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(54) Title of the invention : Low-Cost Community and Household Iron Removal Systems with Natural Aeration and Biochar-Based Adsorption

(51) International classification	:C02F0001000000, G05B0015020000, C02F0001280000, G05B0019418000, C02F0009000000	(71) <b>Name of Applicant :</b> <b>1)Gajendran C</b> Address of Applicant :#313 Aashirtha Appartment, Vadavalli to Thondamuthur Road, Prabha Nagar ----- <b>2)Dr. S Senthamil Kumar</b> <b>3)Dr. AR. Raghavan</b> <b>4)Dr. P. Mariappan</b> <b>5)Dr. PP.Sivan</b> <b>Name of Applicant : NA</b> <b>Address of Applicant : NA</b>
(86) International Application No	:NA	(72) <b>Name of Inventor :</b> <b>1)Gajendran C</b> Address of Applicant :#313 Aashirtha Appartment, Vadavalli to Thondamuthur Road, Prabha Nagar ----- <b>2)Gajendran C</b> Address of Applicant :#313 Aashirtha Appartment, Vadavalli to Thondamuthur Road, Prabha Nagar ----- <b>3)Dr. S Senthamil Kumar</b> Address of Applicant :Dr. S Senthamil Kumar Professor in Civil Engineering Periyar Maniammai Institute of Science and Technology Vallam Thanjavur Thanjavur ----- <b>4)Dr. AR. Raghavan</b> Address of Applicant :Executive Engineer TWAD Board (Retd) Trichy ----- --
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		<b>5)Dr. P. Mariappan</b> Address of Applicant :Executive Engineer TWAD Board Dindigul ----- ----- <b>6)Dr. PP.Sivan</b> Address of Applicant :Department of Civil Engineering, Government Engineering college Thrissur, ----- -----

(57) Abstract :

This invention provides a low-cost solution for the removal of iron from drinking water, designed specifically for rural and household use. The community-level system uses natural aeration and locally sourced river sand for filtration, while the household system incorporates an air pump and various low-cost filter elements. Adsorption using biochar made from waste fruit peels is used for enhanced iron removal. The invention is simple, low-maintenance, and environmentally friendly, making it ideal for regions with limited resources.

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