

(54) Title of the invention : Design and Fabrication of IoT based Solar Agriculture Weeder

<p>(51) International classification :A01B0039180000, A01M0021040000, G06Q0050100000, G16Z0099000000, A01M0021000000</p> <p>(31) Priority Document No :NA (32) Priority Date :NA (33) Name of priority country :NA (86) International Application No :PCT// Filing Date :01/01/1900 (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</p>	<p>(71)Name of Applicant : 1)St. Martin™s Engineering College Address of Applicant :Sy no 98 & 100, Dhulapally, Kompally Secenderabad Telangana India Telangana India</p> <p>(72)Name of Inventor : 1)Dr. P. Santosh Kumar Patra, Principal & Professor / Department of Computer Science & Engineering / SMEC 2)Dr. D.V. Sreekanth, Professor & HOD / Department of Mechanical Engineering/SMEC. 3)Dr. N. Ramachandra, Professor & HOD/ Department of Electrical & Electronics Engineering/SMEC. 4)Dr. B. Hari Krishna, Professor & HOD/ Department of Electronics & Communication Engineering/SMEC 5)Dr. M. Narayanan, Professor & HOD/ Department of Computer Science & Engineering/SMEC 6)Dr. R. Nagaraju, Professor & HOD/ Department of Information Technology/SMEC 7)Dr. D. Ranadheer Reddy, Professor & HOD/ Department of Science and Humanities/SMEC 8)Dr. T. Poongothai, Professor & HOD/ Department of Computer Science (AI & ML)/SMEC 9)Dr. S.V.S Rama Krishnam Raju Professor, ECE Department / Dean Academics/SMEC 10)Prof. J.K. Sandhya Kiran Professor & HOD/ Department of Civil Engineering/SMEC</p>
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(57) Abstract :

Weed control is one of the most difficult tasks in agriculture that accounts for a considerable share of the cost involved in agricultural production. Farmers generally expressed their concern for effective weed control measures to arrest the growth and propagation of weeds. Chemical method of weed control is more prominent than manual and mechanical methods. It is the most widely used weed control method but it is labor intensive. However, agriculture weeder is used to reduce work intensity and increase the outcome. Agriculture weeder is very effective as it helps to reduce drudgery involved in manual weeding, it kills the weeds and also keeps the soil surface loose ensuring soil aeration and water intake capacity. Weeding is an important but equally labor-intensive agricultural unit operation. There is an increasing interest in the use of agriculture intra-row weeders because of concern over environmental degradation and a growing demand for organically produced food. Today the agricultural sector requires agriculture weeder that ensures food safety. Consumers demand high quality food products and pay special attention to food safety. Through the technical development of mechanisms for physical weed control, such as precise inter-and intra-row weeders, it might be possible to control weeds in a way that meets consumer demands. These agriculture weeders help in time consumption and increase the product it is easy to build, low cost and it only consist of mother, battery, plowing toll and wheel for easy motion, these weeders not only remove weeds but also unwanted mud or sand around the trees, these types of weeder are important to Farmers to help them increase the product out come and decrease the manual labor. This work discusses the design and development of an IoT based solar Agri weeder that automates irrigation task and enables remote farm monitoring. Agricultural weeder acts as an IoT device and transmits the data collected from multiple sensors to a remote server using Wi-Fi link. At the remote server, raw data is processed using signal processing operations such as filtering, compression and prediction. Accordingly, the analyzed data statistics are displayed using an interactive interface, as per user request.

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