Abstract

The conventional hand powered tricycle in the Indian market used by the aged and differentially abled (orthopedic) person considered for evaluation in this work. The existing conventional tricycle consumes high energy for paddling. In case of terrain climbing more energy is required for driving. So the orthopedic person gets exhausted. The current design also lacks ergonomic comfort as the crank is kept fixed and the non adjustable seat which leads to back pain and muscle fatigue. This paper aims at proposing new alternate design which overcomes all the limitations in the current design. The new design is provided with features of adjustable back rest, foot rest, and adjustable crank and related accessories. Thus the improved design meets the ergonomic issues which were lagging in the current design.

References

- Aditya Soni, Ramanathan Muthuganapathy, Sandipan Bandyopadhyay, &quot;Adjustable Hand-cranked Tricycle for Mobility Disabled&quot;.
- Arunachalam M., Arun Prakash R. and Rajesh R., &quot;FOLDABLE BICYCLE: EVALUATION OF EXISTING DESIGN AND NOVEL DESIGN PROPOSALS&quot;.
- Ruby Hadley, Carmen Liu, Andrew Theobald, Alyssa Wongkee, "HARAMBEE PROJECT", Design Innovation for Disability.

Index Terms

Computer Science  
Information Sciences

Keywords

Orthopedic  Tricycle  Backrest  Footrest  Anthropometry.