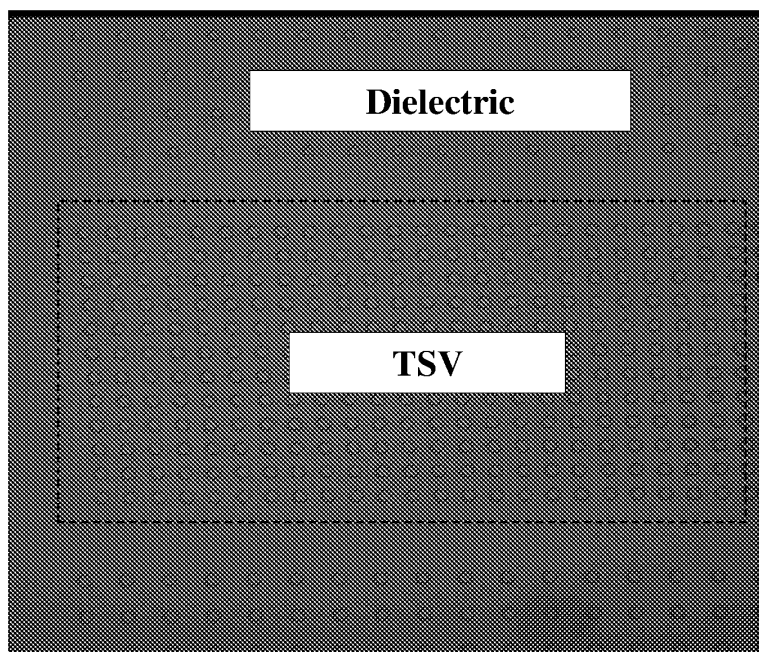


1/25
FIG. 1A

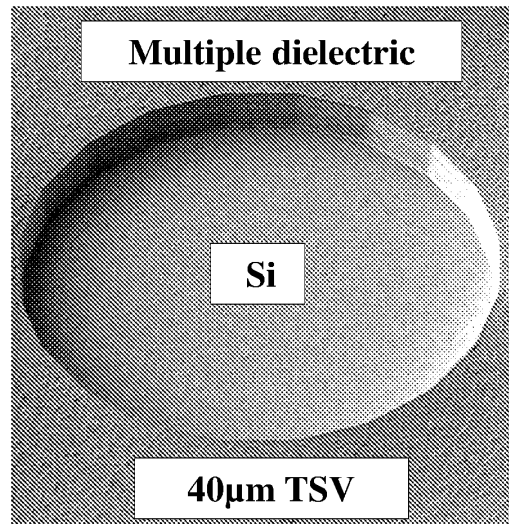
Final trench filling dielectric for flat surface before TSV process
Passivation2 dielectric
Passivation1 dielectric
Metal6 dielectric
Via6 dielectric
Metal5 dielectric
Via4 dielectric
Metal4 dielectric
Via3 dielectric
M3 dielectric
Via2 dielectric
M2 dielectric
Via1 dielectric
M1 dielectric
Contact dielectric
SiN
Oxide
Si Substrate

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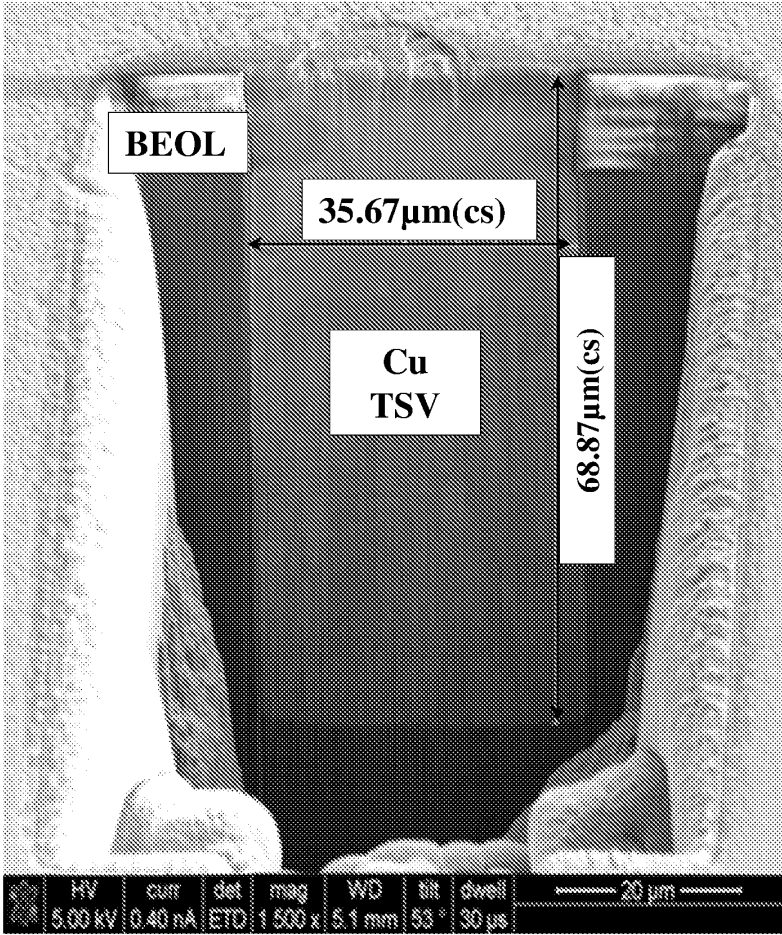
FIG. 1B



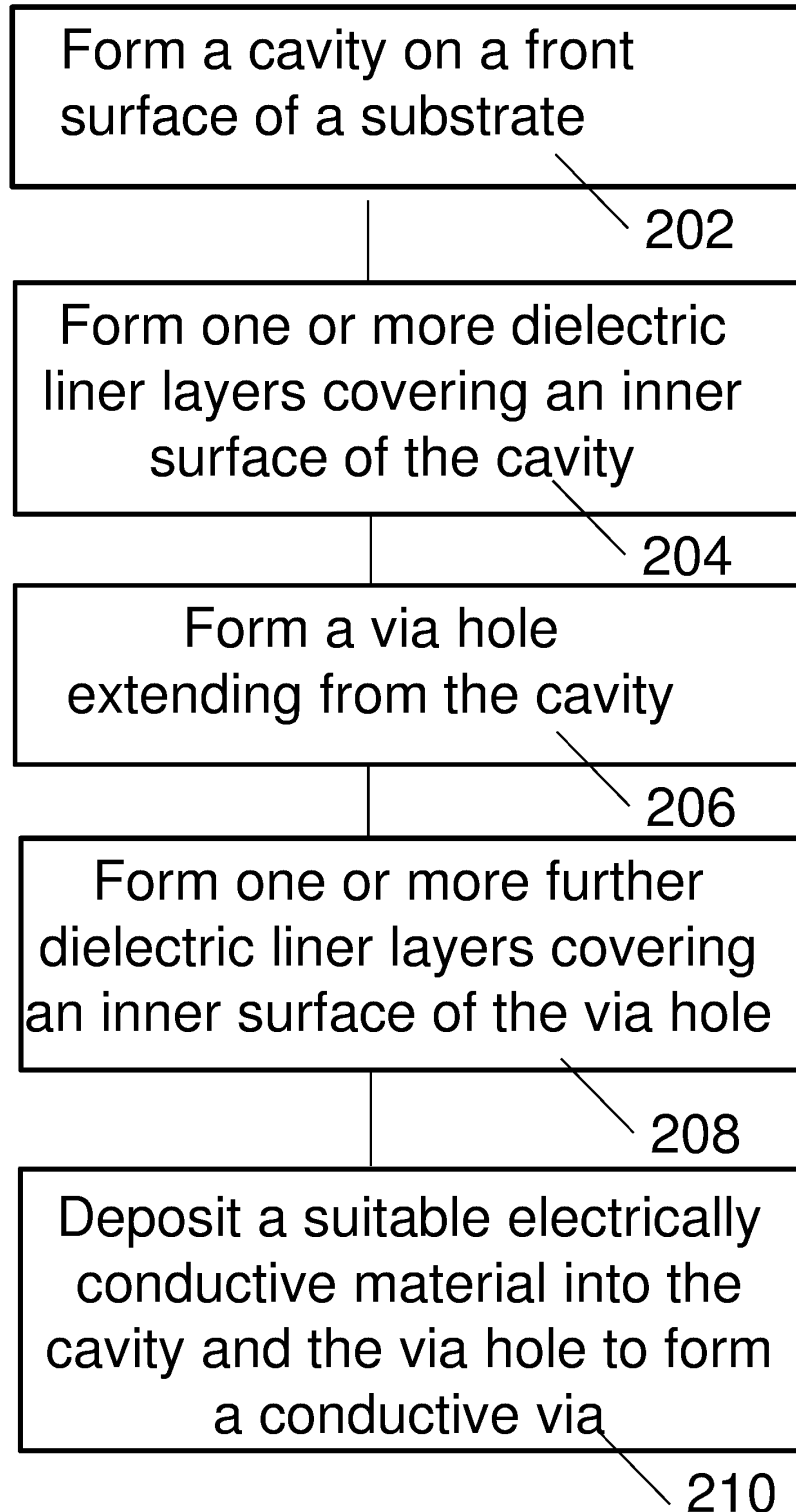
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FIG. 1C



