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Results: 36

1) Family number: 2956010 (US4957395A)

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Title: Pre-cast, reinforced concrete retaining wall system
Priority: US19890368028 19890619 CA19890613787 19890927 WO1990US03508 19900618

Family:	Publication number	Publication date	Application number	Application date
	AT119229 E	19950315	AT19900910194T	19900618
	AU199059324 A1	19910108	AU19900059324	19900618
	AU620012 B2	19920206	AU19900059324	19900618
	CA1317120 A1	19930504	CA19890613787	19890927
	DE69017364 D1	19950406	DE19906017364	19900618
	DE69017364 T2	19950824	DE19906017364T	19900618
	EP0429637 A1	19910605	EP19900910194	19900618
	EP0429637 A4	19911113	EP19900910194	19900618
	EP0429637 B1	19950301	EP19900910194	19900618
	US4957395 A	19900918	US19890368028	19890619
	WO9015903 A2	19901227	WO1990US03508	19900618
	WO9015903 A3	19910207	WO1990US03508	19900618

Probable Assignee: NELSON NED BELLEVUE WASH US
Assignee(s):(std): NED NELSON ; NELSON NED
Assignee(s): NELSON NED BELLEVUE WASH US
Inventor(s):(std): NELSON NED
Inventor(s): NELSON NED BELLEVUE WASH US ; NELSON NED BELLEVUE WASH ; NED NELSON
Agent(s): SMART AND BIGGAR
Designated states: AT AU BE CH DE DK ES FR GB IT JP LI LU NL SE
International class E02D29/02 E04C1/00 (Advanced/Invention);
(IPC 8-9): E02D29/02 (Core/Invention)
International class E02D29/02 E02D5/02 E02D5/20 E04C1/00
(IPC 1-7):
CPC: E02D29/0266
European class: E02D29/02F1
US class: 405/285 405/287 52/414 52/442

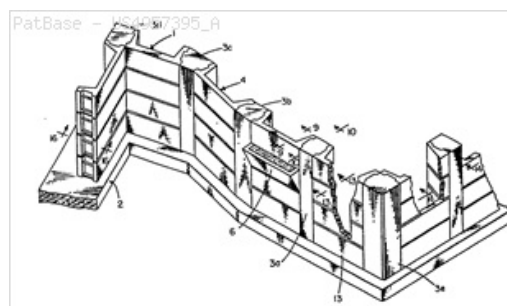
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Cited documents: US802593 A, US721825 A, US585617 A, US4592678 A, US4190384 A, US4132498 A, US4107894 A, US4067166 A, US4050254 A, US3472031 A, US3422588 A, US250635 A, US250235 A, US2313363 A, US2234797 A, US2160773 A, US2141035 A, US2064791 A, US1908332 A, US1659326 A, US1578861 A, US1428470 A, US1415197 A, US1410953 A, US1339388 A, US1064498 A, IT345117 A, FR953326 A, FR2374478 A1, FR2314987 A1, FR2271354 A2, FR2120233 A5, FR2058641 A5, FR1574151 A, DE585617 A, DE2430635 A1,

Forward Citations: WO09102379, US9644334, US7165916, US6994495, US6978580, US6811357, US6280121, US6089792, US6019550, US5588786, US5567089, US5509249, US5480267, US5471811, US5400563, US5214898, US2017007031, US2010139183, US2009202307, US2008005990, US2006226408, US2006039760, US10485351, US10443206, US10316485, US10267011, US10053832, EP0472993, DE4131423,

Abstract:

A lightweight, pre-cast, reinforced, module used to build a structurally engineered retaining wall system. Each module has a panel with a front and rear surface with at least one horizontal reinforcing rod. In the preferred embodiment, a portion of each rod horizontal transverse an integrally attached flange located at each opposite end of the panel. On the outside surface of each flange, there is a recess across which a portion of each reinforcing rod is exposed to be subsequently surrounded by concrete of a poured-in-place reinforced column. A horizontal row of adjacent modules is positioned on a constructed, reinforced footing. The front surface of each module is exposed and each flange is positioned opposite to a flange located on an adjacent module with a column space created between opposite flanges. Alignment elements are attached to the upper surface of each flange and successive horizontal rows of modules are then positioned above until the desired height is achieved. Vertical column forms are attached to the distal and proximal edges of opposite flanges and concrete is poured down into the column space and surrounds all the exposed surfaces. After the concrete has cured, the column forms are removed and the retaining wall structure is completed.



2) Family number: 3328012 (WO9015195A1)

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Title: MOULDED (CONCRETE) BLOCK FOR SUPPORTING WALLS, MOULD FOR ITS PRODUCTION, AND SUPPORTING WALL

Priority: DE19893917500 19890530 WO1990EP00803 19900518

Family:

Publication number	Publication date	Application number	Application date
AU199056425 A1	19910107	AU19900056425	19900518
DE3917500 A1	19901206	DE19893917500	19890530
WO9015195 A1	19901213	WO1990EP00803	19900518

Probable Assignee: SF VOLLVERBUNDSTEIN

Assignee(s):(std): SF VOLLVERBUNDSTEIN

Assignee(s): SF VOLLVERBUNDSTEIN KOOPERATION GMBH ; SF VOLLVERBUNDSTEIN KOOPERATION GMBH 2820 BREMEN DE

Inventor(s):(std): HAGENAH GERHARD

Inventor(s): HAGENAH GERHARD 2862 WORPSWEDE DE ; GERHARD HAGENAH

Designated states: AT AU BE CA CH DE DK ES FI FR GB IT JP LU NL NO SE US

International class (IPC 8-9): B28B7/00 E02D29/02 (Advanced/Invention); B28B7/00 E02D29/02 (Core/Invention)

International class (IPC 1-7): B28B7/16 E02D17/20 E02D29/02 E04B2/08

CPC: B28B7/0079 B28B7/0085 B28B7/0097 E02D29/025

European class: B28B7/00F5 B28B7/00F7 B28B7/00K E02D29/02E

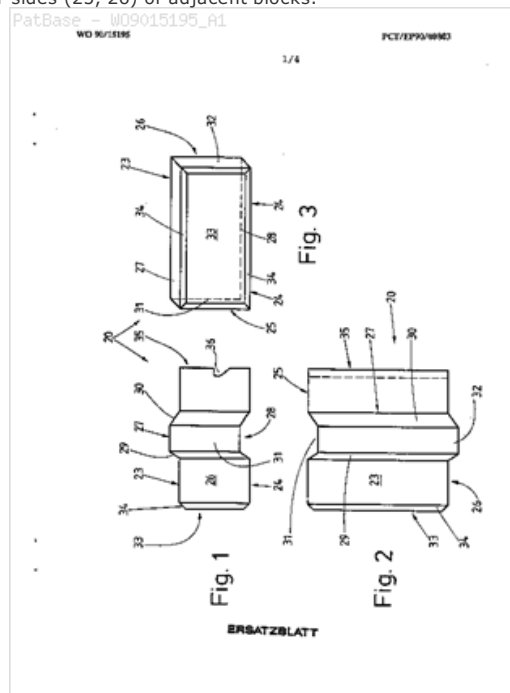
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Cited documents: US3953979 A, US2987795 A, US1807138 A, FR834781 A, FR2621629 A1, FR2610962 A1, FR2572745 A1, FR2550811 A1, EP0319465 A1, EP0316653 A2, EP0187615 A1, DE8903854 U1, DE8706338 U1, DE7908058 U, DE7614720 U, DE3505530 A1, DE3401114 A1, DE2852435 A1, DE2755833 A1, DE2638905 A1, DE2429949 A1, DE1929780 B, DE1459738 A1, DE1124899 B,

Forward Citations: WO04016862, US5480267, FR2843412, DE4131423, DE19546886, DE10002390, AP585,

Abstract:

For the purposes of arranging moulded blocks (20, 21) alternately in horizontal and vertical array, the blocks (20, 21) are also provided with projections and/or recesses in the region of the side surfaces (25, 26) so that they may alternately engage with corresponding projections and/or recesses in the top (23), bottom (24) or sides (25, 26) of adjacent blocks.

**3) Family number: 24875032** (DE93232 A)

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Family:

Publication number	Publication date	Application number	Application date
DE93232 A	00000000		00000000

International class (IPC 8-9): B27B5/36 (Advanced/Invention); B27B5/00 (Core/Invention)

International class (IPC 1-7): B27B5/36 B27G13/14

CPC: B27B5/36

European class: B27B5/36

[Classification Explorer](#)

Forward Citations: US5480267, DE19526460,

Priority:	US19840578352	19840208	US19840578352	19840208	CA19850473891	19850208
	CA19850567709	19850208	EP19850900927	19850208	CA19850567717	19850208
	WO1985US00191	19850208	WO1985US00190	19850208	EP19850901193	19850208
	EP19850901193	19850208	EP19850900927	19850208	WO1985US00189	19850208
	CA19880567709	19880525	CA19880567717	19880525		

Family:	Publication number	Publication date	Application number	Application date
A	AT56233 E	19900915	AT19850901193T	19850208
	AT63348 E	19910515	AT19850900927T	19850208
	AU198538881 A1	19850827	AU19850038881	19850208
	AU198539966 A1	19850827	AU19850039966	19850208
	AU198539968 A1	19850827	AU19850039968	19850208
	CA1237288 A1	19880531	CA19850473891	19850208
	CA1258980 A1	19890905	CA19850567709	19850208
	CA1258980 A2	19890905	CA19880567709	19880525
	CA1258980 C	19890905	CA19880567709	19880525
	CA1262053 A1	19891003	CA19850567717	19850208
	CA1262053 A2	19891003	CA19880567717	19880525
	DE3579533 D1	19901011	DE19853579533	19850208
	DE3582761 D1	19910613	DE19853582761	19850208
	EP0171417 A1	19860219	EP19850900927	19850208
	EP0171417 A4	19870428	EP19850900927	19850208
	EP0171417 B1	19910508	EP19850900927	19850208
	EP0171432 A1	19860219	EP19850901193	19850208
	EP0171432 A4	19870120	EP19850901193	19850208
	EP0171432 B1	19900905	EP19850901193	19850208
	EP0172230 A1	19860226	EP19850901192	19850208
	EP0172230 A4	19870428	EP19850901192	19850208
	JP61501101 T2	19860529	JP19850501008	19850208
	JP61501102 T2	19860529	JP19850501032	19850208
	JP61501160 T2	19860612	JP19850500739T	19850208
	US4619560 A	19861028	US19840578352	19840208
	WO8503535 A1	19850815	WO1985US00189	19850208
	WO8503536 A1	19850815	WO1985US00190	19850208
	WO8503537 A1	19850815	WO1985US00191	19850208

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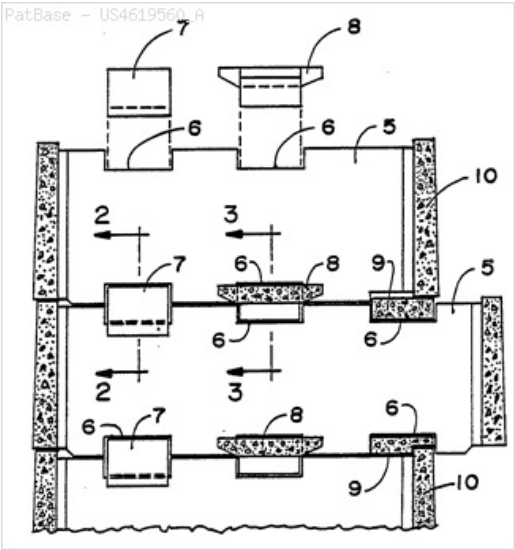
CPC: E02B3/066 E02D29/025
European class: E02B3/06C E02D29/02E
US class: 405/284 52/597 52/604 52/605

[Classification Explorer](#)

Cited documents: US4380409 A, US4379659 A, US4074538 A, US3953979 A, US3418774 A, US3269125 A, US2880538 A, US2880470 A, US2333168 A, US1637065 A, SU256647 T, JP55078724 A2, FR2506366 A3, FR2496141 A1, FR2465032 A1, FR2436331 A1, FR2268116 A1, DE3025870 A1, DE2947462 A1, DE2910526 A1, AT360574 B,

Forward Citations: WO14078738, WO05106135, US9739028, US9732523, US9428878, US9021761, US8398046, US8104996, US7896306, US7544010, US7401999, US7044687, US7044687, US6902353, US6178715, US6178715, US5788423, US5765970, US5673530, US5619835, US5595460, US5540525, US5484236, US5480267, US5353569, US5154542, US5131791, US5108231, US4965097, US4778309, US2013315679, US2011150571, US2008175662, US2006127181, US2006104724, US2005081470, US2004098938, US10273648, JP2002256576, JP2002194754, GB2229467, FR2597132,

Abstract:
A prefabricated concrete module and a composite wall structure comprised of an assembly of modules, where the module comprises a generally rectangular front and rear panel, joined by at least one generally trapezoidal partition means. A cellular wall structure is formed by stacking the modules and aligning the partition means on top of each other, thereby forming bins which contain loose material contributing to the weight of the structure. Provisions can be made for slabs which span longitudinally across partition means of vertically contiguous modules. These slabs, which capture an additional amount of loose material, can also, where desired, transfer lateral forces between superposed partition means. In a version of the module, useful whether or not the trapezoidal partition means are employed, the longitudinal distance from a partition to the edge of the front panel, is less than half the distance between partitions. By spacing these modules so that their front panels are longitudinally spaced apart, drop-in panels are able to be inserted, and a more economical wall structure can be assembled.



5) Family number: 19684087 (US1787200A)

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Title: Cribbing
Priority: US19260145392 19261101 US19280294070 19280720

Family:	Publication number	Publication date	Application number	Application date
	US1787199 A	19301230	US19260145392	19261101
	US1787200 A	19301230	US19280294070	19280720

Probable Assignee: MASSEY CONCRETE PRODUCTS CORP
Assignee(s):(std): MASSEY CONCRETE PRODUCTS CORP
Inventor(s):(std): HUNTOON JOHN S

International class (IPC 8-9): E02D29/02 (Advanced/Invention); E02D29/02 (Core/Invention)

International class (IPC 1-7): E02D29/02

CPC: E02D29/0216

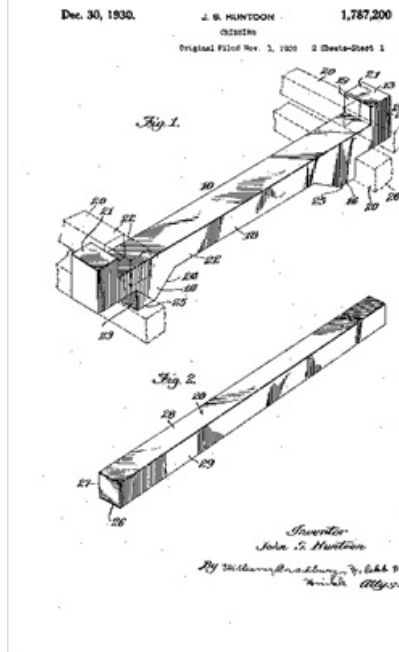
European class: E02D29/02C

US class: 405/273

[Classification Explorer](#)

Forward Citations: US6808339, US6036405, US5480267, US4664562, US4664358, US4628658, EP0127978, EP0127978, DE4131423,

Abstract:
1. In EL cribbing, ax pILlI' 2LILY of su- _It;»LuI\01's of one shape, and an pluruliiy of luu1:_It;\'e\'se hezlclers of a second shape, piled _lSE,1' I12ltE\$ly upon each other to form said Cribbing, said headers having plane sides mul QL plurality of lleaders being placed side by side at the base of a header wall, :1 lesser number of headers ECllP'jJOE'tGd upon all of the Hrst namefl headers, to graduate the header wall in thickness from the bottom to top.

