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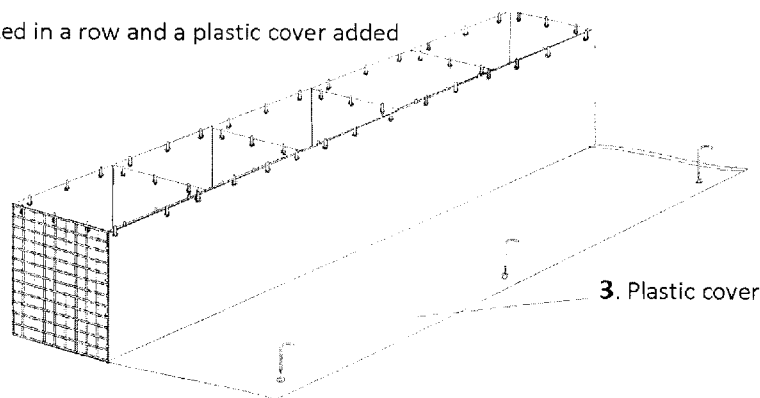
kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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(54) Title: BOX OF BARRIER FOR THE PROTECTION OF POPULATION WASTEWATER

Box stacked in a row and a plastic cover added



(57) Abstract: Box flood protection barriers comprise four lattice metal frames (steel, hot zinc) (1), which are connected to a crate, sealed bags made of PES / PVC high strength fabrics (2) with built-in drainage valve, cover made of PES / PVC high-strength metal bonding fabric (4) for bonding metal frames, bags and chests to each other and metal pins (5) for fastening the cover to the ground.



**WO 2020/254841 A1**

**BOX OF BARRIER FOR THE PROTECTION OF POPULATION WASTEWATER**

## DESCRIPTION OF THE INVENTION

The field of art to which the invention relates

**FIELD OF THE INVENTION** This invention relates to a barrier-type barrier barrier having a built-in flood protection device, and according to the International Classification (MKP) is classified as

Technical problem

Through the years and years, one of the biggest problems is to mount the fastest and easiest mount that will protect against floods that are the biggest problems in many European and world countries. This invention solves this technical problem of flood protection in cities where floods are frequent. The basic concept of this proposal is how to build an obstacle to the upstream high water in urban environments, and that the system is reliable, easy to build, with as few people as possible and after removing the danger, easy to remove or store (store) for some further use.

The state of the art

There are many solutions to this problem in the market, many of which use concrete fences that are static and can not be used for more space and heavy machinery and freight vehicles have to be used to transport these concrete fences. Our system is simple and fast to install and dismantle and take less space on a pallet, van or van. Two men can manipulate with a box of about 75kg. One system contains such 5 boxes of 75kg.

Exposure to be an invention

The primary objective of the invention is to improve the barrier barriers against flood protection.

A secondary object of the invention is to provide fast mounting and removal of a box barrier on the ground as well as the use of said system multiple times.

A further object of the invention is to allow the use of said system in dry days as reservoirs for the soaking of agricultural crops, olives and the like.

Additional aims and advantages of the invention will in part be shown in the following description, and in part will be discovered by applying the invention.

Box flood protection barrier includes four metal frame shades (steel, hot zinc) that connect to the chest, sealed bags made of high strength PES / PVC fabric, with built-in

a water drain valve, a cover made of PES / PVC high strength fabric, metal fittings for joining metal frames, sacks and crates with each other and fastening pins for the ground cover. Put in such a box an impermeable bag, fix it to the grille and fasten it with water. The bag is about 1100 liters of water. That's a casket that's hard enough for water to carry. Containers fit one to the other in one row, connect to each other with clamps. The soiled crates are additionally covered with a watertight PES / PVC fabric on the side of the upstream water, secured by the clamps for the box box and the pins in the ground. Now every water penetration is stopped. After use, the fabric cloak is removed, water is drained from the bottom of the bag and the bag is removed from the crates, dried and stored on the pallet. The box is broken, the metal frames are on the palette and everything is stored. No sandbags are needed, but the water that is abundant is already being used.

### **Brief description of the drawings**

The accompanying drawings which are incorporated in the description and which form part of the description of the invention illustrate the best way of presenting the invention to date and help explain the basic principles of the invention.

Fig. 1 is a bush of metallic lattice frames stacked in a crate

Fig. 2 is a drawing of a PES / PVC plastic bag with built-in water drain valve and connecting eyes

Fig. 3 is a spatial look of PES / PVC plastic cover

Fig. 4 is a spatial look of metal connectors

Fig. 5 is the spatial appearance of metal wedges

### **A detailed description of at least one of the embodiments of the invention**

It will now be directed to the details of this assumed embodiment of the invention, one of which is illustrated by the accompanying drawings.

