

FIG. 1

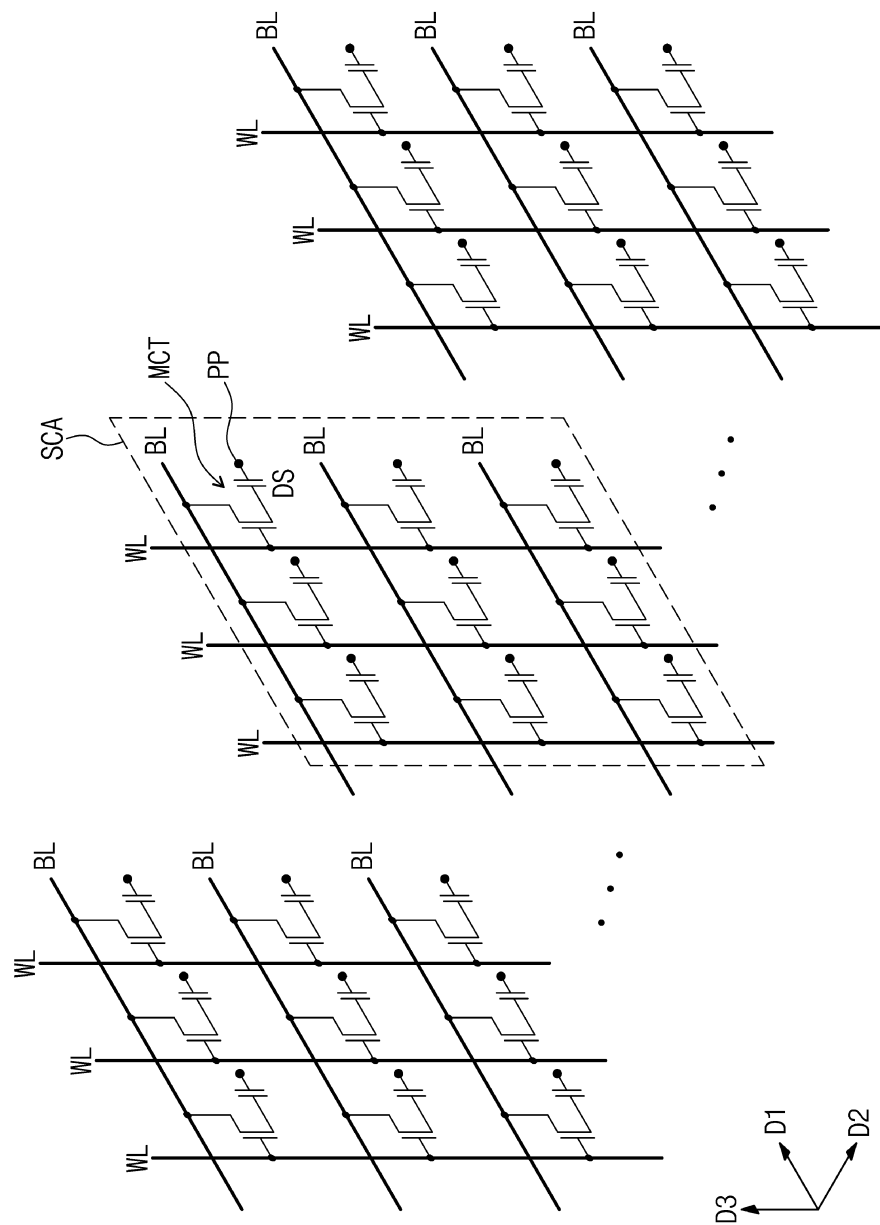


FIG. 2

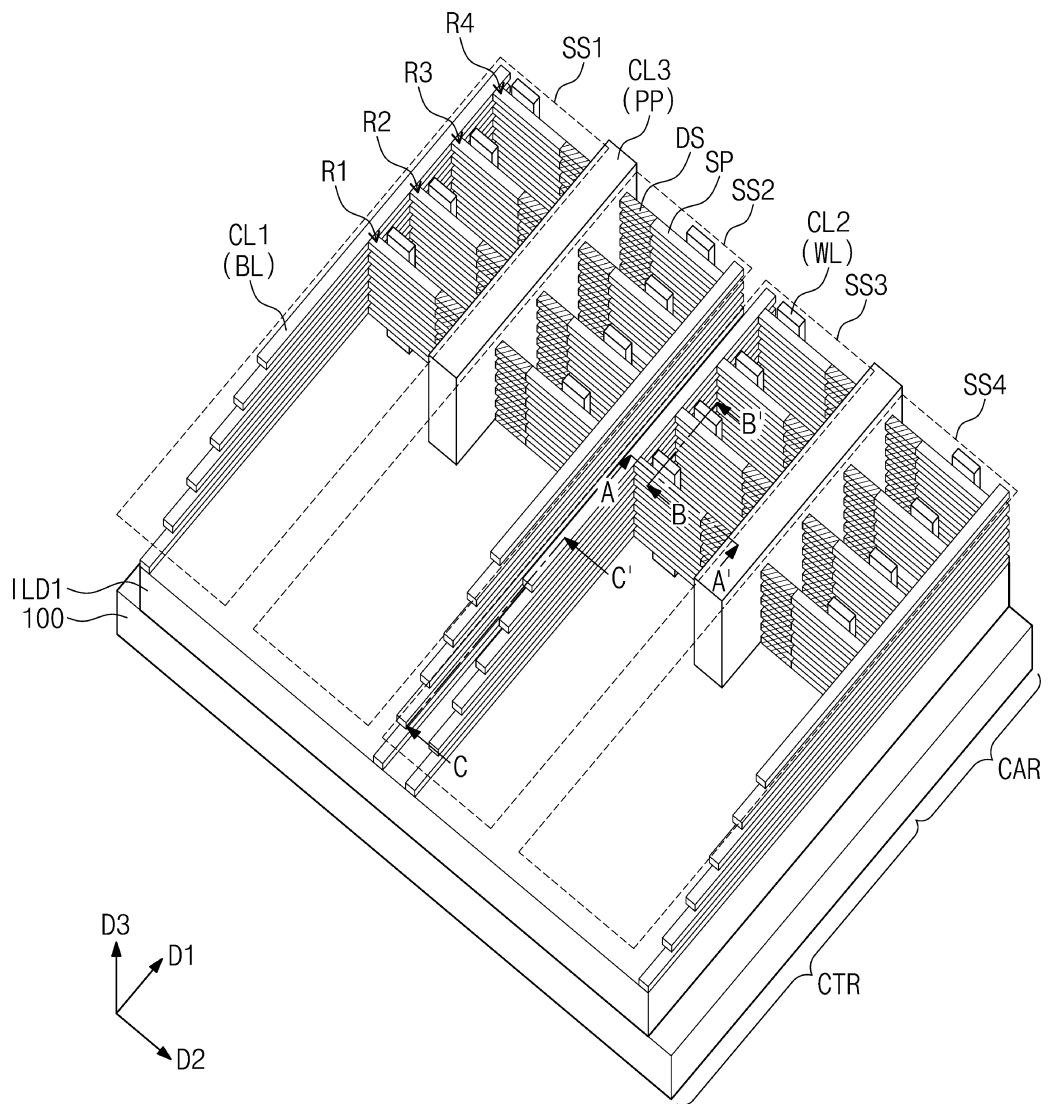


FIG. 3A

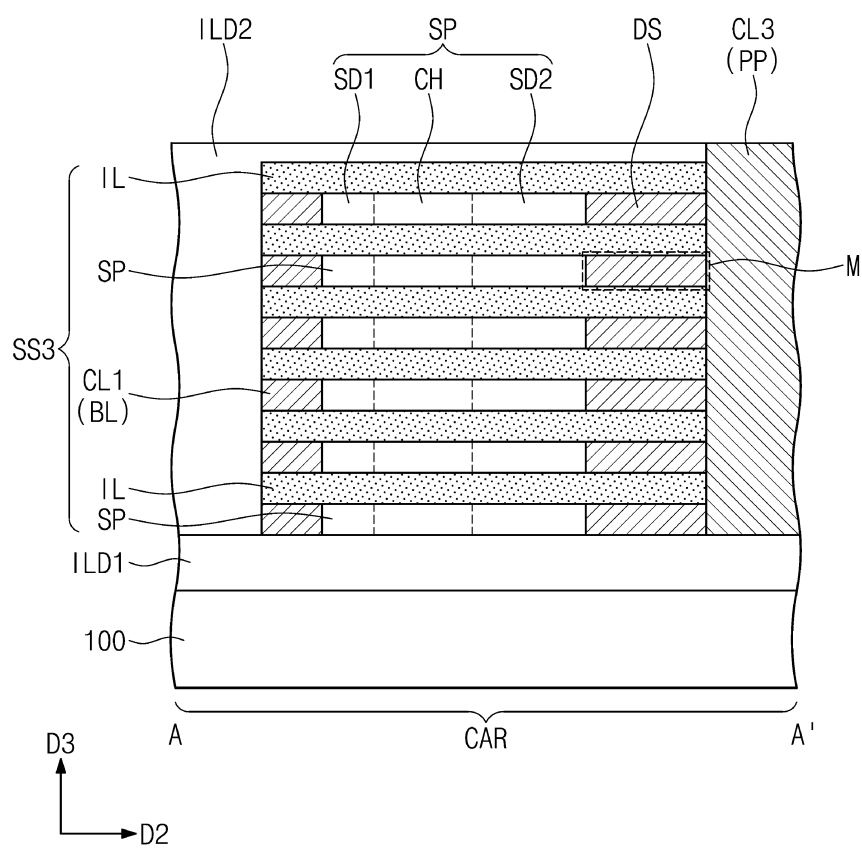


FIG. 3B

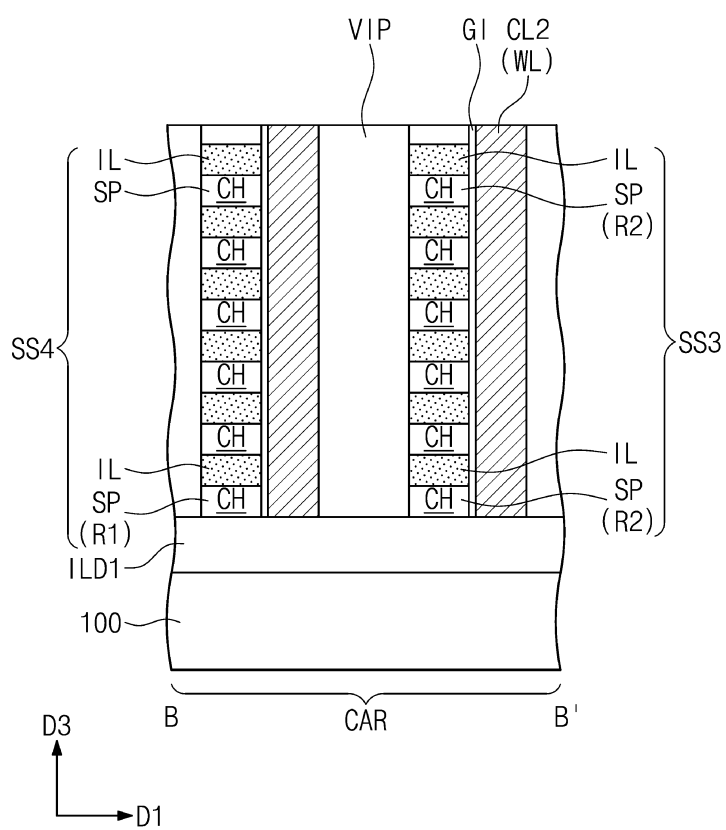


FIG. 3C

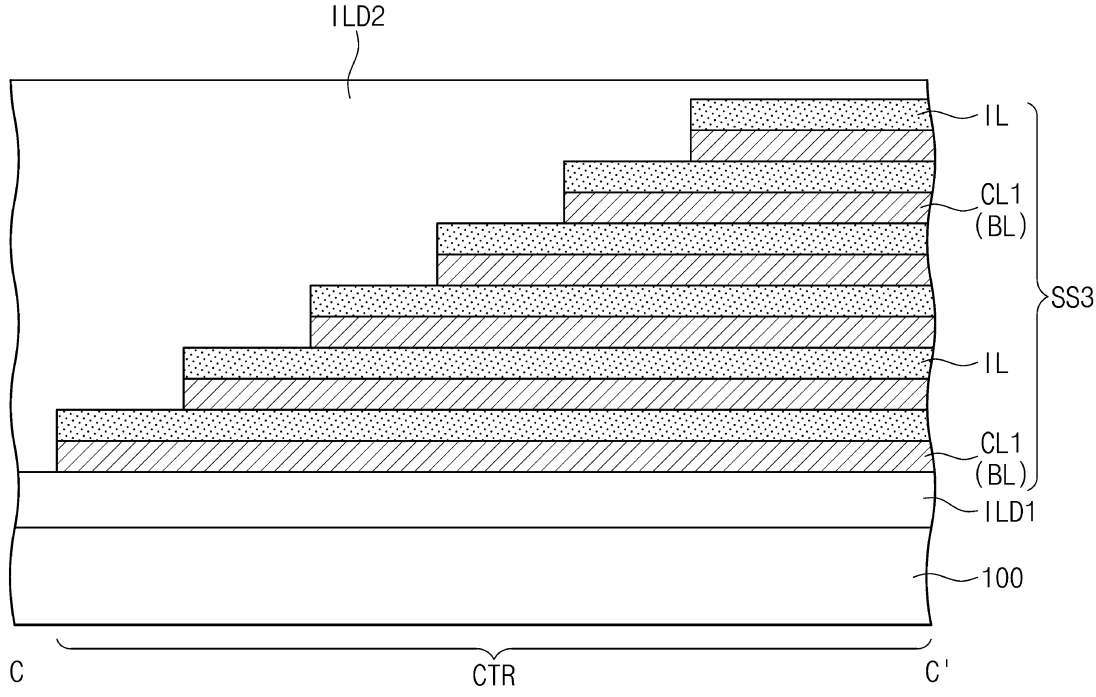


FIG. 3D