**6) Family number: 1239095** (US4273476A)

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Title: Reinforcement of armored earth work constructions
Priority: DE19772753243 19771129 DE19782860315 19781118
Family:

Publication number	Publication date	Application number	Application date
AT362307 B	19810427	AT19780008455	19781127
AT845578 A	19800915	AT19780008455	19781127
DE2753243 A1	19790607	DE19772753243	19771129
DE2860315 D1	19810219	DE19782860315	19781118
EP0002216 A1	19790613	EP19780101398	19781118
EP0002216 B1	19801210	EP19780101398	19781118
IT1100763 A	19850928	IT19780030239	19781127
IT7830239 A0	19781127	IT19780030239	19781127
JP1363161 C3	19870209	JP19780145430	19781127
JP54107105 A2	19790822	JP19780145430	19781127
JP61028771 B4	19860702	JP19780145430	19781127
US4273476 A	19810616	US19780960817	19781115

Probable Assignee: STRABAG BAU AG
Assignee(s):(std): BAYER AG ; STRABAG BAU AG ; STABAG BAU AG
Assignee(s): SHUTORABAAGU BAU AG ; BAYER AKTIENGESELLSCHAFT ; BAYER AKTIENGESELLSCHAFT LEVERKUSEN
 REP FED DI GERMANIA ; BAIERU AG
Inventor(s):(std): SCHMIDT RUDOLF ; PREIS LOTHAR ; FOERSTER ROLF ; WEISER MARTIN ; HAAS HANS ; KOTULLA
 BERNHARD ; PREIS LOTHAR DR ; FORSTER ROLF JOACHIM DR ; HANSU HAASU ; MARUTEIN BUAIZERU
 ; ROOTARU PURAISU ; BERUNHARUTO KOTSURA ; YOAHHIM FUEERUSUTERU ; RUDORUFU
 SHIYUMITSUTO ; KOTULLA BERNHARD DR ; HAAS HANS DR ; WEISER MARTIN DIPL ING ; SCHMIDT
 RUDOLF DIPL ING
Inventor(s): MARUTEIN UAIZERU ; RUDORUFU SHUMITSUTO
Designated states: CH DE FR GB NL
International class
 (IPC 8-9): E02B3/12 E02D17/18 E02D27/08 E02D29/02 E04C5/07 (Advanced/Invention);
 E02B3/12 E02D17/18 E02D27/08 E02D29/02 E04C5/07 (Core/Invention)
International class
 (IPC 1-7): E02B3/10 E02D17/18 E02D17/20 E02D27/08 E02D29/02 E02D5/00 E04C5/07
CPC: E02D29/0225 E02D29/0241
European class: E02D29/02D E02D29/02D2
US class: 405/258 405/284 405/302.7

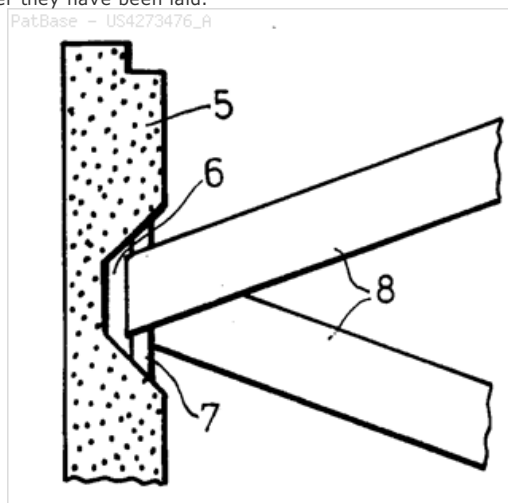
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Cited documents: US4167542 A, US3997697 A, US3971223 A, US3939662 A, US3925994 A, US3670506 A, US3570253 A,
 US3467490 A, US3421326 A, GB1485004 A, FR2234427 A1, FR2221588 A1, FR2055983 A5, DE2053891
 A1, CA656062 A,

Forward Citations: WO9500712, WO9413890, USD555808, USD548365, USD547881, USD546972, US9523178, US9017495,
 US8790045, US8579549, US8011859, US7846278, US7491018, US7384215, US7351015, US7300892,
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 US6343895, US6315499, US6098932, US5839855, US5816749, US5807030, US5800097, US5797706,
 US5642968, US5607262, US5595460, US5588783, US5540525, US5522682, US5480267, US5064313,
 US5028172, US4992003, US4832533, US4728227, US4627133, US4616959, US4324508,
 US2018361620, US2015078838, US2014345220, US2013022411, US2011236141, US2011053445,
 US2010215442, US2010092249, US2007009331, US2006110221, US2006105653, US2006065342,

Abstract:

The outer skin of armored earthwork constructions is attached to bands and the traction is transmitted to the ground by friction. The bands are made of a corrosion resistant, high strength weave or netting of reinforced organic, glass or carbon fibres or fibre mixtures and are preferably impregnated with liquid reaction resins such as epoxide, polyurethane or isocyanate resins. It is advantageous to impregnate the bands and then to harden them only after they have been laid.



7) Family number: 21543103 (FR1258423A)

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Title: BLOC DE CONSTRUCTION BLOCK CONSTRUCTION (Machine translation)

Priority: FR19600820364 19600304

Family:

Publication number	Publication date	Application number	Application date
FR1258423 A	19610414	FR19600820364	19600304

Inventor(s):(std): BESSE LOUIS LUCIEN

International class (IPC 8-9): E04B2/18 (Advanced/Invention);
E04B2/02 (Advanced/Non-invention);
E04B2/14 (Core/Invention);
E04B2/02 (Core/Non-invention)

International class (IPC 1-7): E04B2/44 E04C1/10

CPC: E04B2/18 E04B2002/0247 E04B2002/0252

European class: E04B2/18 P04B2/02M3B P04B2/02M3D

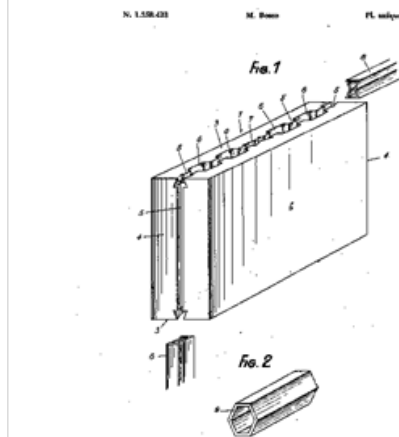
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Forward Citations: WO9306310, US5480267, US3680277, US3641730, US3430403, FR2501262, DE1901562,

Abstract:

Source: FR1258423A [FR] (Claim 1) 1. Bloc de construction a faces lisses et dressees presentant, sur une partie au moins de ses faces d'assemblage avec les autres blocs de la construction, une ou plusieurs rainures d'assemblage de profil choisi, disposees de facon telle que deux rainures viennent chaque fois coïncider lors de l'assemblage des blocs voisins, en combinaison avec des profils d'assemblage appareilles au profil des rainures et etudies de maniere a s'engager simultanement dans deux rainures en coincidence de deux blocs voisins, afin de realiser l'assemblage et le guidage de ces blocs au cours de la construction.

Machine translation: (Claim 1) 1. Building block has smooth surfaces and upright presenting, on at least part of its assembly faces with the other blocks of the construction, one or more grooves assembly of selected profile, arranged such that two grooves are each time coincide during the assembly of the neighboring blocks, in combination with profiles of assembling computers working profile of the grooves and studied in order to engage simultaneously in two grooves in coincidence of two neighboring blocks, in order to realize the assembly and guiding such blocks during construction.

**8) Family number: 2964148** (US5191744A)

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Title: Construction element**Priority:** AU1990PK00198 19900517 AU1990PK02440 19900921 AU19910077149 19910517

Family:	Publication number	Publication date	Application number	Application date
	AU199177149 A1	19911121	AU19910077149	19910517
	AU635641 B2	19930325	AU19910077149	19910517
	EP0457615 A1	19911121	EP19910304478	19910516
	IE911674 A1	19911120	IE19910001674	19910516
	JP5118093 A2	19930514	JP19910140774	19910517
	KR19910020277 A	19911219	KR19910007959	19910516
	US5191744 A	19930309	US19910701096	19910516

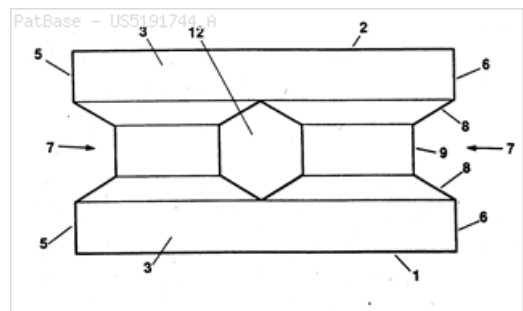
Probable Assignee: HEXACORE TECHNOLOGY PTY LTD**Assignee(s):(std):** BOWES KEITH D ; BOWES KEITH DAVID ; KEITH DAVID BOWES ; KEISU DEIBUITSUDO BOUZU**Assignee(s):** LOCABLOC AUSTRALIA PTY LTD ; BLOC LOC INT ; BLOC LOC INTIONAL ; HEXACORE TECHNOLOGY PTY LTD**Inventor(s):(std):** BOWES KEITH D ; KEISU DEIBUITSUDO BOUZU ; BOWES KEITH DAVID**Inventor(s):** KEITH DAVID BOWES**Agent(s):** CHRYSILIOU IP**Designated states:** AT BE CH DE DK ES FR GB GR IT LI LU NL SE

International class (IPC 8-9): A63H33/08 E04B2/02 E04B2/42 (Advanced/Invention);
 E04B2/02 (Advanced/Non-invention);
 A63H33/04 E04B2/02 E04B2/42 (Core/Invention);
 E04B2/02 (Core/Non-invention)

International class (IPC 1-7): A63H33/08 A63H33/10 E04B2/02 E04B2/42 E04B2/46 E04B2/48 E04C1/00 E04C1/10 E04C3/00

CPC: E04B2/42 E04B2002/0247**European class:** E04B2/42 P04B2/02M3B**US class:** 52/564 52/585 52/600 52/606 52/607 525/640[Classification Explorer](#)**Cited documents:** US4597236 A, US4485604 A, US3998022 A, US2736188 A, NL89495 A, IT449884 A, GB1224485 A, FR651576 A, FR1438181 A, AU132021 B2,**Forward Citations:** US8887466, US7677007, US6851235, US6318041, US5729943, US5485703, US5480267, US2014007529, US2008302040, US2007028817, US2006272264, US2002112427, JP4639392, JP2000046299, AU2006101038,**Abstract:**

The invention provides a construction element having a front face (1), a back face (2), a top face (3), a bottom face (4) and end faces (5) and (6). Each of the top (3), bottom (4) and end faces (5) and (6) contains a channel (7) having side walls (8) joined by a base (9) and arranged so as to surround the periphery of the construction element. An aperture (12) is formed between the top face (3) and bottom face (4). The aperture (12) is hexagonal in cross-section. In each channel (7), each side wall (8) forms an angle of 120 degrees with the base of channel (7).



9) Family number: 21835166 (US2703963A)

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Title: SHEET PILING ANCHORAGE

Priority: US19520273455 19520226

Family:

Publication number	Publication date	Application number	Application date
US2703963 A	19550315	US19520273455	19520226

Probable Assignee: ALVAREZ GUTIERREZ PLACIDO

Assignee(s):(std): ALVAREZ GUTIERREZ PLACIDO

Inventor(s):(std): ALVAREZ GUTIERREZ PLACIDO

Inventor(s): GUTIERREZ PLACIDO ALVAREZ

International class
(IPC 8-9): E02D5/76 (Advanced/Invention);
E02D5/74 (Core/Invention)

International class
(IPC 1-7): E02D5/76

CPC: E02D5/76

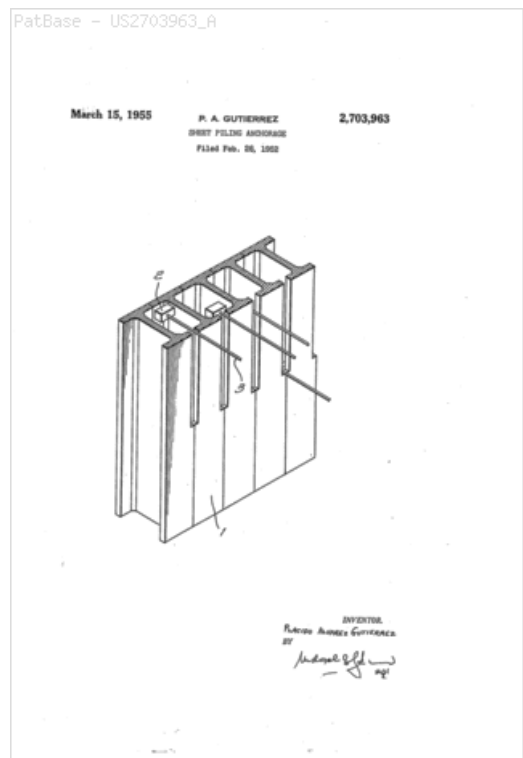
European class: E02D5/76

US class: 405/262

[Classification Explorer](#)

Cited documents: US1998860 A,

Forward Citations: US9605402, US8734059, US8632282, US8632281, US8632280, US8632279, US8632278, US8632277, US8496411, US8393829, US5860771, US5820305, US5702208, US5480267, US3732654, US3056171, US2011229274, US2011182673, US2011170960, US2011170958, US2011170957, US2010247248, EP0047610, DE8903496,



10) Family number: 32248243 (USD509909S)

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Title: RETAINING WALL AND BLOCK FACE

Priority: US20040206041F 20040525

Family:

Publication number	Publication date	Application number	Application date
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Probable Assignee: CUSTOM PRECAST AND MASONRY INC
Assignee(s):(std): CUSTOM PRECAST AND MASONRY INC
Assignee(s): DLK INC
Inventor(s):(std): SORHEIM DANIEL R
Agent(s): OPPENHEIMER WOLFF AND DONNELLY LLP
US class: D25/113
Locarno class: 25/01

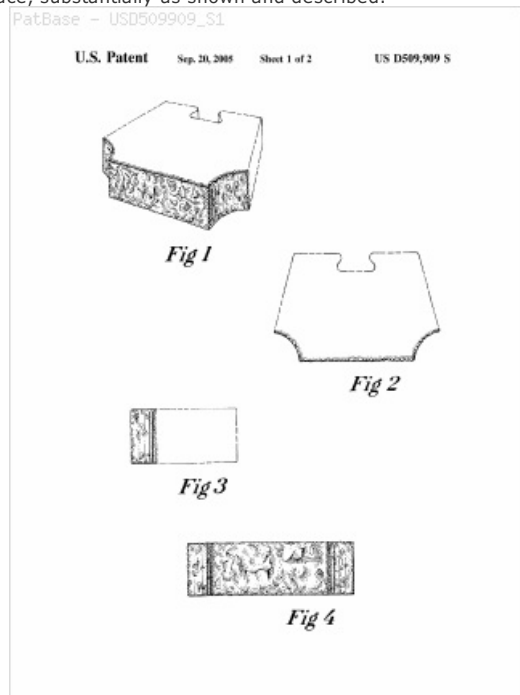
[Classification Explorer](#)

Cited documents: USRE37278 E, USRE34314 E, USD490542 S1, USD488569 S1, USD488568 S1, USD488242 S1, USD482133 S1, USD479342 S1, USD479003 S1, USD479002 S1, USD464145 S1, USD459487 S1, USD458693 S1, USD445512 S1, USD438640 S1, USD437422 S1, USD435304 S1, USD433157 S1, USD431870 S1, USD430308 S1, USD429006 S1, USD411315 S1, USD397808 S1, USD397451 S1, USD397230 S1, USD387434 S1, USD384168 S1, USD381086 S1, USD380560 S1, USD317048 S1, USD301064 S1, USD300254 S1, USD300253 S1, USD299067 S1, USD298463 S1, USD297767 S1, USD297574 S1, USD297464 S1, USD296365 S1, USD296007 S1, USD295790 S1, USD295788 S1, US994027 A, US868838 A, US6758636 BB, US6709201 BB, US6682269 BB, US6652196 BA, US6651401 BB, US6641334 BB, US6637981 BB, US6616382 BB, US6615561 BB, US6612784 BB, US6609695 BB, US6592301 BB, US6540501 BA, US6536994 BB, US6523317 BA, US6464199 BA, US6447213 BA, US6416257 BA, US6338597 BA, US6322742 BA, US6322291 BA, US6321740 BA, US6318934 BA, US6312197 BA, US6250850 BA, US6224815 BA, US6209848 BA, US6183168 BA, US6178704 B1, US6168353 B1, US6168351 B1, US6149352 A, US6142713 A, US6138983 A, US6113379 A, US6113318 A, US6082067 A, US6082057 A, US6050255 A, US6029943 A, US5921715 A, US5913790 A, US5879603 A, US5865006 A, US5827015 A, US5795105 A, US5779391 A, US5771631 A, US5711129 A, US5709062 A, US5704183 A, US5653558 A, US5623797 A, US5601384 A, US5588262 A, US5568994 A, US5551809 A, US5528871 A, US5522682 A, US5511910 A, US5507599 A, US5505034 A, US5490363 A, US5487623 A, US5484236 A, US5480267 A, US5419092 A, US5417523 A, US5406769 A, US5370480 A, US5360296 A, US5353569 A, US5350256 A, US5294216 A, US5282700 A, US4982544 A, US4922678 A, US4914876 A, US4909010 A, US4896999 A, US4884378 A, US4825619 A, US4802320 A, US4782640 A, US4661023 A, US4597236 A, US4490075 A, US4470728 A, US4384810 A, US4379659 A, US4278364 A, US4190384 A, US4003172 A, US3877236 A, US2619829 A, US2589304 A, US250635 A, US2016382 A, US1985992 A, US1329893 A, US1226214 A, US1188919 A,

Forward Citations: USD817517, USD815307, USD811621, USD789554, USD783861, USD764685, USD751731, USD743576, USD742539, USD737466, USD737465, USD729412, USD722392, USD722390, USD711017, USD706958, USD703838, USD698464, USD690836, USD690835, USD687169, USD687168, USD677802, USD677801, USD676152, USD673694, USD666315, USD662611, USD662609, USD662608, USD657070, USD653355, USD652953, USD650917, USD650491, USD643943, USD643941, USD643940, USD643939, USD639456, USD632810, USD632809, USD632808, USD632806, USD631984, USD631983, USD625841, USD620133, USD619734, USD619733, USD619732, USD619731, USD619730, USD613880, USD598137, US9878465, US9695596, US9259853, US2012192522, US10576657,

Abstract:

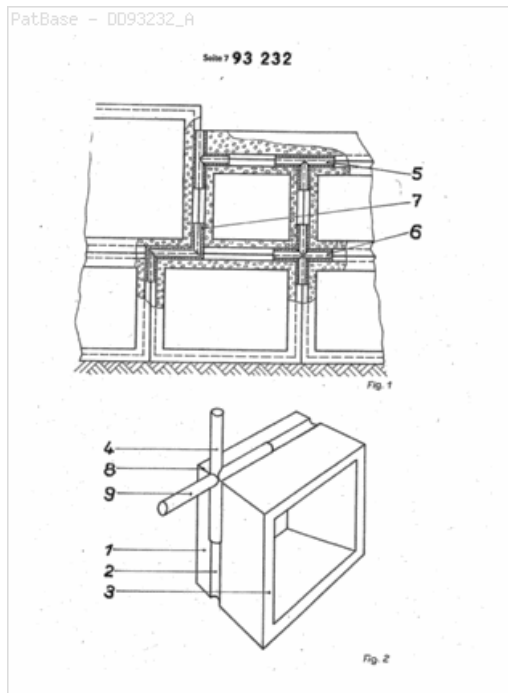
[Source: Claim 1] The ornamental design for a retaining wall and block face, substantially as shown and described.