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FIG. 1D



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FIG. 2



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FIG. 3

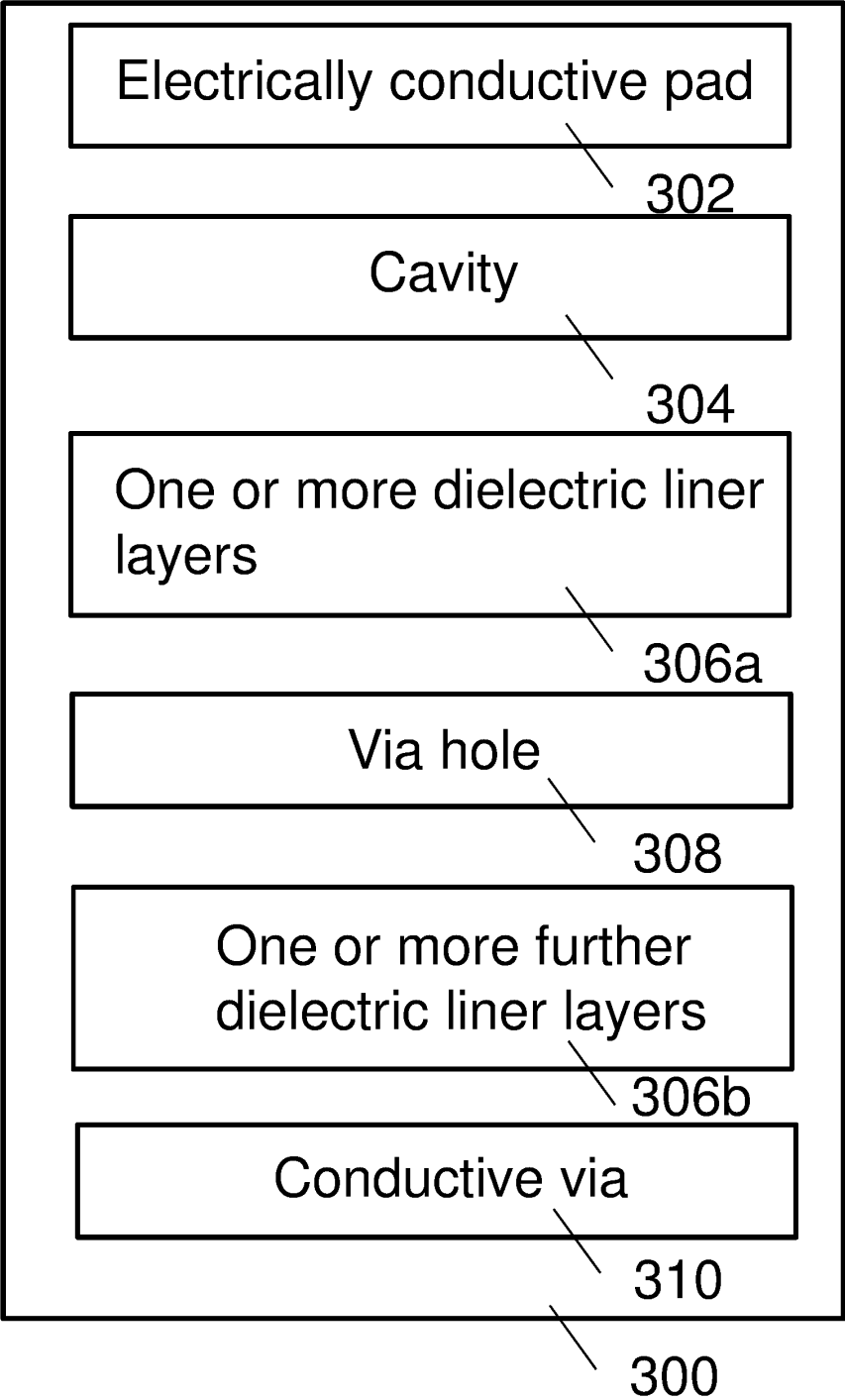
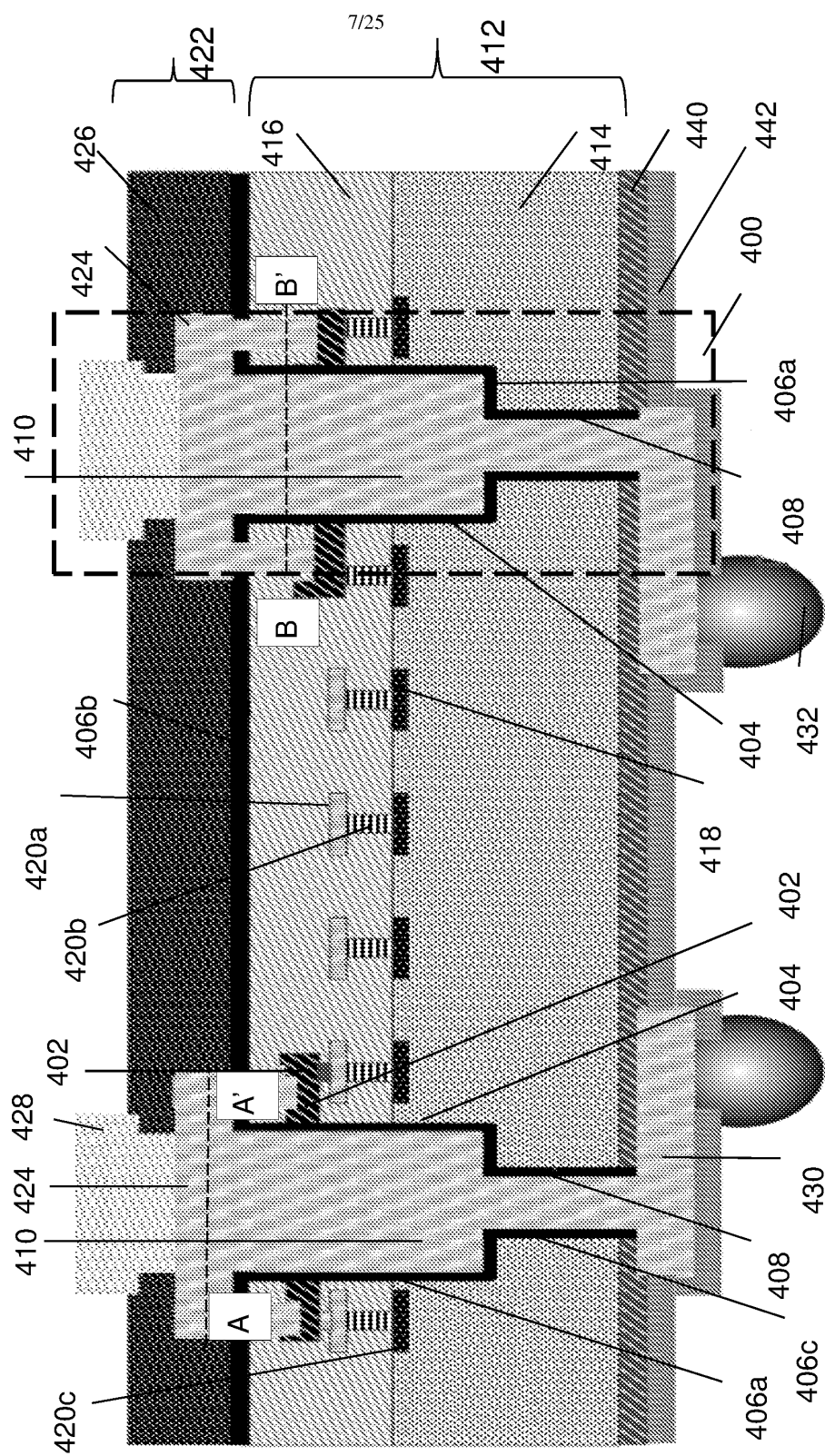
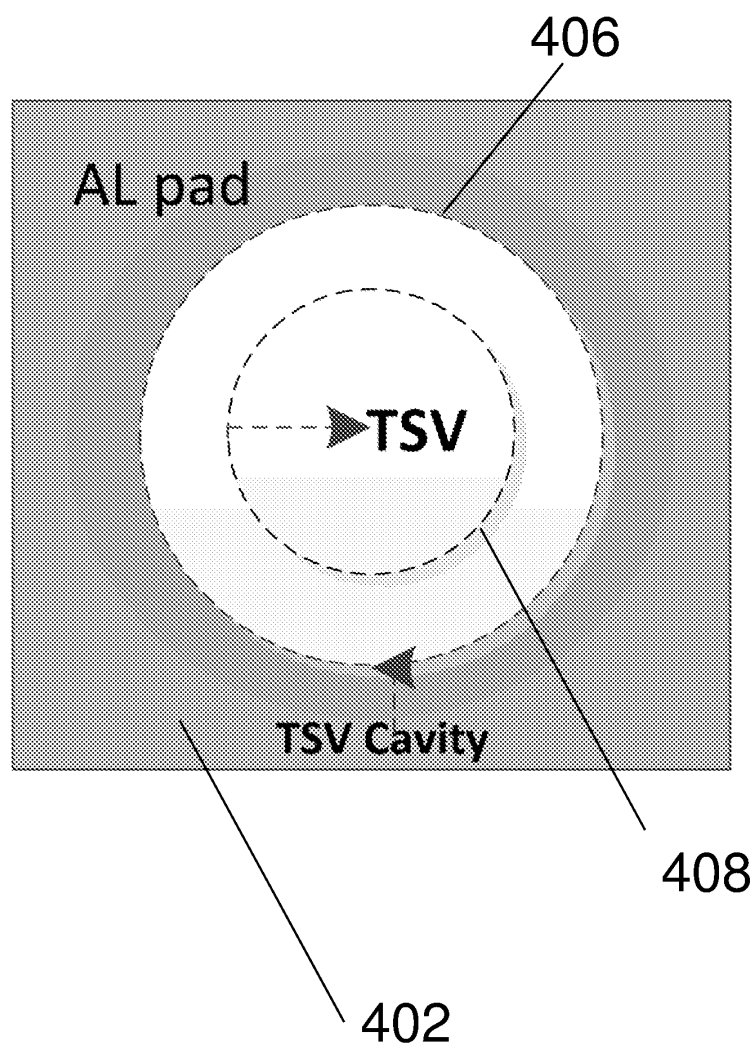


