



US005706134A

United States Patent [19]

[11] Patent Number: **5,706,134**

Konno et al.

[45] Date of Patent: **Jan. 6, 1998**

[54] **LIGHT-DIFFUSING SHEET MEMBER**

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[73] Assignee: **Keiwa Shoko Kabushiki Kaisha, Osaka, Japan**

[21] Appl. No.: **658,314**

[22] Filed: **Jun. 5, 1996**

Related U.S. Application Data

[63] Continuation of Ser. No. 954,304, Sep. 30, 1992, abandoned.

Foreign Application Priority Data

Jun. 22, 1919	[JP]	Japan	4-042936 U
Oct. 9, 1991	[JP]	Japan	3-082008 U
Jan. 13, 1992	[JP]	Japan	4-000679 U

[51] Int. Cl. ⁶	G02B 5/02
[52] U.S. Cl.	359/599; 359/452
[58] Field of Search	359/599, 452, 359/453, 455, 456, 460; 354/452

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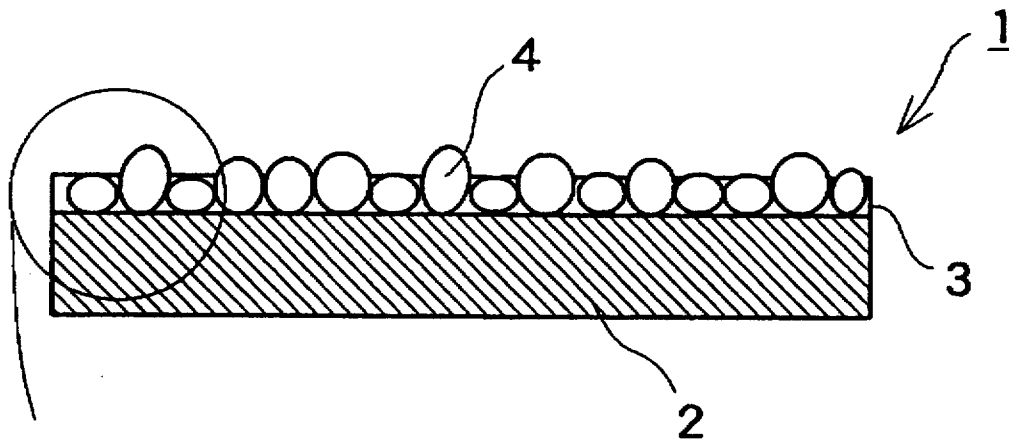
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Attorney, Agent, or Firm—Marshall, O'Toole, Gerstein, Murray & Borun

[57] ABSTRACT

A light diffusing sheet member used as a diffusing plate of a liquid crystal display by which light transmitted from a light source is uniformly diffused so that the luminance of a screen of a light diffusing plate liquid crystal display portion is sufficient and a user can easily look at characters, graphics and the like displayed on the screen from different angles. A light diffusing sheet member comprises a base material sheet and a light diffusing layer applied on the top face of the base material sheet, and beads mixed therein. The beads have different sizes, and include particles buried in a synthetic resin and particles which at least partially project from the synthetic resin.