11) Family number: 25300263 (DD93232 A)

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Family:	Publication number	Publication date	Application number	Application date
	DD93232 A	00000000		00000000
International class (IPC 1-7):	E04B1/38 E04C1/10			
Forward Citations:	DE4131423, DE3403416,			



12) Family number: 29877325 (US2392551A)

© PatBase

Title: INTERLOCKING BUILDING BLOCK

Priority: US19430486355 19430510

Family:	Publication number	Publication date	Application number	Application date
	US2392551 A	19460108	US19430486355	19430510

Probable Assignee: ALBERT KAHN

Assignee(s):(std): ALBERT KAHN

Inventor(s):(std): JAMES ROE

Inventor(s): ROE JAMES

CPC: E04B2/08 E04B2002/0252

European class: E04B2/08 P04B2/02M3D

US class: 52/309.17 52/586.2 52/592.6 52/598

[Classification Explorer](#)

Forward Citations: WO9913176, WO8403319, WO8000588, WO18137023, WO17027958, WO16165840, WO15003580, WO14179823, WO14078926, WO13053340, WO13053340, WO12040789, WO08000861, USD833647, USD833646, USD833645, US9951490, US9890512, US9809971, US9808733, US9803359, US9725900, US9714510, US9677267, US9670640, US9464431, US9453341, US9441342, US9303400, US9206599, US9133619, US9074362, US9045938, US9021762, US9016668, US8992131, US8800236, US8443563, US8402710, US8225565, US8198966, US8079195, US7861479, US7762033, US7704011, US7290377, US7267321, US7207147, US7207146, US7096634, US6848228, US6546687, US6539682, US6374556, US6240693, US6189282, US6176049, US5984589, US5970675, US5954562, US5901521, US5899040, US5890332, US5839243, US5794372, US5713085, US5480267, US5020289, US4922678, US4712322, US4597236, US4457117, US4391077, US4297816, US3964402, US3791090, US3785098, US3648393, US3461631, US3362739, US3296758, US3196496, US3123345, US3071674, US2933920, US2850890, US2792614, US2751775, US2744479, US2674775, US2657153, US2618146, US2482870, US2017205577, US2017016228, US2016288009, US2015247328, US2014245685, US2014090325, US2011247289, US2011000161, US2010095631, US2010050556, US2010018146, US2009145063, US2009013577, US2008263986, US2008225467, US2008222969, US2008134615, US2007245660, US2007186499, US2007167260, US2007074478, US2006005500, US2006000179, US2005257466, US2005144877, US2005086892, US2004006945, US2003188505, US10487495, US10487494, US10472821, US10422101, US10316513, US10273647, US10145102, US10094109, US10086304, US10060124, US10036161, ES2288428, ES2137063, EP3081711, EP2766536, EP2622146, EP1882788, EP1882788, EP0872607, EP0872607, DE1171593, DE1094433, DE102017010647, DE102008031589, DE102006034995, CZ303550, CN103924727, CN103924727, CN103321295, CN103201439, CN103161241, AU2011308092,

Abstract:

1. A wall structure comprising a series of superposed courses of building blocks, matching keyways in certain adjacent blocks in a course, keys in said keyways locking said adjacent blocks together, each of said keys extending from one course into and fitting snugly within an opening in a block of an adjacent course, thereby also locking adjacent courses together against horizontal shifting, and tongue and groove connections inclined to the longitudinal axes of the keys and interlocking blocks of adjacent courses whereby said first named keys and said tongue and groove connections lock the courses against vertical as well as horizontal shifting, the tongues of the tongue and groove connections being each integral with a block.

Priority: US19980037811 19980310 CA19992265079 19990309

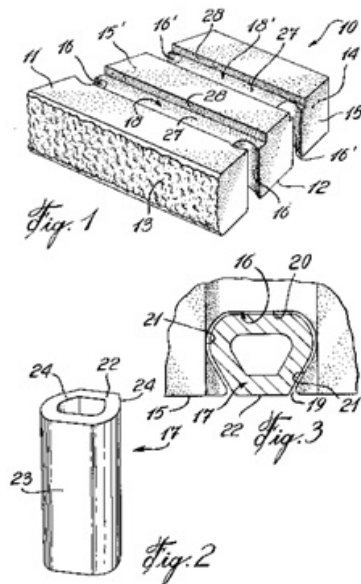
Probable Assignee:	CICCARELLO CHARLES
Assignee(s):(std):	CICCARELLO CHARLES
Assignee(s):	TECHO BLOC INC
Inventor(s):(std):	CICCARELLO CHARLES
Agent(s):	OGILVY RENAULT LLP SENCRL SRL

CPC: E02D29/025 E02D29/0266

Classification Explorer

Forward Citations: WO18175326, WO04070114, WO04070114, USD711014, USD708765, USD688816, USD688815, USD688814, USD688813, USD688812, USD685502, USD678553, USD677803, USD674121, USD671657, USD668792, USD665928, USD665515, USD665514, USD663858, USD652313, USD652155, USD652154, USD652153, USD647219, USD647218, USD622581, USD482133, US9957687, US9809971, US9574317, US9428926, US9021761, US8667759, US8240105, US8215079, US7712281, US7591447, US7360970, US7351014, US7328537, US7290377, US7090438, US7048472, US7037047, US6948282, US6912823, US6862856, US6854231, US6808339, US6682269, US6616382, US6312197, US2019255734, US2016010307, US2014260059, US2013118092, US2011217127, US2009041551, US2008260474, US2008120931, US2007199264, US2006021288, US2005123362, US2005108973, US2004088929, US2004040245, US2003074856, US2003070384, US2003029114, US10532488, US10364568, US10358817, JP2015527512.

A wall construction block for the construction of earth retaining walls includes a pair of spaced-part transverse pin receiving channels in the end walls of the block and disposed parallel to one another along respective longitudinal axis of the block which are parallel with a front face of the block. The pin receiving channels extend transverse from a top surface to a bottom surface of the block and are of substantially uniform cross-section throughout. Arresting pin elements are received in sliding fit within some of the receiving channels and are retained captive therein. Elongated parallel grooves are provided on a top surface of the block and extend across the end walls and parallel to the front wall. One of the groove is aligned between a first set of the pin receiving channels and the other of the parallel grooves is offset a predetermined distance between the other set of pin receiving channels. When the blocks are disposed in rows one on top of one another, with the top wall of the block facing upwards, the rows of blocks are arrested from transverse shifting by positioning arresting pin elements in selected ones of the sets of transverse pin receiving channels. The pins extend out of the bottom wall of the uppermost block and into a selected one of the pair of grooves in a top surface of the lower block.

**14) Family number: 3773416** (GB1332297A)

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Title: BUILDING BLOCKS AND STRUCTURES MADE THEREFROM**Priority:** GB19690054703 19701109

Family:	Publication number	Publication date	Application number	Application date
	GB1332297 A	19731003		19701109

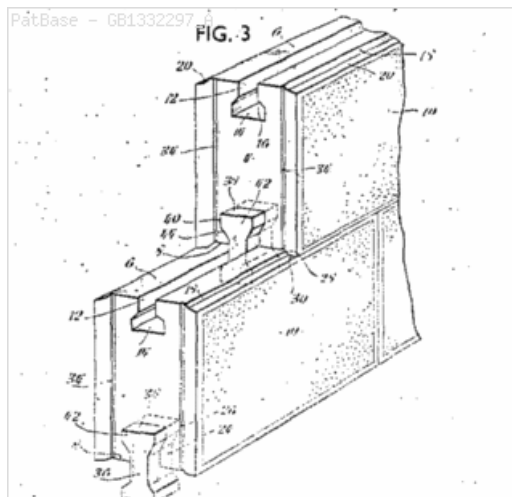
Probable Assignee: PARFREMENT B**Assignee(s):(std):** JAMES F ; PARFREMENT B

International class
 (IPC 8-9): E04B2/08 (Advanced/Invention);
 E04B2/02 (Advanced/Non-invention);
 E04B2/04 (Core/Invention);
 E04B2/02 (Core/Non-invention)

International class
 (IPC 1-7): E04B2/08 E04C1/10

CPC: E04B2/08 E04B2002/0252**European class:** E04B2/08 P04B2/02M3D[Classification Explorer](#)**Forward Citations:** US5890332, US5480267, US5157890, GB2152547, FR2629496, ES2285880, EP0135972, EP0135972, DE4131423,**Abstract:**

1332297 Building blocks B PARFREMENT and F JAMES 9 Nov 1970 [7 Nov 1969] 54703/69 Heading E1B A dry wall comprises concrete blocks interconnected by joggles 36 made of concrete metal or plastics engaged in undercut grooves 14 in the top surface and in recesses 24 of similar profile at the opposite ends of the bottom surface. Shoulders 20 at the sides of the top edge mate with corresponding projections 30 at the bottom edge. The end blocks of a wall engage between flanges of a pillar and half blocks are provided to offset joints in alternate layers. Grooves 34 in one end face receive ribs of the opposed end face of an adjacent block.



15) Family number: 2955422 (US4824293A)

Title:	Retaining wall structure
Priority:	US19870034720 19870406
Family:	Publication number Pub

Publication number	Publication date	Application number	Application date
US4824293 A	19890425	US19870034720	19870406

Probable Assignee:	UES INC
Assignee(s):(std):	BROWN RICHARD L ; MORRIS GEORGE L
Assignee(s):	UES INC
Inventor(s):(std):	BROWN RICHARD L ; MORRIS GEORGE L
International class (IPC 8-9):	E02D29/02 (Advanced/Invention)
International class (IPC 1-7):	E02D29/02
CPC:	E02D29/0241
European class:	E02D29/02D2
US class:	405/262 405/284 405/286

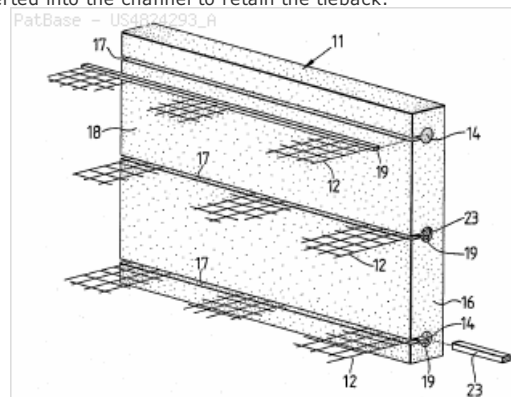
Classification Explorer

Cited documents: US792979 A, US4661023 A, US4616959 A, US4407611 A, US4389133 A, US4343572 A, US4324508 A, JP61083722 A2, GB2100325 A1,

Forward Citations: WO9916979, WO9904102, WO9533893, WO9413890, WO9306310, WO9114833, WO10013210, WO10013210, USRE39922, USD458693, USD445512, USD435304, US9725900, US9458594, US8790045, US8745953, US8430603, US8272812, US7857540, US7731455, US7544014, US7524144, US7503719, US7491018, US7445407, US7384215, US7360970, US7147406, US7147406, US7125202, US7125202, US7048472, US6939087, US6935812, US6921231, US6884004, US6860681, US6793436, US6758636, US6679656, US6616382, US6468004, US6467357, US6457911, US6447211, US6443663, US6443662, US6416260, US6416257, US6398458, US6338597, US6322291, US6318934, US6312197, US6269606, US6224295, US6183168, US6178715, US6178715, US6178704, US6168351, US6142713, US6113318, US6113317, US6089793, US6086288, US6029943, US5934838, US5921715, US5879603, US5839855, US5827015, US5800097, US5795105, US5788420, US5711129, US5709062, US5704183, US5697735, US5658098, US5639108, US5607262, US5595460, US5568998, US5564865, US5540525, US5522682, US5511910, US5480267, US5417523, US5259704, US5163261, US5131791, US5064313, US5044834, US5044833, US5028172, US4990032, US4968186, US4961673, US2015247328, US2014314501, US2013022411, US2011200390, US2010284751, US2010251649, US2010215442, US2009238639, US2009196695, US2009185870, US2009116911, US2009110491, US2008292413, US2008289283, US2007110523, US2006110221, US2006093440, US2005265791, US2005079017, US2005069389, US2004179903, US2004179902, US2004131429, US2004062614, US2004028484, US10584471, US10422101, KR20160133952, KR101122263, JP4676120, JP2003504535, ITRM20080411, EP1019585, EP0764229, CN103038424, CN103038424, AU732239, AU2004283242,

Abstract:

A construction for a retaining wall member utilizes a preformed channel in the member communicating through a slit formed between the channel and one face of the member for retention of a tieback utilized to affix the member to an underlying mass. The tieback may be retained by the mechanical interference between the walls of the slit and an enlarged portion of the tieback located within the channel. Alternatively, an interference rod may be inserted into the channel to retain the tieback.



16) Family number: 29494437 (W09741311A1)

Title:	MOULDED CONCRETE BLOCK, MOULDED CONCRETE BLOCK ASSEMBLY AND RETAINING WALL MADE THEREOF		
Priority:	DE19961016622 19960425	WO1997EP01850 19970414	

Publication number	Publication date	Application number	Application date
AU199723857 A1	19971119	AU19970023857	19970414
DE19616622 A1	19971030	DE19961016622	19960425
DE19616622 B4	20060413	DE19961016622	19960425
WO9741311 A1	19971106	WO1997EP01850	19970414

Probable Assignee:	SF KOOP GMBH BETON KONZEPTE
Assignee(s):(std):	HAGENAH GERHARD ; SF KOOP GMBH BETON KONZEPTE ; SF KOOPERATION GMBH BETON KONZEPTE
Assignee(s):	SF KOOPERATION GMBH BETON KONZEPTE 28717 BREMEN DE
Inventor(s):(std):	HAGENAH GERHARD ; GERHARD HAGENAH
Inventor(s):	HAGENAH GERHARD 27726 WORPSWEDE DE

Designated states: AT AU BE CA CH DE DK ES FI FR GB GR IE IL IS IT JP LU MC NL NO PT SE US

International class (IPC 8-9): B28B15/00 B28B7/24 E02D17/20 E02D29/02 E04B2/02 E04B2/08 E04C1/00 E04C1/39 (Advanced/Invention); B28B15/00 B28B7/24 E04B2/02 (Advanced/Non-invention); E02D17/20 E02D29/02 E04B2/04 E04C1/00 (Core/Invention); B28B15/00 B28B7/00 E04B2/02 (Core/Non-invention)

International class (IPC 1-7): E02D17/20 E02D29/02 E04B2/08 E04B2/10 E04C1/00

CPC: B28B7/24 B28B15/005 E02D29/025 E04B2/08 E04B2002/0245 E04C1/395

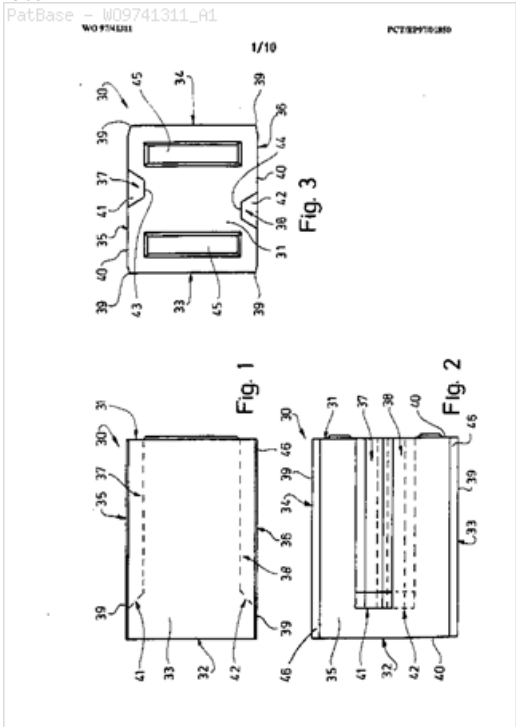
European class: E02D29/02E E04B2/08 E04C1/39B L28B15/00B L28B7/24 P04B2/02M3A

[Classification Explorer](#)

Cited documents: WO9306310 A1, WO9300484 A1, US5282700 A, US5159795 A, US4993206 A, US4299071 A, US2869355 A, US1424172 A, FR2663064 A1, FR2627525 A1, FR2476179 A1, FR2374478 A1, DE9100056 U1, DE4131423 A1, DE29500694 U1,

Forward Citations: EP1882788, EP1882788, EP0872607, EP0872607, DE10002390,

Abstract:
The disadvantage of known moulded concrete block assemblies and moulded concrete blocks is that when assembled into retaining walls the corner areas reveal faces with visually undesirable cavities. To avoid this disadvantage, the moulded concrete block or the moulded concrete block assembly is characterised in that recesses (37, 38) associated with one top face and one bottom face of the moulded concrete block are closed at least on one end face.