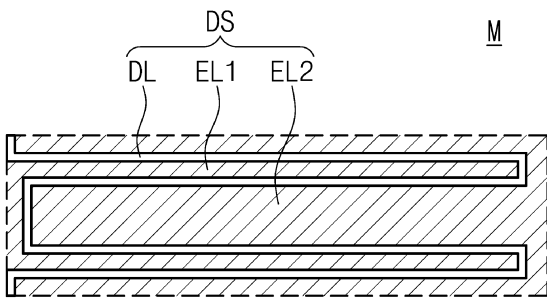


FIG. 4

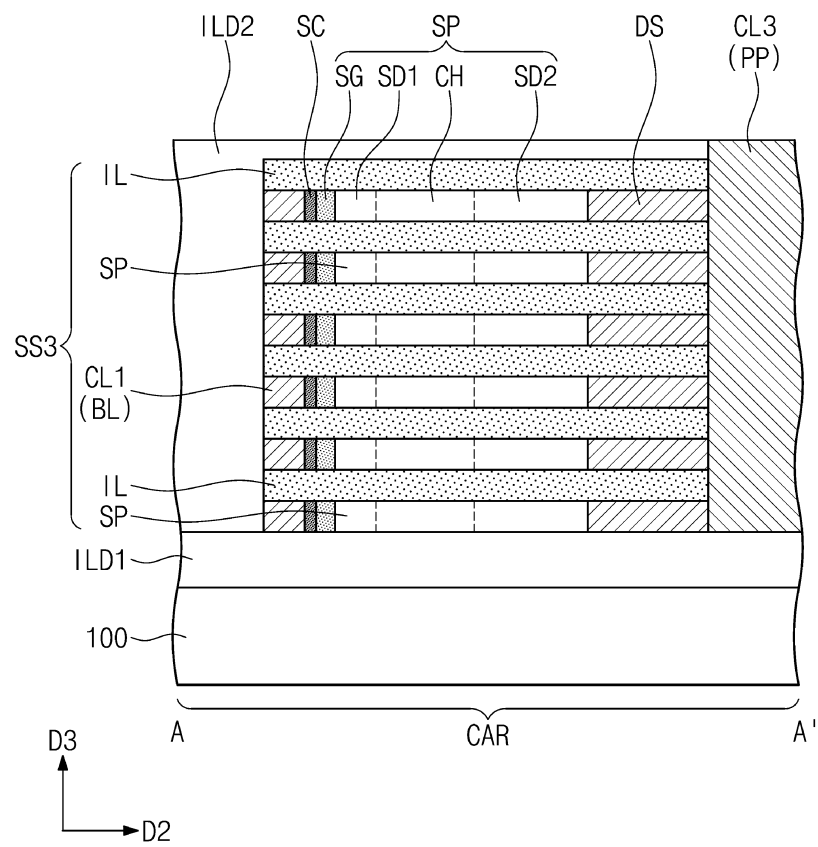


FIG. 5

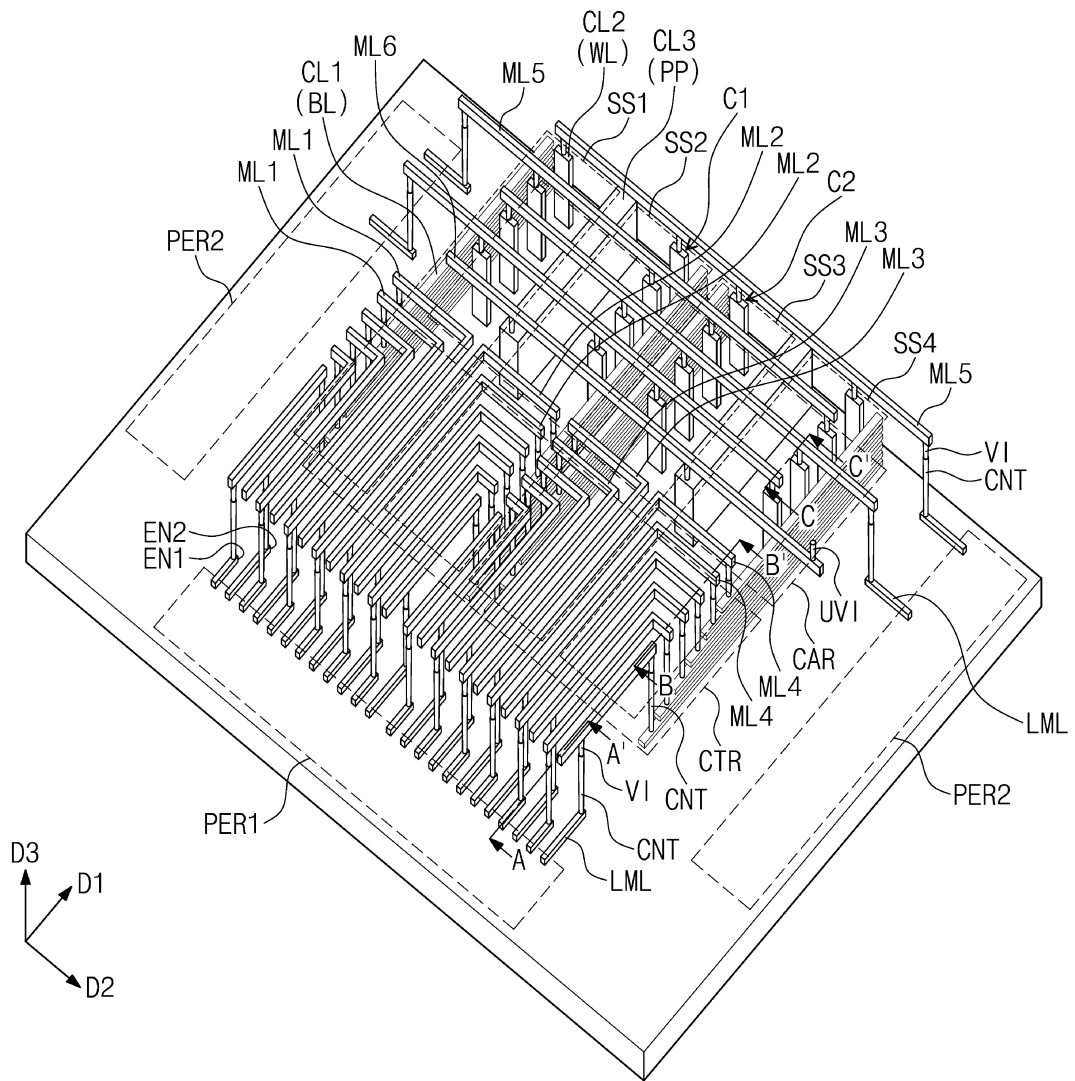


FIG. 6A

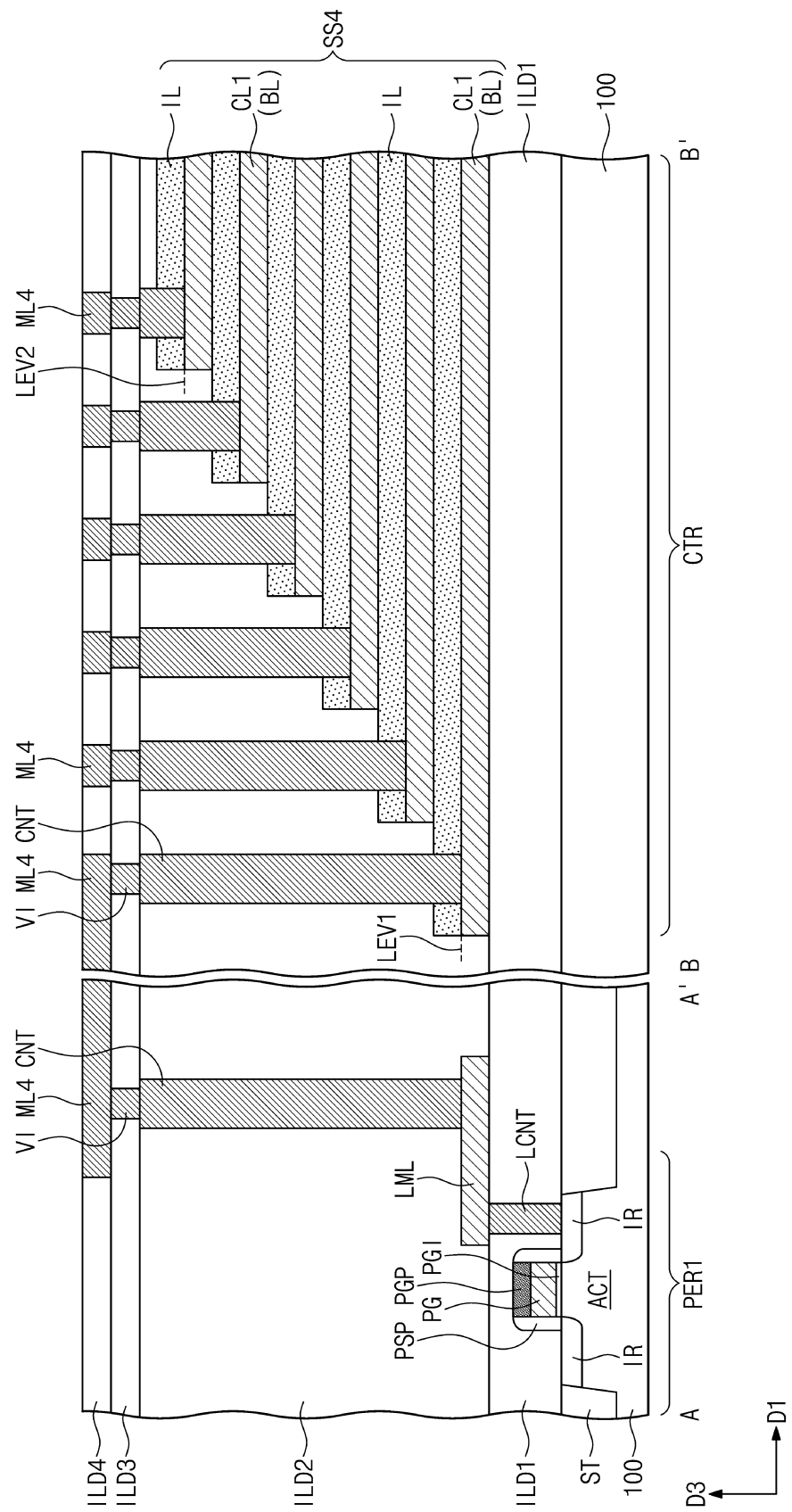


FIG. 6B

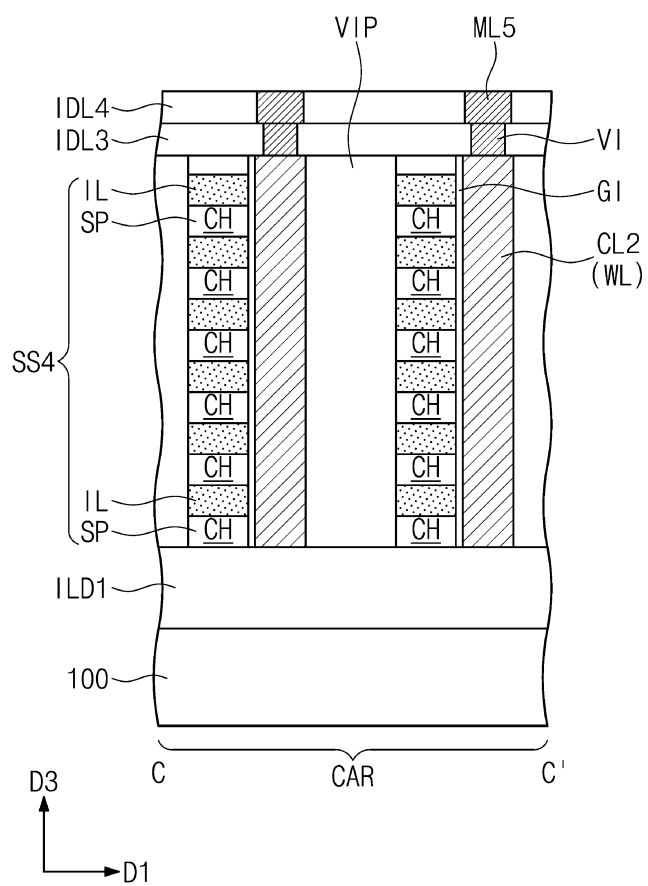


FIG. 7A

