



A Walk-chair with Natural Sit to Stand Motion for Children with Disabilities

IITM Technology Available for Licensing

Problem Statement & Unmet Need

- People with **lower extremity disability**, need an assistive device for their activities and mobility.
- Disable people need **caregivers support to stand from sitting position & vice versa**.
- For daily activities, they need **multiple separate devices** depending on their disability. Using only a walker or a chair does not fulfill the requirements of **rehabilitation therapies and training**. The **sit to stand mechanism** on some devices restricts the motion to **up and down**, which is **unnatural**.
- Hence there is a need to adapt a device that disclosed in the present patent which **eases the body movement** of the user and helps in **shifting positions from sit-to-stand**.

Technology Category/ Market

Categories: Assistive Device, Rehabilitation Machines/Mechanical equipment

Applications: Hospitals, Healthcare

Market: In India, wheelchair market was worth USD 162.58 million in 2021 and is further projected to reach **USD 302.41 million** by the year 2028, exhibiting a **CAGR of 9.5%** during the forecast period (2022-2028).

Technology

The invention relates to the **Walk-chair (Walker cum chair)** for a person to use while walking with Walk-chair as well as while sitting in it. The sit to stand mechanism used in the Walk-chair is a **double parallelogram mechanism**. It comprises:

A base wheel frame on which the sit to stand assembly, and the seat is mounted

A pair of freely rotating wheels is joined at the front and rear ends of the wheel frame

Castors are used in front wheels for 360 degree rotation allowing turning of the Walk-chair in both left and right direction.

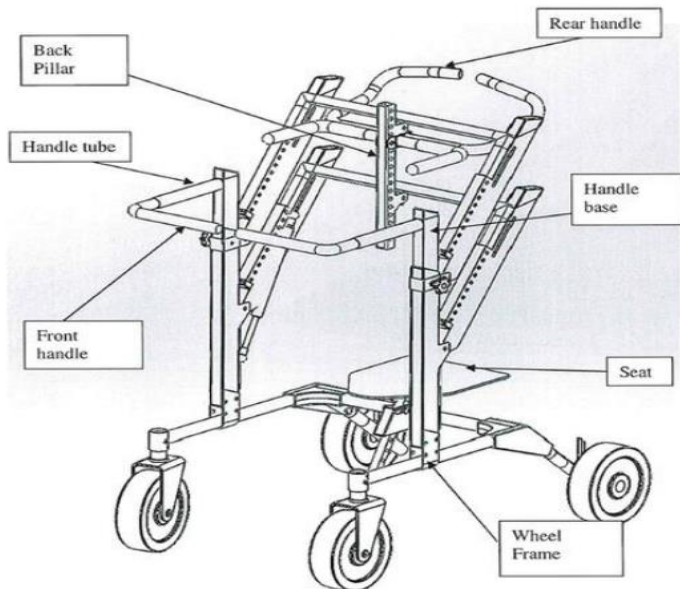


FIG:1 illustrates the overview of the Walk-chair.

Key Features / Value Proposition

1. A **hybrid device** functions as a **walker and a chair** along with a **proper sit to stand mechanism** to **avoid the usage of multiple devices**.
2. A **proper seat** with a **comfortable sitting area** which is an integral part of the device.
3. Provide **easy adjustments** to set the seat height according to the need of the user.

Intellectual Property

IITM IDF Ref: 1950

IN Patent No. 429769 (Granted)

TRL (Technology Readiness Level)

TRL- **3/4** Proof of concept ready Stage

Research Lab

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