



[54] SURFACE LIGHT SOURCE DEVICE AND LIQUID CRYSTAL DISPLAY DEVICE, PORTABLE TELEPHONE AND INFORMATION TERMINAL EMPLOYING THE SURFACE LIGHT SOURCE DEVICE

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[\*] 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).

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[52] U.S. Cl. .... 385/129

[58] Field of Search ..... 385/129, 130, 385/132, 147; 257/232, 233, 432; 369/109, 110, 112, 44.11; 438/69, 71; 359/619

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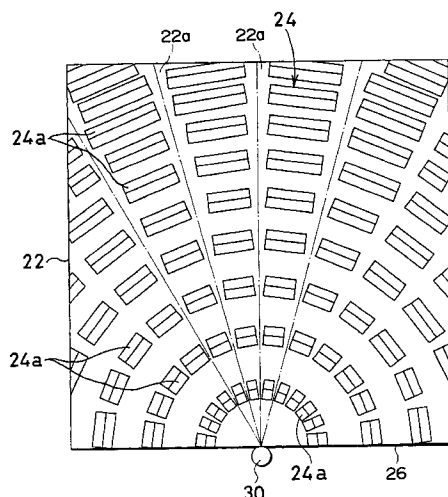
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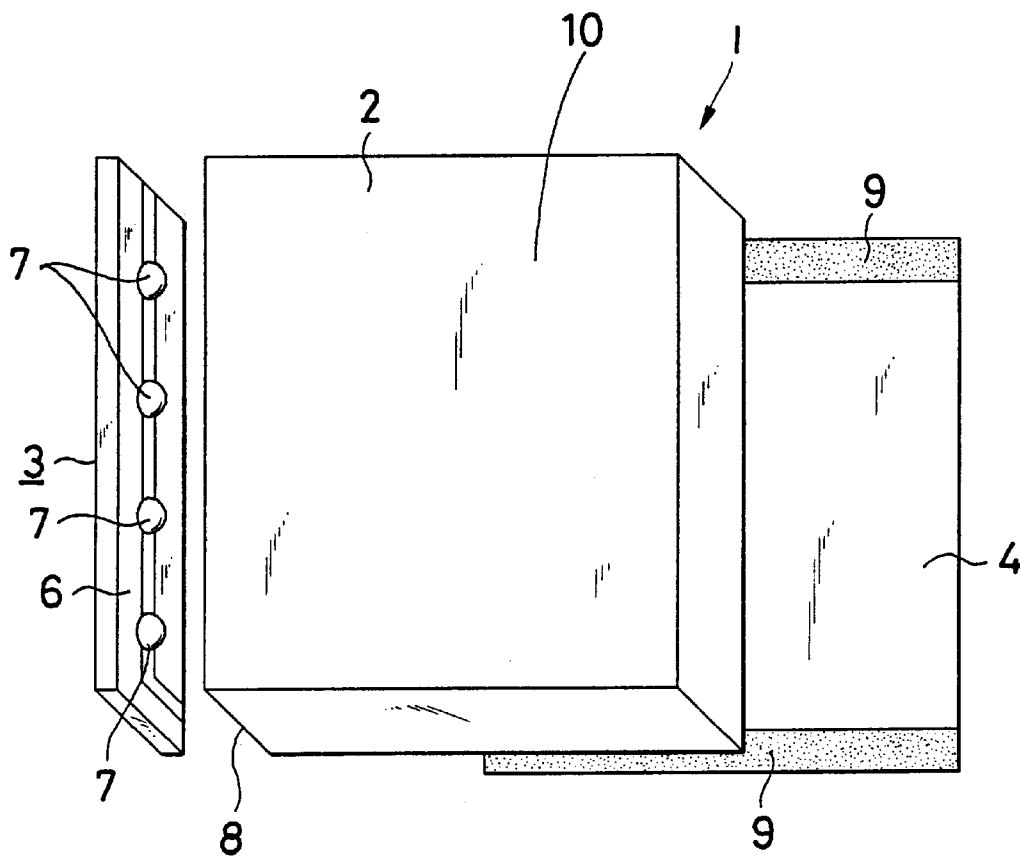
[57] ABSTRACT

In a surface light source device using a so-called point light source, the luminance distribution is made uniform, and the luminance thereof is increased. The direction of each of a plurality of diffuse pattern elements 24a constituting a diffuse pattern 24 formed on the lower surface of an optical waveguide plate 22 (a direction along the length) is at an angle of approximately 90° to a direction along the line connecting the diffuse pattern element 24a and a point light source 30. The density ρ of the diffuse pattern elements is approximately zero in the vicinity of the point light source 30, while linearly increasing as the distance from the point light source 30 increases.

