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(54) Title: METHOD AND DEVICE FOR DETERMINING A POSITION AND ORIENTATION OF A SOCKET OF AN ELECTRIC VEHICLE

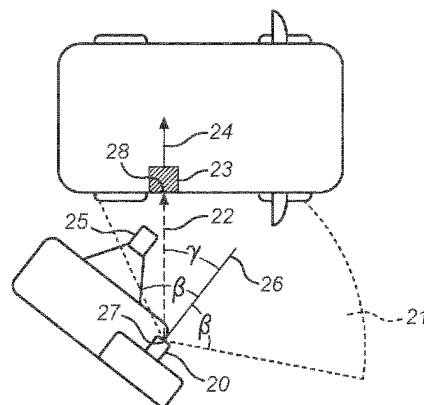


Fig. 2b

(57) Abstract: Method and device for determining a position and orientation of a socket of an electric vehicle, the socket adapted for plugging in a charging connector in one unique plug-in position with one unique plug-in orientation and in one unique plug-in direction, as well as a front plane and/or a fiducial marker having an optical gravity point; the method comprising the steps of providing a 2D camera with a view on a charging location for an electric vehicle; said 2D camera, having a camera view comprising view lines, each extending around a central view line originating from a camera pinhole within a maximum angle deviation around said central view line, adapted for providing a 2D image of a focal plane perpendicular to said central view line, bringing the socket for plugging in a charging connector of the electric vehicle within said camera view, defining a view line going through the optical gravity point on the socket as the line of sight, viewing the socket with the camera and obtaining a 2D image, analysing the 2D image with a 3D pose estimation algorithm for obtaining a position and/or orientation of the socket with respect to the camera pinhole, wherein the vehicle and the camera are mutually positioned such that the line of sight is under an angle with the plug-in direction.

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