



US006428198B1

(12) **United States Patent**
Saccomanno et al.

(10) **Patent No.:** **US 6,428,198 B1**

(45) **Date of Patent:** **Aug. 6, 2002**

(54) **DISPLAY SYSTEM HAVING A LIGHT SOURCE SEPARATE FROM A DISPLAY DEVICE**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/346,253**

(22) Filed: **Jul. 1, 1999**

Related U.S. Application Data

(60) Provisional application No. 60/091,981, filed on Jul. 7, 1998.

(51) **Int. Cl.**⁷ **G09F 13/18**; F12V 7/08

(52) **U.S. Cl.** **362/559**; 362/26; 362/561; 362/558; 362/554; 362/552

(58) **Field of Search** 362/26, 559, 561, 362/558, 554, 552, 583, 560

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Primary Examiner—Sandra O'Shea

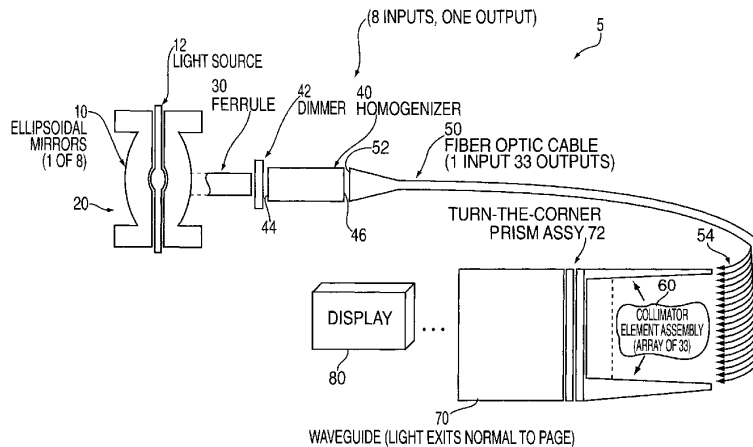
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(57) **ABSTRACT**

High luminance display devices, typically utilized in applications requiring sunlight readability, require unique design methodologies as the thickness approaches a maximum of one-inch. The present invention relates to a high intensity light generation engine and associated light transmission apparatus for transmitting the light generated by the engine to a remote location. The invention is especially applicable for use in constructing a back lighted display, such as a liquid crystal display (LCD), of minimal thickness, i.e., one-inch or less. A display of minimal thickness is achieved by separating a light source and other peripherals from the display device, using a remote enclosure. Such a display is most suited for use in high ambient lighting conditions where space is at a premium, such as in the cockpit of an aircraft.

36 Claims, 24 Drawing Sheets



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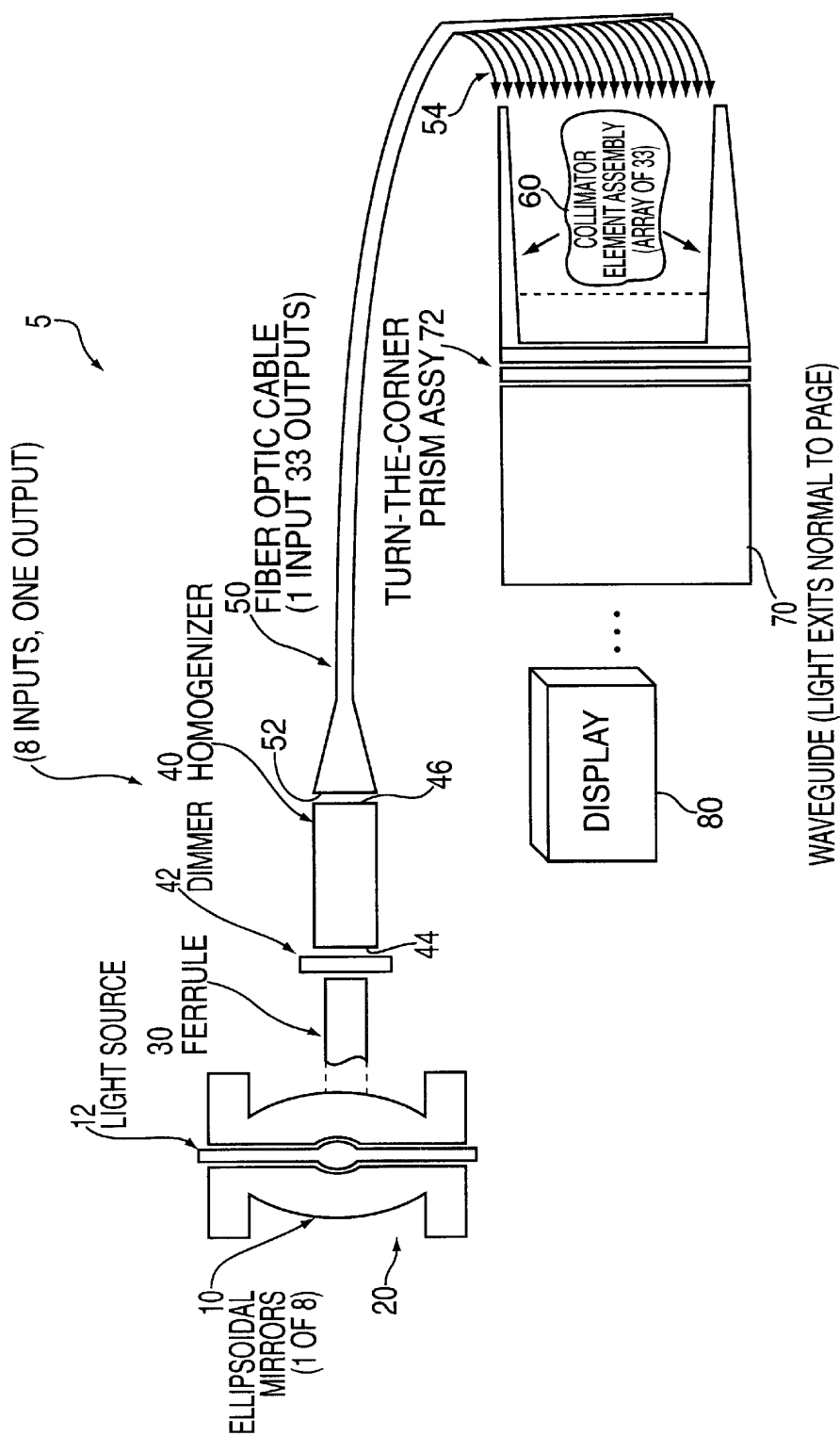


