

Water Reclamation Systems

Technical Field:

Engineering;

1. Architecture
2. Air conditioning
3. Electricity generation

Background Art:

Water is collected from rain, rivers, underwater, wells and treating hard water. Conservation of water is essential. For conservation of water of agriculture many irrigation systems were developed.

Disclosure of Invention:

The Novel Idea:

1. Reclamation of water of humidity using a system depending upon induction of air movement followed by sudden cooling and trapping of air and condensing its water content.
2. The same system devised can be used for inducing air movement with subsequent electricity generation.
3. The same system devised can be used for inducing air movement with subsequent cooling effect of the spaces.
4. The same system devised can be used to filter air.
5. The same system devised can be used to precipitate suspended particles in air.
6. The same system can be used for grinding material or mixing of gases.
7. On large scale the same system is capable of rain induction from supersaturated clouds.

Detailed Description of the Requested Patent:

A J- shaped system is designed where the longer arm is attached to a transparent structure having a tight upper pole, the horizontal part is situated below earth or submersed underwater, and the shorter arm reaches above level of earth or water. A glass-house effect is induced through the transparent structure having the tight upper pole. Sun allows heating of air that moves upward and is displaced from below through the distally connected system of pipes that passes underground at levels calculated to effect cooling of air as below earth temperature declines corresponding to depth and mean midday temperatures. The under earth system is attached to a container where the condensed water vapour is collected. The under earth container is connected to customized system for the purpose of delivering water for utility (agriculture, drinking etc.,)

Changing of the transparent structure size or dimension changes the vacuum effect of air suction passing under ground. At the other end of the system air movement can be used to induce cooling effect, or for generation of electricity.

Large scale construction of this system allows for massive continuous air movement that can be used in close proximity to industrial zones to decrease concentration of polluted air.

Large scale construction of this system allows for induction of raining from super saturated clouds.

Blades of fans can be placed at the distal end of the system. The motion of the blades effected by the rate of air movement allows generation of electricity. The motion of the blades effected by the rate of air movement allows mixing of gases, which can be metered.

The purpose of the same structure can be grinding through the motion of the blades effected by the rate of air movement.

Detailed Description of the Drawing of the Requested Patent:

The structure -subject of this patent- comes in all sizes, shapes, dimensions, depending on purpose and needed amount of water and estimated environmental humidity. Any and all material can be used for construction of this structure.

The structure is composed of parts A, B, C, D, E, F, G, H, I and EARTH.

Where:

1. "A" is a smaller sized opening having a diameter of tenth of structure "B", size of "A" can be of any smaller proportion of "B" to allow for glass-house effect. An outer lid could be placed at outlet of A. The lid closure serves to allow for trapping of air in the "B" structure. The lid opening serves to allow for air escape. The flow rate of air escape contributes to vacuum effect of air suction at distal end "D".
2. "B" is a structure having a shape of a cylinder or any physical shape capable of retaining air volume and made of a transparent or translucent material as glass or any material having the property of being transparent or translucent. Water pump could be placed in compartment "B".
3. "C" is a structure having the shape of a dome or cylinder of any diameter calculated in accordance of required flow at "D". The dome is the preferred shape as it would not reflect any of the sun rays.
4. "D" is the structure to allow air entry. It could be single or multiple. It is raised above the level of earth or water. Multiple "D" are preferred to single "D" as it allows for more surface area for water vapour to condense. "D" air entry site is protected by gates to prevent animal or bird entry. Big or different sized air fans could be placed at outer or inner side of "D" with the purpose of electricity generation, or disintegration of any object entering the air portal.
5. "E" is the structure of a mass of material that can retain heat easily in the morning and slowly releases its heat so as to maintain heating after sunset and maintain the glass house effect after sunset.
6. "F" is the structure where the water vapour is allowed to condense below surface of earth or water. Depth of placing "F" under earth depends on the required calculated cooling temperature. According to purpose of construction the material of "F" could be porous or non-porous. Its inner surface could be smooth or corrugated. "F" comes in all lengths, diameters, shapes, or geometric pattern.

Air filters or fine sized water mist sprayers could be attached at any point of the described invented system to allow for precipitation of suspended particles in air.

7. "G" is the structure where the condensed water is collected. It is connected to safety portal "I" to drain water content in case of increased water volume or level. "G" size depends on purpose of construction. Water pumping from "G" could be achieved by the pump placed at "B".
8. "H" is a source of vibration or sound to be transmitted through "F" to aid in water vapour condensation. "H" is an energy dependant source or energy independent source.
9. "I" is a structure functioning as a safety portal of the collected water at "G". According to purpose of construction "I" can be connected to water irrigation system or water channels or any larger water collecting system especially if the purpose was rain induction fro clouds.
10. "EARTH" is the surface of ground or water. It can be horizontal with any degree of inclination or elevation. It could be closely packed around "G" or it could be spaced by a gutter around "G".

