

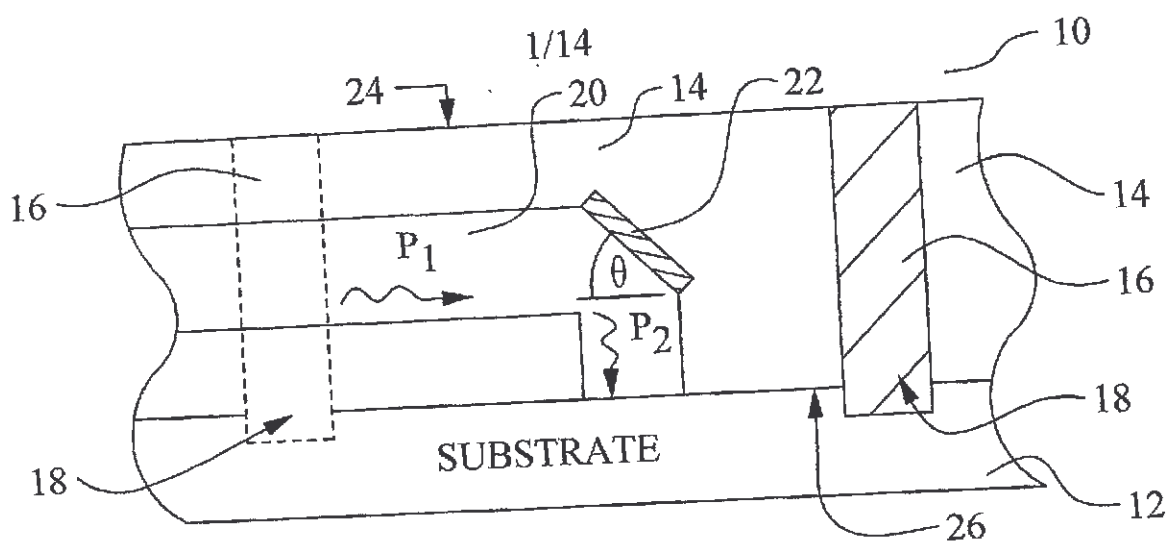


FIG. 1

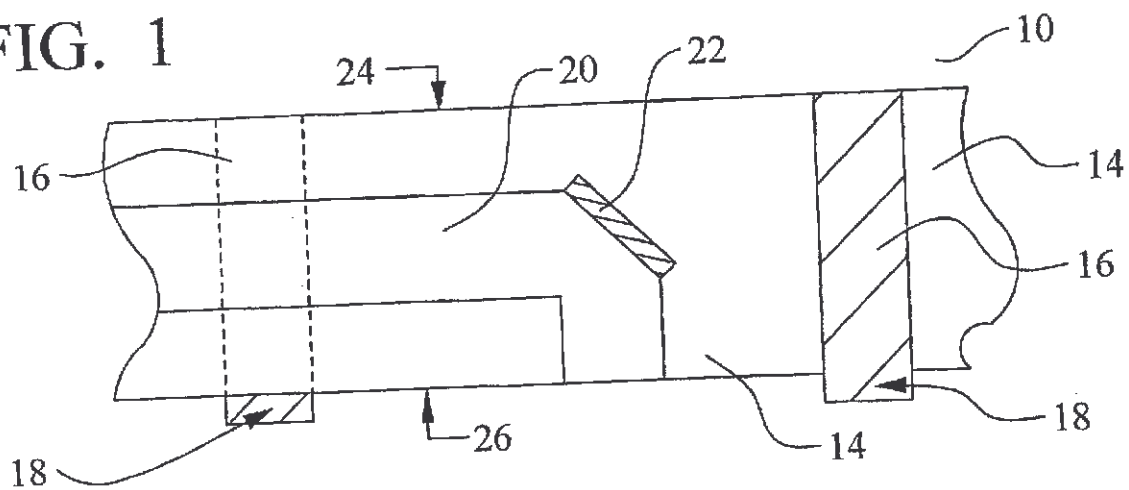


FIG. 2

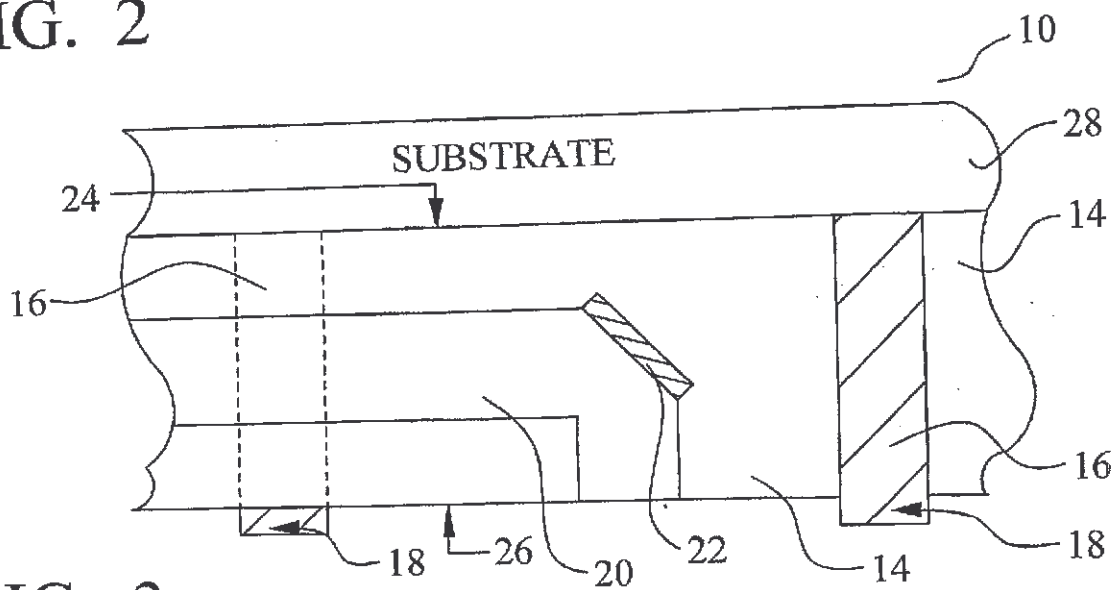


FIG. 3

FIG. 5

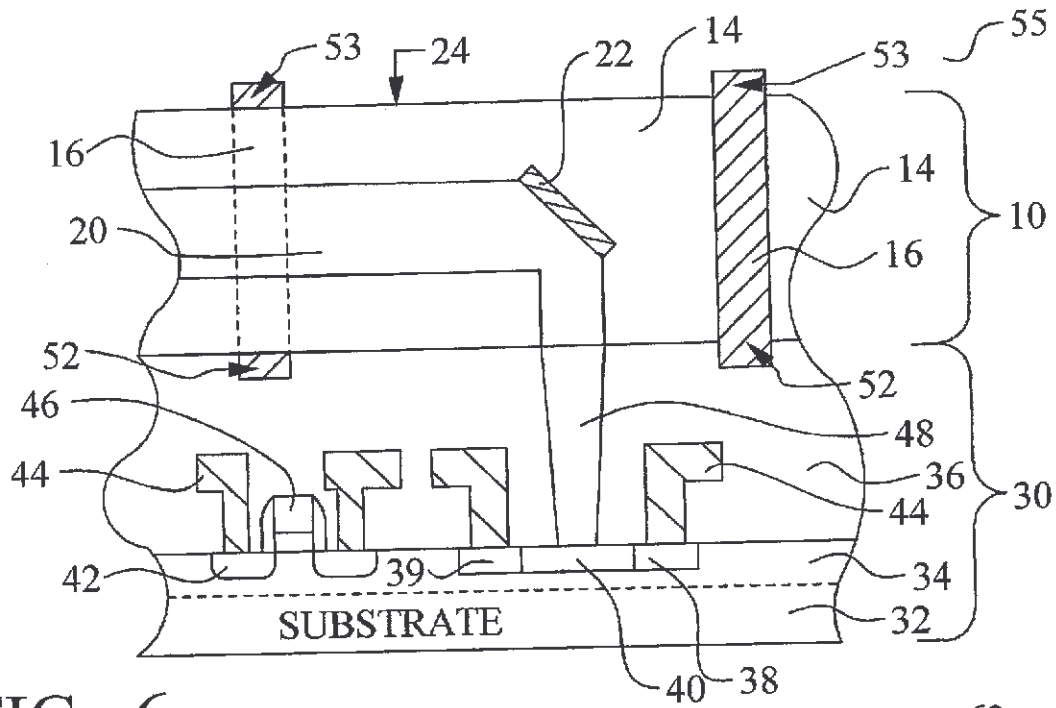


FIG. 6

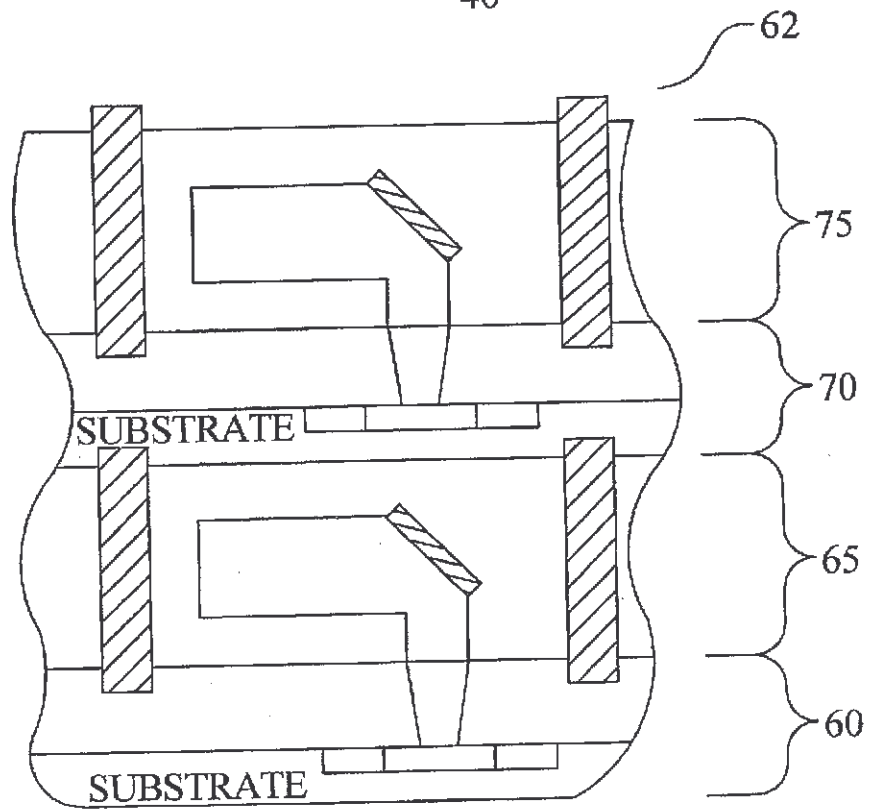


FIG. 7

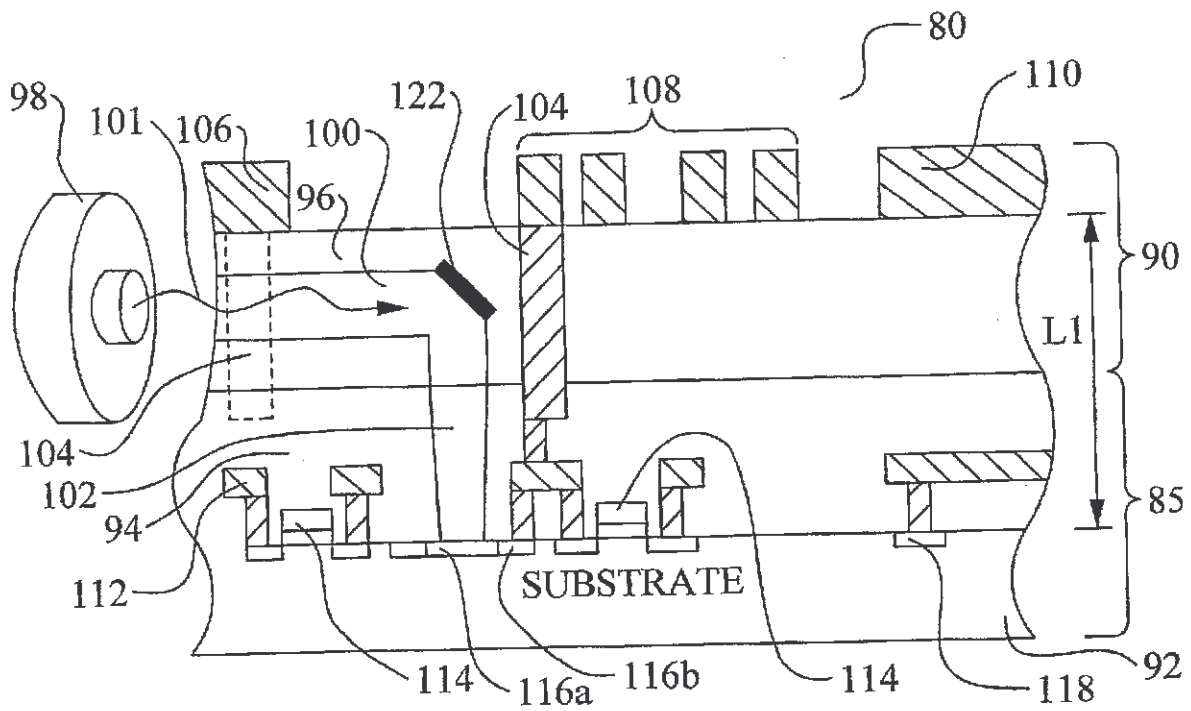


FIG. 8