Referring to Figures 1 and 2, it can be seen that the barrier barrier comprises metal grating frames 1 which are assembled into a casing. Metal frame grids Q196 1 reinforced with frame-steel wire  $\varnothing$  6mm (S235JR + AR, EN 10060). Coupling boxes in the segment is made with  $\varnothing$ 6mm wire clamps with 4 clips on each page. The reinforcement of the metal grating frame  $\varnothing$ 5mm 1 is B 500B,  $f_{yd} = 43.48$  KN / cm<sup>3</sup> and hot zinc. 2. The PES / PVC plastic bag with built-in includes a water-leakage valve and joints for a metal reinforcing frame 1 that fits into the crate. The PES / PVC bag 2 is placed in a metal armature frame 1 ie in a box and is filled with water, welded and in the upper part reinforced with the fixed aluminum eyes  $\varnothing$  14mm for joining the metal grating frame 1. It was made from PES / PVC fabric P2 / 2 900g / m<sup>2</sup>, strength 4000N / 5cm and has a bottom of the welded 3/4 "water drain valve. Knock on metal armature 1 with PA hooks. In Figure 3, we can see the PES / PVC cover Kojim is formulated to form a series of modules of 550-600g / m<sup>2</sup> 15m long, 3m wide, with built-in jaw and 15m long chain. Figure 4 shows an aluminum joint with which the metal lattice boxes are assembled in sequence. In Fig. 5, a metallic wedge is seen to be immobilized in the ground to hold it firmly and firmly when striking water into the boxes.

**The mode of administration of the invention**

In this way, the invention provides a practical, durable and useful device that can be economically produced, and which includes substantial improvements compared to previously known devices of this type.

It will be apparent to those skilled in the art that numerous modifications and modifications to the barrier flood protection barriers according to the present invention can be made without leaving the scope and spirit of the invention.

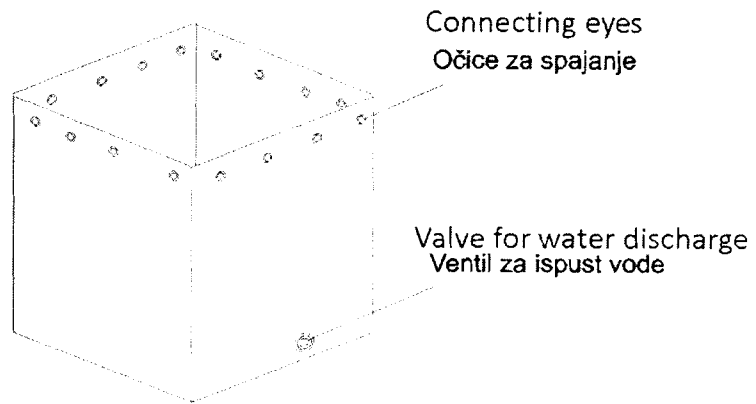
**List used call markers**

- 1-metal grating frame
- 2-PES / PVC plastic bags with built-in water drain valve and sealing joints
- 3- PES / PVC plastic cover
- 4-metal connector
- 5-metal wedges

