

200 Documents

Publication numbers	Title	Current assignees
EP1389249 A1	Retaining wall structure for soil stabilization	HUESKER
US5131791 A	Retaining wall system	BEAZER WEST
US20080292413 A1	Cast stone, earthen retaining wall system incorporating geogrid, textile or fabric as the soil reinforcement.	MATEER STEPHEN A
WO2016106149 A1	Geosynthetic connection systems and methods for mechanically stabilized earth walls	TRICON PRECAST
EP1114896 A1	System for fastening a reinforcement strip to a retaining wall and apparatus for positioning the system	TERRE ARMEE INTERNATIONALE
EP3411530 A1	Geosynthetic reinforced wall panels comprising soil reinforcing members	TENSAR INTERNATIONAL
WO200512652 A1	Composite form for stabilizing earthen embankments	M D S K ENTERPRISES
EP1045940 A1	Stabilizing elements for mechanically stabilized earthen structure and mechanically stabilized earthen structure	TERRE ARMEE INTERNATIONALE
US6050748 A	Stabilizing elements for mechanically stabilized earthen structure	REINFORCED EARTH
EP-917604 A1	Soil reinforcement	CHRISTOPHER MARTIN, ...
EP3359745 A1	Geogrid made from a coextruded multilayered polymer	TENSAR
EP-868576 A1	Integrated flexible multi-layer geogrid	TENAX
EP3265614 A1	Containing element, structure of reinforced ground, process of making said structure of reinforced ground	TENAX
WO2019106380 A1	Connector for geogrids	GEOCONTEC
WO2011159808 A2	Mechanically stabilized earth welded wire wall facing system and method	T & B STRUCTURAL SYSTEMS
WO9625562 A1	Precast wall panel and grid connection device	TENSAR, ...
EP1415052 A2	Grooved retaining wall block and system	KEYSTONE RETAINING WALL SYSTEMS
US5044834 A	Retaining wall construction and blocks therefor	ANCHOR WALL SYSTEMS
US4824293 A	Retaining wall structure	UES
EP-677128 A1	Retaining wall block for use with geogrids	FOUNTAIN HOLDINGS
US20060204342 A1	Retaining wall having polymeric reinforcing mats	HILFIKER PIPE
US5934838 A	Modular wall block retaining wall reinforced by confinement cells for cut wall applications	TENSAR, ...
US5417523 A	Connector and method for engaging soil-reinforcing grid and earth retaining wall	SCALES; JOHN
US4505621 A	Wire retaining wall apparatus and method for earthen formations	HILFIKER, ...
US4856939 A	Method and apparatus for constructing geogrid earthen	HILFIKER WILLIAM K

Publication numbers	Title	Current assignees
	retaining walls	
US6287054 B1	Plantable wall block assembly and retaining wall formed therefrom	TENSAR INTERNATIONAL, ...
WO2011159807 A2	Mechanically stabilized earth system and method	T & B STRUCTURAL SYSTEMS
EP--67551 A1	Reinforced earth structures and facing units therefor	WEST YORKSHIRE METROPOLITAN COUNTY COUNCIL
EP1143075 A1	Method and apparatus for geogrid measurement	VERIGRID
FR2921943 A1	Assembly of geomaterial reinforcements for reinforced earth structure, structure and method associated with	TERRE ARMEE INTERNATIONALE
WO200609978 A1	Retaining wall	ALLAN BLOCK
EP-472993 A1	Hollow block for a retaining wall.	RDB PLASTOTECNICA
US6857823 B1	Earthen retaining wall having flat soil reinforcing mats which may be variably spaced	HILFIKER PIPE
WO9523897 A1	Modular wall block system and grid connection device for use therewith	TENSAR, ...
US4343571 A	Reinforced earth structures	AMERICAN CYANAMID, ...
US4884921 A	Retaining wall module having face panel and T-stem with means for receiving transverse stabilizing web	FOMICO INTERNATIONAL SCHUYLERVILLE NY
KR100665679 B1	Combined retaining wall and the making method	JEONG BANG ENGINEERING
US20050111921 A1	Compressible mechanically stabilized earth retaining wall system and method for installation thereof	T & B STRUCTURAL SYSTEMS
GB9417413 D0	Slope reinforcing structure and method	APPLETON SAMUEL A
US4616959 A	Seawall using earth reinforcing mats	HILFIKER PIPE
US5722799 A	Wire earthen retention wall with separate face panel and soil reinforcement elements	HILFIKER; WILLIAM K.
WO200248467 A1	Geogrid	GONG HAK BONG, ...
WO201184983 A2	Wave anchor soil reinforcing connector and method	T & B STRUCTURAL SYSTEMS
US4324508 A	Retaining and reinforcement system method and apparatus for earthen formations	HILFIKER, ...
EP1546468 A1	Concrete module for retaining wall and improved retaining wall	JANSSON JAN ERIK
US20110182673 A1	Two stage mechanically stabilized earth wall system	T & B STRUCTURAL SYSTEMS
EP1948873 A2	Modular block structures	EARTH WALL PRODUCTS
US6357970 B1	Compressible welded wire wall for retaining earthen formations	HILFIKER PIPE

Publication numbers	Title	Current assignees
US6595726 B1	Retaining wall system and method of making retaining wall	TENSAR INTERNATIONAL, ...
US5531547 A	Reinforced earth construction	KYOKADO ENGINEERING
EP-611849 A1	Reinforced cell material	CLOSURE SYSTEMS INTERNATIONAL, ...
EP-999037 A2	Resin net and production methods thereof	BRIDGESTONE
EP-900304 A1	Modular block retaining wall construction	NETLON
EP1012406 A1	An element for forming ground covering, restraining and reinforcing structures, particularly for forming retaining walls	OFFICINE MACCAFERRI
EP-705370 A1	Earth structures	TERRE ARMEE INTERNATIONALE
US20090116911 A1	Interlocking and securable retaining wall block and system	SHAW TECHNOLOGIES
US4998397 A	Alignment and lateral support member for use in laying common concrete blocks	ORTON MICHAEL V
WO200362538 A2	Interlocking and securable retaining wall block and system	SHAW TECHNOLOGIES
EP1015702 A1	Systems and methods for connecting retaining wall panels to buried mesh	SSL
US5145288 A	Mortarless retaining wall	BORCHERDT D THOMAS
WO200991498 A1	Retaining wall block and method of manufacture	SHAW TECHNOLOGIES
US5733072 A	Wirewall with stiffened high wire density face	HILFIKER WILLIAM K
US20050286980 A1	Compressible welded wire retaining wall and rock face for earthen formations	HILFIKER PIPE
US4661023 A	Riveted plate connector for retaining wall face panels	HILFIKER PIPE
EP2550406 A1	Retaining wall with reinforced earth elements in the backfill	TERRE ARMEE INTERNATIONALE
EP-894169 A1	Earth structures	TERRE ARMEE INTERNATIONALE
US20040062614 A1	Reinforcement connection for pre-cast wall panel	ATLANTECH INTERNATIONAL, ...
EP1546467 A2	Reinforcing system for stackable retaining wall units	ALLAN BLOCK
WO2002101157 A2	Retaining wall block	STORMWATER MANAGEMENT, ...
US20020124516 A1	Segmental block connection system	PAULSON JOHN
EP-429637 A1	Pre-cast, reinforced concrete retaining wall system.	NED NELSON
US6443663 B1	Self-locking clamp for engaging soil-reinforcing sheet in earth retaining wall and method	GEOSTAR
EP1302598 A2	Reinforcing system for stackable retaining wall units	ALLAN BLOCK
US4643618 A	Soil reinforced cantilever wall	HILFIKER PIPE
US20150063924 A1	System and method for retaining wall	OLDCASTLE PRECAST

Publication numbers	Title	Current assignees
US4834584 A	Dual swiggle reinforcement system	HILFIKER WILLIAM K, ...
GB9418994 D0	Facing panel for earth structures	SOCIETE CIVILE DES BREVETS HENRI VIDAL
US20140314501 A1	Mechanically stabilized earth retaining wall system and method of use	OLDCASTLE PRECAST
US4116010 A	Stabilized earth structures	SOCIETE CIVILE DES BREVETS HENRI VIDAL
GB200721905 D0	Block panel modules and a tieback wall constructed therefrom	ENHANCED MAN
US5066169 A	Retaining wall system	PETER W GAVIN SPRAY TRUST, ...
WO9119057 A1	Improvements in embankment reinforcing structures	BOHM CARLOTA M ESQ CHAPTER 7 TRUSTEE FOR DURA, ...
EP---2216 A1	Reinforcing elements for reinforced earth structures	BAYER
US6793436 B1	Connection systems for reinforcement mesh	SSL
US6416260 B1	Self-connecting, reinforced retaining wall and masonry units therefor	PERMAWALL SYSTEMS
US6443662 B1	Connector for engaging soil-reinforcing grid to an earth retaining wall and method for same	GEOSTAR
US6701687 B1	Modular wall block with mechanical course connector	RIDGEROCK RETAINING WALLS
US6457911 B1	Blocks and connector for mechanically-stabilized earth retaining wall having soil-reinforcing sheets	GEOSTAR
US4329089 A	Method and apparatus for retaining earthen formations through means of wire structures	HILFIKER, ...
US4804299 A	Retaining wall system	UNITED INTERNATIONAL ENGINEERING
US4968186 A	Mechanically stabilized earth system and method of making same	TRICON PRECAST
US4117686 A	Fabric structures for earth retaining walls	HILFIKER, ...
EP-174253 A2	Slab facing for the slopes of earth fills, for instance earth fills reinforced by means of geotextile layers	ETAT FRANCAIS REPRESENTE PAR LE MINISTERE DE L URBANISME & DU LOGEMENT LABORATOIRE CENTRAL DES PONTS & CHAUSSEES, ...
US4655646 A	Multitiered, rigid tieback, essentially vertical retaining wall system	SHEARSON
US4684294 A	Retaining wall construction element	NEILL RAYMOND J O

Publication numbers	Title	Current assignees
US4343572 A	Apparatus and method for anchoring the rigid face of a retaining structure for an earthen formation	HILFIKER, ...
US4929125 A	Reinforced soil retaining wall and connector therefor	HILFIKER WILLIAM K
WO9831878 A1	Composite retaining wall	TENSAR, ...
US5823709 A	Interconnected block system	TENSAR, ...
US4374798 A	Production of plastic mesh structure	PLG RESEARCH
US5911539 A	Interconnected block system	TENSAR, ...
EP1534898 A1	Geogrid or mesh structure	TENSAR EARTH TECHNOLOGIES, ...
WO201215791 A1	Process for casting concrete wall blocks for use with geogrids	REDI ROCK INTERNATIONAL
EP2434060 A1	A reinforced soil structure	TERRE ARMEE INTERNATIONALE
EP2511429 A1	A product having a net structure, a process for realizing the product and use of the product for geotechnical applications	TENAX
US20140294510 A1	Berm and method of construction thereof	AWT IP
US5419659 A	Plastic material mesh structure	TENSAR EARTH TECHNOLOGIES, ...
US20080066847 A1	Method for producing large surface area geogrids with high tensile strength and large surface area geogrids	JOHNSON CONTROLS
EP1415053 A2	Multi-channel retaining wall block and system	KEYSTONE RETAINING WALL SYSTEMS
US5156495 A	Plastic material mesh structure	TENSAR EARTH TECHNOLOGIES, ...
EP2542724 A1	Retaining wall	KEYSTONE RETAINING WALL SYSTEMS
US4728227 A	Retaining wall structure	TENSA CRETE
EP2255039 A1	Multi-axial geogrids with high aspect ratio ribs	TENSAR TECHNOLOGY
JP61216928 A	Construction of banking and reinforcement therefor	KUMAGAI GUMI
US3925994 A	System of armouring earth	FODERVAEVNADER
EP-680538 A1	Construction element, in particular supporting or sound insulating construction element capable of being planted, and set of construction elements	JAECKLIN FELIX PAUL
EP2572044 A1	Tire georeinforcing system	ARMATERRA
US20190136482 A1	Block reinforcement cage having stem reinforcement portions with open apertures formed therein, for use in reinforcing a molded concrete u-wall construction block	CONCRETE SYSTEMS, ...
EP1196662 A1	Segmental retaining wall system	ANCHOR WALL SYSTEMS
WO9923313 A1	Slip form for constructing support walls	SYTEC BAUSYSTEME

Publication numbers	Title	Current assignees
WO2012151342 A2	Retaining wall soil reinforcing connector and method	T & B STRUCTURAL SYSTEMS
EP1038069 A1	Retaining wall block	STORMWATER MANAGEMENT, ...
WO2011127349 A2	Retaining wall soil reinforcing connector and method	T & B STRUCTURAL SYSTEMS
WO2007117250 A1	Invertible retaining wall block	ANCHOR WALL SYSTEMS
US6679656 B1	Connection for geogrid to concrete block earth retaining walls	REDI ROCK INTERNATIONAL
EP1246972 A2	Pre-stressed modular retaining wall system and method	CGL SYSTEMS
WO2013158735 A2	Wall block and wall block system	KEystone RETAINING WALL SYSTEMS, ...
GB2031833 A	Device for holding a number of containers	PLG RESEARCH
US5975810 A	Geo-grid anchor	T & B STRUCTURAL SYSTEMS
US20120279163 A1	Retaining wall block	KEystone RETAINING WALL SYSTEMS
WO2018175326 A1	Building block, wall constructions made from building blocks, and methods	ANCHOR WALL SYSTEMS
US6685400 B1	Mechanically stabilized earth wall systems and methods	SSL
WO200476751 A1	Apparatus and method for stabilizing an earthen embankment	M D S K ENTERPRISES
US5484235 A	Retaining wall system	T & B STRUCTURAL SYSTEMS
US4379659 A	Building blocks	WALDERMILLS
US20080193227 A1	Pre-Stressed Modular Retaining Wall System and Method	CGL SYSTEMS
EP-692047 A1	Modular block retaining wall construction and components	SOCIETE CIVILE DES BREVETS HENRI VIDAL
US5816749 A	Modular block retaining wall system	TENSAR, ...
US20060269365 A1	Pre-stressed modular retaining wall system and method	LEWIS CYRRUS G
US20110192097 A1	Block combinable with other similar blocks to form a wall, and related systems and methods	KELLEY MICHAEL L JR
US20060236617 A1	Latticed net stretching and fixing structure	CHEN SHIH-YIN
EP1963089 A2	Pyramidal fabrics having multi-lobe filament yarns and method for erosion control	PROPEX OPERATING
US20150197912 A1	Retaining wall kit having interconnecting units	PARSONS MARCUS
US20130142577 A1	Connection system and method for mechanically stabilized earth wall	TRICON PRECAST
EP2321473 A2	Retaining wall system	GREENWALL VENTURES

Publication numbers	Title	Current assignees
EP1812655 A2	Extended width retaining wall block	MORTARLESS TECHNOLOGIES
EP1117876 A1	Geotextile fabric	SAINT GOBAIN TECHNICAL FABRICS
US10145079 B1	Berm and method of manufacturing a berm	AWT IP
US6622445 B1	Modular wall block with mechanical anchor pin	RIDGEROCK RETAINING WALLS
US4266890 A	Retaining wall and connector therefor	VIDAL HENRI
WO201826736 A1	Method for casting reinforcement alignment features into concrete wall blocks	REDI ROCK INT
US20110078978 A1	Retaining wall block, method of manufacturing retaining wall block and retaining wall comprised of retaining wall blocks	E DILLON
US6857825 B1	Retaining wall block and wall grid system	MORRELL KELLY J.
US4992003 A	Unit comprising mesh combined with geotextile	YEHUDA WELDED MESH
DE3920514 A1	Concrete prefabricated slope block - has coarse-mesh plastics anchoring grille grouted into rear wall	BETONWERKE MUNDERKINGEN REINSCHÜTZ
JP61155516 A	Slope stabilization work and reinforcement therefor	TOKYU KENSETSU, ...
JP59203126 A	Soil fortification work	KOYO IRON WORKS & CONSTR
JP57140424 A	Construction work of reinforced soil	KAWASHO
AU7722912 A	Reinforced earth structure	VIDAL HENRY
BR198701874U U1	METALLIC MODEL [ARTICULAVEL] WITH PLATE CONCRETELY CONNECTED	COELHO ISABEL CRISTINA DE OLIVA
JP60168826 A	Construction of retaining wall	TAIYO GIJUTSU KAIHATSU
JP60037335 A	Sheathing and retaining wall	KUSATAKE SUGIAKI
DE2805096 A1	Building, preferably Retaining Wall, Dam o.dgl.	SCHWARZ GERHARD DIPL ING DR TECHN WIEN
JP57161230 A	Construction of retaining wall	NISSHOKU, ...
JP60016616 A	Construction of retaining wall and unit therefor	KYOSEI GIJUTSU KAIHATSU KIKO, ...
JP60019832 A	Retaining wall	YAMANE IZUMI
JP58044119 A	Stabilization work for sheathing wall	TORIUCHI SHIYUUZOU
US1358042 A	Roadway reinforcement	WARMOTH GEORGE W
JP59122623 A	Prevention of landslide of soil	SANYO KOKUSAKU PULP
JP58024017 A	Soil stabilization work	RAITO
CN107190759 A	Geogrid slope fixing method, geogrid model selecting method and geogrid component	CHINA SHENHUA ENERGY, ...
JP61134435 A	Method of building simple retaining wall	TOKYU KENSETSU, ...

Publication numbers	Title	Current assignees
EP-480890 A1	A reinforced soil vegetative wall and method for realizing the same.	COMES
CN108035364 A	Geogrid construction structure and construction method	QINGDAO NEWGRID GEO MATERIAL, ...
JP60192030 A	Terraced block for reinforced concrete retaining wall	AKAMINE YUUKO
NL8203229 A	Sectional sound attenuating wall - has grid shaped frames with end supports and soil filling between back-to-back units	G J VAN SCHOONHOVEN AANNEMINGS
NL7809026 A	Constructing underground circular storage tank - made of concrete panels without reinforcement but using spaced deformable screen inside structure during excavation	KONINKL NEDERHORST BOUW
US3614870 A	Soil tight retaining wall	CONTECH CONSTRUCTION PRODUCTS
WO9108349 A1	Retaining wall	SIMFEROPOLSKY DN INZH
JP61179925 A	Retaining wall structure increased in resistance to earthquake and device and apparatus thereof	TOYO JITSUGYO
CN109371989 A	Combined retaining structure suitable for slope stabilization support and construction method thereof	HUAZHONG UNIVERSITY OF SCIENCE & TECHNOLOGY, ...
KR101080815 B1	Construction method of front block type reinforced earth retaining wall using geogrid improving pull-out resistance	GYEONGNAM NATIONAL UNIVERSITY OF SCIENCE & TECHNOLOGY INDUSTRY ACADEMIC COOPERATION FOUNDATION, ...
KR20110016702 A	Geogrid structure for constructing a retaining wall block with reinforced earth and a method of constructing a retaining wall using the same	KANG, GU JONG
KR20190045445 A	Concrete panel for Cutting retaining wall that is Cutting retaining wall by the Concrete panel	GONG, HACK BONG
KR101390354 B1	Method for Stabilizing Forest Hillslope and Siffening Structure thereof	NATIONAL FORESTRY COOPERATIVES FEDERATION
EP2378003 A1	Assembly for connecting a geoplastic to a stable base	DYWIDAG SYSTEMS INTERNATIONAL
US10094088 B1	Sheet pile retaining wall system	EARTH
EP3231944 A1	Facing member for reinforced-soil retaining-wall, reinforced-soil retaining-wall structure using facing member, and construction method for band type fiber reinforcing material for reinforced-soil retaining-wall	HANFORCE
KR20120136185 A	Reinforced block with water supply and reinforcement method using reinforced block	BOTTOM LINE
KR20050041798 A	Reinforced retainaing wall	HONG GUN YOUNG

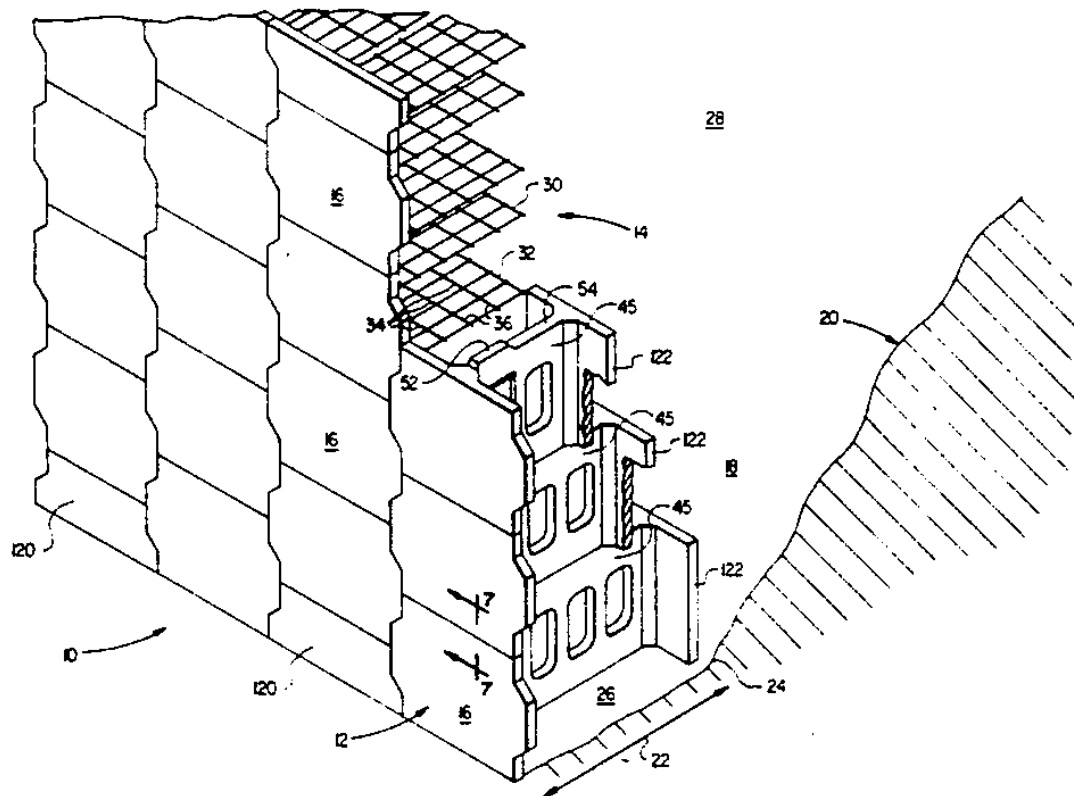
Publication numbers	Title	Current assignees
KR20170085429 A	Ground reinforcement apparatus	HWANG, KWANG HYEON
KR101203289 B1	Reinforced earth retaining wall with a curb element and a construction method thereof which do not require curing time	KYUNGPOOK NATIONAL UNIVERSITY INDUSTRY ACADEMIC COOPERATION FOUNDATION
KR20100037691 A	Reinforcement Block possible for Rotation Construction	TAEWOONG
JP59228535 A	Constructive plate for retaining wall	SUZUKI METAL INDUSTRY
KR101125072 B1	Retaining-wall constructing method considering landscape with soil-filled bags, geogrids and wires	MU SUNG CONSTRUCTION, ...
KR101117149 B1	Retaining wall structure for a slope surface having an environmentally-friendly exterior and a construction method thereof	PACIFIC GEOLOGICAL ENGINEERING
KR200446723U Y1	Vine and shrub having vegetation of reinforced soilretaining wall	KIM, HAK EUN
KR101494740 B1	Retaining wall using large block and construction method thereof	DONG MYOUNG ENGINEERING & CONSTRUCTION, ...
KR20040072586 A	Reinforced earth construction method for tree-planting and stabilization of slope, making use of front and underground geo-grids	PARK SEONG EON
KR100981913 B1	Rib using geogrid joint binding method	IL YANG INDUSTRY

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Title

(US5131791)

Retaining wall system

Images**Publication data including kind & date**[US5131791](#)

A 1992-07-21 US5131791

**Abstract**

(US5131791)

A retaining wall system comprising a combination of gravity wall and soil reinforcement retaining wall structures. The gravity wall structure comprises a plurality of gravity wall members formed of pre-cast or cast-in-place concrete, each including a face panel and an anchoring member. The anchoring member is disposed in a generally orthogonal relationship relative to the face panel and extends rearwardly into the soil mass behind the retaining wall. The soil reinforcement members are comprised of face panels and soil reinforcement elements extending rearwardly therefrom into the soil mass for the securement of the face panels. The soil reinforcement members are further adapted for positioning the gravity wall members to facilitate the economical construction of a combination retaining wall, having the most advantageous form of retaining wall securement for the upper and lower regions thereof.

Inventors

KITZILLER JAMES K

Latest standardized assignees - inventors removed

BEAZER WEST

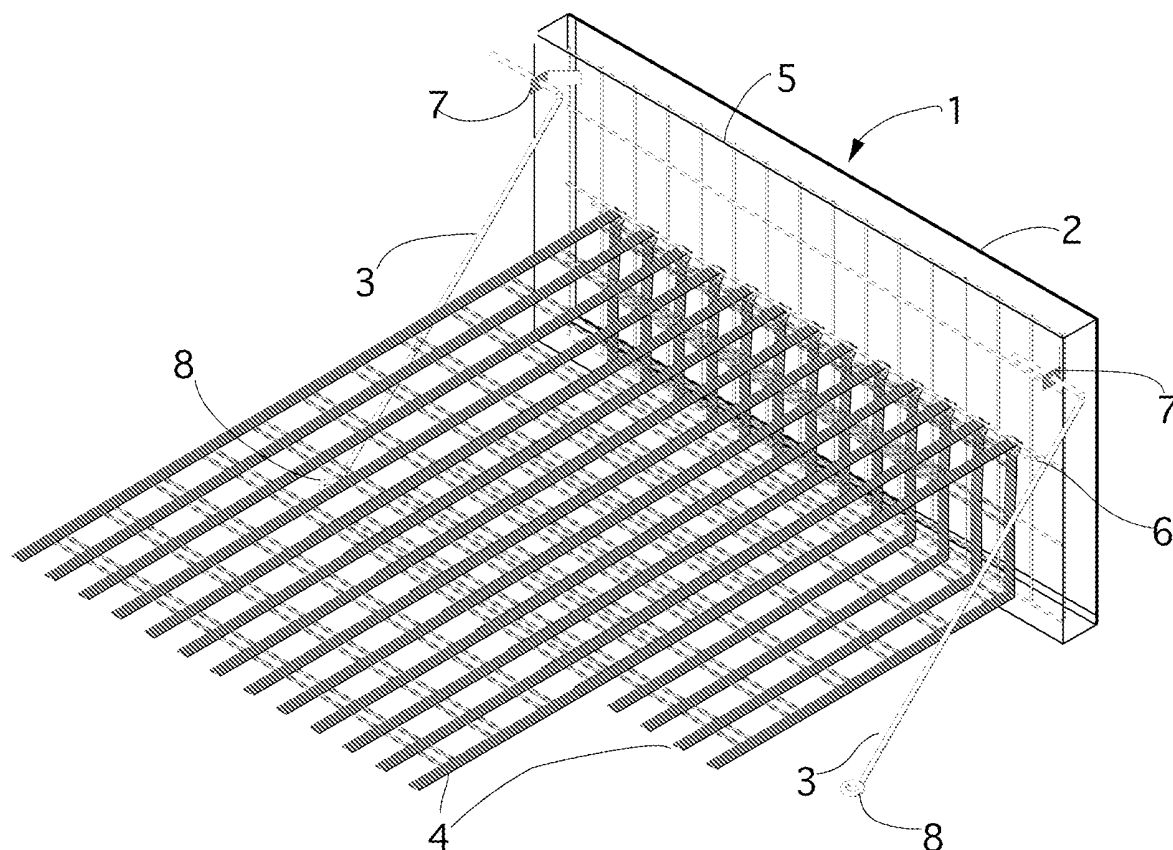
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Title

(US20080292413)

Cast stone, earthen retaining wall system incorporating geogrid, textile or fabric as the soil reinforcement.

Images

**Publication data including kind & date**[US20080292413](#)

A1 2008-11-27

US20080292413

**Abstract**

(US20080292413)

A retaining wall module (1) comprises a wall panel member (2) having a front and a rear with a geogrid, mesh, textile or fabric member (4) mechanically connected to the panel member (2) by embedding in the said wall panel member (2) during casting. In one embodiment the connector (7) comprises any connectable type clip used as a temporary holding device. The permanent attachment to the soil being the geogrid, mesh, fabric or textile (4) which is embedded in the said wall panel member (2) and attached to the embedded reinforcement (5) that is an integral part of the cast stone face member.

Inventors

MATEER STEPHEN A

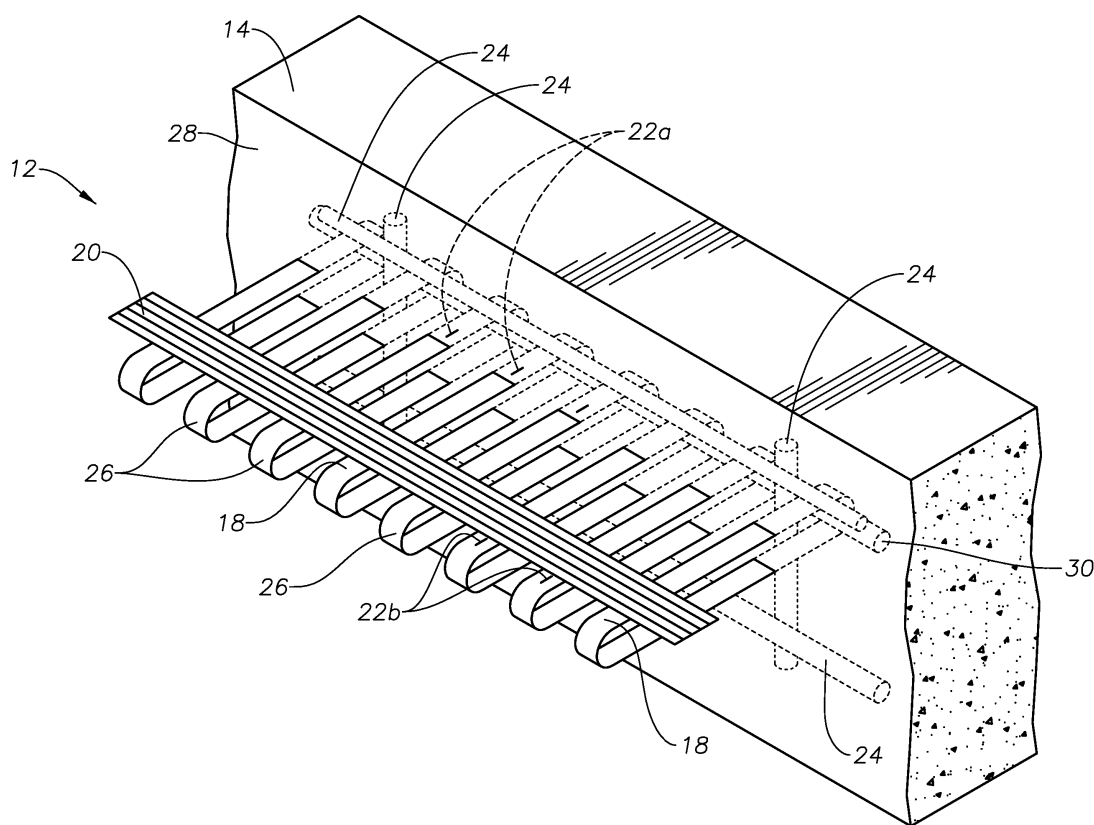
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Title

(WO2016106149)

Geosynthetic connection systems and methods for mechanically stabilized earth walls

Images



Publication data including kind & date

US10161099	B2	2018-12-25	US10161099
WO2016/106149	A1	2016-06-30	WO2016106149
US20160177533	A1	2016-06-23	US20160177533



Abstract

(WO2016/106149)

A connection system for stabilizing an earth wall is disclosed. The system may include a geosynthetic loop assembly partially embedded within a concrete panel. The geosynthetic loop assembly may include a plurality of spaced apart geosynthetic loops that may be connected by at least one transverse geosynthetic strip. The geosynthetic loops are partially embedded within the concrete panel and partially extending from a front face of the concrete panel in generally aligned relationship. The system may also include a geosynthetic reinforcement web including a plurality of longitudinal geosynthetic strips and a plurality of transverse geosynthetic strips. The web may be folded to form a fold and the longitudinal strips adjacent the fold may be positioned adjacent the geosynthetic loops extending from the front face of the concrete panel in aligned relationship to form a passageway. The system may include a locking member disposed in the passageway to engage the geosynthetic loop assembly to the geosynthetic reinforcement web.

