ABSORBENT BAG FOR BUILDING TEMPORARY BARRIERS

Applicant: Steven Glodack, Hallandale, FL (US)

Inventor: Steven Glodack, Hallandale, FL (US)

Filed: May 14, 2013

A bag for creating temporary water barriers. The bag may include an outer casing and a liquid absorbing polymer within the casing. To use the bag, the bag may be soaked in water and the liquid absorbing polymer may absorb the water. The bags may then expand and may be stacked to create the barrier.
ABSORBENT BAG FOR BUILDING TEMPORARY BARRIERS

BACKGROUND OF THE INVENTION

[0001] The present invention relates to an absorbent bag and, more particularly, to an absorbent bag for creating temporary barriers.

[0002] A sandbag (floodbag) is a sack made of hessian/burlap, polypropylene or other materials that is filled with sand or soil and used for such purposes as flood control, military fortification, shielding glass windows in war zones and ballast. Sandbags may be used during emergencies when rivers threaten to overflow, or a levee or dike is damaged. They may also be used in non-emergency situations (or after an emergency) as a foundation for new levees, or other water-control structures.

[0003] Some bags are made of burlap and cotton material. Although the materials are biodegradable, the materials take years to degrade. Further, the jute material in burlap may retain any oils or hazardous wastes that the flooding waters may bring to the area. Further, sandbags must be prepared by loading either sand or soil in the bags and are very heavy.

[0004] As can be seen, there is a need for an easy to use and easy to dispose barrier creating bag.

SUMMARY OF THE INVENTION

[0005] In one aspect of the present invention, a temporary barrier bag comprises: a outer casing; and a liquid absorbing polymer within the sealed outer casing.

[0006] In another aspect of the present invention, a method of creating a temporary barrier comprises: providing a bag comprising: a outer casing; and a liquid absorbing polymer within the sealed outer casing: soaking the bag in a liquid, wherein the liquid absorbing polymer absorbs the liquid and expanding the bag: stacking the bag to create a barrier; and repeating the above steps until the temporary barrier is complete.

[0007] These and other features, aspects and advantages of the present invention will become better understood with reference to the following drawings, description and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] FIG. 1 is a perspective view of the present invention shown in use;
[0009] FIG. 2 is a perspective view of the present invention shown in a non-expanded state;
[0010] FIG. 3 is a section view of the present invention along line 3-3 of FIG. 2;
[0011] FIG. 4 is a perspective view of the present invention shown in an expanded state; and
[0012] FIG. 5 is a section view of the present invention along line 5-5 of FIG. 4.

DETAILED DESCRIPTION OF THE INVENTION

[0013] The following detailed description is of the best currently contemplated modes of carrying out exemplary embodiments of the invention. The description is not to be taken in a limiting sense, but is made merely for the purpose of illustrating the general principles of the invention, since the scope of the invention is best defined by the appended claims.

[0014] Broadly, an embodiment of the present invention provides a bag for creating temporary water barriers. The bag may include an outer casing and a liquid absorbing polymer within the casing. To use the bag, the bag may be soaked in water and the liquid absorbing polymer may absorb the water. The bags may then expand and may be stacked to create the barrier.

[0015] The present invention may include a sandless floodbag that may be made of recyclable and biodegradable environmentally friendly and easy to use materials. When deployed, the present invention may prevent high water levels from entering areas where the water is not wanted. The bags of the present invention may be made of phenylacetone material that may resist the retention of hazardous contaminants that come into contact with the base. In certain embodiments, quantum-7, a product that may be used in conjunction with the present invention that biodegrades left over waste from sewage to federal accepted regulations may be used to dissipate the contaminants.

