



US005890791A

United States Patent [19]
Saito

[11] **Patent Number:** **5,890,791**
[45] **Date of Patent:** ***Apr. 6, 1999**

[54] **LIGHT CONTROL SHEET, SURFACE LIGHT SOURCE UNIT AND LIQUID CRYSTAL DISPLAY DEVICE**

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[73] Assignee: **Konica Corporation**, Tokyo, Japan

[*] 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).

[21] Appl. No.: **731,021**

[22] Filed: **Oct. 9, 1996**

[30] **Foreign Application Priority Data**

Oct. 13, 1995 [JP] Japan 7-265530

[51] **Int. Cl.⁶** **F21V 8/00**

[52] **U.S. Cl.** **362/31; 362/330; 362/339; 385/146**

[58] **Field of Search** 349/62-66; 362/26, 362/31, 330, 337, 339; 385/146

[56] **References Cited**

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Primary Examiner—Alan Cariaso
Attorney, Agent, or Firm—Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P

[57] **ABSTRACT**

A light control sheet for receiving a light incident on one surface thereof and for emitting the received light from the other surface thereof, includes plural prisms which is provided at least one of surfaces of the sheet. Each of the prisms has a generatrix in parallel to each other, and has two side surfaces formed on both sides with respect to a plane surface which includes the generatrix and is perpendicular to the light control sheet. The two side surfaces have asymmetrical shapes each other with respect to the plane surface, and at least one of the two side surfaces is nonplanar.