Inventors

MAY ROBERT E
NELSON GUY C

Latest standardized assignees - inventors removed

TRICON PRECAST

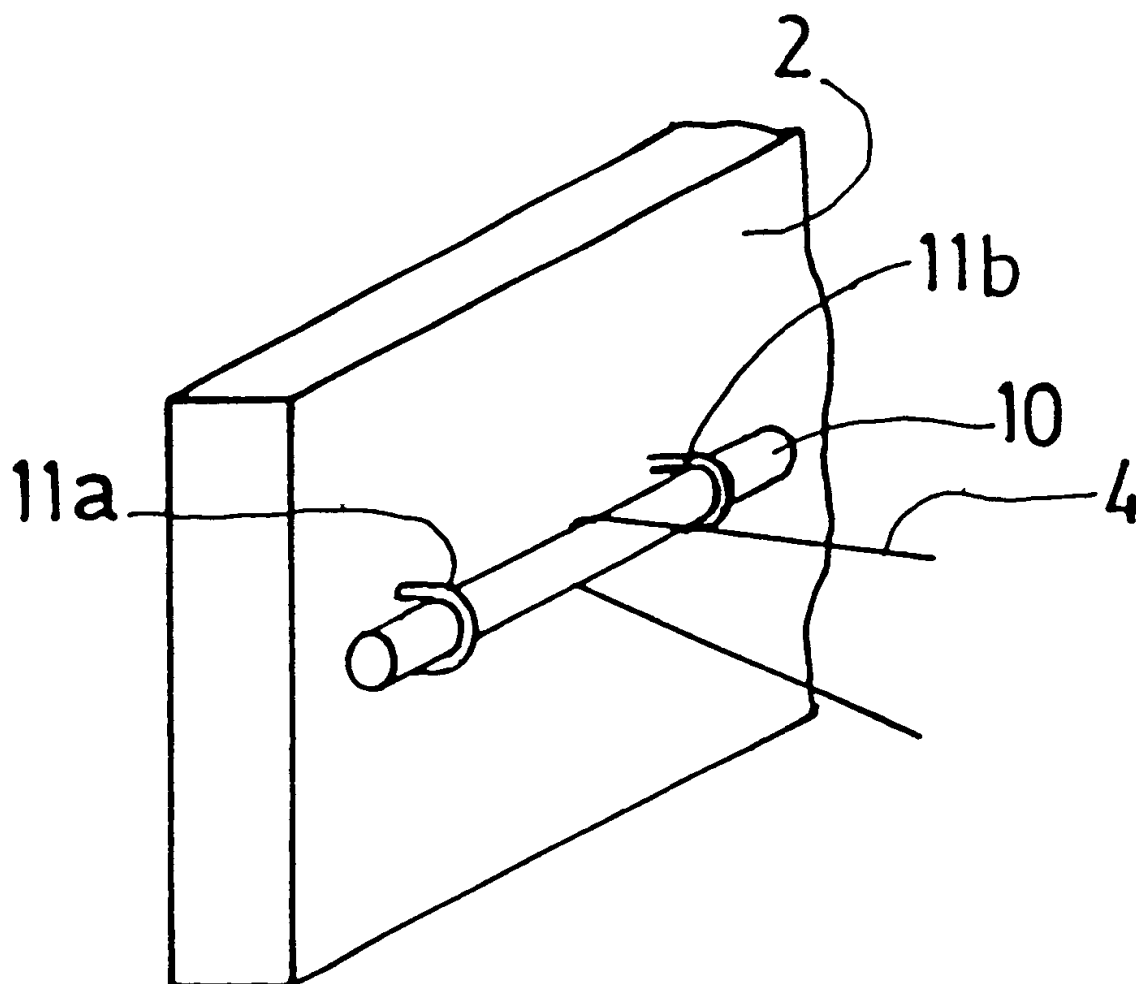
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Title

(EP1114896)

System for fastening a reinforcement strip to a retaining wall and apparatus for positioning the system

Images



Publication data including kind & date

JP4544754	B2	2010-07-09	JP4544754
AU780932	B2	2005-04-28	AU-780932
DE60109334	D1	2005-04-21	DE60109334
AT291126	T	2005-04-15	ATE291126
EP1114896	B1	2005-03-16	EP1114896
FR2803610	B1	2002-09-27	FR2803610
US6447212	B2	2002-09-10	US6447212
JP2001226969	A	2001-08-24	JP2001226969
TR200100153	A2	2001-08-21	TR200100153
TR200100153	A3	2001-08-21	TR200100153
US20010014255	A1	2001-08-16	US20010014255
FR2803610	A1	2001-07-13	FR2803610
AU1108501	A	2001-07-12	AU200111085
EP1114896	A1	2001-07-11	EP1114896



Abstract

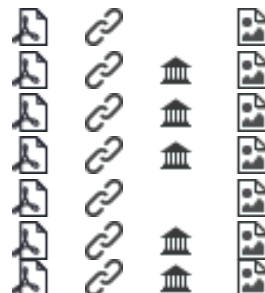
(EP1114896)

The reinforcing strip holder consists of a rod (10) fastened to the back of the retaining wall (2) by a strip (16) of a plastic material with looped ends (11A, 11B) for the rod. The strip can be fitted to the retaining wall using a template with flanges for the loops and a spacer to ensure the loop ends are parallel.

Inventors

ORSAT PIERRE

Latest standardized assignees - inventors removed



IN201817028264	A	2018-12-07	IN201817028264
CN108603351	A	2018-09-28	CN108603351
CO2018008216	A2	2018-09-20	CO2018008216
BR112018015764	A1	2018-08-14	BR112018015764
AU2017215311	A1	2018-08-02	AU2017215311
CA3012341	A1	2017-08-10	CA3012341
WO2017/136518	A1	2017-08-10	WO2017136518



Abstract

(EP3411530)

Geosynthetic reinforced wall panels including soil reinforcing members and retaining wall system formed therewith are disclosed. The geosynthetic reinforced wall panels include any type of wall panels, such as a precast concrete wall panels, that are supported by an arrangement of soil reinforcing members. Various configurations of soil reinforcing members may include end tabs and/or inner tabs that have strips arranged therebetween. Examples of soil reinforcing members include, but are not limited to narrow-width single-section reinforcing members, narrow-width multi-section reinforcing members, and wide-width reinforcing members. Further, a retaining wall system is provided that includes any arrangement of the one or more geosynthetic reinforced wall panels.

Inventors

SMITH AARON D

LUPTAK STEPHEN A

RIGGIO JEREMIAH

WISSMANN KORD J

Latest standardized assignees - inventors removed

TENSAR INTERNATIONAL

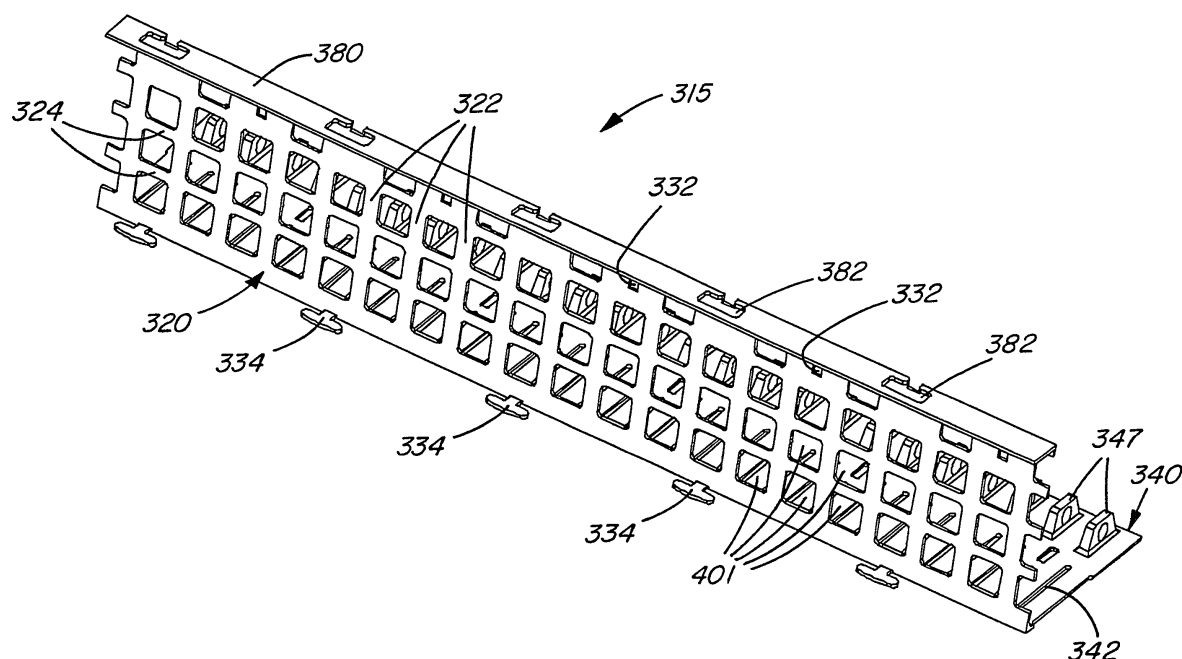
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Title

(WO200512652)

Composite form for stabilizing earthen embankments

Images



Publication data including kind & date

CA2532647	C	2010-06-08	CA2532647
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US7544015	B2	2009-06-09	US7544015				
US20060204343	A1	2006-09-14	US20060204343				
CA2532647	A1	2005-02-10	CA2532647				
WO2005/012652	A1	2005-02-10	WO200512652				

Abstract

(WO2005/012652)

A composite form for stabilizing an earthen embankment includes a floor section and a face section and is couplable to other like forms. The floor section includes integrally formed anchoring members for securing a geogrid with at least one anchoring rod. Advantageously, the face section of the form may included integrally formed hydroseeding screens. Also disclosed is a structure for stabilizing an earthen embankment, the structure comprising such a support form together with a geogrid anchored to the floor section of the form advantageously by a pair anchoring rods, an end portion of the geogrid being wrapped back and forth around the anchoring rods.

Inventors

KALLEN MICHAEL CHARLES

Latest standardized assignees - inventors removed

M D S K ENTERPRISES

Family 8/200 - FAMPAT - ©Questel

Title

(EP1045940)

Stabilizing elements for mechanically stabilized earthen structure and mechanically stabilized earthen structure

Images

A modular block wall includes dry cast, unreinforced modular wall blocks (40) with anchor type, or frictional type or composite type soil stabilizing elements (42) recessed therein and attached thereto by vertical rods (46) which also connect the blocks (40) together. The soil stabilizing elements (42) are positioned in counterbores or slots in the blocks (40) and project into the compacted soil (48) behind the courses of modular wall blocks (40). Alternative stabilizing element designs may be used with the modular wall blocks (40) and other types of facing elements in a mechanically stabilized earth structure.

Inventors

ANDERSON PETER L

Latest standardized assignees - inventors removed

TERRE ARMEE INTERNATIONALE

Family 9/200 - FAMPAT - ©Questel

Title

(US6050748)

Stabilizing elements for mechanically stabilized earthen structure

Images

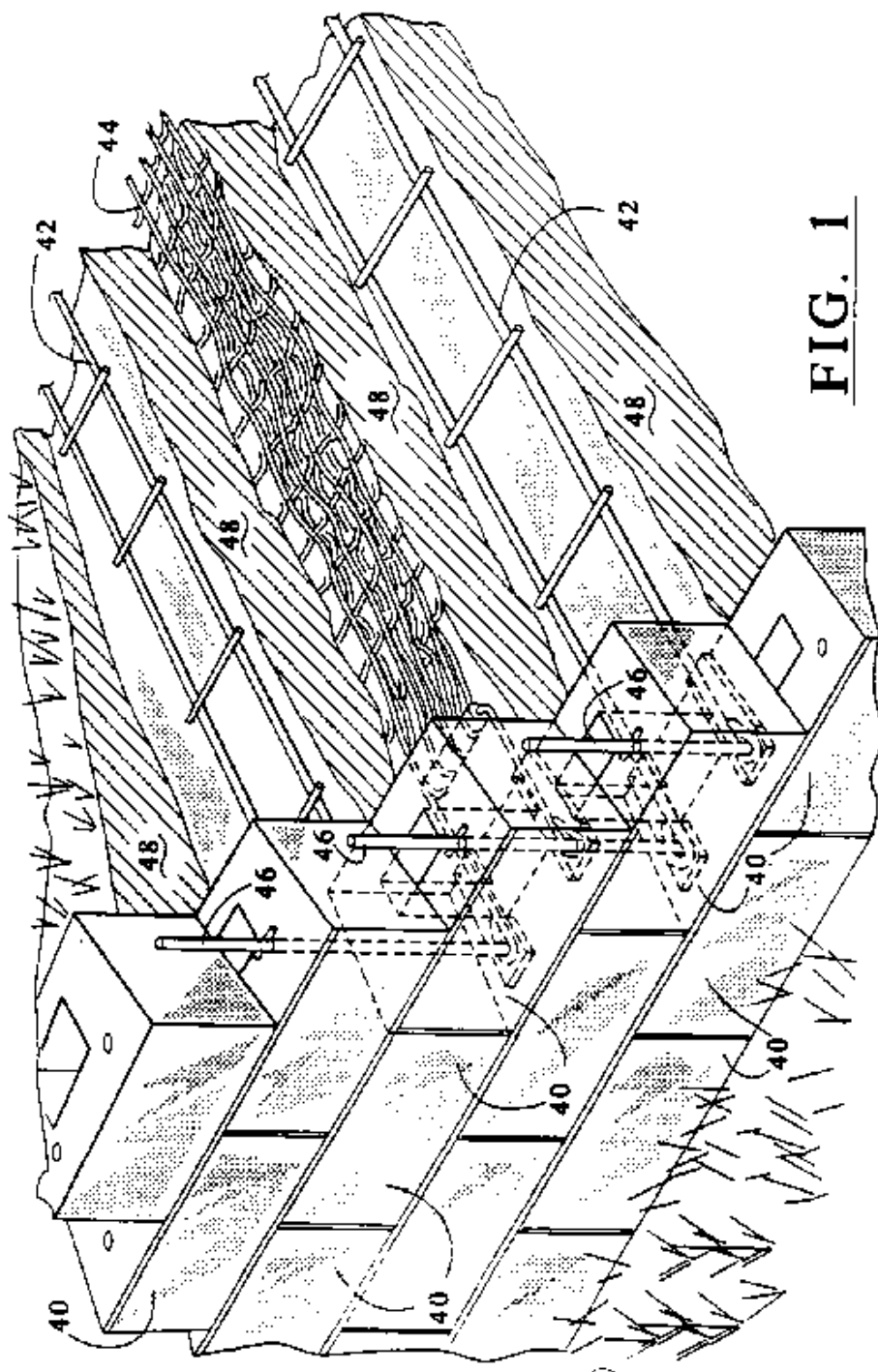


FIG. 1

Publication data including kind & date

US6336773	B1	2002-01-08	US6336773
US6050748	A	2000-04-18	US6050748

**Abstract**

(US6050748)

A modular block wall includes dry cast, unreinforced modular wall blocks with anchor type, or frictional type or composite type soil stabilizing elements recessed therein and attached thereto by vertical rods which also connect the blocks together. The soil stabilizing elements are positioned in counterbores or slots in the blocks and project into the compacted soil behind the courses of modular wall blocks. Alternative stabilizing element designs may be used with the modular wall blocks and other types of facing elements in a mechanically stabilized earth structure.

Inventors

ANDERSON PETER L

COWELL MICHAEL J

HOTEK DAN J

Latest standardized assignees - inventors removed

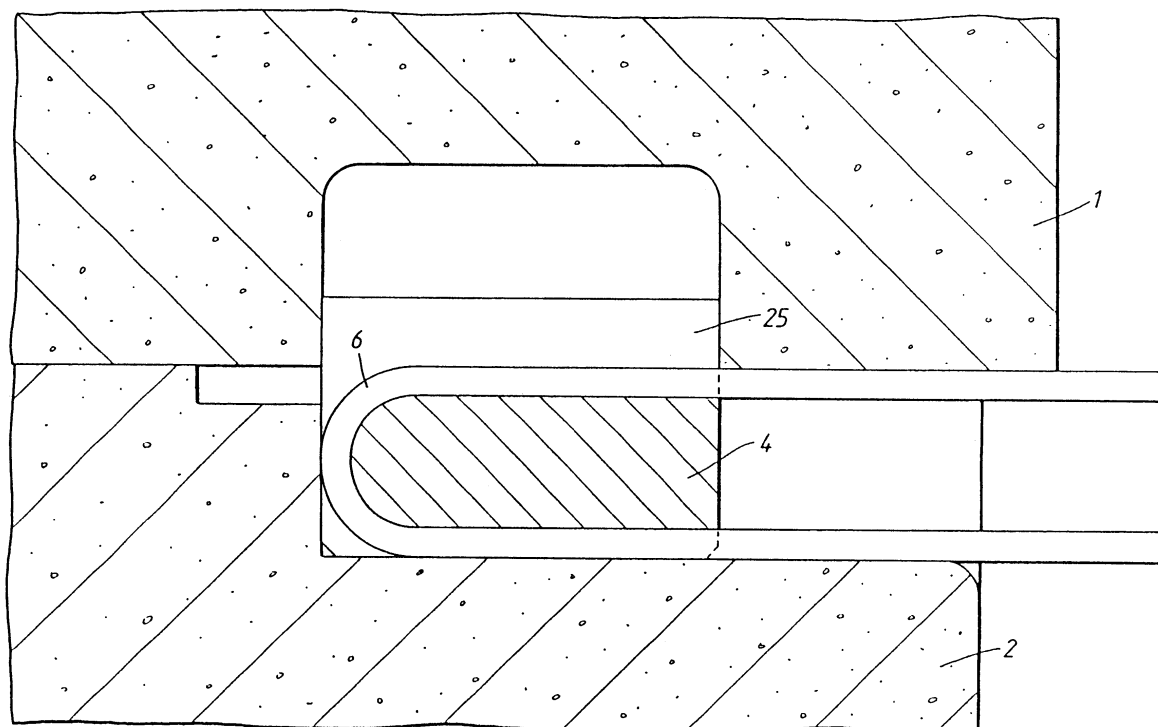
REINFORCED EARTH

Family 10/200 - FAMPAT - ©Questel

Title

(EP-917604)

Soil reinforcement

Images**Publication data including kind & date**

AU733015	B2	2001-05-03	AU-733015
US6224295	B1	2001-05-01	US6224295
JP2000516673	A	2000-12-12	JP2000516673
TR199900265	T2	1999-06-21	TR199900265
EP0917604	A1	1999-05-26	EP-917604
AU3780997	A	1998-03-06	AU9737809
CA2263285	A1	1998-02-19	CA2263285
WO98/06907	A1	1998-02-19	WO9806907

**Abstract**

(EP0917604)

To secure a polymeric strip (5) to a facing (10) of a reinforced soil structure, the strip (5) is circumflected about a plastics rod (4) and the circumflected strip and the rod are interposed between two or more blocks (1, 2) in a cavity (7) to retain the rod and thereby secure the strip (5) to the facing (10). The location of the rod (4) within the facing serves to distribute more uniformly the load imposed by the facing (10) on the strip (5), and the plastics rod (4) is resistant to corrosion.

Inventors

PRICE DERRICK IAN PETER

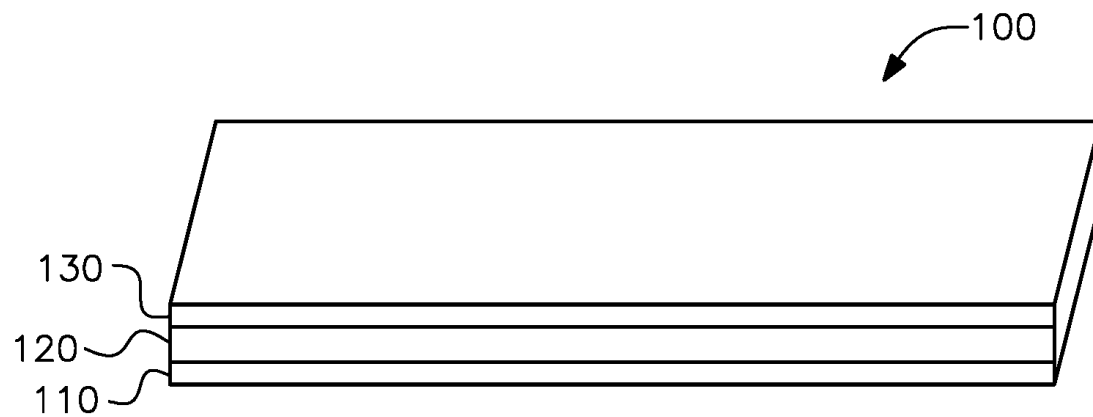
MARTIN CHRISTOPHER

Family 11/200 - FAMPAT - ©Questel

Title

(EP3359745)

Geogrid made from a coextruded multilayered polymer

Images**Publication data including kind & date**

EP3359745	A4	2019-04-24	EP3359745				
ZA201802229	B	2019-01-30	ZA201802229				
BR112018007107	A2	2018-11-06	BR112018007107				
JP2018531824	A	2018-11-01	JP2018531824				
PH12018500770	A1	2018-10-29	PH12018500770				
US20180298582	A1	2018-10-18	US20180298582				
EA201890921	A1	2018-09-28	EA201890921				
EP3359745	A1	2018-08-15	EP3359745				
CN108350673	A	2018-07-31	CN108350673				
CR20180204	A	2018-07-31	CR20180204				
VN58504	A	2018-07-25	VN--58504				
CL2018000903	A1	2018-07-06	CL0903201800				
PE10312018	A1	2018-06-27	PE201801031				
CO2018003651	A2	2018-06-20	CO2018003651				
KR20180064493	A	2018-06-14	KR20180064493				
IL258443	A	2018-05-31	IL-258443				
SG11201802902R	A	2018-05-30	SG11201802902R				
MX2018004273	A	2018-05-16	MX2018004273				
IN201837011988	A	2018-05-11	IN201837011988				
AU2016336519	A1	2018-05-10	AU2016336519				
BR112018007107	A1	2018-04-17	BR112018007107				
CA3001488	A1	2017-04-13	CA3001488				
WO2017/062632	A1	2017-04-13	WO201762632				

Abstract

(EP3359745)

An integral geogrid includes a plurality of interconnected, oriented strands having an array of openings therein that is produced from a coextruded multilayer polymer sheet starting material. By virtue of the construction, the coextruded multilayer sheet components provide a crystalline synergistic effect during extrusion and orientation of the integral geogrid, resulting in enhanced material properties that provide performance benefits to use of the integral geogrid in soil

geosynthetic reinforcement.

Inventors

SHELTON WILLIAM STANLEY

TYAGI MANOJ KUMAR

Latest standardized assignees - inventors removed

TENSAR

Family 12/200 - FAMPAT - ©Questel

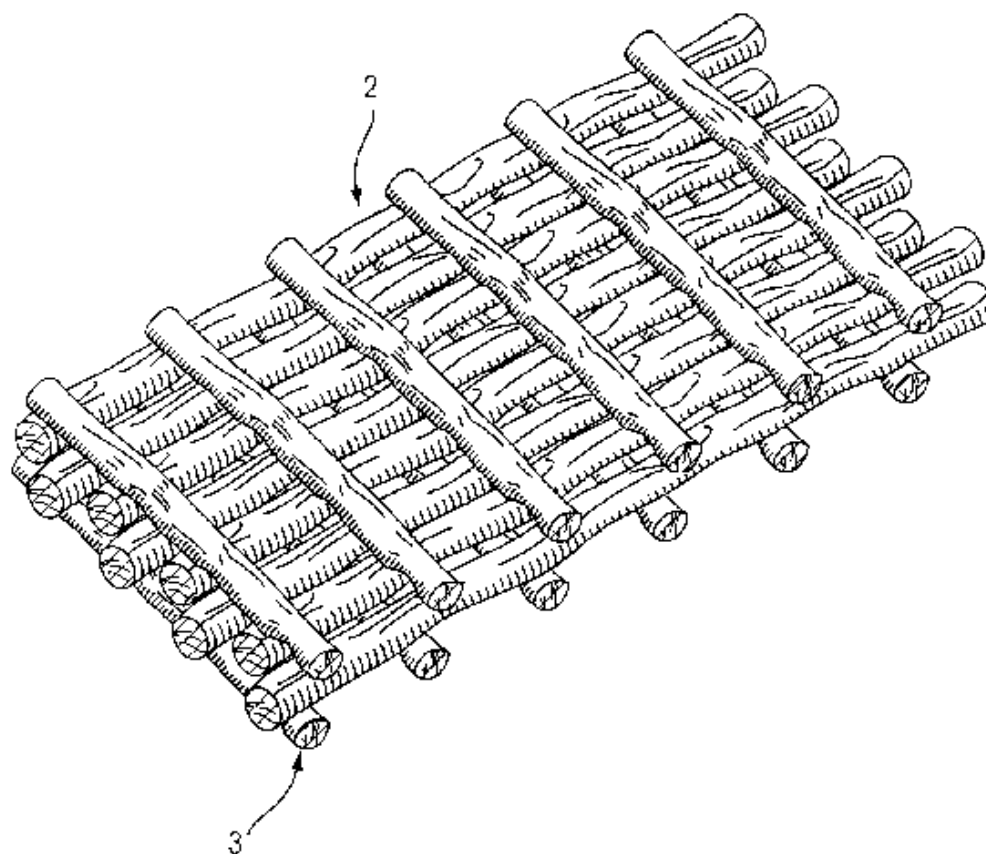
Title

(EP-868576)

Integrated flexible multi-layer geogrid

Images

FIG. 1

**Publication data including kind & date**

EP0868576	B1	2003-05-14	EP-868576
US5851089	A	1998-12-22	US5851089
EP0868576	A1	1998-10-07	EP-868576
AU4635197	A	1998-05-05	AU9746351
WO98/15693	A1	1998-04-16	WO9815693

**Abstract**

(EP0868576)

This invention relates to a geogrid structure which is comprised of two or more layers (2, 3) of rigidly bonded flexible mesh structures. The mesh openings of each layer (2, 3), without superimposing, overlay mesh openings of other layers (2, 3), resulting in a geogrid structure which consists of small and large sized mesh openings. The smaller sized mesh openings

are designed to reduce vertical migration of the smaller aggregate particles into the subgrade and to reduce pumping of the subgrade material into the aggregate layer. The rigid bonding of multiple layers (2, 3) of mesh structure provides a mechanical means for transmission of tensile stress which is less dependent upon interlocking of aggregate particles. Furthermore, by bonding multiple layers (2, 3) of mesh structure, the number of tensile elements per unit area is increased, and as a result, the interaction of the geogrid with the fill material is enhanced. This increased interaction results in enhanced interlocking of aggregate particles and in increased frictional resistance of the geogrid structure for a variety of fill material. As a result, the geogrid structure of the present invention exhibits enhanced tensile stress transmission for a spectrum of high and low grade fill material.

