

# PURIFICATION SYSTEM OF WATER BY CYCLING

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**Abstract-** Purification is the process of purifying of any substance and thus involves filtration. Purification the water by cycling is useful in purifying the water by means of a cycle operated with reverse osmosis process. It includes the cycle pedal being rotated and inlet being connected to the membrane of the Reverse Osmosis setup. It is used to increase the discharge level of the water involved in purification. Hence the amount of water used can be purified and used by these means of purification with a lots of water borne diseases. This method is used in providing he purified water that can be available for all people in a very low cost

- Tank
- Reverse Osmosis Setup

**Keywords - centrifugal pump, discharge, rotating shaft, inlet, and outlet.**

## 1. INTRODUCTION

Water now-a-days becoming more polluted and causing many diseases because of all means of pollution and contaminated sources. The water from water purifiers used commonly also cannot be guaranteed to be the most clean water. Thus in order to save our future generations we have to use resources in a natural ways.

The Purification System of Water cycling is useful for humans without polluting the environment. This type of innovative systems are now being used in order to solve water issues.

This method of water purification system can be operated by means of cycle connected to centrifugal pump and then sent into the reverse osmosis setup. The centrifugal pump is helpful in discharge the wastes. The purifier purifies the water and its get collected separately. The inlet and outlet being used in the process are involved in transferring the water resources to the from the tank and thus discharging the impurities. Hence this process can be made available for common men.

**Keywords - centrifugal pump, discharge, rotating shaft, inlet, and outlet.**

## 2. COMPONENTS INVOLVED

The components involved in this process are

- Cycle
- Centrifugal Pump
- Sprocket

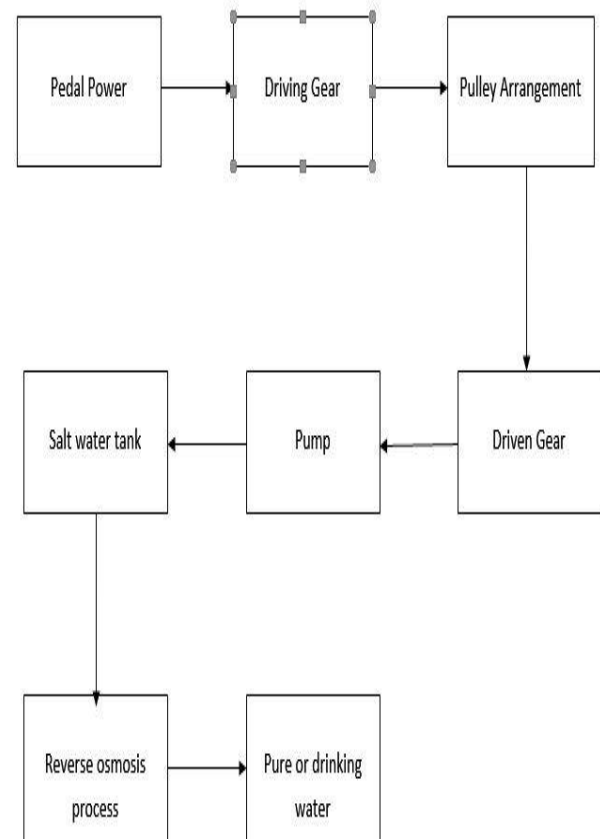


Fig 1 Block Diagram

## 3. PROPOSED SYSTEM

The process can be proposed by many methods like using

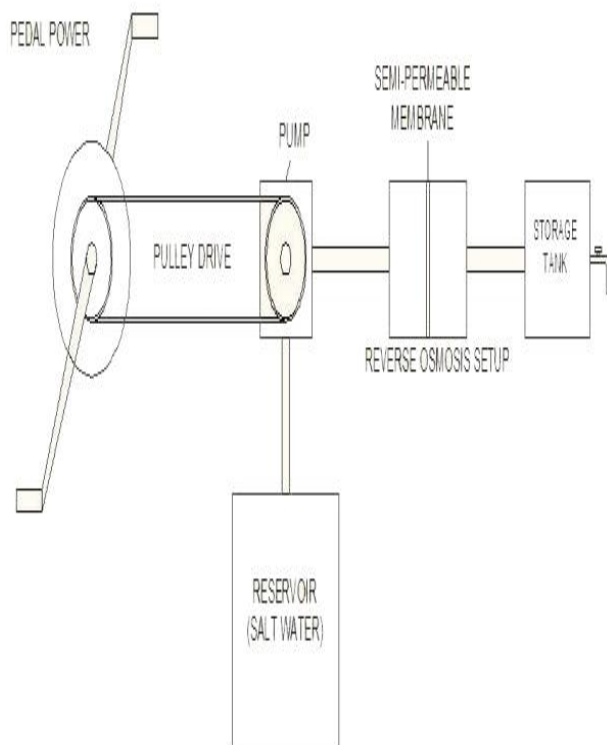
Bernoulli Equations and other systems. But in this method it has been designed to produce more discharge and thus involving good purifications.