19 Claims, 24 Drawing Sheets

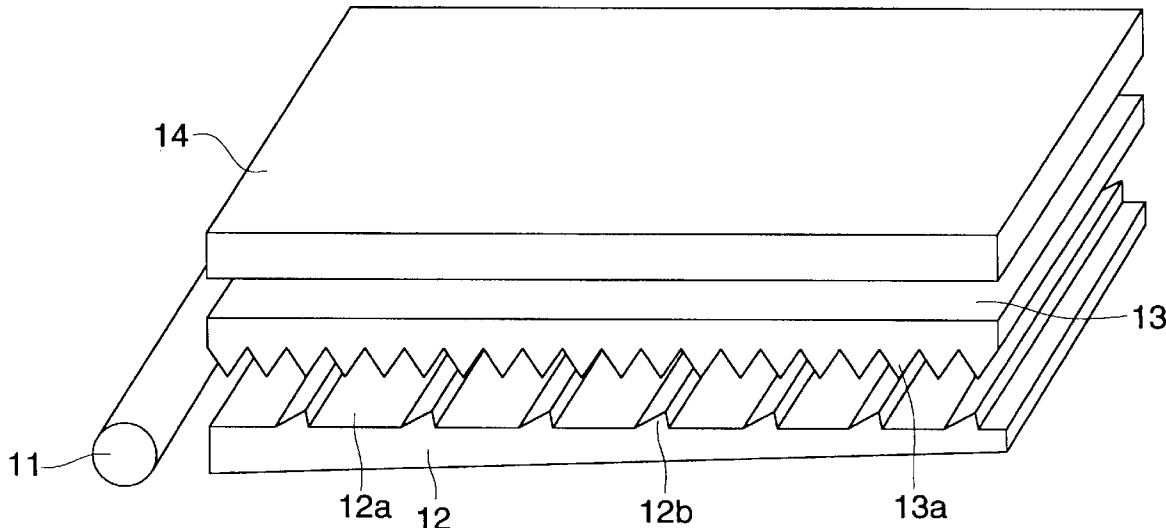


FIG. 1

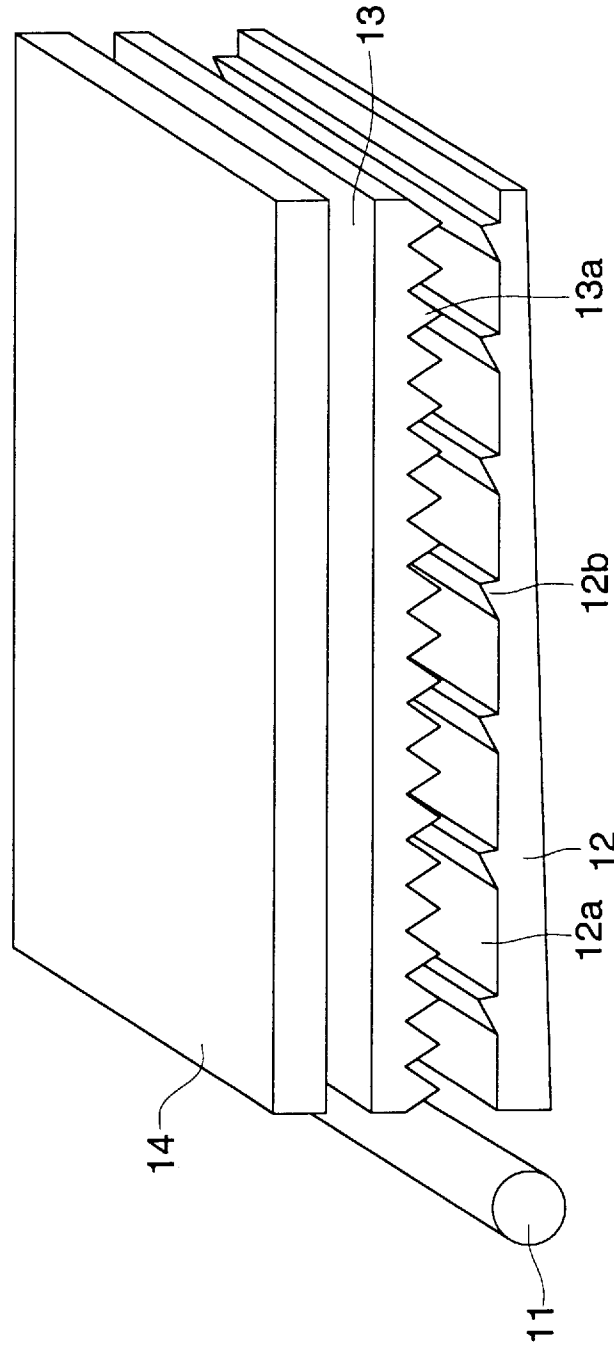