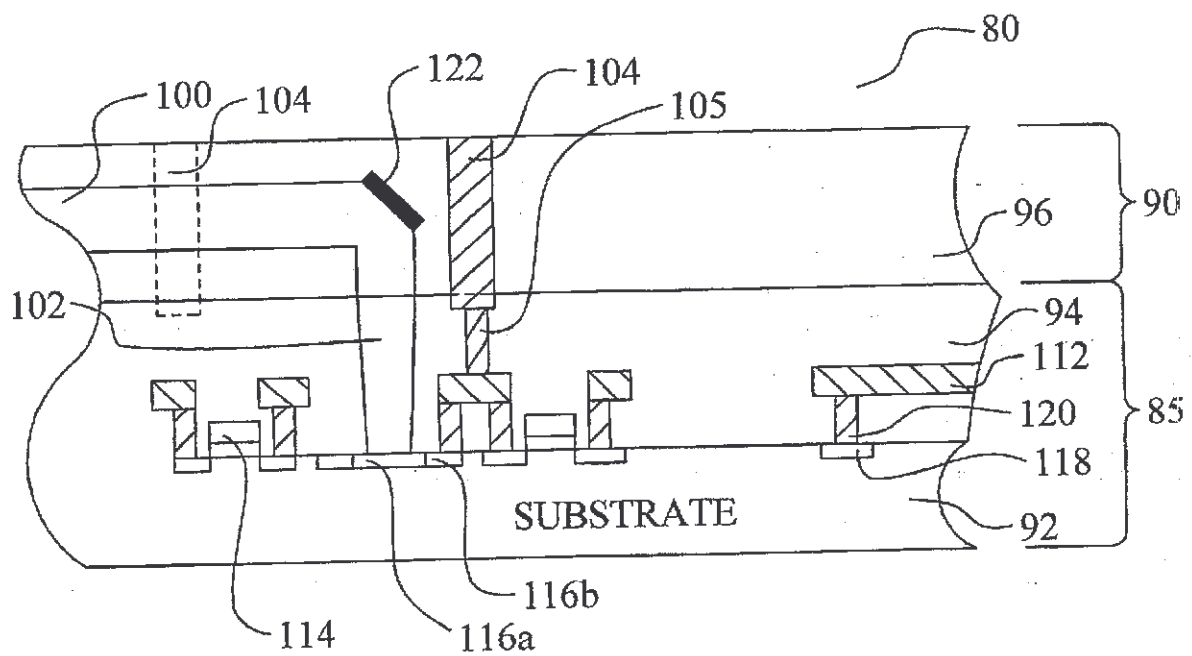


FIG. 9

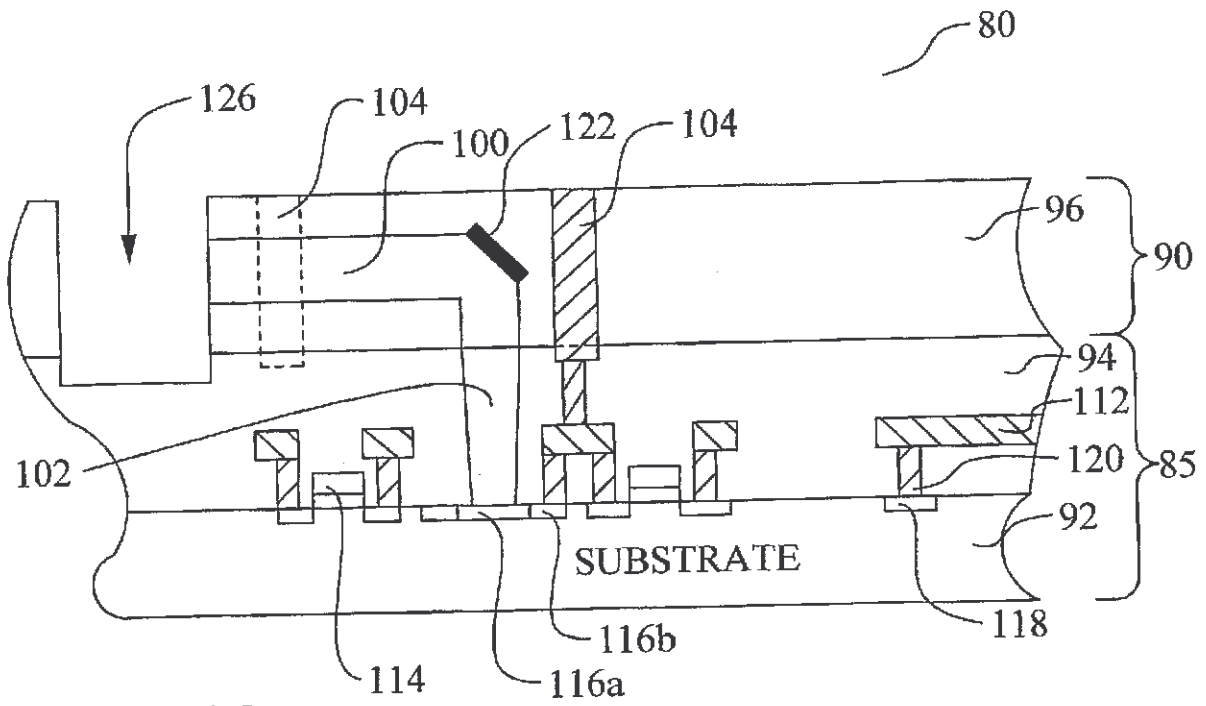


FIG. 10

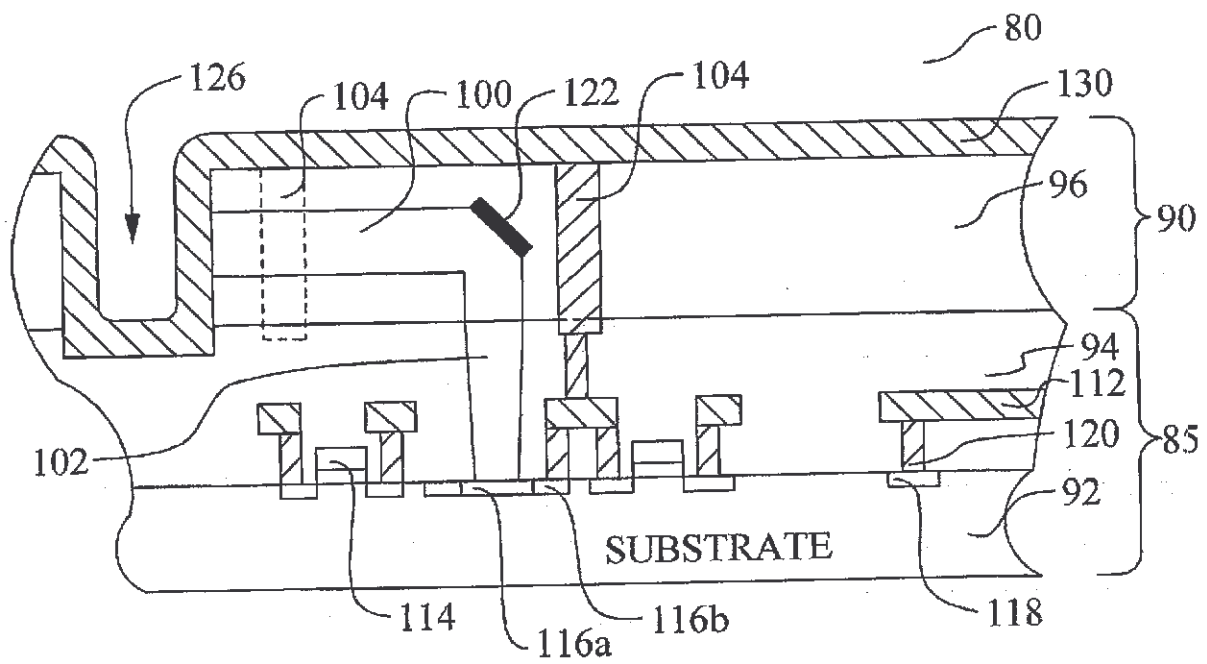


FIG. 11

A detailed cross-sectional view of a semiconductor device 100. The device is built on a SUBSTRATE 92. A base layer 94 is formed on the substrate. A series of conductive layers and patterns are stacked vertically. A central vertical structure 104 is shown. To the left, an EE-LD (External Emission Light Diode) structure is shown, including layers 134, 132, and 130b. Other layers and patterns are labeled 122, 130c, 130d, 130a, 102, 114, 116a, 116b, 118, 96, and 80. Brackets indicate different regions or layers of the device.

