



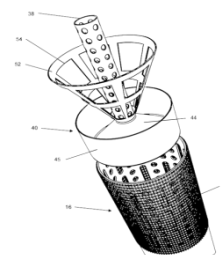
Patent Description, Capabilities and Purpose

This patent is a soil preparation system for harvesting runoff water, including the boring of a hole that will service three or four trees and transfers water when over-full. Bore holes will be drilled to a depth of one meter or more that will be filled with suitable material to enable water to quickly pass down deep.

The “in-soil device” will be installed on the top of the drill hole, and is the main part of the patent, and through which all the runoff water will pass into the hole.

The “device”, built to last for many years, is a two-stage filter. The primary filtration stage prevents large and medium sized objects from entering the system. The secondary filtration stage is internal and prevents all particles, even the smallest size, from penetrating, ensuring pure water. This is achieved through its unique structure that also contains a cell for collecting fine material, and also enables it to self-clean. It is capable of performing well even when submerged in flood water. The large deep soil area that comes in contact with the water enables the penetration of a large volume of water within a short time to be quickly absorbed into the soil, depending on the soil depth and its composition.

The purpose of this patent and its capabilities contribute towards building a deep root system for the trees’ roots, providing large volumes of water that would otherwise have evaporated or vaporized, or would flow to the sea. The tree’s roots also receive significant quantities of air, which is essential for preserving soil temperatures deep in the soil. These data ensure much better chances of survival during drought years, and optimal growing conditions in severe arid conditions, when the trees growing there are adaptive to this environment.



The contribution of this system is optimal utilization of small volumes of precipitation that fall in isolated rainfalls in the savanna and desert.

In addition to irrigating runoff water, the “installation” can integrate drip irrigation which will optimize tree growth and will shorten the growing period until trees are ready to be cut down for various needs.

In Israel, areas suitable for growing forests that will be cut down are severely limited, at best. Nevertheless, there is increasing importance to tree planting, for various reasons; therefore, it is important to increase efficiency in growing trees.

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