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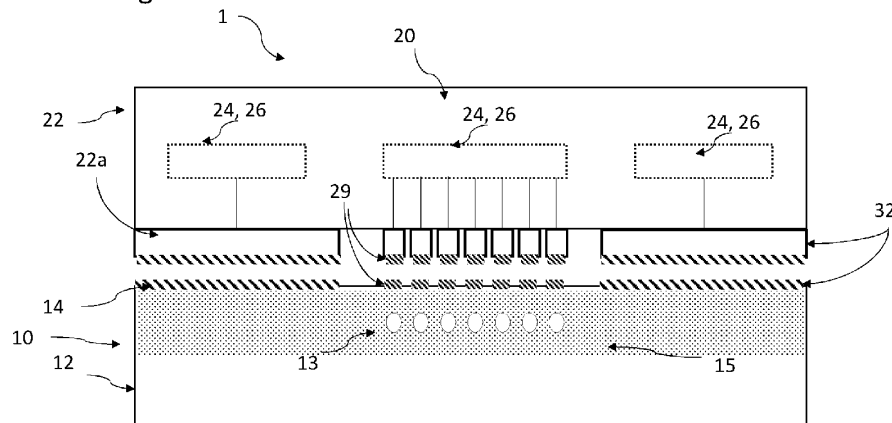
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(54) Title: FLIP CHIP ASSEMBLY

Fig. 1



(57) Abstract: A flip-chip assembly (1) of an integrated solid-state quantum circuit is disclosed. The assembly comprises a first chip (10) comprising a first semiconductor substrate (12), the first semiconductor substrate (12) comprising a plurality of spin defects (13), wherein the plurality of spin defects (13) are coupled by spin-spin interactions, and wherein the plurality of spin defects (13) host a plurality of qubits. The assembly comprises a second chip (20) comprising a second semiconductor substrate (22) bonded to the first chip (10). The second chip (20) comprises a plurality of control structures (24) and read-out structures (26) and the first semiconductor substrate (12) is a diamond substrate. The document also teaches fabrication of the flip-chip assembly.

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