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United States Patent [19]

Nakai et al.

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[45] **Date of Patent: **Mar. 18, 1997**

[54] **RESIDUAL BATTERY CAPACITY AND ELECTRIC VEHICLE RANGE GAUGE**

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[73] Assignee: **Honda Giken Kogyo Kabushiki Kaisha**, Tokyo, Japan

[**] Term: **14 Years**

[21] Appl. No.: **37,855**

[22] Filed: **Apr. 21, 1995**

[30] **Foreign Application Priority Data**

Oct. 21, 1994 [JP] Japan 6-257000

[52] **U.S. Cl.** **D10/125**; D10/103

[58] **Field of Search** D10/102, 103, D10/123, 125; D12/192; 340/438, 455, 461, 462; 364/424.01, 424.03, 424.04, 424.07

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[57] **CLAIM**

The ornamental design for residual battery capacity and electric vehicle range gauge, as shown and described.

DESCRIPTION

FIG. **1** is an elevation view of the residual battery capacity and electrical vehicle range display showing our new design in a vehicle instrument display panel, with the conventional instruments shown in dashed lines, and with our display portion having horizontal lining for one color, such as blue, and vertical lining for another color, such as red, of lighting for indicating vehicle range under present operating conditions by the one color (and also by a triangular cursor at about **25** miles), an additional potential vehicle range by the another color if operating conditions are favorably modified, and the residual battery capacity by the left-hand column in the one color;

FIG. **2** is an elevation view of our new design illustrating the display of our invention displaying a fully charged residual capacity of the battery and maximum range, such as while not operating the electric vehicle or in a conservative operation, by the one color;

FIG. **3** is an elevation view of our new design illustrating the display of our invention displaying a residual capacity of the battery between ½ and full and a range of about **40** miles by the triangular cursor;

FIG. **4** is an elevation view of a second embodiment of our new design illustrating only the display of our invention, without the entire vehicle instrument display panel shown in FIGS. **1–3**, displaying a fully charged condition of the battery and with our display having horizontal lines representing a color of lighting and the left column of lighted boxes indicating the residual capacity of the battery, the center column of lighted boxes indicating vehicle range under present operating conditions and the right column of boxes indicating vehicle range if vehicle operating conditions are favorably modified;

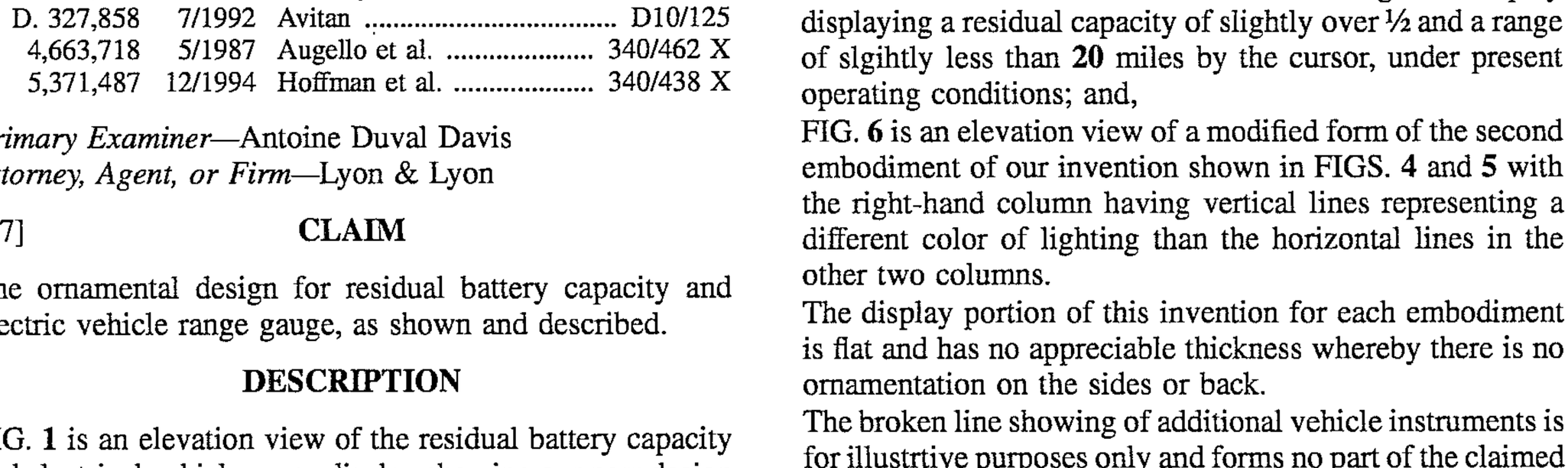
FIG. **5** is an elevation view of the second embodiment of our invention shown in FIG. **4** and illustrating our display displaying a residual capacity of slightly over ½ and a range of slgihtly less than **20** miles by the cursor, under present operating conditions; and,

