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Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

[Continued on next page]

(54) **Title**: INTELLIGENT WELLHEAD RUNNING SYSTEM AND RUNNING TOOL

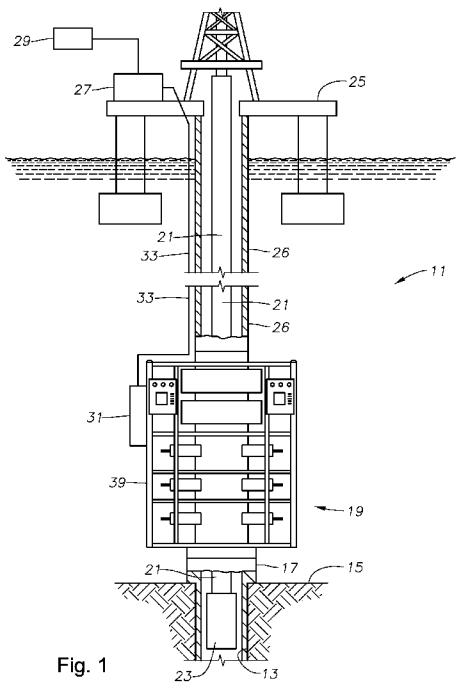

Fig. 1

(57) **Abstract**: Systems and methods communicating between a subsea running tool (23) disposed within a subsea wellhead (17), a blowout preventer assembly (19), and/or a subsea tree, and a surface platform (25) are provided. An example of such a system includes a running tool assembly. The running tool assembly can include a running tool and a running tool wireless interface (51) carried by the running tool. Wireless interface is configured to communicate running tool sensor data to a blowout preventer assembly wireless interface (45) through a fluid medium located between the running tool wireless interface and a blowout preventer assembly wireless interface when the running tool is operably positioned within a bore extending through a component of the blowout preventer assembly or a bore extending through the subsea wellhead. The wireless communications scheme for communicating with a sensor data can include radiofrequency communications through the fluid medium between antenna components thereof, mutual inductive coupling, backscatter coupling, and/or capacitive coupling.

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