4 Claims, 5 Drawing Sheets



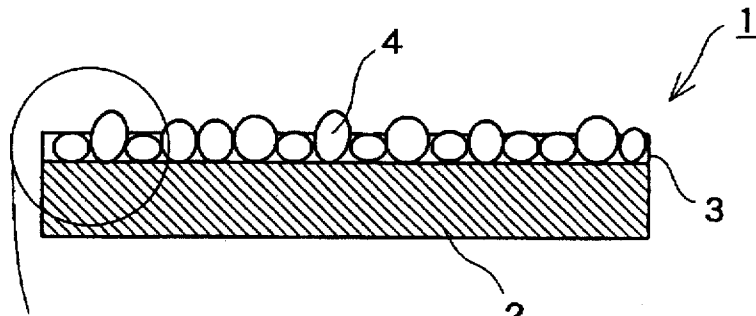


Fig. 1A

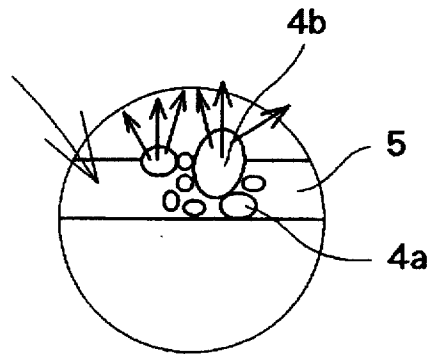


Fig. 1B

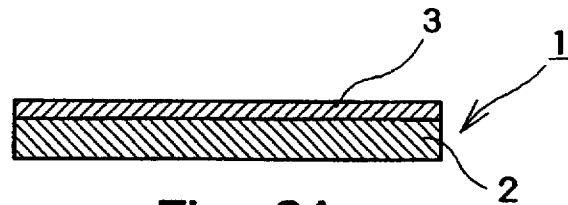


Fig. 2A

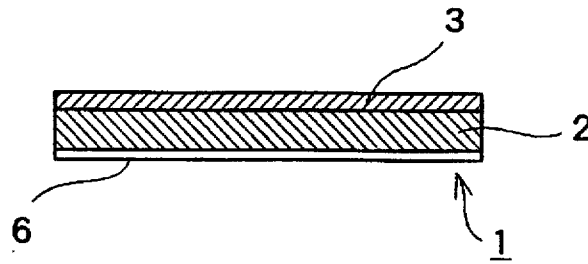


Fig. 2B

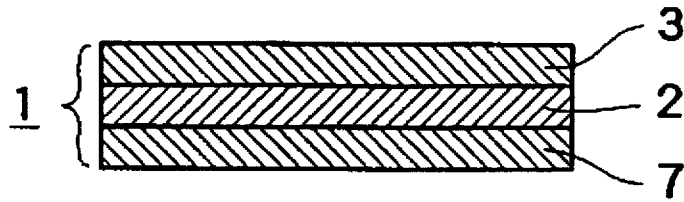


Fig. 3A

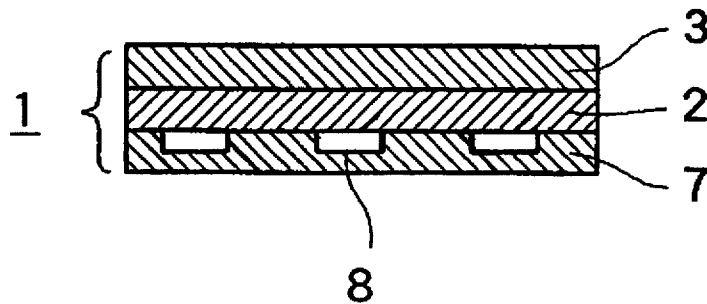


Fig. 3B

Fig. 4A

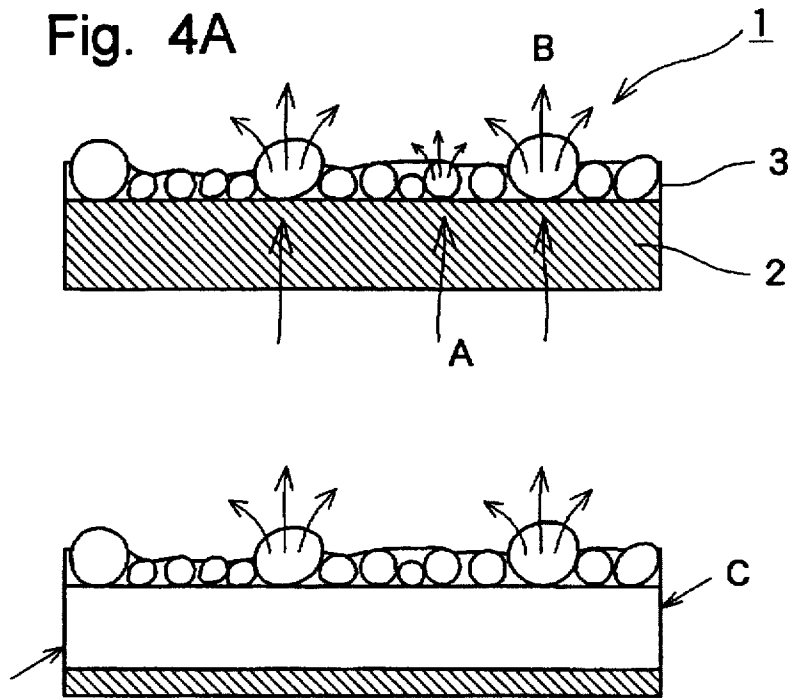


Fig. 4B

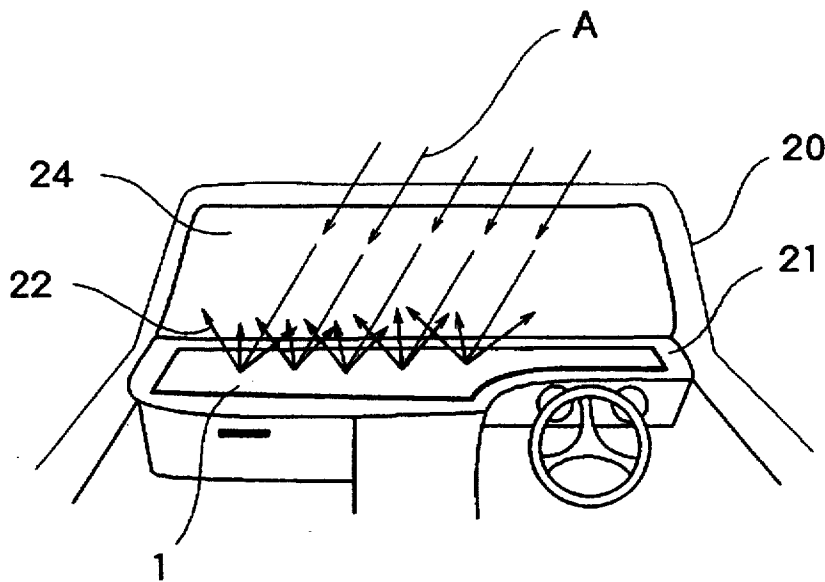
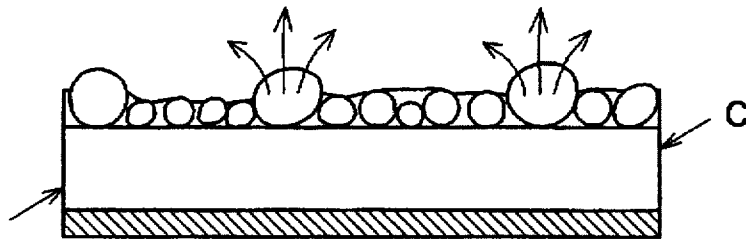


