-06-2002
DE 19859017	C	03-02-2000	DE CN WO EP JP US	19859017 C1 1331620 T 0037225 A1 1140436 A1 2002532213 T 2002000043 A1	03-02-2000 16-01-2002 29-06-2000 10-10-2001 02-10-2002 03-01-2002

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06-12-2002

Patent document cited in search report	Publication date		Patent family member(s)	Publication date
US 6044558	A	04-04-2000	DE 29809159 U1	01-10-1998
			FR 2779987 A3	24-12-1999
			NL 1009153 C1	16-11-1999
			ZA 9804022 A	13-11-1998
			AU 5940598 A	30-09-1999