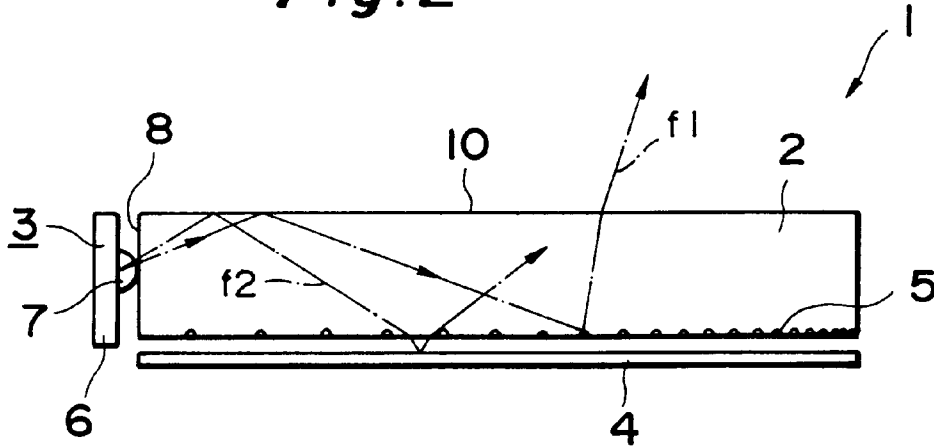
31 Claims, 33 Drawing Sheets



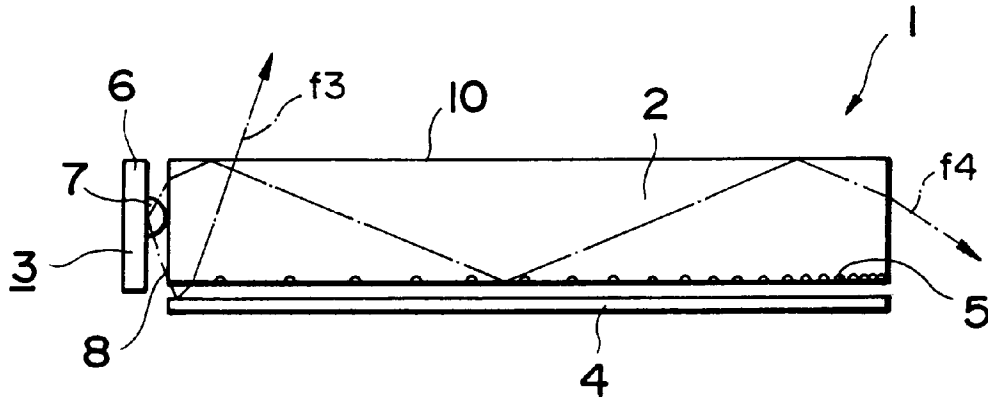
*Fig. 1*



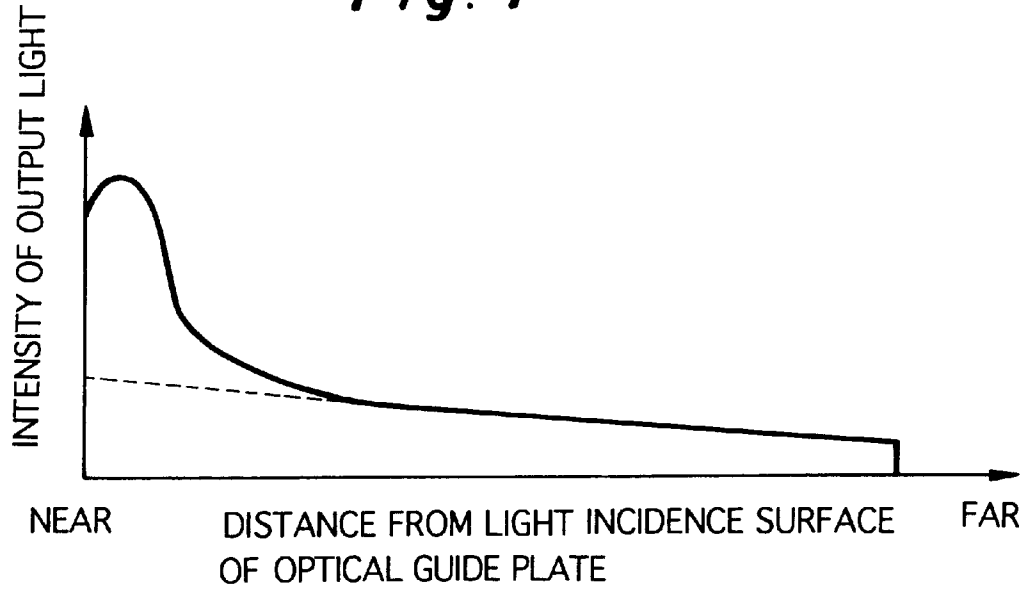
*Fig. 2*



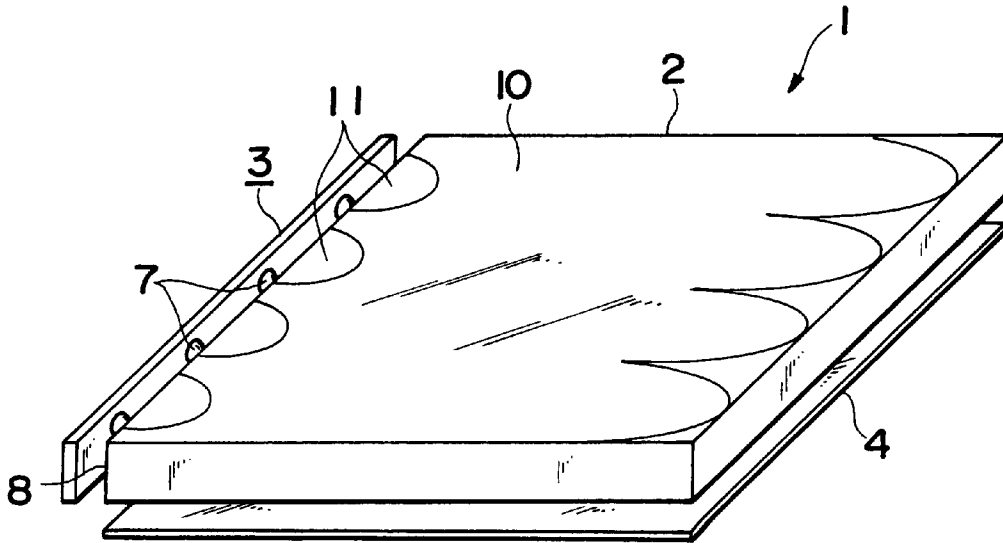