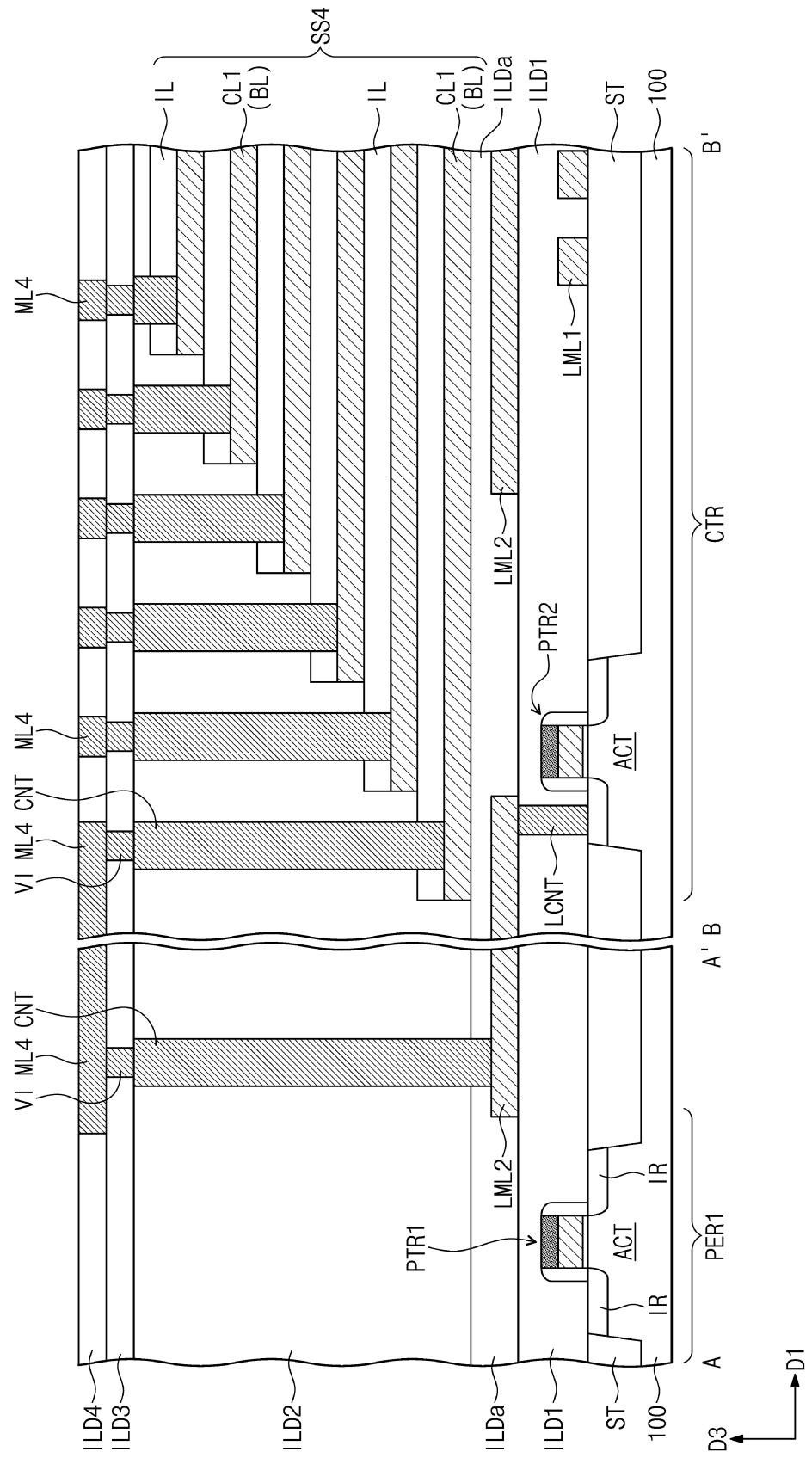


Figure 1 is a cross-sectional view of a semiconductor device 100. The device is shown in a cross-section along a D1-D3 plane. The device includes a substrate 100. A central channel region (CAR) is defined by a gate stack (G1, CL2 (WL), IL, SP, CH) and a source/drain region (ST). The gate stack is formed on the substrate 100. The source/drain region (ST) is formed on the substrate 100. A contact region (ACT) is formed on the source/drain region (ST). The device is oriented with D1 and D3 axes.