FIG. 13

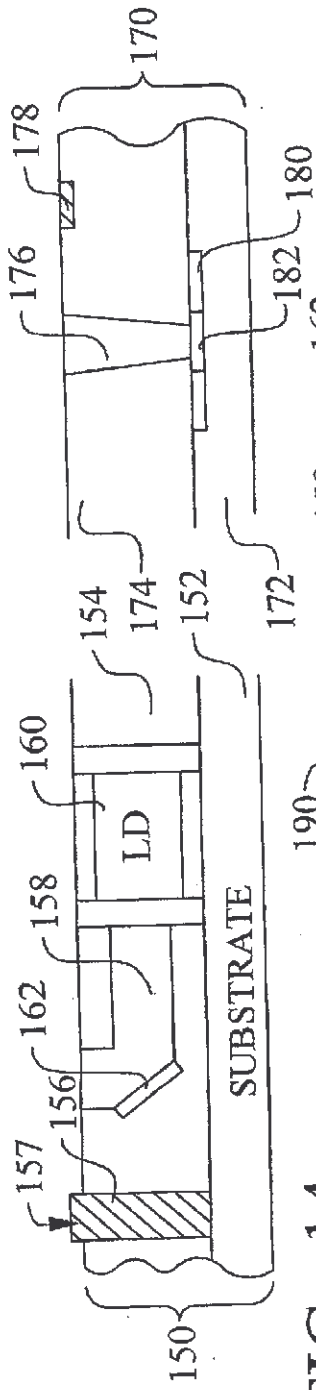


FIG. 14

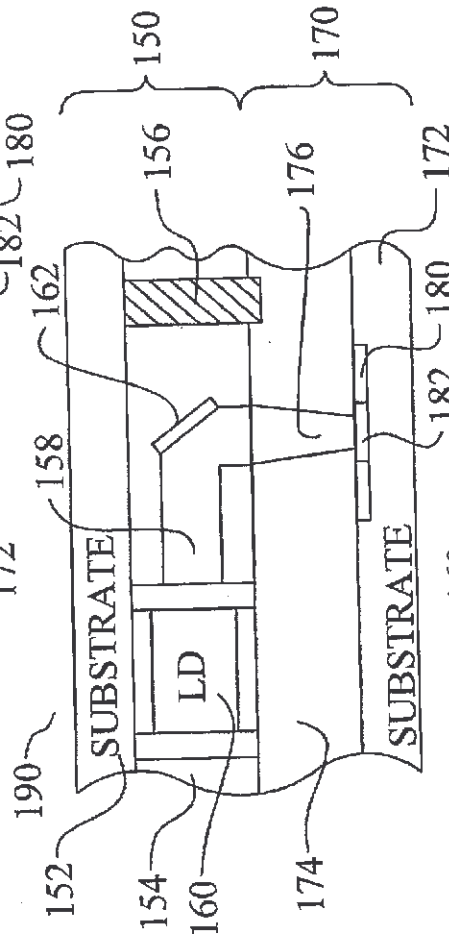


FIG. 15

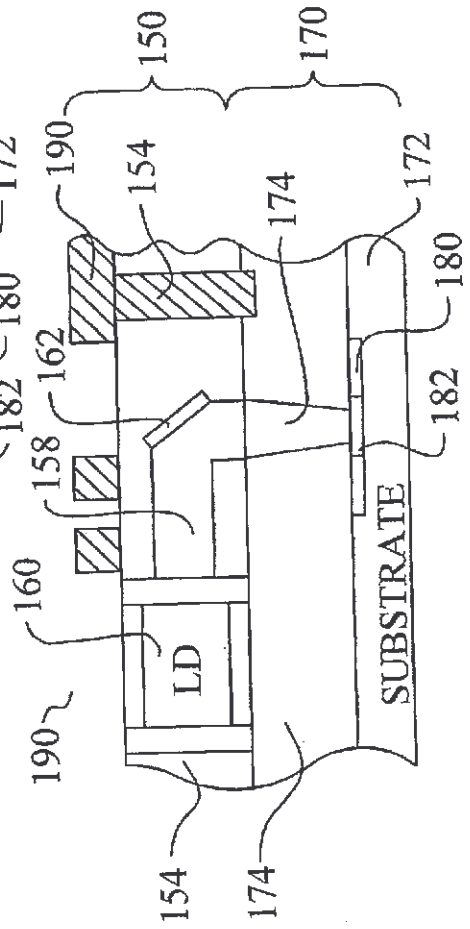


FIG. 16

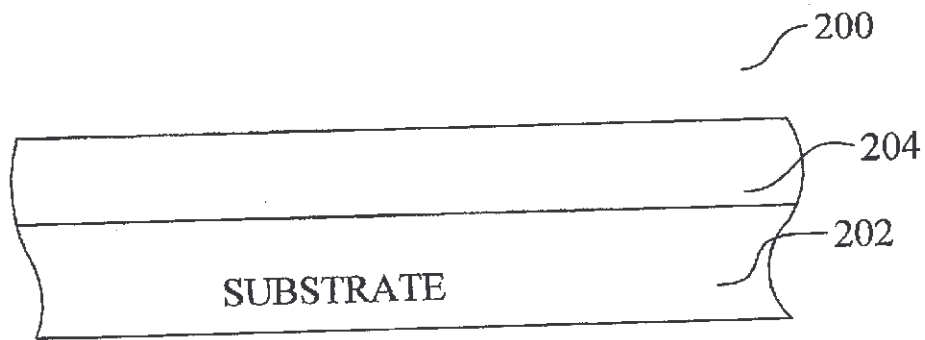


FIG. 17

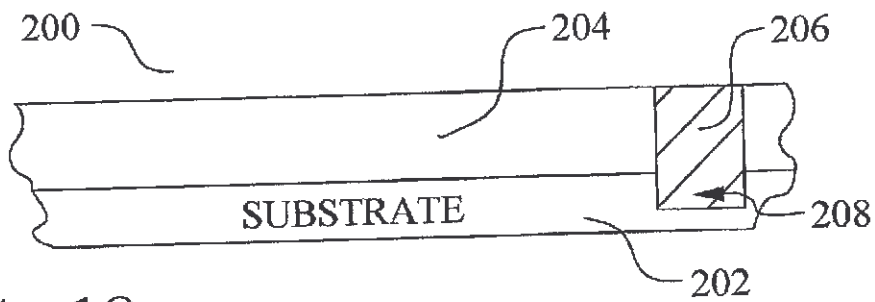