17) Family number: 851441 (US3422588A)

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Title: INTERLOCKING BUILDING BLOCK

Priority: US19670610141 19670118

Family:

Publication number	Publication date	Application number	Application date
US3422588 A	19690121	US19670610141	19670118

Probable Assignee: STARK CERAMICS INC

Assignee(s):(std): STARK CERAMICS INC

Inventor(s):(std): STEWART JOHN H JR

Inventor(s): JOHN H STEWART JR

International class (IPC 8-9): E04B2/18 (Advanced/Invention); E04B2/02 (Advanced/Non-invention); E04B2/14 (Core/Invention); E04B2/02 (Core/Non-invention)

International class (IPC 1-7): E04B2/18 E04B2/44

CPC: E04B2/18 E04B2002/021 E04B2002/0228

European class: E04B2/18 P04B2/02M1C P04B2/02M1G

US class: 446/125 52/436 52/605 522/850 D25/118

[Classification Explorer](#)

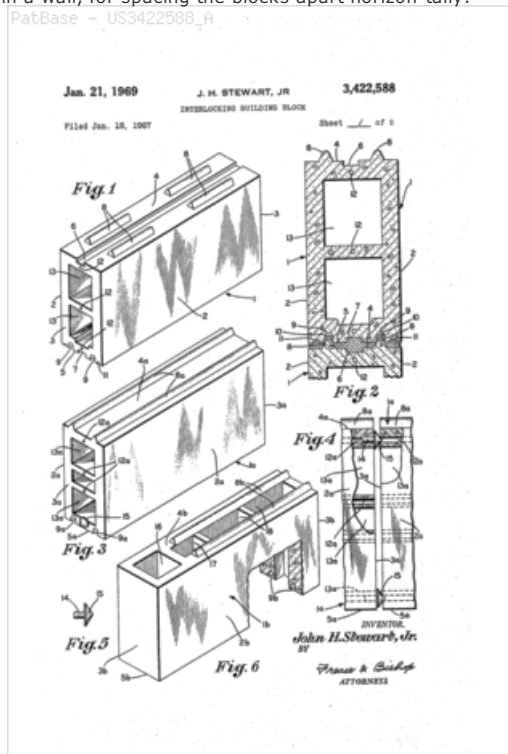
Cited documents: US746628 A, US3205611 A, US2940760 A, US2885822 A, US2008244 A, US1939528 A, US1365162 A, US1325079 A, GB459452 A, GB191224764 A, FR756895 A, FR1106254 A,

Forward Citations: WO9306310, WO9015903, WO9015903, WO8001185, WO06127965, WO05124047, WO05124047, WO04070130, USD845515, USD713975, US8919067, US8887465, US8800237, US8065851, US7721505, US7168218, US7096636, US6398458, US6253519, US6178715, US6178715, US5887404, US5853314, US5729943, US5664387, US5647185, US5480267, US5357728, US5282700, US5226276, US5010707, US4957395, US4648226, US4426815, US4372091, US4291514, US4121397, US3818658, US3662506, US3635354, US2013118103, US2011185673, US2010218454, US2010088994, US2010037555,

Abstract:

ABSTRACT OF THE DISCLOSURE

A building block having top and bottom faces, a pair of transversely spaced, parallel, longitudinally disposed ribs of triangular cross section on the top face, and a pair of correspondingly spaced, longitudinally disposed straight sided grooves in the bottom face. Each groove is of a width equal to an intermediate portion of the corresponding rib and of a height substantially the same as the height of the rib. There are longitudinally disposed apertures in each end of the block. Conical spacing members have straight stems snugly fitting in the apertures in one end of the block, the enlarged conical heads thereby being partially received in the apertures in the other end of a similar block when laid up in a wall, for spacing the blocks apart horizontally.



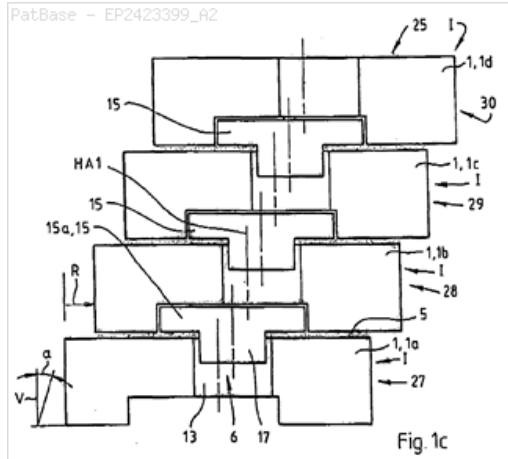
18) Family number: 50735465 (EP2423399A3)

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Abstract:

Source: EP2423399A3 [DE] P ID PA01 NUM 0001 DIE ERFINDUNG BETRIFFT EIN MAUERSYSTEM 56 ZUR ERSTELLUNG EINER MAUER 70 UMFASSEND MEHRERE GERADMAUERSTEINE 57 U MEHRERE SCHLUESSELSTEINE 58 IMG ID IAF01 FILE IMGAF001TIF WI 132 HE 120 IMG CONTENT DRAWING IMG FORMAT TIF

**19) Family number: 24046472 (US4802320A)**

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Title: Retaining wall block

Priority: US19860907077 19860915 US19870053757 19870526 US19870907077 19870526
 CA19870546758 19870914 EP19870906698 19870914 WO1987US02321 19870914
 US19870116228 19871103 US19880287286 19881220 US19910653194 19910206
 US19910652833 19910206 US19930076290 19930611

Family:

Publication number	Publication date	Application number	Application date
AT65273 E	19910815	AT19870906698T	19870914
AU198780775 A1	19880407	AU19870080775	19870914
AU604072 B2	19901206	AU19870080775	19870914
BRPI8707462 A	19881101	BR1987PI07462	19870914
CA1338280 A1	19960430	CA19870546758	19870914
DE3771488 D1	19910822	DE19873771488	19870914
DK158390 B	19900514	DK19880002638	19880513
DK158390 C	19901022	DK19880002638	19880513
DK263888 A	19880713	DK19880002638	19880513
DK263888 A0	19880513	DK19880002638	19880513
EP0281625 A1	19880914	EP19870906698	19870914
EP0281625 A4	19890118	EP19870906698	19870914
EP0281625 B1	19910717	EP19870906698	19870914
FI882175 A	19880510	FI19880002175	19880510
FI882175 A0	19880510	FI19880002175	19880510
FI88947 B	19930415	FI19880002175	19880510
FI88947 C	19930726	FI19880002175	19880510
KR19880701804 A	19881105	KR19880700535	19880514
KR19887001804 A	19881105	KR19887000535	19870914
KR970001721 B1	19970214	KR19880070535	19880514
KR970001721 B1	19970101	KR19880700535	19870914
KR970001721 B1	19970214	KR19880070535	19880514
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NO882122 A0	19880513	NO19880002122	19880513
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RU1809848 C	19930415	SU19884355910	19880513
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US4802320 A	19890207	US19870116228	19871103
US4825619 A	19890502	US19870053757	19870526
US4914876 A	19900410	US19880287286	19881220
USRE34314 E	19930720	US19910653194	19910206
USRE37278 E	20010717	US19930076290	19930611
WO8802050 A1	19880324	WO1987US02321	19870914

Probable Assignee: MELLON BANK NA**Assignee(s):(std):** PAUL J FORSBERG ; POL DZH FORSBERG ; FORSBERG P J ; FORSBERG PAUL J ; KEYSTONE RETAINING WALL SYSTEM ; KEYSTONE RETAINING WALL SYSTEMS INC**Assignee(s):** KEYSTONE RETAINING WALL SYSTEMS INC 3101 WEST 69TH ; KEYSTONE RETAINING WALL SYSTEMS ; FORSBERG PJ ; US BANK NATIONAL ASSOCIATION ; MELLON BANK NA ; WACHOVIA BANK NATIONAL ASSOCIATION AS ADMINISTRATI ; KEYSTONE RETAINING WALL SYSTEMS INC EDINA MINN US ; WACHOVIA BANK NATIONAL ASSOCIATION ADMINISTRATIVE ; WACHOVIA BANK NATIONAL ASSOCIATION ADMINISTRATIVE AGENT AS ; KEYSTONE RETAINING WALL SYSTEMS INC 3101 WEST 69TH STREET EDINA MINNESOTA 55435 A CORP OF MINNESOTA ; POL DZHFORSBERG ; WELLS FARGO BANK NA**Inventor(s):(std):** POL DZH FORSBERG ; PAUL J FORSBERG ; FORSBERG POUL J ; FORSBERG PAULO J ; FORSBERG PAUL J ; POL DZHFORSBERG**Inventor(s):** PAULO J FORSBERG ; FORSBERG PAUL J EDINA MN 55436 US**Agent(s):** SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; RICHES MCKENZIE AND HERBERT LLP**Designated states:** AT AU BB BE BG BR CH DE DK FI FR GB HU IT JP KP KR LI LK LU MC MG MW NL NO RO SD SE SU

International class (IPC 8-9): E02D17/20 E02D29/00 E02D29/02 E04C1/00 (Advanced/Invention); E02D17/20 E02D29/00 E02D29/02 E04C1/00 (Core/Invention); E02D (Subclass/Invention)

International class (IPC 1-7): E02B3/14 E02D17/20 E02D29/00 E02D29/02 E04B2/02 E04C1/00 E04C1/08 E04C1/12

CPC: E02D29/025

European class: E02D29/02E

US class: 405/284 405/286 52/169.1 52/169.4 52/295 52/562 52/585 52/585.1 52/604 52/607 52/608 52/609 52/712 521/694 D25/113 D25/116 D25/58

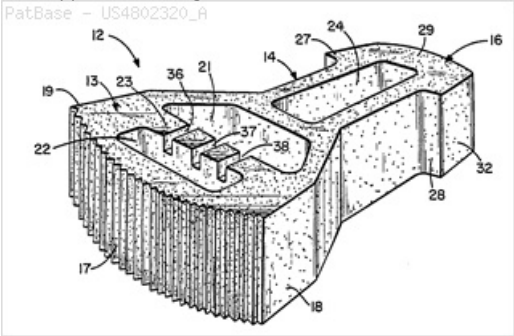
[Classification Explorer](#)

Cited documents: USD237704 S1, US810748 A, US566924 A, US4914876 A, US4802320 A, US4658541 A, US4572699 A, US4524551 A, US4496266 A, US4496226 A, US4472699 A, US4454699 A, US4335549 A, US4324508 A, US4312606 A, US4229123 A, US4228628 A, US4208850 A, US4207718 A, US4110949 A, US4016693 A, US3995434 A, US3936987 A, US3557505 A, US3430404 A, US3390502 A, US3332187 A, US3274742 A, US3252287 A, US3036407 A, US2963828 A, US2882689 A, US237704 A, US228052 A, US2252155 A, US2235648 A, US2235646 A, US2011531 A, US1818416 A, US1727363 A, US1456498 A, US1414444 A, US126547 A, US1092621 A, SU894038 A2, SU27174 A1, SU1090803 A1, SE84735 C1, SE84735 C, SE84735 C, JP58006016 B4, GB3362, GB2127872A, GB2127872 A1, GB191314528 A, GB187100336 A, GB187100336 A, GB1385207 A, FR392474 A, FR2216823 A5, FR1360872 A, EP0170113 A1, DE3401629 A1, DE2414202 A1, CH84735 A, CH84735, CH205452 A, AU253556 B2,

Forward Citations: WO9935343, WO9510667, WO9423136, WO9423136, WO9416154, WO9306310, WO17132425, WO14068032, WO14022637, WO13043688, WO11146545, WO11109621, WO11109360, WO05035902, WO02097199, WO0116432, WO0047829, WO0022243, WO0022241, USRE39922, USRE34314, USD711014, USD678553, USD677803, USD674121, USD672887, USD672886, USD668792, USD667566, USD667140, USD667139, USD666741, USD666740, USD665928, USD652531, USD652155, USD652154, USD652153, USD602171, USD569010, USD555808, USD552258, USD548367, USD548366, USD548365, USD547881, USD546972, USD537533, USD509909, USD500864, USD467009, USD458693, USD458387, USD452332, USD447573, USD445512, USD441464, USD439678, USD438640, USD437422, USD435304, USD435302, USD430680, US9957687, US9890512, US9809971, US9803359, US9744697, US9714510, US9670640, US9644334, US9605402, US9574317, US9464431, US9441342, US9206599, US9168673, US9057200, US9051707, US9028175, US9003734, US8992131, US8956084, US8943775, US8745953, US8734059, US8684633, US8667759, US8632282, US8632281, US8632280, US8632279, US8632278, US8632277, US8622659, US8496411, US8485760, US8434971, US8393829, US8381478, US8272812, US8240105, US8171694, US8132988, US7992509, US7871223, US7866923, US7854573, US7823360, US7780141, US7762205, US7712281, US7695268, US7677840, US7654776, US7603959, US7591447, US7524144, US7497646, US7448830, US7396190, US7384215, US7373892, US7367752, US7360970, US7351015, US7351014, US7328537, US7244079, US7229235, US7198435, US7185470, US7168892, US7168218, US7124754, US7096634, US7090438, US7086811, US7048472, US7047698, US7011474, US7007620, US6960048, US6948282, US6935812, US6912331, US6912823, US6893192, US6884004, US6877290, US6871468, US6862856, US6857825, US6854231, US6817154, US6808339, US6803002, US6758636, US6745537, US6709201, US6695544, US6652197, US6641334, US6637981, US6622445, US6616382, US6615561, US6571529, US6536994, US6527483, US6523317, US6517293, US6505999, US6491473, US6488448, US6467357, US6464432, US6457911, US6449897, US6447213, US6447211, US6443663, US6443662, US6428726, US6416257, US6402435, US6371700, US6338599, US6318934, US6312197, US6287054, US6250850, US6233897, US6193445, US6183168, US6178704, US6178704, US6168353, US6168351, US6149352, US6142713, US6113318, US6089793, US6035599, US6029943, US6019550, US6000183, US5951209, US5941042, US5881511, US5879603, US5865006, US5848511, US5827015, US5797706, US5795105, US5788424, US5788423, US5771654, US5771631, US5741339, US5730559, US5711130, US5711129, US5709062, US5704183, US5697736, US5688078, US5673530, US5658098, US5651642, US5642968, US5624211, US5619835, US5589124, US5588262, US5577866, US5568994, US5567089, US5564865, US5551809, US5540525, US5537796, US5535568, US5522682, US5507599, US5505034, US5494379, US5490363, US5487623, US5480267, US5474405, US5456555, US5421135, US5417523, US5378088, US5350256, US5294216, US5282700, US5277012, US5257880, US5252017, US5249950, US5178492, US5177925, US5161918, US5145288, US5131791, US5064313, US5062610, US5046898, US5044834, US5017049, US4964761, US4926595, US2016177532, US2016010307, US2015050086, US2014377016, US2014157691, US2013305651, US2012151862, US2011229274, US2011182674, US2011182673, US2011170960, US2011170958, US2011170957, US2011162314, US2011150579, US2011107707, US2011000161, US2010313513, US2010281809, US2010251649, US2010247248, US2010132298, US2010095632, US2010047492, US2010018146, US2009202309, US2009196695, US2009116911, US2009090077, US2009047075, US2009041551, US2008310925, US2008292413, US2008258340, US2008193227, US2008190057, US2008184648, US2008110124, US2008053030, US2007283866, US2007277471, US2007258776, US2007193181, US2007144099, US2007122239, US2007094991, US2007036616, US2007003380, US2006179780, US2006110223, US2006110222, US2006101770, US2006096180, US2006093440, US2006027226, US2006021288, US2006002769, US2005284077, US2005254906, US2005178081, US2005129468, US2005123362, US2005108973, US2005102950, US2005102949, US2005091940, US2005086892, US2005072095, US2005069389, US2005058515, US2005042040, US2005035485, US2005016106, US2004265070, US2004244667, US2004237445, US2004218985, US2004179903, US2004159065, US2004151550, US2004131429, US2004074192, US2004040229, US2004037655, US2004028484, US2003214069, US2003210960, US2003093967, US2003029114, US10583588, US10472821, US10443206, US10358817, US10316485, US10273649, US10273647, US10145102, US10087597, US10053832, RU195239, FR2971246, FR2746126, FR2703716, FR2637302, ES2396781, ES17138880, EP2923000, EP2758603, EP2484650, EP2484650, EP1871956, EP1871956, EP1788158, EP1770220, EP1415053, EP1038069, EP1038069, EP0707117, EP0362110, EP0362110, C2298189, CN1304197, AU761371, AU732737, AU647368, AU604072,

Abstract:

A retaining wall is made from a plurality of blocks arranged in rows superimposed on each other and pinned together. Each block has a body with an exterior face and rearwardly diverging side walls joined to a neck. A head having outwardly directed ears is joined to the neck. The body has holes and pockets for pins that interlock overlapped blocks together.