FIG. 8A

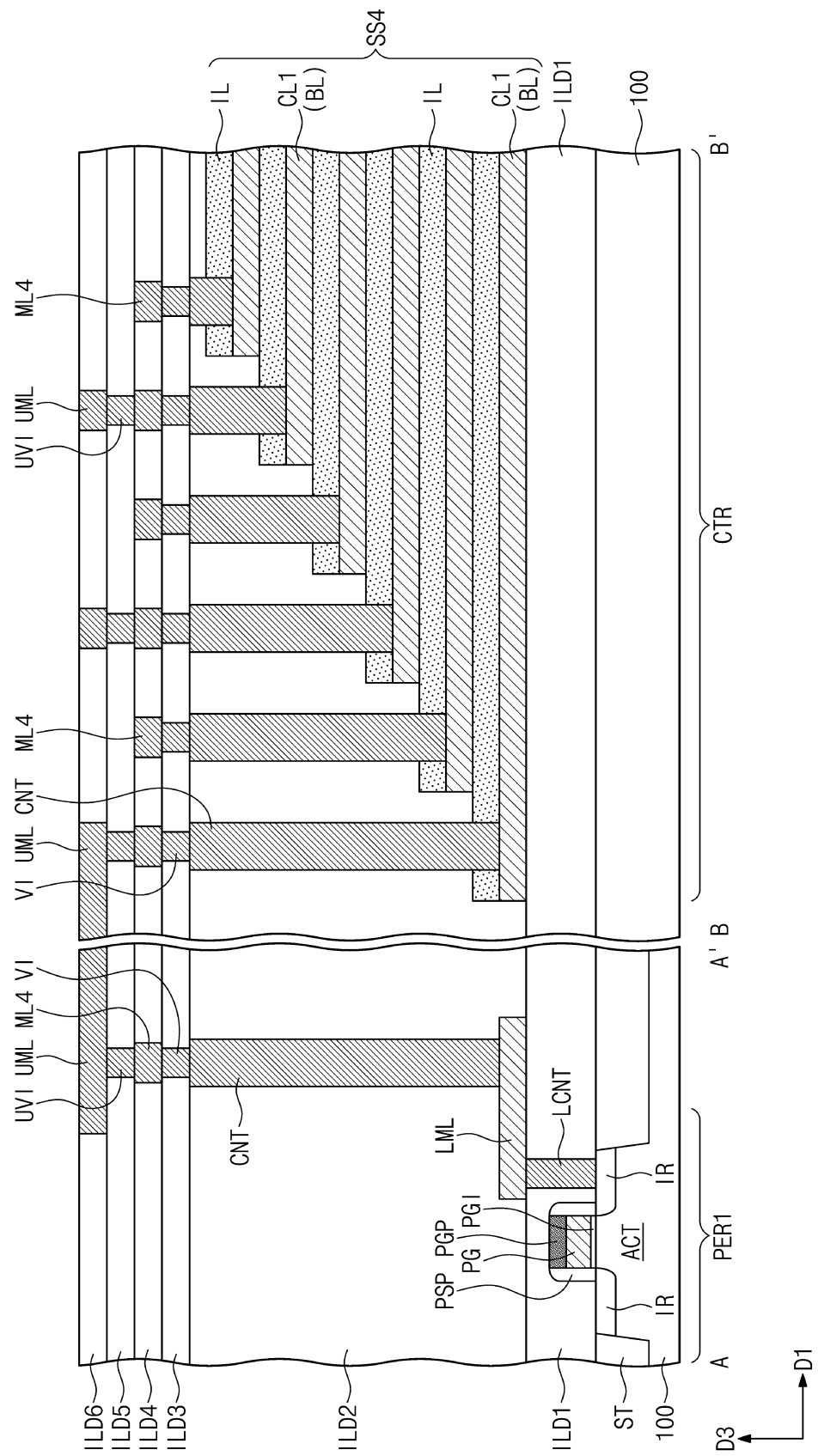


FIG. 8B

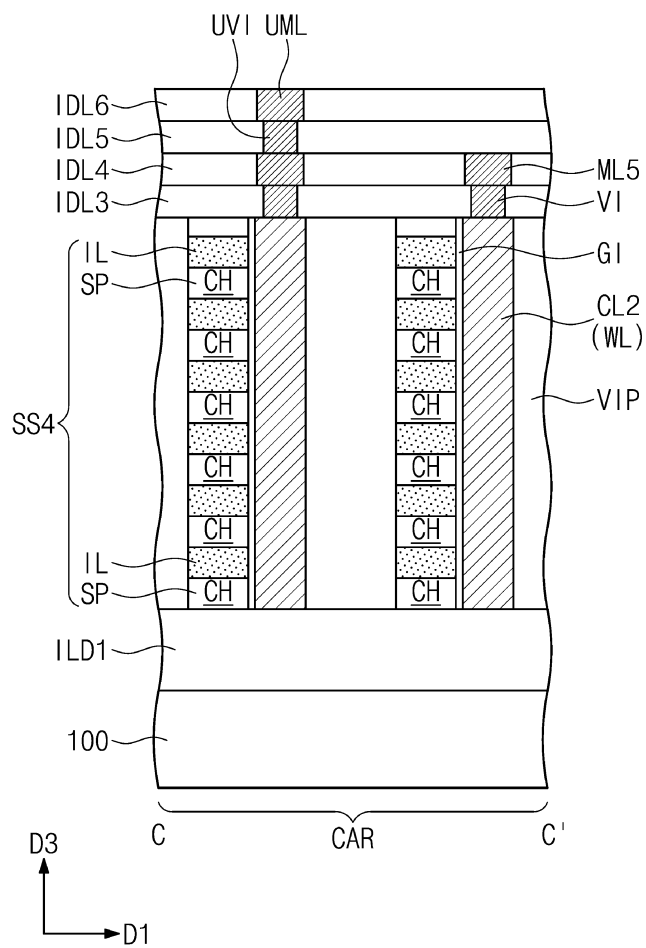


FIG. 9

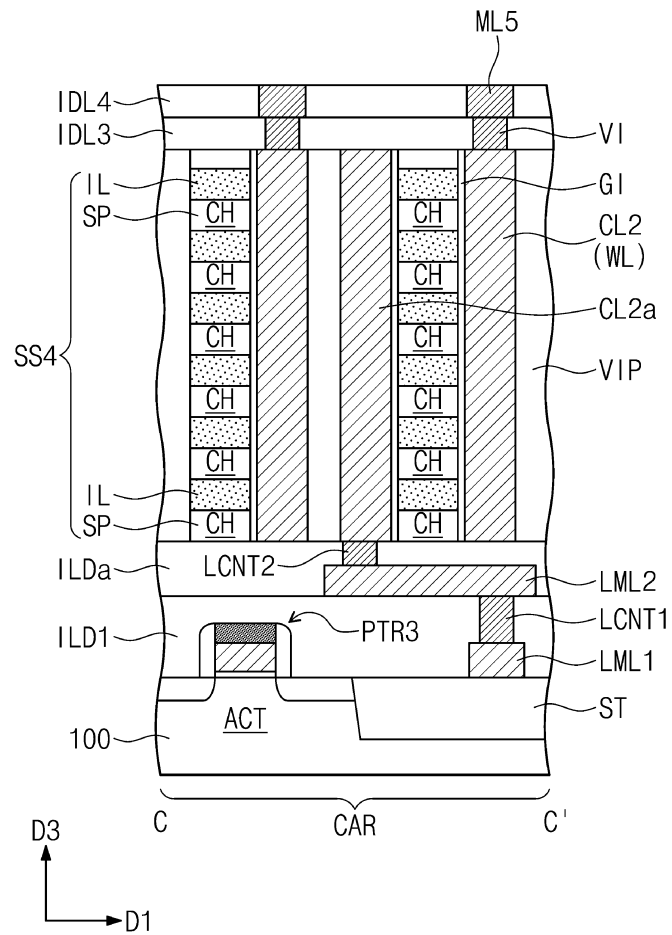