**ALL EXAMPLES ARE ILLUSTRATIVE AND NOT
EXCLUSIVE.**

Claims:

I claim that:

1. A water reclamation system composed of a J shaped structure of different components can be used in collection of condensed water vapour.
2. According to first claim, the proposed system can be used for induction of rain.
3. According to first claim, the proposed system can be used to induce air movement and aeration of any given space or area.
4. According to first claim, the proposed system can be used to induce cooling and air conditioning effect in buildings for any purpose as schools, hospitals, factories etc.,
5. According to first claim, the proposed system can be used to filter air or clear air from suspended particles.
6. According to first claim, the proposed system can be used to generate electricity.
7. According to first claim, the proposed system can be used to mix air and gases, which can be metered.
8. According to first claim, the proposed system can be used as a grinder of different materials.
9. According to first claim, the proposed system can be used to generate electricity at any scale including large scale to meet industrial and city needs and small scale stations including stations for charging and recharging transportation vehicles needing electrical power.
10. **Where according to First claim:** The J- shaped system is depicted in Figure one of one.
11. **Where according to First claim:** The longer arm is attached to a transparent or translucent structure having a tight upper pole, the horizontal part is situated below earth or submersed underwater or cooler material including cooling material, and the shorter arm reaches above level of earth or water.
12. **Where according to First claim:** A glass-house effect is induced through the transparent **or translucent** structure having the tight upper pole. Sun allows heating of air that moves upward and is displaced from below through the distally connected system of pipes that passes underground at levels calculated to effect cooling of air as

below earth temperature declines corresponding to depth and mean midday temperatures. The under earth system is attached to a container where the condensed water vapour is collected. The under earth container is connected to customized system for the purpose of delivering water for utility (agriculture, drinking etc.,).

13. **Where according to First claim:** Changing of the transparent structure size or dimension changes the vacuum effect of air suction passing under ground. At the other end of the system air movement can be used to induce cooling effect, or for generation of electricity.
14. **Where according to First claim:** Large scale construction of this system allows for massive continuous air movement that can used in close proximity to industrial zones to decrease concentration of polluted air.
15. **Where according to First claim:** Large scale construction of this system allows for induction of raining from super saturated clouds.
16. **Where according to First claim:** This system comes in all sizes from a few centimeters to kilometers.
17. **Where according to First claim:** Any and all material could be used in the construction of this system.
18. **Where according to First claim the figure denotes:** "A" is a smaller sized opening having a diameter of tenth of structure "B", size of "A" can be of any smaller proportion of "B" to allow for glass-house effect. An outer lid could be placed at outlet of A. The lid closure serves to allow for trapping of air in the "B" structure . The lid opening serves to allow for air escape. The flow rate of air escape contributes to vacuum effect of air suction at distal end "D".
19. **Where according to First claim the figure denotes:** "B" is a structure having a shape of a cylinder or any physical shape capable of retaining air volume and made of a transparent or translucent material as glass or any material having the property of being transparent or translucent. Water pump could be placed in compartment "B".
20. **Where according to First claim the figure denotes:** "C" is a structure having the shape of a dome or cylinder of any diameter calculated in accordance of required flow at "D" . The dome is the preferred shape as it would not reflect any of the sun rays.
21. **Where according to First claim the figure denotes:** "D" is the structure to allow air entry. It could be single or multiple. It is raised above the level of earth or water. Multiple "D" are preferred to single "D" as it allows for more surface area for water vapour to condense.

"D" air entry site is protected by gates to prevent animal or bird entry. Big or different sized air fans could be placed at outer or inner side of "D" with the purpose of electricity generation, or disintegration of any object entering the air portal.

22. **Where according to First claim the figure denotes:** "E" is the structure of a mass of material that can retain heat easily in the morning and slowly releases its heat so as to maintain heating after sunset and maintain the glass house effect after sunset.
23. **Where according to First claim the figure denotes:** "F" is the structure where the water vapour is allowed to condense below surface of earth or water. Depth of placing "F" under earth depends on the required calculated cooling temperature. According to purpose of construction the material of "F" could be porous or non-porous. Its inner surface could be smooth or corrugated. "F" comes in all lengths, diameters, shapes, or geometric pattern.
24. **Where according to First claim the figure denotes:** Air filters or fine sized water mist sprayers could be attached at any point of the described invented system to allow for precipitation of suspended particles in air.
25. **Where according to First claim the figure denotes:** "G" is the structure where the condensed water is collected. It is connected to safety portal "T" to drain water content in case of increased water volume or level. "G" size depends on purpose of construction. Water pumping from "G" could be achieved by the pump placed at "B".
26. **Where according to First claim the figure denotes:** "H" is a source of vibration or sound to be transmitted through "F" to aid in water vapor condensation. "H" is an energy dependant source or energy independent source.
27. **Where according to First claim the figure denotes:** "T" is a structure functioning as a safety portal of the collected water at "G". According to purpose of construction "T" can be connected to water irrigation system or water channels or any larger water collecting system especially if the purpose was rain induction from clouds.
28. **Where according to First claim the figure denotes:** "EARTH" is the surface of ground or water or cooler material including cooling material. It can be horizontal with any degree of inclination or elevation. It could be closely packed around "G" or it could be spaced by a gutter around "G".