FIG. 18

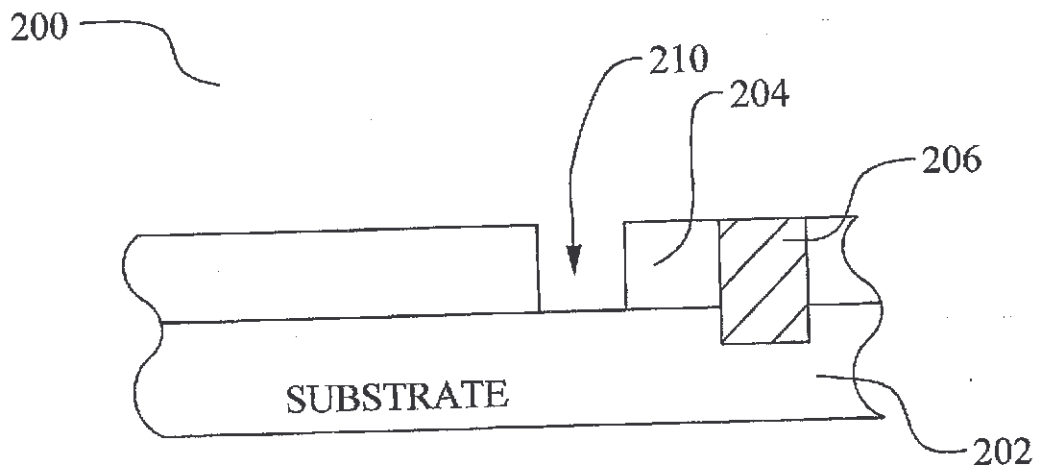


FIG. 19

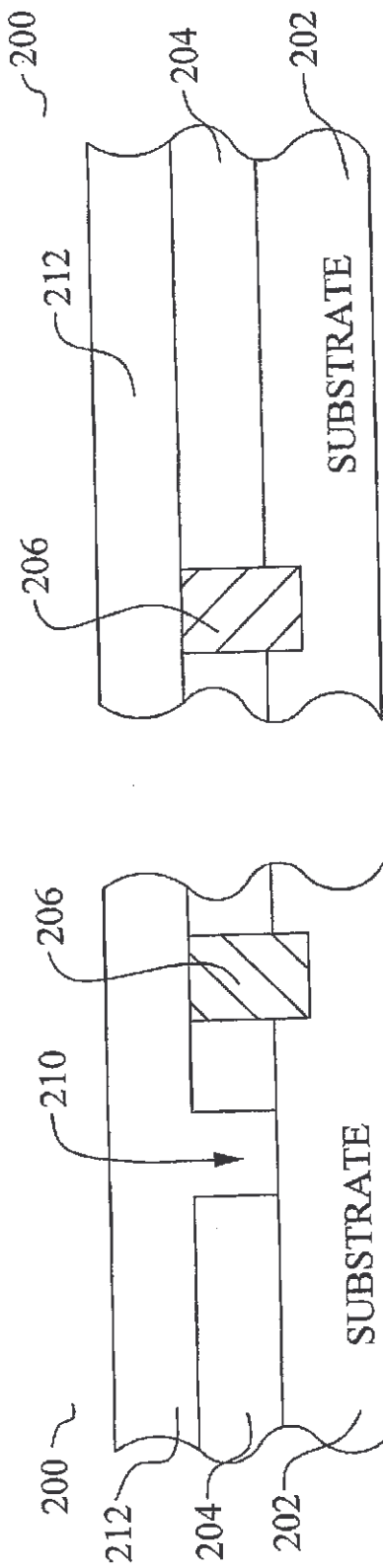


FIG. 20a

FIG. 20b

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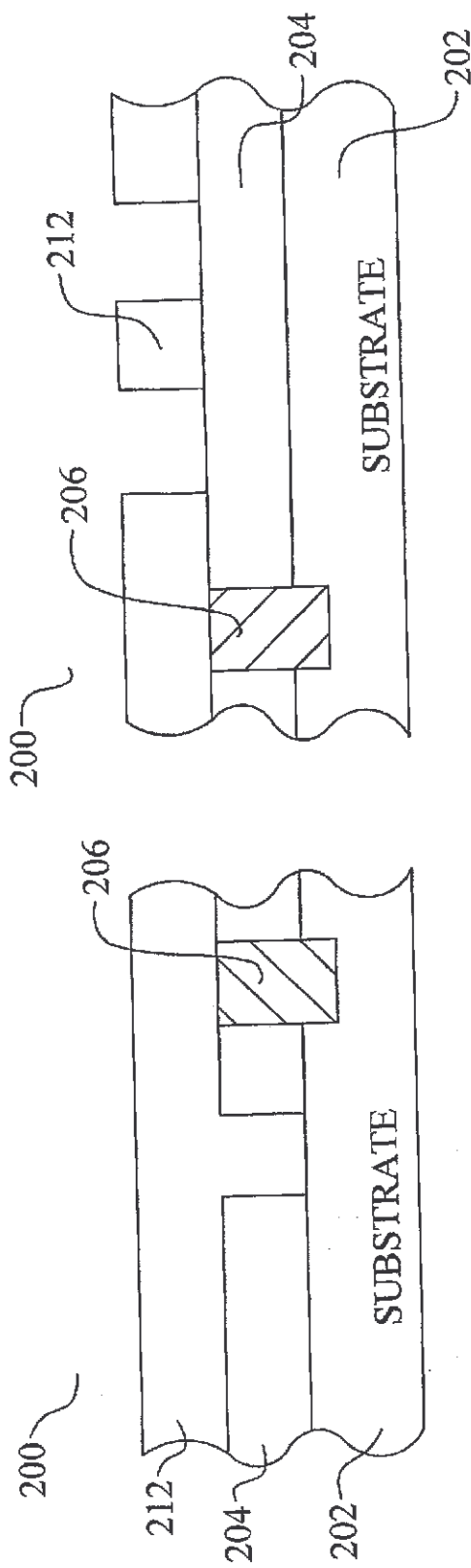


