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(54) Title: STEPPED BALANCE RING FOR A SUBMERSIBLE WELL PUMP

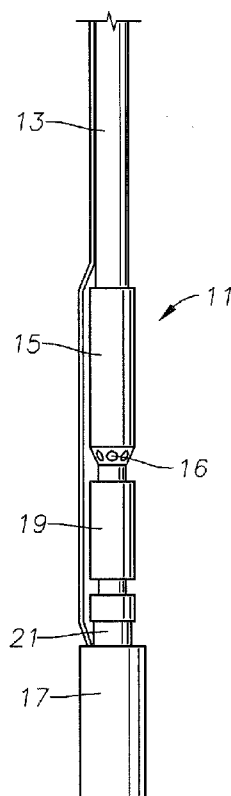


FIG. 1

(57) Abstract: An electrical submersible pump assembly includes a centrifugal pump having stages. Each of the stages has an impeller in cooperative engagement with a downstream diffuser. The impeller is axially movable relative to the downstream diffuser between a downthrust and an upthrust position. The downstream diffuser has an annular downstream wall surface, relative to the impeller, defining a downstream cavity. The impeller has a downstream balance ring that locates alongside the downstream wall surface. An annular clearance between the downstream balance ring and the downstream wall surface increases in response to the impeller moving from the downthrust to the upthrust position.



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