

- [54] **APPARATUS FOR PRODUCTION OF THREE-DIMENSIONAL OBJECTS BY STEREO LITHOGRAPHY**
- [75] **Inventor:** Charles W. Hull, Arcadia, Calif.
- [73] **Assignee:** UVP, Inc., San Gabriel, Calif.
- [21] **Appl. No.:** 638,905
- [22] **Filed:** Aug. 8, 1984
- [51] **Int. Cl.<sup>4</sup>** ..... B29D 11/00; G03C 00/00
- [52] **U.S. Cl.** ..... 425/174.4; 425/174; 425/162; 264/22; 430/269; 156/58; 365/119; 365/120
- [58] **Field of Search** ..... 425/162, 174, 174.4, 425/425; 264/22, 183, 40.1; 430/269; 156/38, 58, 275.5; 365/107, 119, 127

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*Attorney, Agent, or Firm*—Fulwider, Patton, Rieber, Lee & Utecht

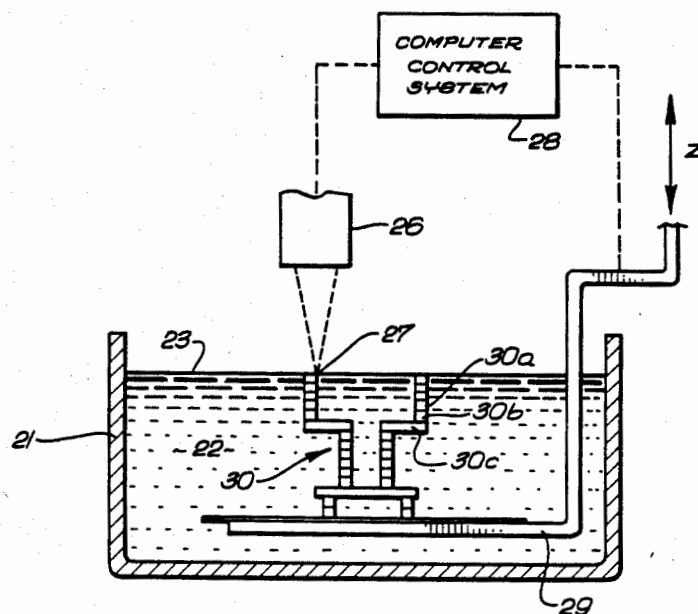
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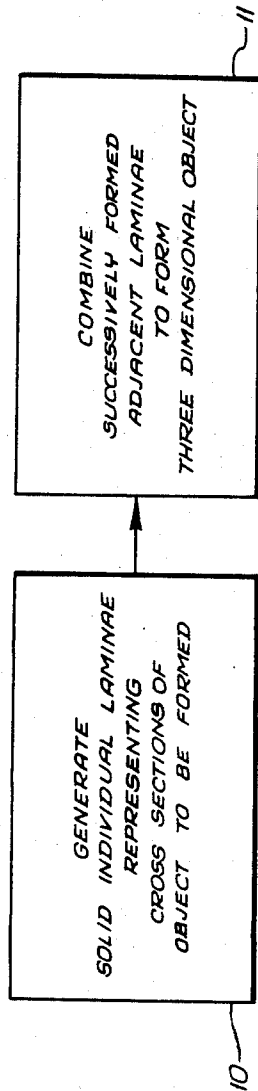
[57] **ABSTRACT**

A system for generating three-dimensional objects by creating a cross-sectional pattern of the object to be formed at a selected surface of a fluid medium capable of altering its physical state in response to appropriate synergistic stimulation by impinging radiation, particle bombardment or chemical reaction, successive adjacent laminae, representing corresponding successive adjacent cross-sections of the object, being automatically formed and integrated together to provide a step-wise laminar buildup of the desired object, whereby a three-dimensional object is formed and drawn from a substantially planar surface of the fluid medium during the forming process.