Inventors

BERETTA MARIO

Latest standardized assignees - inventors removed

TENAX

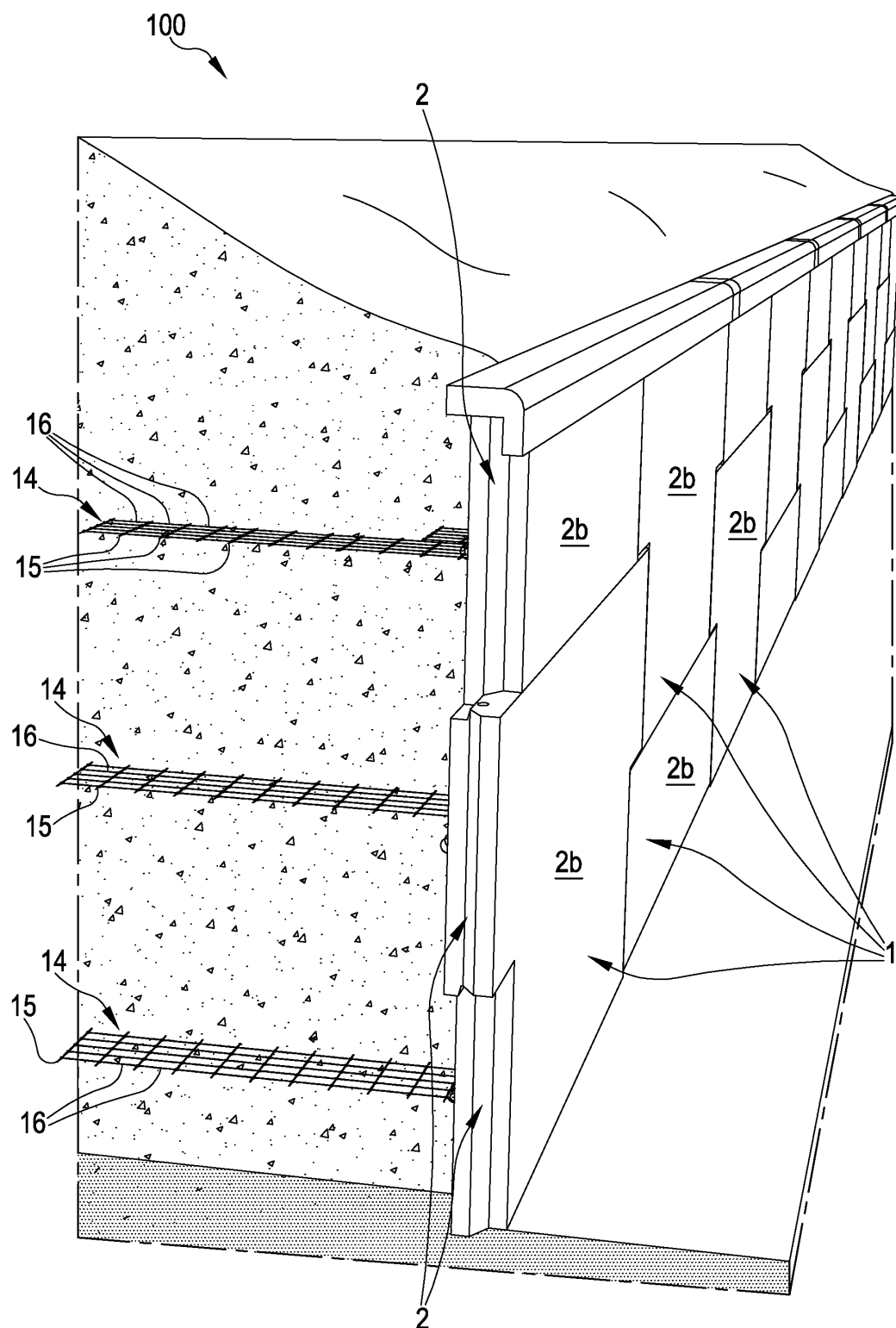
Family 13/200 - FAMPAT - ©Questel

Title

(EP3265614)

Containing element, structure of reinforced ground, process of making said structure of reinforced ground

Images



Publication data including kind & date

EP3265614	B1	2019-04-10	EP3265614
US20180291584	A1	2018-10-11	US20180291584
EP3265614	A1	2018-01-10	EP3265614
WO2016/142792	A1	2016-09-15	WO2016142792



Abstract

(EP3265614)

The invention describes a containing element (1) to be used in geotechnical applications, comprising: a facing body (2) made of a cementitious material having an inner face (2a) configured for contacting the ground and an outer face (2b)

opposite to the inner face (2) with respect to the body itself, a monolithic reticular structure (3) made of plastic material having a plurality of first and second elements (4, 5) intersecting each other at respective nodes (6) in order to form meshes (7). The reticular structure (3) comprises a first portion (3a) integrated and stably embedded in the facing body (2) and a second portion (3b), integral with the first portion (3a), emerging from the inner face (2a) of the facing body (2); the second portion (3b) of the reticular structure (3) defines, cooperatively with the inner face (2a) of the containing body (2), a closed loop.

Inventors

BERETTA CESARE

MOTTADELLI LUCA

Latest standardized assignees - inventors removed

TENAX

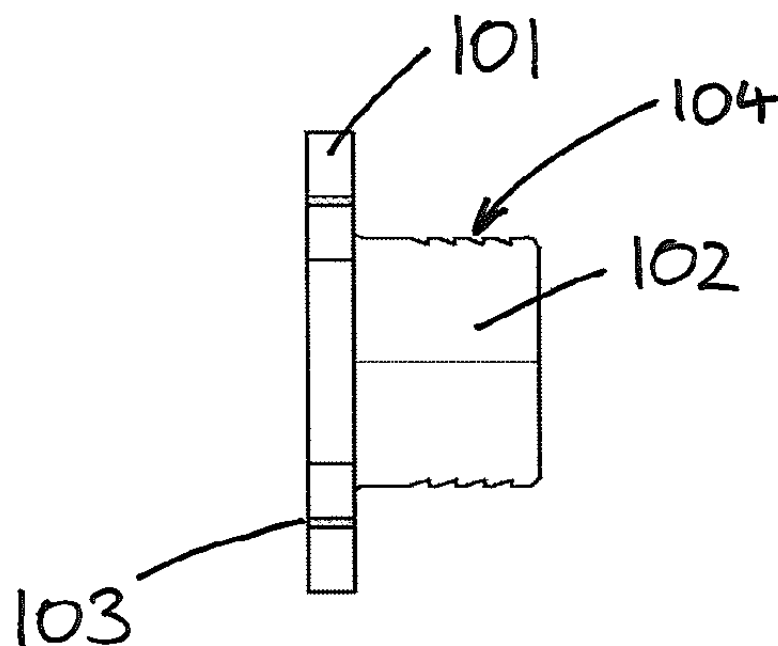
Family 14/200 - FAMPAT - ©Questel

Title

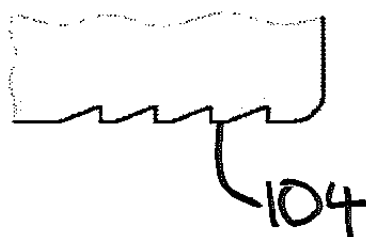
(WO2019106380)

Connector for geogrids

Images



SECTION A-A



ENLARGED DETAIL OF
RATCHET FEATURE
SCALE - 2:1

FIG. 4

Publication data including kind & date

WO2019/106380	A1	2019-06-06	WO2019106380
GB2568930	A	2019-06-05	GB2568930
GB201720025	D0	2018-01-17	GB201720025



Abstract

(WO2019/106380)

A mechanical connector for connecting soil reinforcing layers known as geogrids to retaining walls and to other geogrids is disclosed. A geogrid comprises a flexible layer of usually polymeric material having transverse bars interconnected by

longitudinal ribs with regularly-spaced apertures between the ribs. The connector (100) comprises a substantially planar base formed from a plurality of resiliently-interconnected base flanges (101). A projection (102) extends perpendicularly from each base flange (101). In use, the projections (102) are inserted into and project through respective apertures of the geogrid and engage with a transverse bar of the geogrid so that a tension force is transmitted longitudinally from the geogrid to the connector. The base flanges (101) are interconnected by resilient curved spring elements (103) which are able to compress or expand to adjust the spacing between each projection (102), to allow for variation in the spacing of the apertures of the geogrid in the transverse direction. A planar securing plate 0 for use with connector (100) is also disclosed, which is adapted to mount across/onto a plurality of projections (102) in a securing position, after engagement of the projections with the or each geogrid, to prevent disengagement of the geogrid from the projections.

Inventors

MARTIN THOMAS

Latest standardized assignees - inventors removed

GEOCONTEC

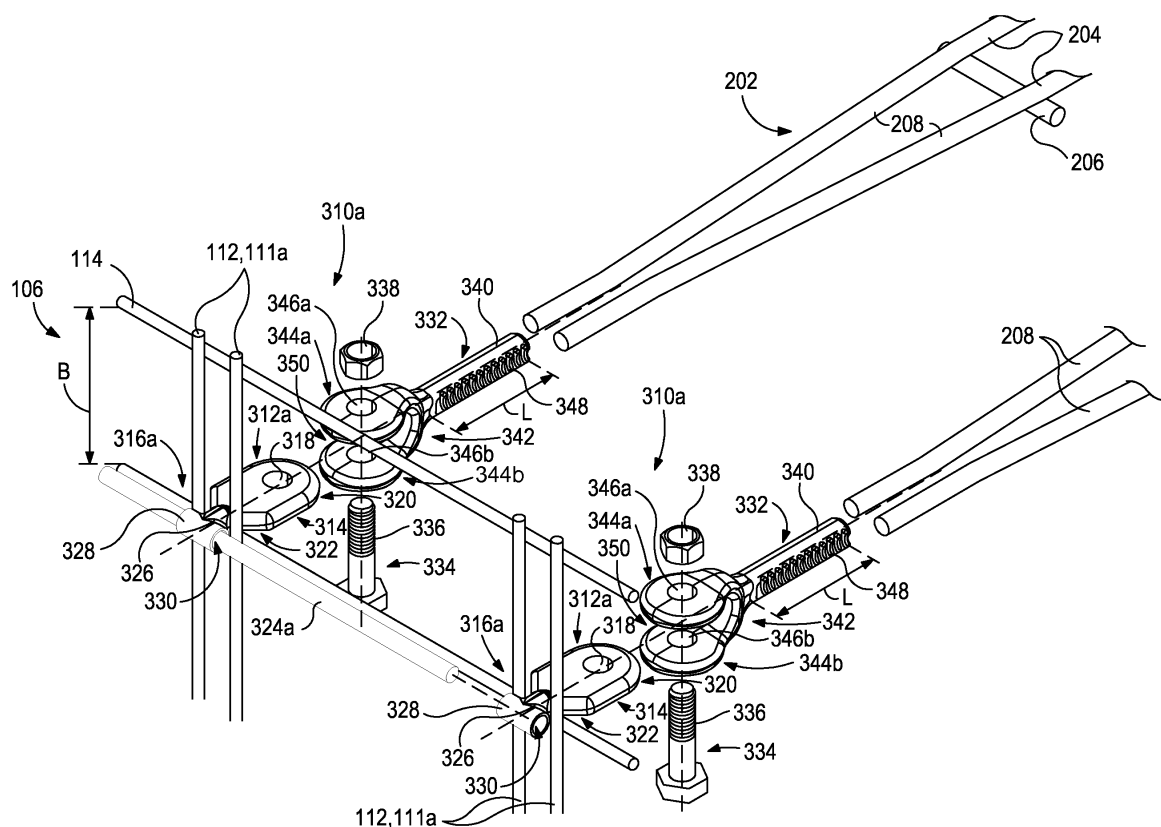
Family 15/200 - FAMPAT - ©Questel

Title

(WO2011159808)

Mechanically stabilized earth welded wire wall facing system and method

Images



Publication data including kind & date

CA2802521	C	2018-07-17	CA2802521
AU2011268417	B2	2016-08-25	AU2011268417
US8734059	B2	2014-05-27	US8734059
US8632280	B2	2014-01-21	US8632280
AU2011268417	A1	2013-01-10	AU2011268417
AU2011268418	A1	2013-01-10	AU2011268418
US20120224927	A1	2012-09-06	US20120224927
WO2011/159808	A3	2012-04-12	WO2011159808



WO2011/159809	A3	2012-04-12	WO2011159809				
CA2798147	A1	2011-12-22	CA2798147				
CA2802521	A1	2011-12-22	CA2802521				
US20110311317	A1	2011-12-22	US20110311317				
WO2011/159808	A2	2011-12-22	WO2011159808				
WO2011/159809	A2	2011-12-22	WO2011159809				

Abstract

(WO2011/159808)

A system and method of constructing a mechanically stabilized earth (MSE) structure. A wire facing is composed of horizontal and vertical elements. A soil reinforcing element has a plurality of transverse wires coupled to at least two longitudinal wires where the longitudinal wires are coupled to a coil and a threaded rod is configured to extend through both the vertical facing and the coil. A washer engages the vertical facing and prevents the threaded rod from passing completely through the vertical facing and a nut is threaded onto the threaded rod to prevent its removal from the coil. Multiple systems can be characterized as lifts and erected one atop the other to a desired MSE structure height.

Inventors

TAYLOR THOMAS P

Latest standardized assignees - inventors removed

T & B STRUCTURAL SYSTEMS

Family 16/200 - FAMPAT - ©Questel

Title

(WO9625562)

Precast wall panel and grid connection device

Images

attachment strips (34, 34a) and the reinforcing sheet material (46) used for soil reinforcement. The locking clip (64) is interengaged with ratchet-like serrated edges formed on the free ends of the fingers (58) of the comb (54) to secure the reinforcing sheet material (46) to the attachment strips (34, 34a).

Inventors

EGAN PHILIP D

MILLER ROBERT A

Latest standardized assignees - inventors removed

TENSAR

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TENSAR EARTH TECHNOLOGIES

ATLANTECH ALABAMA

TENSAR POLYTECHNOLOGIES

TENSAR HOLDINGS

ADVANCED EARTH TECHNOLOGY

GEOTECHNICAL REINFORCEMENT

MERITEX PRODUCTS

GEOPIER FOUNDATION

NORTH AMERICAN GREEN

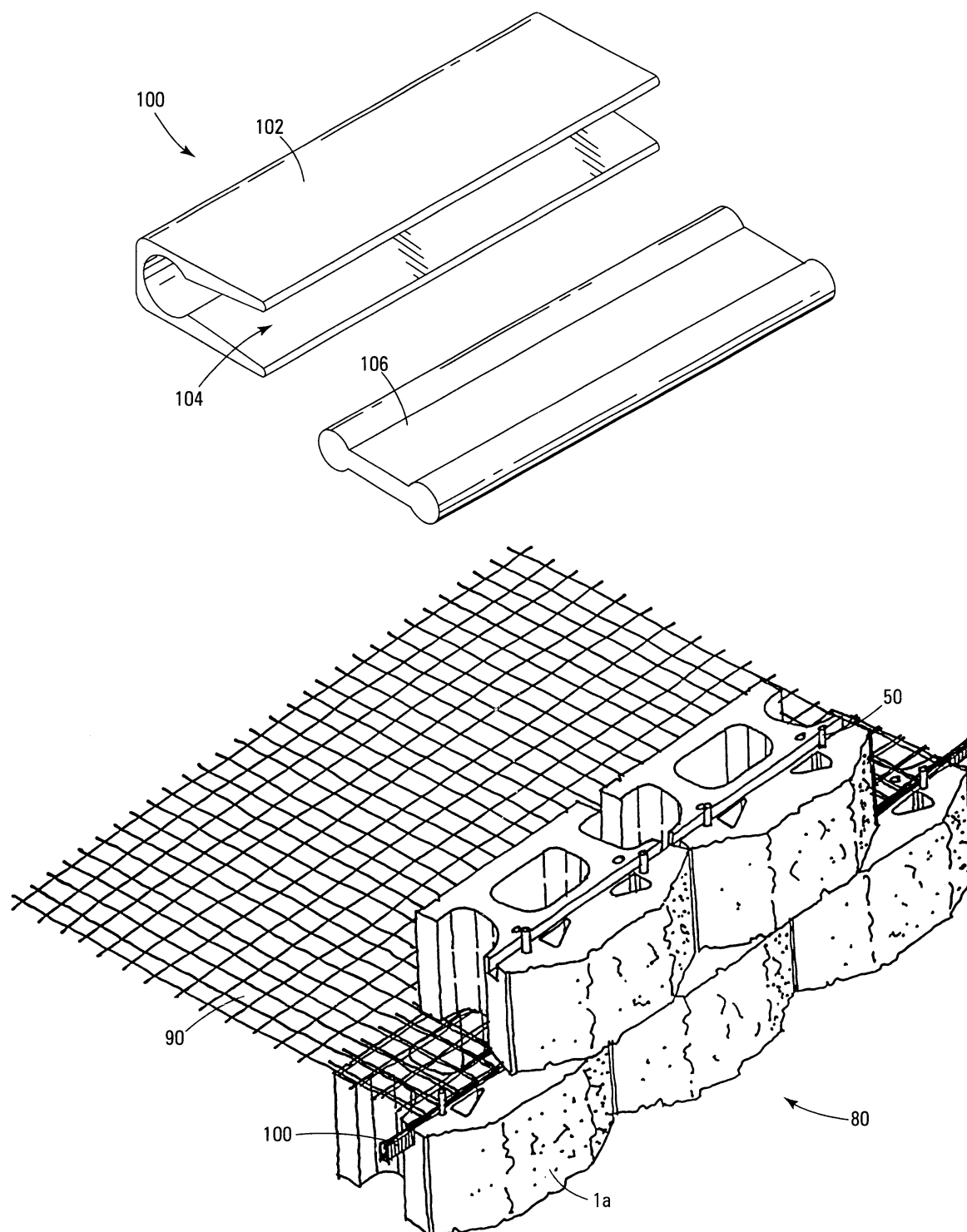
Family 17/200 - FAMPAT - ©Questel

Title

(EP1415052)

Grooved retaining wall block and system

Images



Publication data including kind & date

AU2002314871	B2	2007-08-09	AU2002314871
NZ530547	A	2006-09-29	NZ-530547
EP1415052	A4	2006-06-28	EP1415052
EG23197	A	2004-07-31	EG--23197
WO03/006748	A8	2004-07-29	WO200306748
EP1415052	A2	2004-05-06	EP1415052
MXPA04000336	A	2004-05-04	MX2004PA000336
US6709201	B2	2004-03-23	US6709201
WO03/006748	A3	2004-02-26	WO200306748
GT200200149	A	2003-08-20	GT200200149
US20030118410	A1	2003-06-26	US20030118410



[US5257880](#)

A 1993-11-02 US5257880

[US5044834](#)

A 1991-09-03 US5044834

**Abstract**

(US5044834)

In general, a block and retaining wall formed by a number of such blocks are interconnected between courses by a plurality of Z-shaped anchor elements having an upper and lower body part of substantially rectangular cross-section as viewed in plan. The upper body part is offset from the lower body part. The offset of one course of blocks relative to the course beneath will be a predetermined fixed amount determined by the offset of the body parts of the interlocking Z-shaped anchor elements. A tie-back arrangement includes means for attaching a sheet of geosynthetic material to the embedded end of a block so as to leave the open cells within and those formed between the blocks unobstructed from above and available for filling with pea gravel or other drainage fill material.

Inventors

JANOPAL JR PETER

Latest standardized assignees - inventors removed

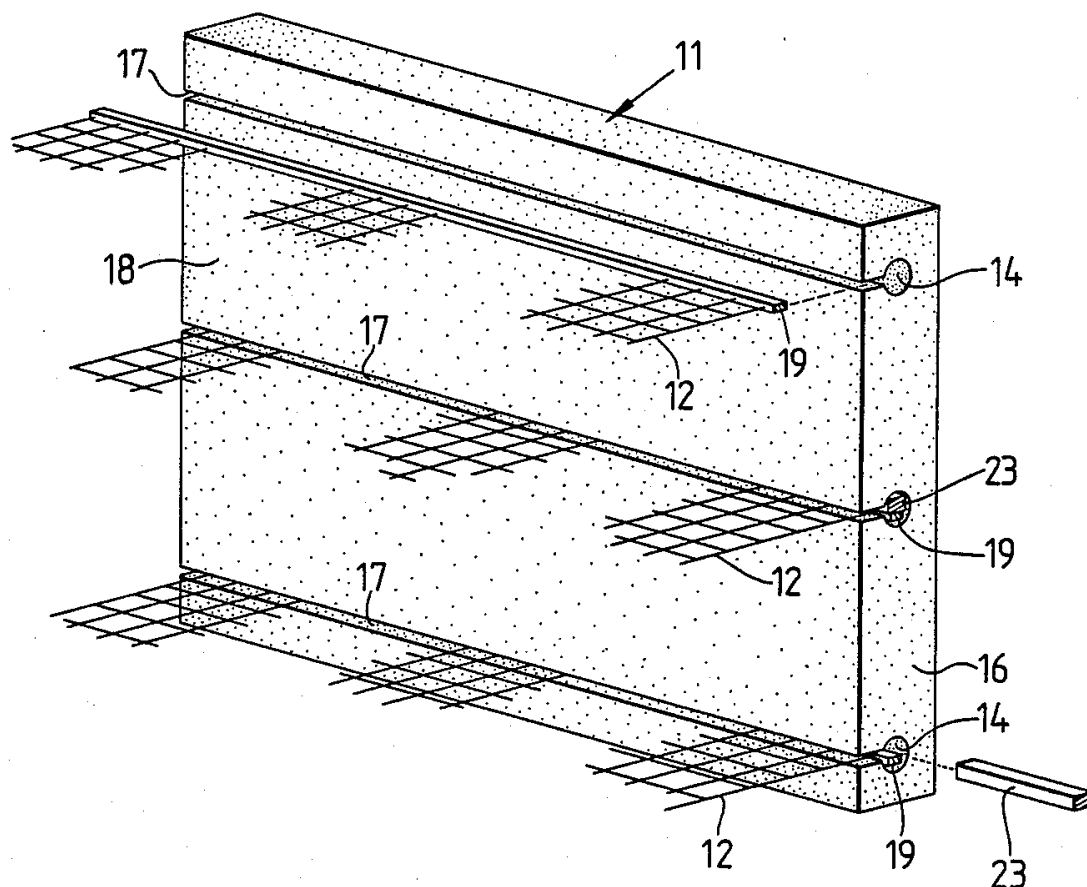
ANCHOR WALL SYSTEMS

Family 19/200 - FAMPAT - ©Questel

Title

(US4824293)

Retaining wall structure

Images**Publication data including kind & date**[US4824293](#)

A 1989-04-25 US4824293

**Abstract**

(US4824293)

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.

Inventors

BROWN RICHARD L

MORRIS GEORGE L

Latest standardized assignees - inventors removed

UES

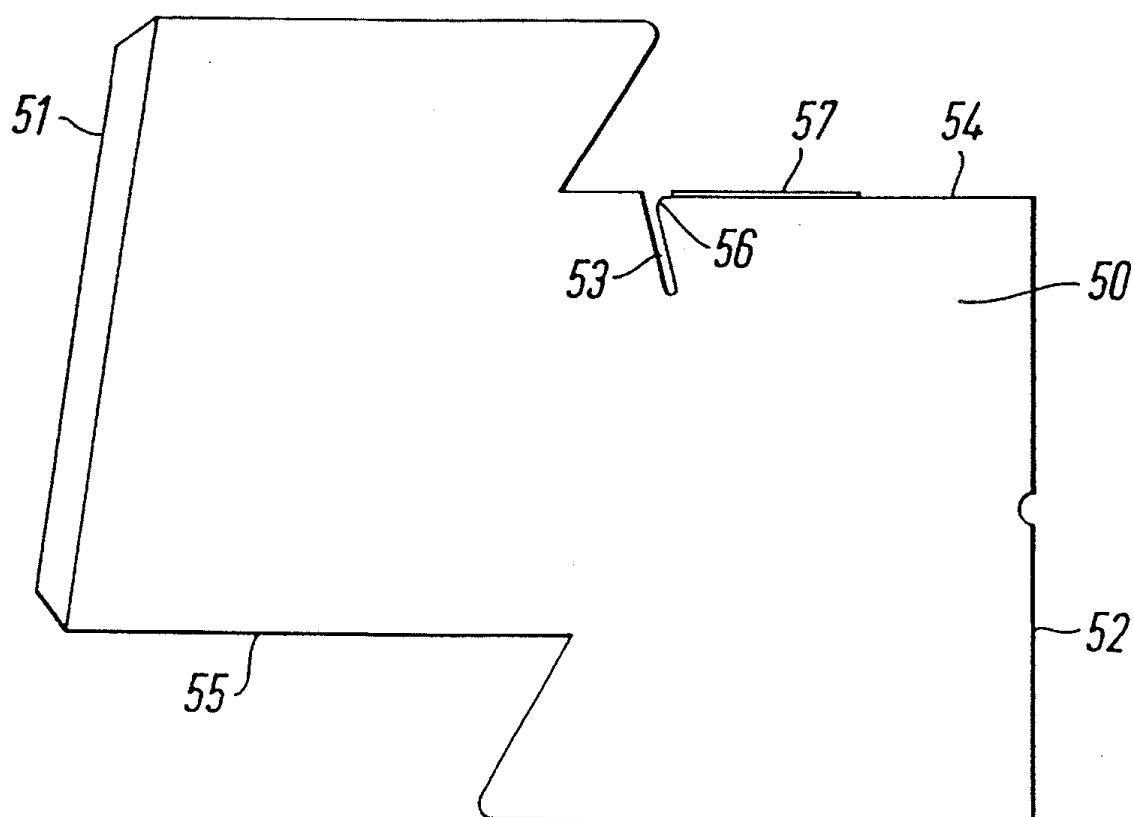
Family 20/200 - FAMPAT - ©Questel

Title

(EP-677128)

Retaining wall block for use with geogrids

Images



Publication data including kind & date

JP3459830	B2	2003-10-27	JP3459830
US5800097	A	1998-09-01	US5800097
DK677128	T3	1998-08-10	DK-677128T
GR3026060	T3	1998-05-29	GR3026060
DE69315445	T2	1998-05-14	DE69315445
ES2111898	T3	1998-03-16	ES2111898
DE69315445	D1	1998-01-08	DE69315445
AT160608	T	1997-12-15	ATE160608
EP0677128	B1	1997-11-26	EP-677128
NZ258630	A	1997-11-24	NZ-258630
US5607262	A	1997-03-04	US5607262
AU673039	B2	1996-10-24	AU-673039



JPH08507339	A	1996-08-06	JP08507339
EP0677128	A1	1995-10-18	EP-677128
AU5658194	A	1994-07-04	AU9456581
CA2151955	A1	1994-06-23	CA2151955
WO94/13890	A1	1994-06-23	WO9413890
GB9226143	D0	1993-02-10	GB9226143



Abstract

(EP0677128)

The present invention provides a retaining wall block having means adapted to receive and retain a geogrid reinforcing material. In one aspect the receiving and retaining means comprises one or more projections (13, 33) provided on a first face of the block and an aperture or recess (14, 34) provided on the opposite face of the block. In a further aspect of the invention, the receiving and retaining means comprises a transverse groove (53) formed in an upper surface of the block. In a yet further aspect, the receiving and retaining means comprises a transverse slot provided in the rear wall of a block, the slot comprising a groove (62, 72) terminating in the body of the block in a cavity (63, 73, 83) of greater lateral dimension than the groove.

Inventors

MARTIN CHRISTOPHER

Latest standardized assignees - inventors removed

FOUNTAIN HOLDINGS

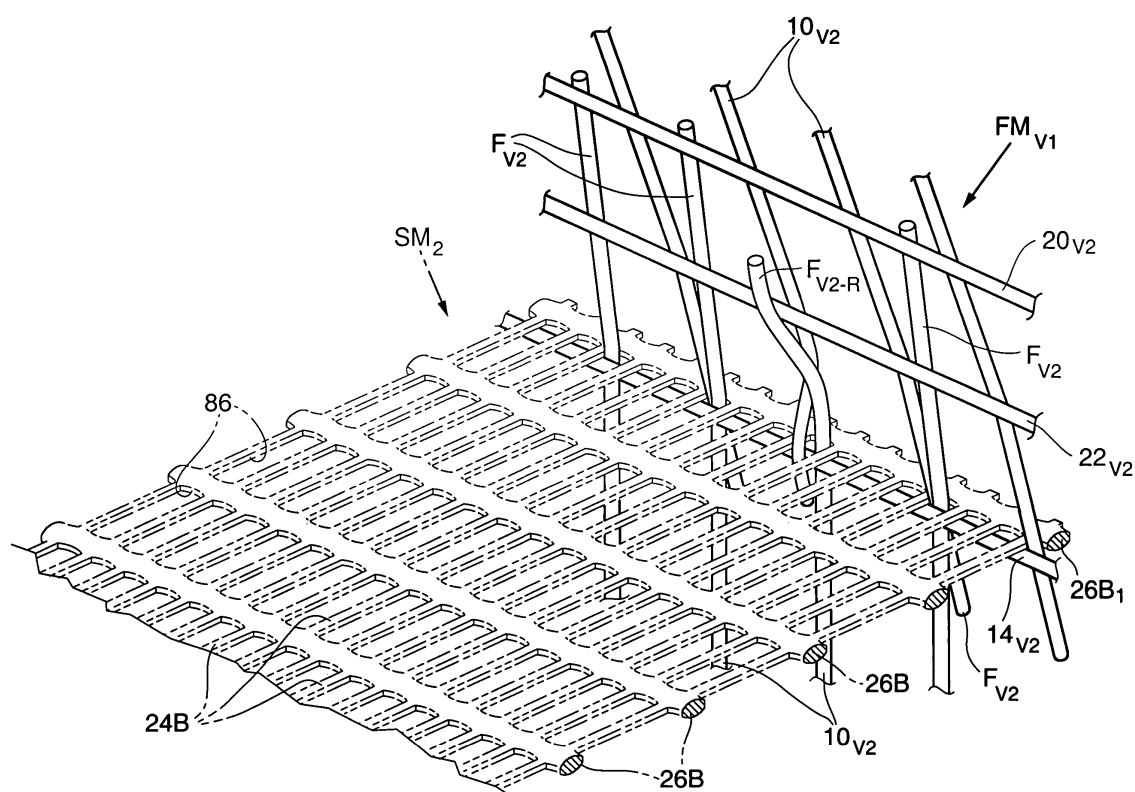
Family 21/200 - FAMPAT - ©Questel

Title

(US7281882)

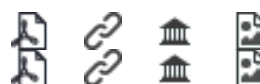
Retaining wall having polymeric reinforcing mats

Images



Publication data including kind & date

US7281882	B2	2007-10-16	US7281882
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[US20060204342](#)

A1 2006-09-14 US20060204342

Abstract

(US20060204342)

A soil reinforced retaining wall for an earthen formation is provided by embedding planar soil reinforcing mats in the formation at vertically spaced intervals and securing face mats between the soil reinforcing mats. The face mats include fingers extending distally from the edges thereof for engagement with opposite sides of a complimentary face mat, whereby the mats are held in general vertical alignment. Certain of the fingers are of a gently curved configuration to frictionally hold edge portions of the face mats in spaced relationship for compression toward one another to accommodate settlement of the earthen formation, without bulging of the face mats. An L-shaped starter mat is engaged within a recess formed at the foot of the formation to provide an upstanding portion engaged with the lowermost is face mat to hold the mat in a generally vertical orientation. A tail is provided on the uppermost face mat for embedment within the backfill to cap the wall.

