

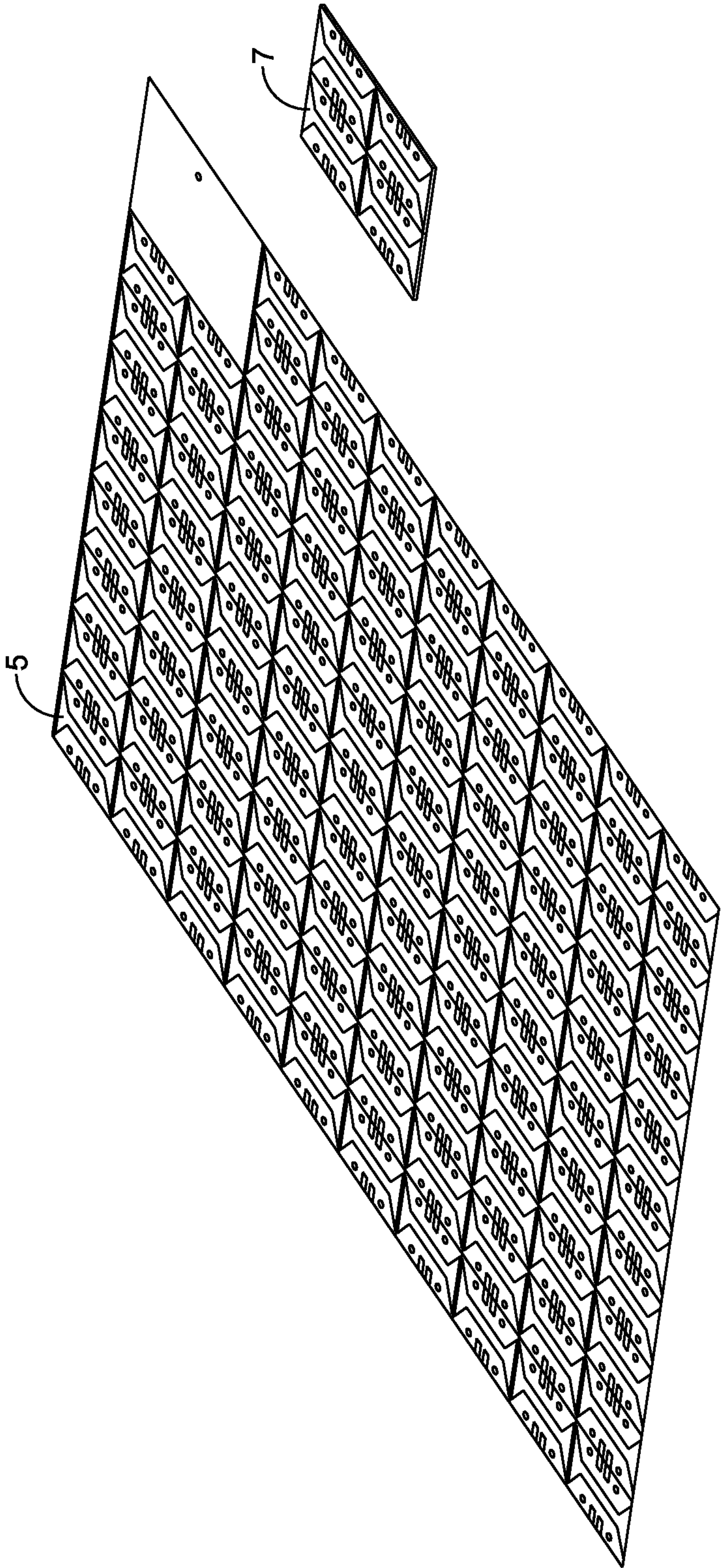


FIG. 1

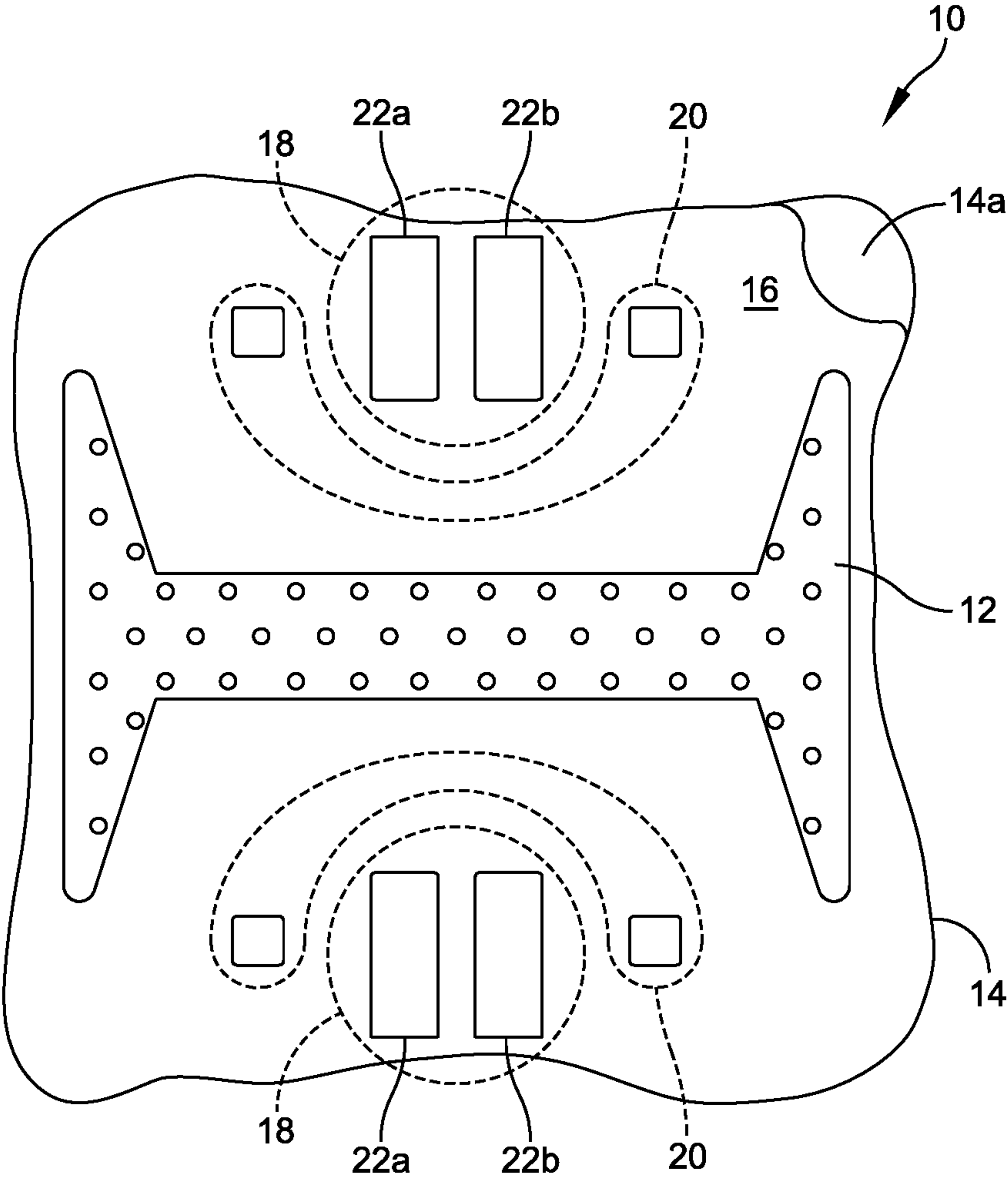


FIG. 1A

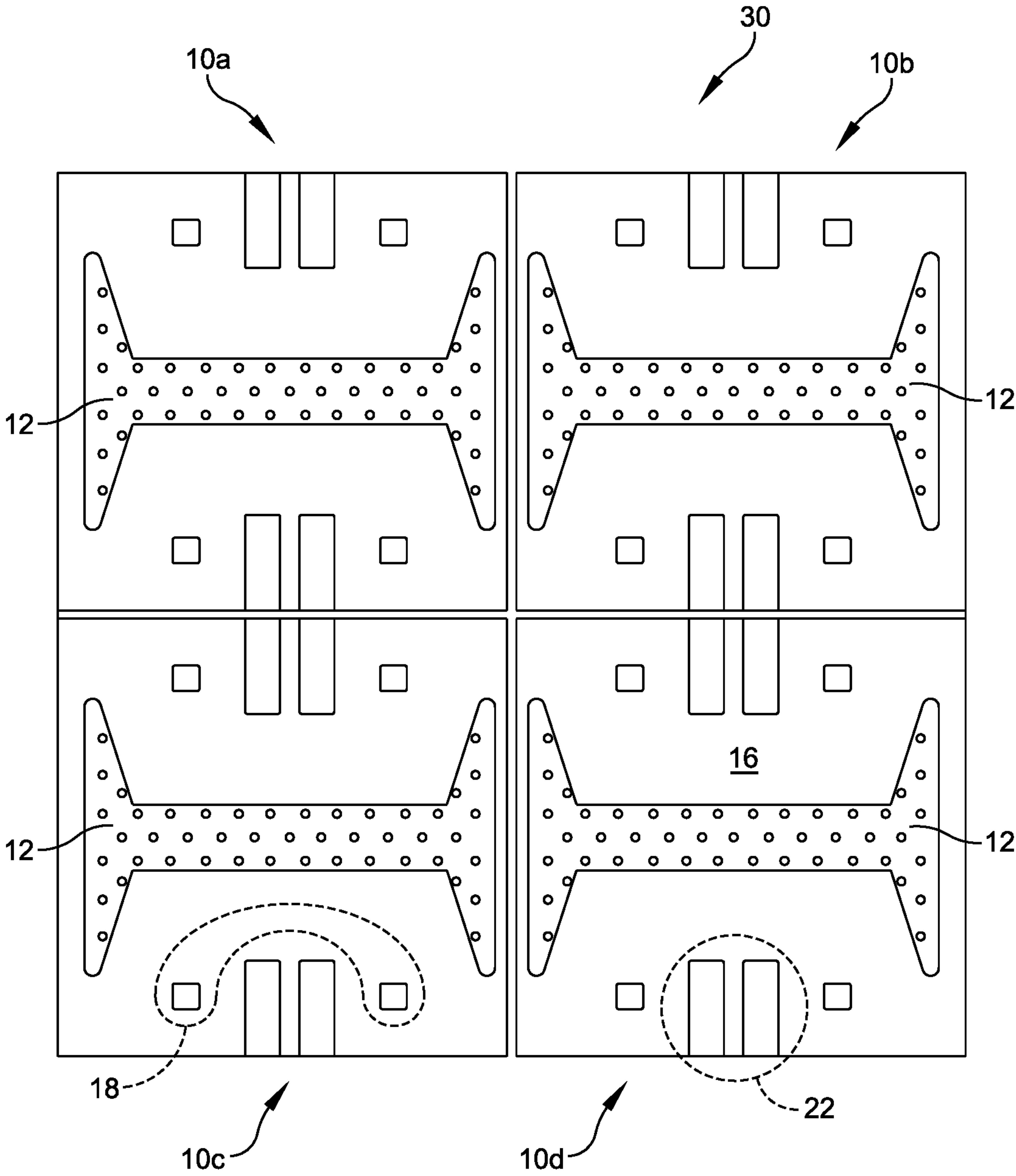


FIG. 1B

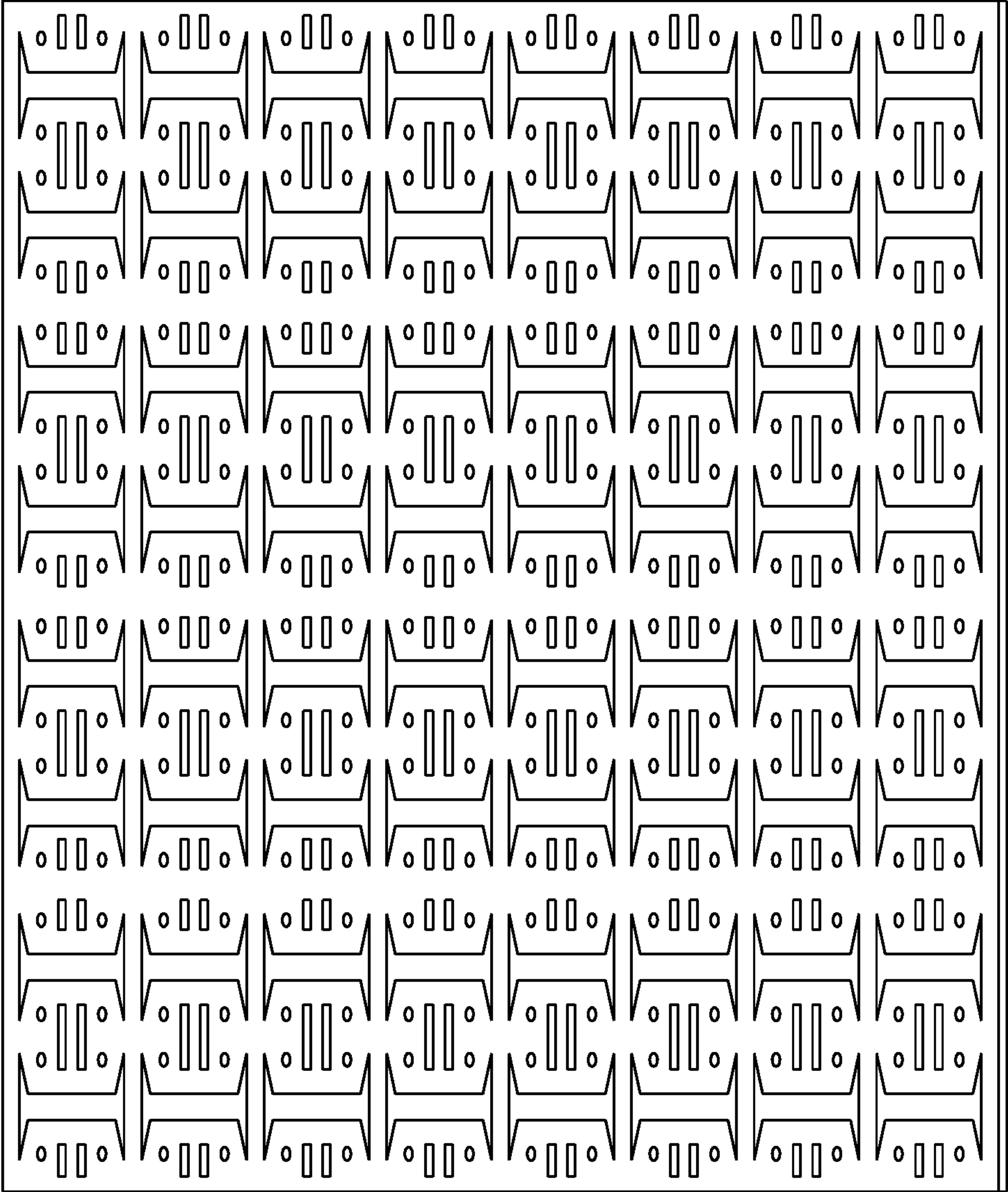


FIG. 1C

200

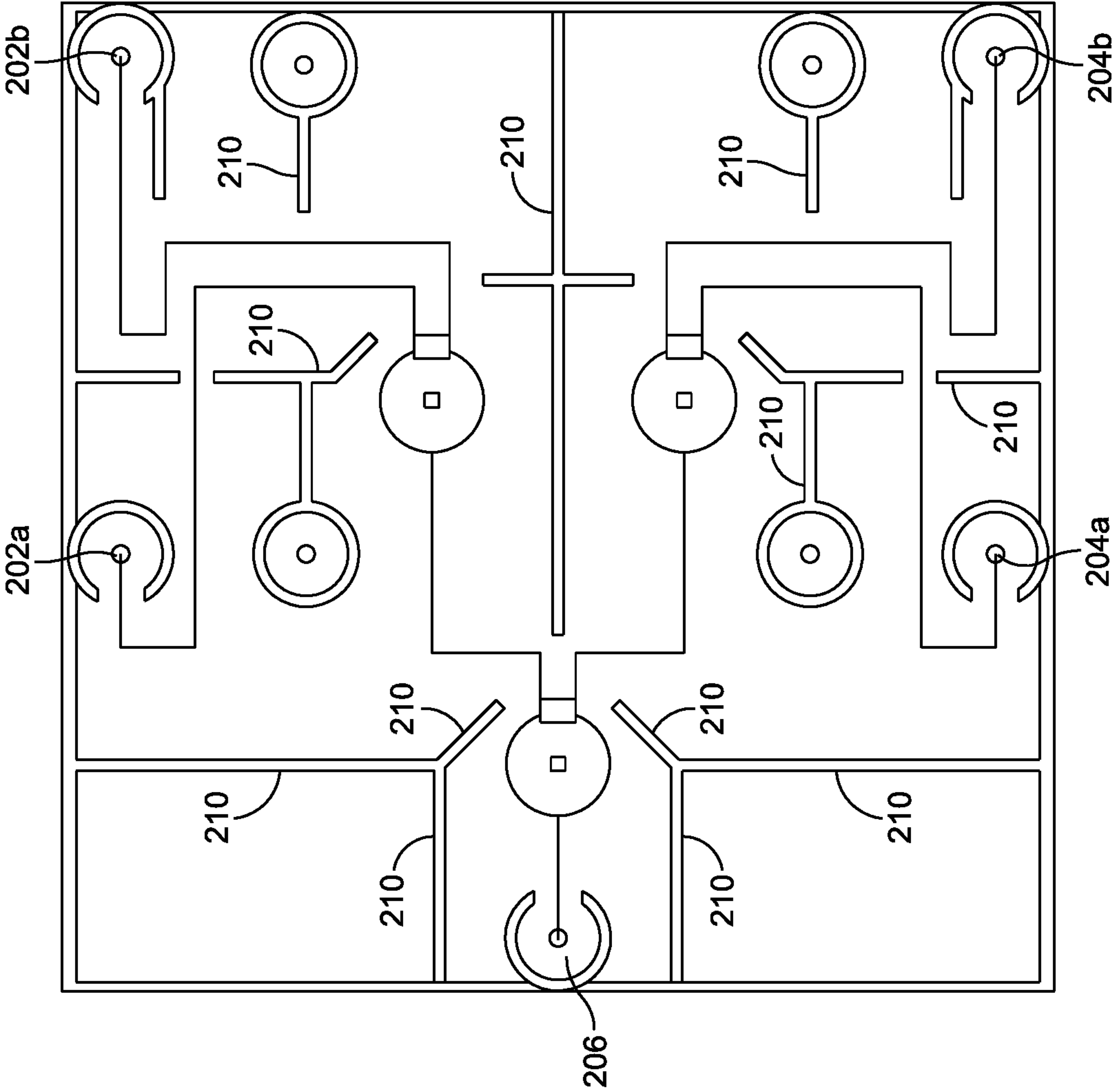


FIG. 2

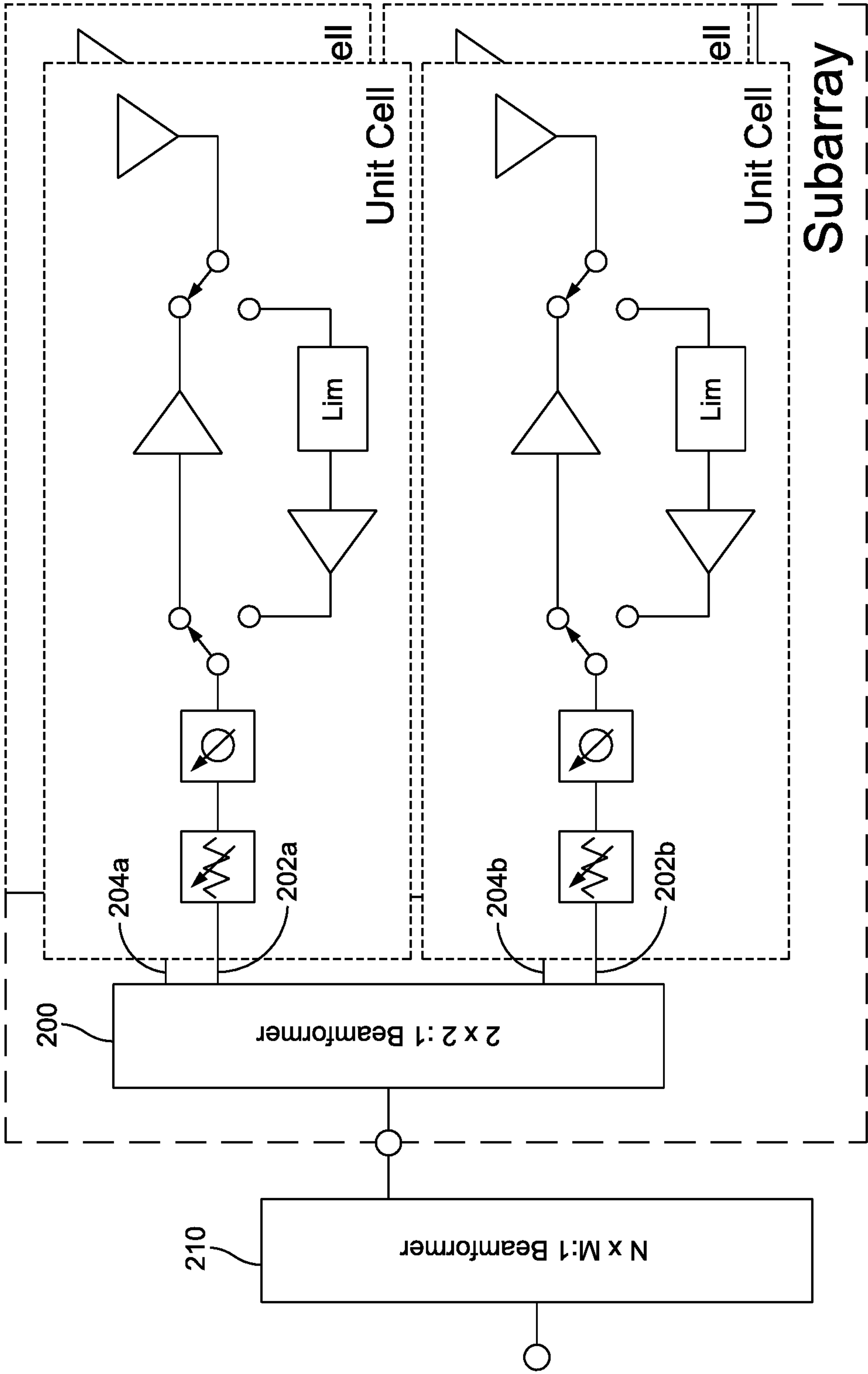


FIG. 2A

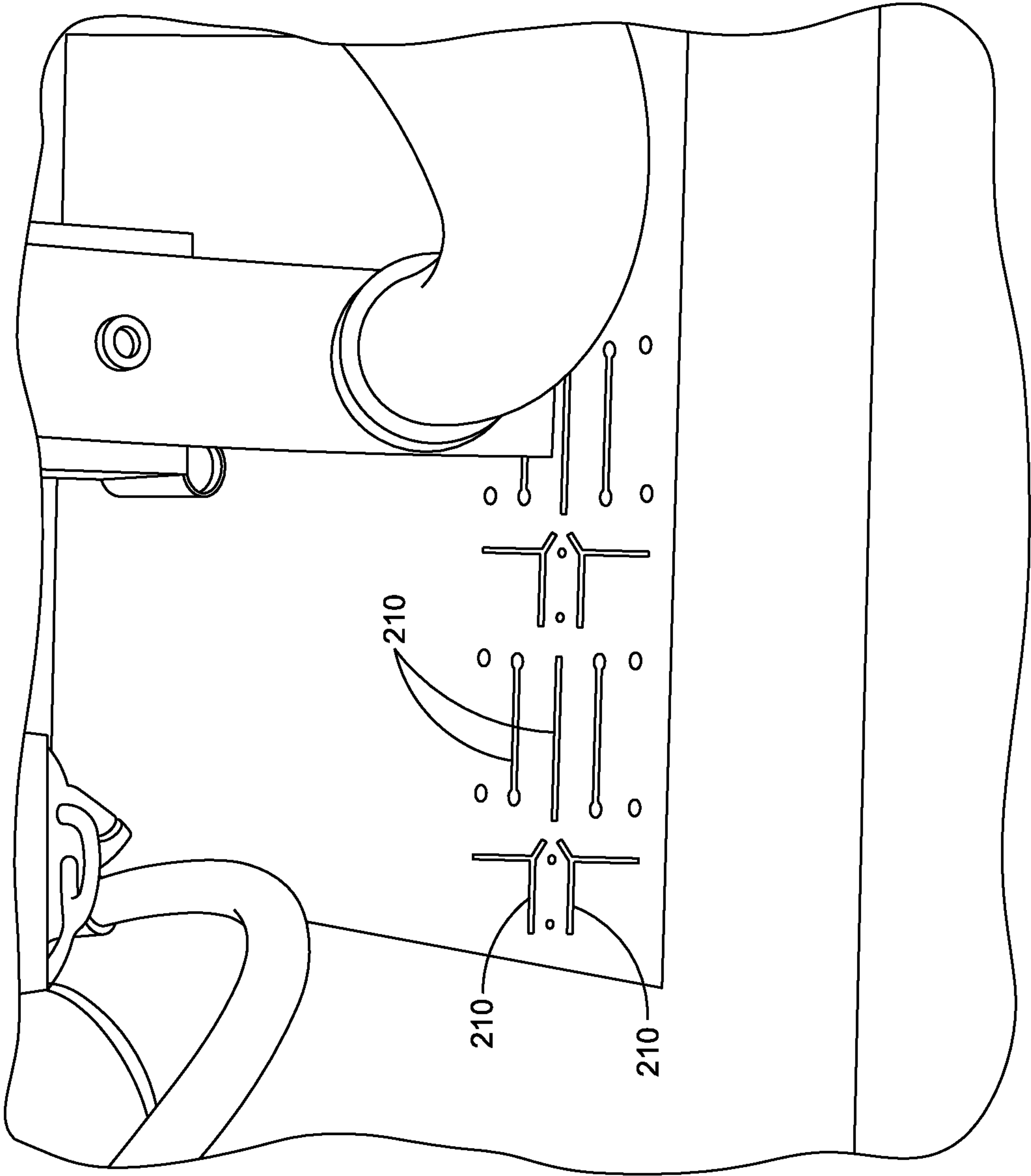


FIG. 2B

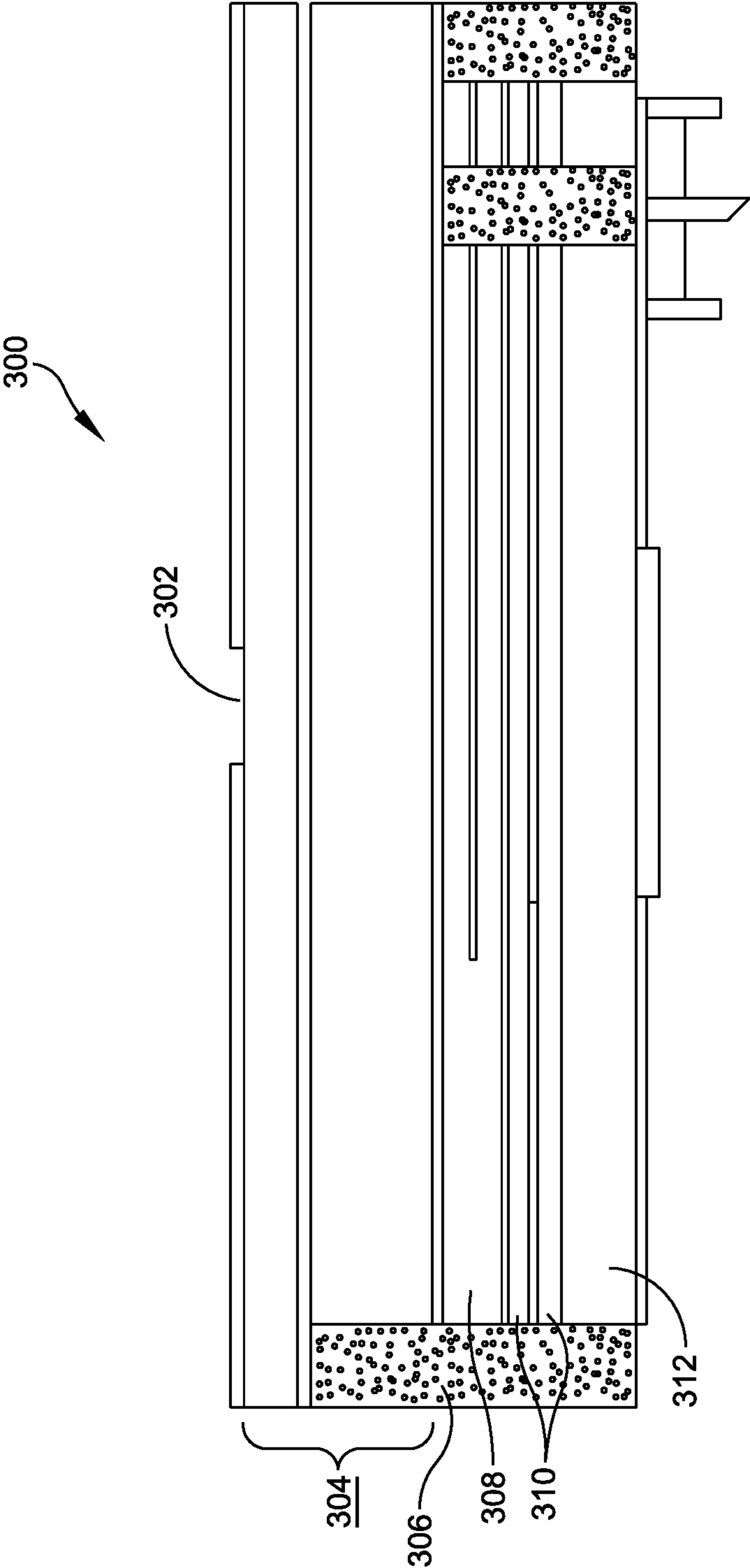


FIG. 3

| Function                   | Material      | Height (mils) |       | SubAssy (mils) |      |
|----------------------------|---------------|---------------|-------|----------------|------|
| Active Comonent Microstrip | Copper        |               | 0.7   |                |      |
