



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(21) International Application Number: PCT/GB93/02384 (22) International Filing Date: 19 November 1993 (19.11.93) (30) Priority data: 9224235.3 19 November 1992 (19.11.92) GB 9309077.7 1 May 1993 (01.05.93) GB (71)(72) Applicant and Inventor: POWELL, James, Anthony [GB/GB]; 25 Lodge Gate, Main Road, Denholme, Bradford, West Yorkshire BD13 4BB (GB). (81) Designated States: AT, AU, BB, BG, BR, BY, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, US, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).		Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
(54) Title: BUILDING OR BLOCKING COMPONENT <div style="text-align: center;"> <p>CUT TREAD LENGTHS COILED INSIDE SIDE WALLS</p> <p>22</p> </div>		
(57) Abstract <p>It will be appreciated that the components may take forms other than those specifically mentioned and that use may be made of any form of scrap tyre (4). The blocking process is very simple and the preferred method is the breaking down of a tyre (4) into three portions i.e. two side walls (6, 8), one tyre tread (10). By filling the void in a larger tyre (4) by utilising smaller tyres (16) you have in effect a solid component weighing in the region 125 kg. There must come a time when a scrap tyre will have a commercial use and therefore a value.</p>		

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Description

05 BUILDING OR BLOCKING COMPONENT

This invention relates to building or blocking components and is particularly concerned with such components for use in preventing or resisting coastline or other water course
10 erosion or soil erosion.

The invention aims to provide a use for the very large quantities of scrap tyres which have proved and which are proving to be a constant source of concern, particularly in
15 these days of environmental awareness.

According to the present invention there is provided a building block or component comprising a scrap tyre housing lengths of tread and side walls/or other portions
20 of other scrap tyres.

Said lengths of tread may be closed lengths or loops as would be had by the de-walling of a tyre, or they may be cut lengths of scrap tyre tread.

25 Said lengths of tread will preferably be inserted into the complete scrap tyre and will be held within the scrap tyre by the walls thereof.

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By partially or wholly de-walling scrap tyres and placing the side wall portions of tyres in a bowl or basin formed
05 by removing one side wall of a scrap tyre such that said side wall portions nested within the bowl or basin.

It is advisable and/or beneficial if the scrap tyre used to form the bowl or basin were de-walled along the depth of the
10 side wall rather than removed completely, since the remaining side wall would provide an integral means of retaining the side walls which are placed inside the bowl or basin as in the form of a lip.

15 The centre of the complete commercial scrap tyre may be filled by means of a building or blocking component of a smaller size, made up as earlier described in the form of a basin/bowl filled with side wall and cut tread lengths. Alternative, said centre may be filled by other means, but
20 preferably utilising parts or portions of scrap tyres.

The composite building or blocking component may be held together by the use of steel or other material bands.

25 In order to provide a more stable barrier - in use of the building or blocking components to prevent or resist coastline or other water course erosion or soil erosion as well as various other civil engineering projects - a

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plurality of the building or blocking components may be located on a rigid or semi-rigid elongate member such as a metal or plastics material pole, and means may be provided on said pole to force adjacent building or blocking components into abutting relationship. Means may also be provided to join a plurality of said elongate members together so that the components may be arranged in an infinitely extending relationship. The means for causing abutment of the components on the elongate members may take the form of plates which are movable relative to the elongate members, and the means to connect the elongate members together may take the form of screw threads on the ends of the elongate members, although it will be appreciated that other means may be used if preferred.

With building or blocking components arranged as above-described, the components - carried on the elongate members - may be arranged in any convenient relationship so as to form a barrier. The components may be stacked on top of one another in pyramid fashion or any other formation so as to provide an elongate, virtually solid, and very stable barrier to prevent or resist erosion both in coastline or other water course and soil situations. There are an abundance of civil engineering uses for the building and blocking component such as land fill, cribb walling and landslip barriers etc. By utilising scrap tyres as

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proposed in the present invention, not only are very effective barriers produced but in addition, and of equal
05 importance perhaps, such utilisation will significantly reduce the ever-increasing stockpile of scrap tyres.

It will be appreciated that the building or blocking components may take forms other than those specifically
10 described herein, and that use may be made of scrap tyres from cars, commercial vehicles and other forms of transport.

It is to be appreciated that blocking process can be
15 achieved in any combination in using either all tyre walls or all cut tread lengths or a combination of both.

This PCT application is a combination and update of patent application number 92 24235.3 and patent application number
20 93 09077.7.

