

WTAWARD 2013

Categorie Premio

Accessibilità

Sostenibilità

Qualità della vita

Product Name

Permoveh

Designer

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for possible exposition in April

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Description of innovation social values

- product category
- formal and functional features
- problems solved by innovation
 - user
- field of application

Demand for personal vehicles is increasing. Mobility aids such as wheelchairs play an important role in the lives of aged or handicapped people. However, although they can move forward and backward, wheelchairs are not capable of traverse movement. Traverse motion often becomes necessary when, for example, the user of a wheelchair moves toward their bed in a hospital room or when they are in an office or in a crowded elevator. In such situations, the users have difficulty moving because wheelchairs are not able to move in a traverse direction. Therefore, a new vehicle is required, that is capable of traverse motion. In order to solve that problem, a new vehicle, the Permoveh (Personal mobile vehicle) has been developed. The Permoveh is able to move not only forward and backward direction, but also in a traverse direction. In addition, it is possible to move diagonally and turn. The Permoveh makes it easy to move in small spaces because of its highly advanced motion ability. A newly developed wheel "Omni-directional driving wheel" enables the Permoveh to move in all directions. This technology could also be applied to transportation vehicles used in factories or warehouses.

Description of technical features

- operations
- technology

A newly developed wheel "Omni-directional driving wheel" enables the Permoveh to move in all directions. Omni-directional driving wheel is composed of main body and outer rollers. Main body and outer rollers can be driven independently. If the main body rotates, the wheel moves in a forward or backward direction. If the outer rollers rotate, the wheel moves in a traverse direction. If the main body and outer rollers rotate simultaneously, the wheel moves in a diagonal direction. Therefore, the motion in all directions can be realized. Consequently, everyone can move the Permoveh in any directions easily.

Dimensions

Materials

Certifications

Benefits for environment

Benefits for human being

The Permoveh is able to move not only forward and backward direction, but also move in traverse and diagonal directions and turn. Therefore the Permoveh makes it easy to travel in narrow spaces such as hospital room, office, and elevator, where the users of wheelchairs have difficulty in moving because current wheelchairs are not capable of moving in a traverse direction. The Permoveh can move in the same way as people because it travels in any directions and can change its direction. Thus it can move together with people around it.