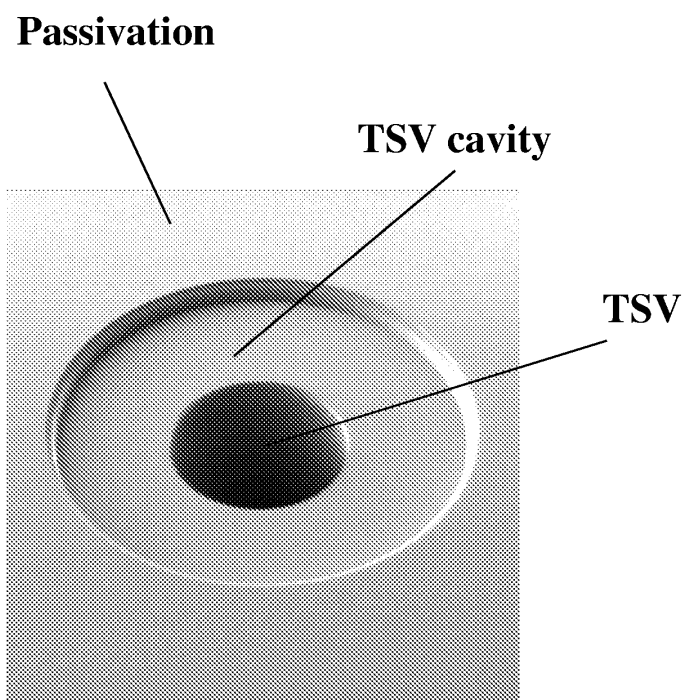
FIG. 4A



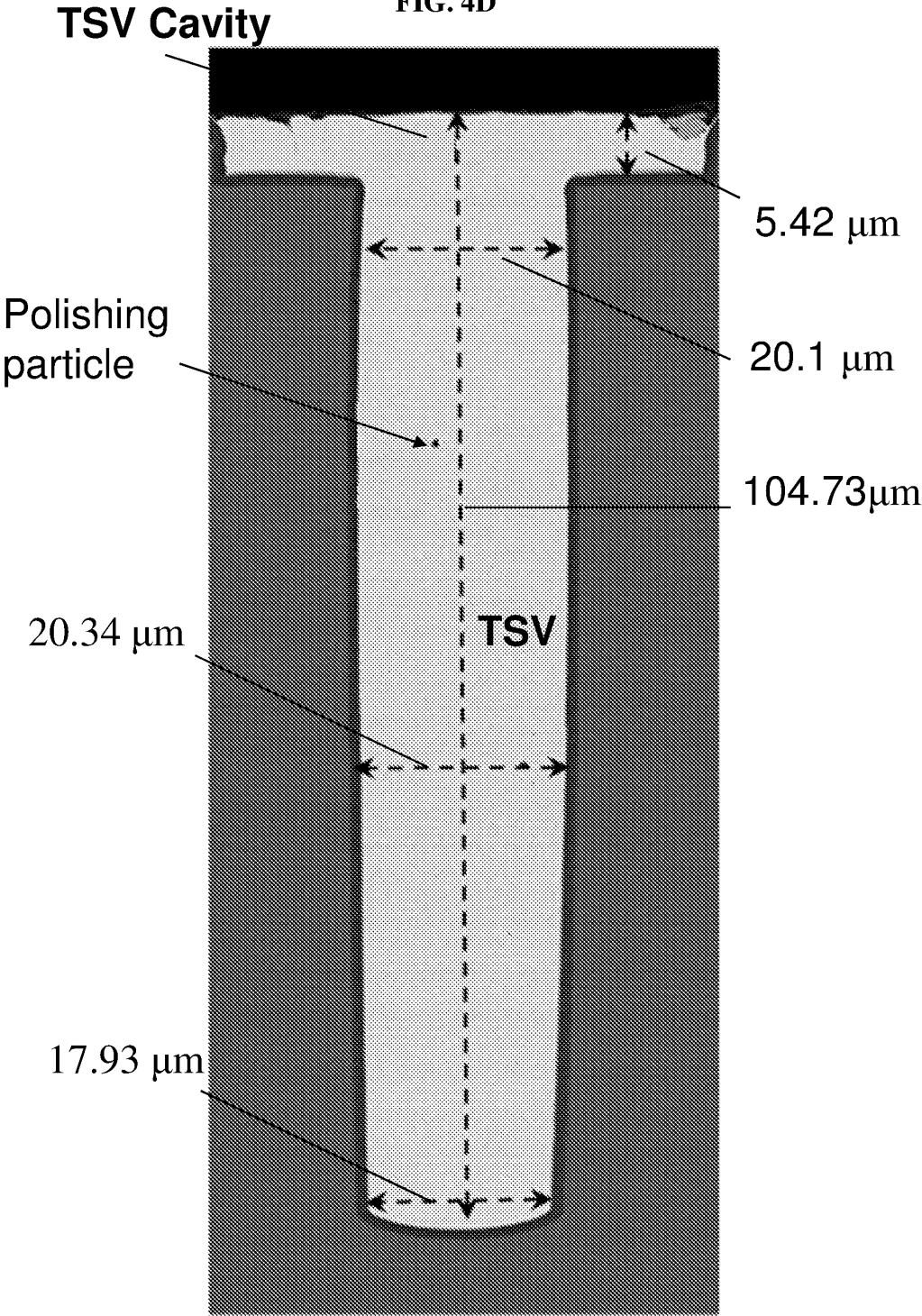
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FIG. 4B



