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Maruno et al.

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(54) **INTERFACE APPARATUS**

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(73) Assignee: **Matsushita Electric Industrial Co., Ltd.**, Osaka (JP)

(*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Under 35 U.S.C. 154(b), the term of this patent shall be extended for 0 days.

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§ 102(e) Date: **Jan. 2, 1998**

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Oct. 19, 1995	(JP)	7-270828
Nov. 1, 1995	(JP)	7-284768

(51) **Int. Cl.⁷** **G09G 5/08**

(52) **U.S. Cl.** **345/158; 345/156**

(58) **Field of Search** 66/104, 55, 13, 66/15, 120; 358/403; 379/93.14, 100.08, 88.13, 88.24; 345/427, 156, 157, 158, 173

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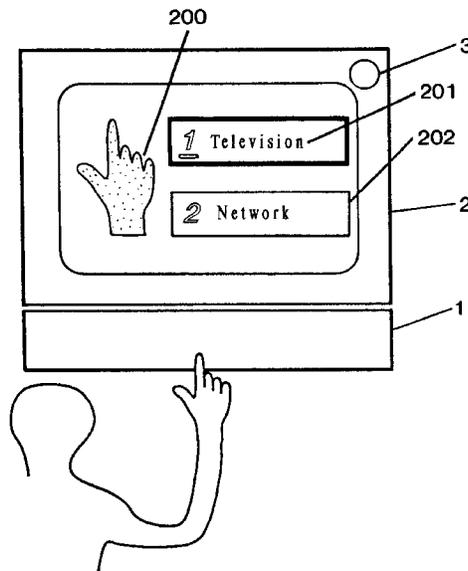
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(57) **ABSTRACT**

The invention relates to an interface apparatus for making input and output of appliances having display such as computer, word processor, information appliance and television, comprising recognizing means for recognizing the shape or move of the hand of an operator, display means for displaying the features of the shape or move of the hand recognized by the recognizing means as special shape in the screen, and control means for controlling the information displayed in the screen by the special shape displayed in the screen by the display means, wherein the two-dimensional or three-dimensional information displayed in the screen can be selected, indicated or moved only by changing the shape or moving the hand, so that the interface apparatus of very excellent controllability and high diversity may be presented.