FIG. 2

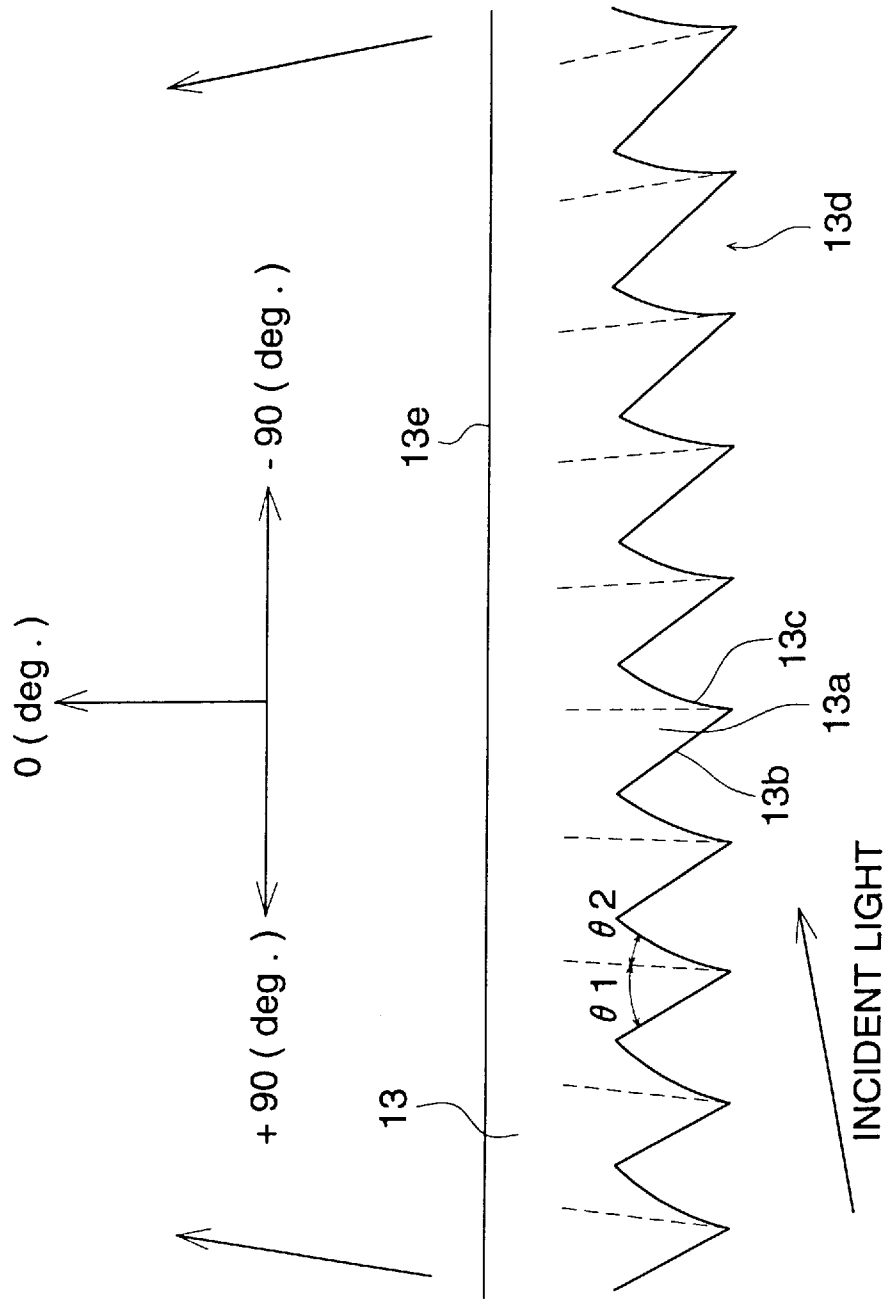


FIG. 3

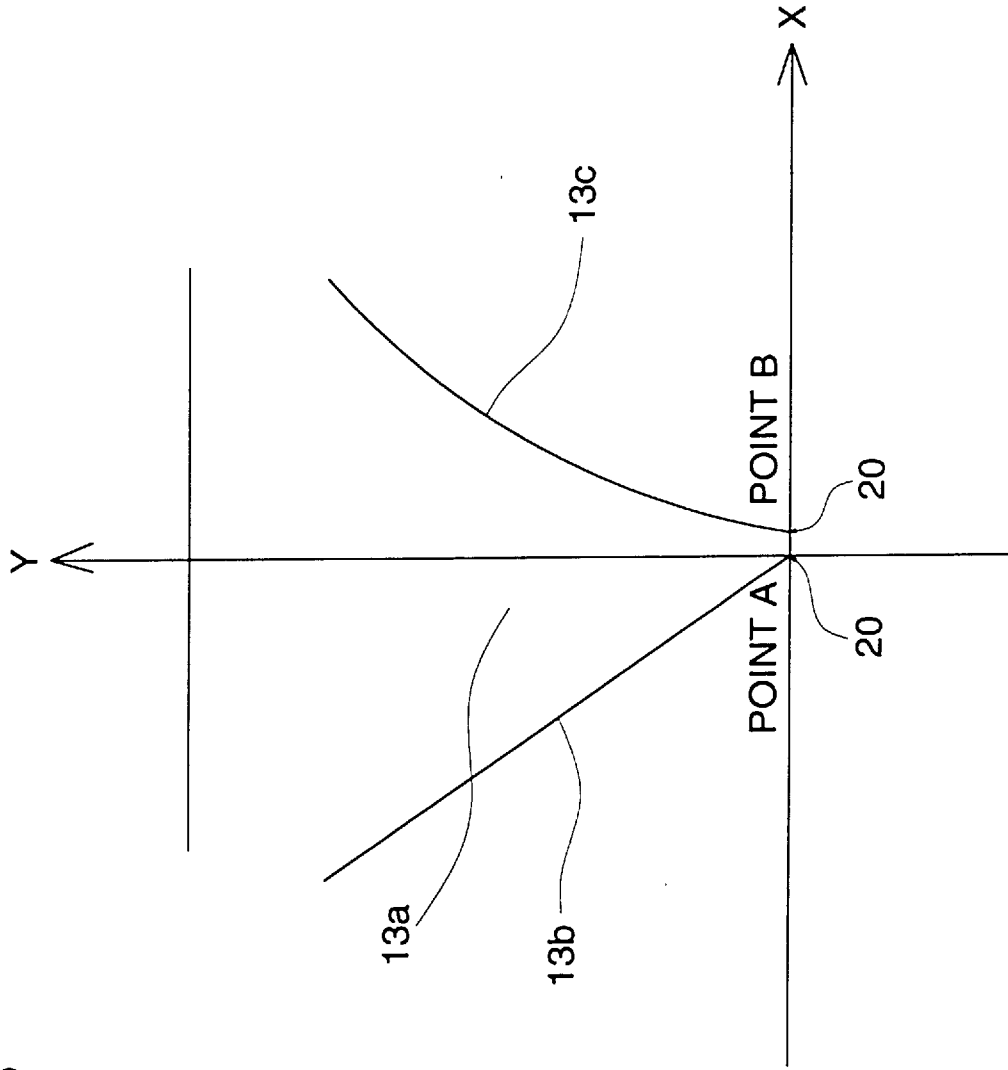
