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- (74) Fuldmægtig i Danmark: **Holme Patent A/S, Valbygårdsvej 33, 2500 Valby, Danmark**
- (54) Benævnelse: **Mobil indretning til opsamling af vand**
- (56) Fremdragne publikationer:
WO-A1-02/097917
WO-A1-2015/122852
WO-A2-2011/084041
GB-A- 1 237 142
GB-A- 2 441 539
SE-A1- 1 500 300
US-A- 3 730 120
US-A- 4 092 827
US-B2- 7 726 906

DESCRIPTION

BACKGROUND AND PROBLEM

[0001] The resources of drinking water are strongly restricted in many countries throughout the world. In many countries you have to walk long distances to collect and carry water back home. But also a highly industrialized country as China is suffering from polluted drinking water. Another use is in seas and lakes with salt content or contaminated, in small crafts as rescue vessels life rafts and recreation vessels where you have to bring the drinking water.

[0002] Rainwater is often clean and free of charge. Inflatable pools can be used to collect rainwater, but then you have to pump the water out of the pool as the bottom of the pool is constructed to rest on a planar ground surface. Bathing pools often lack arrangements for anchoring making them easily moved away by the wind when not filled with water. To build a support to raise the pool above the ground level is expensive and time consuming.

[0003] The patent document WO 02/097917 discloses a rain collecting apparatus comprising inflatable ring-shaped walls, wherein a centered funnel passes through a lower membrane to a conduit and a collection container. The configuration allows the device to be rapidly converted between various modes of operation, i. e. between rain collecting and cooking. In the event it is necessary to increase the volume of the apparatus for rain collecting, additional rings may be used to increase the height of the walls.

[0004] In the patent document WO 2015/122852 a freshwater harvester or cluster of freshwater harvesters for collecting freshwater is disclosed. The freshwater includes rainwater, condensate water and dew water, which exist in natural environment. These devices may also be termed freshwater collector and cluster of freshwater collector. The freshwater collector has an extended pan area whose bottom is connected to a drainage connector. The freshwater collector or cluster is further supported by floats or buoys such that the freshwater collector or cluster can cover a large surface area of water body, such as sea, river and lake for collecting the freshwater continuously.

[0005] The patent document WO 2011/084041 relates to a device for collecting rainwater in open spaces in rural and urban environments. The rain collector comprises five main components: 1) mounting system, 2) collection system, 3) conduction system, 4) flow-regulation system, and 5) framework system. The five systems that jointly make up the rainwater collector are suitable for collecting, conveying and regulating the flow of the water, conveying said water to a storage device, from which water can be recovered and made available for human use with no further treatment. The device can be adapted to rainwater collection systems in urban areas and industrial areas as well as to small-scale farming systems and greenhouses.

[0006] The patent document GB1237142 relates to a water collection device comprising a series of inflatable plastic rings secured to each other and carrying a floor and a deck. The deck is provided with an orifice leading to the interior of the device and water is collected inside the device between the floor and deck.

THE OBJECT OF THE PRESENT INVENTION AND A WAY TO SOLVE THE PROBLEM

[0007] The present invention is working as a mobile rainwater collector both for use on land and on water. When not inflated it is easy to deploy said mobile rainwater collector by aircrafts or helicopters or by manual movement as it has both low weight and volume. Comprising at least one supporting rack mentioned support walls to carry a funnel shaped membrane with an outlet hose, the one end of which is connected to the outlet of said funnel shaped membrane and the other end of which is being placed outside said support walls and at a level above the ground/water surface allowing the draining to take place by gravity to one or more transport containers. The outlet of the collected rainwater can contain a water treatment filter e.g. activated carbon.

[0008] The invention is equipped with attachment eyelets for securing purposes.

DESCRIPTION OF ONE WAY OF A WORKING EXAMPLE

[0009] An embodiment of the invention according to claim 1 is shown in figure 3. Embodiments according to claims 2 to 5 are illustrated in the figures and/or described below.

[0010] By using a membrane 2 Fig. 3, of a weld able PVC plastic material as a funnel with a centrally positioned drain hole 3 connected to an outlet hose 9 and that the outer edges of said membrane is attached to an inflatable ring shaped wall 1, see Fig. 1, so that the outlet 4 of the outlet hose 9 is situated on such a height over the ground/water surface that a draining by gravity can take place to a suitable container/can (not shown in the drawing) as the membrane 2 will collect rain or condense water. The height of the support wall 1 shall also be compensated to assure a floating on a water surface.

[0011] To stop wind and waves from moving the equipment it is preferably equipped with anchoring and fastening means 8 made from welded plastic tabs having reinforced hole eyelets 6 or staples. At these eyelets or staples ropes are attached and secured by tent pegs (not shown on the drawing) or to a boat or a bridge, or to a bottom anchoring means.

[0012] When the air in the supporting walls is deflated through the air valves 7 and the equipment being folded it is easy to move having a size and a weight as a tent for several persons and being stored in a transparent bag.

DESCRIPTION OF THE DRAWINGS

[0013] The invention will be more closely described below in connection to the enclosed drawings showing one embodiment. Thus, the invention is not restricted to just this shown embodiment but other examples can be made within the scope of the annexed claims.