FIG. 1A

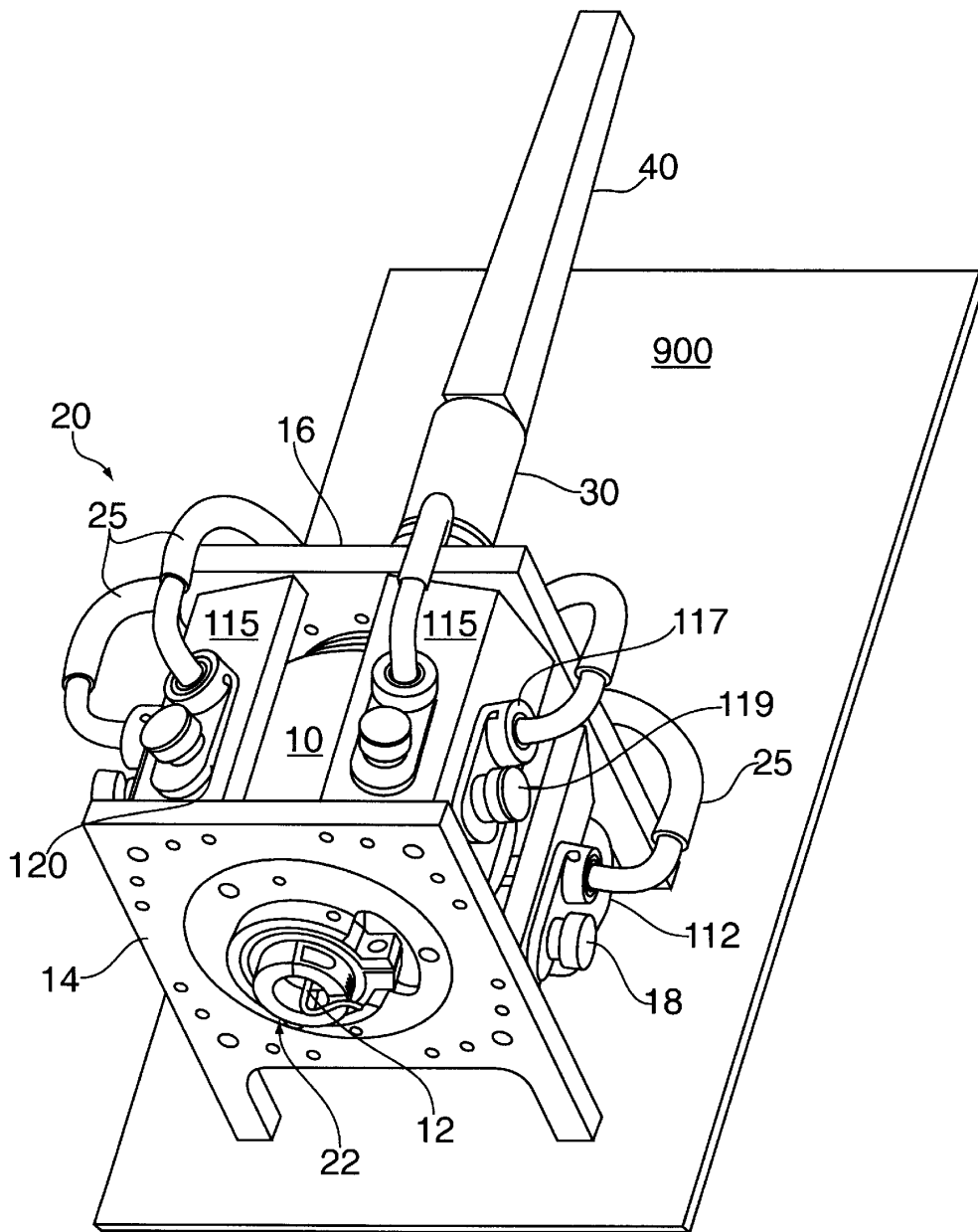


FIG. 1B

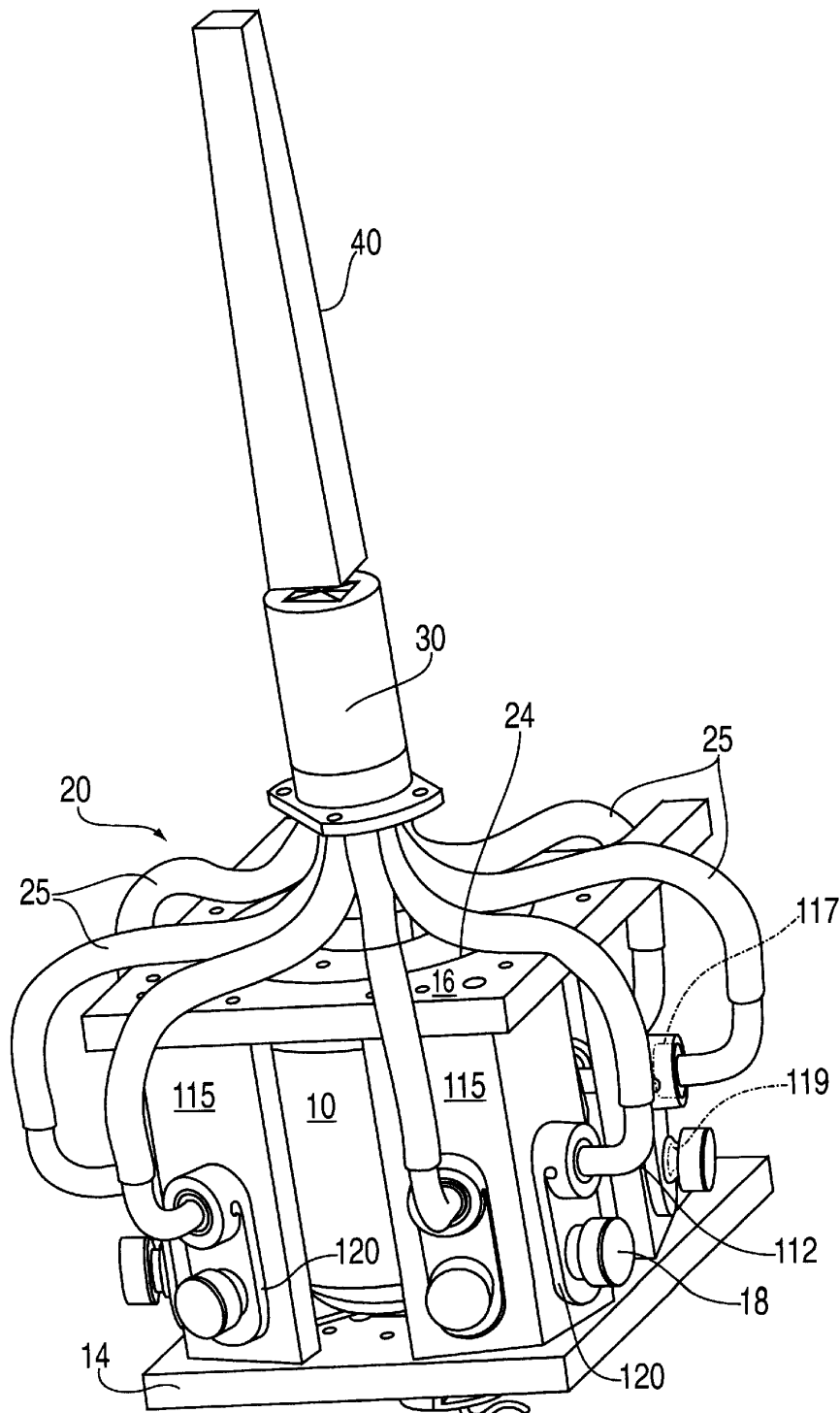


FIG. 1C

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