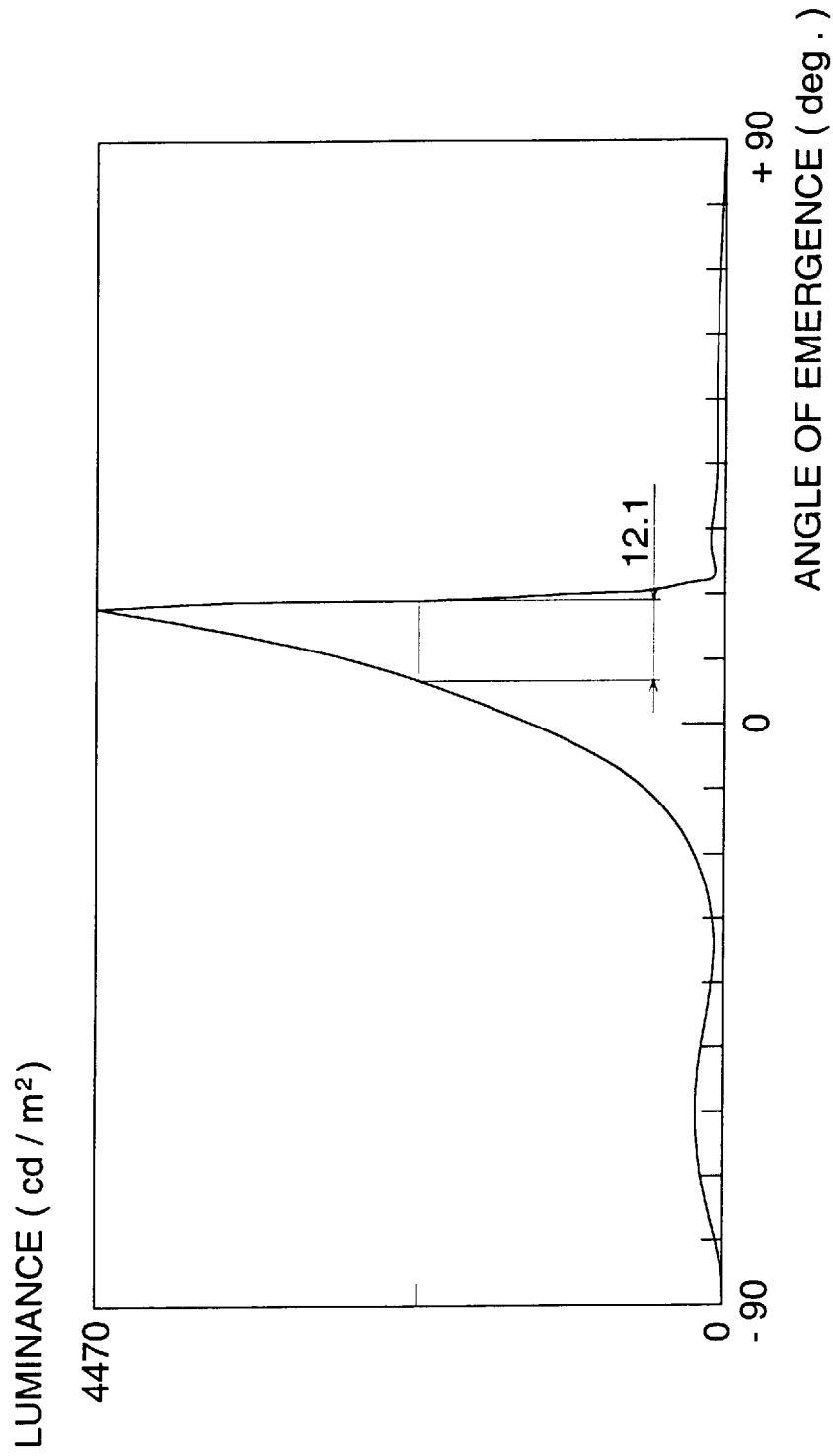


FIG. 4



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