| Microstrip substrate       | Taconic RF-35 |               | 5.0   |                |      |
| Microstrip Ground          | Copper        |               | 0.7   |                | 6.4  |
| DC-logic substrate (x2)    | FR-4          |               | 8.0   |                |      |
| DC-logic trace (x2)        | Copper        |               | 1.4   |                |      |
| DC-Logic Ground (x3)       | Copper        |               | 1.4   |                | 10.8 |
| Beamformer (45) ground     | Copper        |               | 0.7   |                |      |
| Bfmr (45) substrate        | Taconic RF-35 |               | 5.0   |                |      |
| Bfmr (45) trace            | Copper        |               | 0.7   |                |      |
| Bfmr (45) substrate        | Taconic RF-35 |               | 5.0   |                |      |
| Bfmr (±45) ground          | Copper        |               | 0.7   |                | 12.1 |
| Radiator Feed ground       | Copper        |               | 0.7   |                |      |
| Radiator Feed substrate    | Taconic RF-35 |               | 10.0  |                |      |
| Radiator Feed ground       | Copper        |               | 0.7   |                |      |
| Radiator substrate         | Taconic RF-35 |               | 5.0   |                |      |
| Radiator ground            | Copper        |               | 0.7   |                | 17.1 |
|                            |               |               | Total |                | 46.4 |