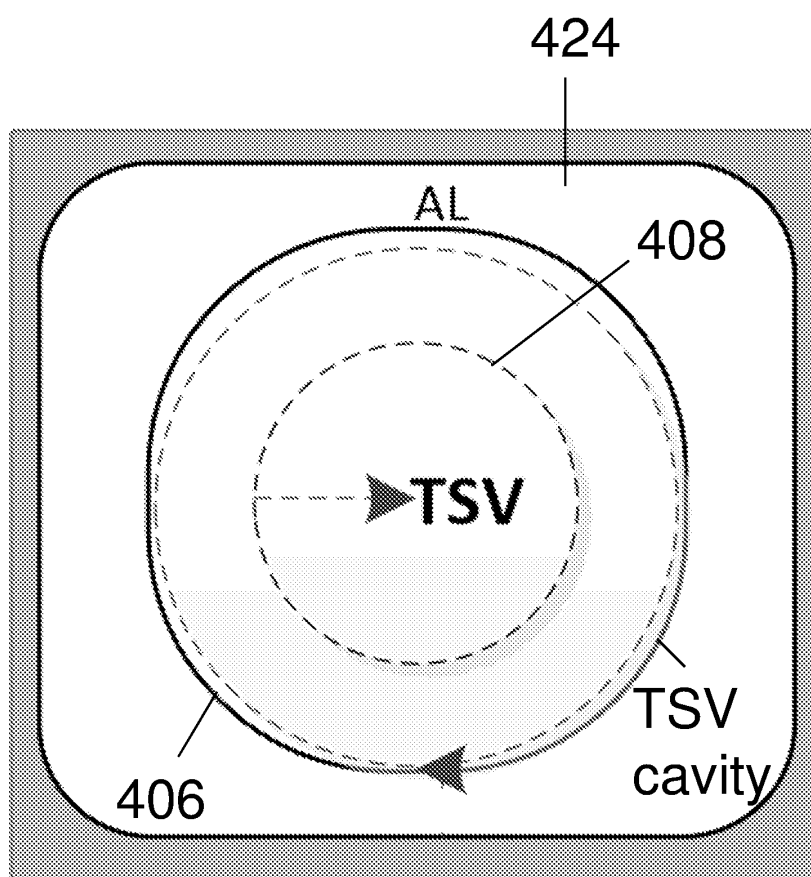
9/25
FIG. 4C



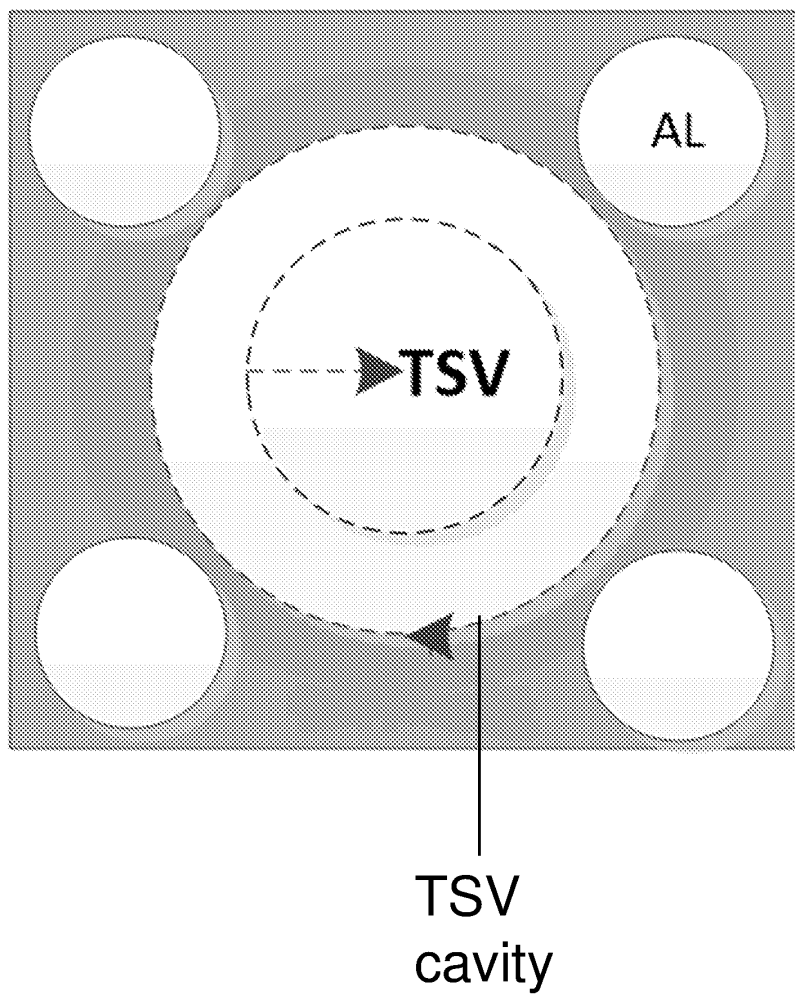
10/25
FIG. 4D



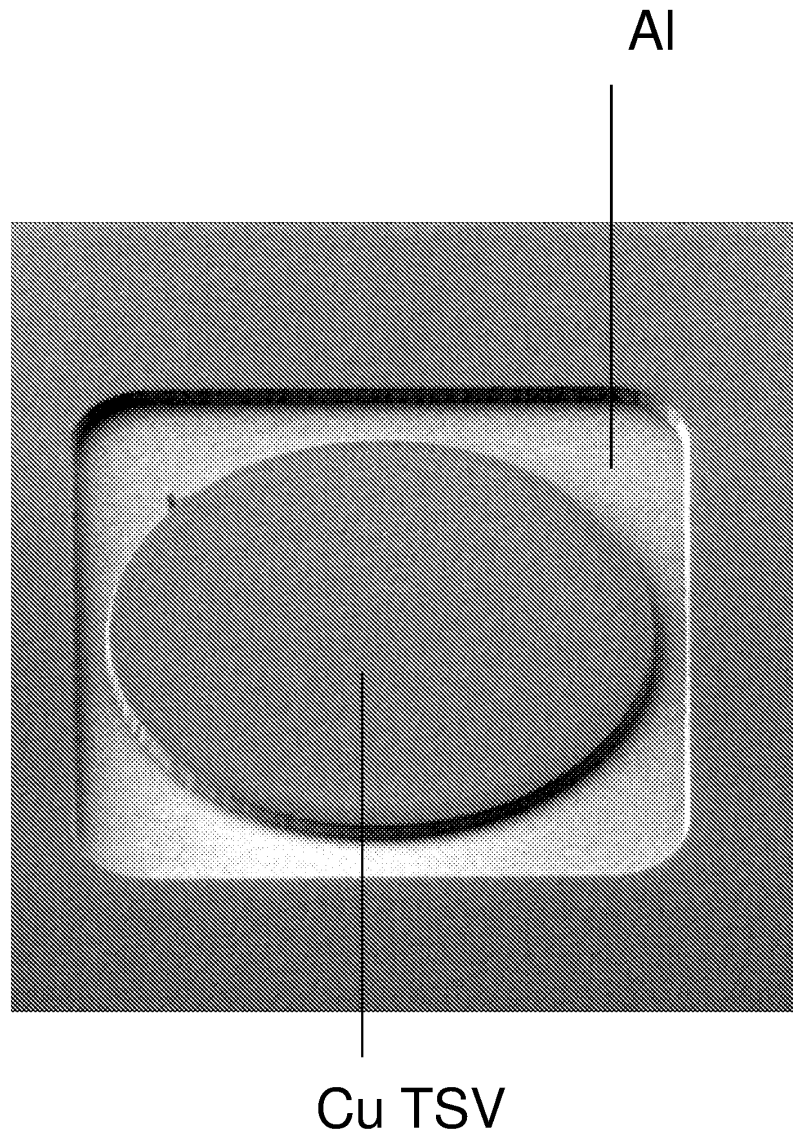
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FIG. 4E