FIG. **6** is an elevation view of a modified form of the second embodiment of our invention shown in FIGS. **4** and **5** with the right-hand column having vertical lines representing a different color of lighting than the horizontal lines in the other two columns.

The display portion of this invention for each embodiment is flat and has no appreciable thickness whereby there is no ornamentation on the sides or back.

The broken line showing of additional vehicle instruments is for illustrtive purposes only and forms no part of the claimed design.

1 Claim, 4 Drawing Sheets



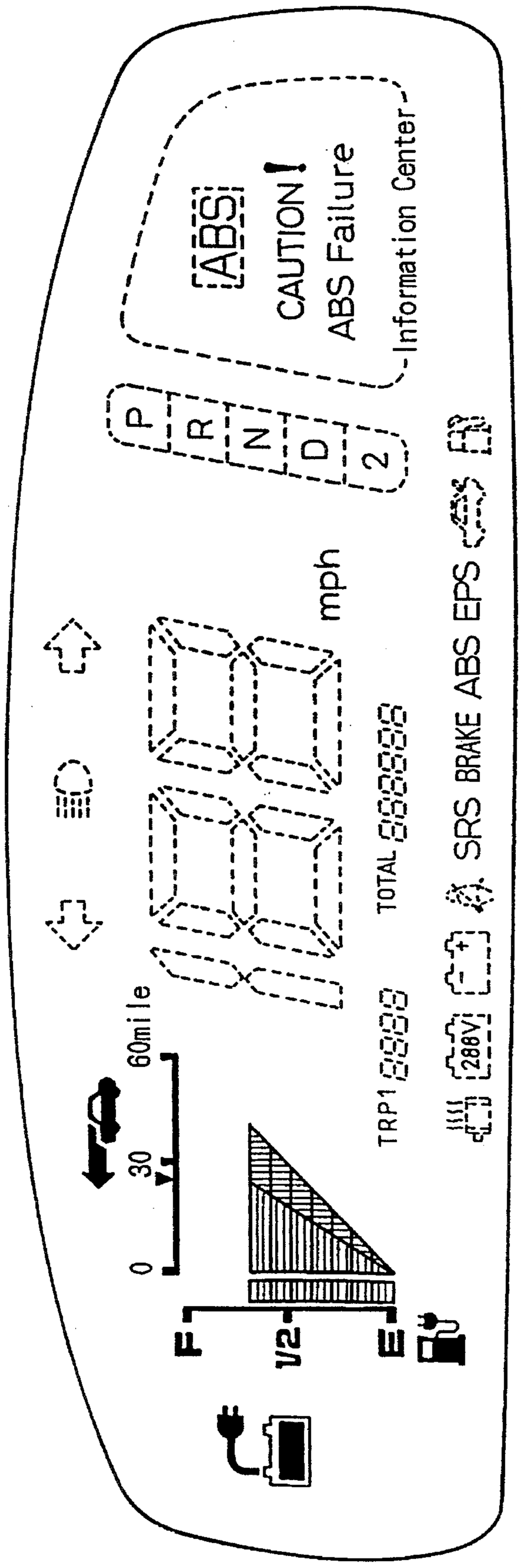

ABS
CAUTION
ABS Failure
Information Center
P
R
N
D
2
mph
TOTAL
SRS BRAKE ABS EPS
TRP1
288V
60mile
30
0
F
1/2
E