#### 4. PROCESS OF PURIFICATION

The Process of Purification System involves four stages of filters. These filters can be used to discharge the water. Initially the cycle is pedaled to Reverse Osmosis process to purify by means of membrane produce power. Then the chain is connected to the pump.

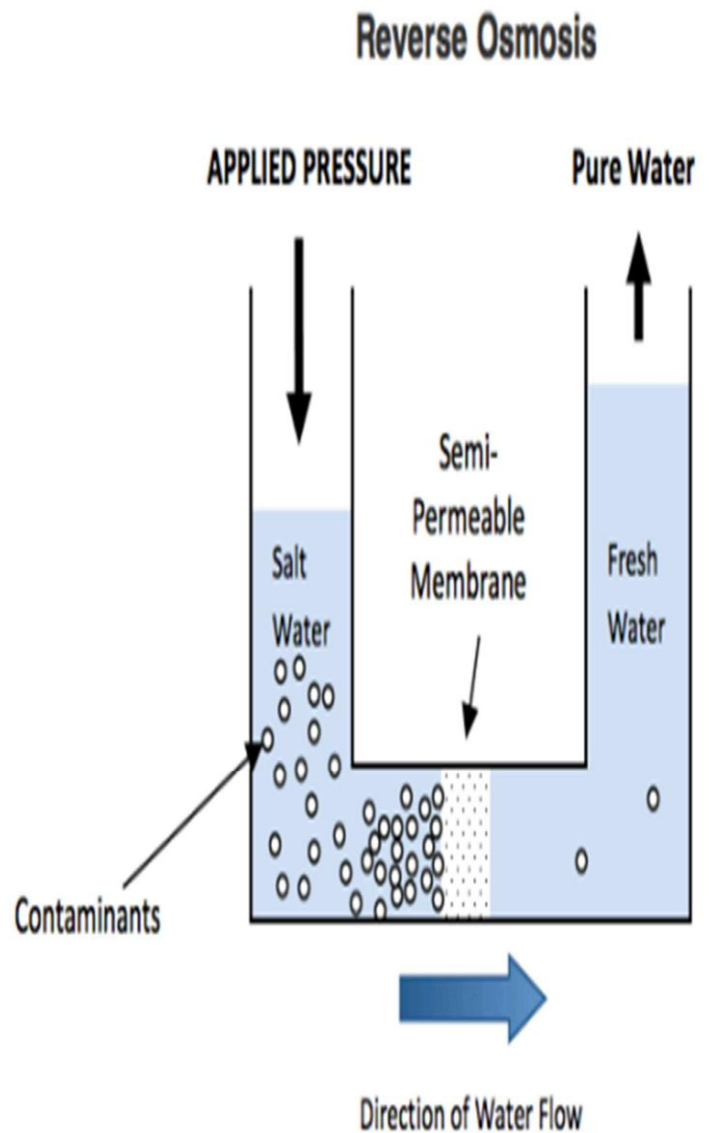
While Pedaling the water is sucked in and then sent into the reverse osmosis setup. The Reverse Osmosis setup consists of membrane that is used to filter the water. Finally this is sent into the outlet which is used as drinking water.

In this method we use the reverse osmosis consisting of membrane used for purifying the water. The pulley drive on being pedaled is made to act on the pump containing salt water and hence it is used up for purification. Now the water is sent into the reverse osmosis setup containing the membrane.



**Fig 2** Process Setup

#### 4.1 Process Setup



**Fig 3** Reverse Osmosis

## 4.2 Reverse Osmosis

The reverse Osmosis is the process by which a liquid flows from higher concentration to lower concentration through a semipermeable membrane.

Thus it helps in reducing the concentration of the solution and filtering the impurities with less concentration. The membrane is useful in direction of flow of liquids and hence can be made available for the purification. Through this Reverse Osmosis the contaminants in the higher concentrated solutions can be made to flow to the lower concentration solutions.

## 4.3 Advantages of the System

- The method of purification is portable and can be used in efficient manner.
- It recovers only human power and does not recover any other energy.

## 4.4 Disadvantages of the System

- Maintenance of the Reverse Osmosis must be maintained regularly.

## 5. CONCLUSION

In this paper having discussed the process of purification, this helps in saving our future generation by using by human effort and not using using electrical power.

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