FIG. 21a

FIG. 21b

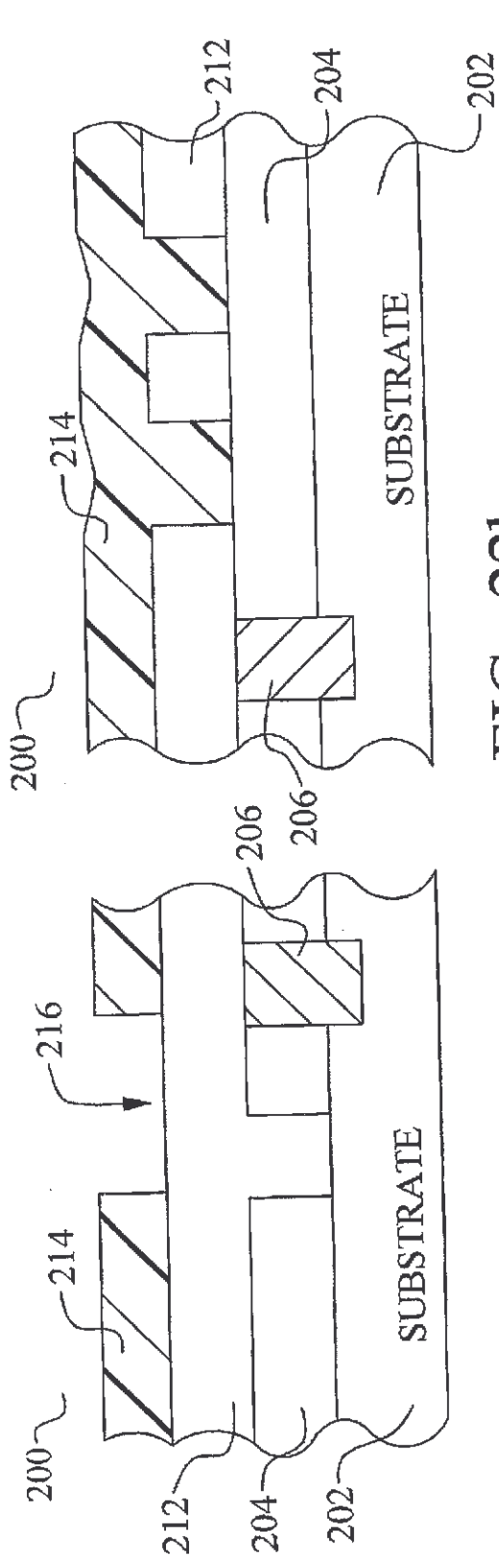


FIG. 22a

FIG. 22b

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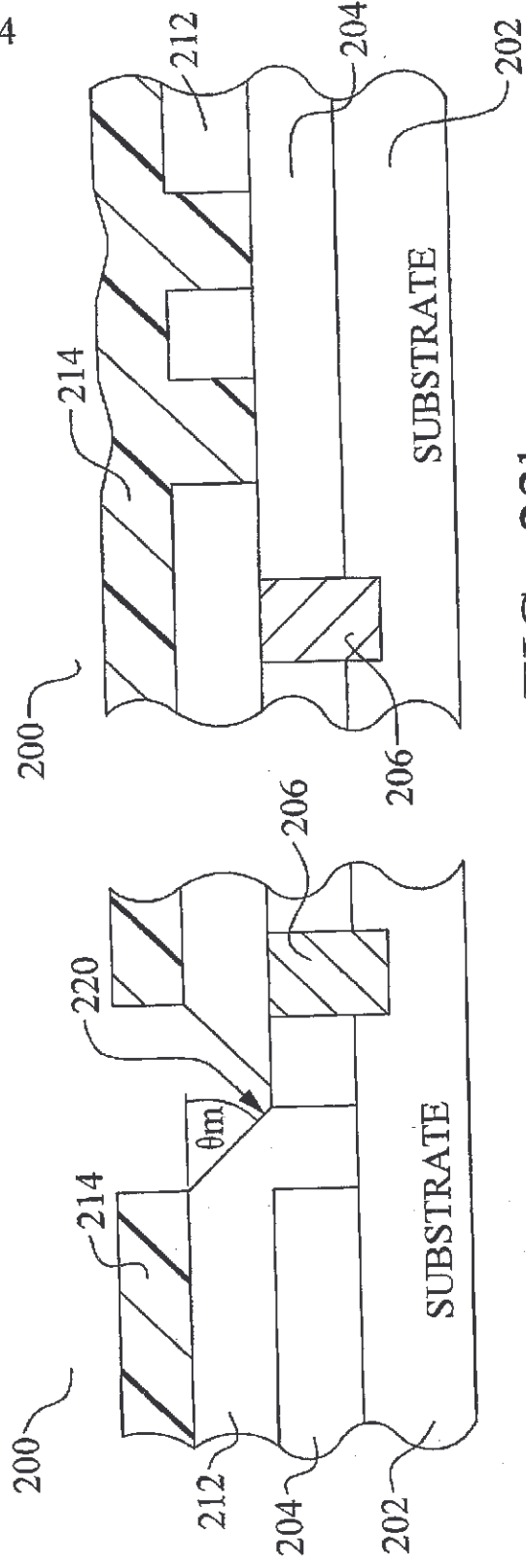


FIG. 23a

FIG. 23b

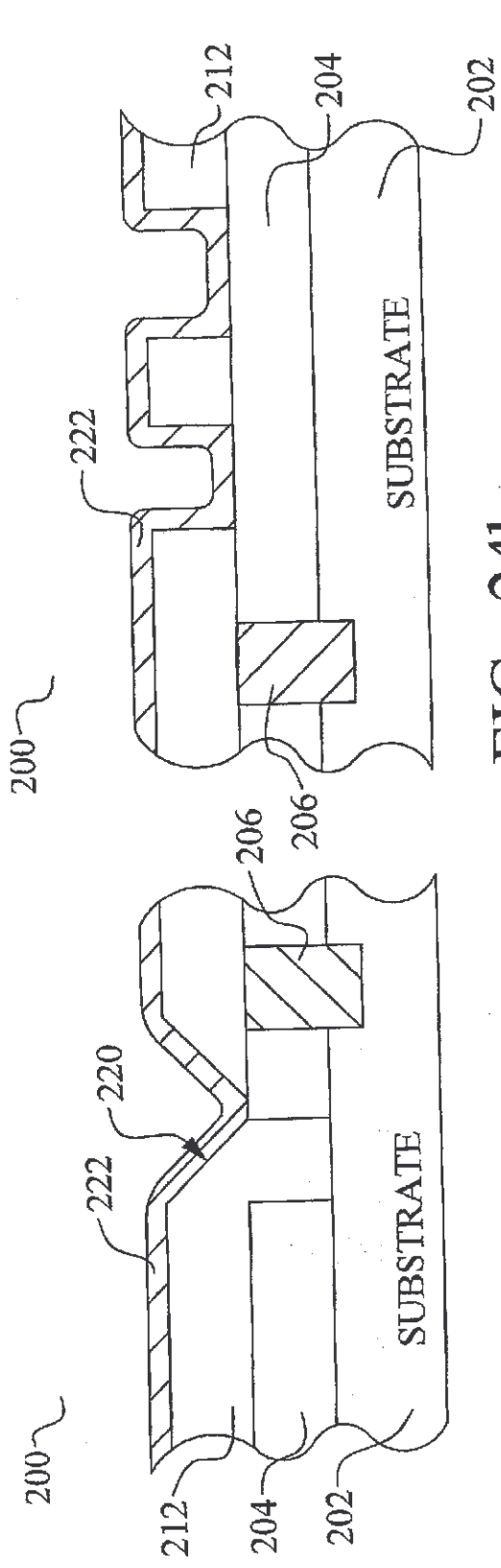


FIG. 24a

FIG. 24b

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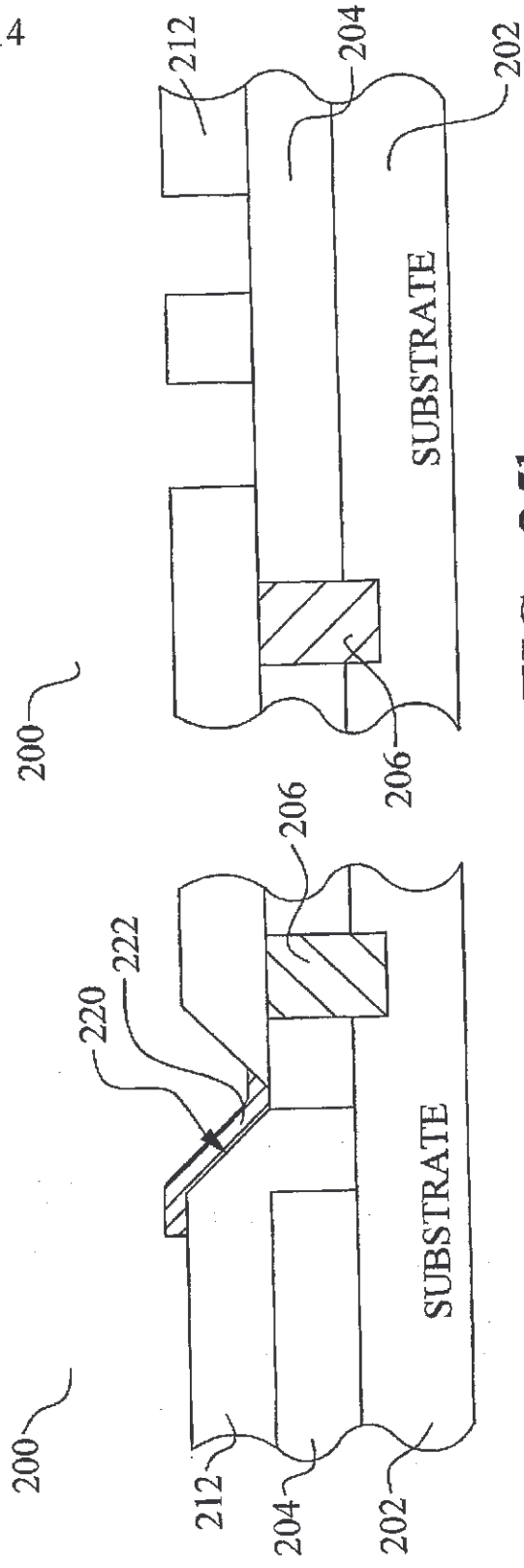