FIG. 1

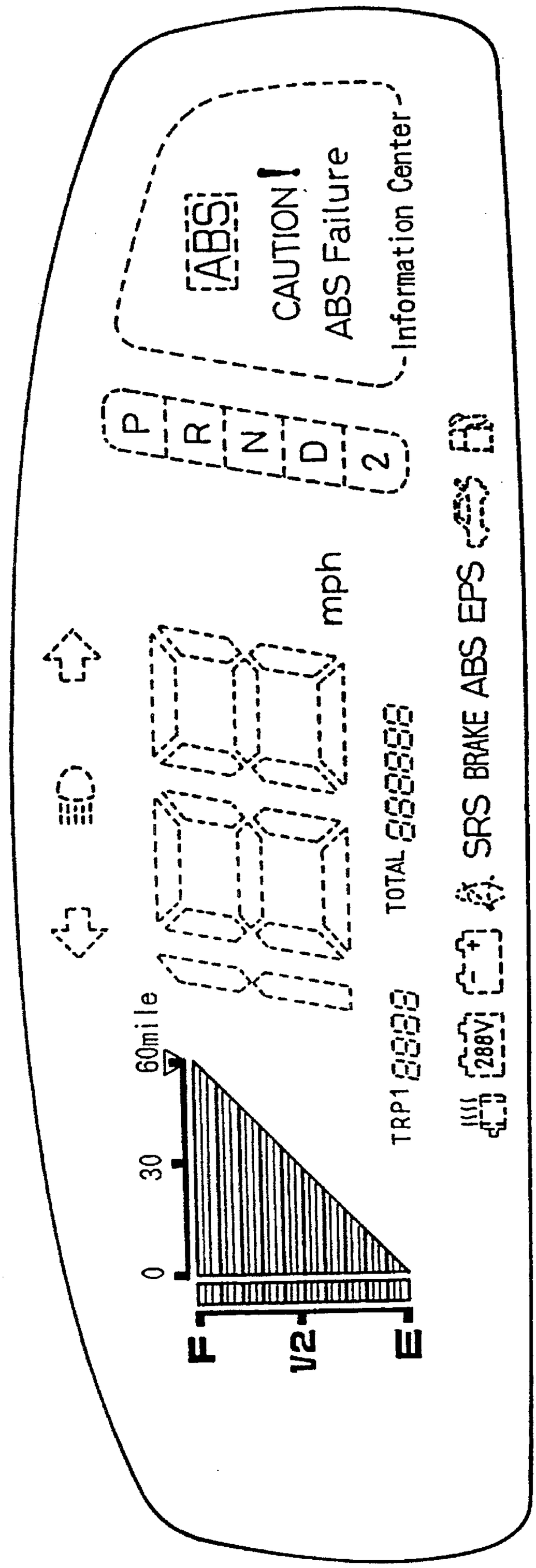

ABS
CAUTION
ABS Failure
Information Center
P
R
N
D
2
mph
TOTAL
TRIP1
SRS BRAKE ABS EPS
0
30
60mile

