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(54) Title: NUCLEAR REACTOR, WITH CONTROL AND SHUTDOWN RODS EXTERNAL TO THE CORE AND TO ITS SUPPORTING STRUCTURES

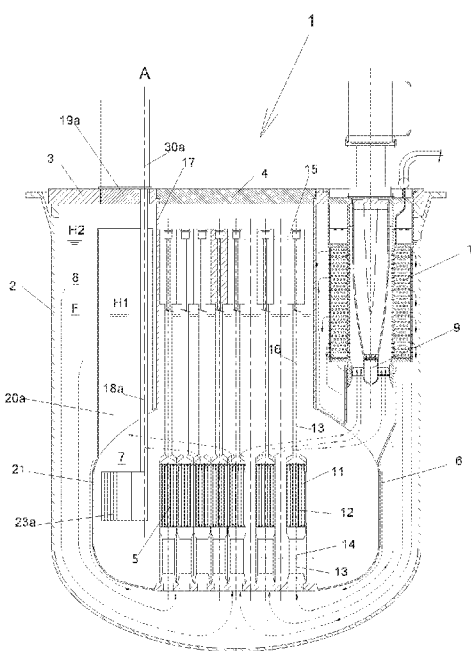


Figure 1

(57) Abstract: The invention concerns a nuclear reactor (1), comprising a vessel (2) closed at the top by a radially external fixed closing structure (3) and by a radially internal mobile closing structure (4) and containing a core (5), immersed in a primary cooling fluid (F) and comprising fuel elements (11) and control and shutdown rods (18), and a hydraulic separation structure (6) delimiting a hot manifold (7) and a cold manifold (8) in which the primary fluid (F) circulates; the control rods (18a) and shutdown rods (18b, 18c) are inserted in respective penetrations (19a, 19b, 19c) of the fixed closing structure (3) and are therefore located radially external to the mobile closing structure (4) and external to an upper portion (17) of the separation structure (6) containing respective heads (15) of the fuel elements (12).



WO 2017/191598 A8

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