This Sheet Has Been Replaced

LARGE BORE HYDRAULIC DRILLING JAR

ABSTRACT

A double acting hydraulic drilling jar 1 includes a mandrel 2 arranged in a housing 3 for sliding longitudinal movement. A hammer 69 is positioned on the mandrel 2 and interacts with anvil surfaces 64, 66 in the housing 3 to deliver both upward and downward jarring forces to a drill string. A hydraulic valve arrangement permits the storage of large amounts of static force before releasing the hammer 69 to strike the anvil surfaces with great force. The hydraulic valve arrangement includes a tripping valve 95 positioned to be actuated by a first pair of engaging surfaces in response to downward movement of the mandrel 2 in the housing 3 and a second pair of engaging surfaces in response to upward movement of the mandrel 2 in the housing 3. Thus, independent control over the upward and downward jarring action is achieved.

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