Inventors

HILFIKER WILLIAM K

HILFIKER HAROLD K

Latest standardized assignees - inventors removed

HILFIKER PIPE

Family 22/200 - FAMPAT - ©Questel

Title

(US5934838)

Modular wall block retaining wall reinforced by confinement cells for cut wall applications

Images

FIG. 1

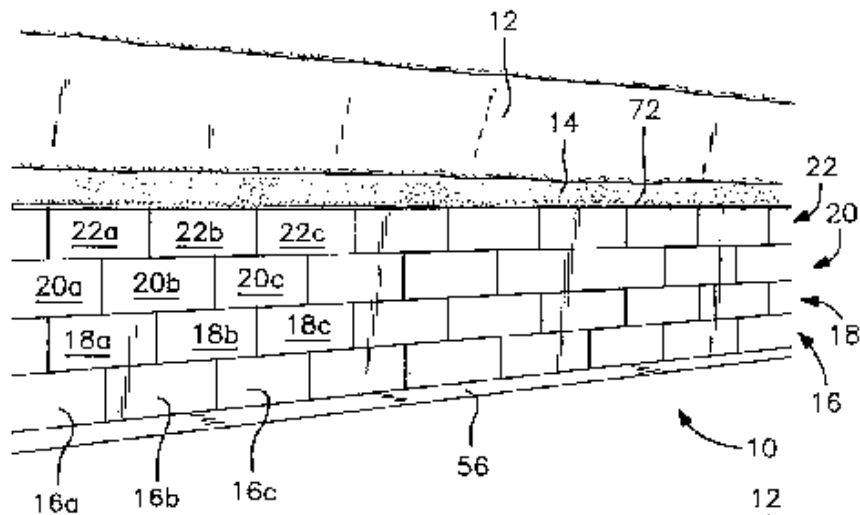
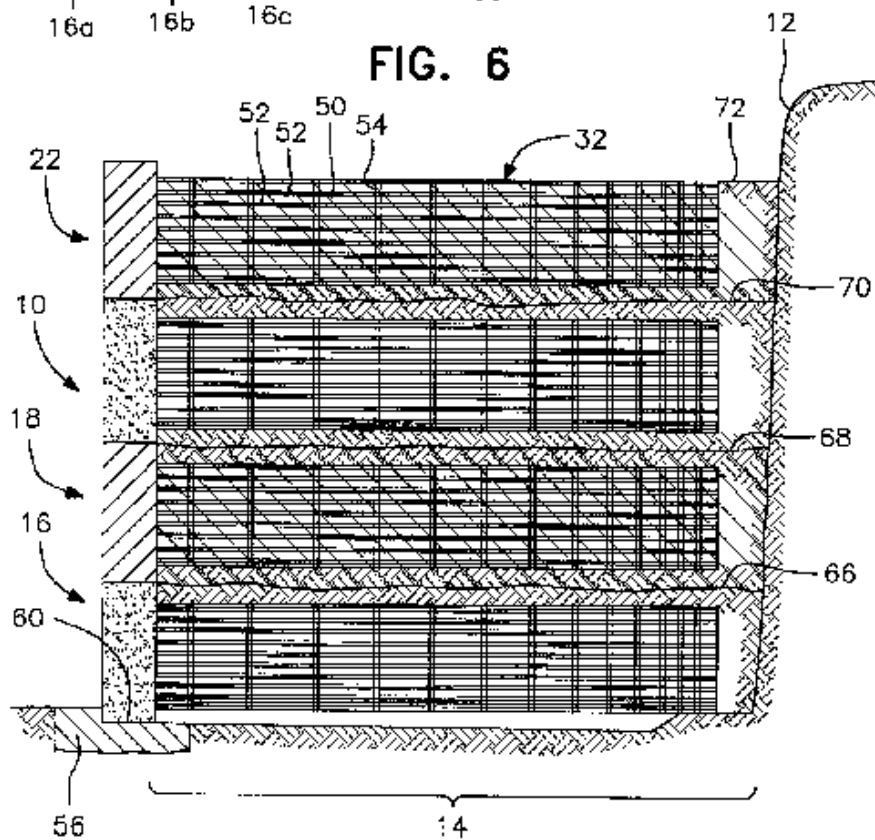


FIG. 6



Publication data including kind & date

US5934838

A 1999-08-10 US5934838



Abstract

(US5934838)

Precast modular concrete wall blocks are assembled to form a retaining wall in front of a limited depth cut wall face. Arched confinement cells are formed behind the courses of blocks by sections of vertically oriented sheet material for reception and retention of a particulate fill material. Each wall block is provided with a channel or slot for attaching opposed edge portions of the cell-forming sheets of material to the rear surfaces by an interference fit or by comb-like grid connecting devices to define generally semi-circular confinement cells to reinforce the retaining wall. The fill material uniformly flexes the cell-forming sheet material and also surrounds the space between the confinement cells and cut wall face.

Inventors

EGAN PHILIP D

Latest standardized assignees - inventors removed

TENSAR

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GEOPIER FOUNDATION

NORTH AMERICAN GREEN

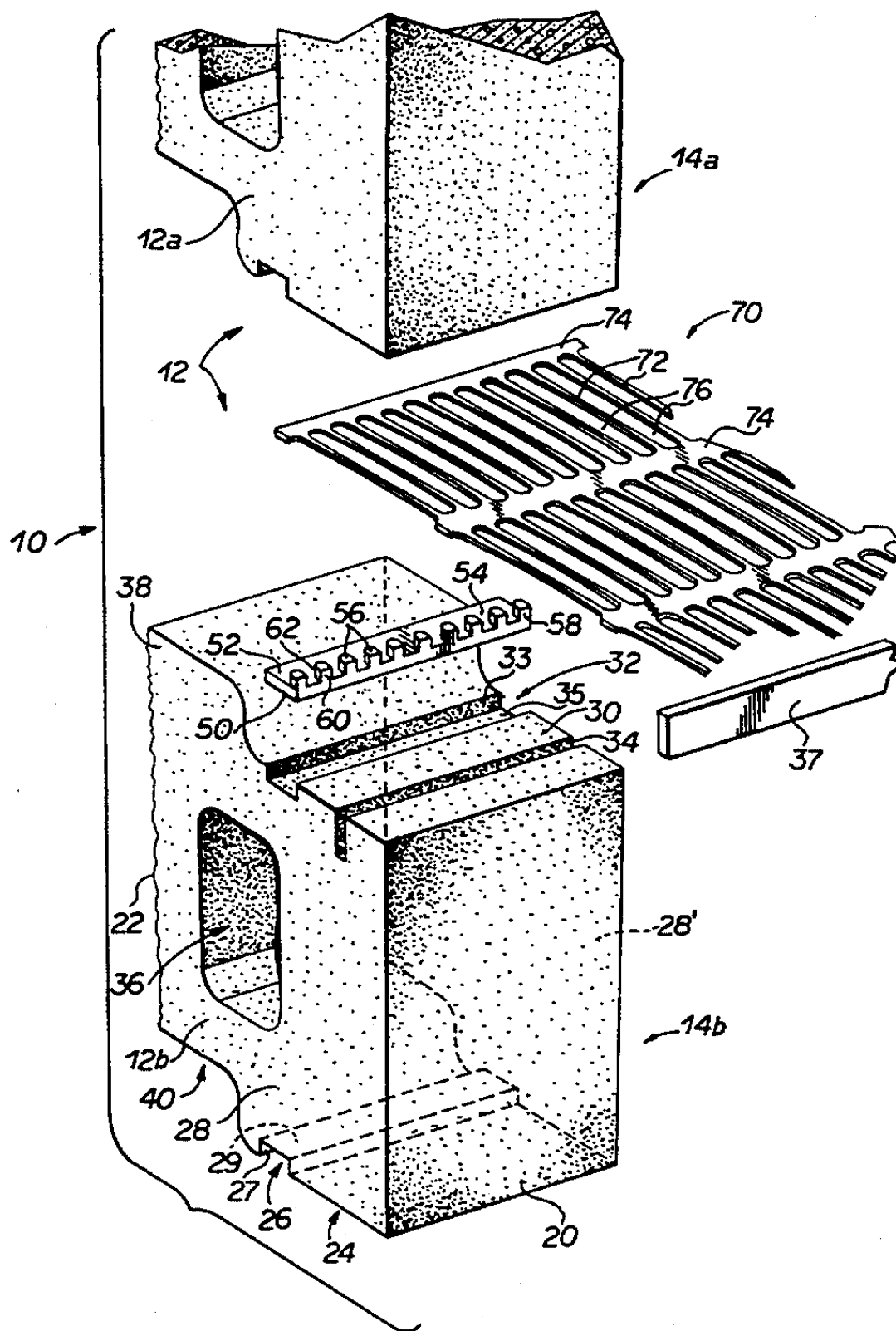
Family 23/200 - FAMPAT - ©Questel

Title

(US5417523)

Connector and method for engaging soil-reinforcing grid and earth retaining wall

Images



Publication data including kind & date

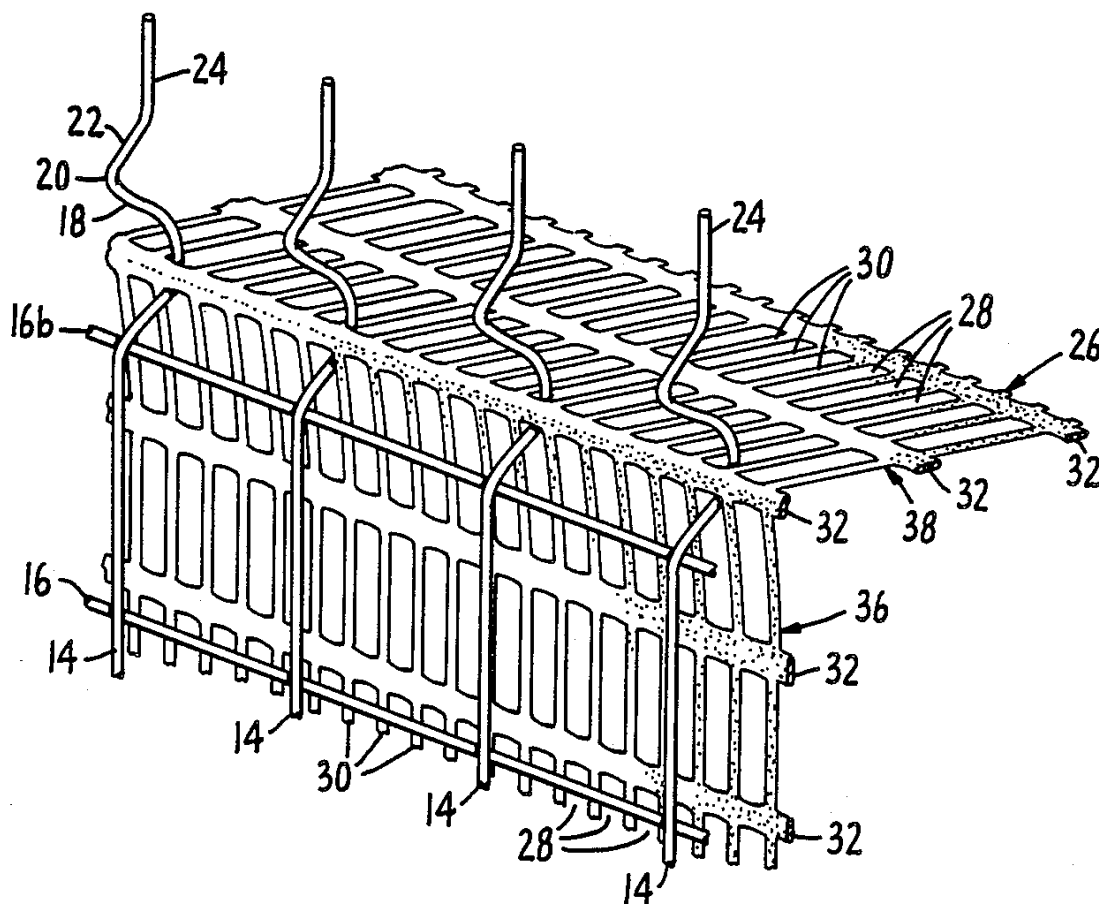
US5788420	A	1998-08-04	US5788420
US5511910	A	1996-04-30	US5511910
US5417523	A	1995-05-23	US5417523



Abstract

(US5417523)

An earth retaining wall and method having at least a pair of tiers of side-by-side blocks which define a receiving channel for a connector bar with spaced-apart keys that engage apertures in a lattice-like grid extending laterally from the tiers, the grid being covered by backfill for interlocking the backfill with the retaining wall, the keys distributing the load of the backfill

**Publication data including kind & date**[US4856939](#)

A

1989-08-15

US4856939

**Abstract**

(US4856939)

A retaining wall for an earthen formation relies on polymer geogrids for earth reinforcement and wire trays to provide the face of the formation. The wire trays are of L-shaped with intersecting floor and face sections. Hooked extensions formed on the face sections serve to secure the trays in superimposed relationship within the retaining wall and to hold the geogrids in place against the trays. The geogrids extend distally from the trays to provide deep reinforcement of the earthen formation.

Inventors

HILFIKER WILLIAM K

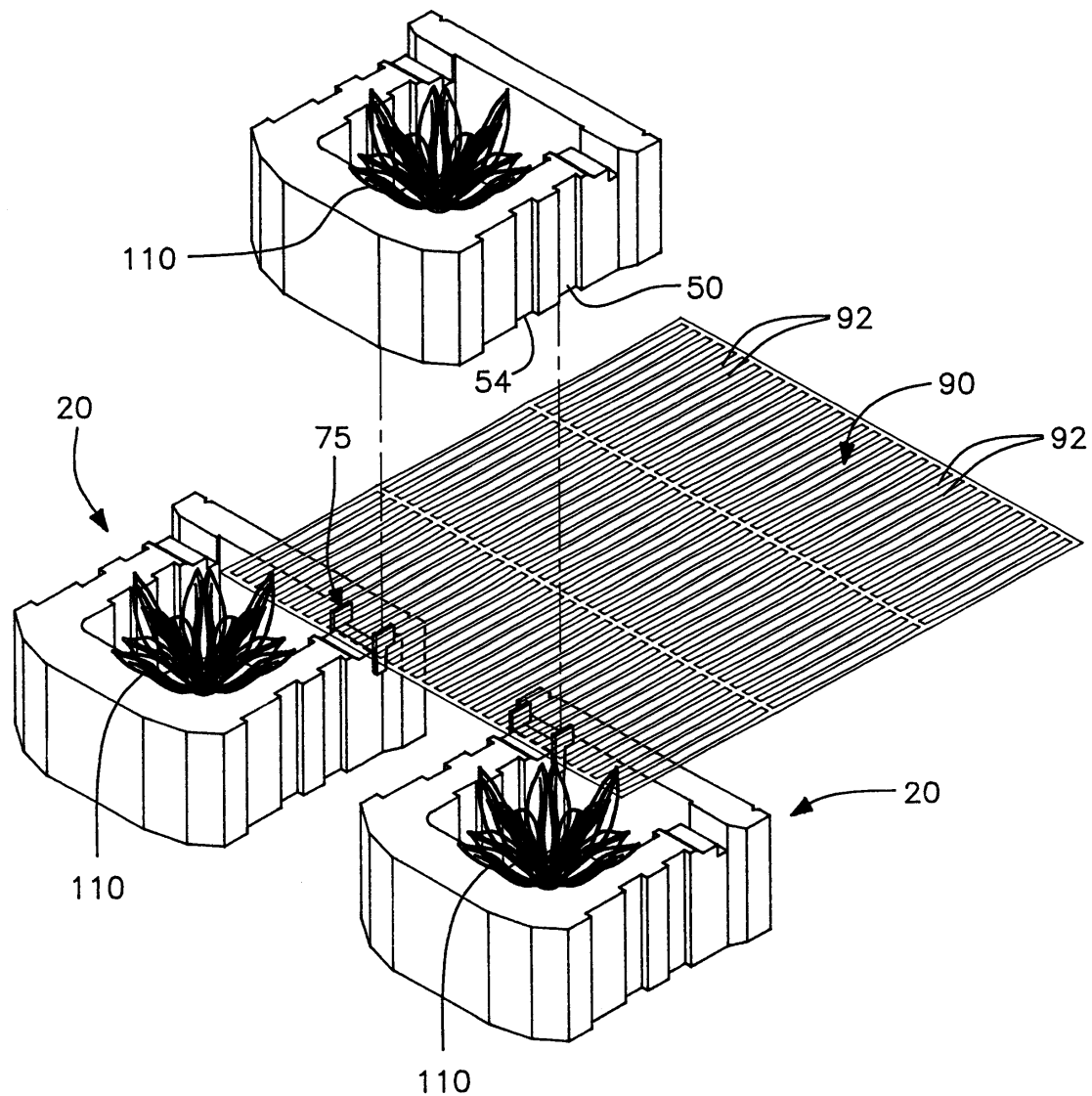
Family 26/200 - FAMPAT - ©Questel

Title

(US6287054)

Plantable wall block assembly and retaining wall formed therefrom

Images

**Publication data including kind & date**[US6287054](#)

B1 2001-09-11 US6287054

**Abstract**

(US6287054)

Concrete blocks are used to build plantable retaining walls having varying angles. The blocks have a hollow inner volume, open at the top and bottom to enable the plants to grow therein. The side walls of the block each have a portion which is parallel to the longitudinal axial vertical center plane of the block. The parallel portions of the side walls include a plurality of connector-receivers to allow for the interconnection of one block with superimposed blocks at varying staggering positions by the engagement of discrete connector devices. The blocks may be interconnected to geogrids for the construction of reinforced retaining walls. The connection to the geogrids may be made using the same connector connecting the blocks or a distant one.

Inventors

EGAN PHILIP D

BAZZOCCHI AUGUSTO

TAYLOR PHILIP M

Latest standardized assignees - inventors removed

TENSAR INTERNATIONAL

TENSAR EARTH TECHNOLOGIES

ATLANTECH ALABAMA

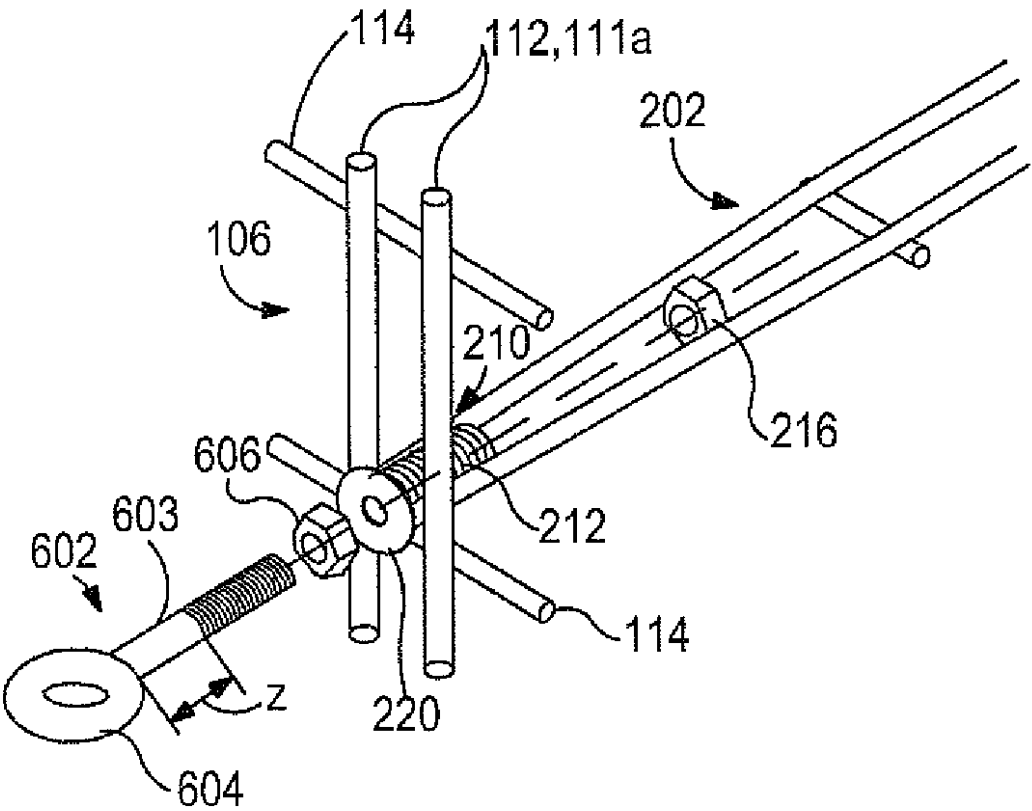
TENSAR POLYTECHNOLOGIES

TENSAR HOLDINGS
ADVANCED EARTH TECHNOLOGY
GEOTECHNICAL REINFORCEMENT
MERITEX PRODUCTS
GEOPIER FOUNDATION
NORTH AMERICAN GREEN
TENSAR

Family 27/200 - FAMPAT - ©Questel

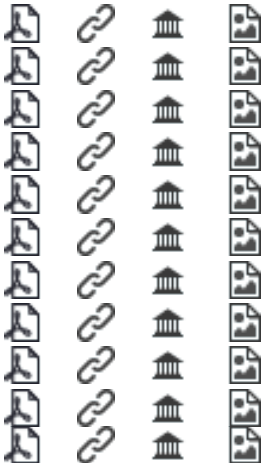
Title
(WO2011159807)
Mechanically stabilized earth system and method

Images



Publication data including kind & date

CA2798142	C	2019-02-26	CA2798142
AU2011268416	B2	2015-06-18	AU2011268416
US8632278	B2	2014-01-21	US8632278
US8632281	B2	2014-01-21	US8632281
US8632282	B2	2014-01-21	US8632282
AU2011268416	A1	2013-01-10	AU2011268416
US20120224926	A1	2012-09-06	US20120224926
WO2011/159807	A3	2012-04-12	WO2011159807
CA2798142	A1	2011-12-22	CA2798142
US20110311314	A1	2011-12-22	US20110311314



[US20110311318](#)

A1 2011-12-22 US20110311318

[WO2011/159807](#)

A2 2011-12-22 WO2011159807

**Abstract**

(WO2011/159807)

A system and method of constructing a mechanically stabilized earth (MSE) structure. A wire facing is composed of horizontal and vertical elements, where a soil reinforcing element is coupled to initial and terminal wires of the horizontal element. The soil reinforcing element may have a hook or similar coupling device on its end in order to be coupled to the initial wire. A strut may be coupled to the top-most cross wire of the vertical element and the terminal wire of the horizontal element to maintain the vertical element at a predetermined angle with respect to the horizontal element as backfill is added to the wire facing.

Inventors

TAYLOR THOMAS P

Latest standardized assignees - inventors removed

T & B STRUCTURAL SYSTEMS

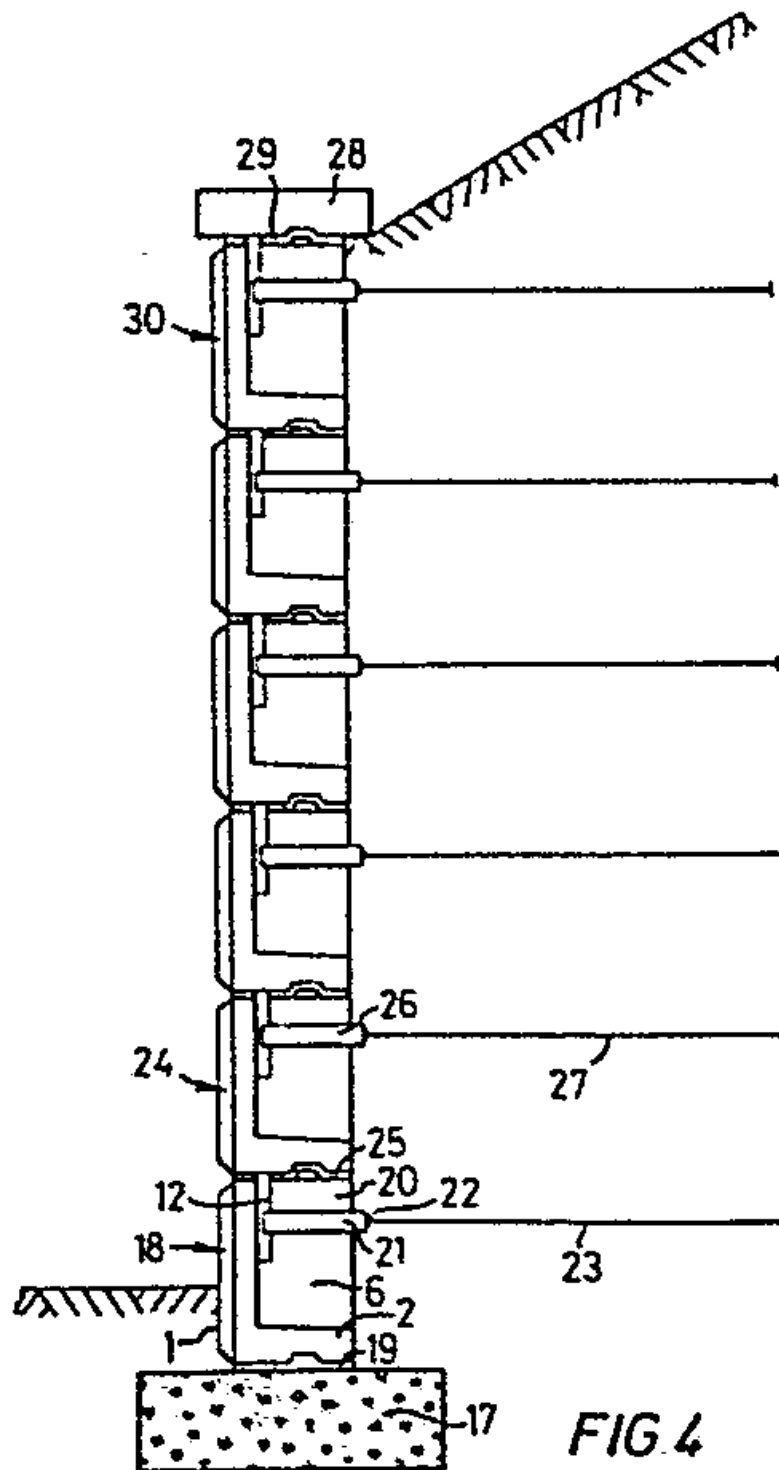
Family 28/200 - FAMPAT - ©Questel

Title

(EP--67551)

Reinforced earth structures and facing units therefor

Images



Publication data including kind & date

DE3266007	D1	1985-10-10	DE3266007
AT15393	T	1985-09-15	ATE015393
EP0067551	B1	1985-09-04	EP--67551
GB2100325	B	1984-10-10	GB2100325
US4470728	A	1984-09-11	US4470728
EP0067551	A1	1982-12-22	EP--67551
GB2100325	A	1982-12-22	GB2100325



Abstract

(EP0067551)

A facing unit for a reinforced earth structure, the unit having a facing element (1) that is designed to extend substantially vertically in the finished structure. A base (2) extends rearwardly from the rear surface of the facing element and at least one anchoring element (6) of lesser width than the base extends upwardly from the base. The anchoring element has a retaining surface (12) spaced rearwardly from and facing towards the rear surface of the facing element over which may be placed a link (21) connected to an anchoring member (23) extending into compacted earth behind the units.

Inventors

BROADBENT, STEPHEN

Latest standardized assignees - inventors removed

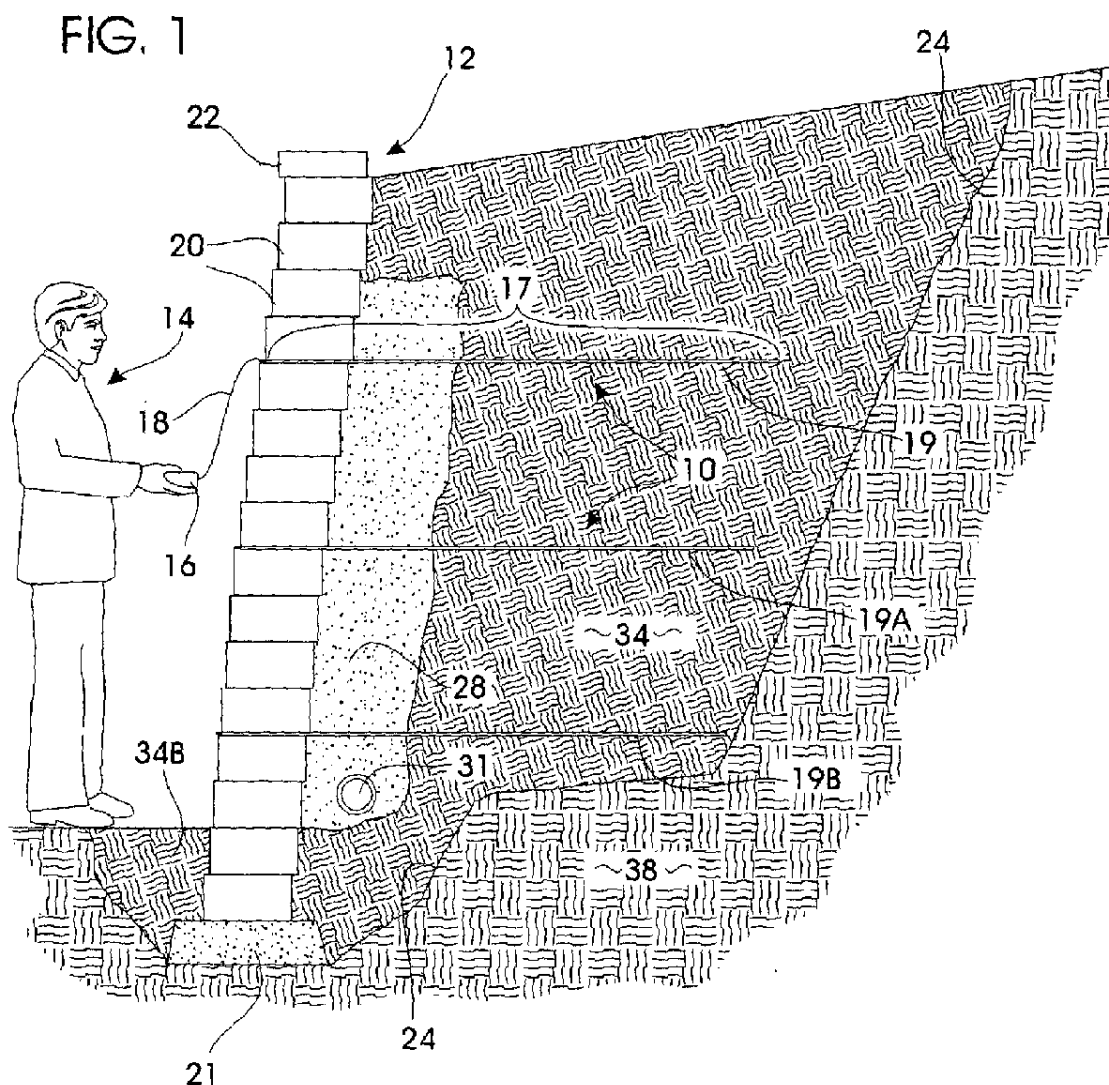
WEST YORKSHIRE METROPOLITAN COUNTY COUNCIL

Family 29/200 - FAMPAT - ©Questel

Title

(EP1143075)

Method and apparatus for geogrid measurement

Images**Publication data including kind & date**

DE60016378	D1	2005-01-05	DE60016378
AT283945	T	2004-12-15	ATE283945
EP1143075	B1	2004-12-01	EP1143075
TW476836	B	2002-02-21	TW-476836
CA2305077	A1	2001-10-12	CA2305077



[EP1143075](#)

A1 2001-10-10 EP1143075

Abstract

(EP1143075)