6 Claims, 26 Drawing Sheets



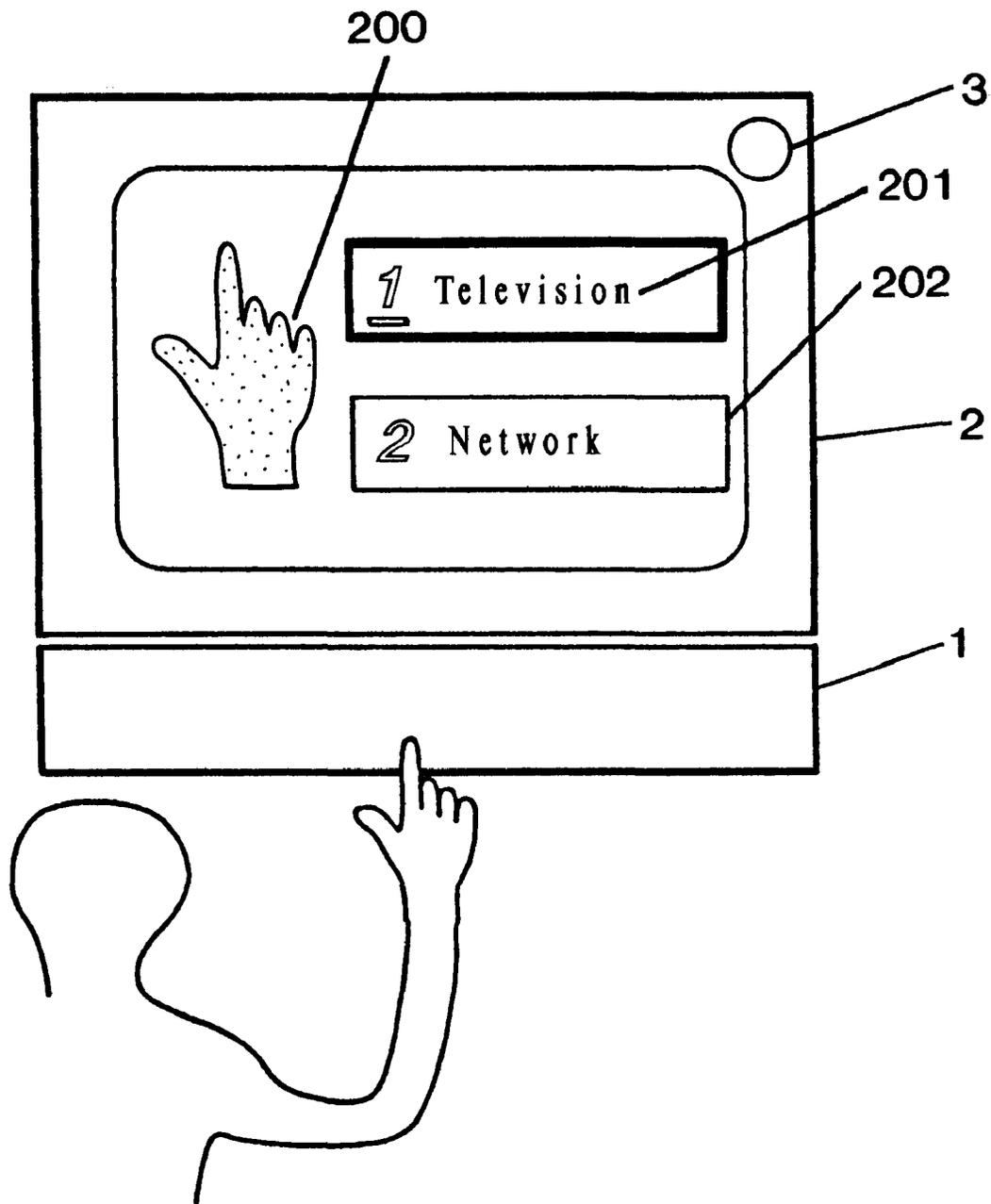


FIG. 1

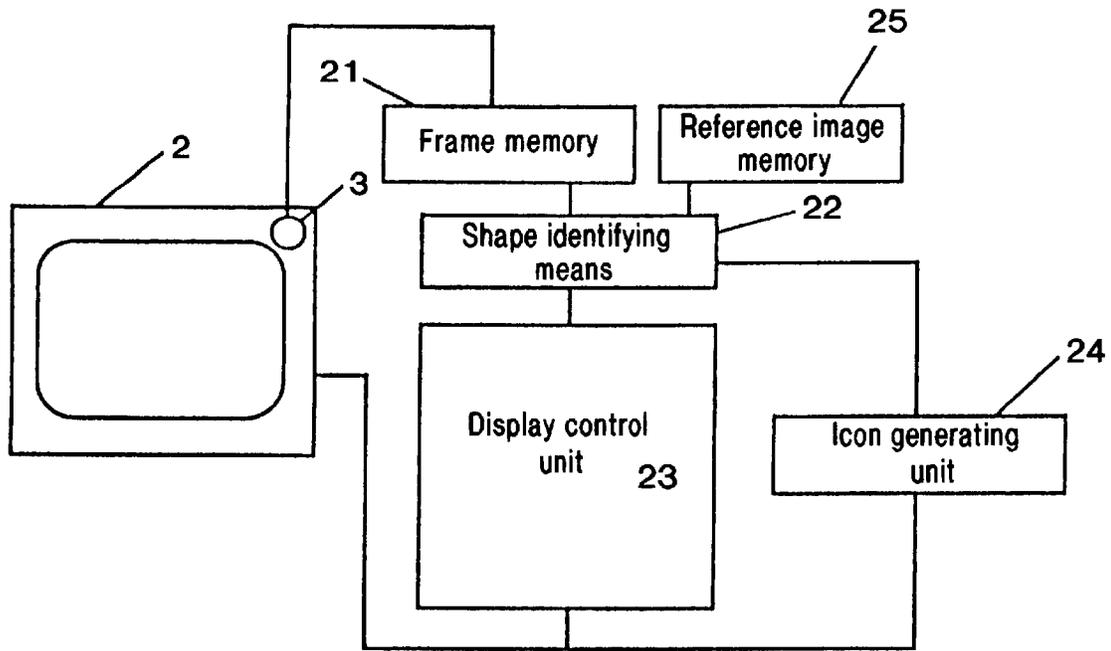


FIG. 2



FIG. 3(A)



FIG. 3(B)

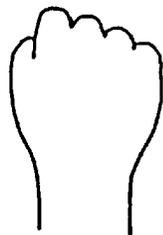


FIG. 3(C)