20) Family number: 6239480 (FR2651258A)

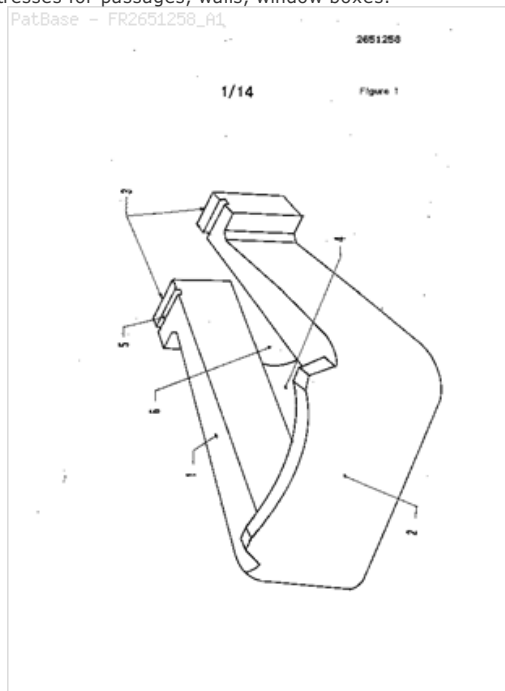
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Title: Omega-shaped construction element intended mainly for supporting earth masses**Priority:** FR19890011616 19890831**Family:**

Publication number	Publication date	Application number	Application date
FR2651258 A1	19910301	FR19890011616	19890831
FR2651258 B1	19911025	FR19890011616	19890831

Probable Assignee: LABAUDINIERE LYLIANE**Assignee(s):(std):** CUEILHES ANDRE ; LABAUDINIERE LYLIANE**Inventor(s):(std):** ANDRE CUEILHES ; LYLIANE LAUBINIERE**Inventor(s):** CUEILHES ANDRE ; LAUBINIERE LYLIANE**International class**
(IPC 8-9): E01F8/02 E02D29/02 (Advanced/Invention);
E01F8/02 E02D29/02 (Core/Invention)**International class**
(IPC 1-7): E02B3/14 E02D17/18**CPC:** E01F8/023 E02D29/0241 E02D29/025**European class:** E01F8/02A4 E02D29/02D2 E02D29/02E[Classification Explorer](#)**Cited documents:** FR747703 A, DE3626117 A1, DE3236739 A1, CH632037 A3, CH632037, AT383167 B,**Forward Citations:** US8745953, US8272812, US6978580, US5658098, US5480267, US5277012, FR2787475, FR2683237, DE4131423,**Abstract:**

- The element, characterised by its OMEGA shape, is produced from vibrated concrete, which is possibly tinted throughout. The stack of the elements laid down alternately on each row, and associated with a filling material makes it possible to produce gravity walls. The element consists of: - two struts (1) extended by two legs (3) located orthogonally, the oblique shape of which increases the filler/concrete friction, the legs constituting two anchoring points in the filler. - A front face (2) holding the filler material inside the element and providing an aesthetic appearance for the wall. - A partial bottom (4) on the front part of the element opposing the vertical compacting of filler inside the wall. - The rear part is hollowed out (6) for the incorporation of reinforced concrete posts. - Two channels (5) cut in the legs allowing concrete, geotextile, or geomeshwork blocks to be fastened mechanically. The main uses are: - support, sound-attenuation walls, buttresses for passages, walls, window boxes.

**21) Family number: 22969531** (US4367615A)

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Title: Reinforced interlocking building block**Priority:** US19800185447 19800909**Family:**

Publication number	Publication date	Application number	Application date
US4367615 A	19830111	US19800185447	19800909

Probable Assignee: FELDMAN CALVIN**Assignee(s):(std):** FELDMAN LOUIS**Assignee(s):** FELDMAN MICHAEL S ; FELDMAN MAX ; FELDMAN CALVIN ; FELDMAN HAROLD**Inventor(s):(std):** FELDMAN LOUIS**International class**
(IPC 8-9): E04B2/18 (Advanced/Invention);
E04B2/02 (Advanced/Non-invention);
E04B2/14 (Core/Invention);

E04B2/02 (Core/Non-invention)

International class
(IPC 1-7): E04C 1/10

CPC: E04B2/18 E04B2002/0208 E04B2002/0232

European class: E04B2/18 P04B2/02M1B P04B2/02M2

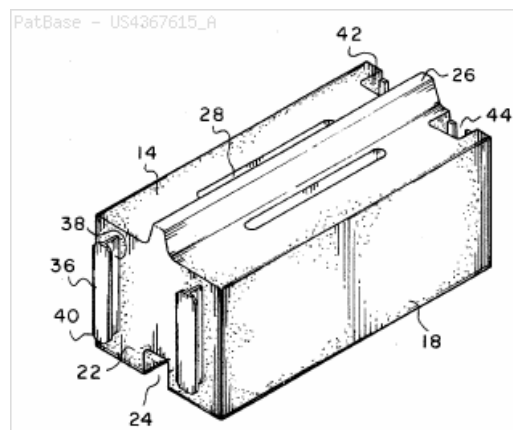
US class: 52/583 52/591.1 52/594

[Classification Explorer](#)

Cited documents: US2635450 A, US2338246 A, US2296699 A, US2142305 A, US1834842 A, US1624369 A, US1558801 A, US1369115 A, US1356347 A,

Forward Citations: WO9602712, WO8502216, WO12040789, WO11100854, WO09044969, USD689625, USD435212, US9353520, US9175473, US9163403, US8800236, US8402710, US8375665, US6758020, US6253519, US6244009, US6199339, US5628160, US5480267, US4982537, US4833856, US2016003544, US2012114850, US2011131915, US2010180527, US2010095631, US2006075703, US10048005, KR20130001243, KR101868955, ITRM20090213, GB2343686, GB2343686, EP2848746, EP2622146, EP2616604, EP1036240, EP1036240, EP0791113, EP0791113, EA025918, DE4131423, CN103201439, CN102782228, CN102782228, AU2011308092, AU2011217713, AP3035,

Abstract:
A substantially rectangularly shaped block of cementitious material has a metal reinforcing member extending there through and embedded therein. The reinforcing member has a height substantially equal to the height of the block and extends past one end of the block, terminating in an elongated T-shaped tongue. Adjacent the other end of the block, the reinforcing member terminates in an elongated groove, slightly larger than but complementary to the shape of the tongue. In use, adjacent blocks are loosely but securely locked together by the cooperating tongues and grooves of the reinforcing members of the adjoining building blocks.



22) Family number: 30881594 (JP7150677A)

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Title: CONCRETE BLOCK GROUPS AND CONCRETE BLOCK MANUFACTURING DEVICE

Priority: DE19934333942 19931006

Family:

Publication number	Publication date	Application number	Application date
DE4333942 A1	19950413	DE19934333942	19931006
JP7150677 A2	19950613	JP19940220041	19940914

Probable Assignee: SF KOOP GMBH BETON KONZEPTE

Assignee(s):(std): SF KOOP GMBH BETON KONZEPTE ; SF KOOPERATION GMBH BETON KONZ ; TAKAMIZAWA KK

Assignee(s): SF KOOPERATION GMBH BETON KONZEPTE 28717 BREMEN DE

Inventor(s):(std): HAAGENNAA GEAHARUTO ; HAGENAH GERHARD

Inventor(s): HAGENAH GERHARD 27726 WORPSWEDE DE

International class
(IPC 8-9): B28B17/00 B28B7/00 E02D29/02 E04B2/02 E04C1/39 (Advanced/Invention);
B28B17/00 B28B7/00 E02D29/02 E04B2/02 E04C1/00 (Core/Invention)

International class
(IPC 1-7): B28B3/06 E02D17/20 E02D29/02 E04B2/02 E04C1/39

CPC: B28B7/0097 B28B17/0027 E02D29/025

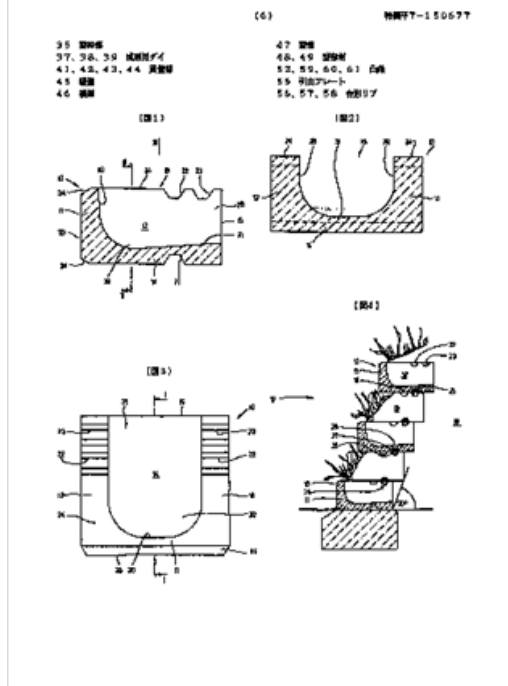
European class: B28B17/00D B28B7/00K E02D29/02E

[Classification Explorer](#)

Cited documents: WO9306310 A1, US5072566 A, US5066169 A, US4671706 A, US4168140 A, US2281133 A, FR2550812 A2, EP0430890 A1, EP0379888 A1, EP0320639 B1, DE3925401 A1, DE3025870 A1, DE2537408 B2,

Forward Citations: WO0004239, USD695922, USD695921, USD695920, USD695919, USD695918, USD695917, USD695916, USD695915, USD686346, USD586925, USD536058, US9840813, US9752288, US9745742, US9677228, US9534396, US9428906, US9404226, US9315950, US9193215, US9057197, US8967907, US8888401, US8769896, US8747019, US8668404, US8609215, US8500361, US8298641, US7993718, US7674067, US7637688, US7393155, US6881463, US6178715, US6178715, US10337152, US10240301, US10087585, US10081918, EP1097273, DE102010036185,

Abstract:
PURPOSE:To upgrade functions to hold and prevent positional deviations of concrete blocks which adjoin each other.
CONSTITUTION:Each of concrete blocks 10 is formed in the shape of a valley and provided with a bottom unit 14 which forms a recessed part 16 whose top surface and rear surface are opened, a front unit 11 and two side wall units 12 and 13. Recessed parts (grooves 22 and 23) are formed on the upper part 24 of the side wall units 12 and 13. The concrete blocks 10 are arranged to adjoin each other and laid out vertically. Connection members, which are designed to connect each of the concrete blocks to prevent their positional deviations, are installed inside the recessed parts, thereby forming a retaining wall. As in the case with each of the side walls 12 and 13, at least one recessed part (grooves 21, 22 and 23) are installed to the bottom unit 14. One end of the connection members is engaged with one of the recessed parts (the grooves 22 and 23) of the side wall units 12 and 13 while the other end is engaged with one recessed part (groove 21) of the bottom unit 14 of the upper concrete blocks.

**23) Family number: 5344608** (US4684294A)

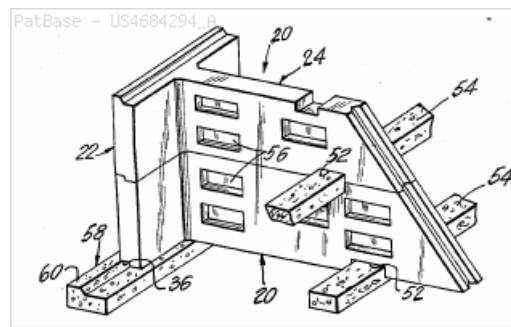
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Title: Retaining wall construction element**Priority:** US19860819127 19860115

Publication number	Publication date	Application number	Application date
US4684294 A	19870804	US19860819127	19860115

Probable Assignee: NEILL RAYMOND J O**Assignee(s):(std):** NEILL RAYMOND J O**Assignee(s):** O NEILL RAYMOND J**Inventor(s):(std):** O NEILL RAYMOND J**International class (IPC 8-9):** E02D29/02 (Advanced/Invention);
E02D29/02 (Core/Invention)**International class (IPC 1-7):** E02D5/00**CPC:** E02D29/0266**European class:** E02D29/02F1**US class:** 405/273 405/284 405/286[Classification Explorer](#)**Cited documents:** US982698 A, US4384810 A, US4380409 A, US4269537 A, US4196161 A, US4067166 A, US3877234 A, US1953005 A, US1702610 A, SU607891 T, JP85000426 A2, FR2409351 A1, FR2286243 A1,**Forward Citations:** USD458693, USD445512, US9955426, US9902600, US9663907, US9644334, US9630342, US9580881, US9562338, US8888481, US8800235, US8745953, US8272812, US8132988, US8052348, US7780141, US7384215, US7360970, US7090439, US7090439, US7073984, US7073984, US7048472, US7044687, US7044687, US6994495, US6616382, US6312197, US6183168, US6178704, US6142713, US6113318, US6029943, US5934838, US5879603, US5851088, US5827015, US5795105, US5711129, US5709062, US5707183, US5704183, US5697735, US5568999, US5528873, US5480267, US5282700, US5277012, US5163261, US5131791, US5108232, US5066169, US4990032, US4930283, US4923339, US4911585, US4884921, US2015071715, US2014270990, US2011201381, US2011086643, US2010281809, US2010251649, US2010207879, US2010158617, US2009148242, US2009120029, US2008292413, US2006177278, US2006150411, US2006104726, US2006104725, US2006104724, US2005016106, US10519656, US10443206, US10400418, US10337164, US10280583, US10053832, FR2655074, EP1600801, EP0429379, DE4131423, DE3913335,**Abstract:**

A cast concrete construction element particularly suitable for use in constructing a retaining wall for a soil mass. The construction element includes a face panel in the form of a rectangular prismatic solid. Extending rearwardly from the face panel is an embedment beam which will extend into and engage firmly with the soil mass. The embedment beam includes a sloping rearward wall to penetrate the soil mass, pan inserts and grooves to increase frictional resistance with the soil mass. The embedment beam also includes notches for interengagement with support beams in the soil mass. The embedment beam may take a variety of configurations which may be used to construct differing retaining wall arrays.



24) Family number: 66647654 (US2019040602A)

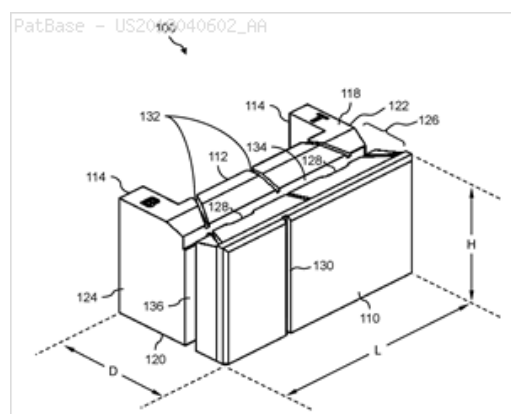
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Title: MULTI-ORIENTED SEGMENTAL WALL BLOCKS, SOIL REINFORCING SYSTEM, AND METHODS
Priority: US20160292441P 20160208 US20170073952 20170208 WO2017US17002 20170208
Family:

Publication number	Publication date	Application number	Application date
AU2017217413 AA	20180802	AU20170217413	20170208
CA3012357 AA	20180723	CA20173012357	20170208
CL2018002065 A1	20190118	CL20180002065	20180801
CN108603352 A	20180928	CN201780010270	20170208
CO20180008208 A2	20181022	CO20180008208	20180802
DOP2018000176 A	20181031	DO20180000176	20180802
EP3414400 A1	20181219	EP20170750691	20170208
EP3414400 A4	20191120	EP20170750691	20170208
ID201811446 A	20181019	ID2018PID05718	20170208
MX2018009419 A1	20181219	MX20180009419	20170208
US2019040602 AA	20190207	US20170073952	20170208
WO17139369 A1	20170817	WO2017US17002	20170208

Probable Assignee: TENSAR INT CORP
Assignee(s):(std): TENSAR INT CORP
Assignee(s): LIEW WILLIE ; LUPTAK STEPHEN A ; PERALTA ANDRES F ; SMITH AARON D
Inventor(s):(std): SMITH AARON D ; PERALTA ANDRES F ; LIEW WILLIE ; LUPTAK STEPHEN A ; STEPHEN A LUPTAK ; AARON D SMITH ; ANDRES F PERALTA ; WILLIE LIEW
Agent(s): SPRUSON AND FERGUSON; OSLER HOSKIN AND HARCOURT LLP; JORGE GARAY PEREZ; HGF LTD; MAROLITA SETIATI; MILLS E ERIC
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KH KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW
International class (IPC 8-9): E02D17/20 E02D29/02 E04B2/00 E04B2/02 E04C1/00 E04C1/39 (Advanced/Invention)
CPC: E02D17/205 E02D29/0241 E02D29/025 E04C1/395 E02D17/20 E02D29/02 E04B2/02
US class: 1/1 405/284
[Classification Explorer](#)
Cited documents: US6062772 A, US5709062 A, US5484235 A, US5480267 A, US2013025223 AA, US2011107707 AA, US2009142145 AA, US2005279046 AA, US2002030303 AA,

Abstract:
Multi-oriented segmental wall blocks, soil reinforcing system, and methods related thereto are disclosed. The wall block may be a concrete masonry block used for constructing retaining walls. The wall block may include a front face; a rear cavity opposing the front face and formed by an inner rear face, an outer rear face on three sides of the inner rear face and spaced apart therefrom, and a shelf defined therein by the inner rear face and the outer rear face; a troughed top face residing between the front face and the outer rear face; a flat bottom face opposing the troughed top face; a first side face residing between the front face and the outer rear face, and between the troughed top face and the flat bottom face; a second side face opposing the first side face; a trough running along the length of the troughed top face



25) Family number: 8543667 (US4324508A)

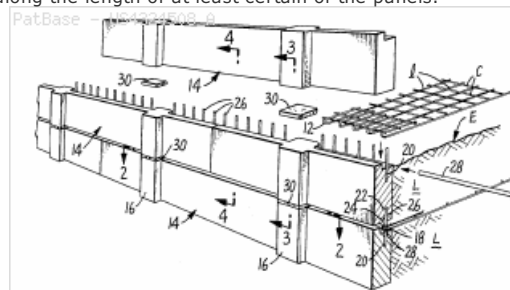
© PatBase

Title: Retaining and reinforcement system method and apparatus for earthen formations**Priority:** US19800110763 19800109**Family:**

Publication number	Publication date	Application number	Application date
US4324508 A	19820413	US19800110763	19800109

