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Lerche et al.

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(54) **SECURE ACTIVATION OF A DOWNHOLE DEVICE**

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Related U.S. Application Data

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E21B 43/116   (2006.01)

(52) **U.S. Cl.** **175/4.55**; 102/215

(58) **Field of Classification Search** 166/297, 166/66, 250.01, 55.1, 381, 65.1, 72; 175/4.54, 175/4.55; 102/215, 217; 361/249
See application file for complete search history.

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(57) **ABSTRACT**

A system includes a well tool for deployment in a well, a controller, and a link coupled between the controller and the well tool. The well tool comprises plural control units, each of the plural control units having a microprocessor and an initiator coupled to the microprocessor. Each microprocessor is adapted to communicate bi-directionally with the controller. The controller is adapted to send a plurality of activation commands to respective microprocessors to activate the respective control units. Each activation command containing a unique identifier corresponding to a respective control unit.

17 Claims, 4 Drawing Sheets
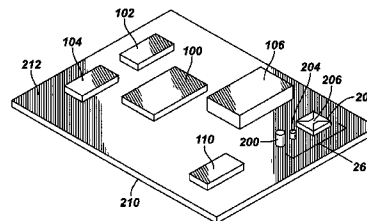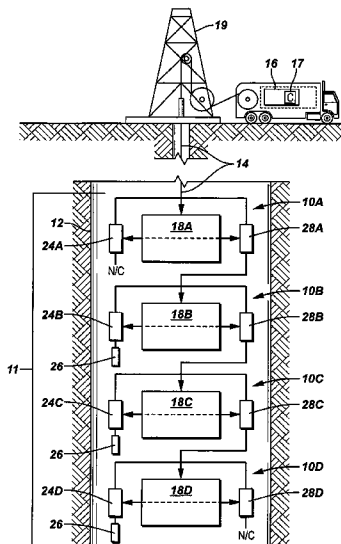
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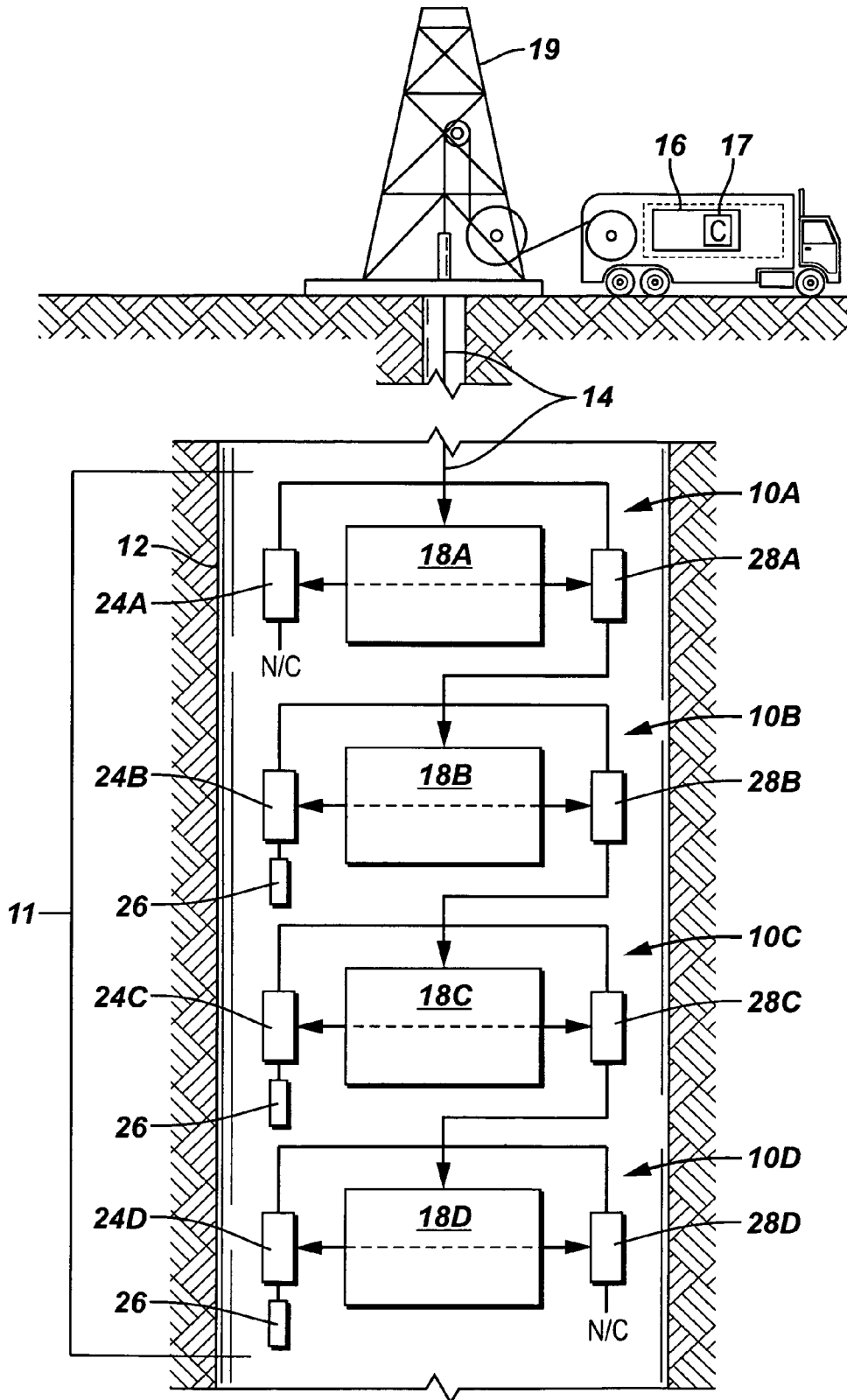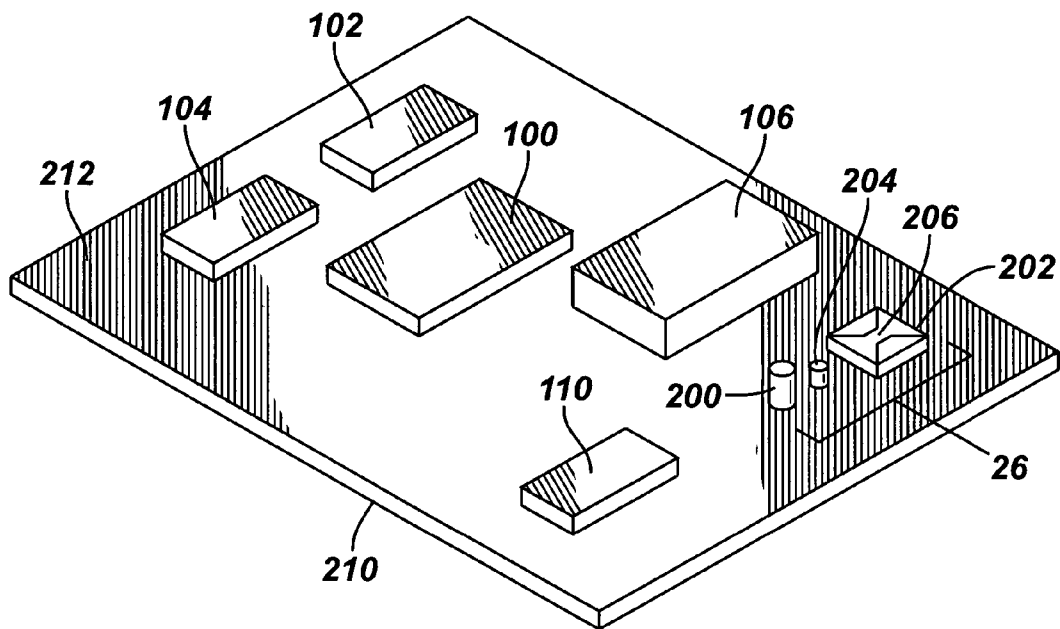
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FIG. 1

FIG. 2

FIG. 3

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