47 Claims, 8 Drawing Figures



*FIG. 1*



*FIG. 2*

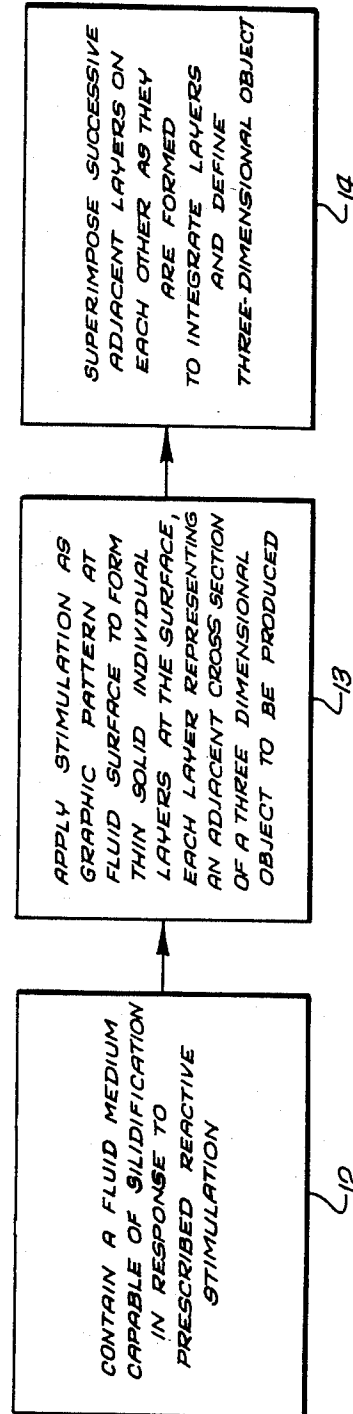


Fig. 3

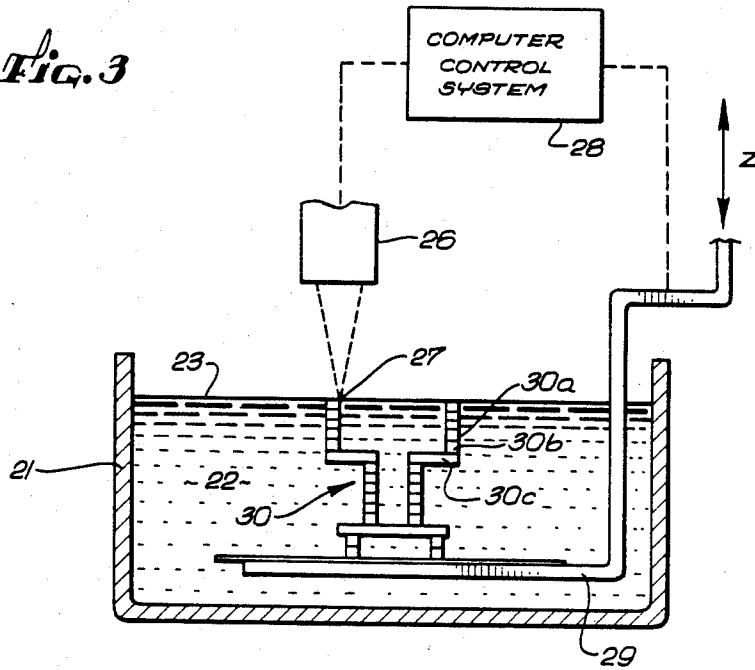


Fig. 4

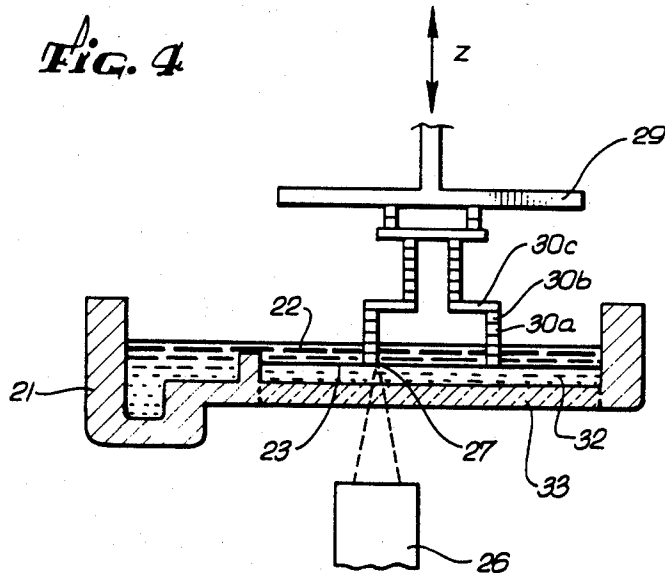


Fig. 5

