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(54) Title: APPARATUS AND METHOD FOR DELIVERING BENEFICIAL AGENTS TO SUBTERRANEAN LOCATIONS

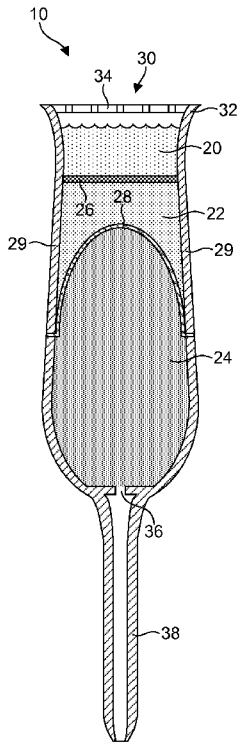

Fig. 2A

(57) Abstract: An apparatus for delivering a beneficial agent to a subterranean location is disclosed in one embodiment of the invention as including a water collection chamber (20) having a substantially open end (30). A water-transporting membrane (26) is provided to communicate with the water collection chamber (20). An extraction chamber (22) receives water through the water-transporting membrane (26), expanding the extraction chamber (22). A dispensing chamber (24), containing a beneficial agent such as fertilizer, is configured to contract upon expanding the extraction chamber (22). This causes the dispensing chamber (24) to expel the beneficial agent through a subterranean delivery channel (38), such as a rigid hollow spike (38). In certain embodiments, a rate adjustment mechanism may control the rate that water is received through the water-transporting membrane (26), thereby controlling the rate the beneficial agent is expelled from the subterranean delivery channel (38).

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A. CLASSIFICATION OF SUBJECT MATTER

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Korean Utility models and applications for Utility models since 1975

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eKOMPASS(KIPO internal) & Keyword : membrane, transport, water delivery, tube, control, device, dispense

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2002-0020111 A1 (PERETZ ROSENBERG) 21 February 2002 See Abstract, Paragraph [0004] and Fig. 1.	1-31
A	KR 20-1997-0005442 Y1 (KIM, HEUNG-KUK) 05 June 1997 See Abstract, Claim 1 and Figs. 1-2.	1-31
A	JP 2002-354919 A (AOKI NAOYUKI) 10 December 2002 See Abstract, Claim 1 and Figs.1-4.	1-31

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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US 2002-0020111 A1	21.02.2002	None	
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