FIG. 4

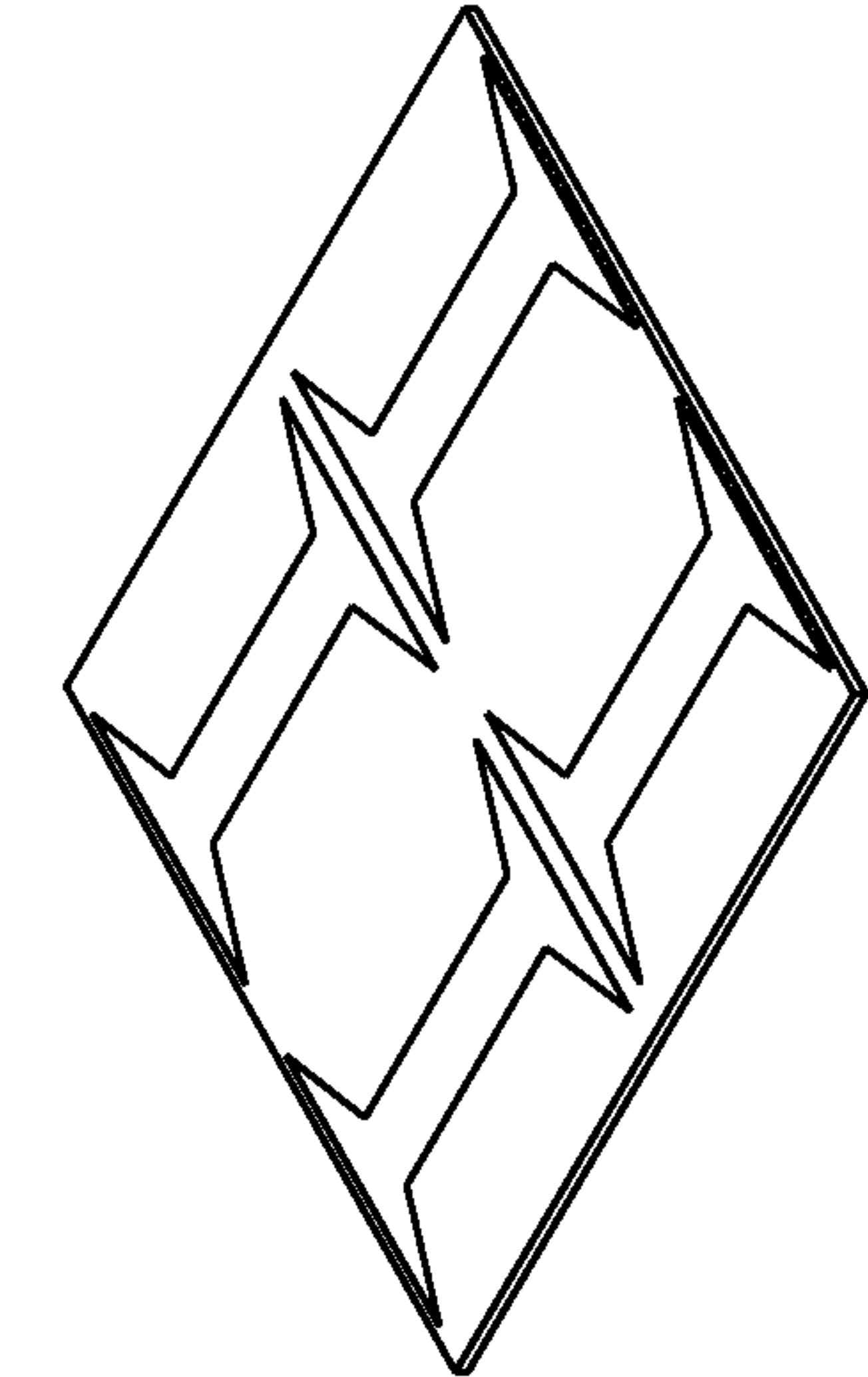


FIG. 5A

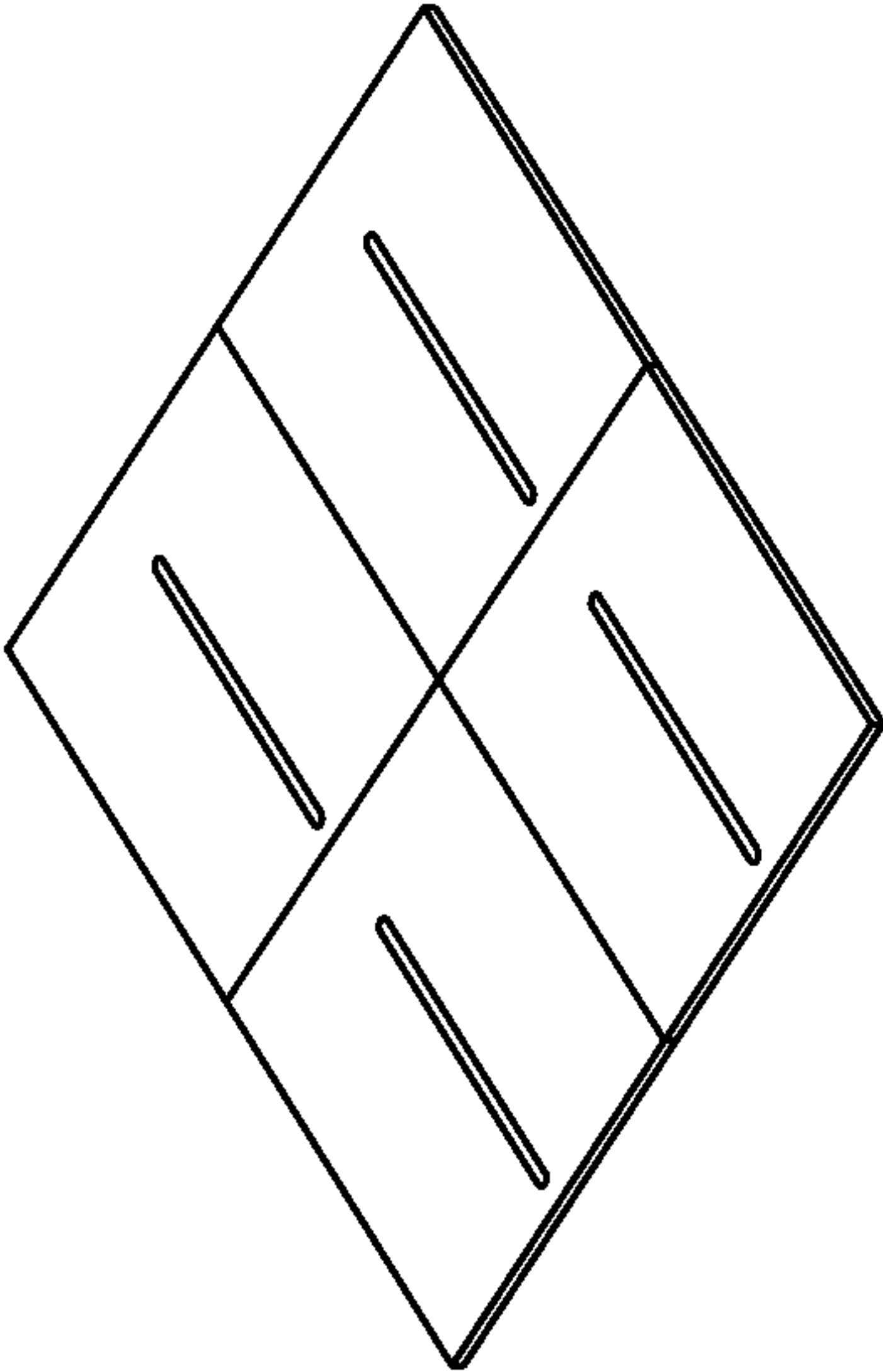


FIG. 5B

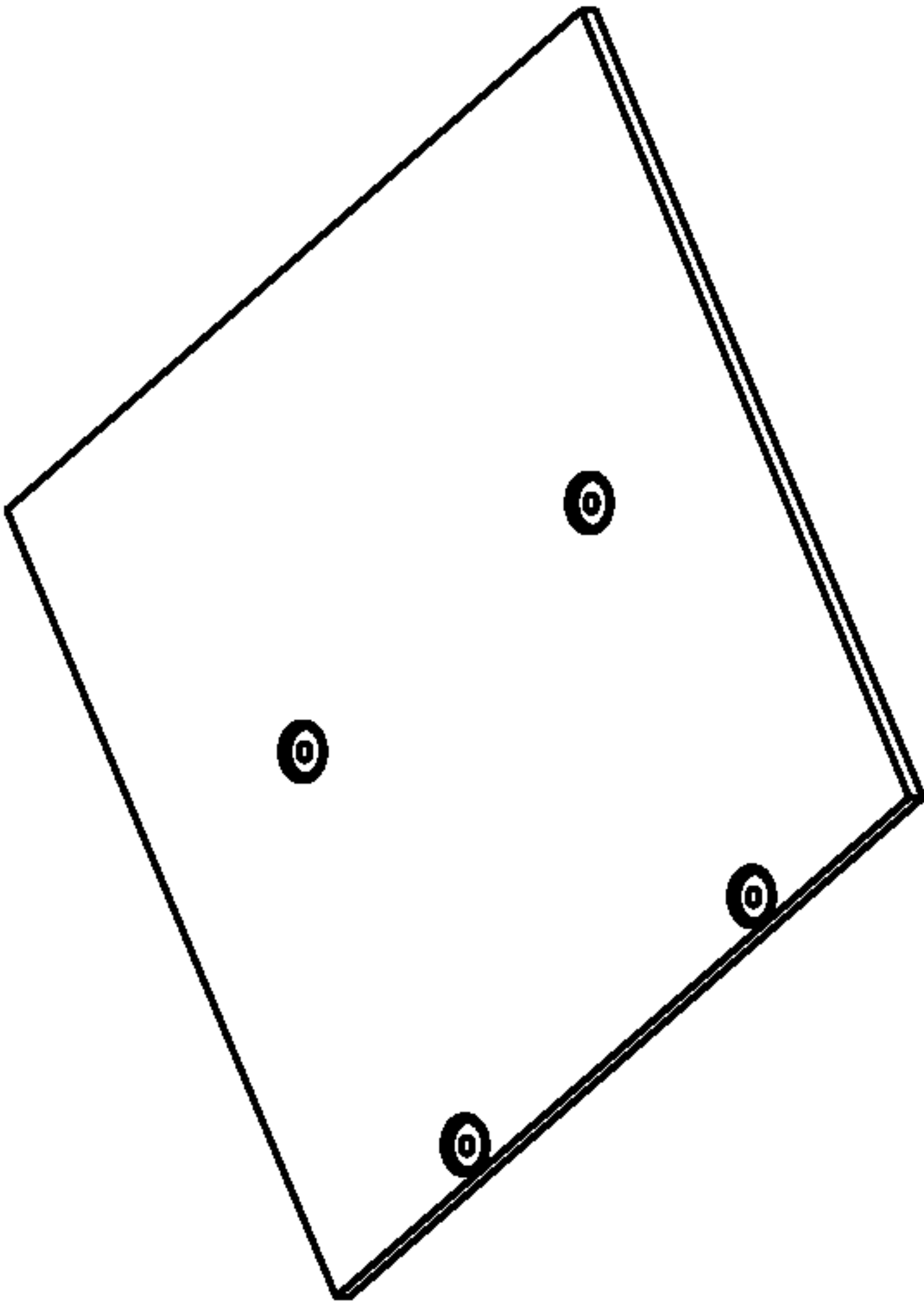


FIG. 5C

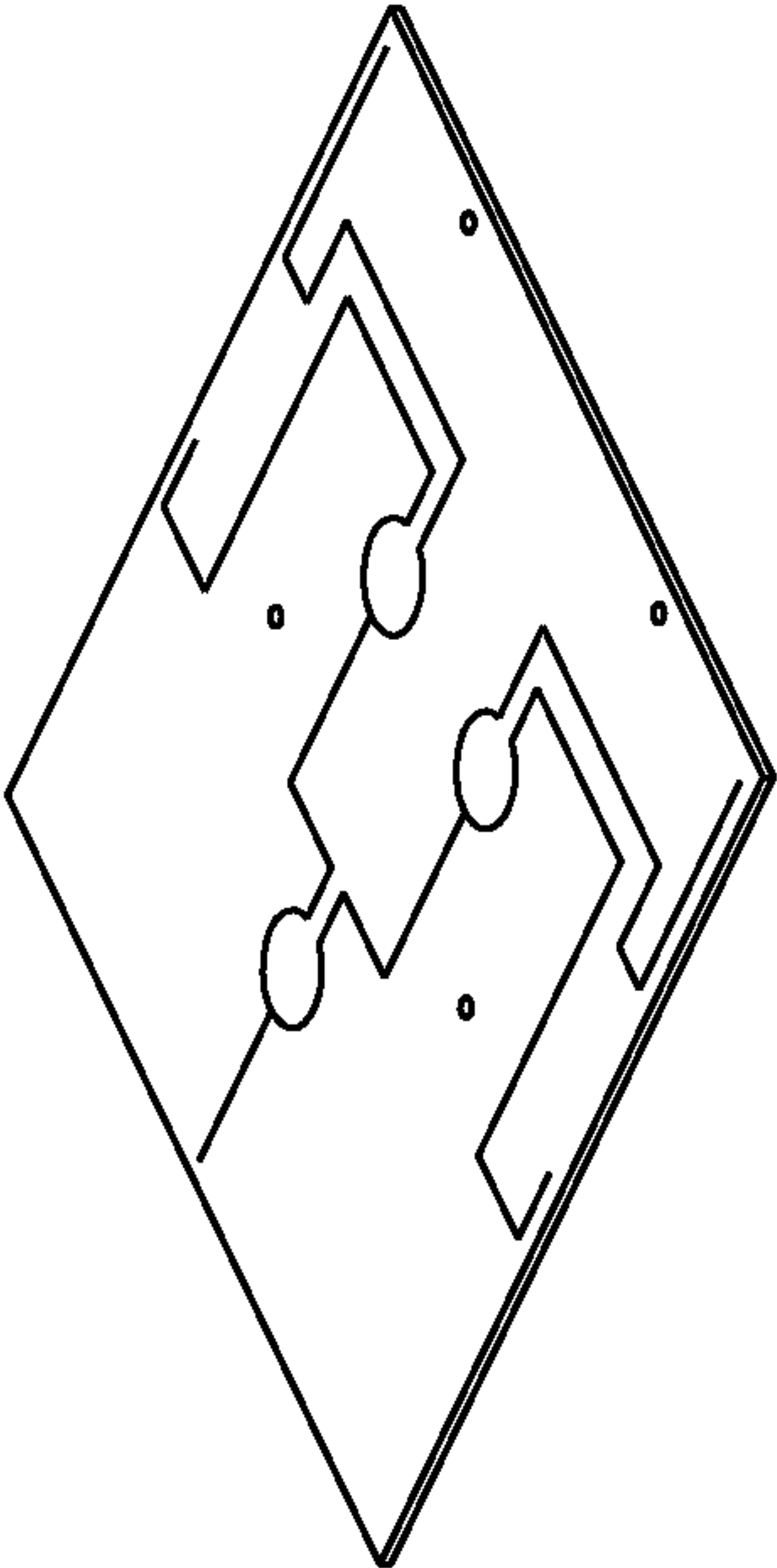