Probable Assignee: HILFIKER WILLIAM K**Assignee(s):(std):** HILFIKER PIPE CO**Assignee(s):** HILFIKER WILLIAM K ; HILFIKER INC ; HILFIKER INC A CORP OF CA**Inventor(s):(std):** HILFIKER WILLIAM K ; HILFIKER HAROLD O ; HILFIKER WILLIAM B**International class (IPC 8-9):** E02D29/02 (Advanced/Invention);
E02D29/02 (Core/Invention)**International class (IPC 1-7):** E02D5/00**CPC:** E02D29/0241**European class:** E02D29/02D2**US class:** 405/262 405/284[Classification Explorer](#)**Cited documents:** US4273476 A, US4117686 A, US4116010 A, US4068482 A, US4051570 A, US3925994 A, US3922864 A, US3686873 A, US3421326 A, US1762343 A, GB1485004 A, FR2303121 A1,**Forward Citations:** WO9935343, WO9924677, WO9904102, WO9705335, WO9423136, WO9423136, WO9119057, WO11146545, WO07118287, WO0008266, USRE37278, USRE34314, US9605402, US9422686, US9366000, US9051707, US8840341, US8734059, US8632282, US8632281, US8632280, US8632279, US8632278, US8632277, US8496411, US8485760, US8393829, US7857540, US7736096, US7722296, US7524144, US7503719, US7497646, US7396190, US7367752, US7281882, US7073983, US7033118, US6939087, US6884004, US6860681, US6857823, US6827527, US6808339, US6793436, US6742211, US6622445, US6517293, US6468004, US6467357, US6457911, US6447211, US6443663, US6443662, US6416260, US6336773, US6280121, US6186703, US6113317, US6089792, US6086288, US5975810, US5975809, US5951209, US5934838, US5820305, US5807030, US5800097, US5800095, US5797706, US5788420, US5749680, US5730559, US5702208, US5697735, US5673530, US5642968, US5624211, US5619835, US5607262, US5577866, US5568998, US5564865, US5540525, US5522682, US5507599, US5494379, US5492438, US5487623, US5484235, US5480267, US5474405, US5471811, US5419659, US5417523, US5259704, US5190413, US5156495, US5131791, US5064313, US5044833, US5028172, US4993879, US4992003, US4968186, US4961673, US4952098, US4936713, US4929125, US4834584, US4824293, US4728227, US4725170, US4661023, US4653962, US4643618, US4643111, US4616959, US4564316, US4545703, US2013259583, US2011229274, US2011182673, US2011170960, US2011170958, US2011170957, US2010247248, US2009308005, US2009238639, US2007144099, US2006204342, US2006179780, US2006110222, US2006101770, US2006096180, US2005286980, US2004179902, US2004022587, US10577772, US10337162, US10047492, FR2810349, FR2782100, ES2336290, EP1160385, EP1015702, EP1015702, EP0764229, EP0764229, EP0707117, CN105040727, AU777095, AU734614, AU732239, AU701433, AU2010202684, AU2007221969,**Abstract:**

An earthen formation is reinforced against slippage by embedding welded wire grid work mats within the formation and securing the mats to precast elongate panels disposed at the face of the formation. The mats serve as anchors for the panels, as well as reinforcing means for the formation. Plural connections secure the mats along the length of at least certain of the panels.

**26) Family number: 138685** (US3686873A)

© PatBase

Title: CONSTRUCTIONAL WORKS**Priority:** FR19690027983 19690814**Family:**

Publication number	Publication date	Application number	Application date
BE754057 A	19701231		00000000
BE754057 A1	19701231		19700728
CA930559 A1	19730724	CA19700090317	19700810
CH528639 A	19720930	CH19700012010	19700810
DE2040082 A1	19720203	DE19702040082	19700812
DE2040082 B2	19731220	DE19702040082	19700812
DE2040082 C3	19740711	DE19702040082	19700812
DK139821 B	19790423	DK19700004178	19700813
DK139821 C	19791001	DK19700004178	19700813
ES382789 A1	19721216	ES19700382789	19700801
FI54170 B	19780630	FI19700002198	19700811
FI54170 C	19781010	FI19700002198	19700811
FR2055983 A5	19710514	FR19690027983	19690814
GB1324686 A	19730725	GB19700037666	19700804
IL35046 A0	19701030	IL19700035046	19700803
IL35046 A1	19730130	IL19700035046	19700803

JP48011601 B4	19730414	JP19700070877	19700814
KE2578 A	19751125	KE19750002578	19751112
MY7500277 A	19751231	MY19750000277	19751230
NL163283 B	19800317	NL19700011585	19700805
NL163283 C	19800815	NL19700011585	19700805
NL7011585 A	19710216	NL19700011585	19700805
OA3466 A	19710330	OA19700054003	19700810
SE375821 B	19750428	SE19700011154	19700814
SE375821 C	19750807	SE19700011154	19700814
US3686873 A	19720829	US19700039956	19700525

Probable Assignee: VIDAL HENRI 17 RUE ARMENGAUD 92 SAINT CLOUD FRANCE

Assignee(s):(std): VIDAL H ; VIDAL ; VIDAL HENRI ; VIDAL HENRI C

Assignee(s): VIDAL HENRI SAINT CLOUD FRANKREICH ; VIDAL HENRI 17 RUE ARMENGAUD 92 SAINT CLOUD FRANC ; VIDAL HENRI 17 RUE ARMENGAUD 92 SAINT CLOUD FRANCE ; HENRI VIDAL ; HENRI VIDAL SAINT CLOUD FRANKRIJK ; 4VIDAL H ; HENRI C VIDAL

Inventor(s):(std): HENRI VIDAL ; VIDAL HENRI ; VIDAL H ; VIDAL HENRI C

Inventor(s): VIDAL HENRI SAINT CLOUD FRANKREICH ; 4VIDAL H ; HENRI C VIDAL

International class (IPC 8-9): E02D17/18 E02D29/02 E04B1/68 E04B2/08 (Advanced/Invention); E04B2/02 (Advanced/Non-invention); E02D17/18 E02D29/02 E04B1/68 E04B2/04 (Core/Invention); E04B2/02 (Core/Non-invention)

International class (IPC 1-7): E01D E02B3/00 E02B3/04 E02B3/06 E02B3/10 E02B3/12 E02B3/14 E02B3/16 E02D17/00 E02D17/08 E02D17/20 E02D29/00 E02D29/02 E02D5/20 E04B1/68 E04B2/08

CPC: E02D29/0241 E02D29/0266 E04B1/6803 E04B2/08 E04B2002/0208 E04B2002/0226

European class: E02D29/02D2 E02D29/02F1 E04B1/68B E04B2/08 P04B2/02M1B P04B2/02M1F

US class: 405/262

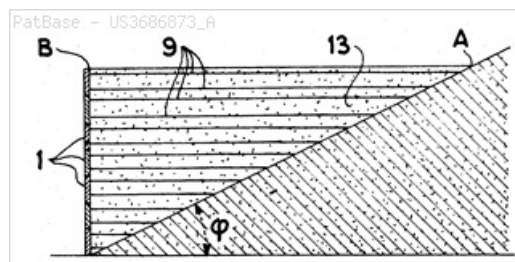
[Classification Explorer](#)

Cited documents: US776799 A, US3421326 A, US3342033 A, US3282054 A, US2879647 A, US2405289 A, US1885470 A, US1829864 A, US1806255 A, US1762343 A, FR1165317 A,

Forward Citations: WO9935343, WO9720996, WO9606983, WO8803206, WO09121984, WO0132992, US9493923, US8656678, US8579551, US8511024, US8234828, US7497646, US7396190, US7367752, US7360970, US7270502, US7029204, US6884004, US6802675, US6539684, US6467357, US6457911, US6447211, US6443663, US6443662, US6416260, US6371699, US6336773, US6280121, US6186703, US6174109, US6113317, US6113316, US6089792, US5839855, US5823717, US5800095, US5797706, US5673530, US5624211, US5619835, US5595460, US5540525, US5516238, US5507599, US5487623, US5480267, US5474405, US5468098, US5456554, US5419659, US5386788, US5259704, US5207038, US5190413, US5156496, US5156495, US5131791, US5091247, US5064313, US5040928, US4983076, US4961673, US4960349, US4952098, US4834584, US4725170, US4710062, US4653962, US4629360, US4616959, US4564967, US4557634, US4545703, US4514113, US4470728, US4448571, US4343572, US4343571, US4324508, US4266890, US4193718, US4125970, US4116010, US4045965, US3925994, US2011072753, US2010215442, US2009313936, US2009304459, US2009151281, US2008313988, US2007144099, US2007014638, US2006179780, US2006110222, US2006101770, US2003223825, US2003210960, US10156077, US10100485, JP59042771, JP54003304, JP50120208, JP50069803, JP48098901, JP3840263, JP2004250980, JP2000501468, JP1278143, GB2497099, FR2816648, FR2816647, FR2631358, FR2623535, FR2451970, FR2315572, ES2044767, EP3265614, EP1340857, EP0864017, EP0707117, EP0318243, EP0317212, EP0207803, EP0207803, EP0197000, EP0130949, EP0130949, EP0075487, EP0075487, EP0067551, EP0034520, EP0034520, EP0002216, DK151825, DE4131423, DE29605181, DE2823849, DE2753224, DE2731228, BE1004318, AU761934, AU734614, AU722475, AU701433, AU687625, AT409774, AT380288,

Abstract:

Cladding for the outer surface of a reinforced earth structure comprising reinforcements embedded in a mass of particles. The cladding comprises cladding elements having a generally plane configuration which are so adapted and arranged in adjacent relation to each other that the cladding is capable of deforming in directions parallel to the planes of the cladding elements. Methods of connecting the cladding elements to the reinforcements to form a combined cladding and reinforced earth structure are also described.



27) Family number: 3854689 (DE3505531A1)

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Title: ELECTRONIC MULTI-PURPOSE INDICATOR

Priority: DE19853505531 19850218

Family:	Publication number	Publication date	Application number	Application date
	DE3505531 A1	19860821	DE19853505531	19850218
	DE3505531 C2	19870730	DE19853505531	19850218

Probable Assignee: SCHUSTER WOLFGANG DIPL ING

Assignee(s):(std): SCHUSTER WOLFGANG DIPL ING

Assignee(s): SCHUSTER WOLFGANG DIPL ING 7500 KARLSRUHE DE

Inventor(s):(std): SCHUSTER WOLFGANG DIPL ING

Inventor(s): SCHUSTER WOLFGANG DIPL ING 7500 KARLSRUHE DE

International class G01R1/02 G01R1/30 G01R15/00 G01R15/12 G01V3/11 (Advanced/Invention);

(IPC 8-9): H05K1/18 (Advanced/Non-invention);
G01R1/00 G01R1/02 G01R15/00 G01V3/10 (Core/Invention);
H05K1/18 (Core/Non-invention)

International class
(IPC 1-7): G01R15/08 G01R19/155 G01R19/25 G01R31/02 G01R31/28 G01V3/11

CPC: G01R1/06788 G01R1/30 G01R1/02 G01R15/00 G01R15/125 H05K1/189

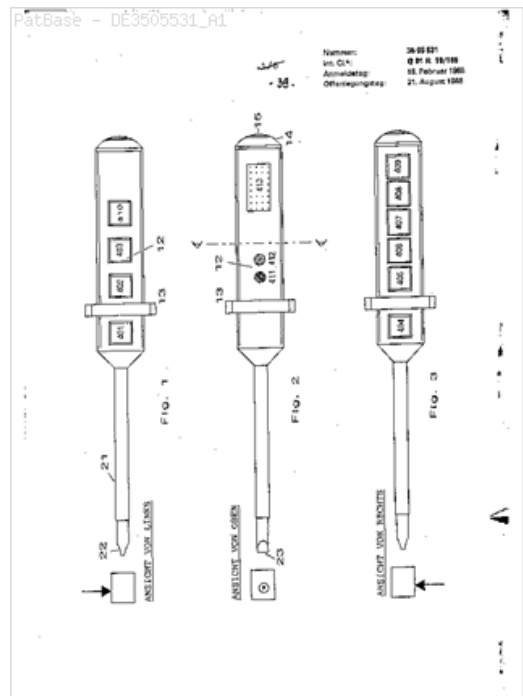
European class: G01R1/02 G01R1/30 G01R15/00 G01R15/12B T05K1/18F

[Classification Explorer](#)

Cited documents: US3893028 A, DE8111965 U, DE8015390 U, DE7919462 U, DE3125552 C1, DE3122841 A1, DE3004734 C2, DE2950583 A1, DE2914761 B1, DE2855165 A1, DE2837584 A1, DE2548151 A1,

Forward Citations: EP0504514, DE4134695, DE4131423, DE10248891,

Abstract:
An electronic multi-purpose indicator with a housing which consists of an insulating material. On the housing, a measuring sensor consisting of a conductive material is mounted. On the housing, actuating and display elements are arranged. The housing exhibits a hollow space for accommodating the power source and control circuit. The space requirement for the control circuit can be very considerably reduced by special measures so that the housing can be made smaller to such an extent that it can be constructed as a holding handle. The great reduction in space requirement is achieved by the fact that a flexible membrane carrying conductor tracks and consisting of an insulating material is provided inside the hollow space, on which membrane at least one integrated circuit arrangement (chip) and a number of discrete components electrically connected to this chip are provided. On the membrane, the actuating elements for the selection of the desired operating mode and the display elements are mounted. Actuating and display elements protrude into openings in the housing and can be operated and are visible from the outside.



28) Family number: 17659691 (DE9015196U1)

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Priority: DE19900013987U 19901008 DE19900015196U 19901105

Family:

Publication number	Publication date	Application number	Application date
DE9015196 U1	19910404	DE19900015196U	19901105

Probable Assignee: SF VOLLVERBUNDSTEIN KOOPERATION GMBH 2820 BREMEN DE

Assignee(s): SF VOLLVERBUNDSTEIN KOOPERATION GMBH 2820 BREMEN D ; SF VOLLVERBUNDSTEIN KOOPERATION GMBH 2820 BREMEN DE

International class
(IPC 8-9): E02D29/02 E04B2/12 (Advanced/Invention);
E02D29/02 E04B2/04 (Core/Invention)

International class
(IPC 1-7): E02D17/20 E04B2/06 E04B2/12 E04B2/30 E04B2/36

CPC: E04B2/12 E02D29/025

European class: E02D29/02E E04B2/12

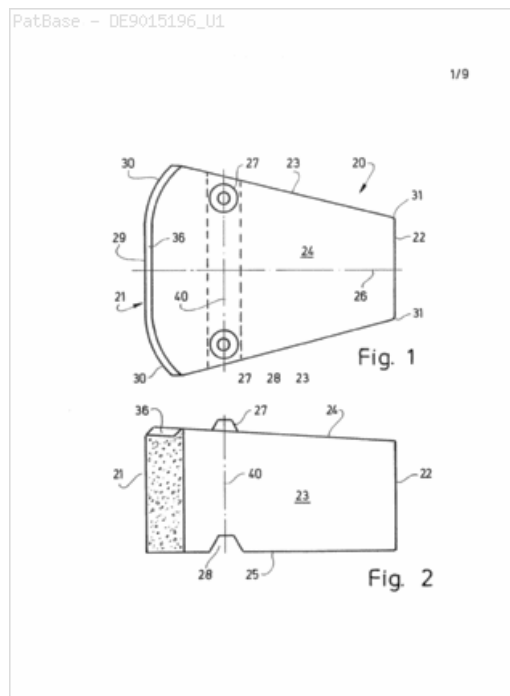
[Classification Explorer](#)

Forward Citations: WO9820207, WO9408097, USD452332, USD447573, USD435302, US9573293, US8327833, US8006683, US7967001, US7244079, US7066167, US7004158, US6960048, US6918715, US6488448, US6082057, US5480267, GB2335455, GB2335455, FR2676077, EP1741847, EP1741847, EP0512932, DE4131423, DE29604581, DE102005030703, DE10050908, AU2003241633, AT12561,

Abstract:
Source: DE9015196U1 [DE] (Claim 1) Formstein aus Beton fuer die Erstellung von Stuetzmauern sowie Stuetzmauer Ansprueche: 1. Formstein aus Beton fuer die Erstellung einer Stuetzmauer mit einseitiger Erdreich-Hinterfuellung (Erdsseite) aus lagenweise uebereinander angeordneten Formsteinen, die jeweils eine Stirnseite, eine der Erdsseite zugewandte Rueck- seite, gegenueberliegende Laengsseiten, Ober- und Unterseite aufweisen, wobei die Ober- und Unterseiten aneinander- liegende Auflagerflaechen bilden, d a d u r c h g e n n z e i c h n e t, dass mindestens eine wirksame Auflagerflaeche der Ober- und/oder Unterseite (24,25) bezueglich einer gedachten horizontalen Ebene geneigt ausgebildet ist.

Machine translation: (Claim 1) The form of concrete stone for the creation of retaining walls and retaining wall requirements: first Cast stone concrete for the creation of a retaining wall with one side ground-Backfill (earth side) from layer-by-side arranged shaped blocks, each having a front side, one of the earth side facing the back side, opposite lying alongside, top and bottom,

wherein the upper and lower sides -bearing surface lying together form dadurch ek enzeichnet that at least an effective bearing surface of the bottom Ober-und/oder (24.25) relating to an imaginary horizontal plane is inclined.