Methods and apparatus enabling the length of a reinforcing geogrid for earthen structures to be determined even when the geogrid is buried. The preferred geogrid body comprises a plurality of spaced apart, elongated spans that are regularly intersected by similar, elongated, transverse spans. Voids defined between intersecting body spans facilitate the attachment of the geogrid to retaining walls, or other wall or earthen structures. A test line, preferably an electrically conductive wire, is molded into the geogrid body. The length of this conductor is electrically calculated and displayed to determine the length of the buried geogrid. Preferably an electrical pulse is generated and applied to the geogrid and a return echo is thereafter detected. The time difference between the pulse application and the return echo is electrically sampled and correlated to the conductor length. In alternative embodiments either sonic or light energy is applied to the test line for measurements. Thus it can be determined if the installed geogrid is in compliance with architectural plans, drawings or the like. <IMAGE>

Inventors

MILLER SCOTT A

Latest standardized assignees - inventors removed

VERIGRID

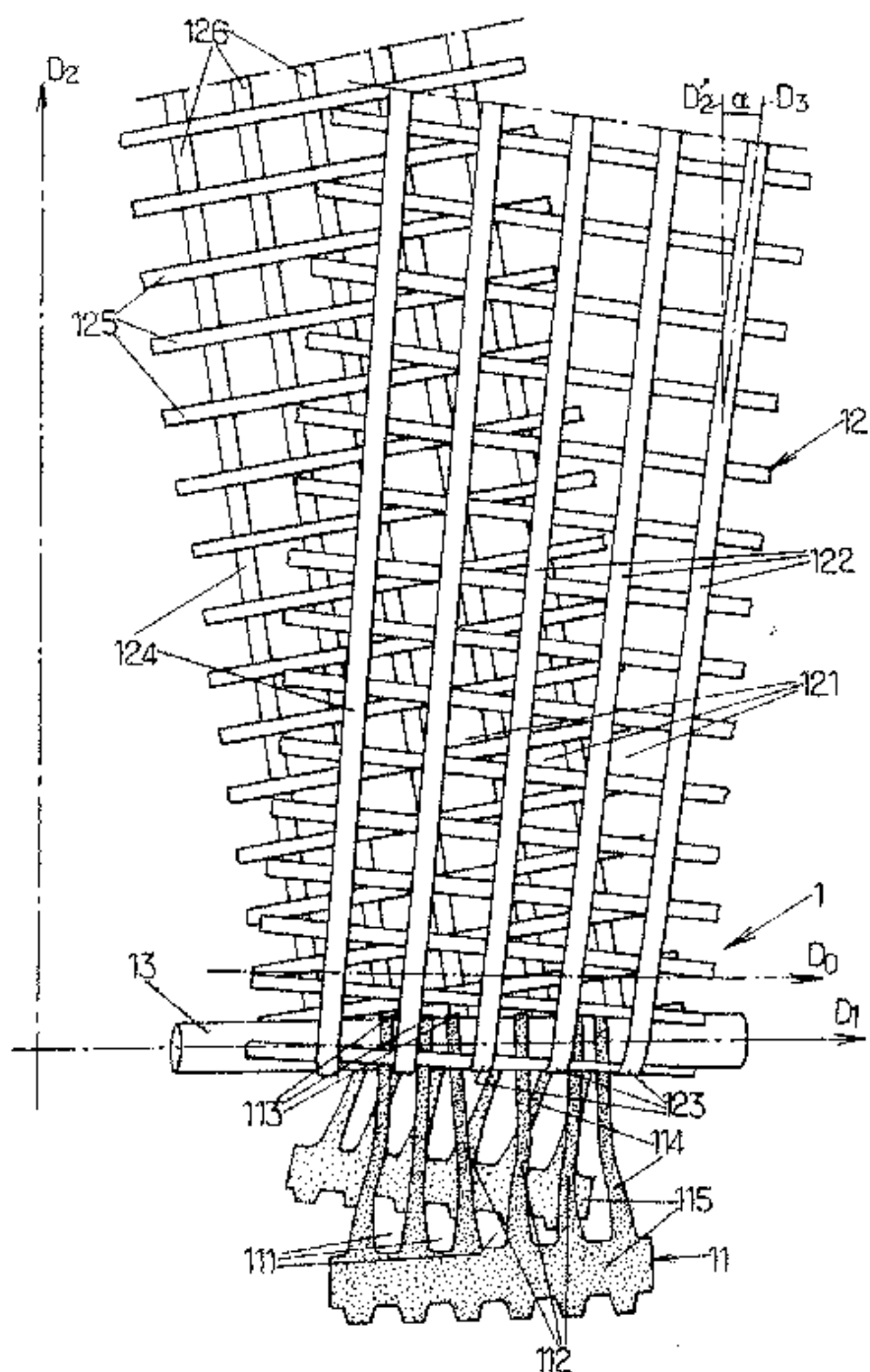
Family 30/200 - FAMPAT - ©Questel

Title

(FR2921943)

Assembly of geomaterial reinforcements for reinforced earth structure, structure and method associated with

Images



Publication data including kind & date

IN313097	B	2019-05-23	IN-313097
JP5460013	B2	2014-01-24	JP5460013
FR2921943	B1	2012-10-19	FR2921943
JP2009091893	A	2009-04-30	JP2009091893
IN1517/KOL/2007	A	2009-04-17	IN2007KO01517
FR2921943	A1	2009-04-10	FR2921943



Abstract

(FR2921943)

PROBLEM TO BE SOLVED: To provide a geotextile reinforcing member reducing the risk that the reinforcing member is sheared in an assembly, by which an expected lifetime of a structure can be extended.

SOLUTION: In the assembly (1), two reinforcing members (11, 12) structured in the ground are substantially flat, and their

length and width are significantly longer than their thickness. Two adjacent opening parts (111, 121) arranged in the opening direction (DO) are separated by segments (112, 122) of the geomaterial, and the assembly direction (D1) substantially coincides with the opening direction (DO) of each of the two reinforcing members (11, 12). The segments (112, 122) of the opening parts (111, 121) in respective rows of the two reinforcing members form open loops (113, 123), respectively, around a bar (13) arranged in the assembly direction. A reinforcing part (114) where the two reinforcing members (11, 12) are substantially overlapped extend in substantially opposite directions as its characteristic.

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(From JP2009091893 A)

Inventors

ADHIKARI ATANU

Latest standardized assignees - inventors removed

TERRE ARMEE INTERNATIONALE

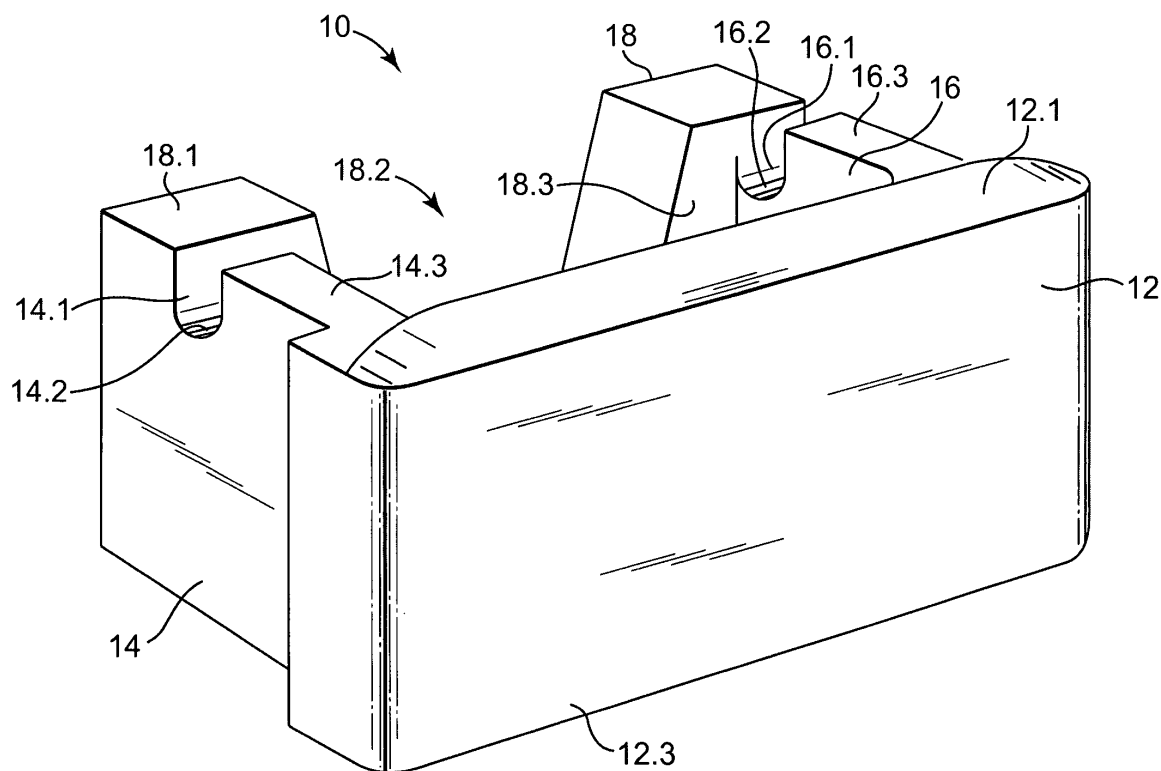
Family 31/200 - FAMPAT - ©Questel

Title

(WO200609978)

Retaining wall

Images



Publication data including kind & date

US7524144	B2	2009-04-28	US7524144
CA2506812	C	2007-09-18	CA2506812
WO2006/009978	A1	2006-01-26	WO200609978
US20050279046	A1	2005-12-22	US20050279046
CA2506812	A1	2005-08-15	CA2506812



Abstract

(WO2006/009978)

A concrete block structure useful in forming a retaining wall having upwardly open openings to facilitate planting plants therein. The block has an upright front wall, laterally spaced side walls joined to the front wall, and an upwardly open

interior, the side walls having upwardly open and laterally aligned grooves formed in them, and a rod received within the grooves and protruding laterally beyond each side wall. A flexible anchor sheet having a forward edge portion may extend along and above at least two adjacent blocks of the course, the anchor sheet being attached to the rod and extending rearwardly over an upper surface of the rear wall for anchoring reception in an embankment against which the blocks are placed.

Inventors

GRAVIER ROBERT ALLAN

BOTT TIMOTHY ALLEN

Latest standardized assignees - inventors removed

ALLAN BLOCK

Family 32/200 - FAMPAT - ©Questel

Title

(EP-472993)

Hollow block for a retaining wall.

Images

EP0472993	A1	1992-03-04	EP-472993				
CA2049218	A1	1992-02-21	CA2049218				
IT9021289	A1	1992-02-21	IT9021289				
IT9021289	D0	1990-08-20	IT9021289				

Abstract

(EP0472993)

The block (1) has a cambered front (2) radiused to tapering side walls (3a,3b). The side walls (3a,3b) have, in the portion radiused to the front (2), mutually opposite insertion-coupling members (5) and seats (6) for accommodating the insertion-coupling members (5) of an adjacent block (1). The block (1) furthermore has, at an upper part thereof, an abutment (7) for engagement with a supporting element defined on a lower part at the front (2) of an adjacent block (1). <IMAGE>

Inventors

BERETTA MARIO

Latest standardized assignees - inventors removed

RDB PLASTOTECNICA

Family 33/200 - FAMPAT - ©Questel

Title

(US6857823)

Earthen retaining wall having flat soil reinforcing mats which may be variably spaced

Images

secured one above the other in edge-to-edge relationship and intermediate stabilizing anchors are embedded in the formation to hold the face mat elements in vertical alignment. In the paired face mat element embodiment, the lifts of soil between successive soil reinforcing mats are compacted in stages corresponding to the depth of the face mat elements. Bowing of the face mat elements by compression as the result of settling of the formation is prevented by supporting the soil reinforcing mats on the face mats through compressible members and/or supporting the lower edges of the face mats in spaced relationship to the reinforcing mats therebelow by frangible support members.

Inventors

HILFIKER WILLIAM K

HILFIKER HAROLD K

Latest standardized assignees - inventors removed

HILFIKER PIPE

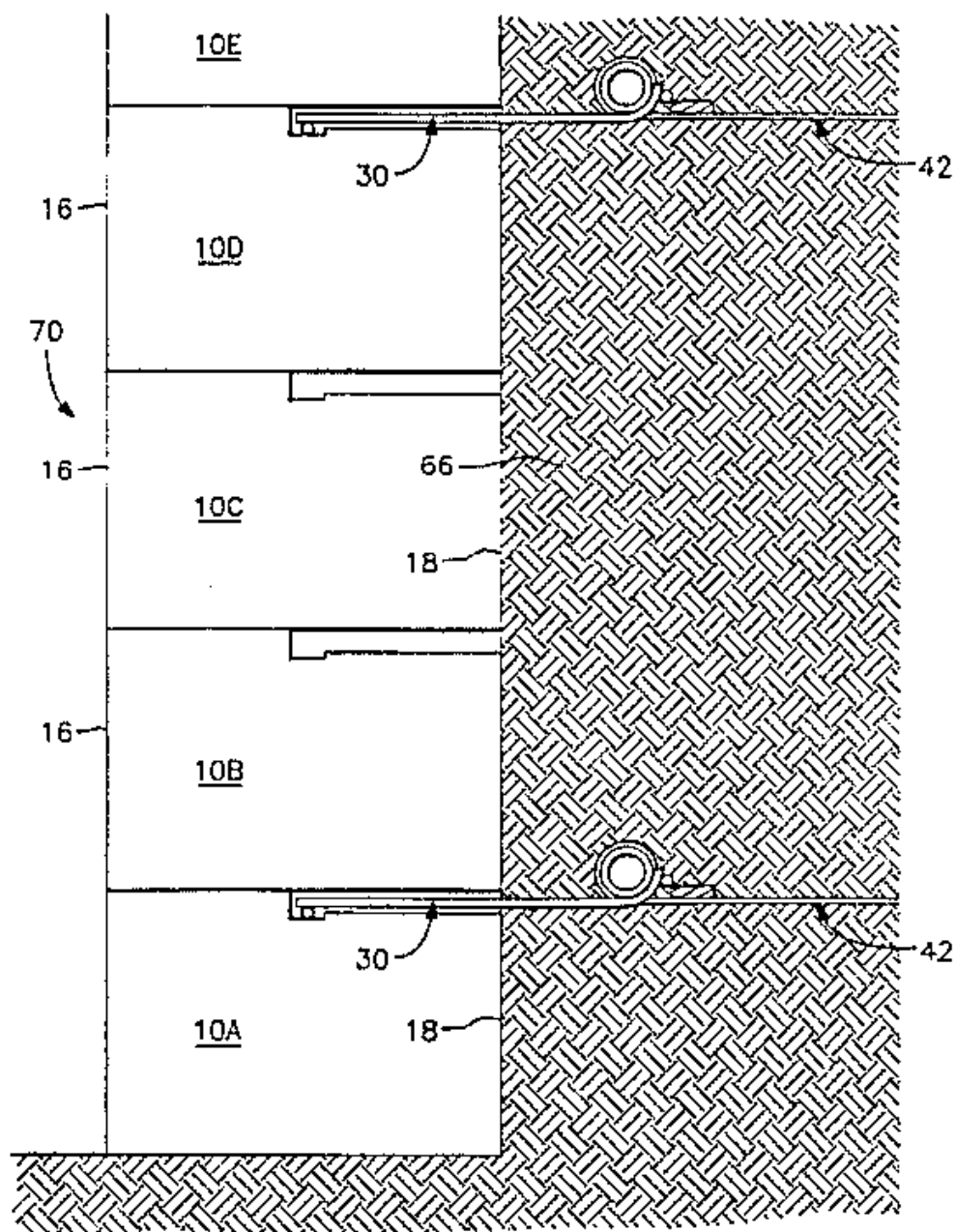
Family 34/200 - FAMPAT - ©Questel

Title

(WO9523897)

Modular wall block system and grid connection device for use therewith

Images



Publication data including kind & date

US5522682	A	1996-06-04	US5522682
AU1974895	A	1995-09-18	AU9519748
WO95/23897	A1	1995-09-08	WO9523897



Abstract

(WO95/23897)

A modular wall block (10) is formed with recesses or troughs (24) in a rearward end of its top and/or bottom surface configured to receive forward portions of a rigid grid connection device (30). Rearward end portions of the grid connection device extend beyond the rear face of the modular wall blocks. Extended lengths of a polygrid material (42) are then secured to the rearward portions of the grid connection device (30) for reinforcing the fill behind a retaining wall formed from a plurality of courses of said wall blocks (10). The grid-to-block connection does not rely on the weight or friction of superimposed wall blocks (10) and is particularly effective in sites subject to seismic activity.

Inventors

EGAN PHILIP D

Latest standardized assignees - inventors removed

TENSAR

TENSAR INTERNATIONAL
 TENSAR EARTH TECHNOLOGIES
 ATLANTECH ALABAMA
 TENSAR POLYTECHNOLOGIES
 TENSAR HOLDINGS
 ADVANCED EARTH TECHNOLOGY
 GEOTECHNICAL REINFORCEMENT
 MERITEX PRODUCTS
 GEOPIER FOUNDATION
 NORTH AMERICAN GREEN

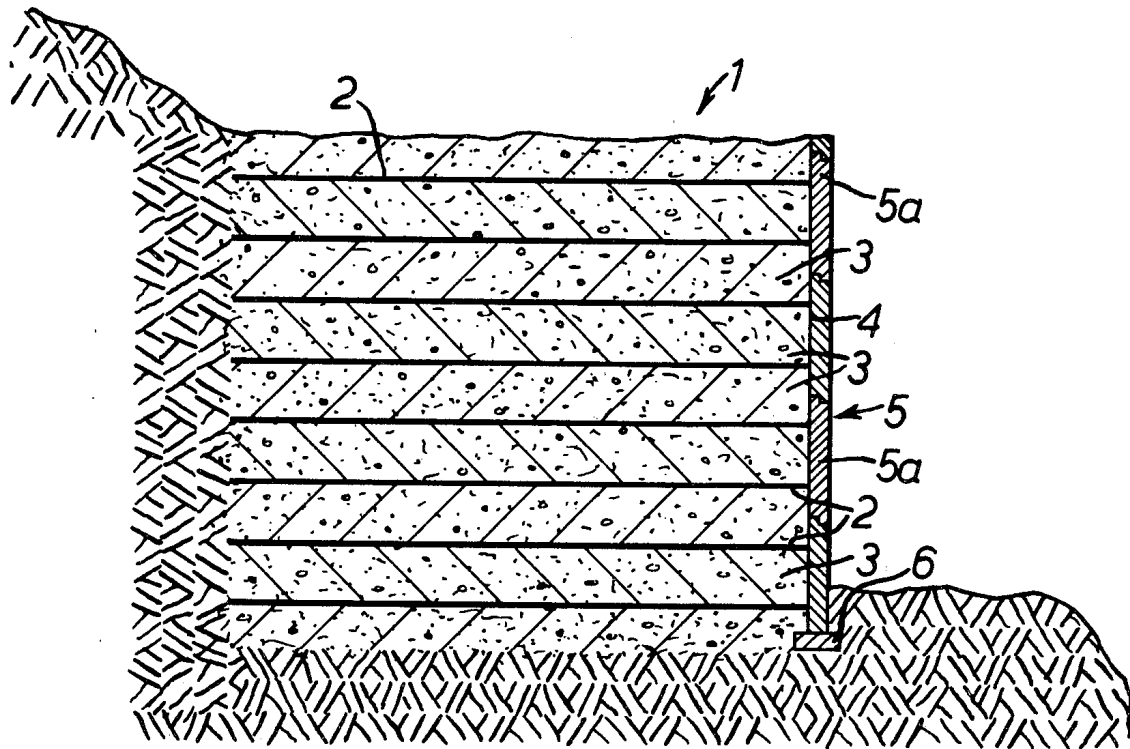
Family 35/200 - FAMPAT - ©Questel

Title

(US4343571)

Reinforced earth structures

Images



Publication data including kind & date

AU526267	B2	1982-12-23	AU-526267
US4343571	A	1982-08-10	US4343571
GB2025496	B	1982-07-28	GB2025496
GB2025496	A	1980-01-23	GB2025496
AU4888579	A	1980-01-17	AU7948885



Abstract

(US4343571)

A reinforced earth structure comprises a mass of particulate material and stabilizing members, the members being arranged in vertically spaced layers separated by layers of particulate material. The stabilizing members are made of flexible material which is relatively unresilient and each layer of stabilizing members is tensioned while the succeeding layer of particulate material is laid thereon.

Inventors

PRICE DERRICK I

Latest standardized assignees - inventors removed

AMERICAN CYANAMID

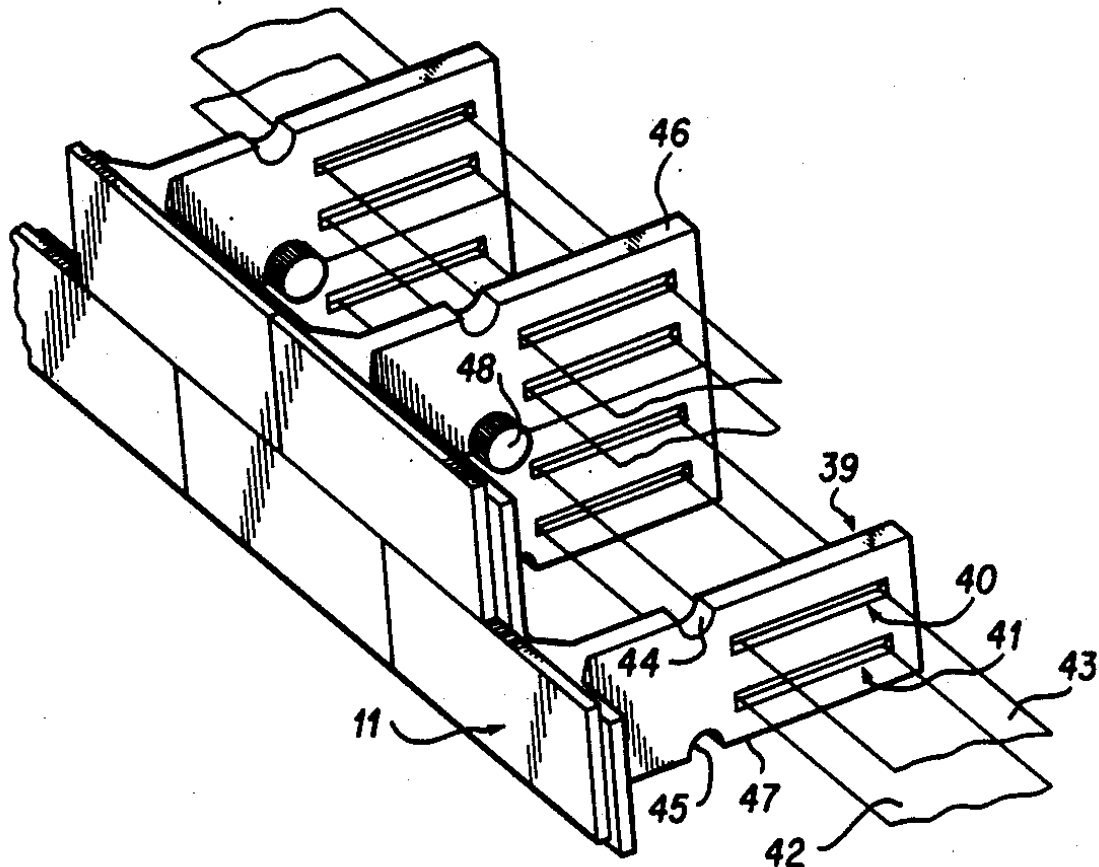
FREYSSINET

Family 36/200 - FAMPAT - ©Questel

Title

(US4884921)

Retaining wall module having face panel and T-stem with means for receiving transverse stabilizing web

Images**Publication data including kind & date**[US4884921](#)

A 1989-12-05 US4884921

**Abstract**

(US4884921)

Precast concrete modules for stacked assembly into a retaining wall have rectangular face panels and single retaining stems connected to rear faces of the face panels. Each retaining stem includes a slot or other device for receiving a stabilizing web that extends transversely between the stems of modules arranged side-by-side in a horizontal row. The single retaining stem of each module may be connected to the rear face of the module at a location spaced from one side edge of the face panel by one quarter of the distance between opposite side edge of the panel. A retaining wall assembly includes modules stacked in successive courses, with the face panels being staggered in adjacent courses to create a "brick bonded" stack, and with the retaining stems of modules in successive courses being superposed in vertical alignment.

Inventors

SMITH PETER J

Latest standardized assignees - inventors removed

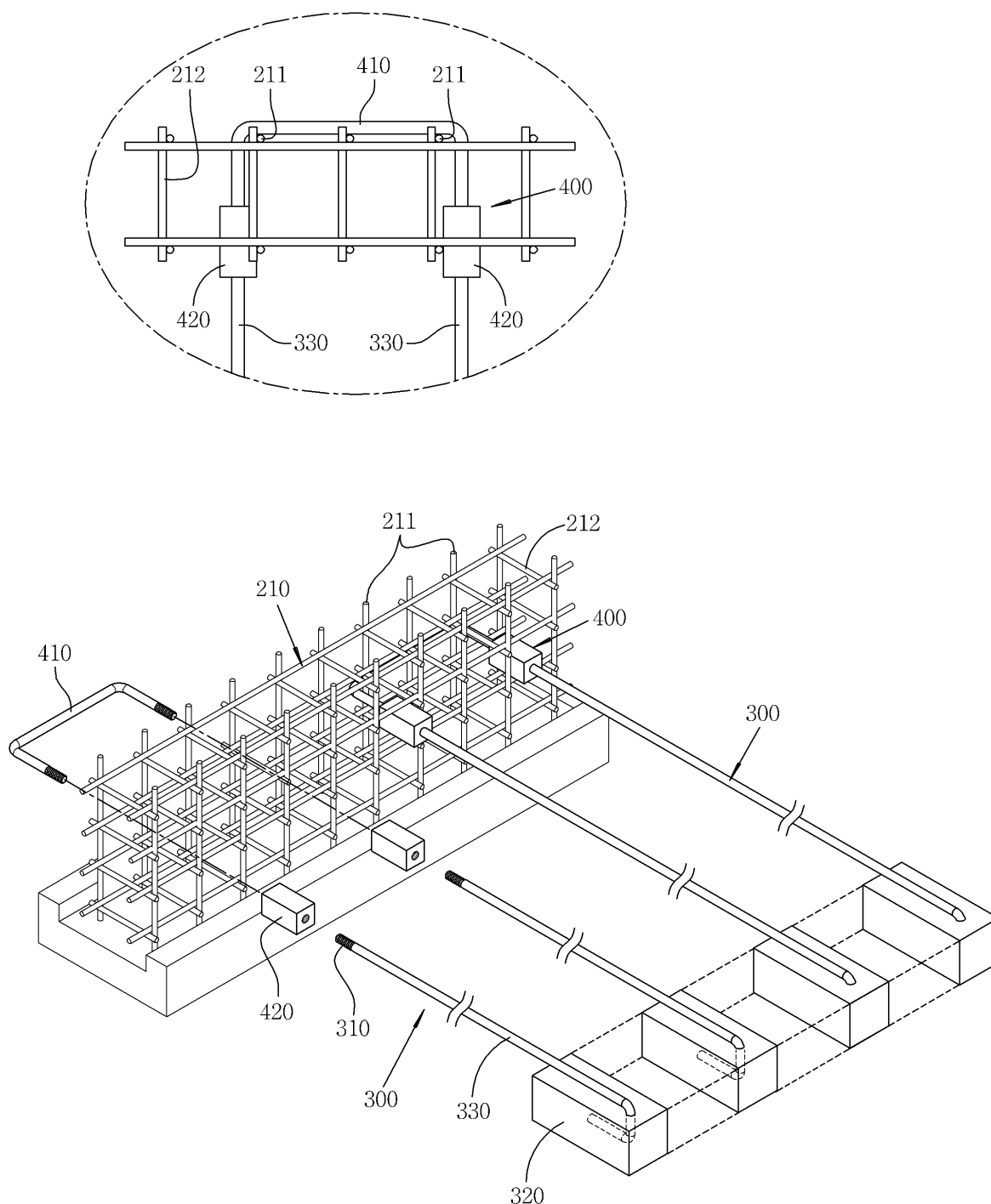
FOMICO INTERNATIONAL SCHUYLERVILLE NY

Family 37/200 - FAMPAT - ©Questel

Title

(KR100665679)

Combined retaining wall and the making method

Images**Publication data including kind & date**[KR100665679](#)

B1 2007-01-09

KR100665679

**Abstract**

(KR100665679)

A composite retaining wall is provided to have high economical efficiency and constructability by installing a C-shaped connection device having a coupler to a reinforced concrete wall in advance, connecting a horizontal reinforcement member to the coupler and fixing the horizontal reinforcement member to the backside of rear soil. A composite retaining wall contains: a reinforced concrete wall supported and installed to a foundation without a footing and fitted with a

reinforcement assembly(210) composed of reinforcing bars(211); a horizontal reinforcement member(300) composed of steel bars or steel wires, installed to the upper ground of the reinforced concrete wall, connected with a fixture of rear soil and the reinforced concrete wall and provided with a screw fastening part(310) to be connected with the reinforced concrete wall; and a connection device(400) composed of a connector(410) buried in the reinforced concrete wall to cover up the arranged reinforcing bars horizontally and placed toward the backside of the concrete wall, and a coupler(420) provided with a fastening hole having a screw thread and exposing to the surface of the backside of the wall.