Fig. 1 is a 3-D view of equipment

Fig. 2 is a plan view from above, and

Fig. 3 is a transparent side view

LIST OF THE USED REFERENCES

[0014]

1, inflatable supporting wall

2, funnel membrane

3, drain hole

4, outlet

5, anchoring tab

6, eyelet

7, air valve

8, anchoring attachment

9, outlet hose

REFERENCES CITED IN THE DESCRIPTION

Cited references

This list of references cited by the applicant is for the reader's convenience only. It does not

form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- [WO02097917A \[0003\]](#)
- [WO2015122852A \[0004\]](#)
- [WO2011084041A \[0005\]](#)
- [GB1237142A \[0006\]](#)

Krav:

1. Mobil indretning til opsamling af regnvand, nævnte indretning omfatter:

mindst én ringformet oppustelig støttevæg (1) til at muliggøre at indretningen kan flyde
5 på vand,

en tragtformet regnvandsopsamlingsmembran (2) hævet til et niveau på den mindst ene
oppustelige støttevæg, når den er oppustet, hvor nævnte membrans ydre kant er
fastgjort til den mindst ene oppustelige støttevæg (1),

en udløbsslange (9) med to ender, og,

10 hvori nævnte indretning er indrettet til at muliggøre at dræning af regnvand finder sted
ved hjælp af tyngdekraften gennem et centralt placeret drænhul (3) i membranen (2) og
gennem udløbsslangen (9),

én ende af nævnte udløbsslange (9) er forbundet til membranens (2) centralt placerede
drænhul (3) på undersiden af nævnte membran (2), hvori udløbet af udløbsslangens (9)
15 anden ende er anbragt uden for nævnte mindst ene oppustelige støttevæg (1), således
at udløbet (4) er placeret i en højde over vand, når den mindst ene oppustelige
støttevæg (1) er oppustet og flyder på vand,

kendetegnet ved at:

den mindst ene støttevæg (1) består af tre lodrette, direkte indbyrdes forbundne
20 ringformede oppustelige støttevægssegmenter,

nævnte membrans (2) ydre kant er fastgjort til overgangen mellem det øvre
støttevægssegment og det midterste støttevægssegment, og

udløbsslangen (9) passerer gennem samlingen mellem det midterste
støttevægssegment og det nederste støttevægssegment.

2. Indretning ifølge krav 1, hvori tragtmembranens (2) udløbshul (3) eller udløbsslangen (9)
er forsynet med et filter til vandbehandling, f.eks. aktivt kul.

3. Indretning ifølge krav 1, hvori fastgørelsesøjer (6) er monterede til forankring af
30 indretningen.

4. Indretning ifølge krav 1, hvori et holdereb er placeret, eller håndtag er placerede, oven
på den mindst ene støttevæg.

5. Indretning ifølge krav 1, hvori et løftebælte er monteret på indretningens overdel, over
35 udløbsslangen (9) for at kunne bruges med en opsamlingsbeholder.

DRAWINGS

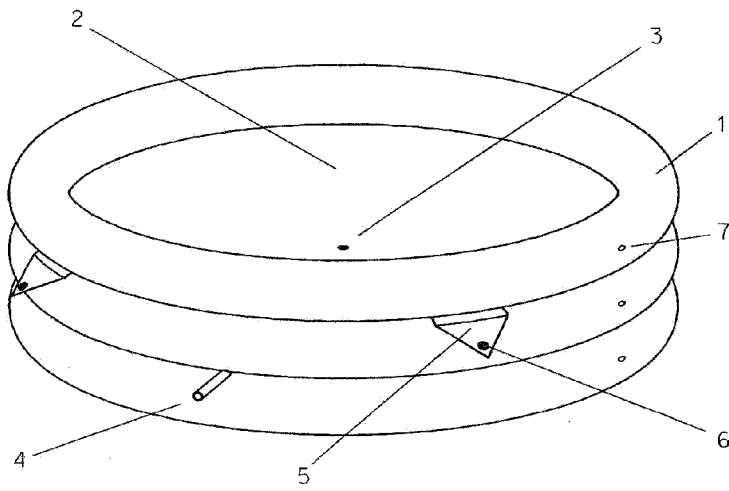


FIG. 1

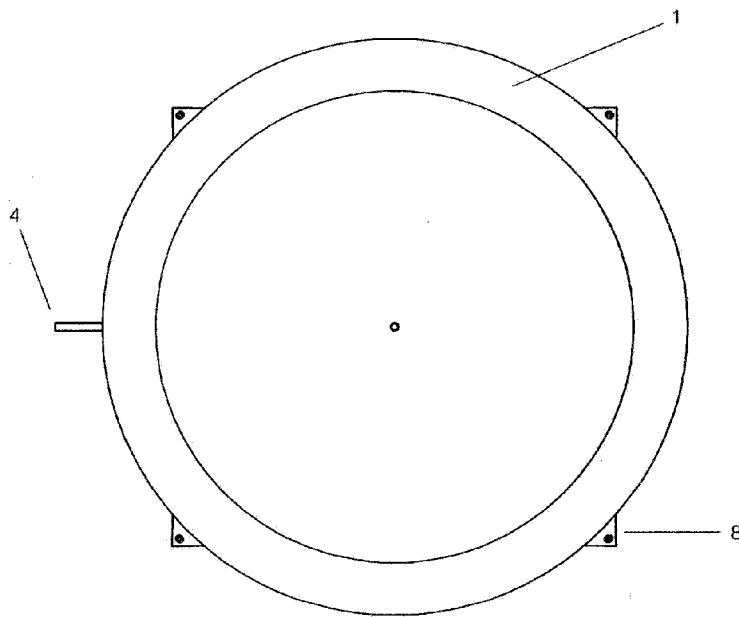


FIG. 2

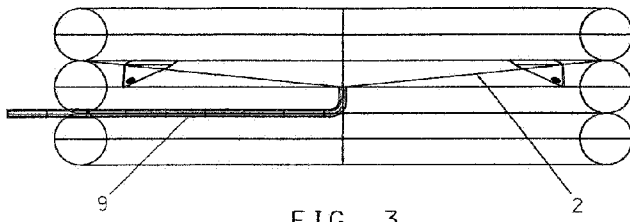


FIG. 3