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(54) Title of the invention : MULTI-ARM DRILLING EQUIPMENT FOR A BLAST HOLE DRILLING MACHINE USED IN OPENCAST MINES

(51) International classification :B25D9/26, E21B17/02, E21B17/042, E21B44/00 (86) International Application No :NA Filing Date :NA (87) International Publication No : NA (61) Patent of Addition to Application Number :NA Filing Date :NA (62) Divisional to Application Number :NA Filing Date :NA	(71)Name of Applicant : 1)INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD Address of Applicant :Dhanbad - 826004, Jharkhand, India Dhanbad ----- Name of Applicant : NA Address of Applicant : NA (72)Name of Inventor : 1)Mathanlal K Address of Applicant :Department of Mechanical Engineering, Indian Institute of Technology (Indian School of Mines), Dhanbad, Dhanbad – 826004, Jharkhand, India Dhanbad ----- ----- 2)Ajit Kumar Address of Applicant :Department of Mechanical Engineering, Indian Institute of Technology (Indian School of Mines), Dhanbad, Dhanbad – 826004, Jharkhand, India Dhanbad ----- -----
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(57) Abstract :

The present invention relates to multi-arm drilling equipment for the blast-hole drilling machine used in opencast mines. The equipment comprises a main boom (1) that lifts a total load of all the drill setups during the machine motion. The hydraulic actuators (6-11) are used to operate the boom for raising and lowering the main boom (1). The Central Support Mast (2) connects all multi boom arms units (1') with the main boom (1) of the machine. The hydraulic actuator vertically aligns the central support mast connected to the main boom. The proposed invention can drill multiple holes at a time, thereby reducing the time for marching and positioning the drill machine for drilling the next set of holes. The proposed invention can save a lot of time in drilling operations in open cast mines so that the saved time can be utilised for other works like stemming and charging operations and thus can drill and blast materials in mines much faster, increasing the overall productivity.

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