

(12) United States Design Patent (10) Patent No.: US D470,109 S Yokoyama et al. (45) Date of Patent: ** Feb. 11, 2003

(54) ELECTRIC CONNECTOR

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FIG. 2 is a perspective view thereof, as viewed from top, rear and left side;

- FIG. 3 is a top plan view thereof;
- FIG. 4 is a front elevation view thereof;
- FIG. 5 is a bottom plan view thereof;
- FIG. 6 is a rear elevation view thereof;
- FIG. 7 is a right side view thereof, a left side view thereof being a mirror image;
- FIG. 8 is a perspective view of a second embodiment of the

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(58)	Field of	Search	D13/147; 439/260,		
			439/329, 492, 495, 570		

(56) **References Cited** U.S. PATENT DOCUMENTS

4,936,792	Α	≉	6/1990	Onoue et al 439/329
5,194,017	Α	*	3/1993	Consoli 439/492
5,690,510	Α	≉	11/1997	Chishima 439/496
5,800,204	Α	*	9/1998	Niitsu 439/495
5,842,883	Α	≉	12/1998	Igarashi et al 439/495
5,906,498	Α	*	5/1999	Nagafuji 439/260
D421,421	S	≉	3/2000	Kashio D13/147
6,056,571	Α	≉	5/2000	Noro 439/260
6,250,959	B 1	≉	6/2001	Yamaguchi et al 439/578
6,338,648	B 1	≉	1/2002	Miura et al 439/495
D453,319	S	≉	2/2002	Yokoyama D13/147

electric connector, as viewed from top, front and right side; FIG. 9 is a perspective view of the second embodiment, as viewed from top, rear and left side;

FIG. 10 is a top plan view of the second embodiment;FIG. 11 is a front elevation view of the second embodiment;FIG. 12 is a bottom plan view of the second embodiment;FIG. 13 is a rear elevation view of the second embodiment;FIG. 14 is a right side view of the second embodiment, a left side view thereof being a mirror image;

FIG. 15 is a perspective view of a third embodiment of the electric connector, as viewed from top, front and right side; FIG. 16 is a perspective view of the third embodiment, as viewed from top, rear and left side;

FIG. 17 is a top plan view of the third embodiment;

FIG. 18 is a front elevation view of the third embodiment;

FIG. 19 is a bottom plan view of the third embodiment;

FIG. 20 is a rear elevation view of the third embodiment;

FIG. 21 is a right side view of the third embodiment, a left side view thereof being a mirror image;

FIG. 22 is a perspective view of a fourth embodiment of the electric connector, as viewed from top, front and right side;
FIG. 23 is a perspective view of the fourth embodiment, as viewed from top, rear and left side;
FIG. 24 is a top plan view of the fourth embodiment;
FIG. 25 is a front elevation view of the fourth embodiment;
FIG. 26 is a bottom plan view of the fourth embodiment;
FIG. 27 is a rear elevation view of the fourth embodiment;

* cited by examiner

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(57) CLAIM

The ornamental design for the electric connector, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a first embodiment of the electric connector, as viewed from top, front and right side, showing our new design;

FIG. 28 is a right side view of the fourth embodiment, a left side view thereof being a mirror image.

1 Claim, 9 Drawing Sheets





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FIG. 2





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FIG. 4



FIG. 5



FIG. 6





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FIG. 8











FIG. 11



FIG. 12





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FIG. 18



FIG. 19











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FIG. 25



FIG. 26





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