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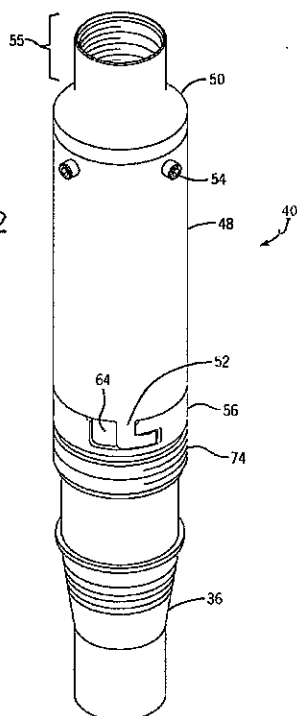
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(54) Title: POSITIVE LOCKED SLIM HOLE SUSPENSION AND SEALING SYSTEM WITH SINGLE TRIP DEPLOYMENT
AND RETRIEVABLE TOOL

FIG. 12



(57) Abstract: A tool is provided for installing a mandrel in a wellhead assembly. The tool includes an assembly having multiple independently translatable and rotatable members. The tool includes an inner member disposed in an inner sleeve. The inner member may be disposed in a first position and second position, such that in the first position the inner sleeve freely rotates and in the second position rotation of the inner sleeve causes rotation of the inner member. An outer sleeve is disposed over the inner sleeve and may be coupled to a hold down ring. The inner member may be coupled to mandrel. The tool may be inserted into a wellhead assembly and the outer rotated to engage the hold down ring, the inner and outer sleeve may be translated axially to allow rotation of the inner member to disengage the tool from the mandrel.



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