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FIG. 4F



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FIG. 4G



SEM image of pad after
passivation opening wet clean

FIG. 5A

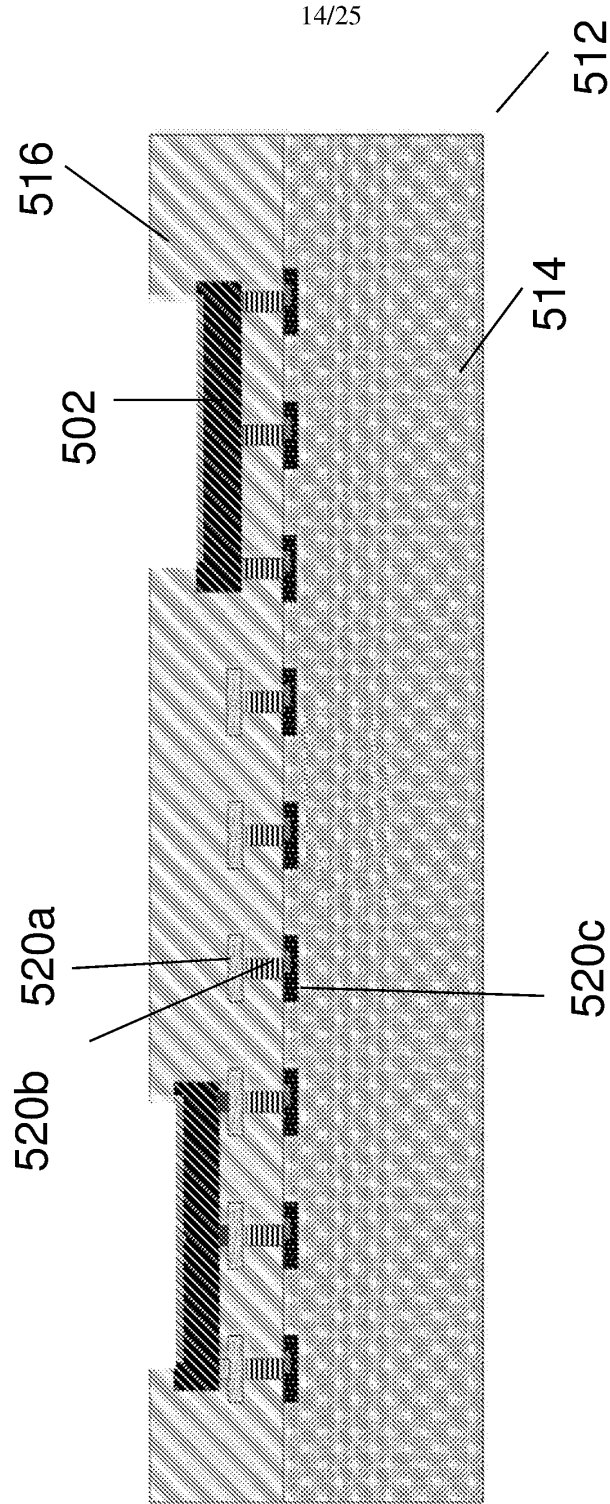


FIG. 5B

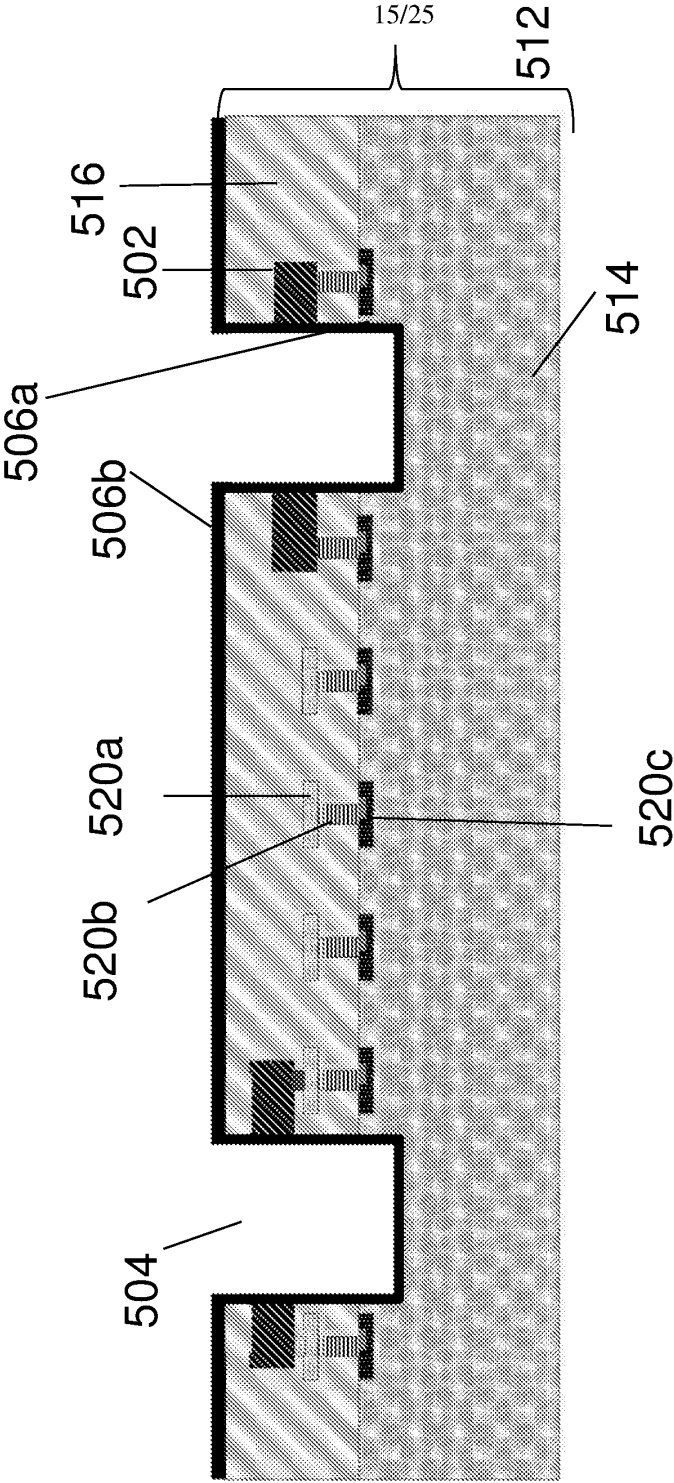


FIG. 5C

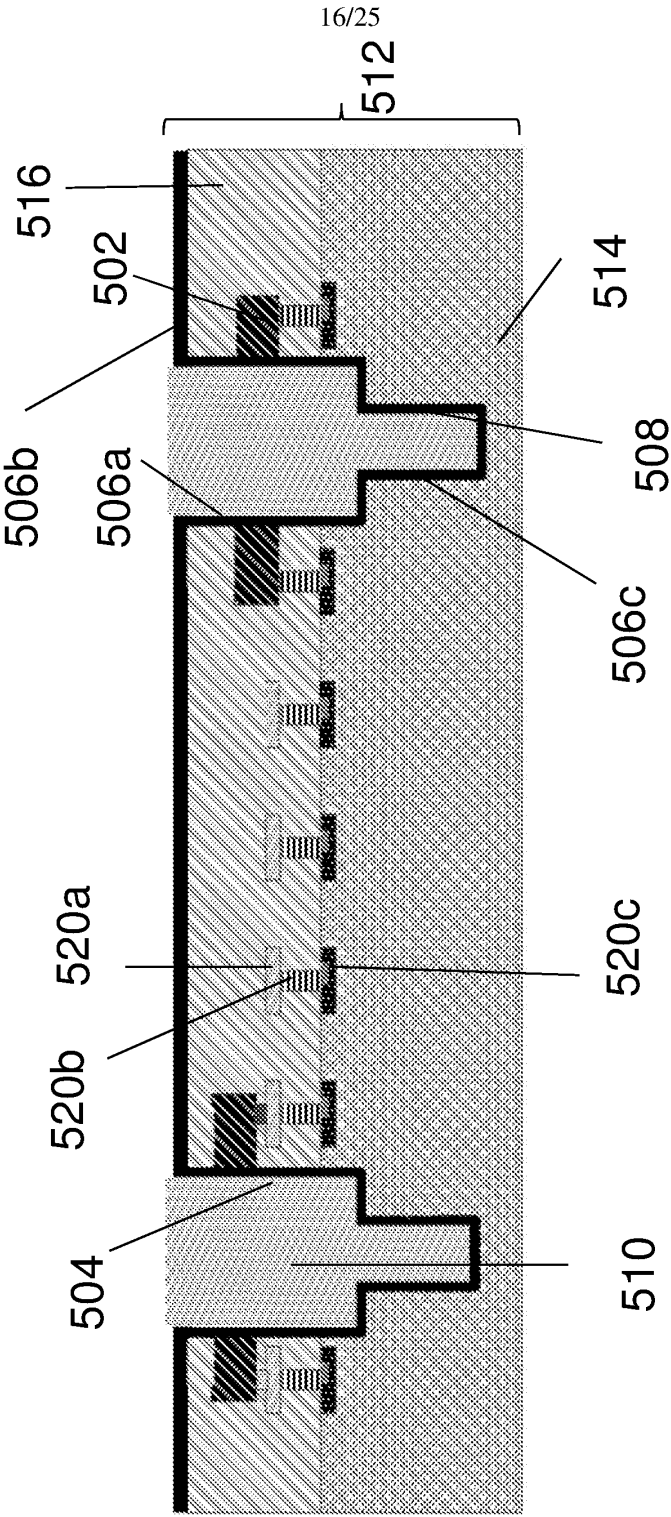