FIG. 25a

FIG. 25b

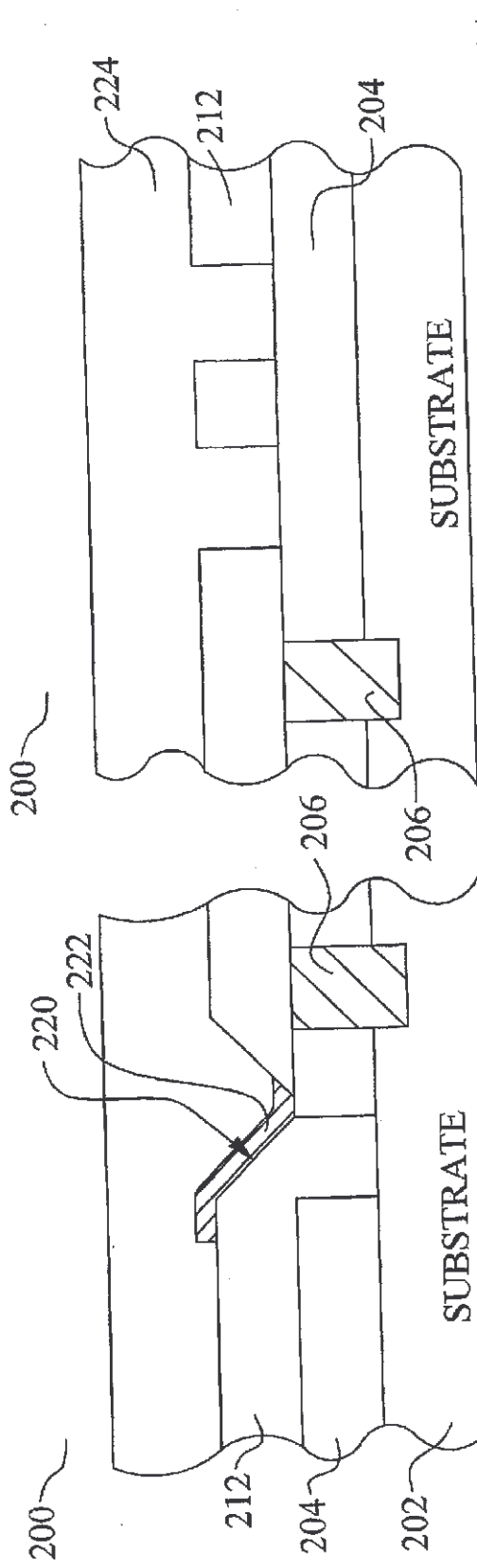


FIG. 26a

FIG. 26b

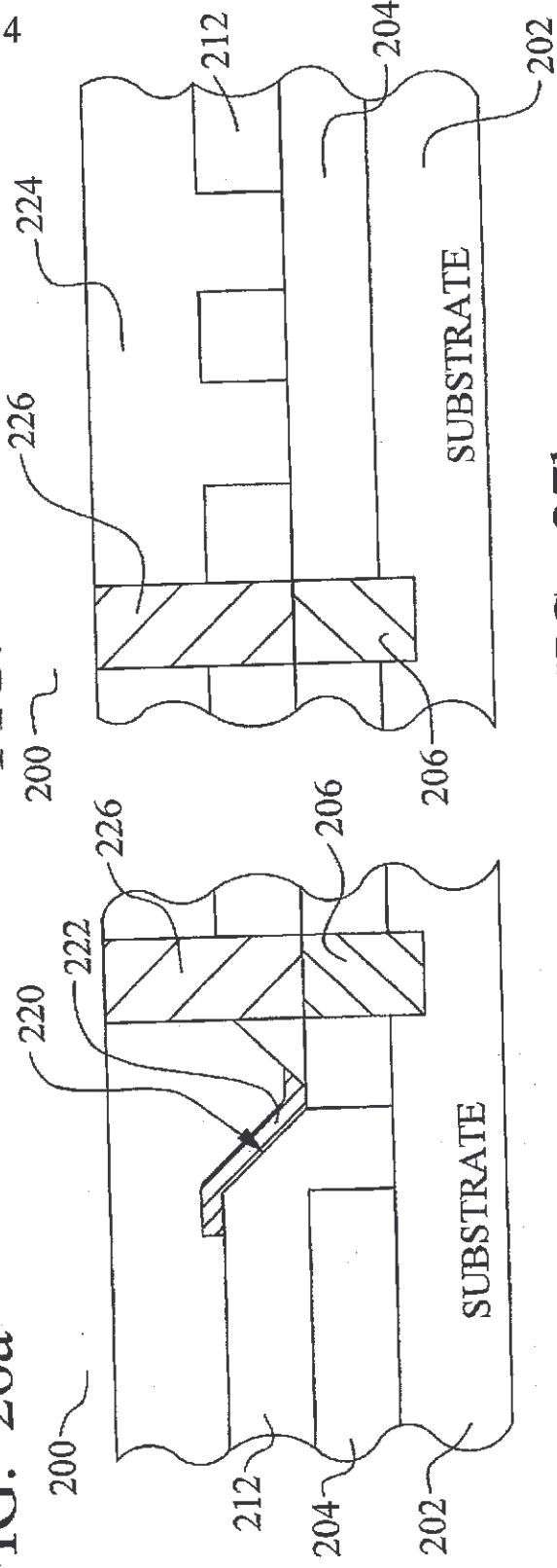


FIG. 27a

FIG. 27b

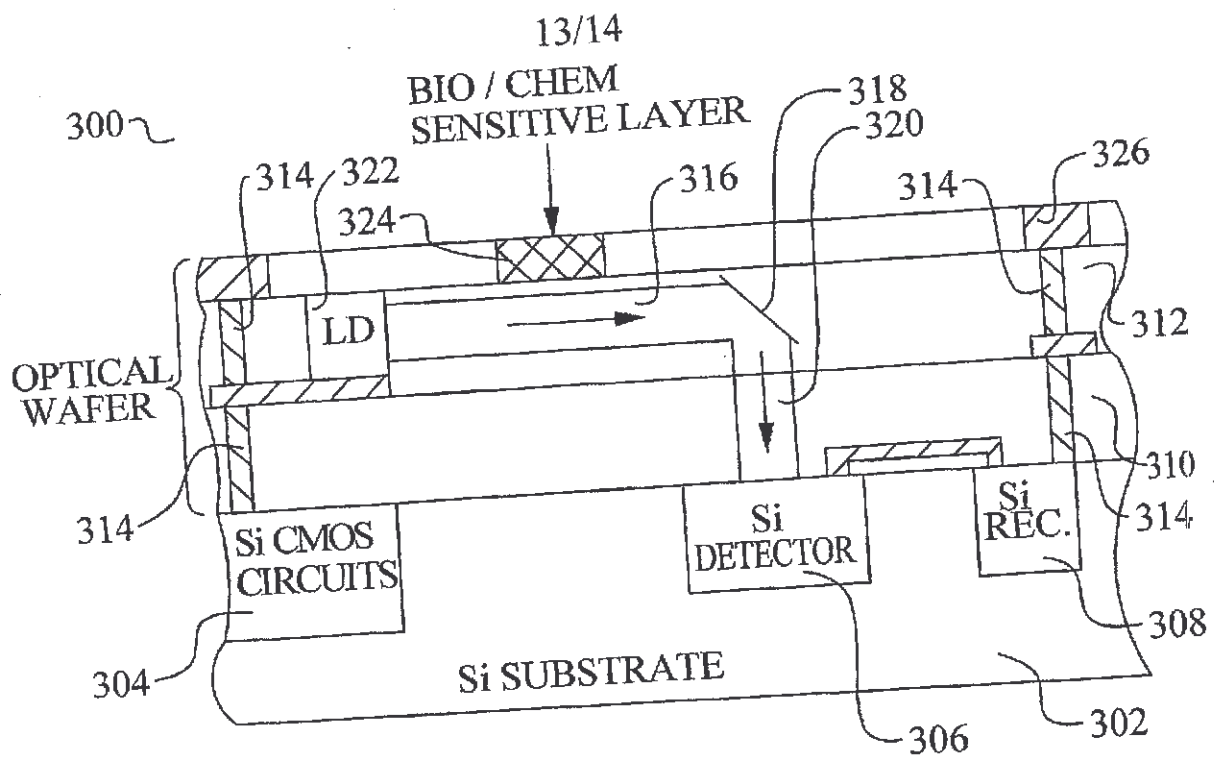