FIG. 6A

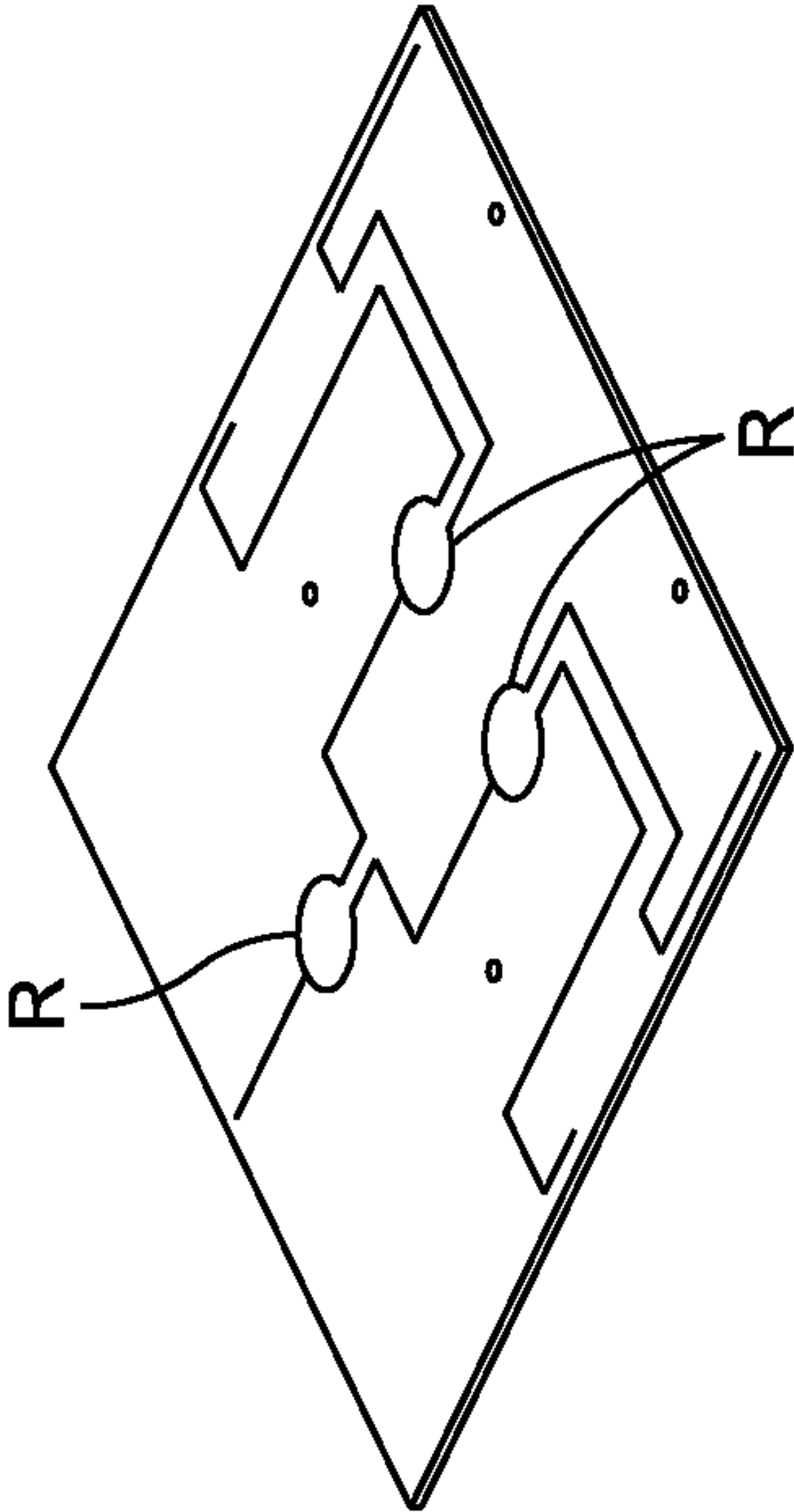


FIG. 6B

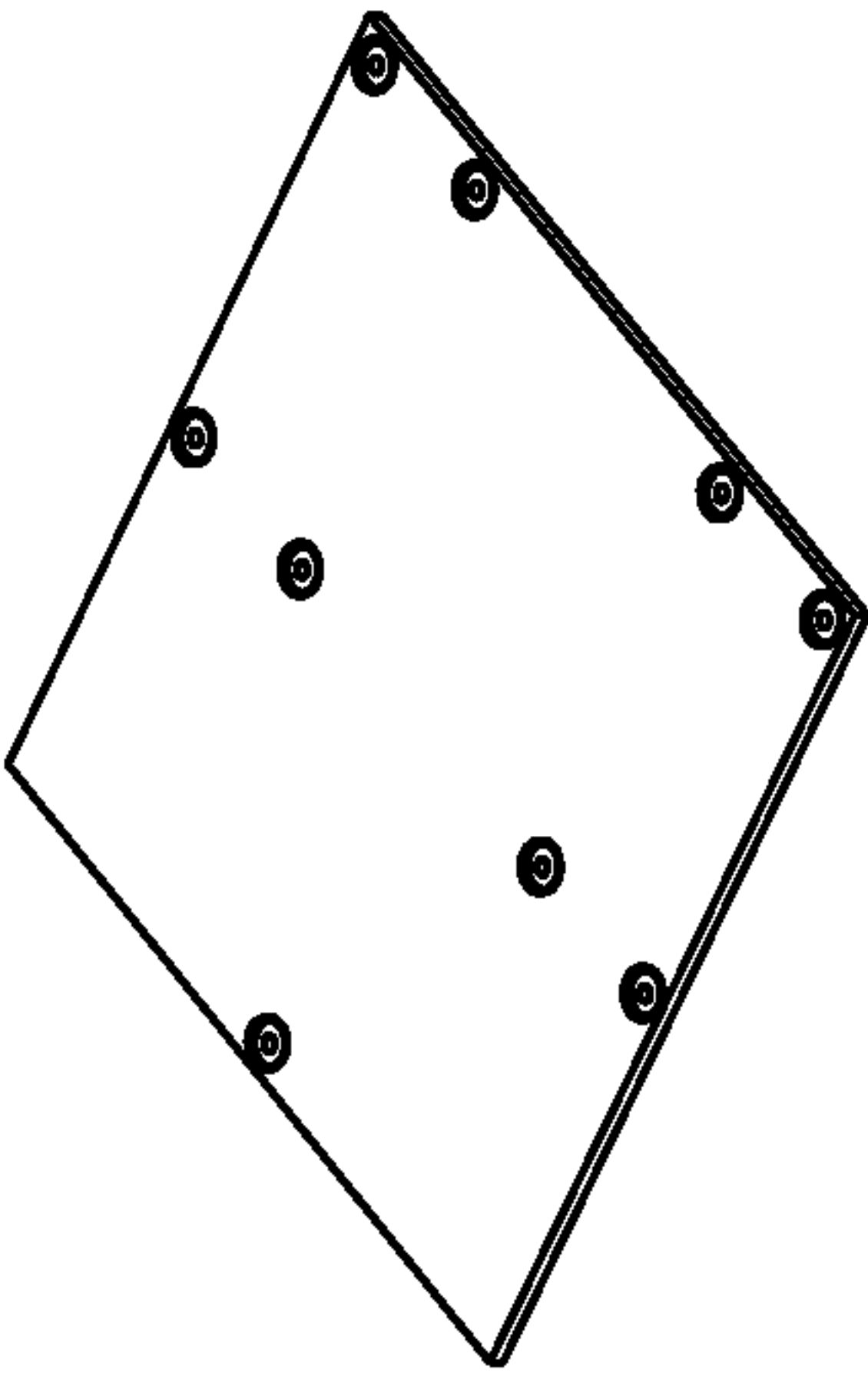


FIG. 6C

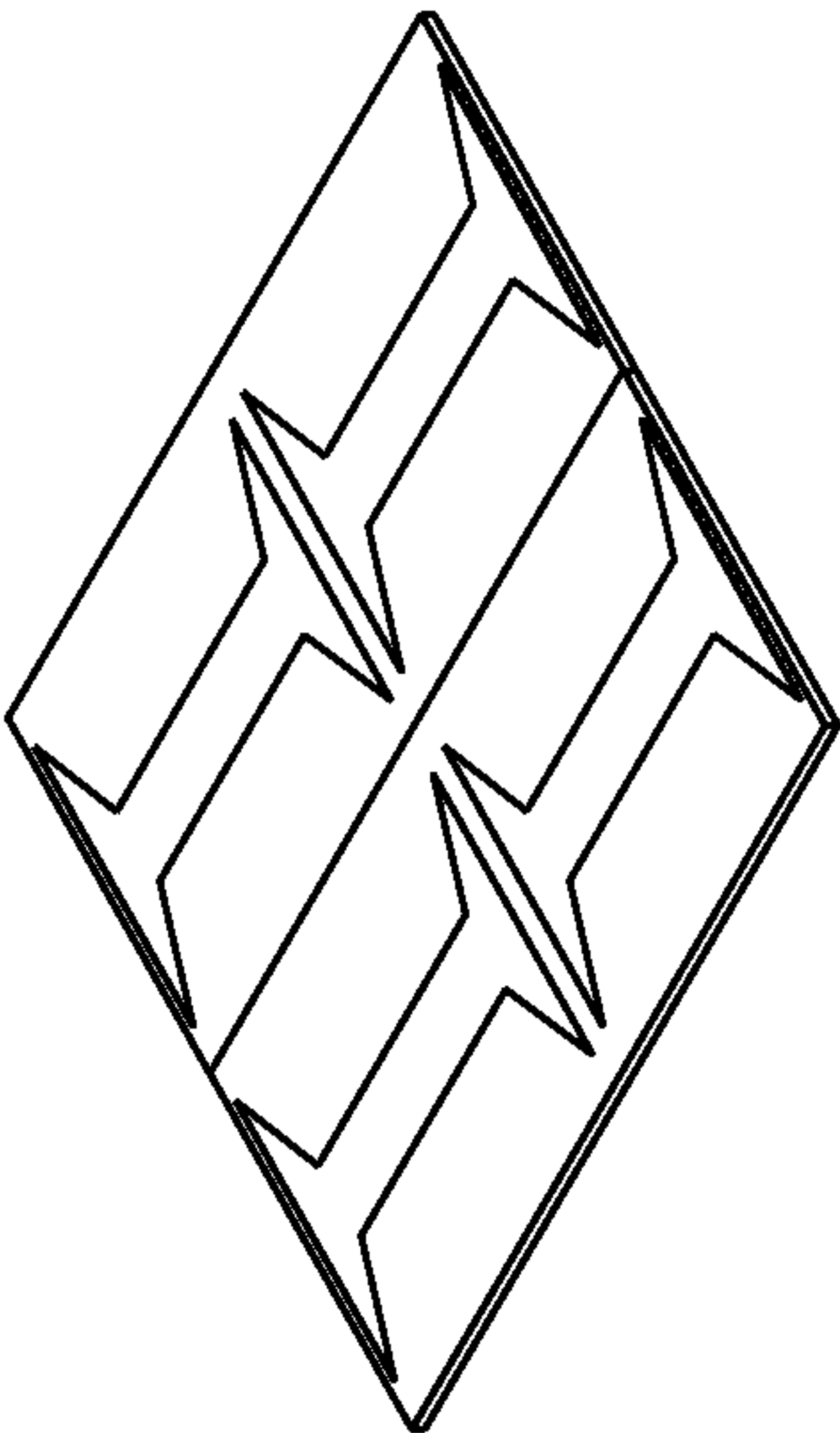


FIG. 7A