Inventors

KO, HYOUNG BAE

Latest standardized assignees - inventors removed

JEONG BANG ENGINEERING

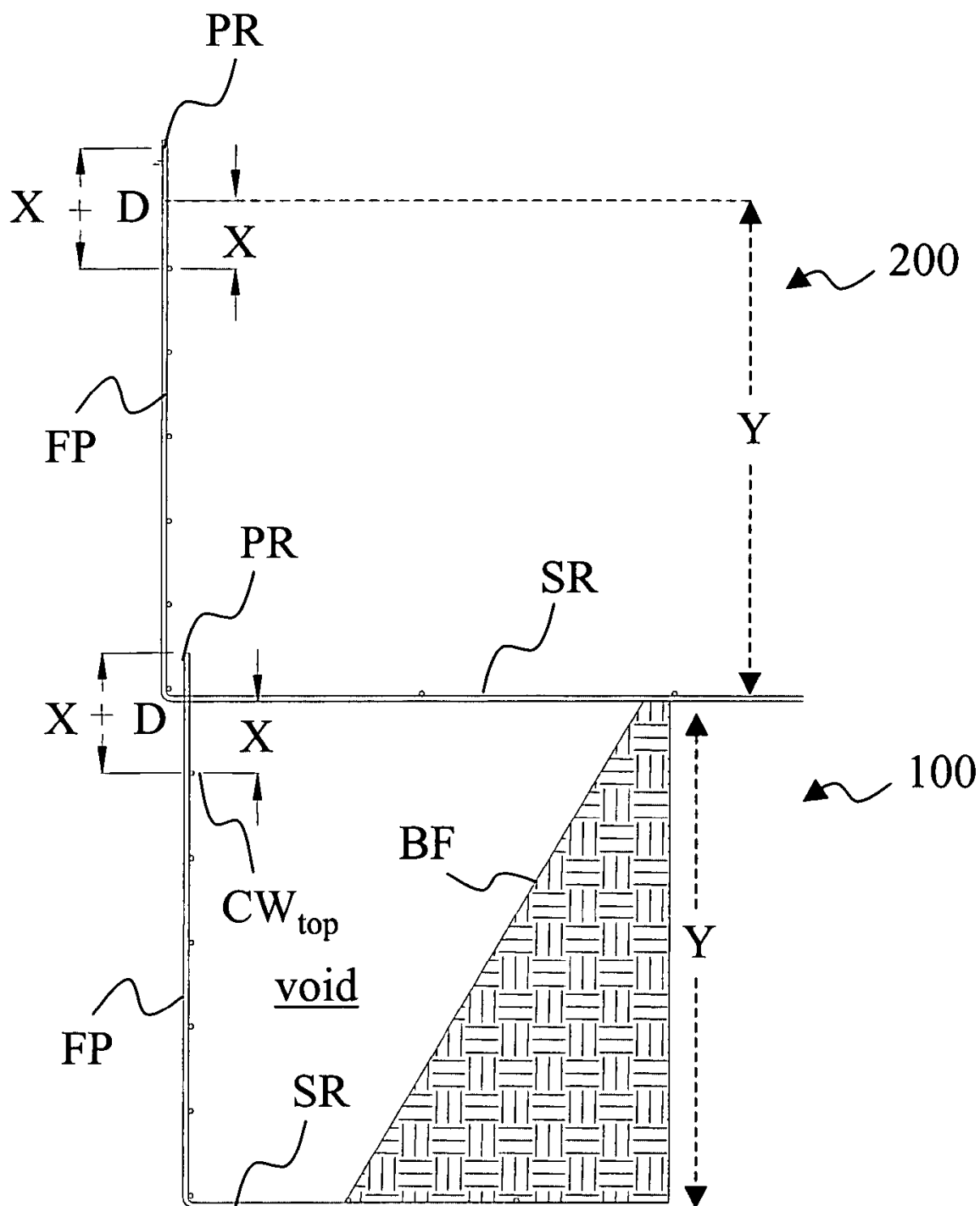
Family 38/200 - FAMPAT - ©Questel

Title

(US20050111921)

Compressible mechanically stabilized earth retaining wall system and method for installation thereof

Images



Publication data including kind & date

US7980790	B2	2011-07-19	US7980790
US20090067933	A1	2009-03-12	US20090067933
US20050111921	A1	2005-05-26	US20050111921



Abstract

(US20050111921)

A compressible mechanically stabilized earth retaining wall system and installation thereof is described.

Inventors

TAYLOR THOMAS P

BAGWELL JAMES S

Latest standardized assignees - inventors removed

T & B STRUCTURAL SYSTEMS

Family 39/200 - FAMPAT - ©Questel

Title

(GB9417413)

Slope reinforcing structure and method

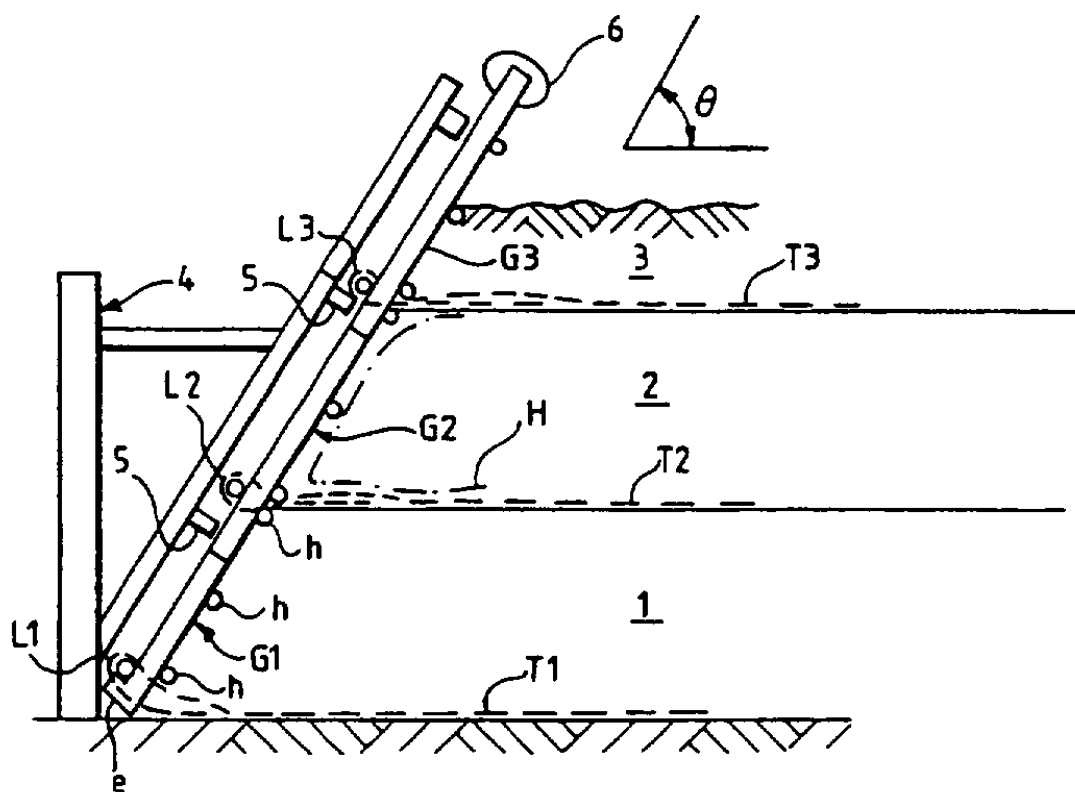
Images

Fig.1.

Publication data including kind & date

GB2292763	B	1998-07-22	GB2292763
GB2292763	A	1996-03-06	GB2292763
GB9517667	D0	1995-11-01	GB9517667
GB9417413	D0	1994-10-19	GB9417413

**Abstract**

(GB9417413)

A slope reinforcing structure is formed from an intermeshing assembly of generally flat rigid steel mesh panel elements G1, G2 and G3 which are inserted through apertures in folded sheets of geogrid reinforcing material, T1, T2 and T3. These sheets of geogrid reinforcing material are embedded between successive soil layers 1, 2, 3 and the structure is constructed with the aid of a temporary slope former 4 which defines the required slope angle theta which is typically 50 DEG to 90 DEG . <IMAGE>

(From GB2292763 A)

Inventors

APPLETON SAMUEL A

Latest standardized assignees - inventors removed

APPLETON SAMUEL A

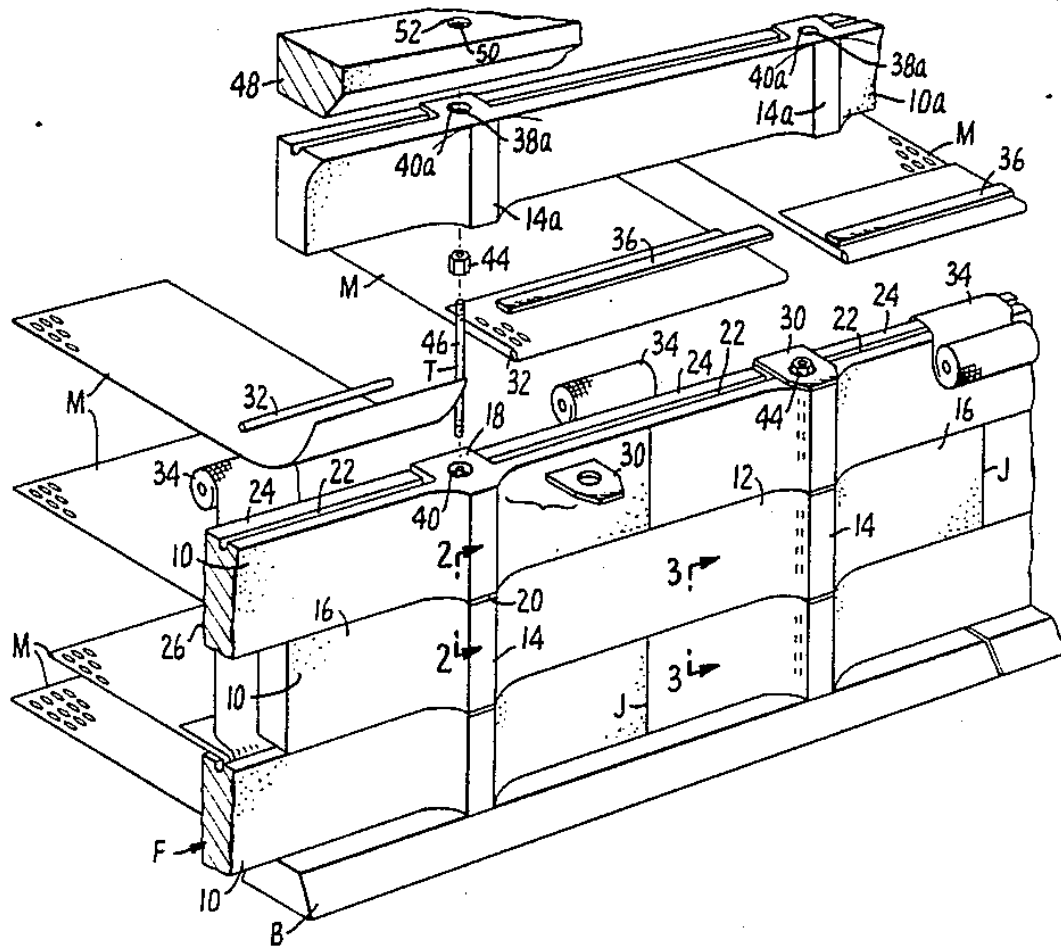
Family 40/200 - FAMPAT - ©Questel

Title

(US4616959)

Seawall using earth reinforcing mats

Images



Publication data including kind & date

US4616959

A 1986-10-14

US4616959



Abstract

(US4616959)

A seawall is provided by embedding perforate polymer mats within an earthen formation and securing the mats to stacked preformed concrete panels at the face of the formation. The mats are wrapped around rods and secured to the panels by capturing the rods between opposed surfaces on the panels. Seals and filter closures are disposed between the panels to shield the formation from sloughing and the intrusion of water.

Inventors

HILFIKER WILLIAM K

Latest standardized assignees - inventors removed

HILFIKER PIPE

Family 41/200 - FAMPAT - ©Questel

Title

(US5722799)

Wire earthen retention wall with separate face panel and soil reinforcement elements

Images

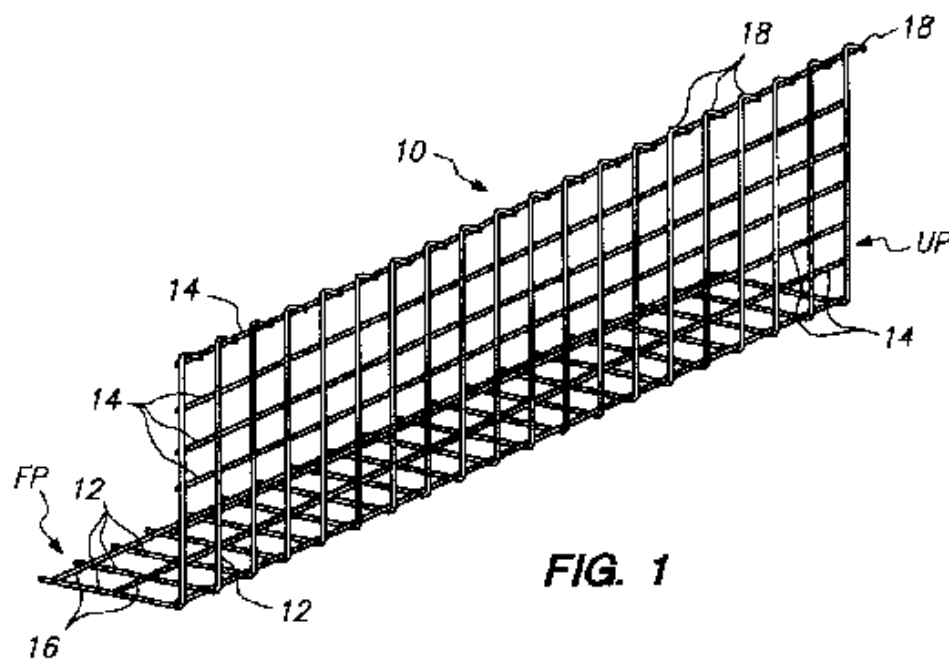


FIG. 1

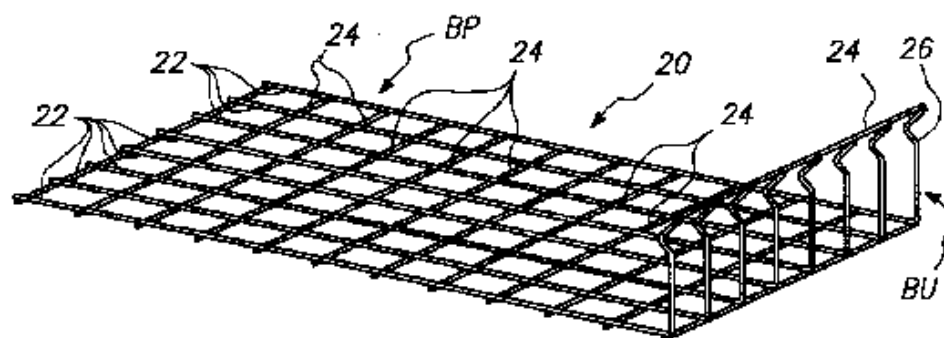


FIG. 2



FIG. 3

Publication data including kind & date

US5722799

A 1998-03-03 US5722799

**Abstract**

(US5722799)

A retaining wall for an earthen formation uses welded wire face mats having upright portions secured to one another and spanning the distance between successive lifts of the wall at the face of the formation. Elongate welded wire soil reinforcing mats with bent-up ends of a height less than the distance between successive lifts are secured to the face mats so as to extend partially over the upright portions and into the earthen formation. The bent-up ends of the soil reinforcing mats are formed with kinks which extend through the upright portions of the face mats. Rods extend through these kinks to secure the upright portions of the face mats against separation from the bent-up ends of the soil reinforcing mats. In a preferred embodiment, the face mats have a width greater than the width of the soil reinforcing mats and the soil reinforcing mats at

each lift of the wall are spaced from one another and span adjacent face mats.

Inventors

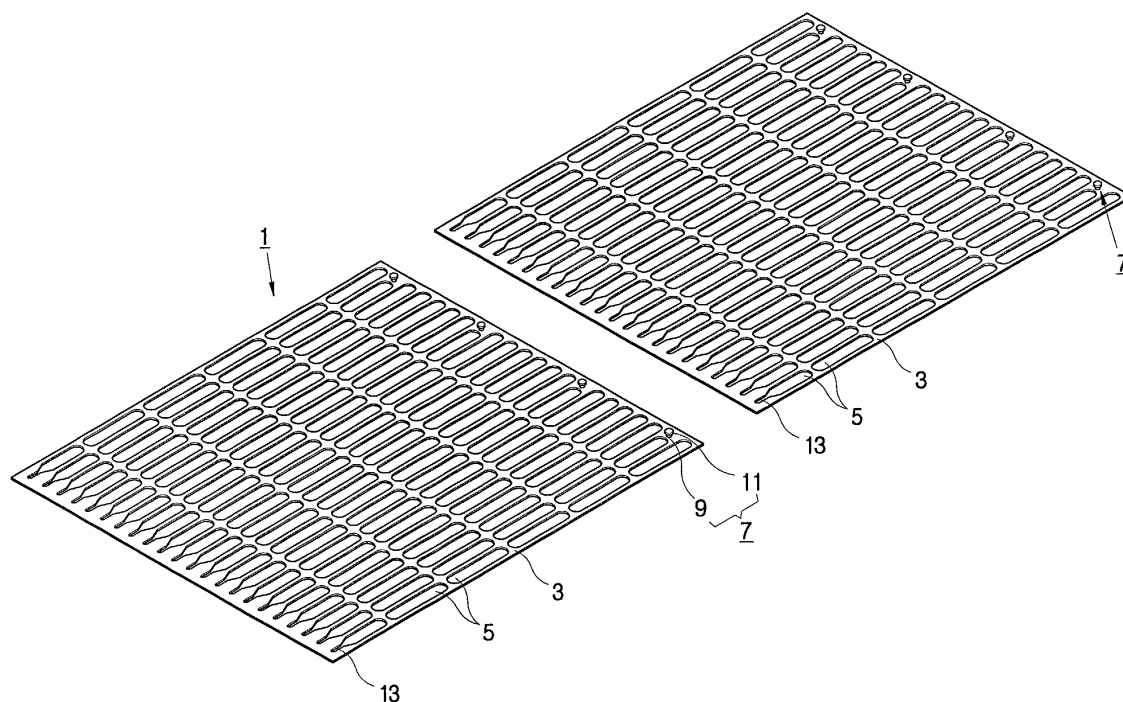
HILFIKER WILLIAM K

Family 42/200 - FAMPAT - ©Questel

Title

(WO200248467)

Geogrid

Images**Publication data including kind & date**

AU2117102	A	2002-06-24	AU200221171
WO02/48467	A1	2002-06-20	WO200248467
US20020069605	A1	2002-06-13	US20020069605

**Abstract**

(WO02/48467)

Disclosed is a geogrid (1) comprising a sheet main body (3) formed with a plurality of through holes (5) through which soil passes; at least one connector (7) protruded from a surface of the sheet main body (3); and at least one acceptor (13) positioned opposite the connector (7) and accepting the connector (7) of another geogrid (1). With this configuration, the geogrid (1) can be conveniently, carried, maintained and constructed, and is improved in durability.

Inventors

HONG SUNG-MIN

Latest standardized assignees - inventors removed

GONG HAK BONG

LEE SEUNG HOON

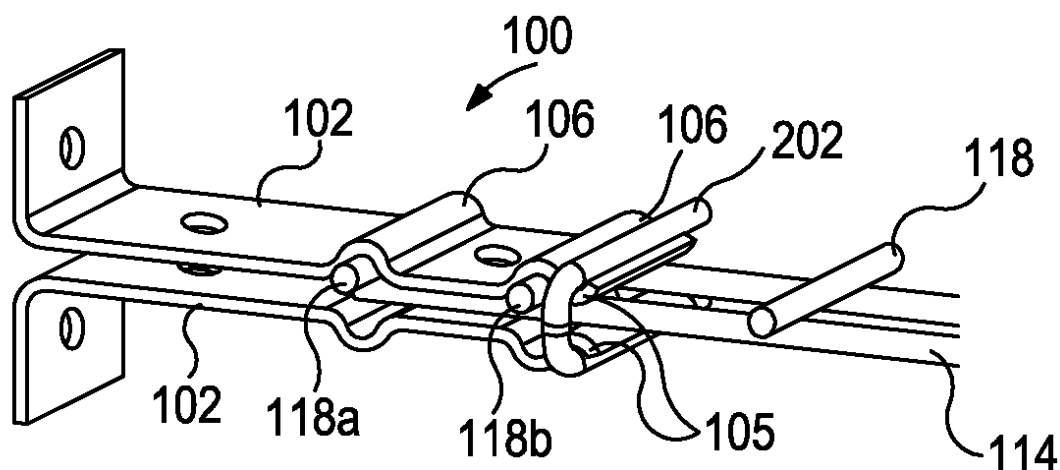
Family 43/200 - FAMPAT - ©Questel

Title

(WO201184983)

Wave anchor soil reinforcing connector and method

Images



Publication data including kind & date

WO2011/084986	A3	2015-07-16	WO201184986				
WO2011/084983	A3	2015-07-02	WO201184983				
WO2011/084989	A3	2015-07-02	WO201184989				
US20140093318	A1	2014-04-03	US20140093318				
US8632279	B2	2014-01-21	US8632279				
US8393829	B2	2013-03-12	US8393829				
AU2011203688	A1	2012-07-26	AU2011203688				
US20120114430	A1	2012-05-10	US20120114430				
CA2786496	A1	2011-07-14	CA2786496				
US20110170957	A1	2011-07-14	US20110170957				
US20110170958	A1	2011-07-14	US20110170958				
US20110170960	A1	2011-07-14	US20110170960				
WO2011/084983	A2	2011-07-14	WO201184983				
WO2011/084986	A2	2011-07-14	WO201184986				
WO2011/084989	A2	2011-07-14	WO201184989				

Abstract

(WO2011/084983)

A facing anchor assembly for securing a facing to a soil reinforcing element, the facing anchor assembly including first and second horizontally-disposed plates vertically-offset from each other and having at least one transverse protrusion defined on each plate. The transverse protrusions can receive and seat at least one transverse wire of the soil reinforcing element and a coupling assembly can be configured to secure the at least one transverse wire in place, and also frictionally-engage a pair of longitudinal wires of the soil reinforcing element between the first and second horizontally-disposed plates, thereby preventing removal of the soil reinforcing element.

Inventors

TAYLOR THOMAS P

Latest standardized assignees - inventors removed

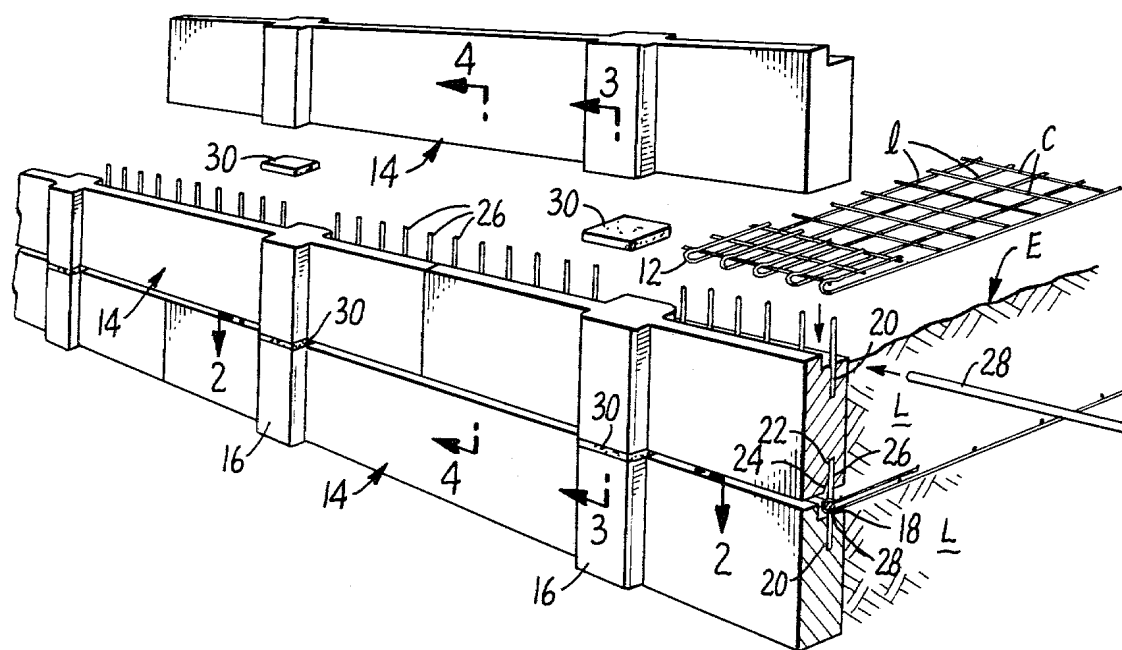
T & B STRUCTURAL SYSTEMS

Family 44/200 - FAMPAT - ©Questel

Title

(US4324508)

Retaining and reinforcement system method and apparatus for earthen formations

Images**Publication data including kind & date**[US4324508](#)

A

1982-04-13

US4324508

**Abstract**

(US4324508)

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.

Inventors

HILFIKER WILLIAM K

HILFIKER HAROLD O

HILFIKER WILLIAM B

Latest standardized assignees - inventors removed

HILFIKER

HILFIKER WILLIAM K

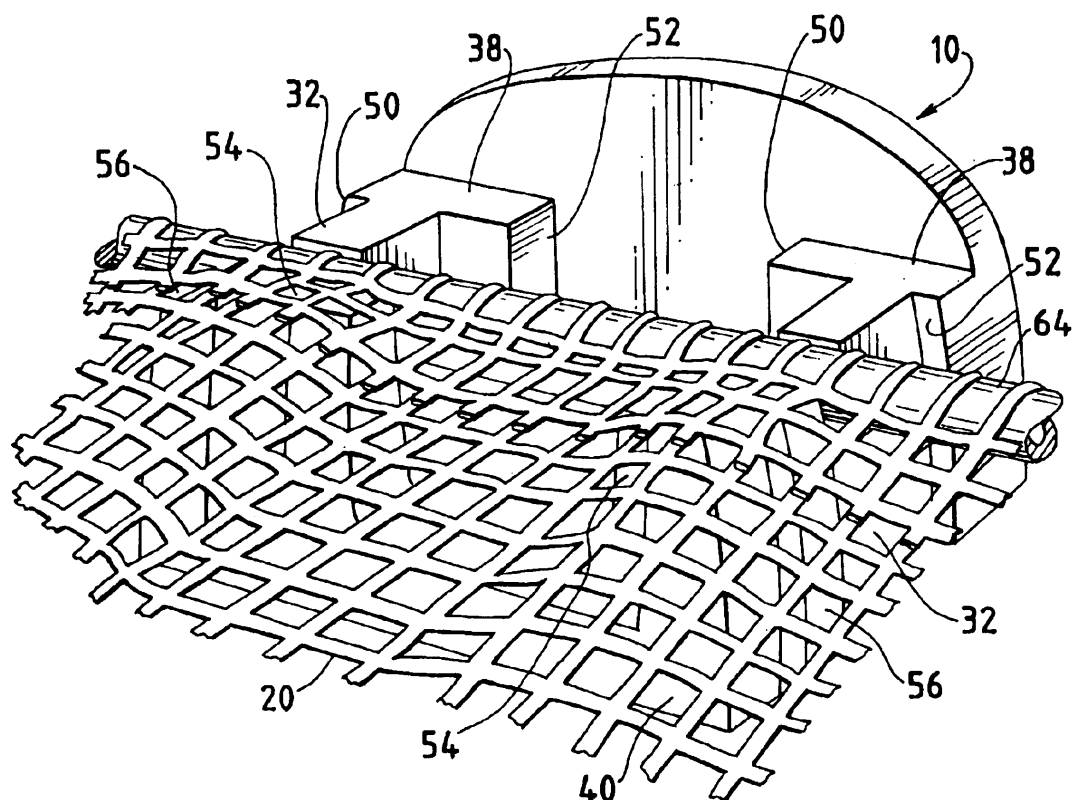
Family 45/200 - FAMPAT - ©Questel

Title

(EP1546468)

Concrete module for retaining wall and improved retaining wall

Images



Publication data including kind & date

CA2435836	C	2010-09-21	CA2435836
EP1546468	A4	2006-07-05	EP1546468
EP1546468	A1	2005-06-29	EP1546468
US6761509	B2	2004-07-13	US6761509
AU2003222063	A1	2004-02-16	AU2003222063
WO2004/011728	A1	2004-02-05	WO200411728
US20040018061	A1	2004-01-29	US20040018061
CA2435836	A1	2004-01-26	CA2435836



Abstract

(EP1546468)

In a retaining wall comprising stacked courses of concrete modules (12), each module has unitary walls including a front wall (30), two lateral walls (32), and a bottom wall (34), the front and lateral walls being upright. Each lateral wall has a front edge (38) adjoining the front wall, a back edge (40) spaced from the front edge, an upright rib (54) extending inwardly from the lateral wall, and an upright rib (56) extending outwardly from the lateral wall. Each lateral wall has a provision, such as a recess opening (70) upwardly or an opening (80) through that lateral wall, which is adapted to receive and receives a batten (64), wherein if the batten were pulled backwardly it can bear against the upright ribs of the lateral wall. In each of at least some of the courses, a batten (64) is received by the provisions of the lateral walls of at least some of the concrete modules and a geogrid (20) is anchored to the same modules, by the batten.

Inventors

JANSSON JAN ERIK

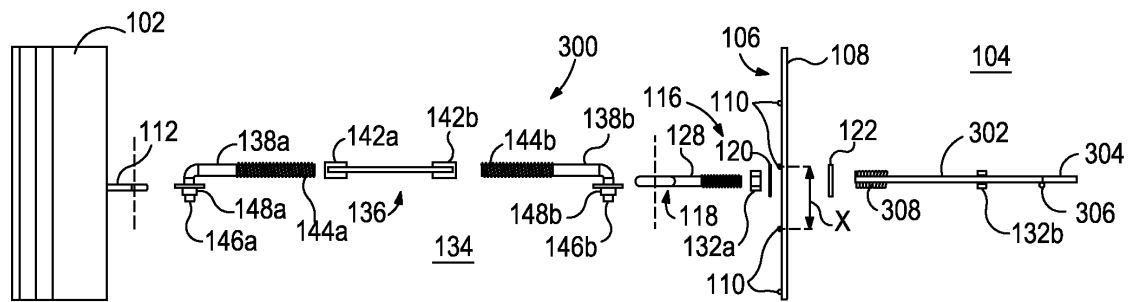
Family 46/200 - FAMPAT - ©Questel

Title

(US8496411)

Two stage mechanically stabilized earth wall system

Images

**Publication data including kind & date**[US8496411](#)

B2 2013-07-30

US8496411

[US20110182673](#)

A1 2011-07-28

US20110182673

**Abstract**

(US20110182673)

A two-stage MSE system for securing a facing to an earthen formation is disclosed. The system includes a wire grid laterally-offset from the facing and a formation anchor coupled to the wire grid. The formation anchor includes a face plate, a wave plate, and an eyebolt extensible through the face plate and wave plate to secure the plates on opposing sides of the wire grid. The wave plate has transverse protrusions that align with and seat adjacent vertical wires of the facing. A facing anchor is coupled to the facing and a turnbuckle assembly secures the facing to the wire grid by coupling to the facing anchor and the formation anchor. A soil reinforcing element may also be attached to the formation anchor.