29) Family number: 3142765 (WO9012927A1)

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Title: A WALL

Priority: DE19893913335 19890422 DE19905002401 19900419 WO1990DE00293 19900419
EP19900906117 19900419 WO1990DE000293 19900419

Family:	Publication number	Publication date	Application number	Application date
	AT93290 E	19930915	AT19900906117T	19900419
	AU199054278 A1	19901116	AU19900054278	19900419
	DE3913335 A1	19901025	DE19893913335	19890422
	DE59002401 D1	19930923	DE19905002401	19900419
	EP0469008 A1	19920205	EP19900906117	19900419
	EP0469008 B1	19930818	EP19900906117	19900419
	WO9012927 A1	19901101	WO1990DE00293	19900419

Probable Assignee: HOELZER ROLF 7100 HEILBRONN DE

Assignee(s):(std): HOELZER ROLF ; ROLF HOLZER

Assignee(s): HOELZER ROLF 7100 HEILBRONN DE ; HOLZER ROLF

Inventor(s):(std): HOLZER ROLF ; HOELZER ROLF

Inventor(s): HOELZER ROLF 7100 HEILBRONN DE ; ROLF HOLZER

Designated states: AT AU BE CA CH DE DK ES FR GB HU IT JP LI LU NL NO SE SU US

International class
(IPC 8-9): E02D29/02 (Advanced/Invention);
E02D29/02 (Core/Invention)

International class
(IPC 1-7): E02D17/20 E02D29/02

CPC: E02D29/0241

European class: E02D29/02D2

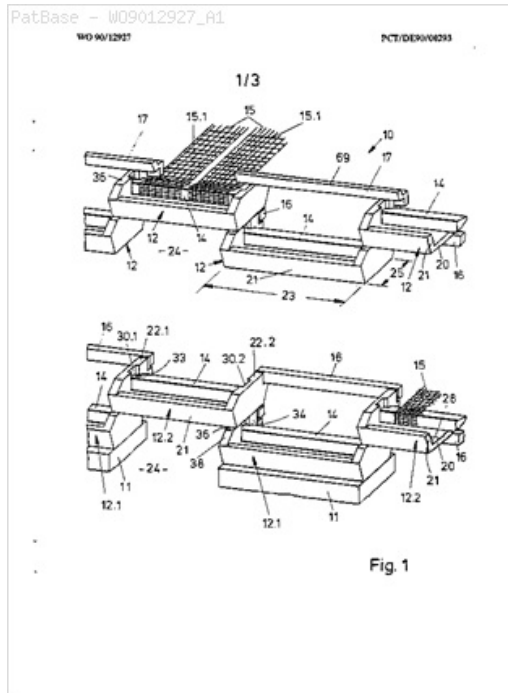
[Classification Explorer](#)

Cited documents: US4684294 A, US4671706 A, US4512685 A, FR2465032 A1, EP0215407 A2, EP0079880 B1, DE3530049 A1, DE3516969 A1, DE3129213 A1, DE2753243 A1, CH601581, AT383167 B,

Forward Citations: WO9205318, US5839855, US5480267, EP0502149, DE4131423, DE29720479, DE202006007522, DE102007053614, DE102007053614, DE102007036965, DE102007036965, DE10154369,

Abstract:

The wall (10) for steep slopes consists of troughed components (12), the side walls (22.1, 22.2) of which have vertical engagement grooves (30.1, 30.2) into which the engagement pins (33) of separately manufactured surrounding beams (14) are introduced. Around the beams (14) are wrapped mineral fabric webs (15) pulled out fairly horizontally at the rear into the earth. Other troughed components (12.2) are placed on the side walls (22.1, 22.2) of troughed components (12.1) arranged in the space between intermediate regions (24). Ground beams (16) may be inserted beneath them at the rear. Upper closing beams (17) may be fitted with earth support flanges (69).



30) Family number: 32610805 (US2006027226A)

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Title: METHOD AND DEVICE FOR CREATING A DECORATIVE BLOCK FEATURE
Priority: US20040853589 20040806
Family:

Publication number	Publication date	Application number	Application date
US2006027226 AA	20060209	US20040853589	20040806
US7124754 BB	20061024	US20040853589	20040806

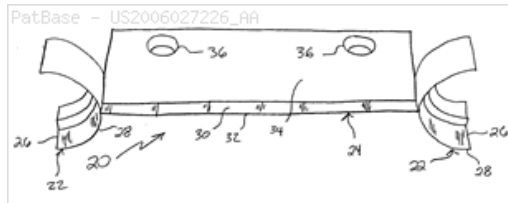
Probable Assignee: DLK INC
Assignee(s):(std): CUSTOM PRECAST AND MASONRY INC
Assignee(s): DLK INC
Inventor(s):(std): SORHEIM DANIEL R
Inventor(s): SORHEIM DANIEL
Agent(s): OPPENHEIMER WOLFF AND DONNELLY LLP
International class B28D1/32 (Advanced/Invention);
 (IPC 8-9): B28D1/00 (Core/Invention)
CPC: B28D1/006 B28D1/222
European class: B28D1/00W B28D1/22C
US class: 125/23.01 125/23.010P 125/24

[Classification Explorer](#)

Cited documents: USRE37278 E, USRE34314 E, USD490542 S1, USD488569 S1, USD488568 S1, USD488242 S1, USD482133 S1, USD479342 S1, USD479003 S1, USD479002 S1, USD464145 S1, USD459487 S1, USD458693 S1, USD445512 S1, USD438640 S1, USD437422 S1, USD435304 S1, USD430308 S1, USD429006 S1, USD411315 S1, USD397808 S1, USD397451 S1, USD397230 S1, USD387434 S1, USD384168 S1, USD381086 S1, USD380560 S1, USD317048 S1, USD301064 S1, USD300254 S1, USD300253 S1, USD299067 S1, USD298463 S1, USD297767 S1, USD297574 S1, USD297464 S1, USD296365 S1, USD296007 S1, USD295790 S1, USD295788 S1, US994027 A, US868838 A, US6827073 BA, US6758636 BB, US6758636 BA, US6709201 BB, US6709201 BA, US6682269 BB, US6682269 BA, US6652196 BA, US6651401 BA, US6641334 BA, US6637981 BA, US6616382 BA, US6615561 BA, US6612784 BA, US6609695 BB, US6609695 BA, US6592301 BB, US6592301 BA, US6540501 BA, US6536994 BB, US6536994 BA, US6523317 BA, US6464199 BA, US6447213 BA, US6416257 BA, US6338597 BA, US6322742 BA, US6322291 BA, US6321740 BA, US6318934 BA, US6312197 BA, US6250850 BA, US6224815 BA, US6209848 BA, US6183168 BA, US6178704 BA, US6178704 B1, US6168353 BA, US6168353 B1, US6168351 BA, US6168351 B1, US6149352 A, US6142713 A, US6138983 A, US6113379 A, US6113318 A, US6082067 A, US6082057 A, US6050255 A, US6029943 A, US5921715 A, US5913790 A, US5879603 A, US5865006 A, US5827015 A, US5795105 A, US5779391 A, US5771631 A, US5722386 A, US5711129 A, US5709062 A, US5704183 A, US5653558 A, US5653558 A, US5623797 A, US5601384 A, US5588262 A, US5568994 A, US5551809 A, US5528871 A, US5522682 A, US5511910 A, US5507599 A, US5505034 A, US5490363 A, US5487623 A, US5484236 A, US5480267 A, US5419092 A, US5417523 A, US5406769 A, US5370480 A, US5360296 A, US5353569 A, US5350256 A, US5294216 A, US5282700 A, US4982544 A, US4922678 A, US4914876 A, US4909010 A, US4896999 A, US4884378 A, US4825619 A, US4802320 A, US4782640 A, US4661023 A, US4597236 A, US4490075 A, US4470728 A, US4384810 A, US4379659 A, US4278364 A, US4190384 A, US4003172 A, US3877236 A, US2619829 A, US2589304 A, US250635 A, US2016382 A, US1985992 A, US1329893 A, US1226214 A, US1188919 A,
Forward Citations: US9943983, US9925692, US9643337, US9102079, US8701648, US8701647, US8448634, US8302591, US8251053, US2015308745, US2012312291, US2011271946, US2011083656, US2008302350, CN102717445,

Abstract:

A method for creating a split face on a block, such as a retaining wall block, that includes curved features. The method includes using at least one curved blade to impart a splitting force on an unfinished block. The curve of the blade is imparted through the block as the block splits. The result is an irregular, broken split face having a curved feature.



31) Family number: 3859835 (DE3507531A1)

© PatBase

Title: Process for producing cast-stone walls, and building elements for this purpose

Priority: DE19853507531 19850304

Publication number	Publication date	Application number	Application date
DE3507531 A1	19860904	DE19853507531	19850304

Probable Assignee: KASAMENTBAU GMBH AND CO

Assignee(s):(std): KASAMENTBAU GMBH AND CO

Assignee(s): KASAMENTBAU GMBH AND CO KG

Inventor(s): VERZICHT DES ERFINDERS AUF NENNUNG

International class (IPC 8-9): E04B2/06 (Advanced/Invention);
E04B2/02 (Advanced/Non-invention);
E04B2/04 (Core/Invention);
E04B2/02 (Core/Non-invention)

International class (IPC 1-7): E04B2/02 E04B2/06

CPC: E04B2/06 E04B2002/0245 E04B2002/025

European class: E04B2/06 P04B2/02M3A P04B2/02M3C

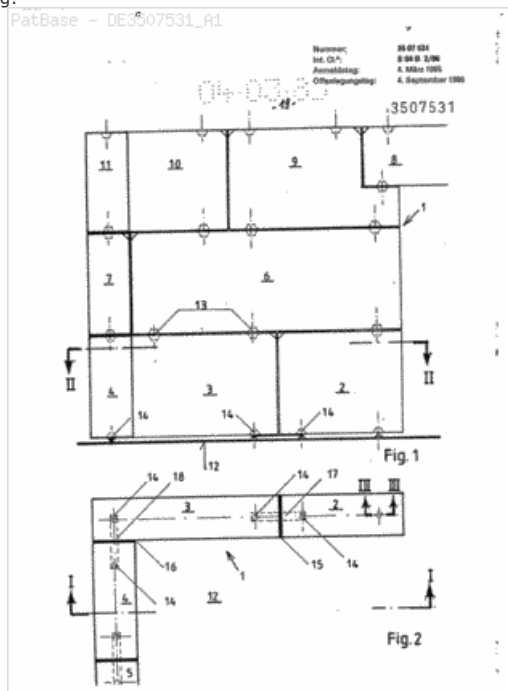
[Classification Explorer](#)

Cited documents: US3390502 A, FR923860 A, DE2901640 A1,

Forward Citations: US5480267, EP1413689, CN104129219,

Abstract:

A process for producing cast-stone walls, in which process the walls are assembled in a time-saving manner from prefabricated wall parts, avoids difficulties with respect to tolerances when placing the wall parts against one another and one on top of the other in that the wall parts have depressions on edge surfaces in order to receive spacers, with the result that the wall parts are arranged such that they are aligned to a unit spacing from the depressions, tolerances being compensated for in remaining joints. The joints can be subsequently plugged with mortar or stopped with filler in a known manner. The precision of this assembly can be improved by the wall parts being produced by individual stones being adhesively bonded with foam, it being possible for the stones to rest against one another in a pressure-resistant manner. The precision of assembly also permits the wall parts to be provided with a smooth surface which is ready for wallpapering or painting.



32) Family number: 1569861 (FR2374478A)

© PatBase

Title: EMBANKMENT SLOPE REINFORCING SYSTEM - USED CONCRETE BLOCKS WITH TRIANGULAR SECTION GROOVES IN UPPER AND LOWER SURFACES WHICH RECEIVE WEDGE KEYS

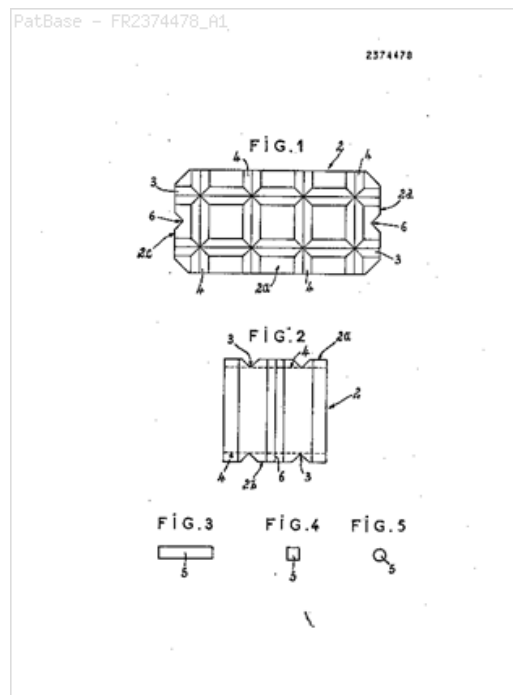
Priority: FR19760038797 19761216

Publication number	Publication date	Application number	Application date
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CH617737 A	19800613	CH19770015188	19771212
DE2755833 A1	19780720	DE19772755833	19771215
FR2374478 A1	19780713	FR19760038797	19761216
FR2374478 B1	19810529	FR19760038797	19761216

Probable Assignee: FAMY JEAN
Assignee(s):(std): FAMY JEAN
Inventor(s):(std): FAMY JEAN
Inventor(s): JEAN FAMY
International class (IPC 8-9): E02D29/02 (Advanced/Invention); E02D29/02 (Core/Invention)
International class (IPC 1-7): E02D17/20 E02D29/02 E04B2/08 E04B2/10 E04C1/10
CPC: E02D29/025
European class: E02D29/02E
[Classification Explorer](#)
Cited documents: DE971689 A, DE842706 A, DE2348043 A1,
Forward Citations: WO9741311, WO9013716, USD458693, USD445512, US8672584, US7384215, US7360970, US7048472, US6616382, US6467996, US6312197, US6250850, US6183168, US6178715, US6178715, US6178704, US6142713, US6113318, US6029943, US5595460, US5480267, US5294216, US5249950, US5114270, US5062610, US5017049, US4815897, US4490075, US4279536, FR2600096, FR2496141, FR2488300, FR2476179, EP0429637, EP0429637, DE4131423, DE3917500, AT379181,

Abstract:
The concrete block has grooves (3, 4) on top and bottom surfaces. A groove cross-section matches half the cross-section of a connecting wedge key (5). A groove has a triangular notch cross-section and the wedge keys have square cross-section. The grooves are arranged in a criss-cross pattern. This ensures that the blocks are not able to slide relative to each other when subject to lateral forces. The vertical side faces of the blocks can also have grooves, the vertical edges being chamfered to form a groove after assembly.



33) Family number: 34401881 (US2011135404A)

© PatBase

Title: RETAINING WALL
Priority: DE200510050456 20051019 WO2006EP09504 20060930
Family:

Publication number	Publication date	Application number	Application date
BRPI0617690 A2	20110802	BR2006PI17690	20060930
CA2626714 AA	20080421	CA20062626714	20060930
DE102005050456 A1	20070426	DE200510050456	20051019
EP1937903 A1	20080702	EP20060792330	20060930
US2011135404 AA	20110609	US20060091010	20060930
US8100608 BB	20120124	US20060091010	20060930
WO07045340 A1	20070426	WO2006EP09504	20060930
ZA200804050 A	20090325	ZA20080004050	20080512

Probable Assignee: SF KOOPERATION GMBH BETON KONZEPTE
Assignee(s):(std): SF KOOP GMBH BETON KONZEPTE ; STEFFEN STEPHAN
Assignee(s): SF KOOPERATION GMBH BETON KONZEPTE
Inventor(s):(std): STEFFEN STEPHAN ; STEPHAN STEFFEN
Agent(s): RIDOUT AND MAYBEE LLP; ELLBERG NILS ET AL; SMITH RISLEY TEMPEL SANTOS LLC; LAURENCE P
Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MY MZ NA NE

NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN
TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class
(IPC 8-9):

E02D17/20 E02D29/02 E04B2/06 E04C1/00 (Advanced/Invention);
E02D17/20 E02D29/02 E04B2/04 E04C1/00 (Core/Invention);
E02D (Subclass/Invention)

CPC:

E02D17/20 E02D29/025

European class:

E02D17/20 E02D29/02E

US class:

405/284 405/284P 405/286 52/592.1 52/604 52/605

[Classification Explorer](#)

Cited documents:

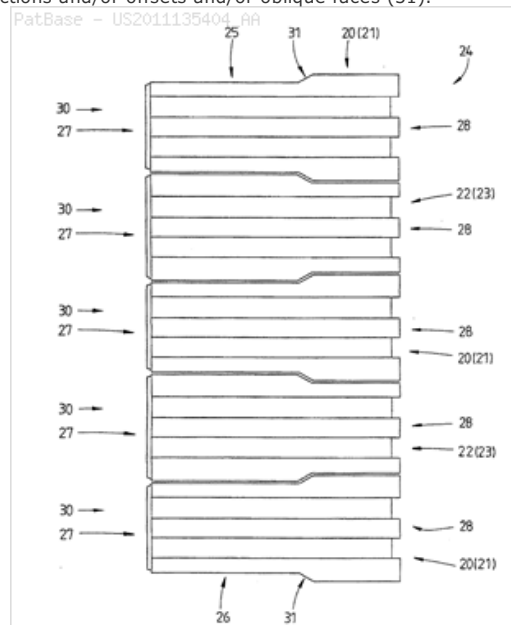
US7059808 BB, US6715965 BB, US6705797 BA, US6443663 BA, US6178715 BA, US6178715 B1,
US6152655 A, US6053661 A, US5820304 A, US5791827 A, US5775046 A, US5622456 A, US5607262 A,
US5120164 A, US5114270 A, US5017049 A, US4993206 A, US4860505 A, US4798036 A, US4711606 A,
US4703599 A, US3873225 A, US2462289 A, US2313363 A, US2005081470 AA, US2004052588 AA,
JP11036336 A2, FR2268116 A1, EP0616655 B1, EP0569323 A2, DE9405552 U1, DE8811825 U1,
DE8504505 U1, DE8133364 U, DE8133364, DE3505530 A1, DE20313254 U1, DE20000821 U1,
DE19654529 C2, DE19654529 A1, DE10006364 A1, DE10002390 A1,

Forward Citations:

US9677271,

Abstract:

A retaining wall, in particular a retaining wall (24) inclined against a soil backfill, composed of individual shaped blocks (20, 21, 22, 23), the shaped blocks (20, 21, 22, 23) being arranged one above the other in layers (30) and the shaped blocks (20, 21, 22, 23) of adjacent layers (30) each engaging in a form-fitting manner with one another in the region of upper sides (25) and lower sides (26) of the shaped blocks (20, 21, 22, 23). Provision is made according to the invention for upper sides (25) and lower sides (26) of the shaped blocks (20, 21, 22, 23) to be designed and/or oriented in such a way that when lateral pressure is exerted transversely to an imaginary longitudinal axis of the retaining wall (24), individual layers (30) can be displaced in the corresponding direction. In order to produce the form-fitting engagement transversely to the longitudinal axis of the retaining wall, provision is preferably made for the shaped blocks (20, 21, 22, 23) to be provided in the region of the upper side (25) and the lower side (26) with respective form-fitting means, in particular projections and/or offsets and/or oblique faces (31).