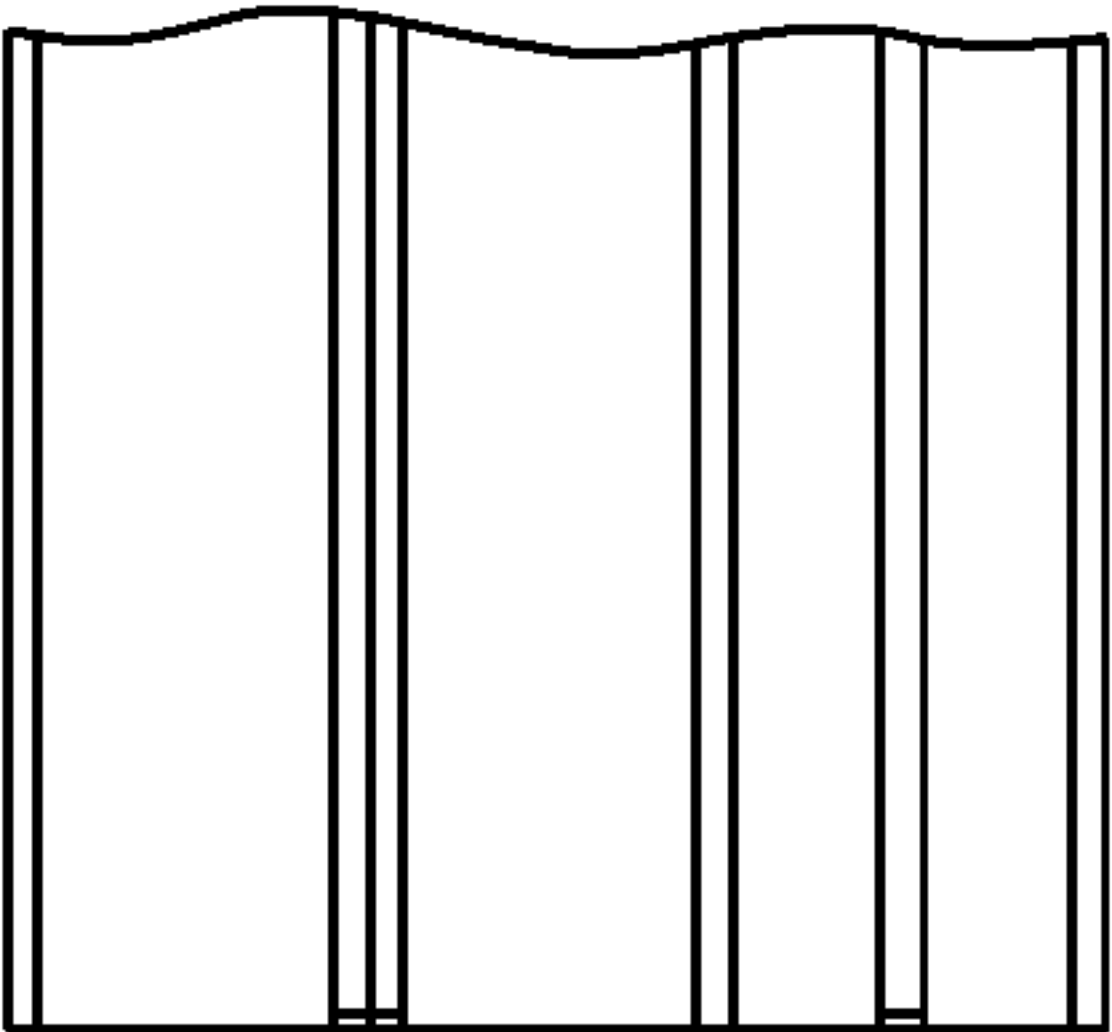


FIG. 7B

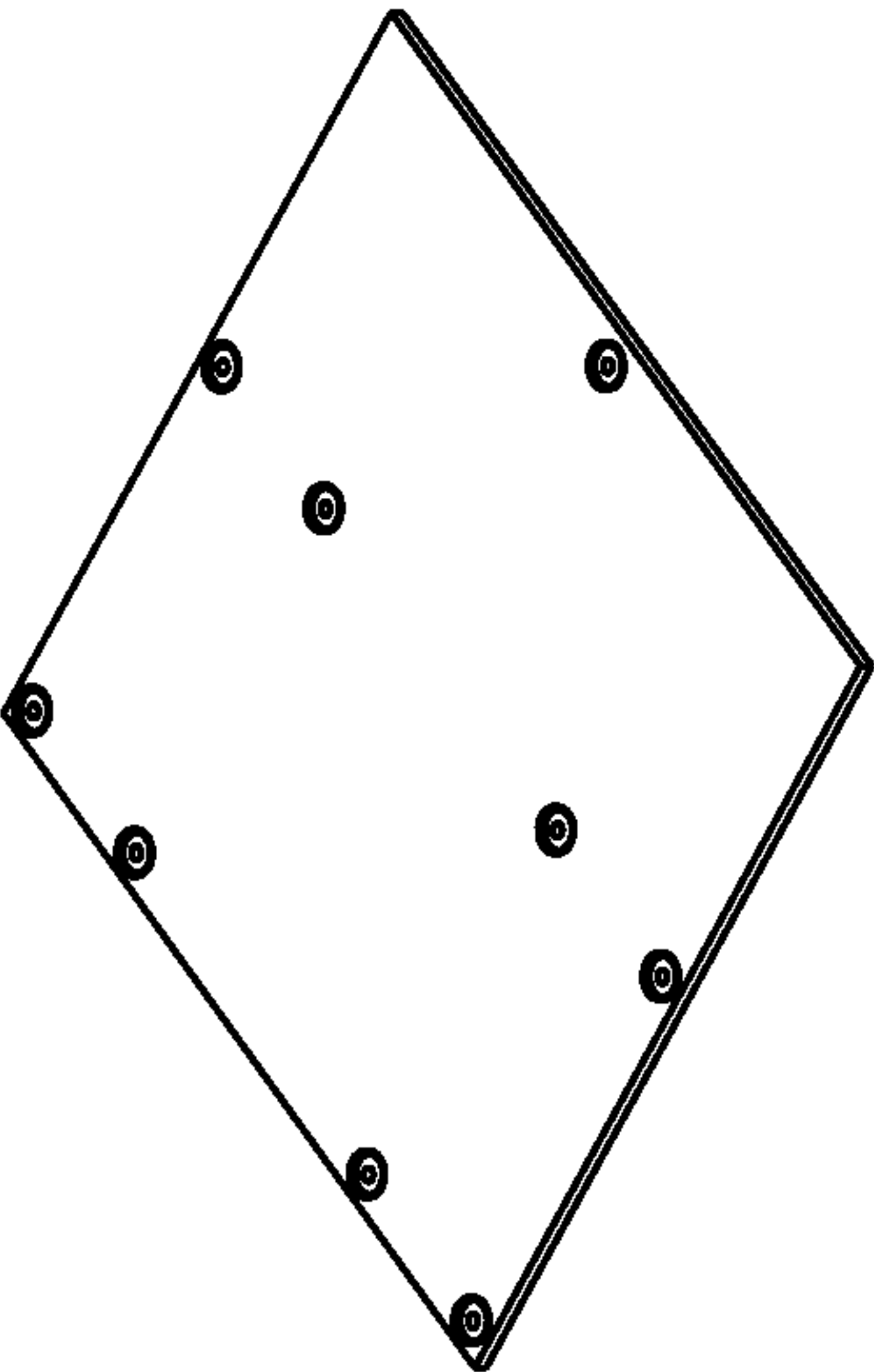


FIG. 7C

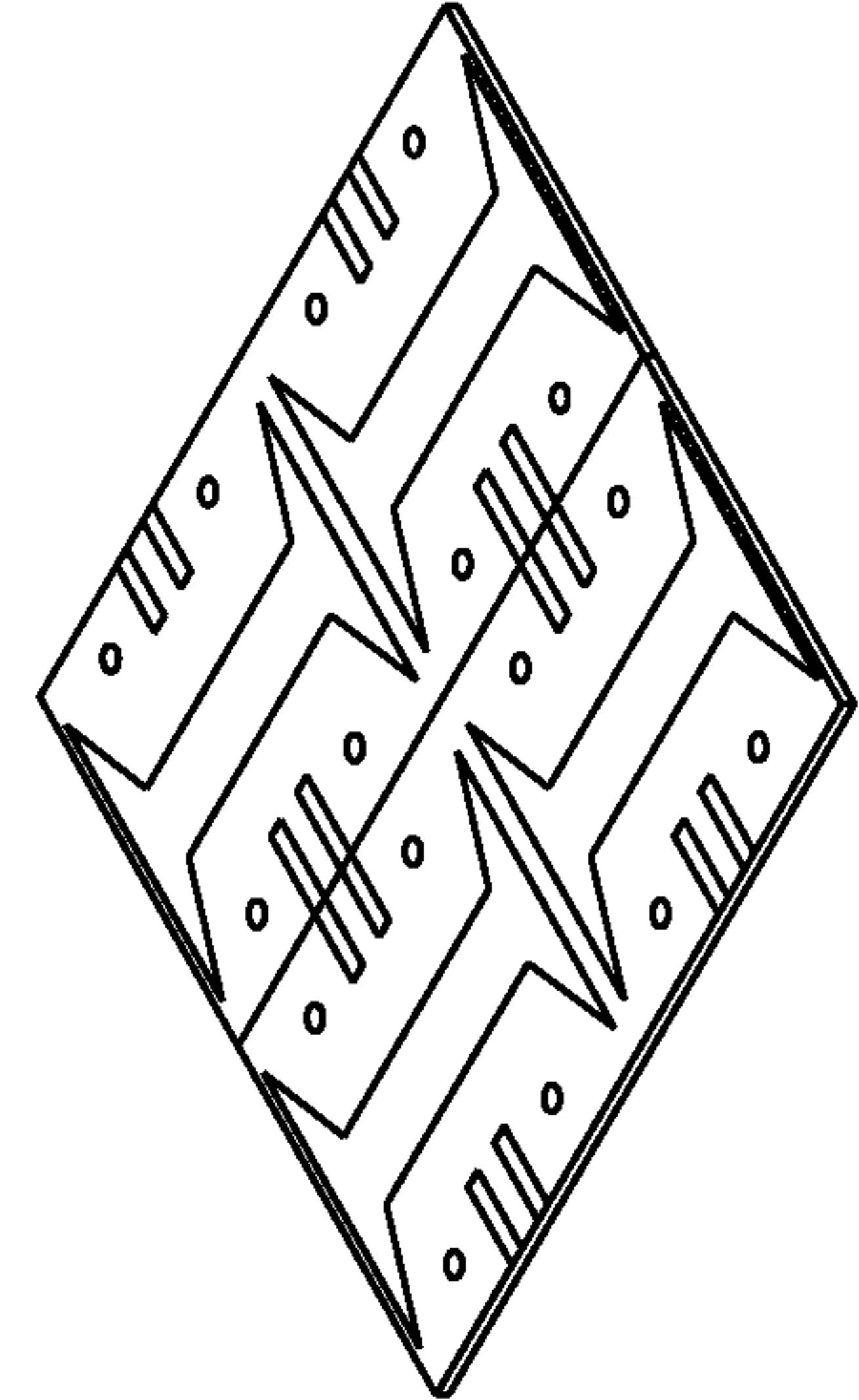


FIG. 8A

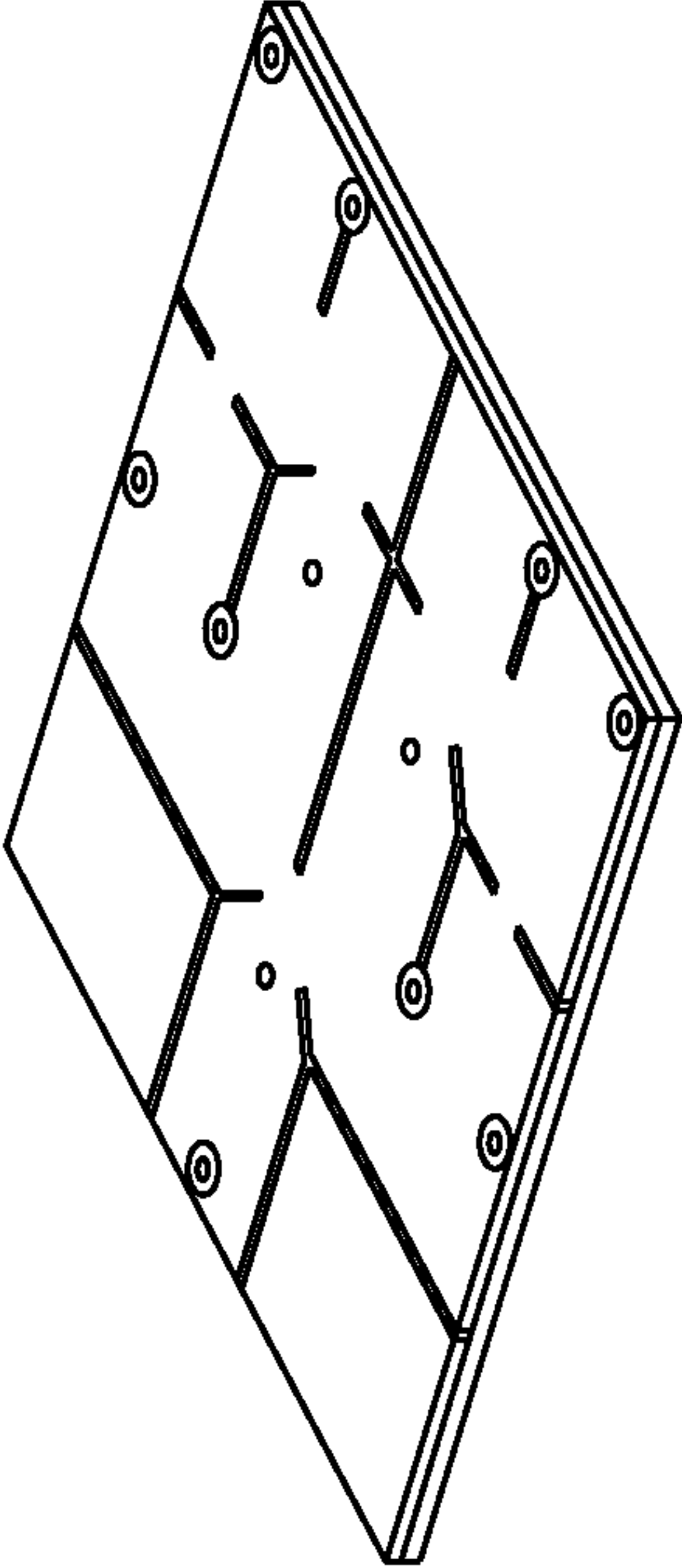