Inventors

TAYLOR THOMAS P

Latest standardized assignees - inventors removed

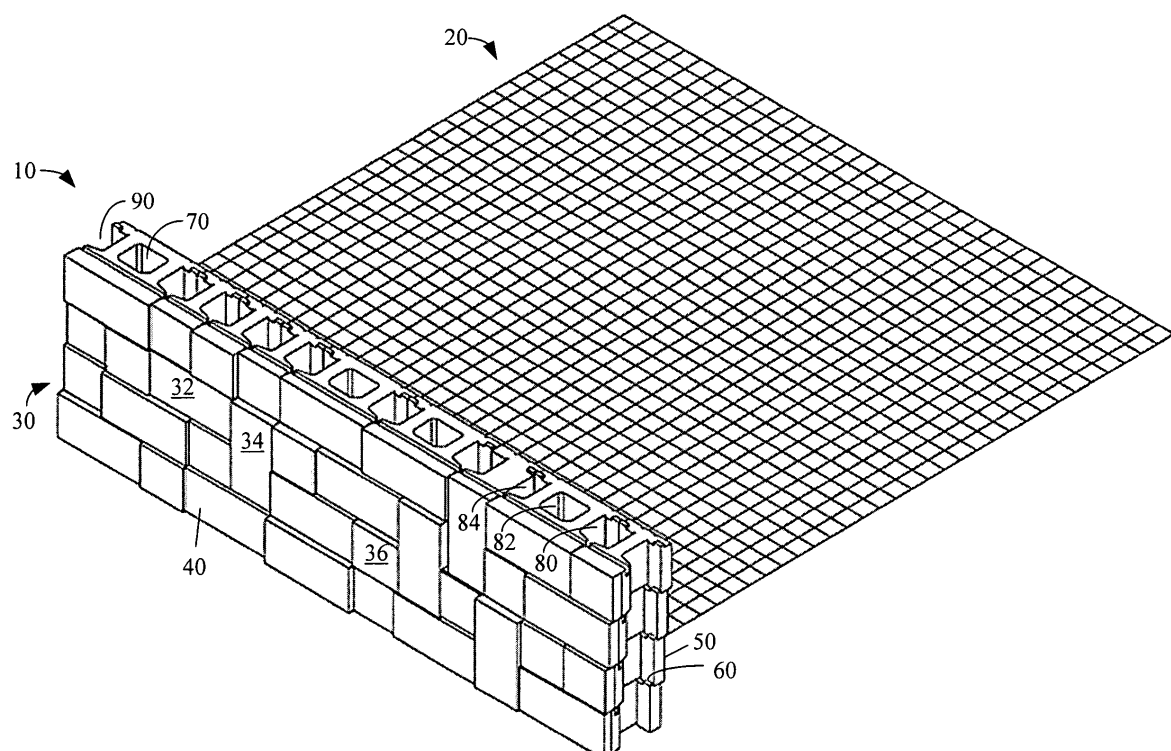
T & B STRUCTURAL SYSTEMS

Family 47/200 - FAMPAT - ©Questel

Title

(EP1948873)

Modular block structures

Images

Publication data including kind & date

US8684633	B2	2014-04-01	US8684633				
EP1948873	A4	2011-04-06	EP1948873				
US20090196695	A1	2009-08-06	US20090196695				
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WO2007/059454	A3	2008-02-21	WO200759454				
CA2630073	A1	2007-05-24	CA2630073				
WO2007/059454	A2	2007-05-24	WO200759454				
US20070110523	A1	2007-05-17	US20070110523				

Abstract

(EP1948873)

One embodiment of a system of the present disclosure, among others, can be implemented as follows. A modular wall block system includes a plurality of wall blocks comprising first wall blocks of a first shape and second wall blocks of a second shape and at least one continuous passageway running from a top of a wall to a bottom of the wall formed from the plurality of wall blocks. The wall blocks are configured such that the at least one continuous passageway is formed when a plurality of blocks are laid side by side in a tier and stacked one atop of another to form an additional tier. In a further embodiment, the wall blocks also include third wall blocks of a third shape. Other systems and methods are also provided.

Inventors

RAINEY THOMAS L

Latest standardized assignees - inventors removed

EARTH WALL PRODUCTS

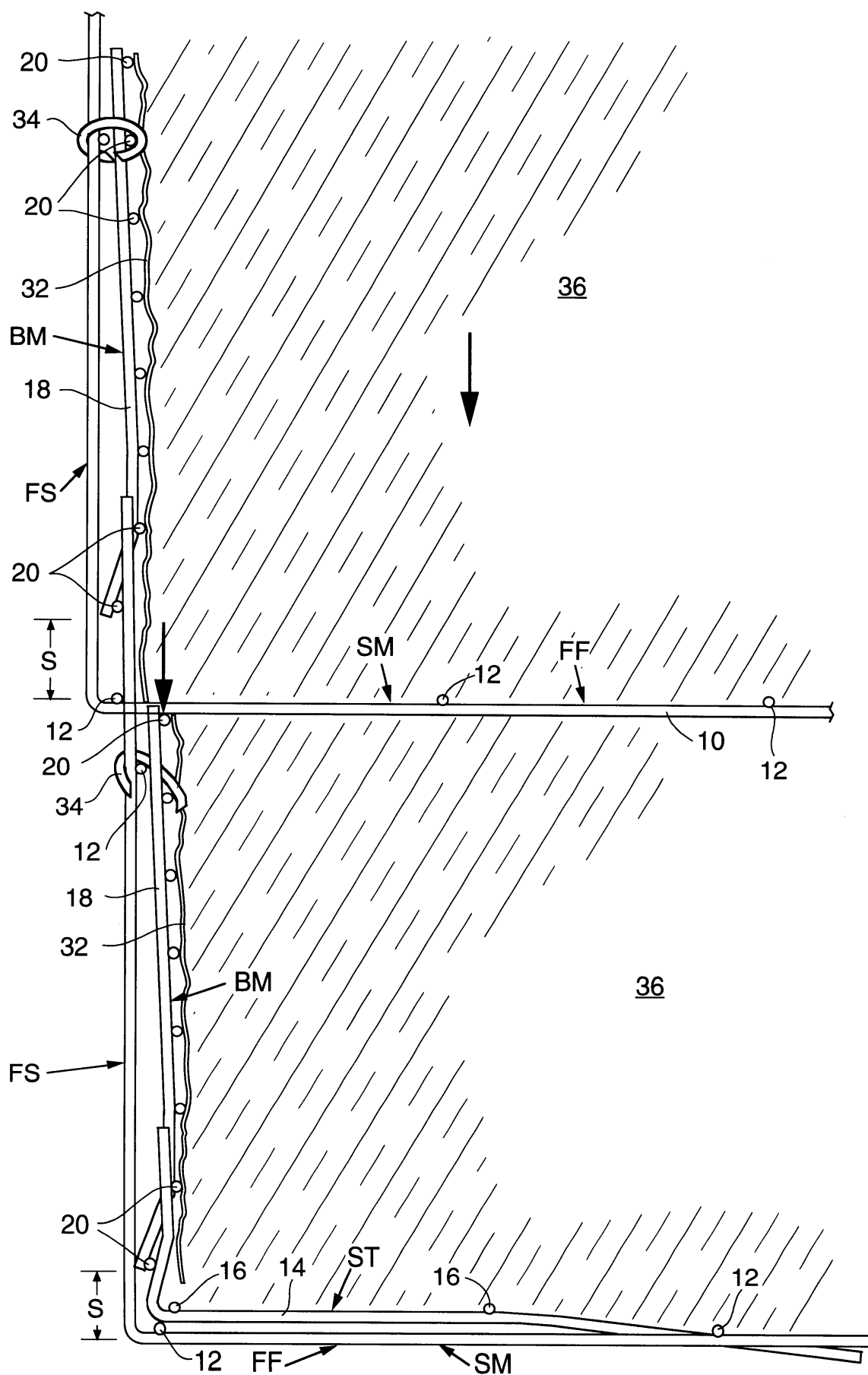
Family 48/200 - FAMPAT - ©Questel

Title

(US6357970)

Compressible welded wire wall for retaining earthen formations

Images

**Publication data including kind & date**[USRE42680](#)

E1 2011-09-06

USRE42680

[US6357970](#)

B1 2002-03-19

US6357970

**Abstract**

(US6357970)

(US6595726)

A retaining wall system formed from a wire facing unit having an upstanding face section and a rearwardly extending floor section the rear end of which is provided with aligned, transversely extending, openings defined by upstanding, inserted U-shaped, in the wire elements. The apertures in the forward portion of a geogrid, preferably an integral, uniaxially-stretched, polymer geogrid, can be seated over the protuberances and a connecting rod inserted through the openings to secure the geogrid to the wire facing unit. Strengthening struts can be engaged between cross-wires at the top of the face section of the wire facing unit and at the rear of the floor section of the wire facing unit. An aggregate, including soil or the like, can then be placed behind the face section and over the floor section of the wire facing unit and over the geogrid to form a geogrid-reinforced retaining wall section. Multiple sections may be formed side-by-side and multiple tiers can be constructed with the front faces of superior sections aligned or set back from each other to permit plantings to be placed in front of superior face sections. The connecting rod may be rigid. Alternatively, the connecting rod may be resilient or flexible to facilitate inserting the same between a pair of wires into the aligned openings formed by the protuberances, particularly for interior wire facing units in a series of laterally juxtaposed sections where access to the openings from the sides of the wire facing unit is difficult.

Inventors

EGAN PHILIP D

ANDERSON ROBERT

Latest standardized assignees - inventors removed

TENSAR INTERNATIONAL

TENSAR EARTH TECHNOLOGIES

ATLANTECH ALABAMA

TENSAR POLYTECHNOLOGIES

TENSAR HOLDINGS

ADVANCED EARTH TECHNOLOGY

GEOTECHNICAL REINFORCEMENT

MERITEX PRODUCTS

GEOPIER FOUNDATION

NORTH AMERICAN GREEN

TENSAR

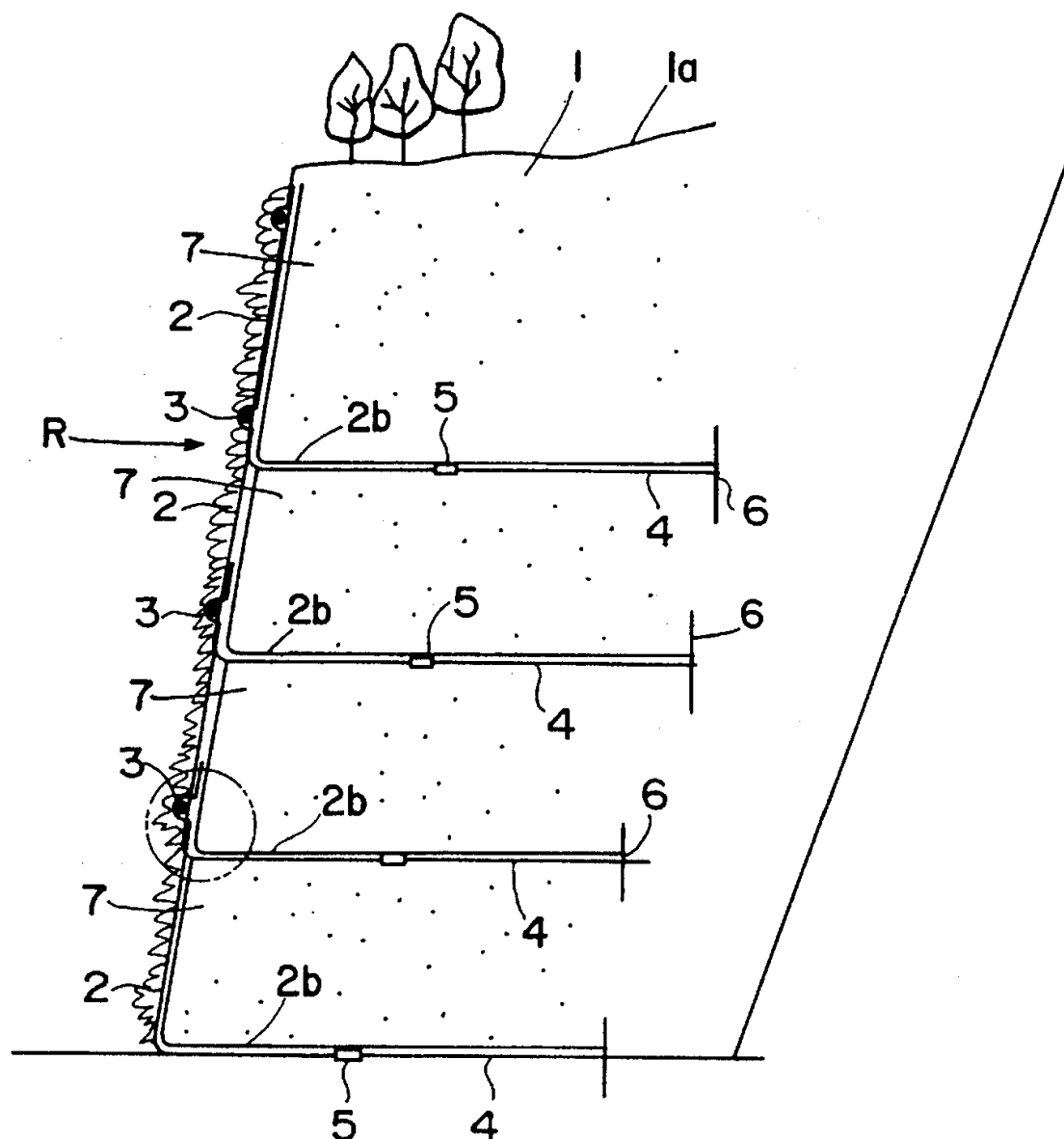
Family 50/200 - FAMPAT - ©Questel

Title

(US5531547)

Reinforced earth construction

Images



Publication data including kind & date

TW403095	U	2000-08-21	TW-403095U
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SG50635	A1	1998-07-20	SG--50635
JP2545197	B2	1996-10-16	JP2545197
US5531547	A	1996-07-02	US5531547
KR950011777	A	1995-05-16	KR19950011777
JP07113234	A	1995-05-02	JP07113234
CN1101960	A	1995-04-26	CN1101960
GB2283038	A	1995-04-26	GB2283038
GB9405544	D0	1994-05-04	GB9405544



Abstract

(US5531547)

A revetment formed from orthogonally arrayed reinforcing rods secured together. A membrane is secured to the back side of the reinforcing rods to retain backfill compacted behind the revetment, or a vegetation ground cover may be planted on the exposed surface of the revetment to prevent erosion. Horizontal anchor rods secured to the revetment rods extend rearwardly therefrom and are embedded in the backfill to stabilize the revetment. Adjustable anchor rods allow tension to be selectively applied to the revetment for the purpose of alignment.

Inventors

SHIMADA SHUNSUKE

Latest standardized assignees - inventors removed

KYOKADO ENGINEERING

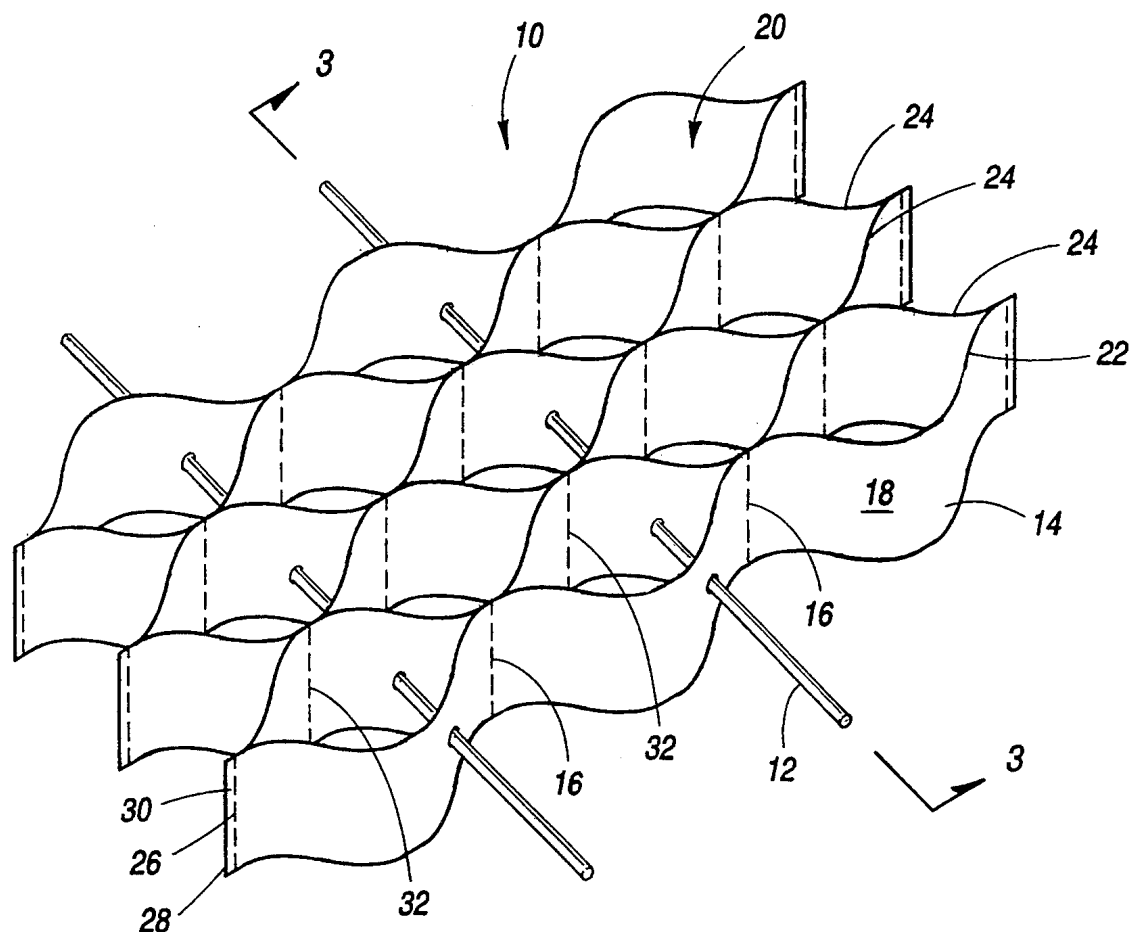
Family 51/200 - FAMPAT - ©Questel

Title

(EP-611849)

Reinforced cell material

Images



Publication data including kind & date

SA204	B1	2004-08-14	SA----204
CN1075147	C	2001-11-21	CN1075147C
BRPI9305069	B1	2001-08-21	BR9305069
TW441662	U	2001-06-16	TW-441662U
KR100196550	B1	1999-06-15	KR100196550
HK1003842	A1	1998-11-06	HK1003842
JP2784315	B2	1998-08-06	JP2784315
SG49688	A1	1998-06-15	SG--49688
ES2111121	T3	1998-03-01	ES2111121
DE69314931	T2	1998-02-26	DE69314931
DE69314931	D1	1997-12-04	DE69314931
EP0611849	B1	1997-10-29	EP-611849
IL108013	B	1997-03-18	IL-108013
CA2111063	C	1996-04-23	CA2111063
AU666593	B2	1996-02-15	AU-666593



US5449543	A	1995-09-12	US5449543				
JP06280267	A	1994-10-04	JP06280267				
BR9305069	A	1994-09-27	BR9305069				
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MX9307960	A	1994-08-31	MX9307960				
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ZA9309363	B	1994-08-24	ZA9309363				
CA2111063	A1	1994-08-19	CA2111063				
US5336544	A	1994-08-09	US5336544				
IL108013	A	1994-04-12	IL-108013				
BRPI9305069	A1	1994-02-22	BR9305069				

Abstract

(EP0611849)

A cell material structure (10) for confinement of concrete and earth material, having a plurality of plastic strips (14) bonded together on their faces in a side by side relationship at bonding areas (16) which are staggered from strip to strip such that the plurality of strips (14) may be stretched in a direction perpendicular to the faces of the strips (14) to form a web of cells (20), the strips (14) forming cell walls (18). At least one of the strips (14) has an aperture (34) through which a reinforcing member (12) extends. Preferably, the reinforcing member is a tendon (12) made of a polymer having a nominal breaking strength of from about 100 to about 2,500 lb.

Inventors

BACH GARY M

CROWE ROBERT E

Latest standardized assignees - inventors removed

CLOSURE SYSTEMS INTERNATIONAL

SIG COMBIBLOG

REYNOLDS FOIL

REYNOLDS PRESTO PRODUCTS

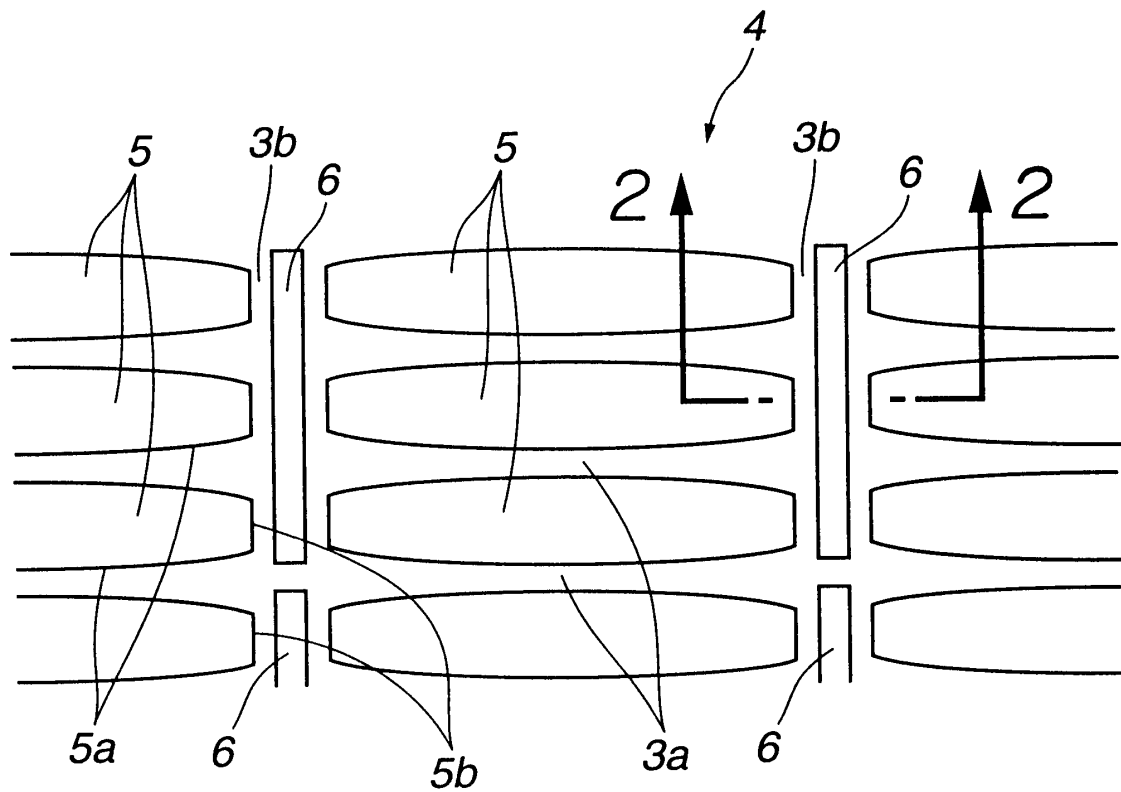
Family 52/200 - FAMPAT - ©Questel

Title

(EP-999037)

Resin net and production methods thereof

Images



Publication data including kind & date

KR100648470	B1	2006-11-24	KR100648470
DE69923644	T2	2006-03-16	DE69923644
DE69923644	D1	2005-03-17	DE69923644
EP0999037	B1	2005-02-09	EP-999037
CN1138627	C	2004-02-18	CN1138627C
US6343895	B1	2002-02-05	US6343895
TW457317	B	2001-10-01	TW-457317
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EP0999037	A2	2000-05-10	EP-999037



Abstract

(EP0999037)

Disclosed is a soil reinforcing resin net including hole portions (5) arranged in the longitudinal and transverse directions of said resin net, each of which is formed by a pair of opposed ribs (5a) and a pair of opposed bars (5b), wherein projecting portions (6) are fixed on bar portions; a method of producing the soil reinforcing resin net; and a drawn product of a polyethylene based resin suitably used as the soil reinforcing resin net, which is obtained by drawing a polyethylene based resin composed of a linear ethylene main chain having 0.3 or more of saturated hydrocarbon groups branched thereto in one molecule.

Inventors

YAMADA KOTARO
INO FUMITAKA
IWASAKI SHINICHI
EGUCHI SHINICHI

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Abstract

(EP0900304)

A retaining wall for reinforced infill material is constructed from modular blocks (1). Versatility and stability in building vertical or sloping, straight or curved walls is achieved whilst maintaining secure attachment of the blocks to a geogrid or like reinforcement material (16), by providing the blocks with means for pivotal articulation at quarter-points along their width, such as bores (10) and pivot pins (11), in combination with wedge-shaped anchor elements (13) which are retained in cavities (12) in the blocks and which have projections (15) engaging through apertures in the geogrid.

Inventors

WRIGLEY NIGEL EDWIN

DOBIE MICHAEL JOHN DAVID

Latest standardized assignees - inventors removed

NETLON

Family 54/200 - FAMPAT - ©Questel

Title

(EP1012406)

An element for forming ground covering, restraining and reinforcing structures, particularly for forming retaining walls

Images

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EP1012406	A1	2000-06-28	EP1012406				
PL335351	A1	2000-04-25	PL98335351				
BR9807756	A	2000-02-22	BR9807756				
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IT1290702	B1	1998-12-10	IT1290702				
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ITBO970094	A1	1998-08-25	IT97BO0094				
ITBO970094	D0	1997-02-25	IT97BO0094				

Abstract

(EP1012406)

The subject of the invention is an element (1) for forming ground covering, restraining and reinforcing structures, particularly for forming retaining walls. The element (1) is constituted by a single wire-netting panel and is divided into a bottom portion (301), an intermediate front restraining portion (101), and a top end covering portion (201). These portions are delimited by reinforcing bars (2, 3) which are inserted in the mesh of the wire netting and which extend along the front portion (101) or define, between the portions (101, 201, 301), the predetermined bend lines for the formation of a substantially channel-shaped restraining element with a substantially vertical or inclined front wall. The structural element is filled with earth, stones or combinations of earth and stones (7, 7') and several channel-shaped layers each formed by an element (1) can be laid on top of one another to form retaining structures.

Inventors

FERRAIOLO FRANCESCO

Latest standardized assignees - inventors removed

OFFICINE MACCAFERRI

Family 55/200 - FAMPAT - ©Questel

Title

(EP-705370)

Earth structures

Images

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Abstract

(EP0705370)

An earth structure comprises a plurality of elongate stabilising elements (3) in an earth mass behind a facing made up of facing panels (1), and a plurality of connectors (2) behind the facing and connecting it to the stabilising elements (3). Each connector (2) has a rear attachment portion (8) attached to a respective stabilising element (3) and at least two spaced apart front attachment portions (6) attached to the facing. The earth mass comprises a first region (20) of soil suitable for plant growth, in which first region (20) the connectors (2) are located, and a second region (21) of structural backfill, in which second region (21) the stabilising elements (3) are located.

Inventors

SEGRESTIN PIERRE

JAILLOUX JEAN MARC

Latest standardized assignees - inventors removed

TERRE ARMEE INTERNATIONALE

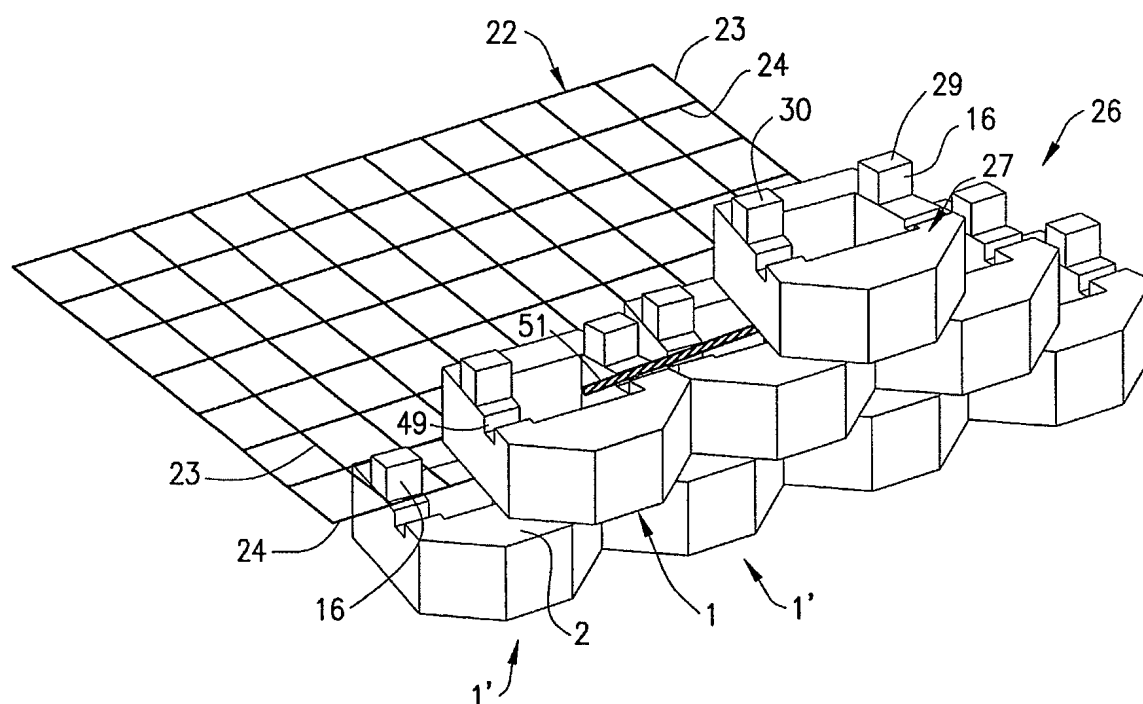
Family 56/200 - FAMPAT - ©Questel

Title

(US20090116911)

Interlocking and securable retaining wall block and system

Images

**Publication data including kind & date**[US20090116911](#)

A1 2009-05-07

US20090116911

**Abstract**

(US20090116911)

A retaining wall block for assembly into a retaining wall system and its securement therein by a stabilizing element. The retaining wall system includes a plurality of stacked rows of at least a plurality of blocks. The blocks includes left, right, front and rear body portions and at least one groove for receiving the stabilizing element. The groove extends laterally rearward of the front body portion and forward of the rear body portion or laterally between the left and right body portions.

