

**COMPOSITE ROLLERS FOR CONTINUOUS-BELT DRILLING MUD
SEPARATION UNIT**

ABSTRACT OF THE DISCLOSURE

A pair of cylindrical composite rollers formed of a metallic drum having a thick outer elastomeric layer are mounted transversely in a rectangular frame of a drilling mud separation unit over which a wide endless-loop chain-link belt is driven in a continuous loop moving along the longitudinal axis of the frame. The drive roller has a plurality of axially spaced circumferential rows of radially extending teeth that are machined in the surface of the elastomeric material. The endless belt is formed of a plurality of laterally adjacent jointed links hinged together by transverse rods. As drilling mud or drilling fluids are conducted onto the moving belt, liquids and particles smaller than the openings in the belt pass through the openings and liquids and particles larger than the openings are transported on the moving belt and are discharged off of one end as the belt completes its path. The teeth of the drive roller are sized and spaced to receive and engage the plurality of laterally adjacent jointed links of the wide belt and are of sufficient length to protrude slightly beyond the outer surface of the links as they pass around the front drive roller to dislodge gumbo and other large solids which may otherwise stick in the openings of the links and clog the belt. The elastomeric roller surfaces and teeth reduce wear and prevent metal-to-metal contact and sparking.

Figure 1