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(71) 申请人: 联想新视界(江苏)设备服务有限公司 (LENOVO NEW VISION (JIANGSU) EQUIPMENT SERVICE CO., LTD) [CN/CN]; 中国江苏省盐城市盐都区盐龙街道高创园D1幢, Jiangsu 224000 (CN)。

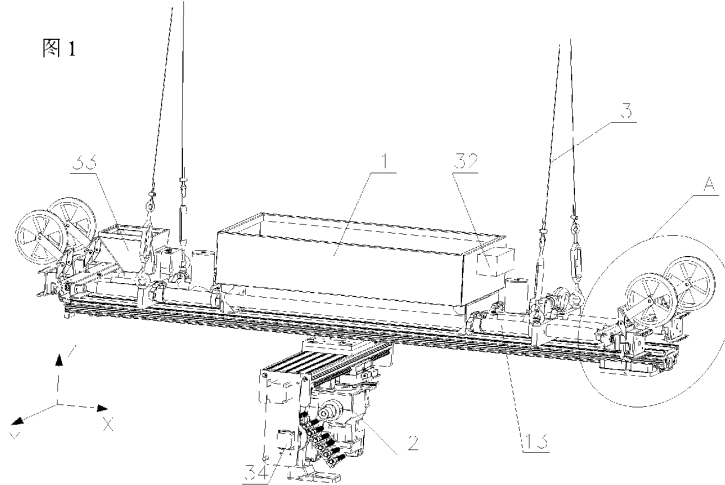
(72) 发明人: 朱燕津(ZHU, Yanjin); 中国江苏省盐城市盐都区盐龙街道高创园D1幢, Jiangsu 224000 (CN)。陈亿善(CHEN, Yishan); 中国江苏省盐城市盐都区盐龙街道高创园D1幢, Jiangsu 224000 (CN)。张雨涛(ZHANG, Yutao); 中国江苏省盐城市盐都区盐龙街道高创园D1幢, Jiangsu 224000 (CN)。

(74) 代理人: 苏州国诚专利代理有限公司(SUZHOU GUOCHENG PATENT AGENCY CO., LTD.); 中国江苏省苏州市吴中区木渎镇金枫路216号东创科技园1幢E2楼108、208室, Jiangsu 215000 (CN)。

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(54) Title: SUSPENSION TYPE PUNCHING AND SCREW DRIVING SYSTEM

(54) 发明名称: 一款悬吊式打孔装螺丝系统



(57) Abstract: A suspension type punching and screw driving system, comprising a main frame (1). The main frame (1) is provided with slings (3); support mechanisms are provided on two sides of the main frame (1) in the length direction; the support mechanisms are used for avoiding a large shaking amplitude of the main frame (1) in a lifting/lowering process; the support mechanisms are further used for fixing the main frame (1) during punching and screw driving of the system; an abutment mechanism matching the side wall of a shaft is provided on the side of the main frame (1) close to a surface to be machined; a punching and screw driving mechanism (2) is provided below the main frame (1); and a driving mechanism for driving the punching and screw driving mechanism (2) to move along the X axis and the Y axis and rotate along the Z axis is provided between the main frame (1) and the punching and screw driving mechanism (2). The system further comprises a measurement mechanism, wherein the measurement mechanism comprises a plurality of distance sensors (32), a controller, and a laser plummet (33) which are provided on the main frame (1). By means of the cooperation of the support mechanisms, the abutment mechanism, the driving mechanism, and the punching and screw driving mechanism (2) which

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根据细则4.17的声明:
— 发明人资格(细则4.17(iv))

本国际公布:
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are provided on the main frame (1), a hole perpendicular to the ground is punched in the wall of a shaft, such that the position of an expansion screw hammered into the hole is accurate, thereby guaranteeing the structural strength of a bracket fixed on the inner wall of the shaft, and the stability of a lifting/lowering device.

(57) 摘要: 一种悬吊式打孔装螺丝系统, 包括主架(1), 主架(1)上设有吊索(3), 主架(1)长度方向的两侧均设有支撑机构, 支撑机构用于防止主架(1)升降过程中晃动幅度大, 支撑机构还用于系统打孔装螺丝时固定主架(1)位置, 主架(1)靠近待加工面的一侧设有与井道侧壁配合的扶墙机构, 主架(1)下方设有打孔装螺丝机构(2), 主架(1)和打孔装螺丝机构(2)之间设有用于驱动打孔装螺丝机构(2)沿X轴移动、沿Y轴移动以及沿Z轴转动的驱动机构, 还包括测量机构, 测量机构包括设于主架(1)上的若干距离传感器(32)、控制器和激光垂准仪(33)。采用主架(1)上设置支撑机构、扶墙机构、驱动机构以及打孔装螺丝机构(2)相互配合, 对井道墙壁上打出垂直于地面的孔位, 使锤进孔位内的膨胀螺丝位置精准, 从而保证了支架固定在井道内壁上的结构强度, 保证了升降设备的稳定性。