

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202311086978 A

(19) INDIA

(22) Date of filing of Application :19/12/2023

(43) Publication Date : 19/01/2024

(54) Title of the invention : ADJUSTABLE WHEEL LACING ASSISTIVE DEVICE

(51) International classification :A63B0021000000, G06N0005000000, B29C0065000000, B24B0041060000, H04L0067306000

(86) International Application No :NA
Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA
Filing Date :NA

(62) Divisional to Application Number :NA
Filing Date :NA

(71)Name of Applicant :
1)Noida Institute of Engineering and Technology, Greater Noida
 Address of Applicant :Plot No. -19, Knowledge Park-II, Institutional Area, Greater Noida, Uttar Pradesh-201306, India. Greater Noida -----

Name of Applicant : NA
 Address of Applicant : NA

(72)Name of Inventor :
1)Anurag Pal
 Address of Applicant :Department of Mechanical Engineering, Noida Institute of Engineering and Technology, Greater Noida, Plot No. -19, Knowledge Park-II, Institutional Area, Greater Noida, Uttar Pradesh-201306, India. Greater Noida -----

2)Ved Prakash
 Address of Applicant :Department of Mechanical Engineering, Noida Institute of Engineering and Technology, Greater Noida, Plot No. -19, Knowledge Park-II, Institutional Area, Greater Noida, Uttar Pradesh-201306, India. Greater Noida -----

3)Dr. Raman Batra
 Address of Applicant :Department of Mechanical Engineering, Noida Institute of Engineering and Technology, Greater Noida, Plot No. -19, Knowledge Park-II, Institutional Area, Greater Noida, Uttar Pradesh-201306, India. Greater Noida -----

4)Mona Devi
 Address of Applicant :Department of Computer Science & Engineering (DS), Noida Institute of Engineering and Technology, Greater Noida, Plot No. -19, Knowledge Park-II, Institutional Area, Greater Noida, Uttar Pradesh-201306, India. Greater Noida -

(57) Abstract :

An adjustable wheel lacing assistive device, comprising a platform 1 for providing support to platform 1 of ground surface, an ultrasonic sensor detecting height of a user present in proximity to platform 1 for actuating a telescopic column 4 to extend for positioning an X-shaped frame 5 at an appropriate height for placing wheel rim, a laser sensor for detecting diameter of rim for actuating L-shaped telescopic plates 6 for retracting to secure rim on frame and after securing of rim for allowing user to engage multiple spokes, an artificial intelligence based imaging unit 8 for determining successful engaging of the spokes for actuating a robotic link 10 configured with a plier 9 for fastening spokes into the rim.

No. of Pages : 13 No. of Claims : 4