FIG. 8B

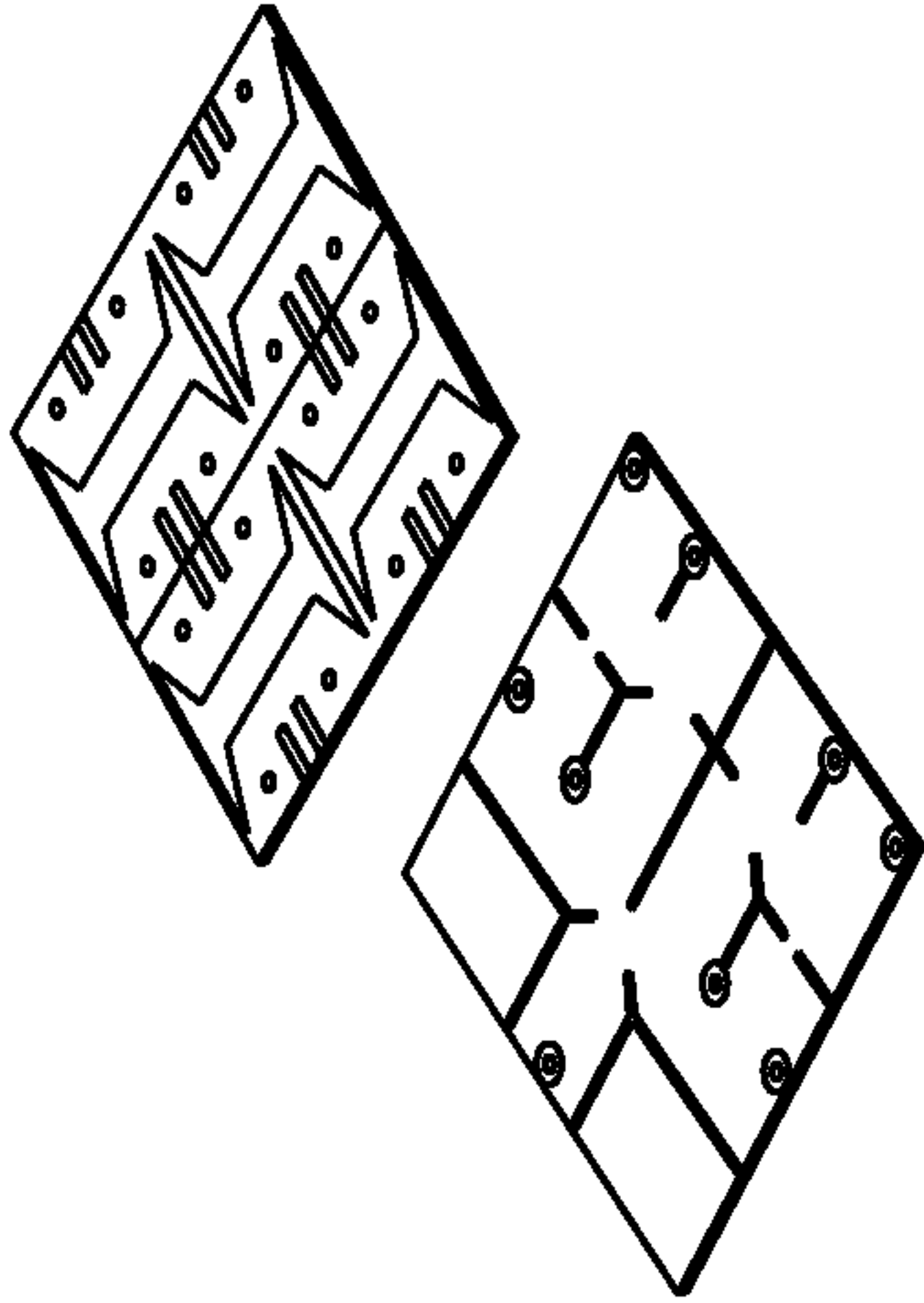


FIG. 8C

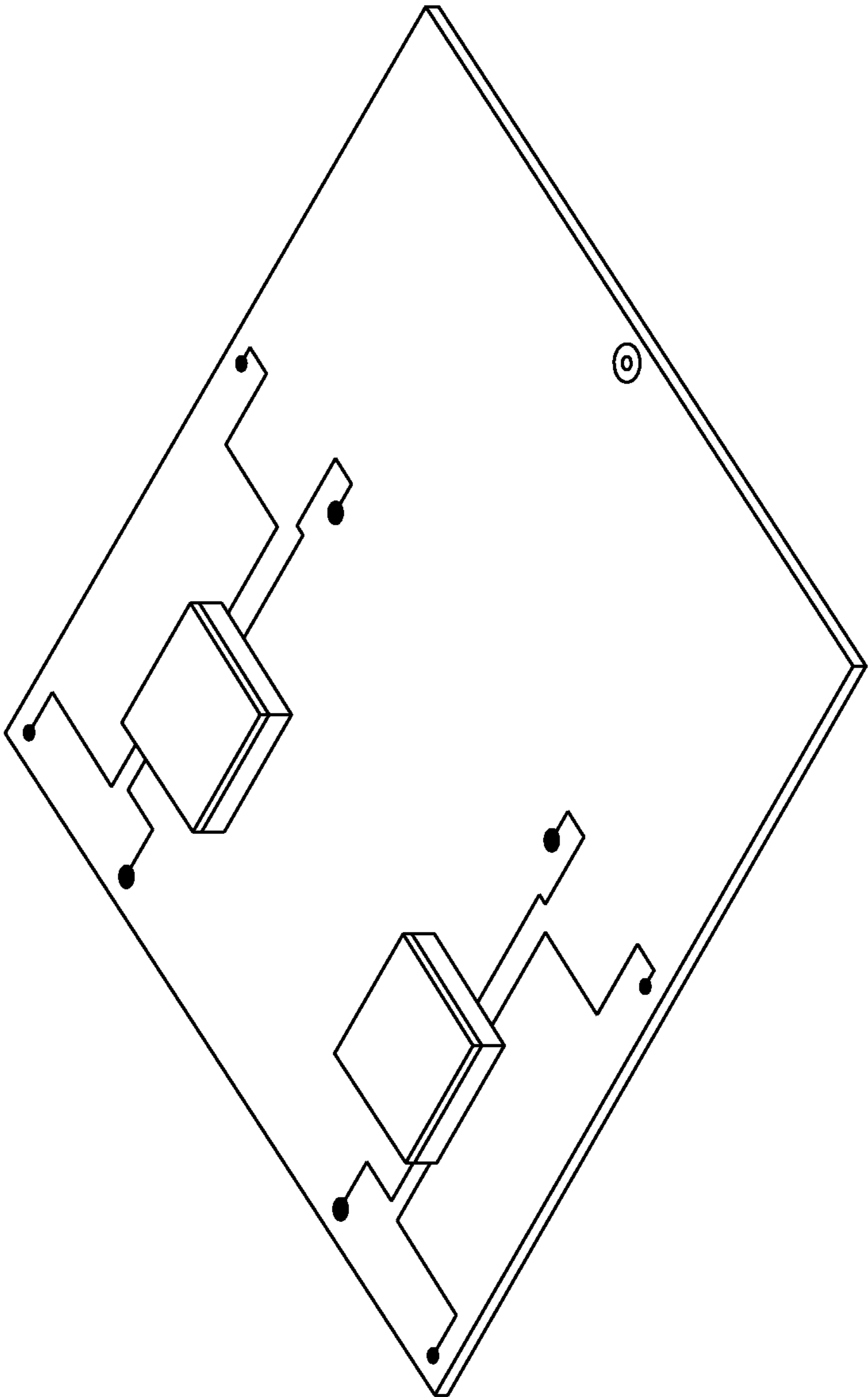


FIG. 9

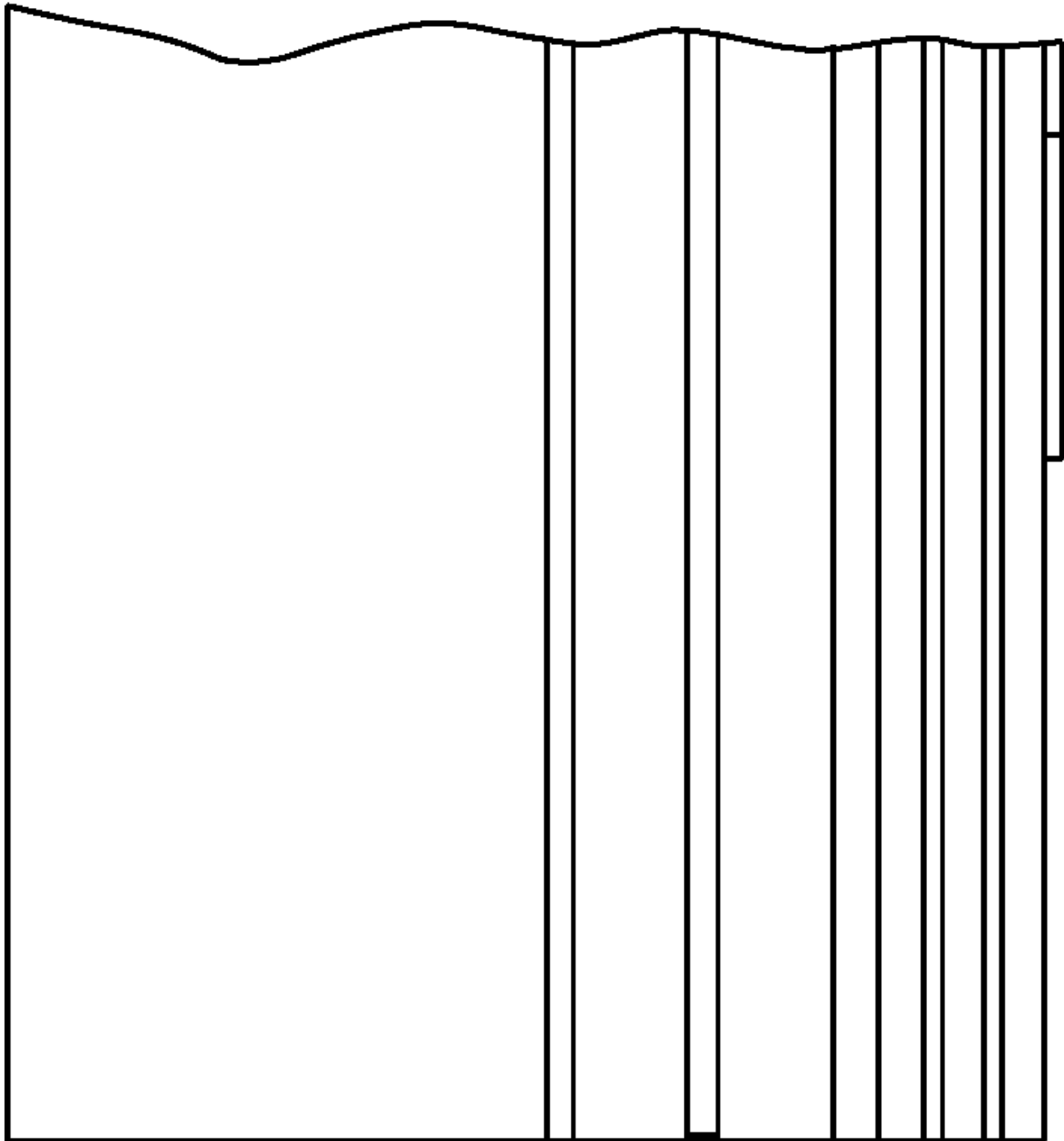


FIG. 10B

