

THIS SHEET HAS BEEN
REPLACED

ABSTRACT

IMPROVED PLUG OR LOCK FOR USE IN OIL FIELD
TUBULAR MEMBERS AND AN OPERATING SYSTEM THEREFOR

A retrievable well lock for use within a subterranean tubular member has a packing assembly having a substantially elastomeric sleeve (44) which may be axially compressed into an expanded diameter condition against the interior surface of a surrounding tubing string. Axial ends (46,48) of the sleeve (44) are configured to engage generally matching notched members (50,52) on either side of the sleeve which, by divergent axial movement, axially draw the sleeve to a reduced diameter condition and maintain the sleeve under divergent axial tension. A barrel slip assembly (14) of the lock has a radially variable body (16) with a continuous circumference. The body's axial ends are adapted to fixedly engage portions of the lock such that the body is capable of transmitting an axial tensile load across its length. The body contains substantially lengthwise slotted portions (20) which permit radial expansion of the radially variable body. The lock may be emplaced and set at substantially any point within the tubing string and is operable between an expanded diameter condition and a reduced diameter condition. A downhole power tool is described which may be adapted to emplace ("run") or remove ("pull") the lock from the tubing string.

Figure 2A

This Sheet Has Been Replaced