Fig. 5

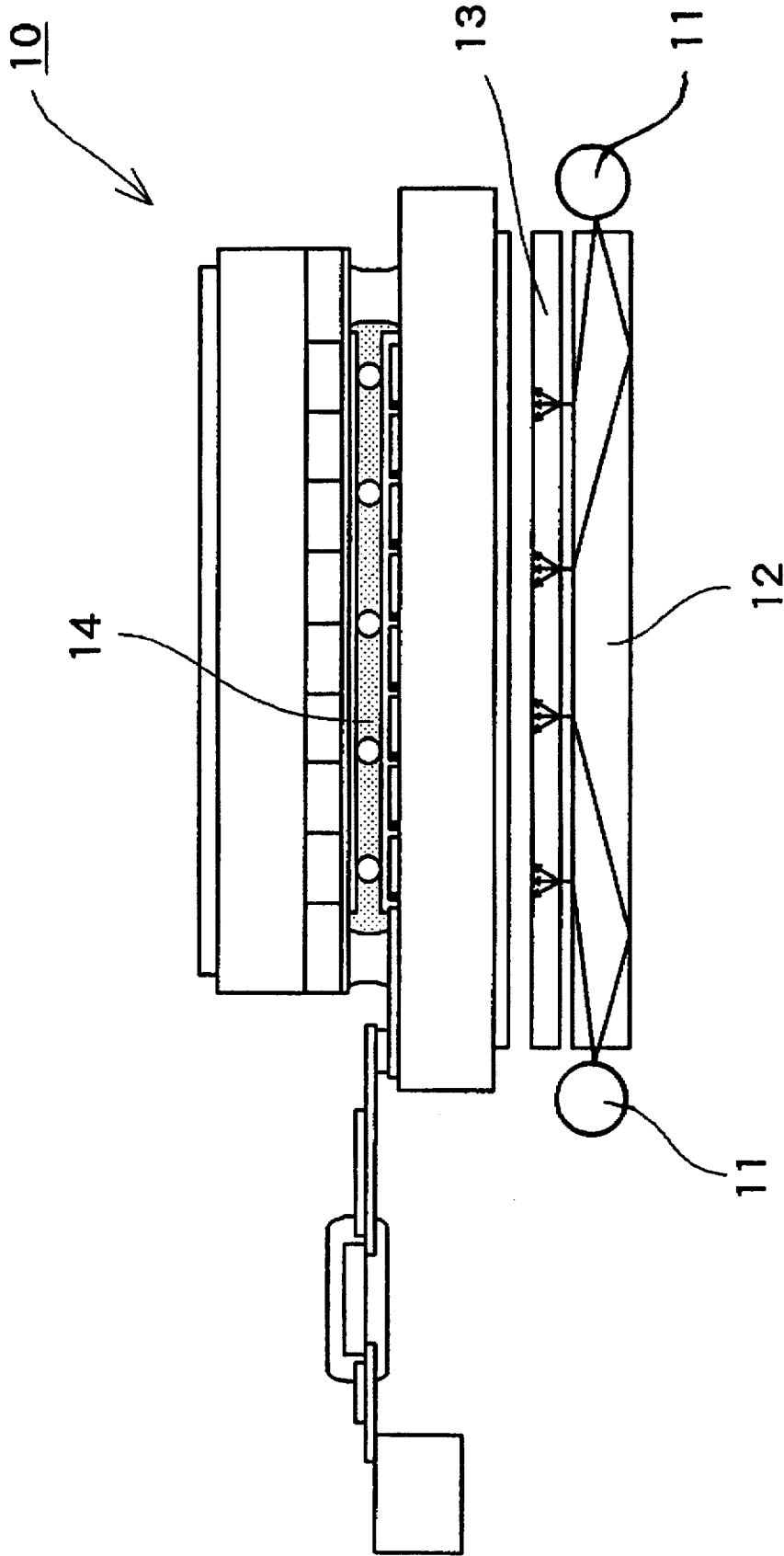


Fig.6 PRIOR ART

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