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(57) Abstract :

ABSTRACT A machine to generate micro-cracks in the rock using a sonic vibrator to enhance subsequent deep drilling operation and a process for the same The invention discloses a self-propelled device/machine with a sonic vibrator that makes tiny fissures/micro-cracks in the rock that goes vertically through tunnel ceilings or walls that enhances subsequent deep drilling operation. The said machine comprising a drill bit (102) to penetrate rock efficiently; Two motion controllers (103, 104) are configured, one (103) is positioned to hold the upper section steady while the bottom section climbs and other (104) hold the bottom section steady during drilling. The machine is further configured with an ultra sonic wave generator (105) which produces different frequency waves to create micro-cracks in the rock to make subsequent deep drilling easier. A hydraulic lift (106) is disposed to adjust the height and position of the machine components to ensure optimal contact with the rock surface. The drill machine (100) is connected to an electric wire (107) for power supply and securely placed against the tunnel walls by a structural support (108) which is supported by height adjustable rod (109). Fig 1.

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