This Sheet Has Been Replaced

ABSTRACT

APPARATUS FOR ACTUATING SLIDING MEMBER OF DOWNHOLE TOOL

Apparatus for actuating a sliding member in a downhole tool such as a casing valve, which may be in a coiled tubing operated full opening completion tool system, comprises an inner mandrel (208); operating means (210) for selectively operably engaging the sliding member (158) of the well tool, in response to longitudinally reciprocating motion of said inner mandrel (208), said operating means (210) comprising radially outwardly biased engagement means (248) for automatically engaging the sliding member (158) of the well tool when aligned therewith and for longitudinally actuating said sliding member (158) in response to further longitudinally reciprocating motion of said inner mandrel (208); and hydraulic actuating means for providing said reciprocating motion of said inner mandrel (208) in response to a fluid pressure in said inner mandrel (208). The tool system can comprise a completion tool, such as a casing valve (24), and an apparatus of the invention which is a positioner tool (44) for opening and closing a sliding sleeve (158) in the casing valve. A hydraulically actuated operating cylinder section, including opening (78) and closing (80) cylinder sections, is used to actuate the positioner tool (44) to open and close the casing valve sleeve (158). Hydraulic slips (62) lock the tool in position in the well bore during actuation.

FIGS. 1 AND 2A-2J