FIG. 10

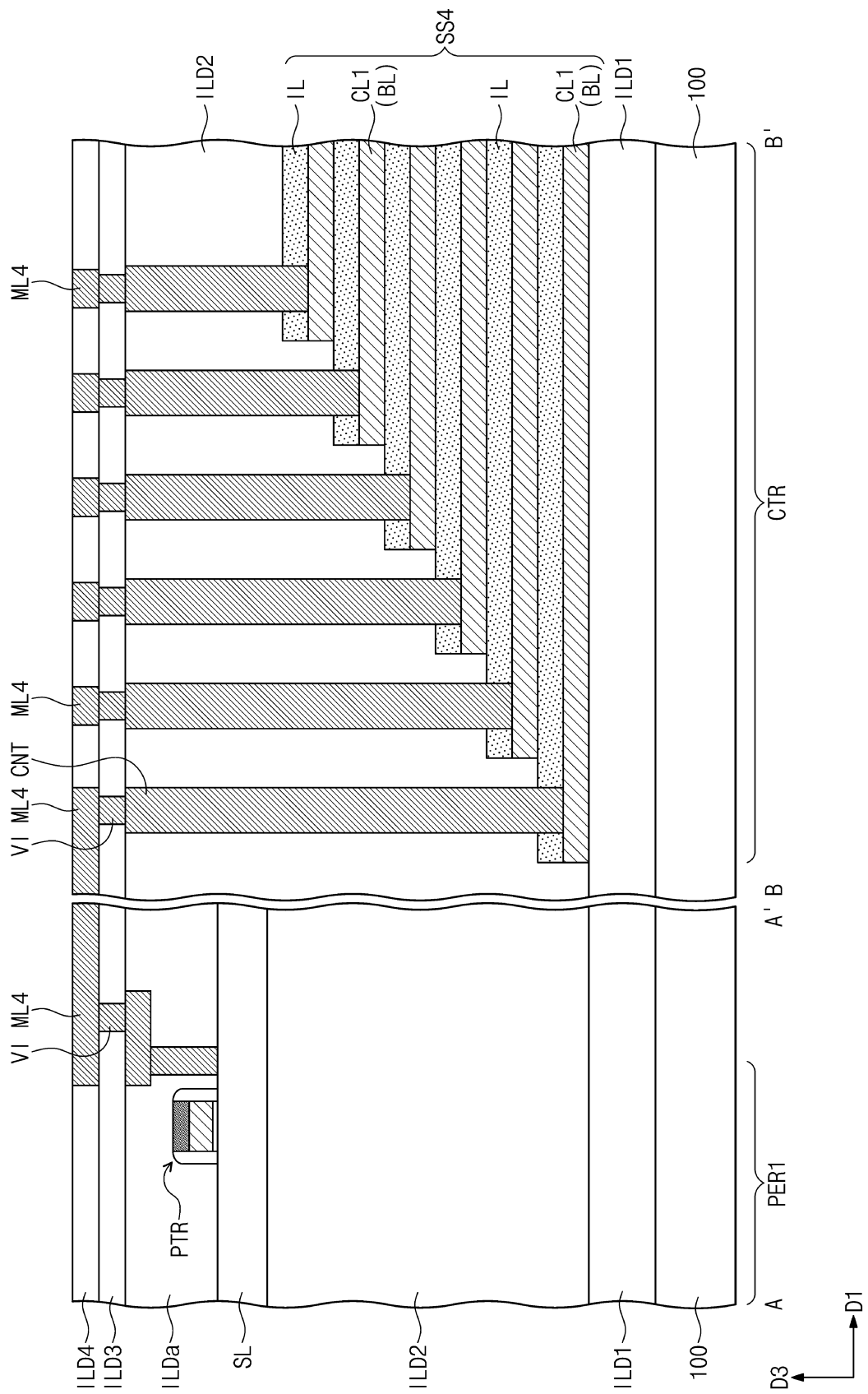


FIG. 11

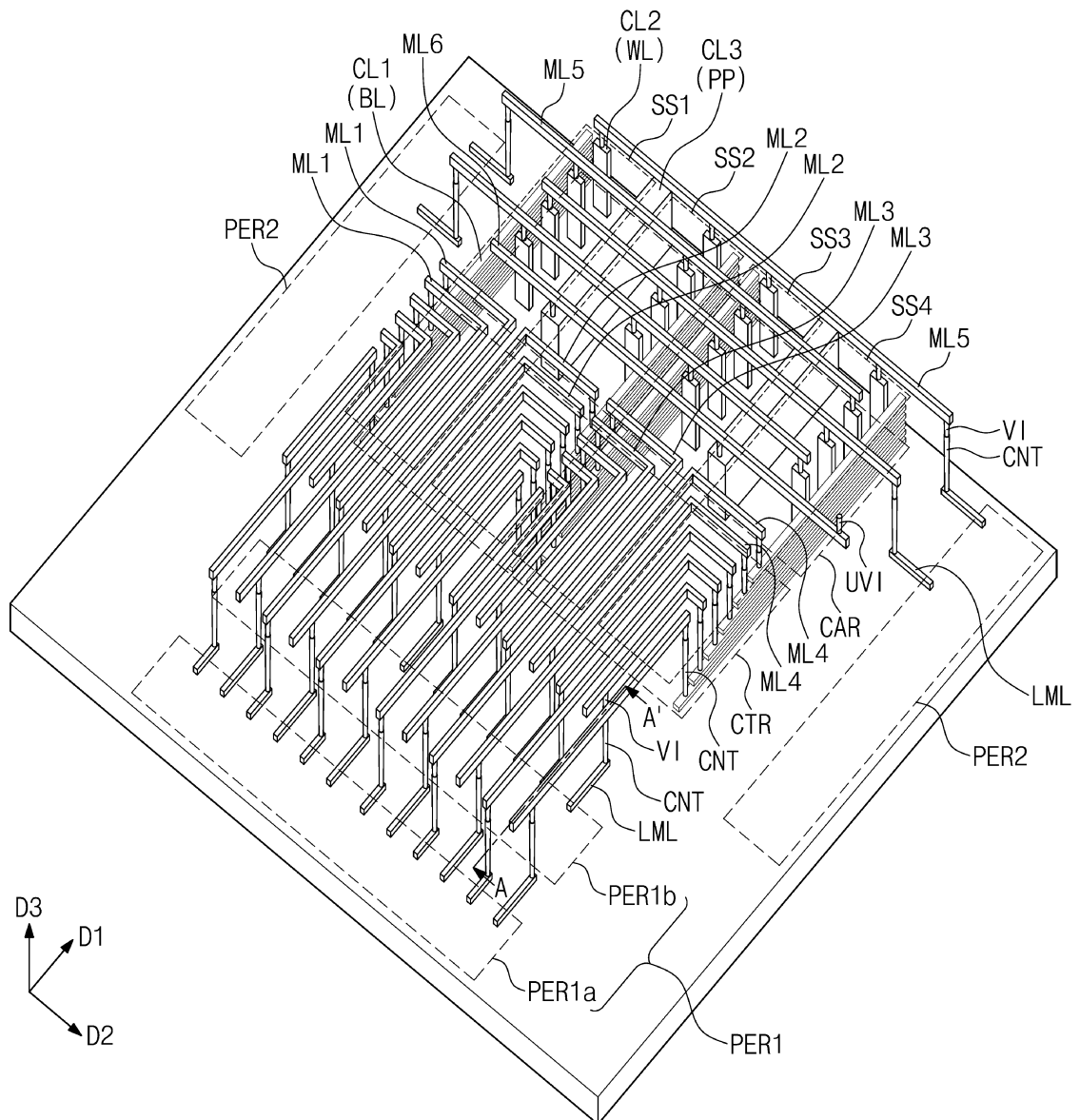


FIG. 12

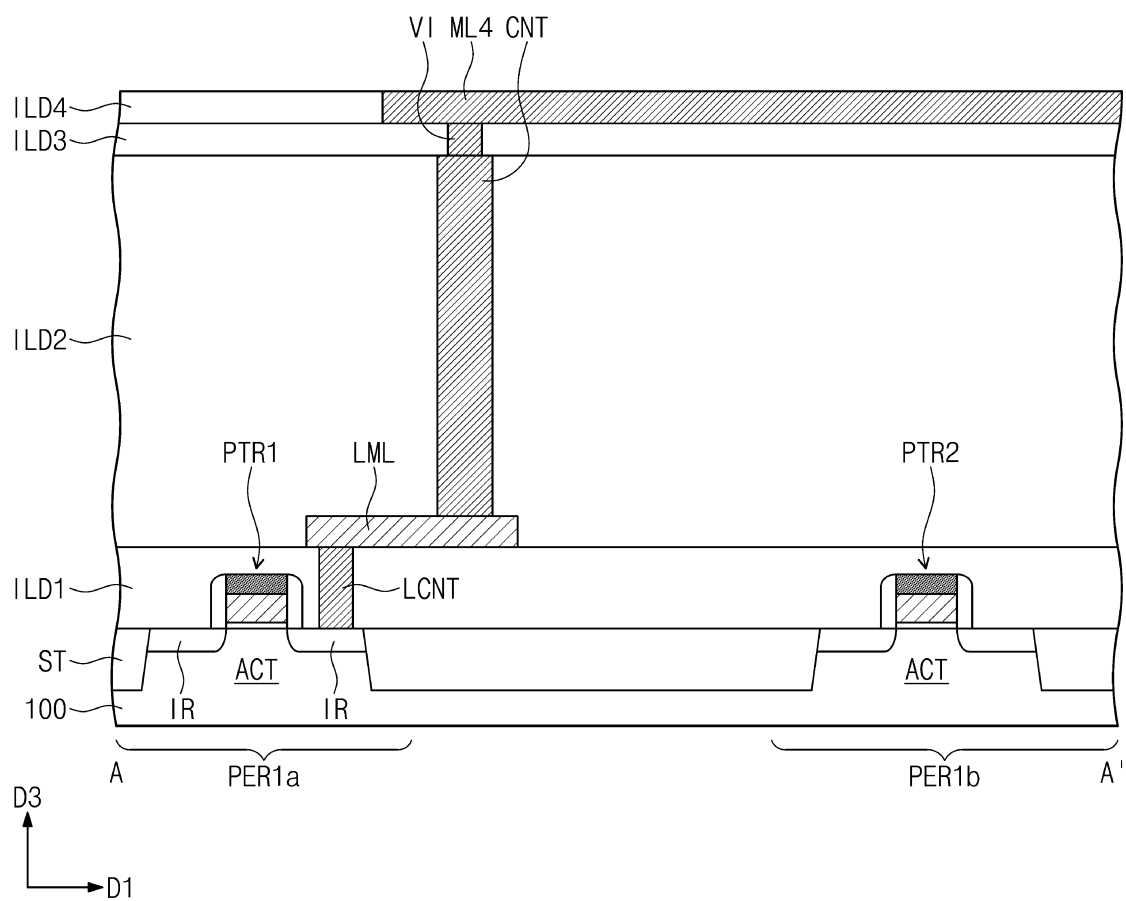