[0016] The present invention may only weigh 10 ounces until hydrated. Once the present invention is hydrated, the bag may weigh around 38 pounds, thus making the deployment of the bags easier and more labor conducive than conventional sandbags. In certain embodiments, the present invention may be vacuum sealed for storage and may last up to around five years until they are ready to be used. Therefore, if the area does not need the extra bags, the bags may be saved for later use. The present invention may include an easier to deploy bag and therefore less labor is required, and the present invention also provides for an easier cleanup after the flood.

[0017] Referring to FIGS. 1 through 5 the present invention may include a bag 10. The bag 10 may include an outer casing 12. The outer casing 12 may be a polypropylene bag. Within the outer casing 12 of the bag 10 may include a liquid absorbing polymer 14, such as a cross-linked polymer. In certain embodiments, the bag 10 may be vacuum sealed. The vacuum seal may preserve the bag 10 for later use. The outer casing 12 may be a UV protected 1000 hour bag. The liquid absorbing polymer 14 may be eight ounces of cross-linked polymer. However, it is envisioned that more or less liquid absorbing polymer 14 may be used.

[0018] The polymer 14 may include a superabsorbent polymers which may be commonly made from the polymerization of acryl acid blended with sodium hydroxide in the presence of an initiator to form a poly-acrylic acid sodium salt (sometimes referred to as sodium polyacrylate). Other materials may also be used to make a superabsorbent polymer, such as polyacrylamide copolymer, ethylene maleic anhydride copolymer, cross-linked carboxymethylcellulose, polyvinyl alcohol copolymers, cross-linked polyethylene oxide, and starch grafted copolymer of polyacrylonitrile to name a few. The superabsorbent polymers may be made using the following methods; gel polymerization, suspension polymerization or solution polymerization.

[0019] As illustrated in FIG. 3, bag 10 of the present invention may be compact and compressed prior to use. The bag 10 may also be very lightweight. When the bag 10 needs to be used, the bag 10 may be soaked in a liquid 16, such as water. The liquid absorbing polymer 14 may absorb the liquid 16 and expand. As illustrated in FIG. 5, the bag 10 may then be in the expanded form and may include a mixture of the liquid absorbing polymer 14 and a liquid filler 16, such as water. As illustrated in FIG. 1, once in the expanded form, the bags 10 may be stacked to create a wall to prevent flood waters from entering a protected area.

[0020] A method of using the present invention may include the following. In certain embodiments, the vacuum
The bag 10 may be soaked in liquid 16, such as water. The liquid absorbing polymer 12 may absorb the liquid and expand. At this point, the bag 10 may be larger in size and significantly heavier. The bags 10 may then be stacked to create a barrier from flood waters 18, or a barrier to create a bunker for military use.

It should be understood, of course, that the foregoing relates to exemplary embodiments of the invention and that modifications may be made without departing from the spirit and scope of the invention as set forth in the following claims.

What is claimed is:

1. A temporary barrier building bag comprising:
   - an outer casing; and
   - a liquid absorbing polymer within the sealed outer casing.
2. The temporary barrier building bag of claim 1, further comprising a vacuum tight seal surrounding the outer casing.
3. The temporary barrier building bag of claim 1, wherein the liquid absorbing polymer is a cross-linked polymer.
4. The temporary barrier building bag of claim 1, wherein the bag comprises a non-expanded state and an expanded state.
5. The temporary barrier building bag of claim 4, wherein the expanded state comprises a mixture of the liquid absorbing polymer and a liquid.
6. The temporary barrier building bag of claim 5, wherein the liquid is water.
7. A method of creating a temporary barrier comprising:
   - providing a bag comprising: a outer casing; and a liquid absorbing polymer within the outer casing;
   - soaking the bag in a liquid, wherein the liquid absorbing polymer absorbs the liquid and expanding the bag;
   - stacking the bag to create a barrier; and
   - repeating the above steps until the temporary barrier is complete.
8. The method of claim 7, wherein the bag further comprises a vacuum seal surrounding the outer casing.
9. The method of claim 8, further comprising the step of removing the vacuum seal prior to soaking the bag in liquid.

* * * * *