FIG. 28

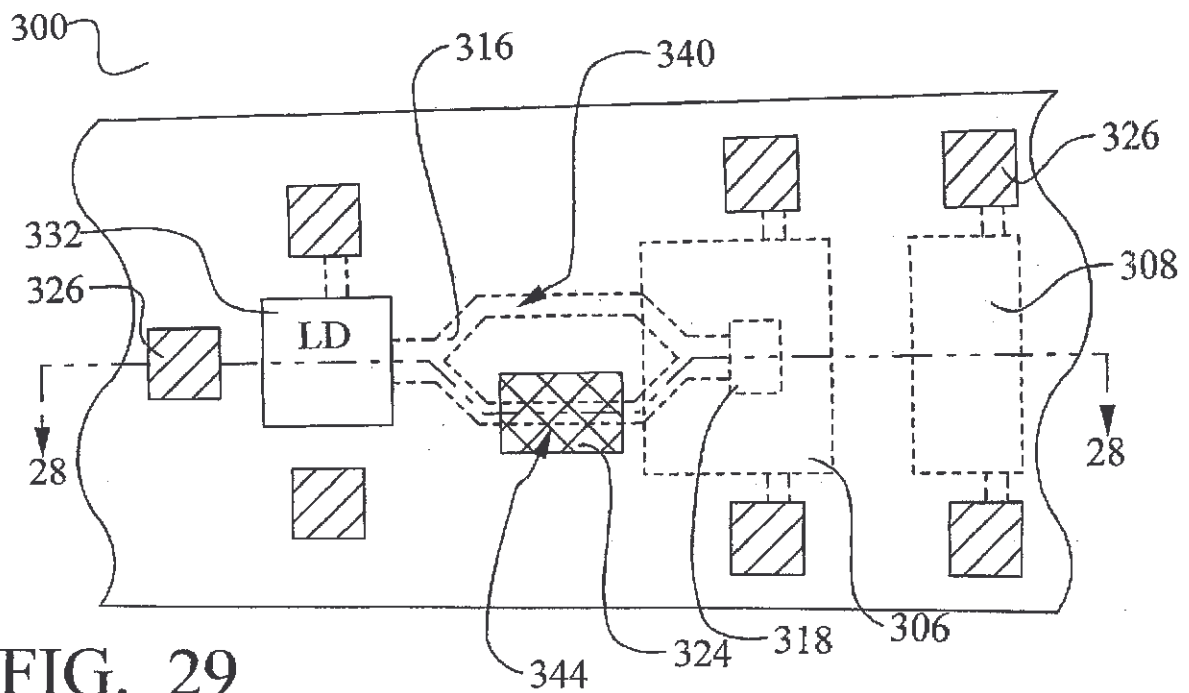


FIG. 29

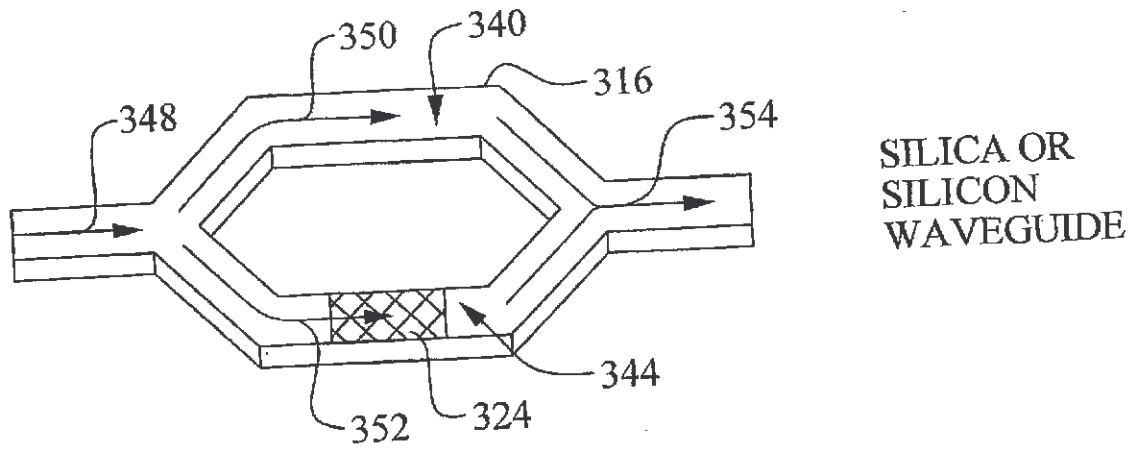


FIG. 30a

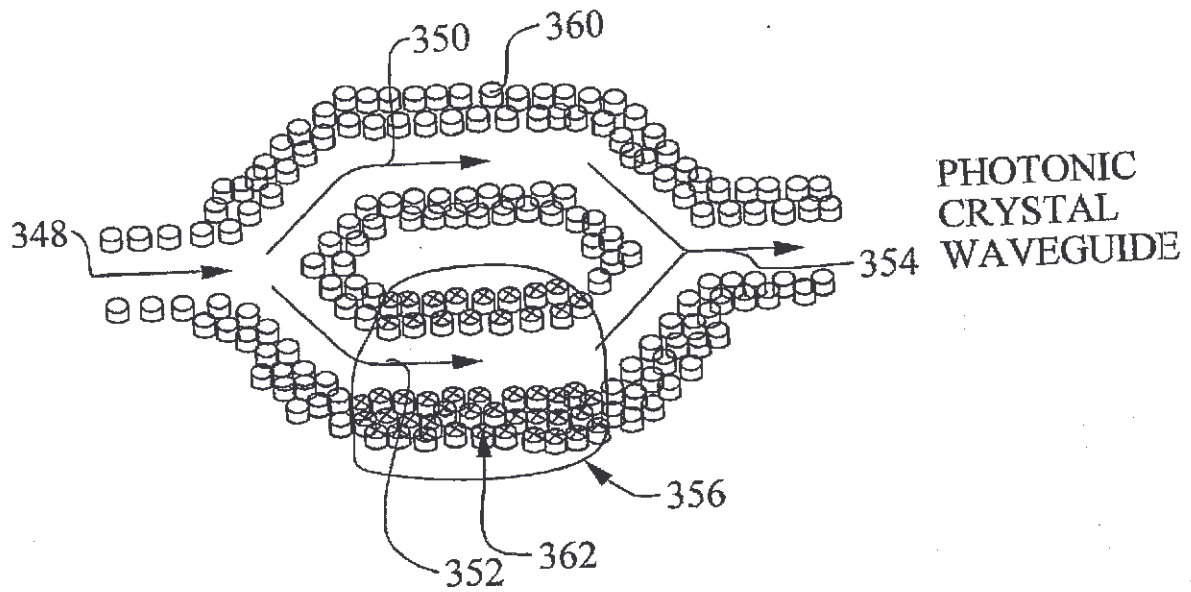


FIG. 30b