FIG. 2

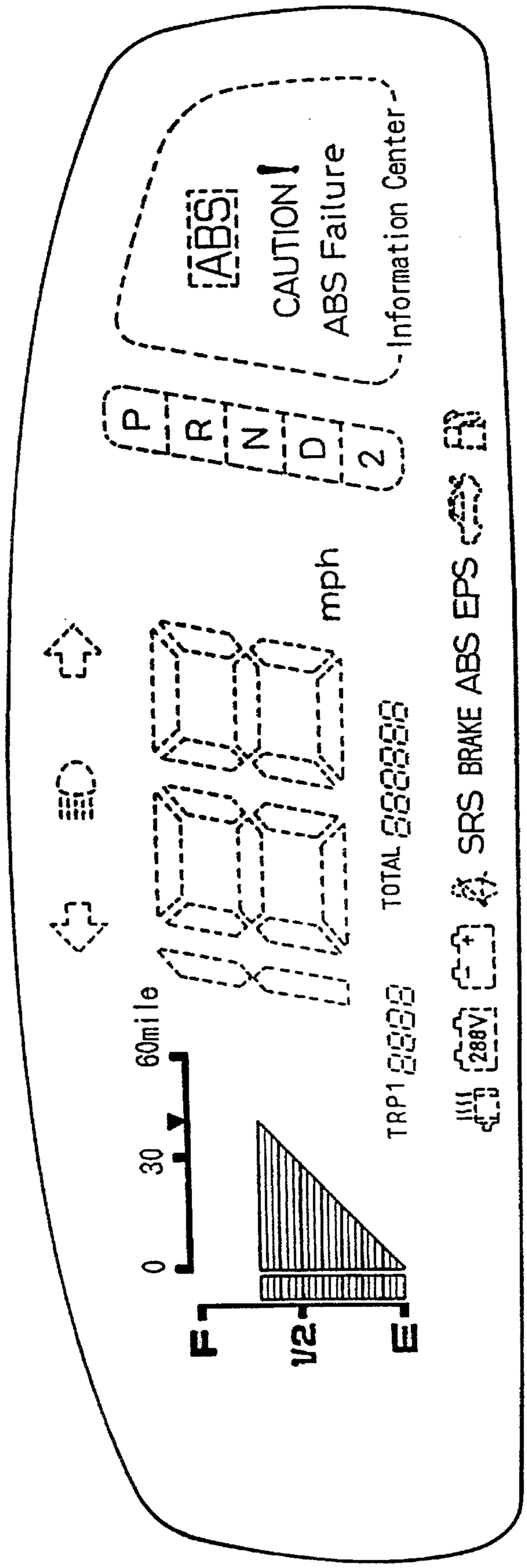

ABS
CAUTION
ABS Failure
Information Center
P
R
N
D
2
mph
ABS EPS
SRS BRAKE
TOTAL
TRP1
60mile
30
0
F
1/2
E

