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Yoshikawa et al.

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[54] SURFACE EMISSION APPARATUS

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[52] **U.S. Cl.** **362/31**; 362/26; 362/327; 362/330

[58] **Field of Search** 362/31, 26, 330, 362/327; 359/49; 349/62, 65

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[57]   **ABSTRACT**

The present invention relates to a surface emission apparatus for causing light, emitting from a light source arranged to a side of a light-emitting surface thereof, to emerge from the light-emitting surface. The surface emission apparatus includes a transparent light-guide plate in which reflecting shape portions formed with small projecting or concaving portions are arranged on its bottom surface portion opposing the light-emitting surface such that a density of the projecting or concaving portions is gradually increased in accordance with a distance from the light source. Light incident from the light source is reflected by the reflecting shape portions and emerges from the light-emitting surface. Since light emerging from the light source is reflected toward the light-emitting surface in accordance with the density of the reflecting shape portions, uniform light emission can be obtained throughout the entire light-emitting surface. Since the reflecting shape portions are formed in a staggered manner in a direction away from the light source, light emitted from the light source can be easily incident on many projecting or concaving portions directly. The reflecting shape portions are preferably small projecting or concaving portions whose contiguous side portions extending from their vertex portions and contiguous to the bottom surface portion are formed with curved surfaces, or small projecting or concaving portions whose contiguous side portions extending from their vertex portions and contiguous to the bottom surface portion form circular cones.
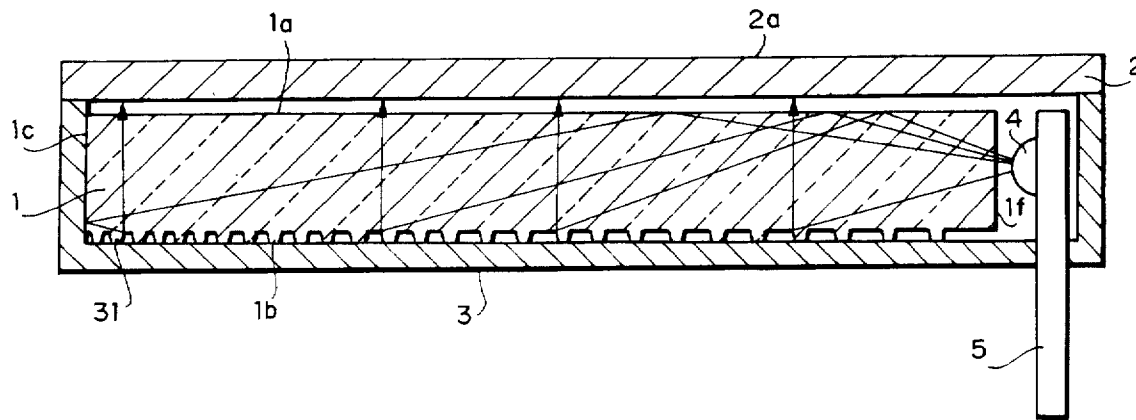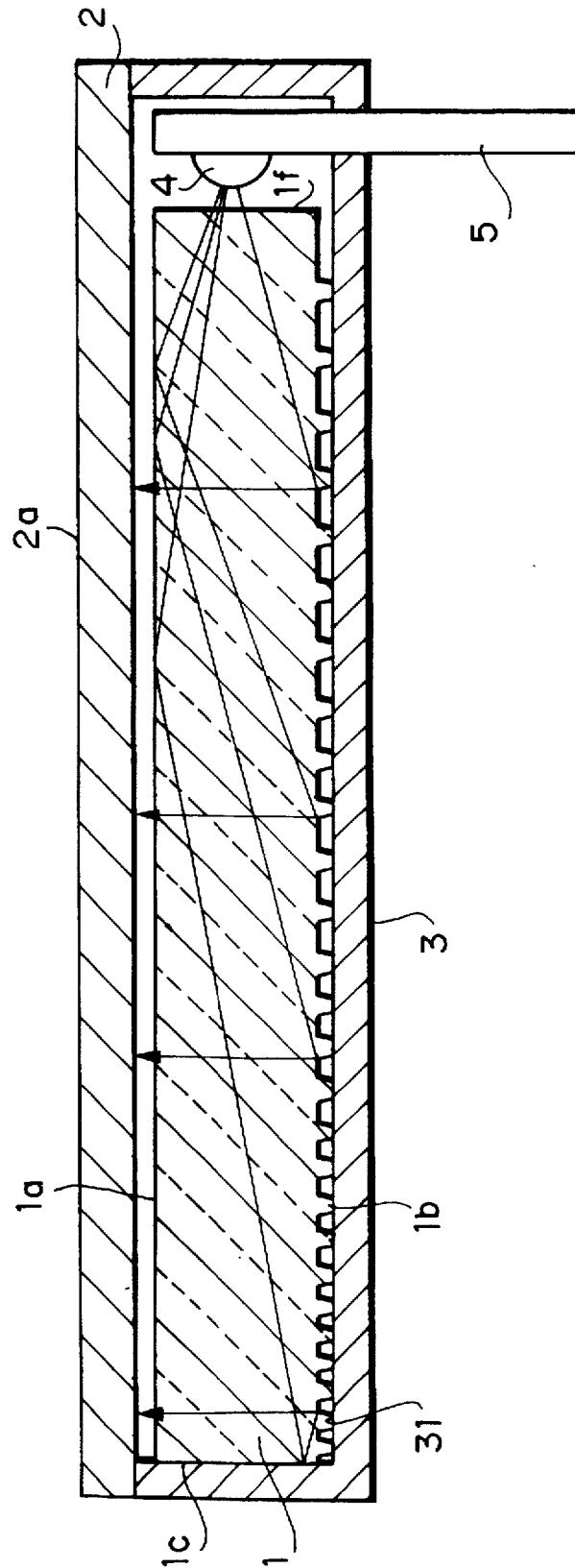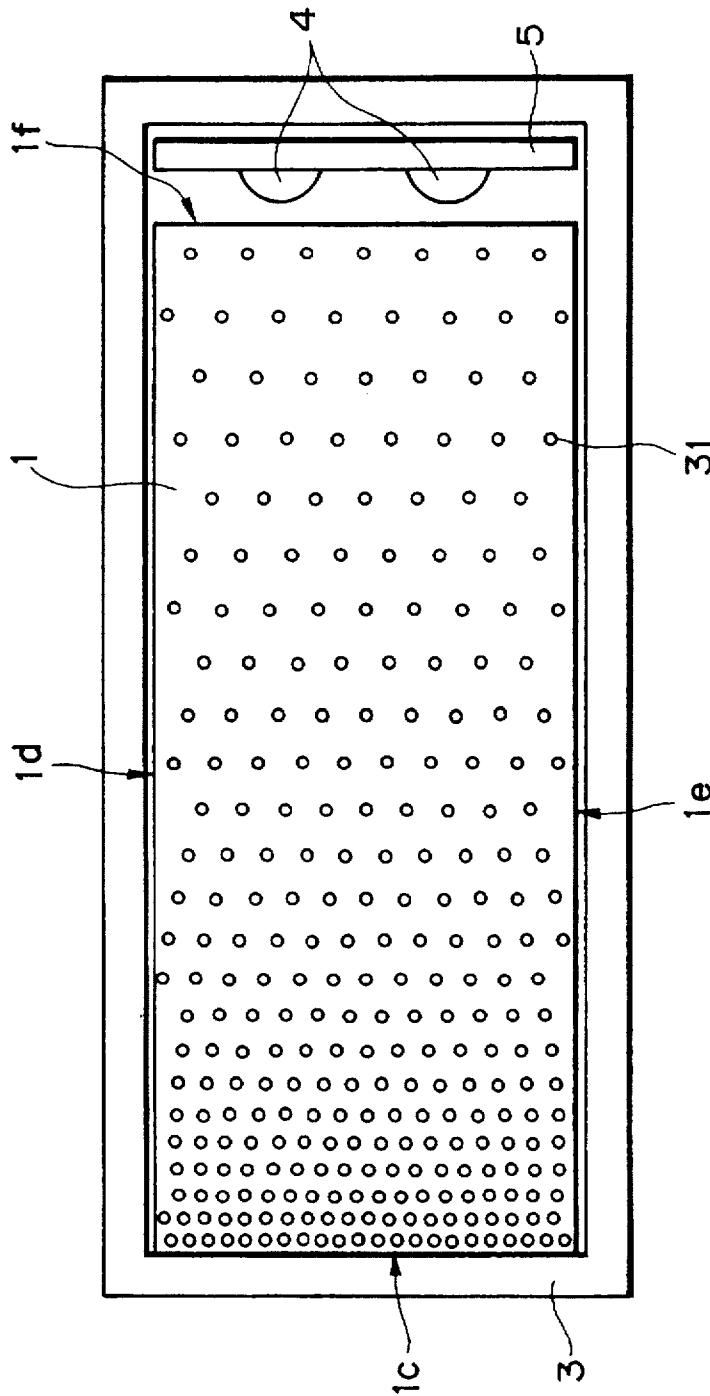
6 Claims, 6 Drawing Sheets

