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(54) Title: ISOLATION PLUG WITH ENERGIZED SEAL

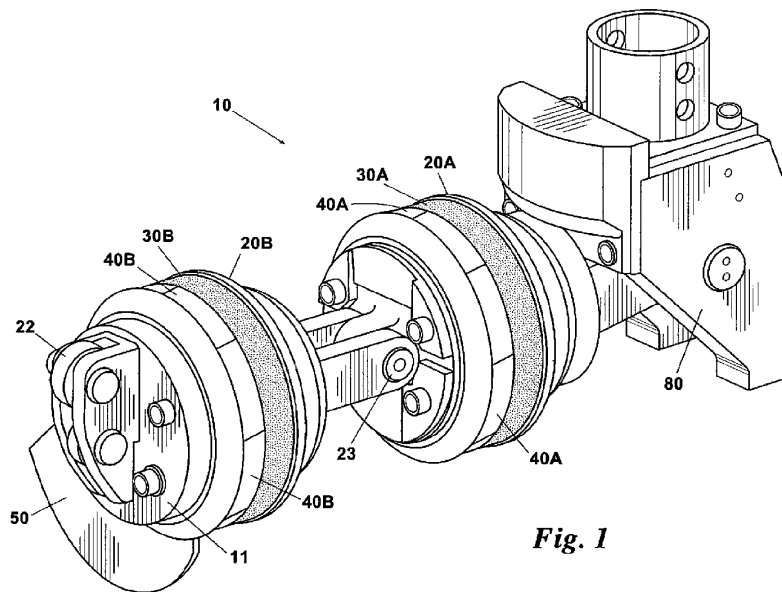


Fig. 1

(57) Abstract: A pipeline isolation tool (10) and method of its use includes a plugging head (20) having a seal (30) to sealably engage a pipe wall; a fluid-activated cylinder (64) located on one side of the seal and moveable in an axial direction; metal support segments (40) located on another side of the seal and moveable in a transverse direction radially outward and inward; the metal segments including a concave portion (45), a portion (35) of the seal residing within the concave portion when unset and set. When in a seal unset position a portion (33) of the seal is covered by adjacent metal support segments of the plurality. When in a seal set position the portion of the seal is exposed between the adjacent metal support segments. The seal is self-energizing, its actuating force being in a same direction as a force from isolation pressure.

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