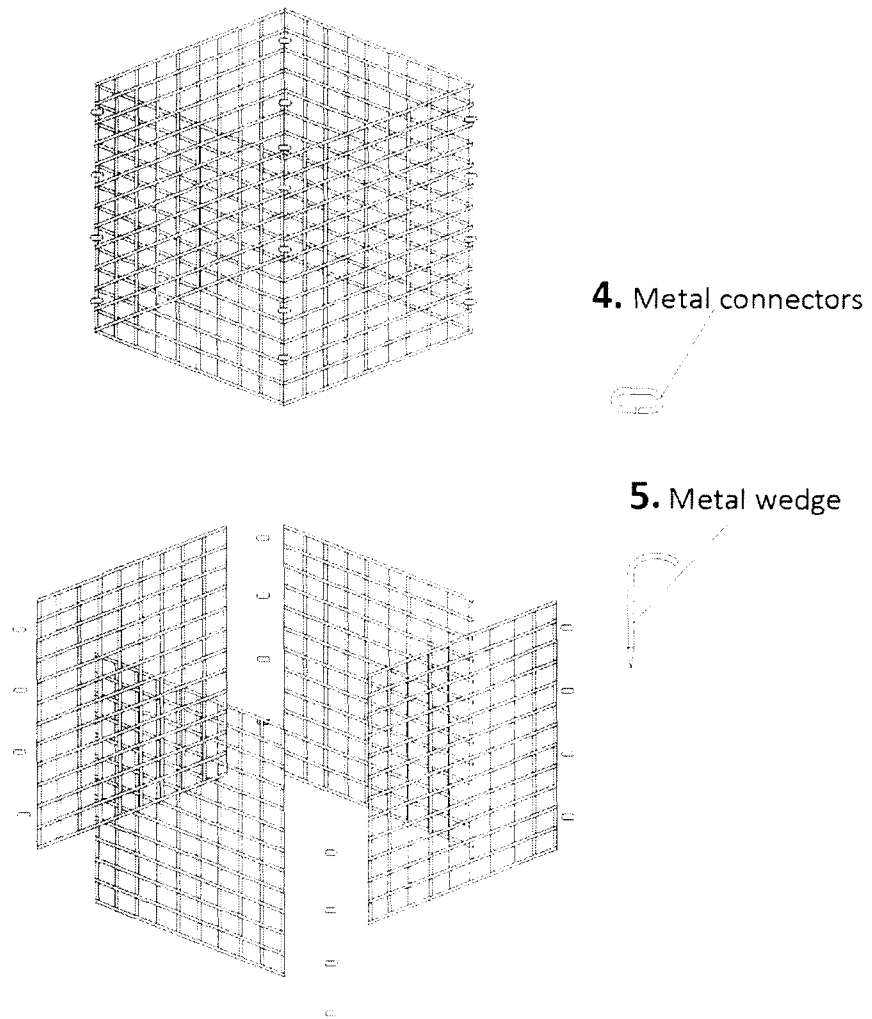
**PATENT CLAIMS**

1. A flood barrier barrier comprises four lattice metallic frames (steel, hot zinc) (1), which are incorporated into a crate, impermeable bags made of high strength PES / PVC fabric (2) with built-in drain valve , covers made of PES / PVC high-strength fabric, metal connectors (4) for connecting metal frames, bags and chests of metal and metal pins (5) for fastening the cover to the ground.
2. The barrier barrier according to claim 1, comprising four lattice metal frames (steel, hot zinc). Put a sealed bag (2) in this case, fix it to the grille and fill it with water.  
The non-slip bag according to claim 2, which is fixed to the grid of the couplings and filled with water. This sealed bag (2) consists of PES / PVC fabric.
4. A prosthetic PES / PVC cover as claimed in claim 3, characterized in that it is saturated with PES / PVC fabrics and placed by the box bar itself and gives the barrier strength barrier to a strong impact of the water wave.
5. Metal fittings according to claim 4, characterized in that the metal frames (1) are joined together.
6. The metal wedges of claim 6, which are secured to the ground and thus provide the strength of the box barriers (metal frame) (1) as well as the PES / PVC cover (3)

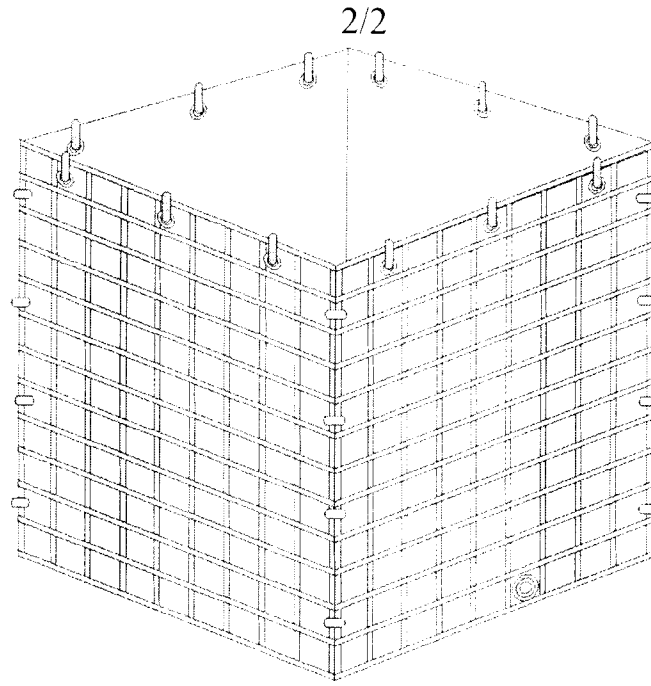
2. Plastic bag with built-in water drain valve eyes