The building and blocking component when used in water course protection/erosion, especially rivers, lakes and canals as in river bank breaching etc will also act as a n
25 effective habitat for the breeding of molusks or other ~~for~~ of marine life. In fact the marine life will inhabit the spaces or voids between the lengths of scrap tyre tread within the scrap tyre. Therefore, by causing the

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proliferation of marine life the cleansing of polluted water should follow.

05

In order that the invention may be more readily understood, embodiments thereof will now be described, by way of example, reference being made to the accompanying diagrammatic drawings, wherein:-

- 10 Figure 1 is a schematic elevation of a building or blocking component according to the present invention; Figure 2 is a schematic elevation of a modification of the component of Figure 1; and Figure 3 shows an alternative form of a building or block-
- 15 ing component according to the invention.

Referring to the drawings, and firstly to Figure 1, a building or blocking component indicated generally by reference numeral 2 comprises a scrap tyre 4 from which a proportion has been removed from one side wall 6 of the

20 tyre, the other side wall 8 and the tread portion 10 remaining in tact and whole. Thus, and as will be seen, the hole 12 in the side wall 6 is greater than that 14 in the side wall 8.

25

Placed within the bowl or basin formed when the proportion of the side wall 6 is removed is a plurality 16 of side wall portions from other scrap tyres, these being provided

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to increase the weight of the component.

05 Because only part of the side wall 6 has been removed, the
remaining portion of the side wall provides means in the
form of a lip which serves to retain the plurality 16 of
side walls within the bowl or basin. The said plurality
may be further and additionally retained by means of
10 strapping (not shown) passed around the tyre and through
the remaining hole of the component.

Figure 22 shows cut tread lengths coiled inside the side
walls of the bowl in figure 1 adding further weight to
block.

15

An alternative means of retaining the plurality of side
walls and cut treads within the bowl or basin is shown in
Figure 2. Such means is in the form a further scrap tyre
18 - of a larger size than the scrap tyre 4 - from which one
20 side wall has been removed so as to form a bowl or basin 20.
By placing the scrap tyre 18 'upside down' with respect to
the scrap tyre 4, the plurality 16 of side walls become
encased within the two bowls or basins formed by the scrap
tyres. The whole may be strapped, if desired, as previously
25 described.

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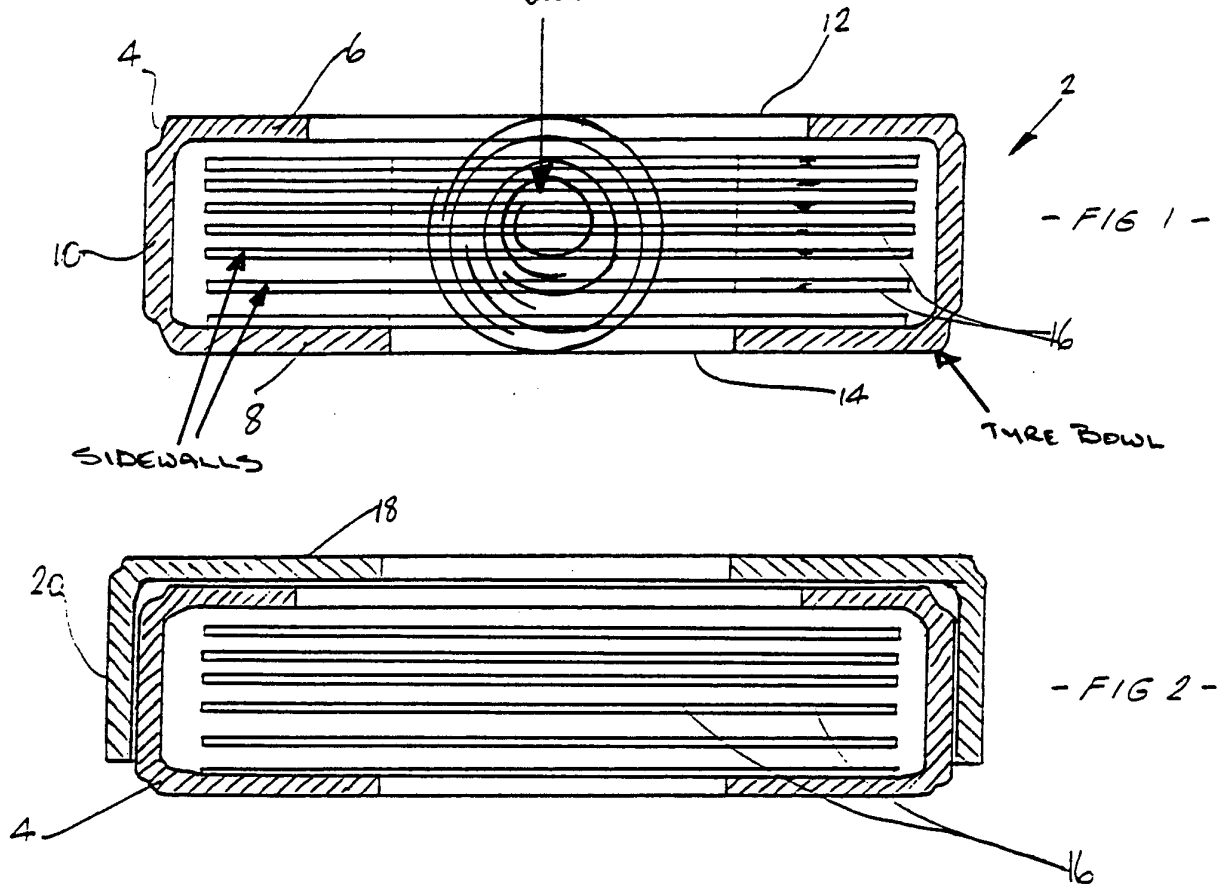
Claim