FIG. 13

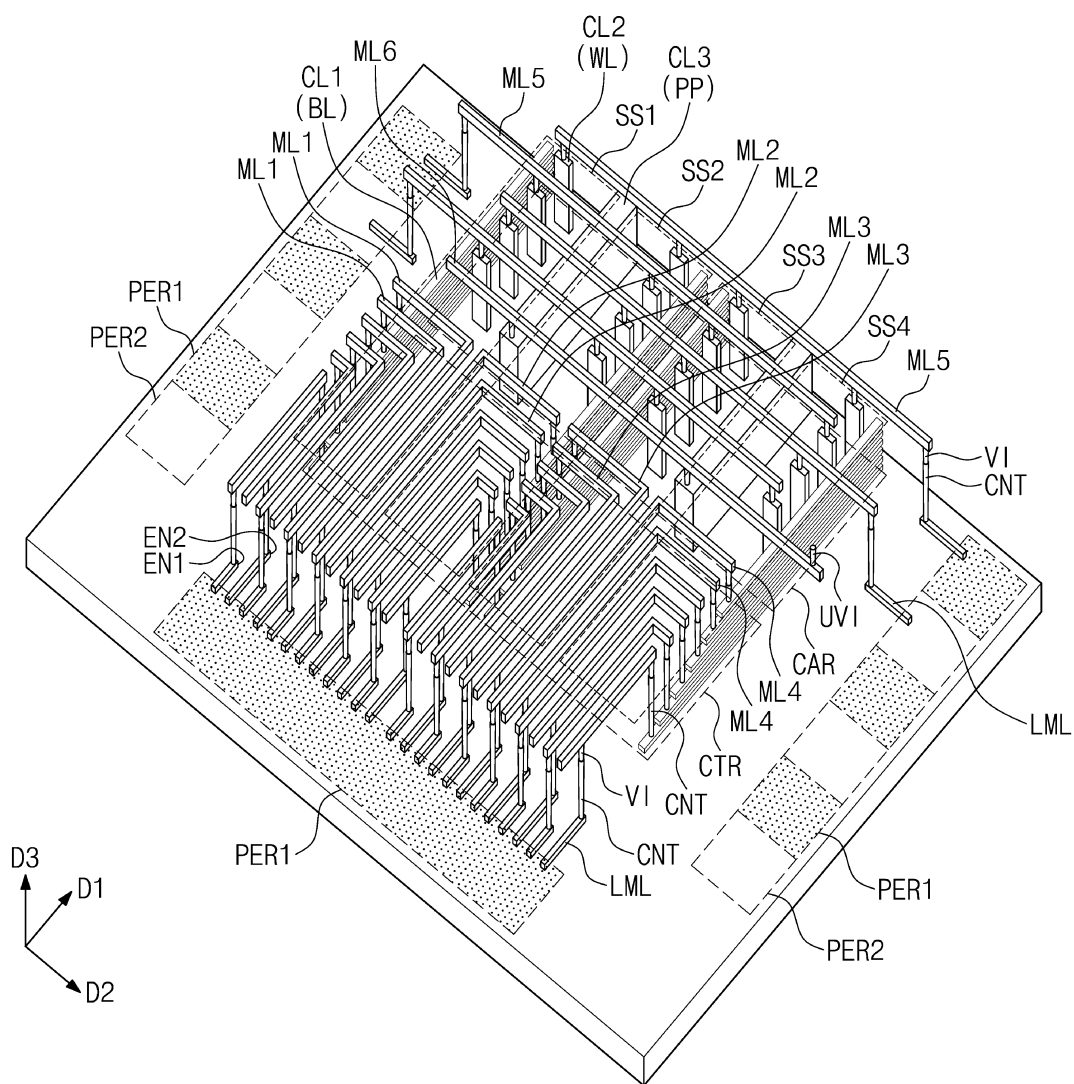


FIG. 14

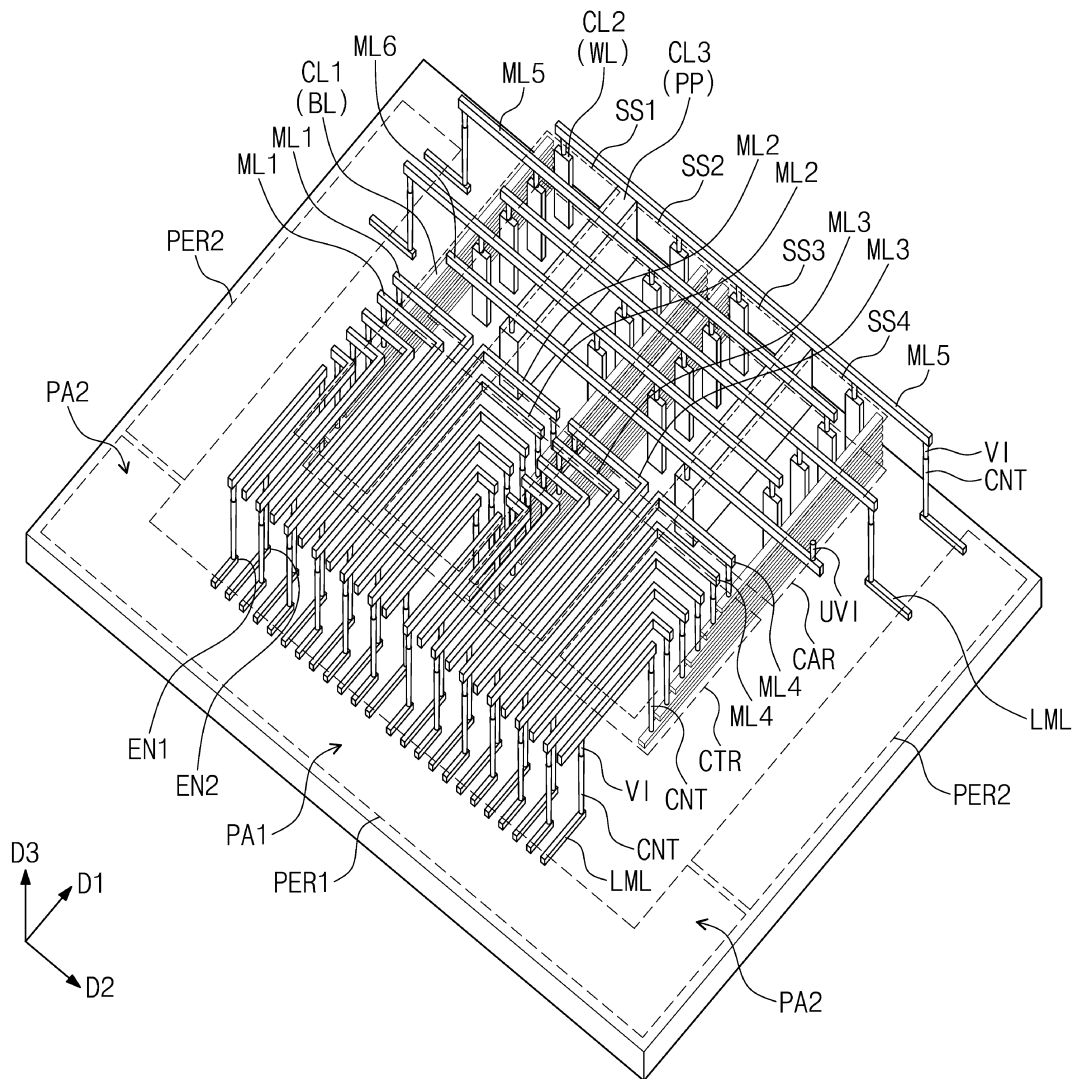


FIG. 15