FIG. 5D

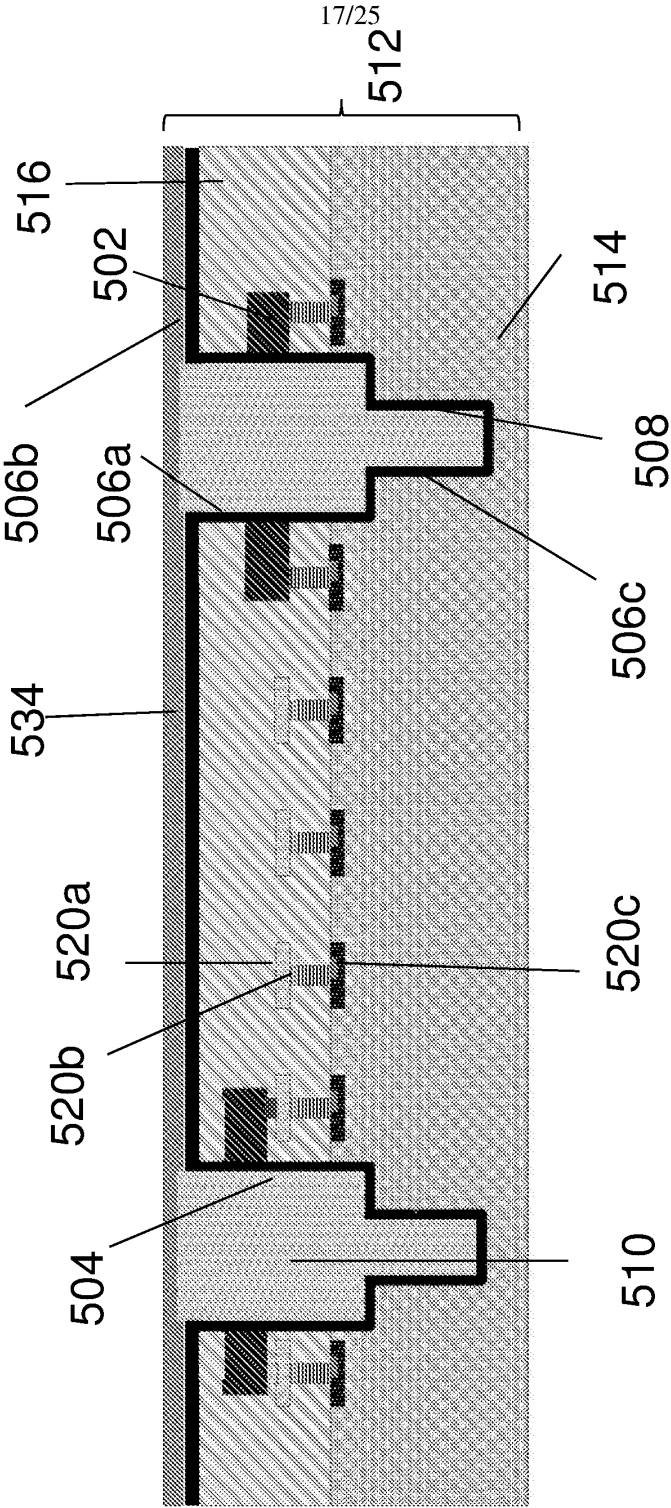


FIG. 5E

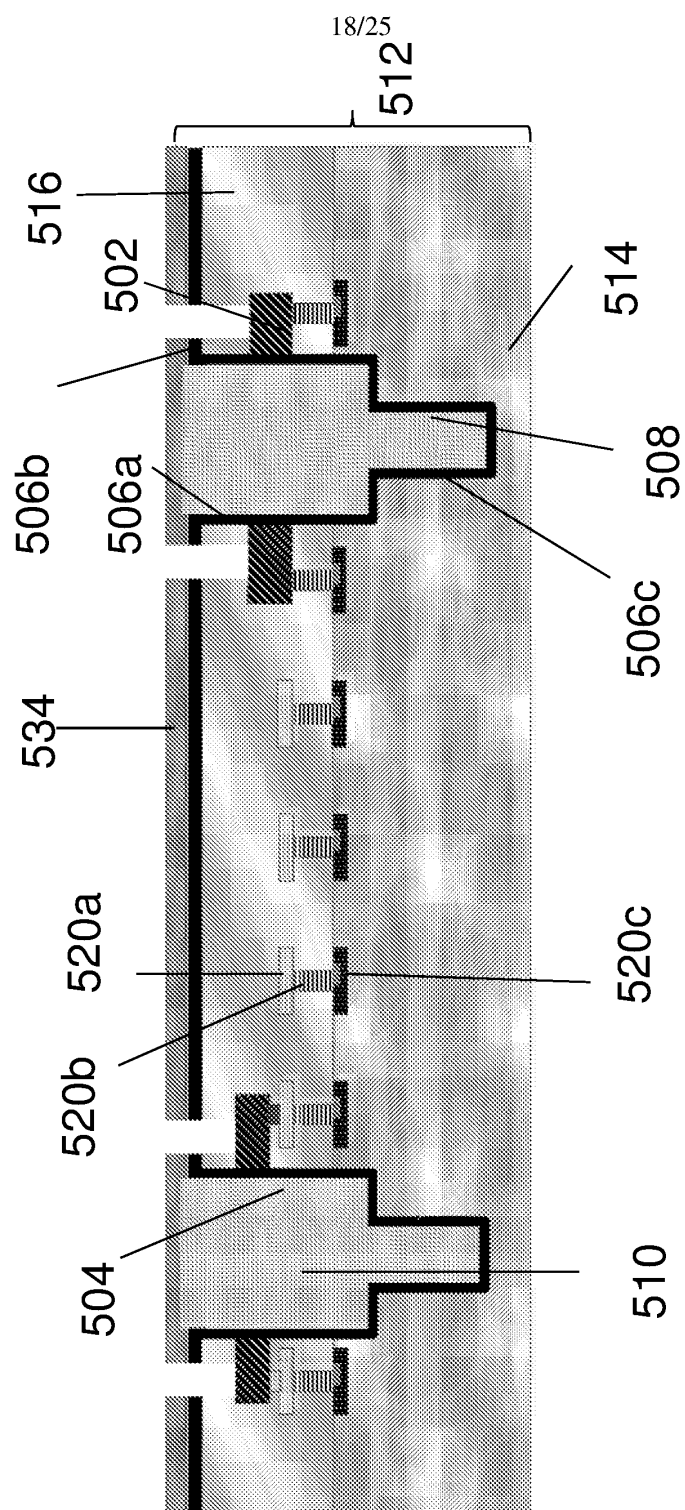


FIG. 5F

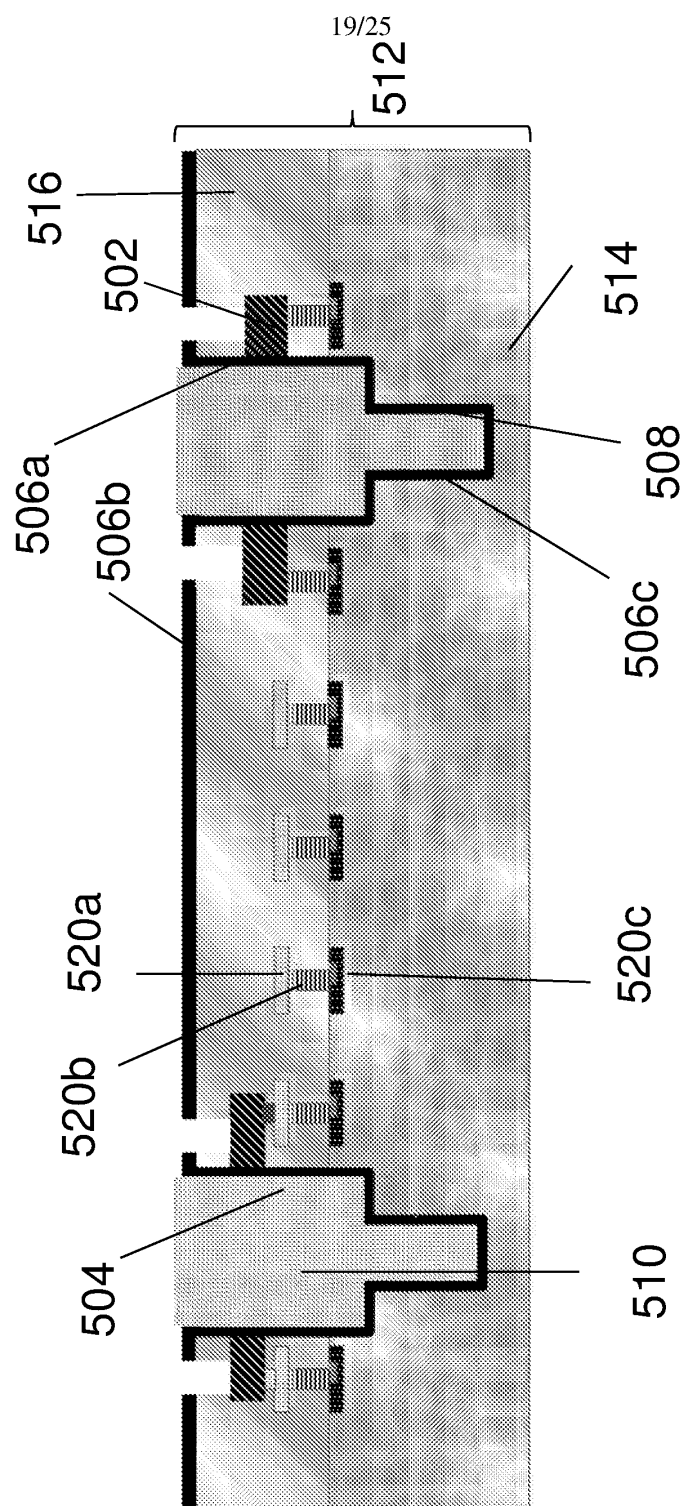


