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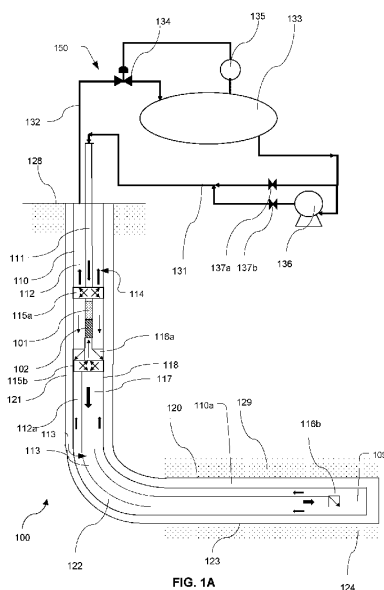
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(54) **Title:** APPARATUS AND METHODS FOR PRODUCING ELECTRICITY USING GEOTHERMAL ENERGY

(57) **Abstract:** A geothermal power system is disclosed. The system comprises a downhole turbine configured to operate within a wellbore and a downhole electrical generator configured to be driven by the turbine. A channel facilitates flow of a working fluid through the turbine. The channel has a feed portion allowing the working fluid to flow in a direction away from the surface and a return portion allowing the working fluid to flow in a direction towards the surface. A surface structure is in fluid communication with the feed portion and the return portion to circulate the working fluid through the channel.



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