FIG. 3

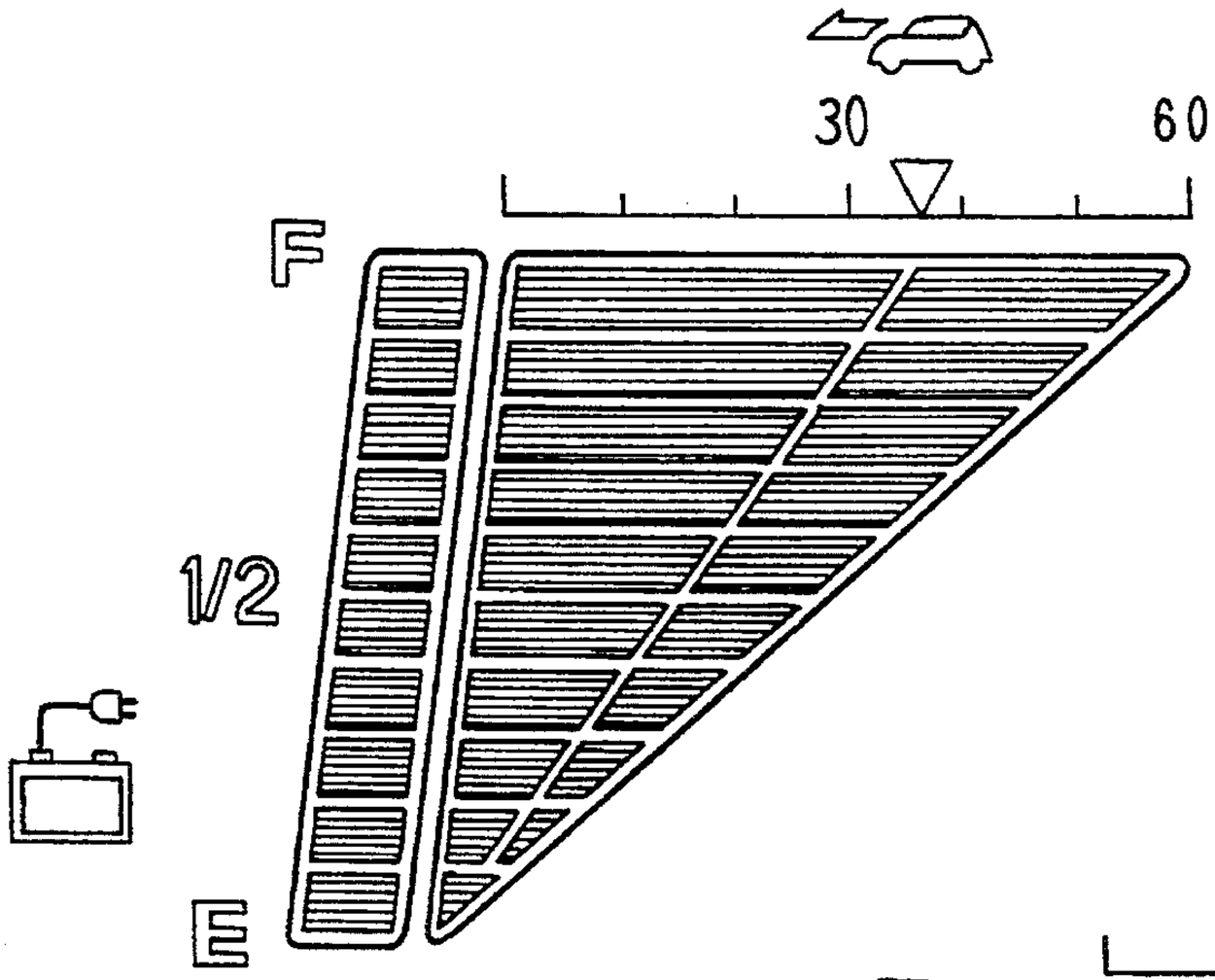


Fig. 4

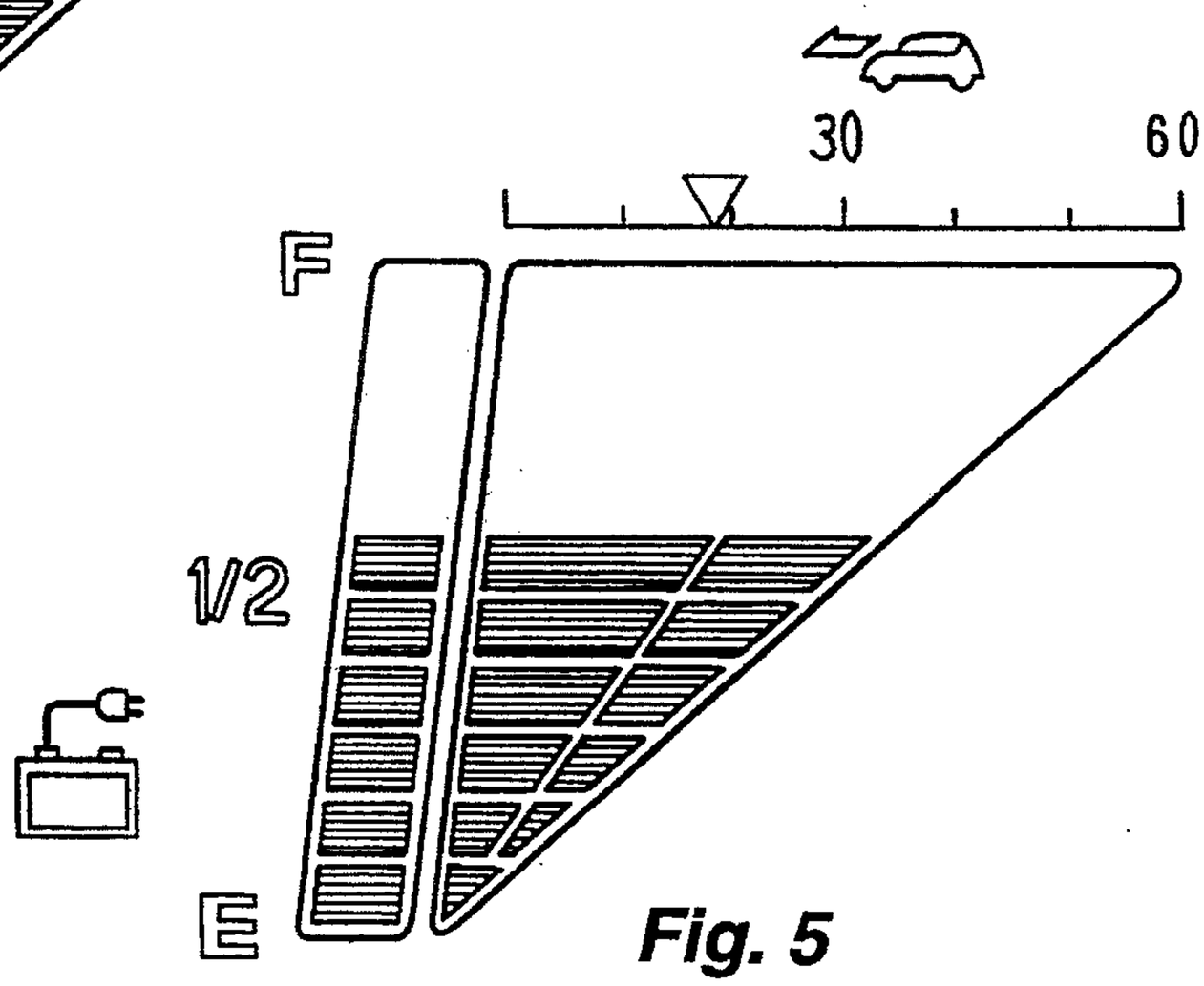