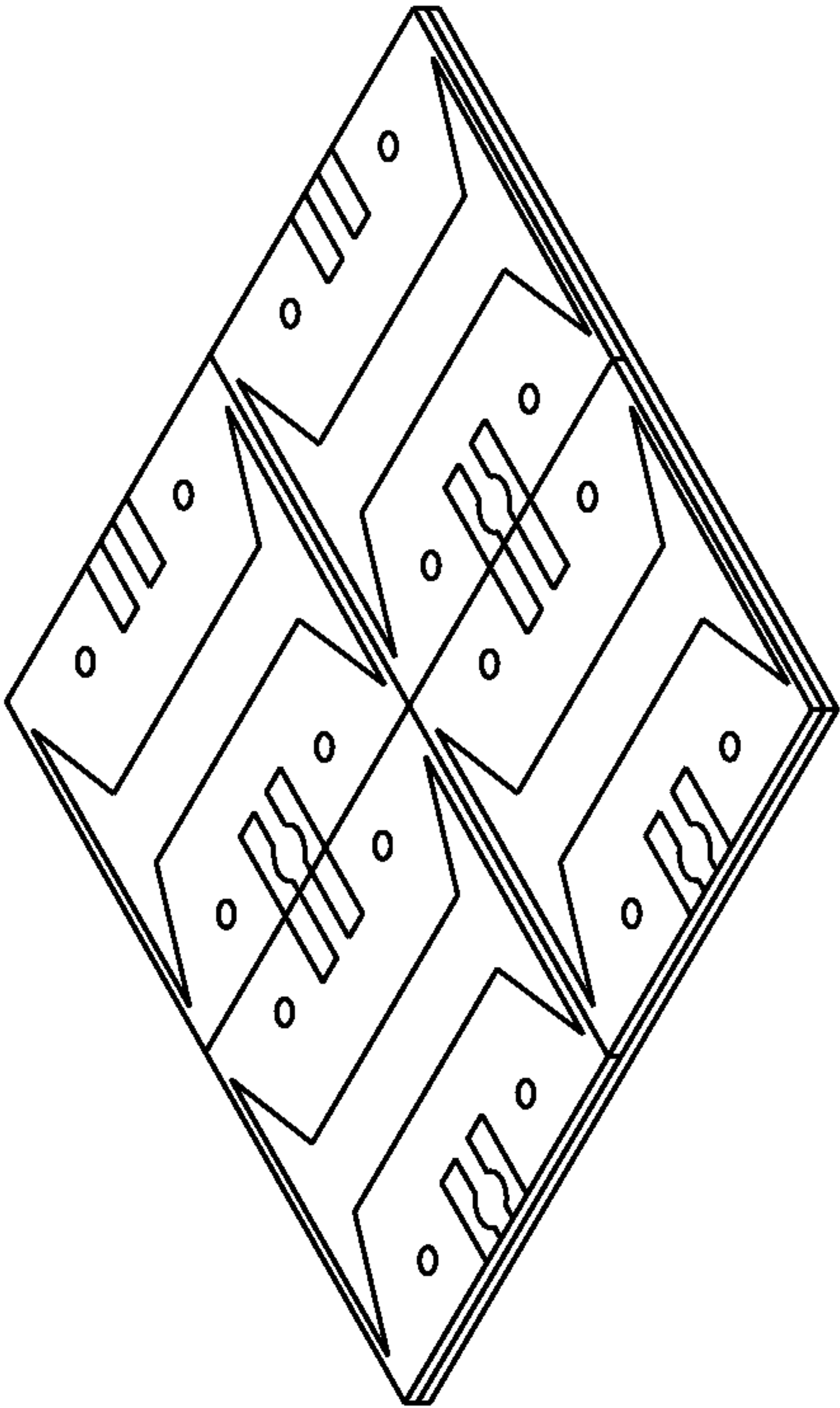


FIG. 10A

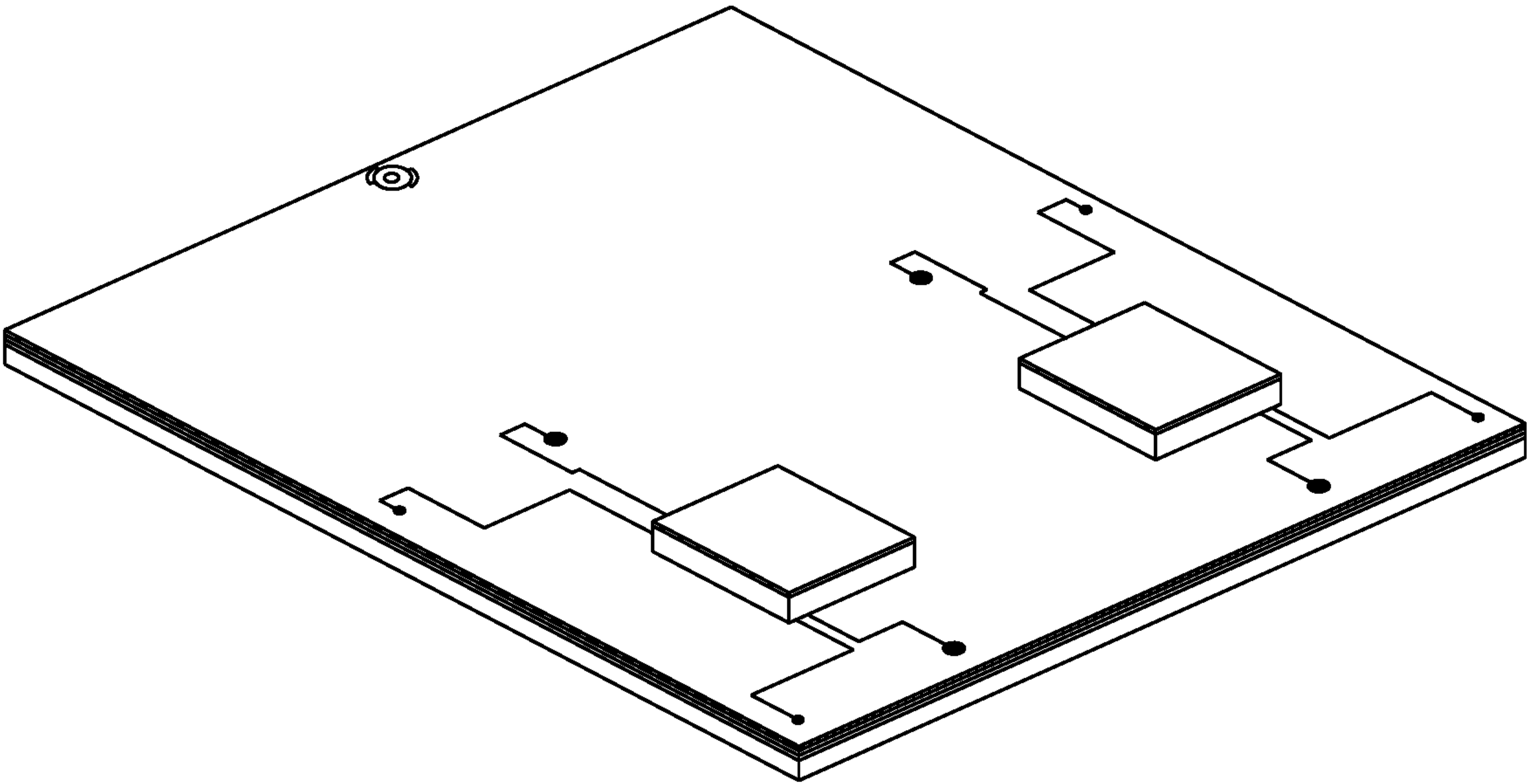


FIG. 11A

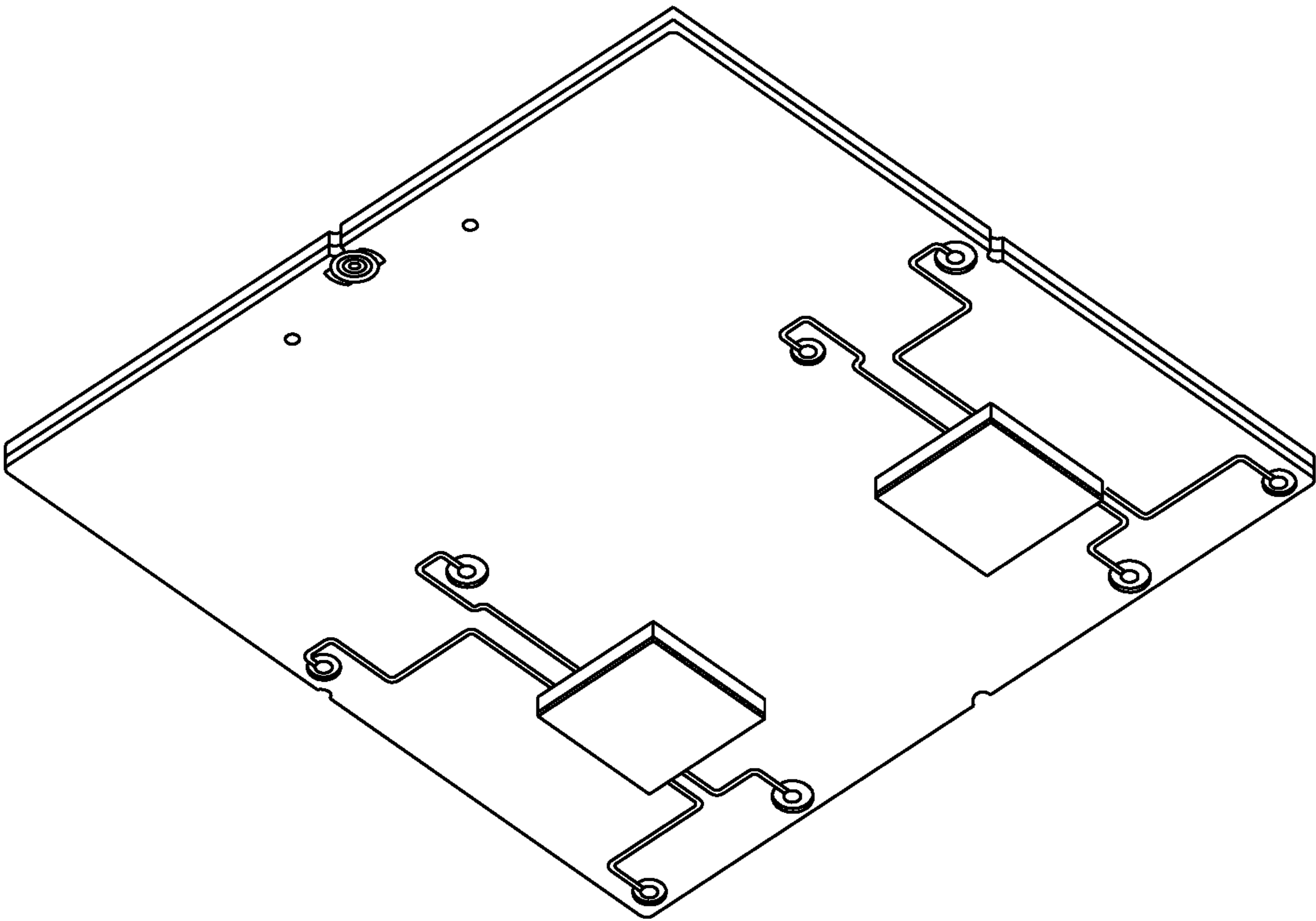


FIG. 11B

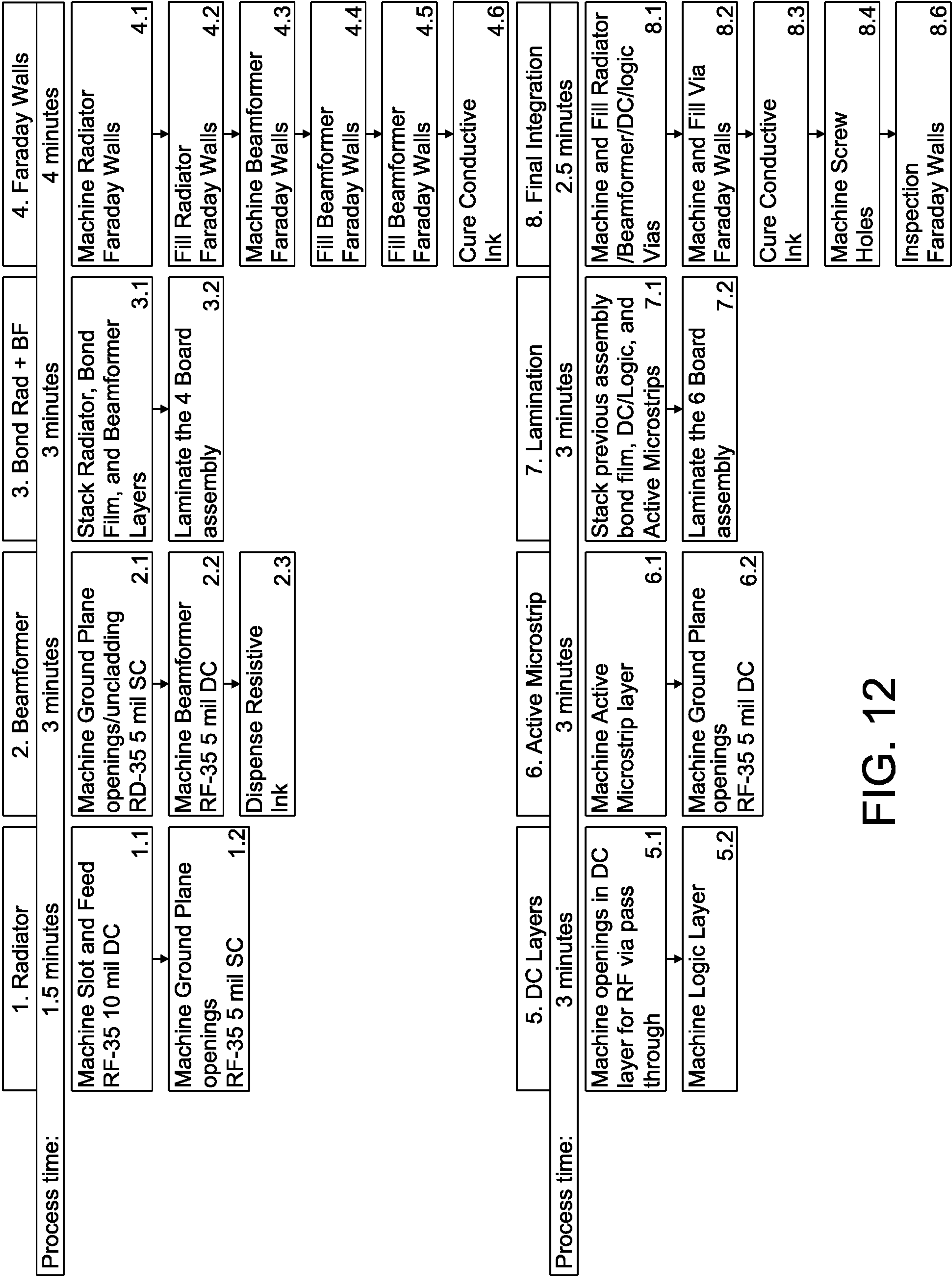


FIG. 12