FIG. 1

FIG. 2

FIG. 3

F I G. 4

DOCKET ALARM
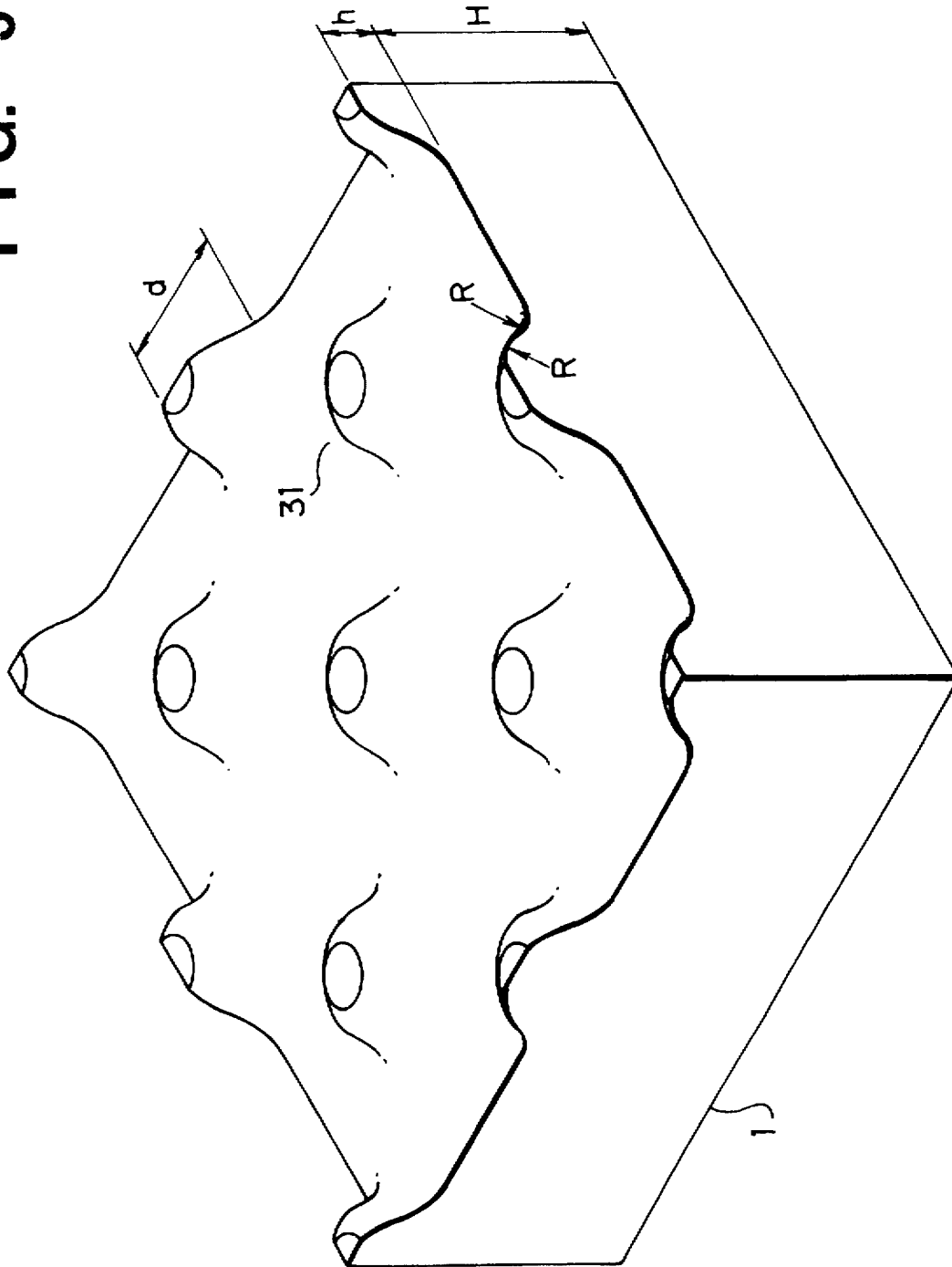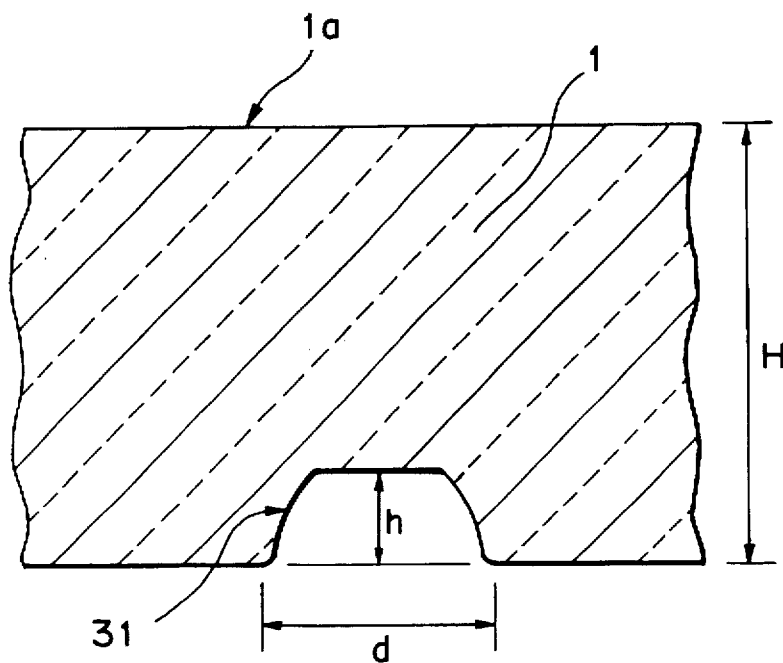
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