*Fig. 3*



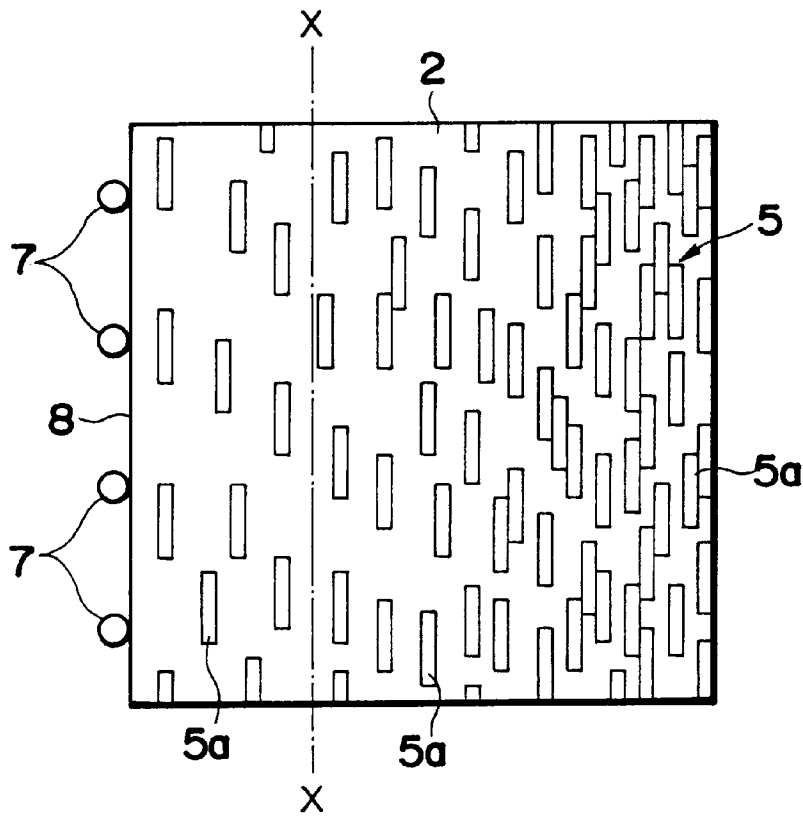
*Fig. 4*



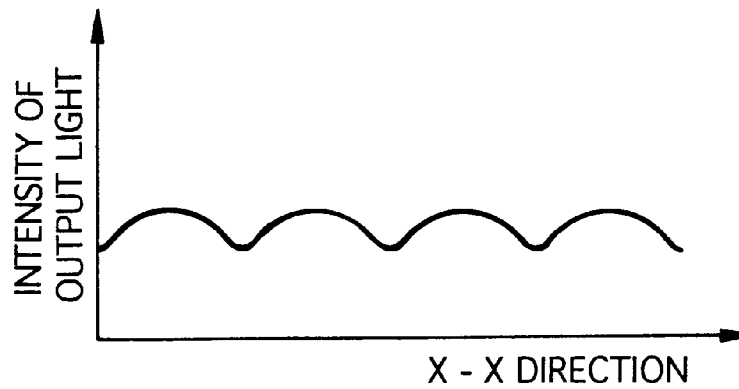
*Fig. 5*



**Fig. 6**



**Fig. 7**



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