Fig. 5

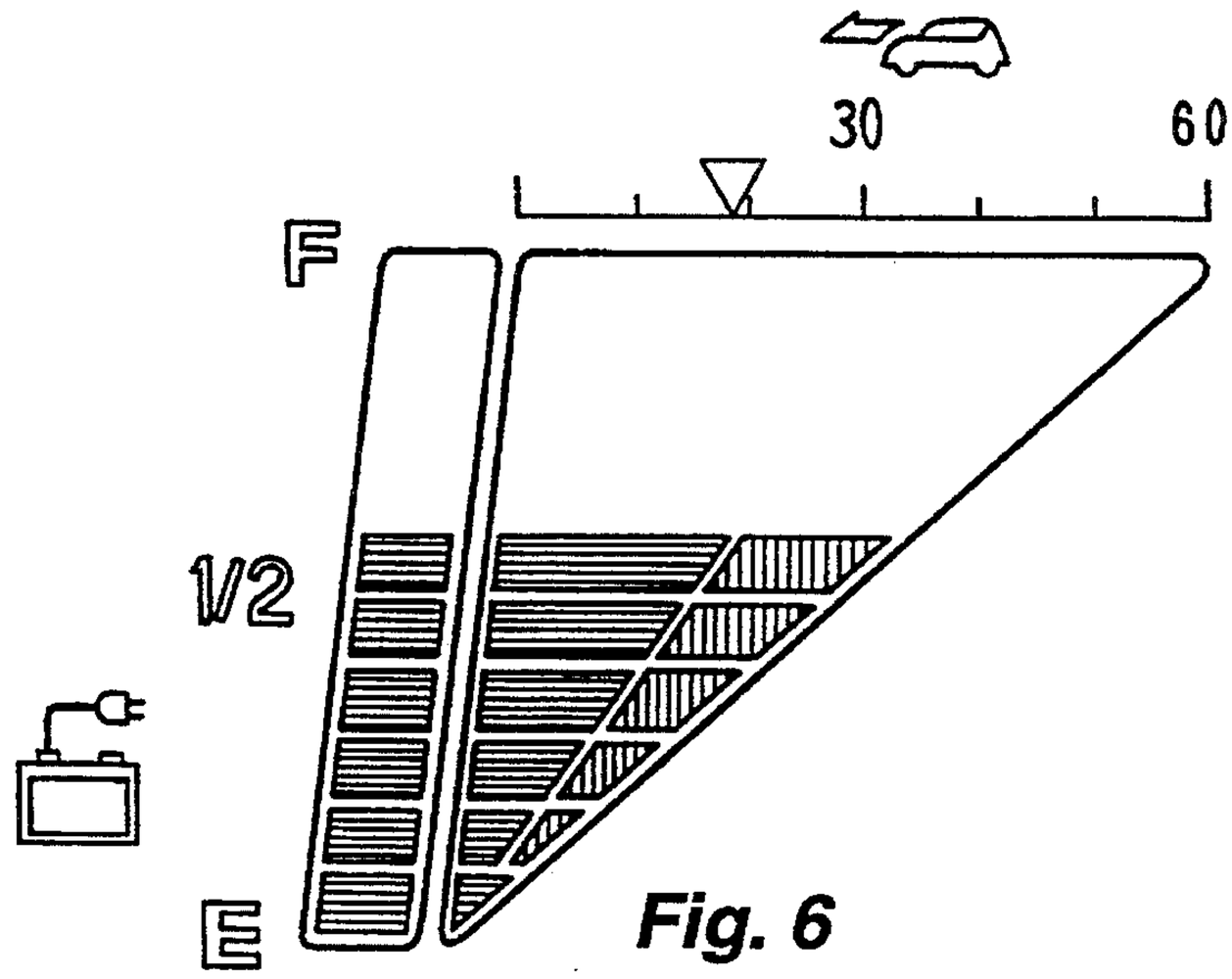


Fig. 6