14. Title: Water purification system

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Keywords: Water purification, Nonwoven fabric, Capillary action

Domain: Environment

Summary: A two-stage water purification system is developed which is independent of electrical power for its operation and effectively utilizes the wicking property of needle punched nonwoven fabric for water purification. In addition, the first filtration media facilitates in removal of turbidity, suspended solid impurities and total dissolved solids (TDS) from raw water by utilizing the capillary action of the needle punched nonwoven fabric. At the same time, the second filtration media efficiently removes bacteria from the partially filtered water to provide clean water. The nonwoven fabric uses capillary action of the fibrous material to filter out the impurities from the raw water. Therefore, the developed water purification system is less complex and cost efficient.

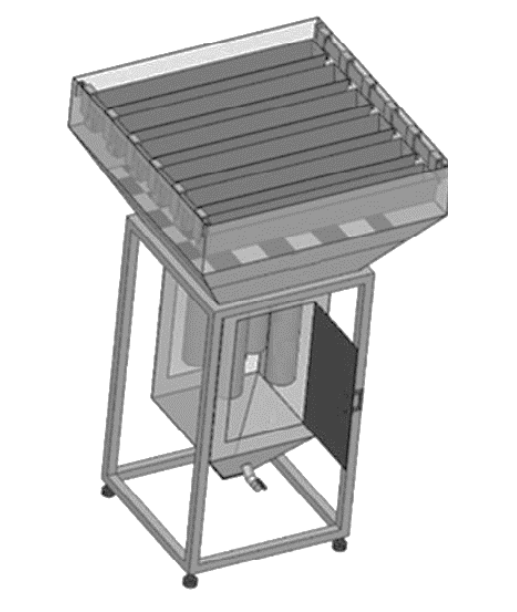

Figure: Water Purification System

Advantages:

» Less Complex and Sustainability

» No electrical power required for water filtration

» Low level of mechanization

Applications: Water Filtration industries

Scale of Development: A functional prototype system is developed and tested in a Laboratory environment.

Technology Readiness Level: 4

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