05 By utilising scrap tyres as proposed in the present invention, not only are very effective barriers produced and marine habitats formed, but in addition, and of equal importance perhaps, such utilisation will significantly reduce the ever-increasing stockpile of scrap tyres.

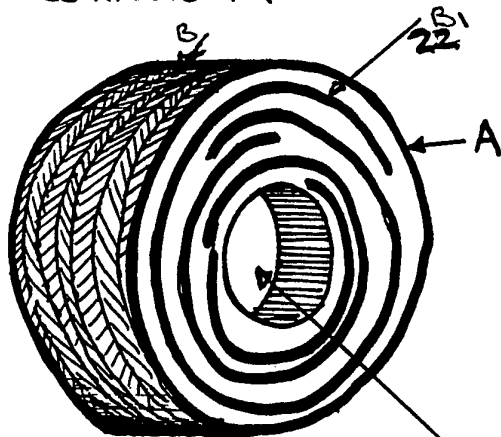
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CUT TREAD LENGTHS
COILED INSIDE SIDE WALLS



CUT TREAD LENGTHS
HELD WITHIN WALLS OF COMMERCIAL
COMPLETE TYRE



COILED LENGTHS

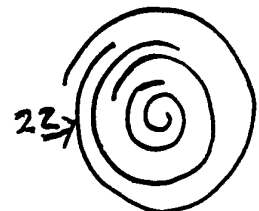
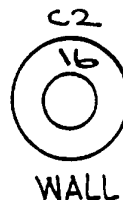
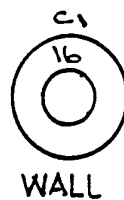


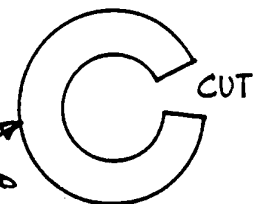
FIG 3



- A COMPLETE TYRE
- B TREAD
- C WALL
- B1 CUT TREAD LENGTHS

INSERTED
COMPONENT 2

B1 CUT TREAD



INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 93/02384

A. CLASSIFICATION OF SUBJECT MATTER

IPC 5 E02B3/04

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)

IPC 5 E02B E01C

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 practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	AT,A,368 222 (J. GLÖSSL) 27 September 1982 see page 2, line 39 - page 3, line 11; figures ---	1
X	FR,A,2 643 400 (CHEVALIER) 24 August 1990 see page 3, line 33 - page 4, line 8; figures 6-8 ---	1
X	DE,A,25 14 830 (H. EBERWEIN) 14 October 1976 see page 2, paragraph 2 -paragraph 3 see page 4, paragraph 4 -paragraph 5; figures 8,9 ---	1
A	US,A,3 928 701 (S. ROEHNER) 23 December 1975 ---	
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Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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14 February 1994

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02-05-1994

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 93/02384

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
AT-A-368222	27-09-82	NONE	
FR-A-2643400	24-08-90	NONE	
DE-A-2514830	14-10-76	NONE	
US-A-3928701	23-12-75	NONE	
US-A-4850738	25-07-89	NONE	