ABSTRACT OF THE DISCLOSURE

REMOTELY DEPLOYABLE LANDING SHOULDER

A landing shoulder is provided on a series of collets extending from a frangible ring. The collets are biased into a groove which is itself in a recess in the wellhead housing. Deployment of the landing shoulder in its retracted position allows an additional string of casing to be run which is nominally close to the inside seal bore diameter of the wellhead housing. The ability to add an additional casing string on a wellhead housing of a particular size allows isolation of water-producing zones near the surface in a cost-effective manner where mud used to control water production is recovered. In a subsequent trip after the large casing is hung below the body, a setting tool engages the rings supporting the collets defining the landing shoulder. The hydraulic pressure built up in the setting tool actuates a piston to break a portion of the ring supporting the collets so that they are driven and locked down in a set position where they define a landing shoulder in the bore for a subsequent run of casing. The actuation is done in the manner to give surface personnel a signal that the collets have been actuated into position to accept the next casing string.

FIG. 2

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