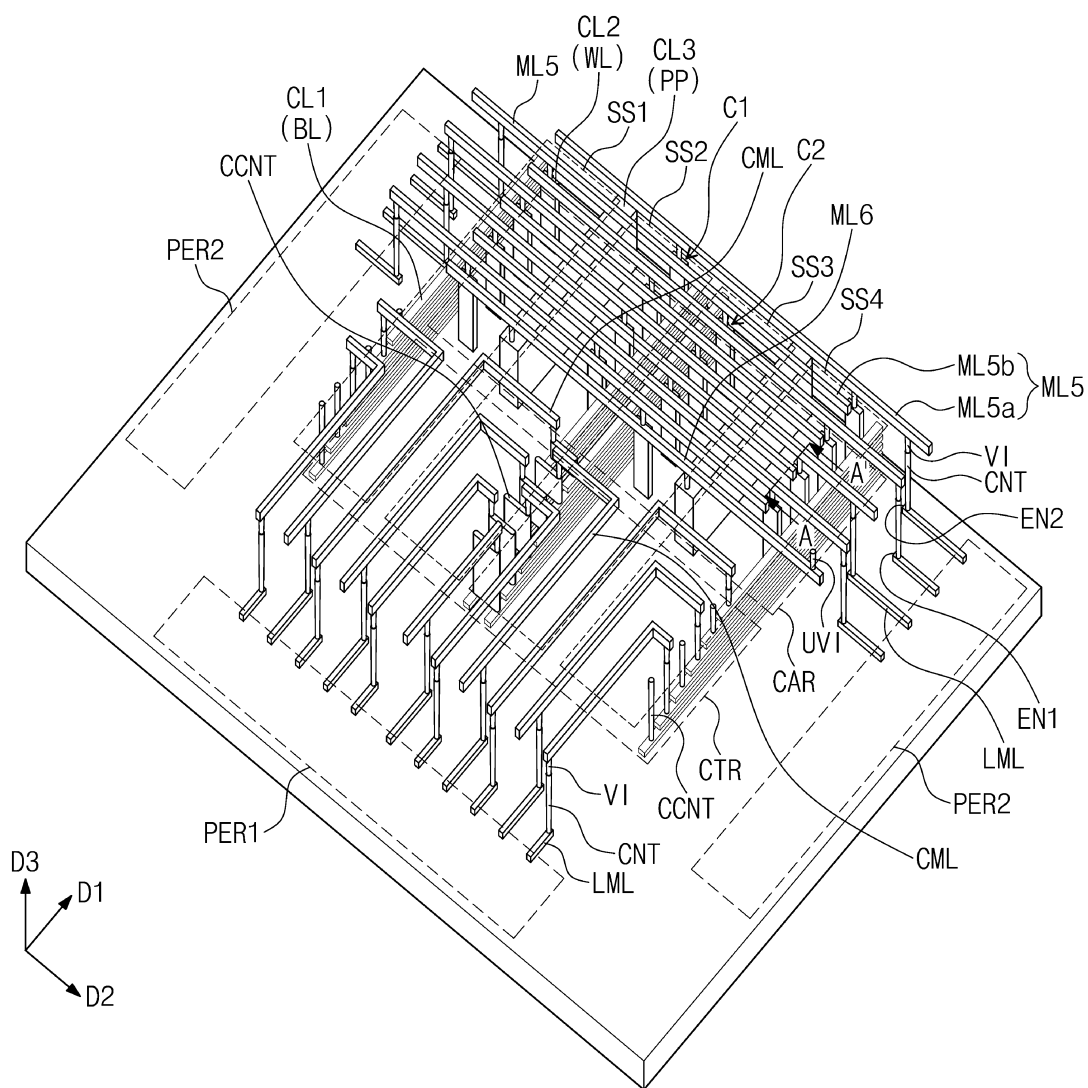


FIG. 16

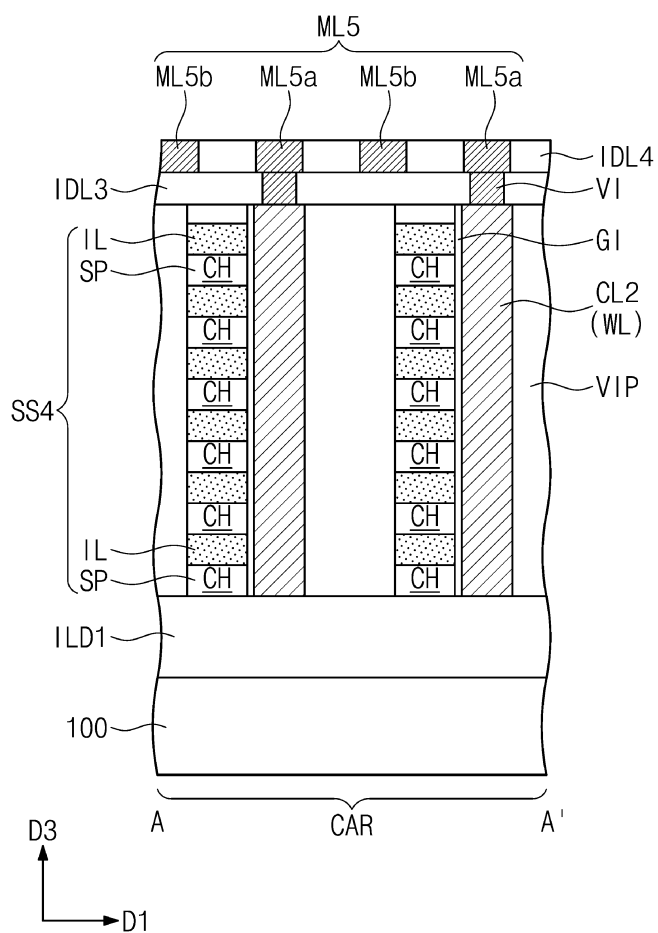


FIG. 17

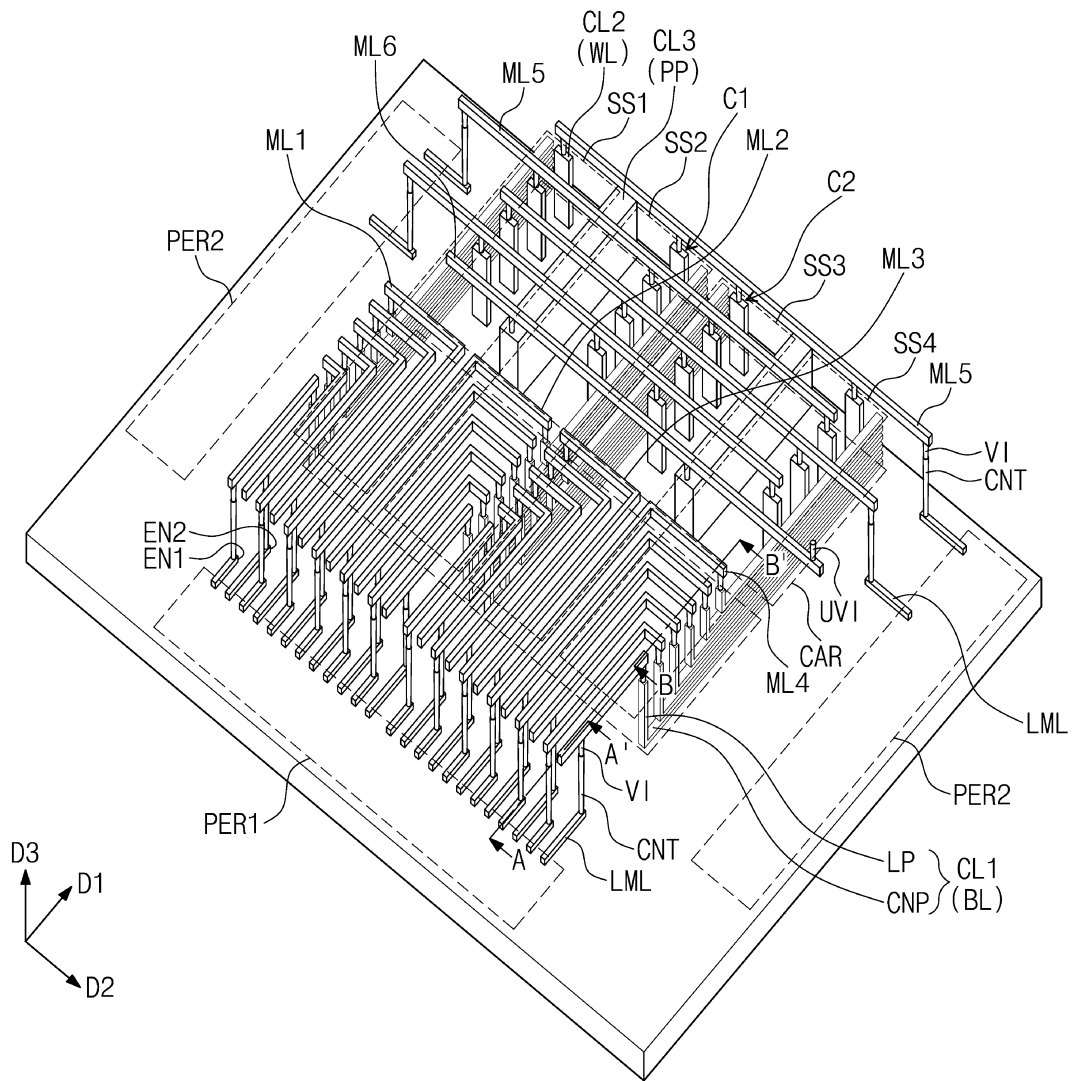


FIG. 18

