



SUPPORTIVE WALKER WITH INTEGRATED SEATING MECHANISM IITM Technology Available for Licensing

Problem Statement

- Generally, the differently abled person need extra support to walk independently.
- In this instant, walker has a huge potential to become a self supportive device to move independently, some examples like wheel chair or other walker.
- The conventional walker is not comfortable, as it having issues related to less walking modes, not comfortable for long run usage, & other seat related issues.
- Hence, there is a need to address above issues in efficient manner.
- Present invention provides a walker which addressed above challenges.

Technology Category/ Market

Technology: Supportive walker Device;

Industry: Assistive device;

Application: Assistive Device;

Market: The global **walking aids** market is projected to reach **\$3.95B** by **2029**, at a **CAGR** of **7.6%** during (2023-2029)

Technology

- Present invention describes a **walker with extra support system** for the user.
- Said **walker** of the instant invention comprises of **head support, two-part seating means, saddle seat support & back support** to support the trunk as shown in the FIG. 1.
- Further, the back support is mounted on a **four bar parallelogram mechanism** which ensures the **backrest** remains at **the same orientation** as the user moves from **standing to sitting position**.
- The actuation for sitting could be done by the user.
- The links of the mechanism are designed such that they toggle in the sitting position, providing a **lock** to the **mechanism in the sitting position**.

- The **walker** has an **extra support system with a few supports** which is illustrated in below smart chart & figures:



Pelvis;



Trunk;



Head, saddle, seat support;



Arm rest;



Fig. 1 Illustrates Isometric view of walker.

Intellectual Property

IITM IDF Ref. 1691; Patent No:410191;

TRL (Technology Readiness Level)

TRL-3, Proof of concept tested in Lab;

Research Lab

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Key Features / Value Proposition

❖ Technical Perspective & Industrial Perspective:

❖ Four-bar linkage parallelogram mechanism:

- Present invention facilitates a **four-bar linkage parallelogram mechanism** which enables **automatic actuation of the seat** to move **upwards and downwards** as the user gets into sitting position from **standing position and vice versa**.

❖ Movable backrest & head support:

- Provides **movable backrest & head support** wherein the backrest moves up & down according to the position or movement of the user.

❖ Balancing the weights:

- Facilitates a **gas spring** connected to the **four-bar parallelogram mechanism** which helps in **balancing the weights** of different user.

❖ Locking Facility:

- Enables **Lockable & moveable two-part seating means**.

❖ Economic, user-friendly device & provides single solution:

- Beneficial to the user of a **walking device, standing frame & a sitting device** coupled into a single solution.

Image

Fig. 2A



Fig. 2B



Fig. 2A & 2B : Illustrates side view of the walker in sitting & standing configuration

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