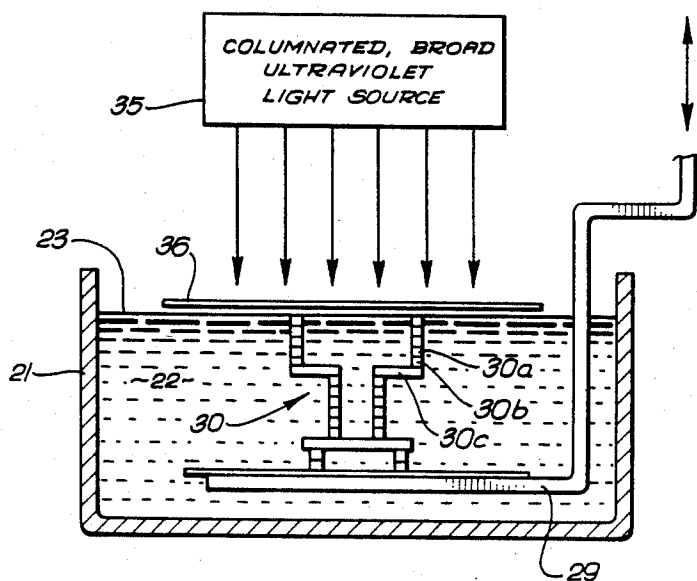


Fig. 6

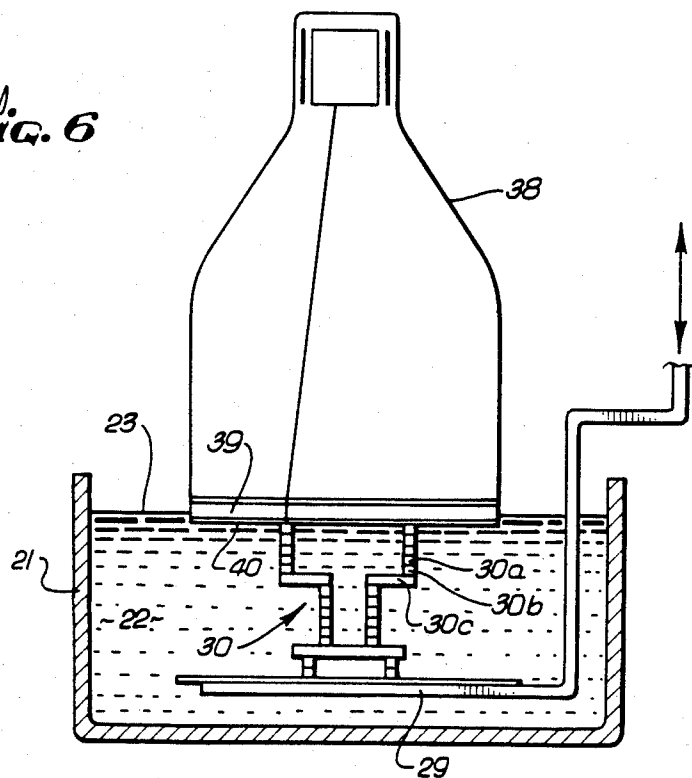


Fig. 7

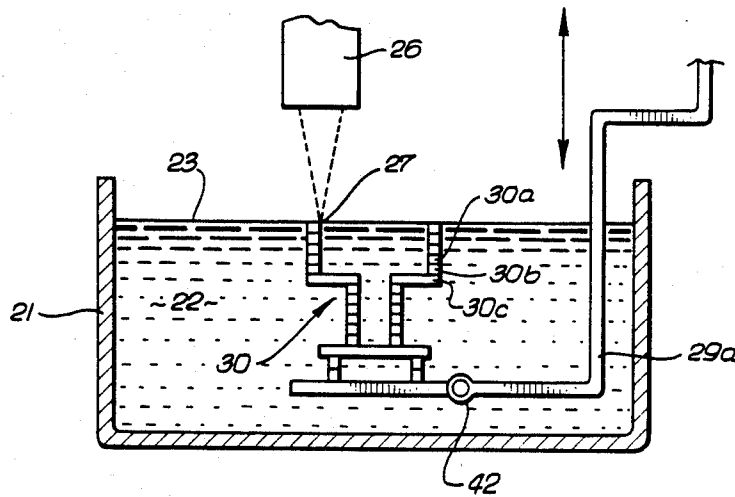
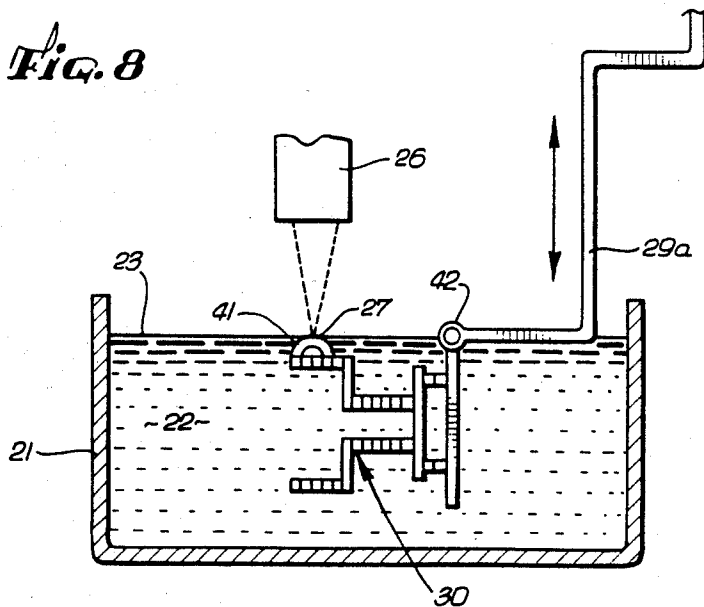


Fig. 8



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