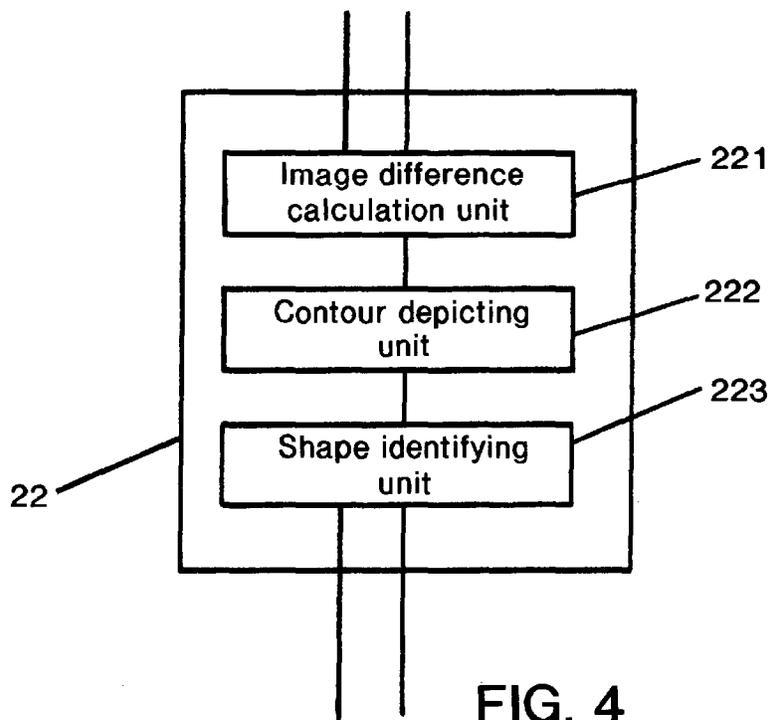


FIG. 4

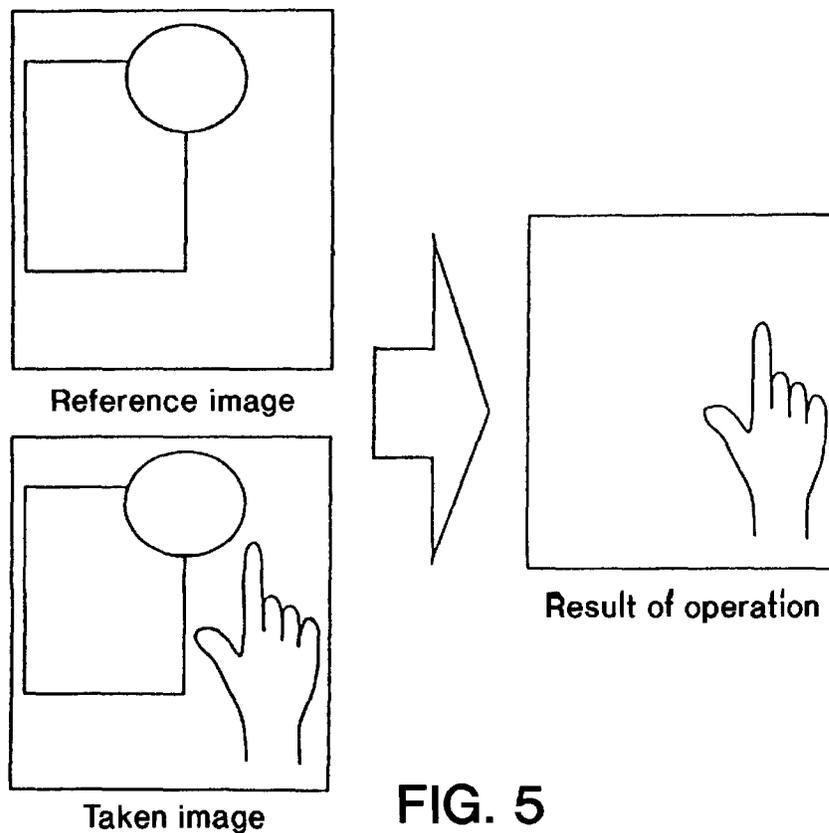


FIG. 5

1

FIG. 6(A)

2

FIG. 6(B)

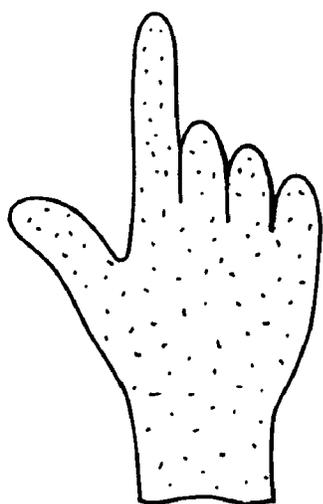


FIG. 6(C)

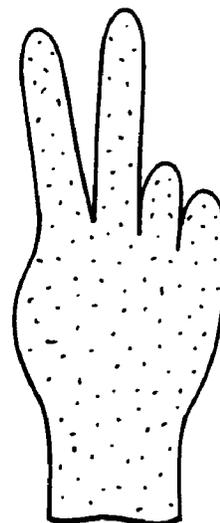


FIG. 6(D)

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