FIG. 5G

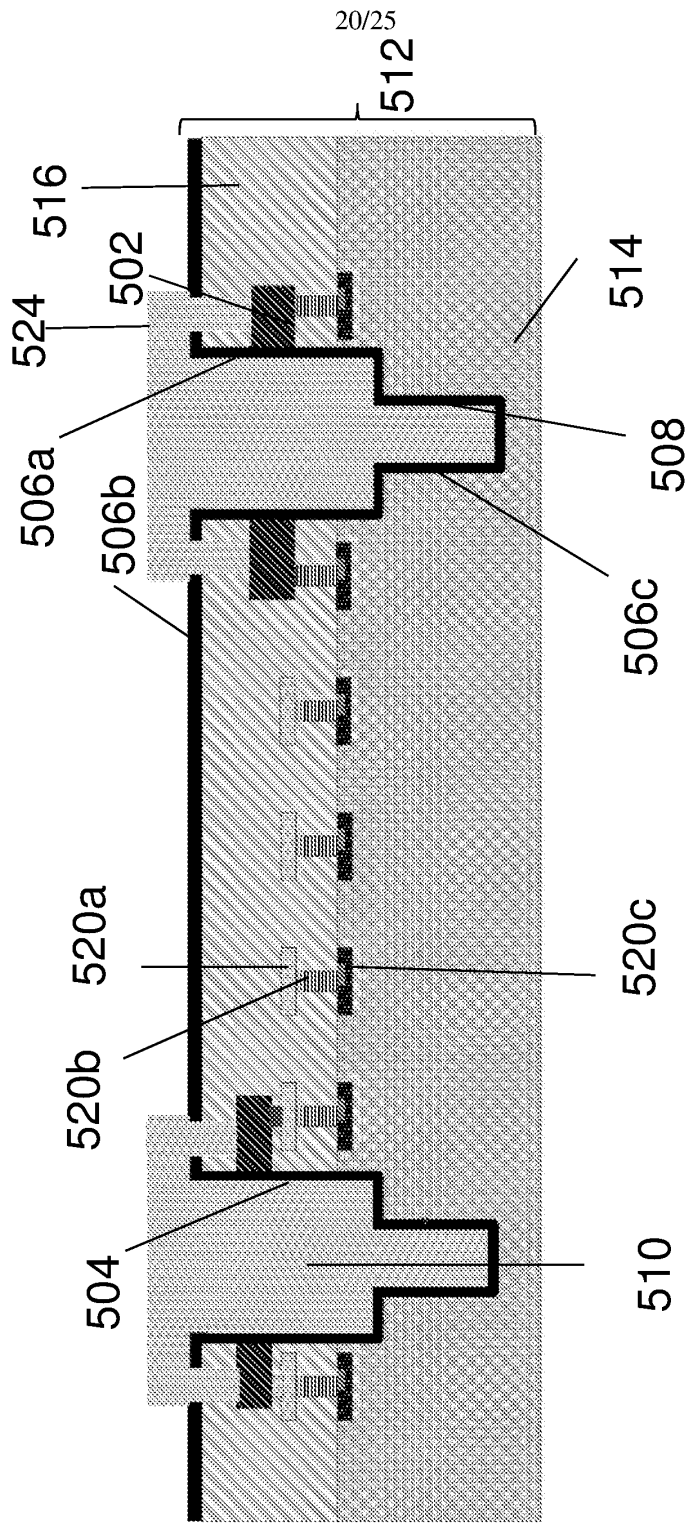


FIG. 5I

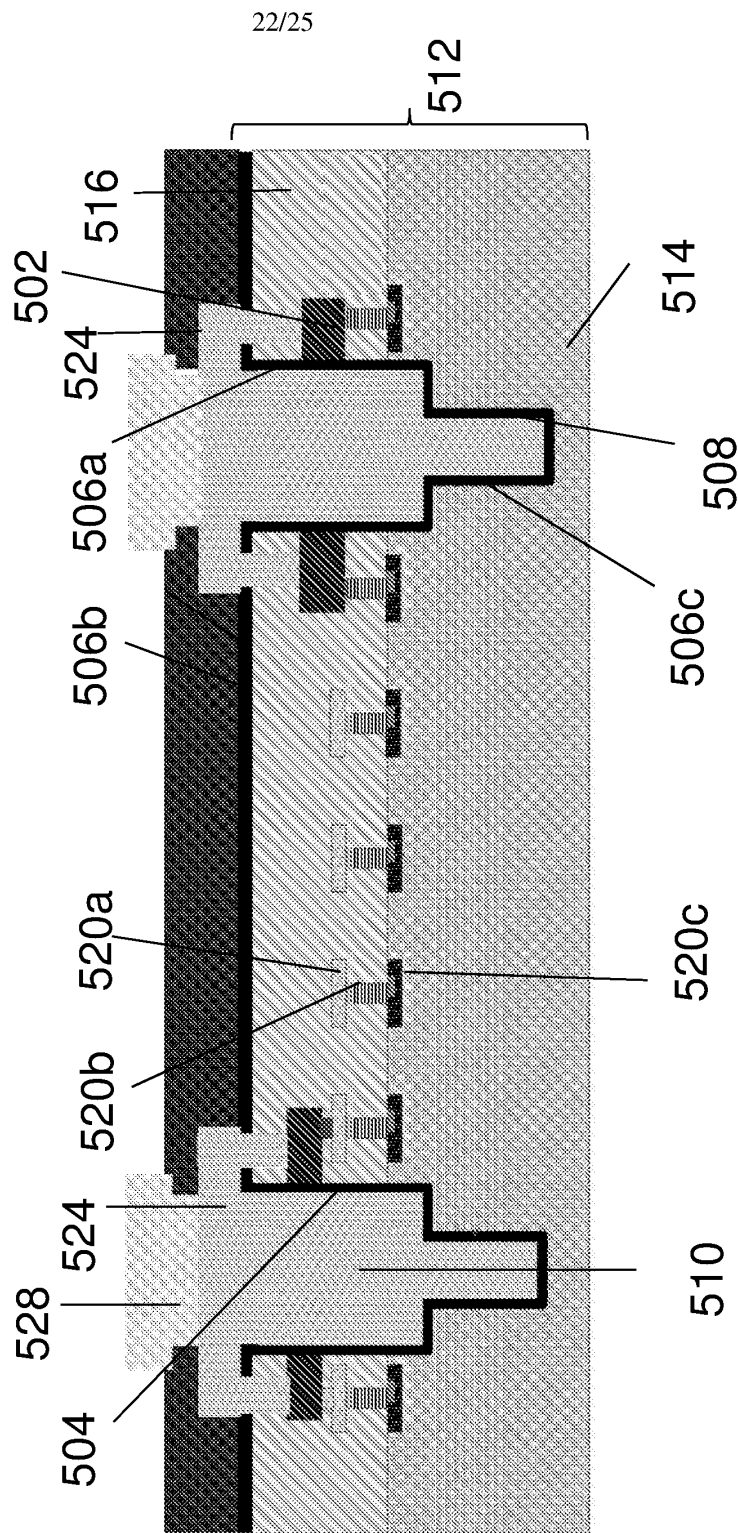


FIG. 5J

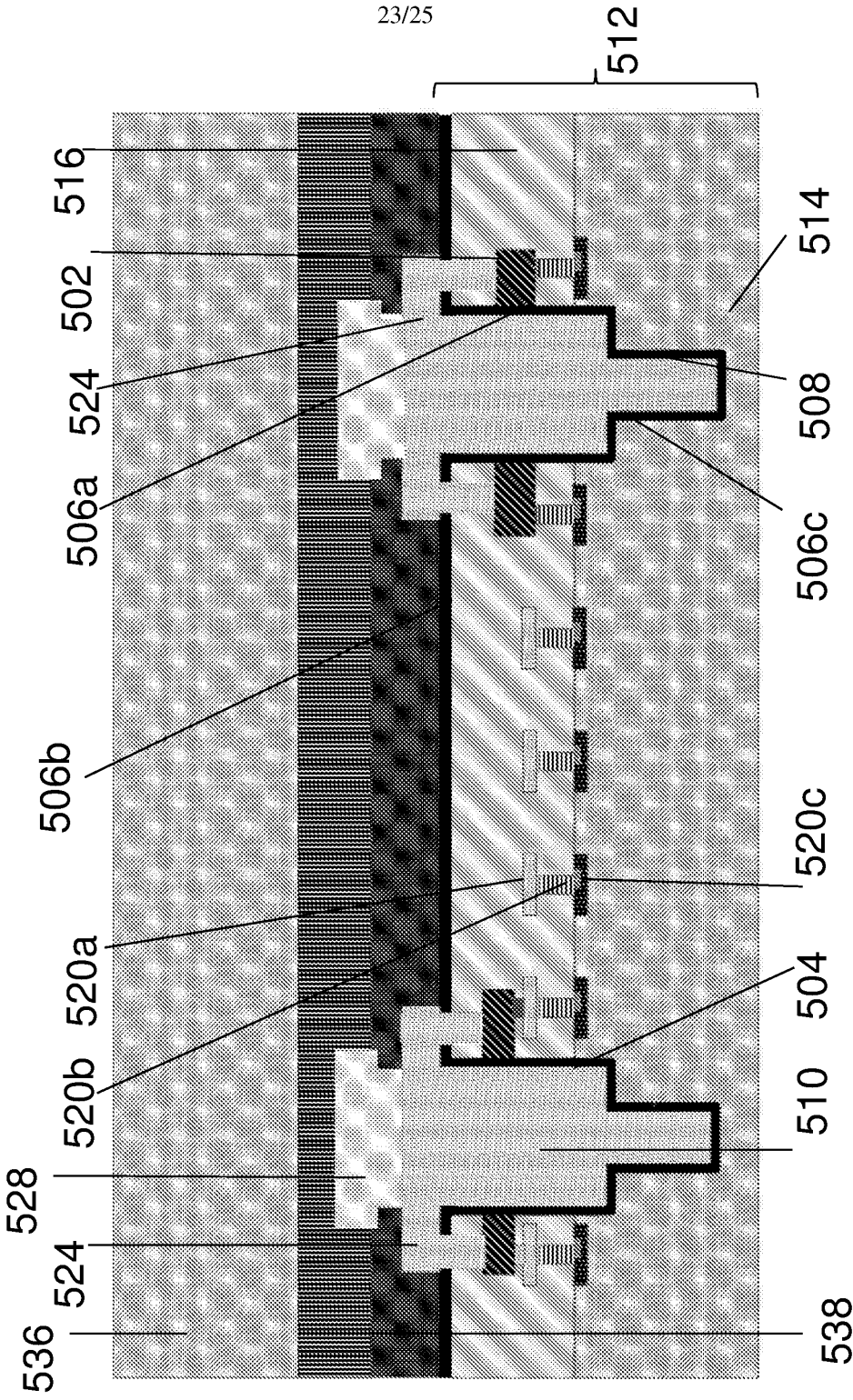


FIG. 5L