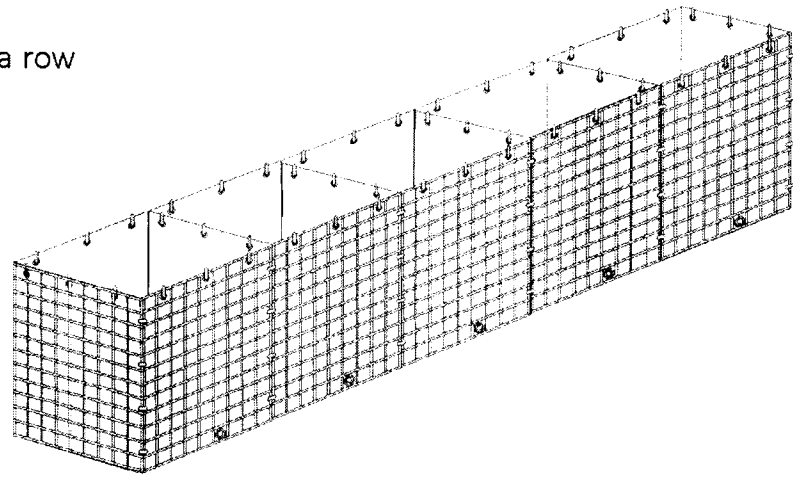
1. Metallic lattice frames stacked a crate



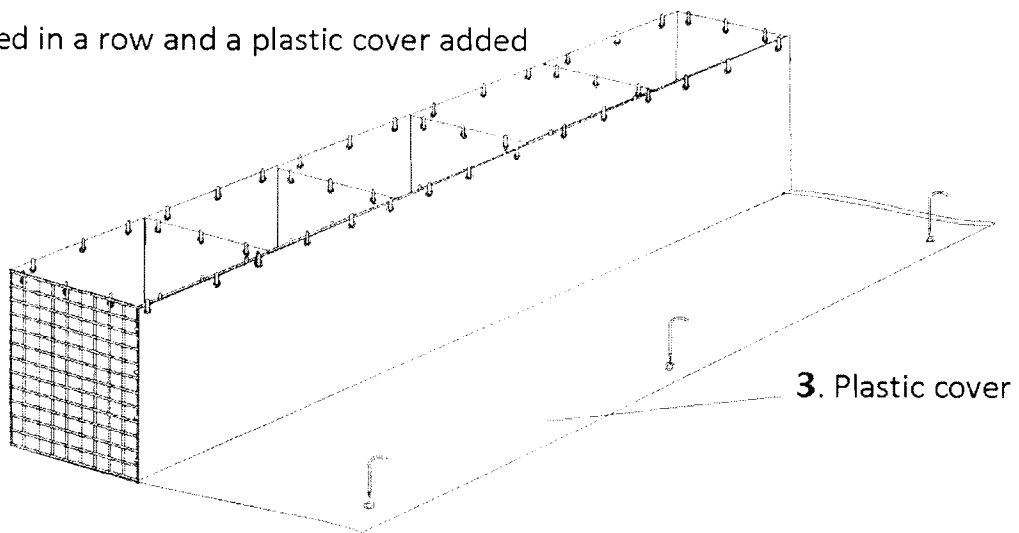
Finished Box



Box stacked in a row



Box stacked in a row and a plastic cover added



**INTERNATIONAL SEARCH REPORT**

International application No  
PCT/HR2019/000016

A. CLASSIFICATION OF SUBJECT MATTER  
INV. E02B3/10  
ADD.  
  
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED  
Minimum documentation searched (classification system followed by classification symbols)  
E02B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
EPO-Internal, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2015/240437 A1 (GODDARD RICHARD [US] ET AL) 27 August 2015 (2015-08-27) paragraph [0038] - paragraph [0058]; figures	1-6
Y	EP 1 355 010 A1 (BEKAERT SA NV [BE]) 22 October 2003 (2003-10-22) the whole document	1-6
A	DE 10 2006 039795 A1 (WALGER GEORG [DE]) 12 April 2007 (2007-04-12) the whole document	1
A	EP 0 735 198 A1 (VALSELLA MECCANOTECNICA SPA [IT]) 2 October 1996 (1996-10-02) claims; figures	1
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Further documents are listed in the continuation of Box C.

See patent family annex.

\* Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&amp;" document member of the same patent family</p>
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Date of the actual completion of the international search  18 December 2019	Date of mailing of the international search report  08/01/2020
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer  Fordham, Alan
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## INTERNATIONAL SEARCH REPORT

International application No  
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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Information on patent family members

International application No

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