34) Family number: 30722922 (US2004134154A)

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Title:

INTERLOCKING BUILDING BLOCK

Priority:

US20030438960P 20030109 US20030418563 20030417 CA20032432660 20030618
EP20030253831 20030618 WO2003US28279 20030909 US20050099899 20050406

Family:

Publication number	Publication date	Application number	Application date
AU2003204789 AA	20040729	AU20030204789	20030619
AU2003204789 BB	20080501	AU20030204789	20030619
AU2003303688 AA	20040810	AU20030303688	20030909
CA2432660 AA	20040709	CA20032432660	20030618
CA2432660 C	20110201	CA20032432660	20030618
CN1517504 A	20040804	CN20031052316	20030728
CN1517504 B	20110824	CN20031052316	20030728
DE60343000 D1	20130228	DE20036043000	20030618
EP1437448 A1	20040714	EP20030253831	20030618
EP1437448 B1	20130102	EP20030253831	20030618
ES2415768 T3	20130726	ES20030253831T	20030618
HK1068664 A1	20111230	HK20050100956	20050204
HK1068664 A1	20050429	HK20050100956	20050204
HK1068664 A3	20050429	HK20050100956	20050204
HK1068664 B	20111230	HK20050100956	20050204
JP2004218416 A2	20040805	JP20030296744	20030820
KR101098674 B1	20111223	KR20030070918	20031013
KR20040090378 A	20041022	KR20030070918	20031013
NZ526518 A	20050225	NZ20030526518	20030616
US2004134154 AA	20040715	US20030418563	20030417
US2005178081 AA	20050818	US20050099899	20050406

	US6948282 BB	20050927	US20030418563	20030417
	US7712281 BB	20100511	US20050099899	20050406
	WO04063475 A2	20040729	WO2004US00524	20040109
	WO04063475 A3	20050909	WO2004US00524	20040109
	WO04063483 A1	20040729	WO2003US28279	20030909

Probable Assignee: ALLAN BLOCK CORP

Assignee(s):(std): ALLAN BLOCK CORP ; BLOCK ALLAN CORP ; BOTT TIMOTHY A ; ALUNBLOCK CORP

Assignee(s): ALLAN BLOCK CORP BLOOMINGTON ; ALLAN BLOCK 5300 EDINA INDUSTRIAL BOULEVARD EDINA CORP

Inventor(s):(std): BOTT TIMOTHY A ; BORT TIMOSI A ; TIMOTHY A BOTT ; TIMOSI A BORT

Inventor(s): BOTT TIMOTHY ; TIMOTHY A BOTT A

Agent(s): GRIFFITH HACK; RIDOUT AND MAYBEE LLP; PATENTANWAELTE HENKEL BREUER AND PARTNER; JOHNSTONE HELEN MARGARET; URIZAR JOSE ANTONIO; CLT PATENT AND TRADEMARK HK LTD UNIT 10 34 F OFFICE TOWER CONVENTION; CLT PATENT AND TRADEMARK HK LTD; INTELLECTUAL PROPERTY GROUP FREDRIKSON AND BYRON PA; FREDRIKSON AND BYRON PA

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8-9): E02D29/02 E04B2/02 E04B2/46 E04C E04C1/00 E04C1/39 E04C2/04 (Advanced/Invention); E04B2/02 (Advanced/Non-invention); E02D29/02 E04B2/02 E04C1/00 E04C2/04 (Core/Invention); E04B2/02 (Core/Non-invention); E04C (Subclass/Invention)

International class (IPC 1-7): E02D E02D29/02 E04B1/02 E04B2/02 E04B2/46 E04B5/04 E04C1/00 E04C1/39 E04C2/04 E04C3/30

CPC: E04B2002/0221 E04B2002/026 E04B2002/0263 E04C1/395

European class: E04C1/39B P04B2/02M1E3 P04B2/02N2 P04B2/02N3

US class: 402/284 405/284 52/561 52/592.5 52/592.6 52/596 52/604 52/605 52/606 52/608 52/98

[Classification Explorer](#)

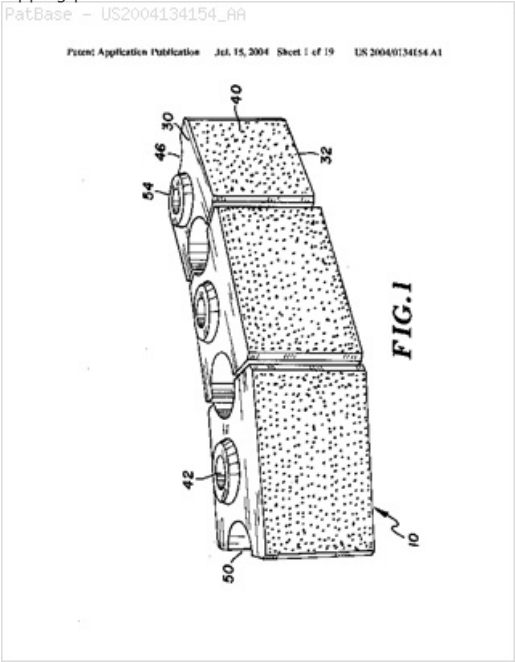
Cited documents: WO8202732, WO0220913 A1, WO0022243, USRE37278 E, USD417506 S1, USD403438 S1, USD397230 S1, USD387431 S1, USD342580 S1, USD340997 S1, USD336686 S1, USD261047 S1, USD243855 S1, USD243855 S1, USD198527 S1, US990119 A, US979913 A, US952918 A, US951624 A, US916687 A, US829711 A, US829397 A, US811534 A, US763945 A, US7305803 BB, US7096636 BA, US6996945 BB, US6948282 BB, US689523 A, US6645033 BA, US6615561 BB, US6588168 BB, US6578338 BA, US6571525 BB, US6506091 BA, US6490837 BA, US6474036 BB, US6447213 BA, US6322742 BA, US6312197 BA, US6253519 BA, US6233897 BA, US6178704 BA, US6178704 B1, US6168353 BA, US6168353 B1, US6149352 A, US6088987 A, US6086444 A, US6082067 A, US6062772 A, US6050044 A, US6035599 A, US5987840 A, US5984589 A, US5934037 A, US5894702 A, US5853314 A, US5848927 A, US5795210 A, US5788423 A, US5729943 A, US5709062 A, US5707184 A, US5704183 A, US5688078 A, US5685119 A, US5653558 A, US5651642 A, US5647185 A, US5623797 A, US5556228 A, US5551198 A, US5548938 A, US5536111 A, US5535568 A, US5471808 A, US5457926 A, US5421135 A, US5402609 A, US5350256 A, US5337527 A, US5230195 A, US5181362 A, US5154032 A, US5119587 A, US5024035 A, US4965979 A, US4947610 A, US4922678 A, US4896472 A, US4887403 A, US4854103 A, US474285 A, US4640071 A, US4565043 A, US4516364 A, US4475326 A, US4436447 A, US438960 P, US4372091 A, US4301637 A, US4297816 A, US4262463 A, US4186540 A, US4148166 A, US4107894 A, US4078760 A, US4060952 A, US4031678 A, US4026086 A, US3908324 A, US3888060 A, US3881571 A, US3618279 A, US3534518 A, US3305982 A, US3030093 A, US2911818 A, US2826906 A, US2703487 A, US2668435 A, US2624193 A, US2624163 A, US2610503 A, US2498276 A, US2321403 A, US2241169 A, US2205419 A, US2201110 A, US2157992 A, US2141397 A, US2140773 A, US2127914 A, US2019653 A, US200627206 AA, US2004226246 AA, US2004159068 AA, US2004154256 AA, US2004020145 AA, US2002187010 AA, US2002148187 AA, US2002028114 AA, US2001023559 AA, US2001004822 AA, US1898297 A, US1761614 A, US1727362 A, US1689107 A, US1683441 A, US1681631 A, US1657861 A, US1634357 A, US1630698 A, US1566988 A, US1542001 A, US1516473 A, US1468892 A, US1444554 A, US1418168 A, US1388181 A, US1369115 A, US1009469 A, JP8232369, JP56074109 U1, JP56070375, JP54164084, JP50111840, JP49063214, JP3073310 U1, JP0220913 A2, GB619456 A, GB561654, GB540745, GB21559, GB166623, FR2533956 A1, FR21481 E, EP1054114, EP0728878, EP0507970, EP0498140 A1, DE88022 A, DE864998 A, DE3501908, CH85182, CAD93842, CAD93841, CAD92984, CAD92983, CAD87009, CAD84184, CAD78184, CAD77829, CAD52836, CAD50779, CAD39809, CAD18611, CA981480, CA93842, CA93842, CA93841, CA93841, CA92984, CA92984, CA92983, CA92983, CA87009, CA87009, CA84184, CA84184, CA798042, CA78184, CA78184, CA77829, CA77829, CA58421 A, CA52836, CA52836, CA511636, CA50779, CA50779, CA50243 A, CA477777, CA455960, CA39809, CA39809, CA2356173, CA2355010, CA2318617, CA2231567, CA2173649, CA2165253, CA2149762, CA2145344, CA2119458, CA2075580, CA193538, CA18611, CA18611, CA14561 A, CA1324266, CA124543, CA1203395, CA1197391, CA1070971, BE501899 A, BE407854 A, BE1008966 AD, AU737866 A1, AU737866,

Forward Citations: WO16198753, WO14086957, WO14068032, WO14068032, WO14062212, WO10144098, WO09039440, WO09039440, WO09002623, WO08141164, WO08073648, WO07059454, WO07059454, USD864420, USD717970, USD636897, USD632805, USD626662, USD625028, USD625027, USD624204, USD612070, USD612069, USD599489, USD540476, USD540475, USD512519, US9834932, US9816267, US9783986, US9464434, US9315992, US9187895, US9183957, US9145676, US9145249, US9096975, US9003734, US8863465, US8863464, US8851803, US8800230, US8708608, US8601759, US8469321, US8448410, US8414816, US8316610, US8297887, US8297012, US8201379, US8176697, US8123435, US8061095, US7971407, US7908799, US7882674, US7775747, US7743574, US7712281, US7707784, US7445407, US7390146, US7007436, US2019136533, US2016263489, US2016222661, US2016176639, US2016123006, US2016097198, US2015240485, US2015159371, US2015052841, US2014360897, US2014272449, US2012222374, US2011225909, US2011179737, US2011168853, US2011162318, US2011146191, US2010310324, US2010307095, US2010192502, US2010186338, US2010170187, US2010132298, US2010111615, US2010043335, US2009313923, US2009301003, US2009217610, US2009208298, US2009196695, US2009077920, US2009019813, US2009000234, US2008289282, US2008277561, US2008272270, US2008216436, US2008134616, US2007271868, US2007193183, US2007122240, US2006179777, US10329717, US10214905, US10024306, KR20190115571, KR20190102336, KR101954280, JP2013527347, FR3014461, EP2929100, EP2923000, DE202012012497, DE102012111873, CN105696727, CN103437502, CN103437502, CN102493589, AU2013332435,

Abstract:

The present building block has at least one inner core, a secondary or end core portion, and an interlock protruding from one face and forming a portion of the periphery of at least one of the inner cores. When placed end to end and at the same level, building blocks of the present invention form a secondary core or seat for reception of the interlock. When a first row of building blocks placed end to end is staggered relative to a second row of building blocks placed end to end, the interlocks of one row of building blocks mate with the secondary or end core portions or relatively large inner cores of the other row of building blocks such that neighboring rows of building block interlock. The basic building block has ends that are oblique such that rows having a

preset radius can be formed or such that a linear row can be formed by placing one block front-to-back and an adjacent building block back-to-front. Disclosed are angle blocks with and without splitter wedges, stretcher blocks with and without splitter wedges, blocks for forming corners and posts, cap blocks, and blocks for capping posts.



35) Family number: 6038952 (SU727767T)

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Title: THREE-DIMENSIONAL MEMBER OF RETAINING WALLS

Priority: SU19772541712 19771102

Family:	Publication number	Publication date	Application number	Application date
	SU727767 T	19800415	SU19772541712	19771102

Probable Assignee: GRUZINSKIY GI PROEKT VODOKHOZY

Assignee(s):(std): GRUZINSKIY GI PROEKT VODOKHOZY ; INST STR MEK SEJSMOSTOJKOSTI A

Assignee(s): INST STROITELNOJ MEKHANIKI SEJSMOSTOJKOSTI AN GRUZ ; INST STROITELNOJ MEKHANIKI SEJSMOSTOJKOSTI AN GRUZINSKOJ SSR ; GRUZINSKIY GI PO PROEKTIROVANIYU VODOKHOZYAJSTVENN ; GRUZINSKIY GI PO PROEKTIROVANIYU VODOKHOZYAJSTVENNOGO STROITELSTVA GRUZGIPROVODKHOZ

Inventor(s):(std): CHKHEIDZE GURAM L ; KHOMERIKI GIVI V

Inventor(s): KHOMERIKI GIVI V SU ; CHKHEIDZE GURAM L SU

International class (IPC 8-9): E02D29/02 (Advanced/Invention);
E02D29/02 (Core/Invention)

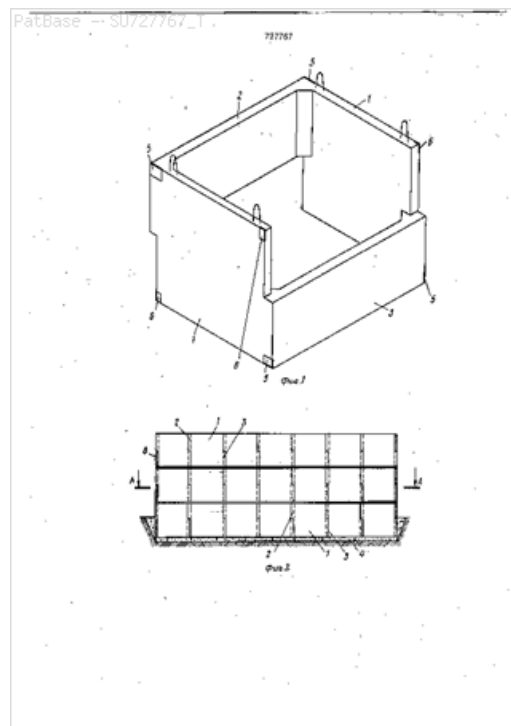
International class (IPC 1-7): E02D29/02

[Classification Explorer](#)

Forward Citations: US5480267, DE4131423,

Abstract:

Source: SU727767T **Machine translation:** 1.Rossiysky VA Precast concrete retaining walls. Kiev Gosstroyizdat USSR, 1961, p. 60-61.



36) Family number: 23048954 (GB1064451A)

© PatBase

Title: An improved assembly of concrete blocks

Priority: SE19630003732 19630404

Publication number	Publication date	Application number	Application date
GB1064451 A	19670405	GB19640012825	19640326

Probable Assignee: SKOVDE GASBETONG AKTIEBOLAG

Assignee(s):(std): SKOVDE GASBETONG AKTIEBOLAG

International class (IPC 8-9): E04B2/08 (Advanced/Invention);
E04B2/02 (Advanced/Non-invention);
E04B2/04 (Core/Invention);
E04B2/02 (Core/Non-invention)

International class (IPC 1-7): E04B2/08 E04C1/10

CPC: E04B2/08 E04B2002/0243

European class: E04B2/08 P04B2/02M3

[Classification Explorer](#)

Forward Citations: WO9306310, WO9204513, US5480267, GB2410036, GB2234994, GB2234994, GB2234538, GB2233009, EP0940513,

Abstract:

1,064,451. Building blocks. SKOVDE GASBETONG A. B. March 26, 1964 [April 4, 1963], No. 12825/64. Heading E1B. Superimposed concrete wall blocks are interconnected without the use of mortar by dowel elements 19 which are force-fitted in opposed tapered recesses in the blocks. As shown the recesses are hemispherical and the elements 19 are balls or burnt clay or plastics. In a modification the recesses are conical and each dowel element is formed as a pair of oppositely-tapering cones or frusto-cones.