Inventors

SHAW KENNETH L

Latest standardized assignees - inventors removed

SHAW TECHNOLOGIES

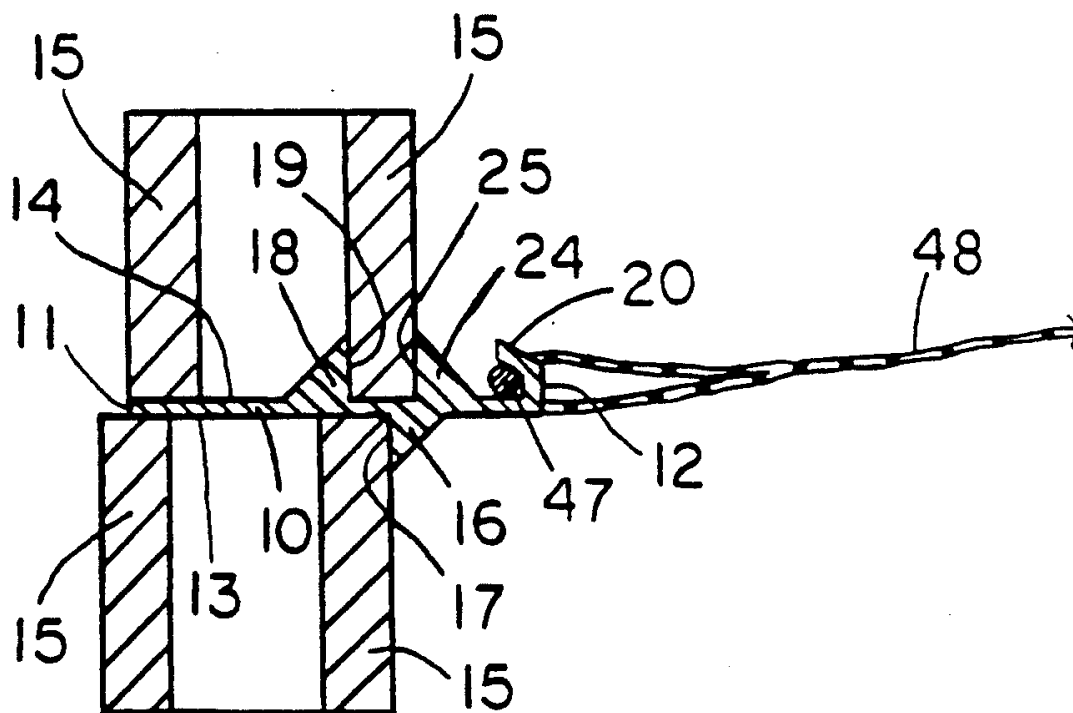
Family 57/200 - FAMPAT - ©Questel

Title

(US4998397)

Alignment and lateral support member for use in laying common concrete blocks

Images

**Publication data including kind & date**

US4998397

A 1991-03-12 US4998397

**Abstract**

(US4998397)

An alignment and lateral support member for use in laying common concrete blocks. The support member comprises an elongate body piece of rigid material having a length which is greater than the width of concrete blocks with which the support member is to be used. A first appendage extends from a first face of the body piece. The first appendage has a stop surface extending substantially perpendicular to the first face of the body piece, with the stop surface of the first appendage being positioned a distance from the first end of the body piece so that when the stop surface of the first appendage engages an outer surface of the sidewall of a first concrete block, with the first face of the body piece lying adjacent to the first block, the body piece spans from one sidewall of the first block to the other sidewall of the first block. A second appendage extends from a second face of the body piece. The second appendage has a stop surface extending substantially perpendicular to the second face of the body piece, with the stop surface of the second appendage being spaced from the stop surface of the first appendage by a set distance along the body piece in a direction toward the first end of the body piece, whereby the stop surface of the second appendage engages an inner surface of the sidewall of a second concrete block when the second block lies above the first block and in proper position adjacent to the second face of the body piece.

Inventors

ORTON MICHAEL V

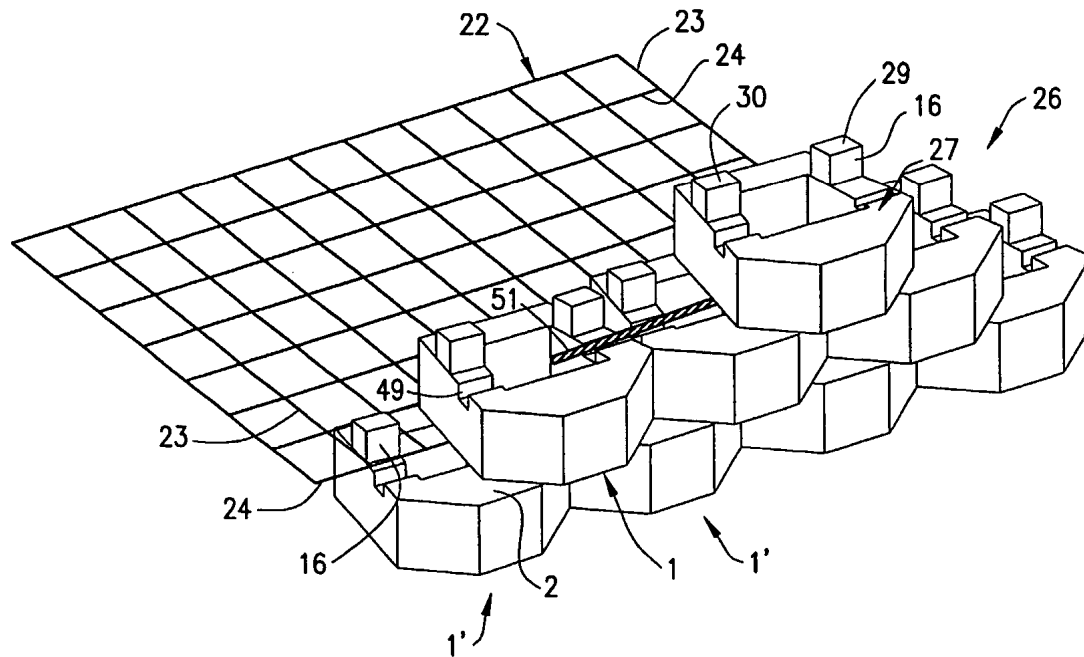
Family 58/200 - FAMPAT - ©Questel

Title

(WO200362538)

Interlocking and securable retaining wall block and system

Images



Publication data including kind & date

AU2008202542	A1	2008-06-26	AU2008202542
AU2003210567	B2	2008-05-29	AU2003210567
NZ534758	A	2007-07-27	NZ-534758
US20050069389	A1	2005-03-31	US20050069389
GB2402157	A	2004-12-01	GB2402157
GB0418506	D0	2004-09-22	GB200418506
WO03/062538	A3	2004-04-29	WO200362538
WO03/062538	A2	2003-07-31	WO200362538



Abstract

(WO03/062538)

Retaining wall blocks, retaining wall system formed thereby, and method for manufacturing the retaining wall blocks. Each block includes at least one mounting surface including a groove (49) for securing a stabilizing element (51) therein. Each block also including aligning elements (29,30) extending upwardly from an upper surface of the block body. The aligning elements of the lower blocks fit into the void of the upper block and assist in aligning the upper block on the lower blocks and optionally, in securing a reinforcing structure (22) placed between the layers.

Inventors

SHAW KENNETH L

Latest standardized assignees - inventors removed

SHAW TECHNOLOGIES

Family 59/200 - FAMPAT - ©Questel

Title

(EP1015702)

Systems and methods for connecting retaining wall panels to buried mesh

Images

WO99/04102

A1 1999-01-28 WO9904102

Abstract

(EP1015702)

A retaining wall system 820) and method for stabilizin earthen walls. The system comprises wall panels (22) assembled together to form a reinforcing wall assembly and anchor mesh (24) connected to the wall panels and buried within the earthen wall. The wall panels engage the face of the earthen wall, and the anchor mesh inhibits lateral movement of the reinforcing wall assembly. The panels are connected to the anchor mesh by locking pins that extend through loop portions of the anchor mesh and engage a front face of the wall panels. Anchor bars are connected to the loop portions of the anchor mesh; these anchor bars engage a back face of the wall panels to control and limit the movement of the wall panels relative to the anchor mesh as earth is back-filled against the wall panels.

Inventors

RUEL STEVE

SWANSON DAVID

THOMPSON SCOTT

Latest standardized assignees - inventors removed

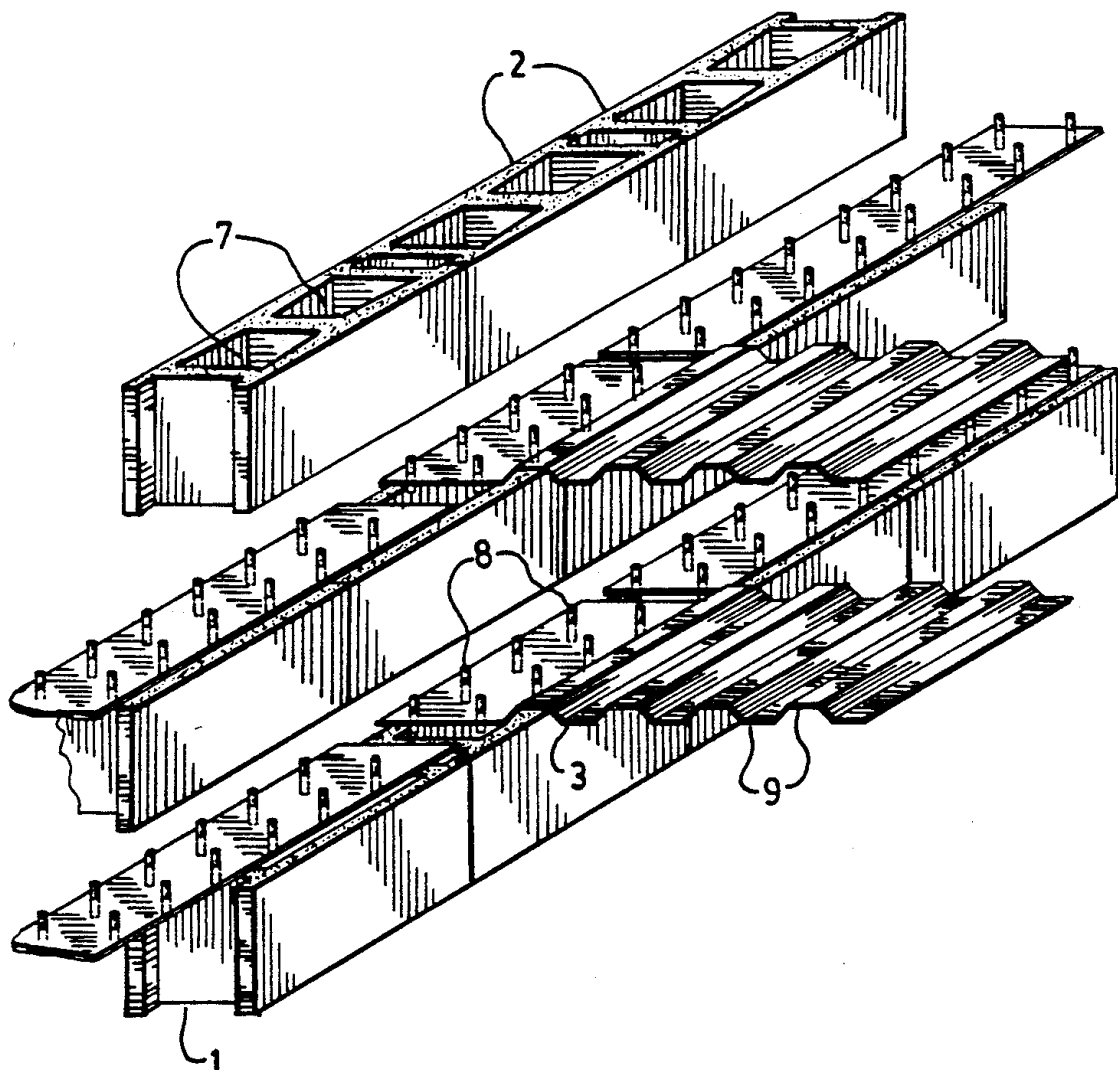
SSL

Family 60/200 - FAMPAT - ©Questel

Title

(US5145288)

Mortarless retaining wall

Images

Publication data including kind & date

US5145288	A	1992-09-08	US5145288
CA2051348	A1	1992-03-14	CA2051348

**Abstract**

(US5145288)

The invention provides a simple, economical and effective means of constructing a retaining wall from conventional concrete building blocks. A sheet member is provided, having protrusions which locate in the hollow core portions of the blocks to couple the blocks together. Where a tie-back is desired, the sheet member has an anchoring portion which extends back into the backfill to anchor the wall thereto. In one embodiment, the sheet member is plastic or other non-corrosive substance, with a matrix of dome-like protrusions. In another embodiment, the sheet member can be of a mesh-like construction. In another embodiment, the anchoring portion can be corrugated, with the corrugations running parallel to the wall. In another embodiment, the sheet member can be a sheet of stainless or galvanized steel or the like, or other suitable material, with tab portions stamped therefrom to form the protrusions.

Inventors

BORCHERDT D THOMAS

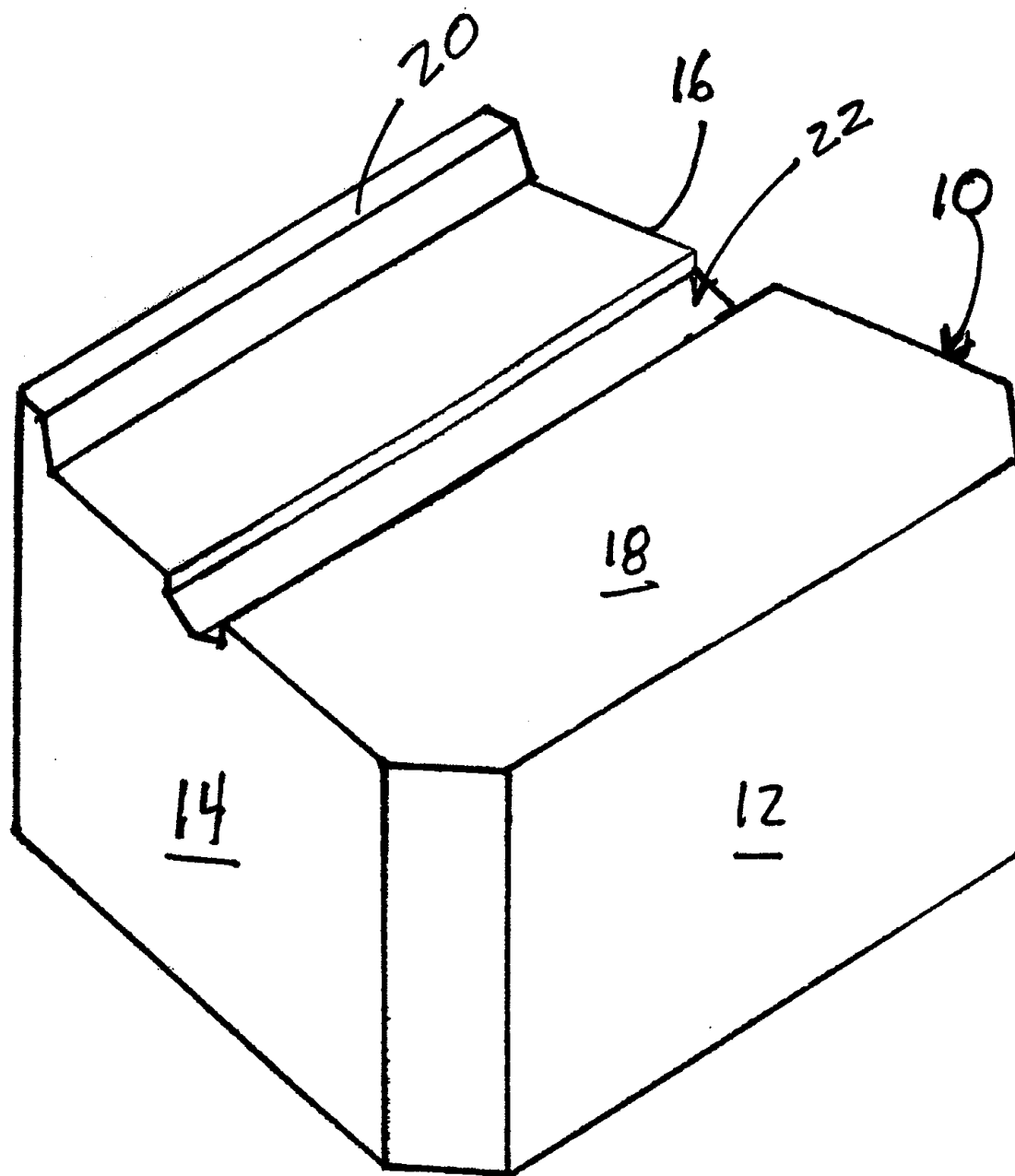
Family 61/200 - FAMPAT - ©Questel

Title

(WO200991498)

Retaining wall block and method of manufacture

Images

**Publication data including kind & date**

NZ571340	A	2010-01-29	NZ-571340
AU2008202153	A1	2009-08-06	AU2008202153
US20090185870	A1	2009-07-23	US20090185870
WO2009/091498	A1	2009-07-23	WO200991498

**Abstract**

(WO2009/091498)

An interlocking segmental retaining wall. The wall includes a plurality of blocks stacked upon each other. Each block includes a recess formed thereacross. The recess is formed with tapered walls to facilitate molding.

Inventors

SHAW KENNETH L

Latest standardized assignees - inventors removed

SHAW TECHNOLOGIES

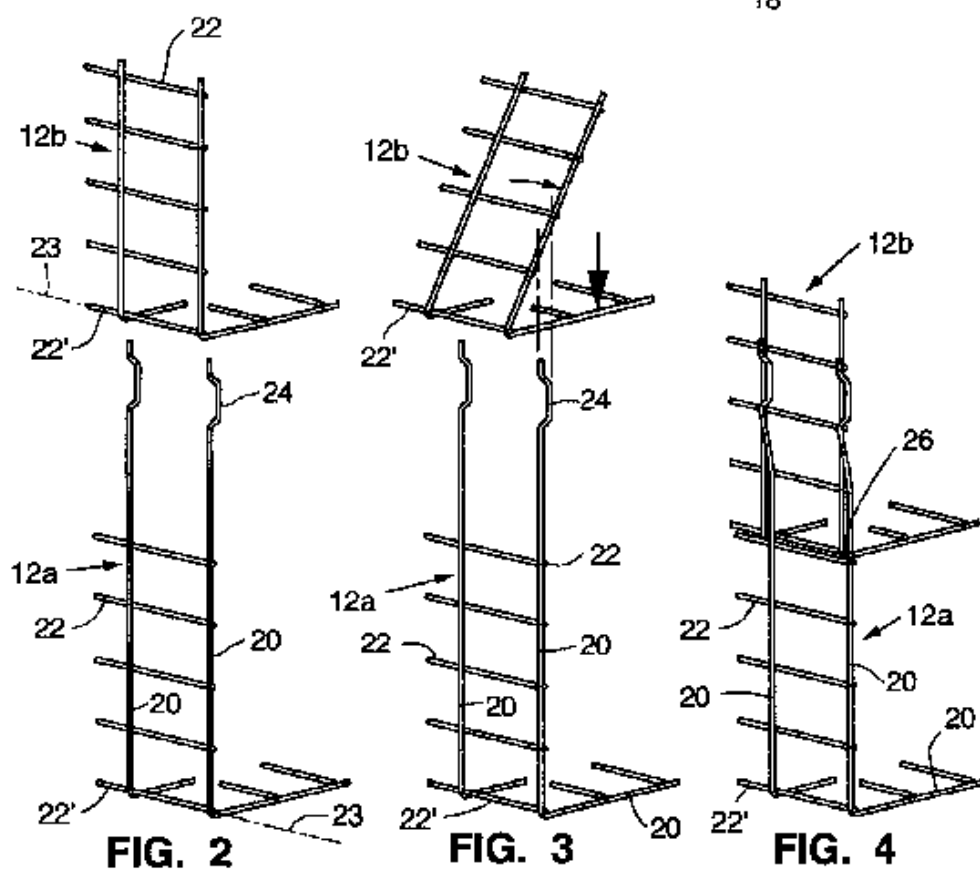
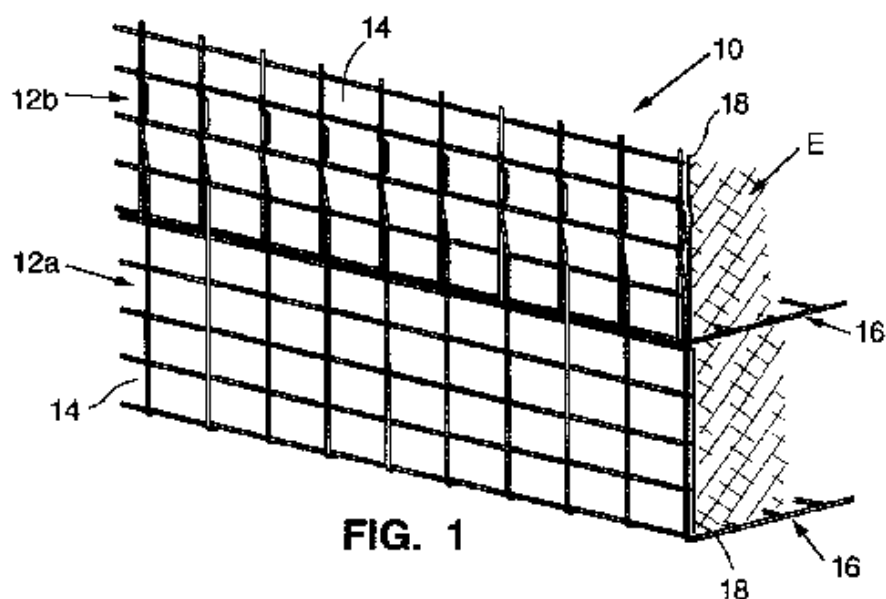
Family 62/200 - FAMPAT - ©Questel

Title

(US5733072)

Wirewall with stiffened high wire density face

Images



Publication data including kind & date

US5733072

A

1998-03-31

US5733072



Abstract

(US5733072)

A wire mat for a retaining wall structure has a unique prong portion extending upwardly from a vertical face. The prong portion has a series of bends in its middle that extend over a lower portion of a similar wire mat located immediately above such that the series of bends interleaves with longitudinal members of the wire mat above. In a preferred embodiment one or more connecting pins are inserted between the prong portion and the longitudinal members of the mat above.

Inventors

HILFIKER WILLIAM K

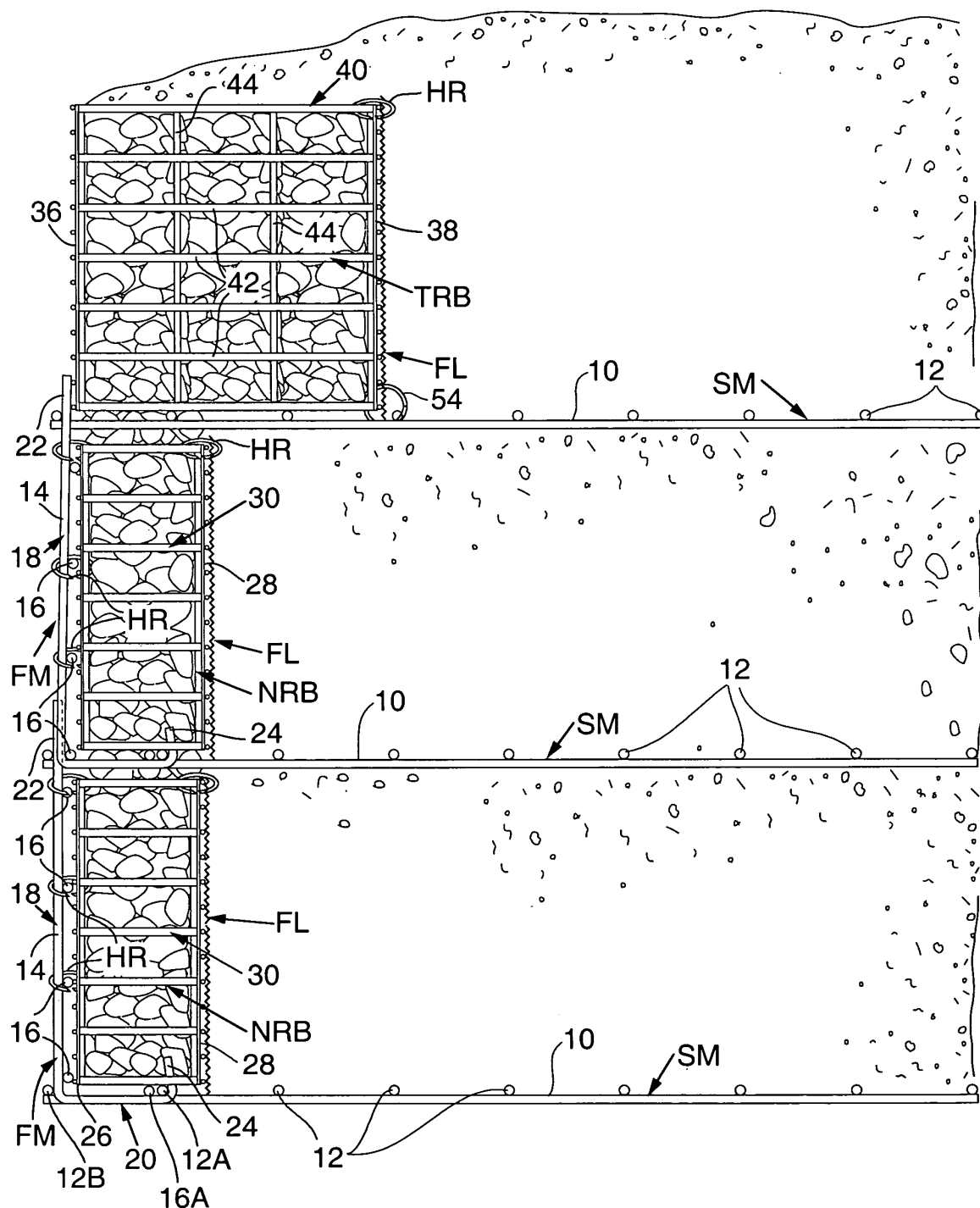
TAYLOR THOMAS P

Family 63/200 - FAMPAT - ©Questel

Title

(US7033118)

Compressible welded wire retaining wall and rock face for earthen formations

Images**Publication data including kind & date**[US7033118](#)

B2 2006-04-25

US7033118

[US20050286980](#)

A1 2005-12-29

US20050286980

**Abstract**

(US20050286980)

A retaining wall and face for an earthen formation is provided by embedding generally horizontally disposed welded wire

soil reinforcing mats within the formation at vertically spaced intervals and securing face members between successive soil reinforcing mats at the face of the formation. The soil-reinforcing mats comprise spaced longitudinal elements extending into the formation and spaced transverse elements welded to and extending across the longitudinal elements in a disposition wherein an outer of the transverse elements extends across the face of the formation and an inner of the elements is spaced inwardly of the face. Each face member is secured between successive upper and lower soil-reinforcing mats by extending an upper portion of the face member behind the outer transverse element of the upper soil reinforcing mat and securing an inwardly extending portion of the face member to connection with an inner transverse element of the lower soil reinforcing mat. Wire baskets are disposed to the interior of the face members to contain a layer of rocks at the face of the formation.

Inventors

HILFIKER HAROLD K

Latest standardized assignees - inventors removed

HILFIKER PIPE

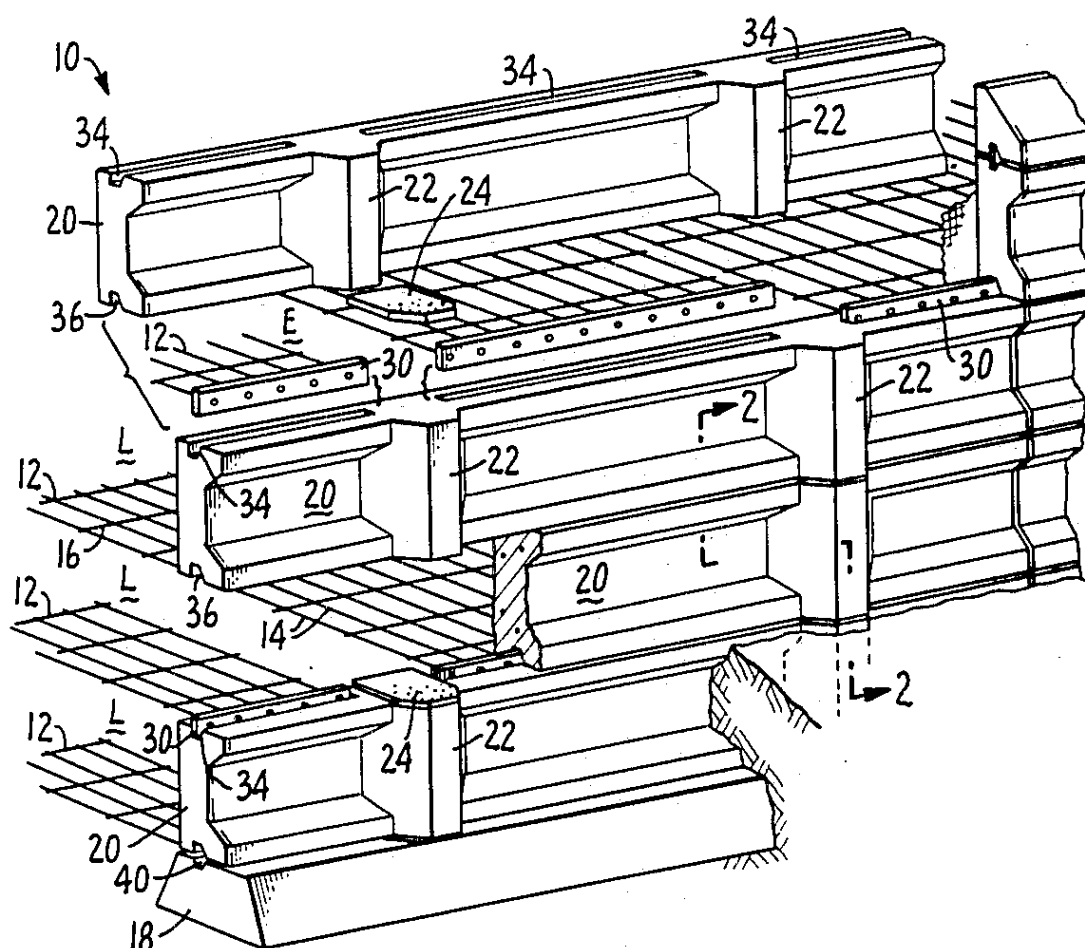
Family 64/200 - FAMPAT - ©Questel

Title

(US4661023)

Riveted plate connector for retaining wall face panels

Images



Publication data including kind & date

CA1266186	A	1990-02-27	CA1266186
CA1266186	C	1990-02-27	CA1266186
US4661023	A	1987-04-28	US4661023



Abstract

(US4661023)

A retaining system for an earthen formation is disclosed. The earthen formation is reinforced against slippage by embedding an array of anchor members within the formation. The face of the formation is defined by a plurality of the elongated panels stacked in a vertical arrangement. The anchor members are secured to the panels via a support bar. The support bar includes an array of holes through which the ends of the anchor members are received and upset to define a rivet head. The support bars are engaged between the upper and lower edges of the face panels to provide support and maintain vertical alignment of the face panels.

Inventors

HILFIKER WILLIAM K

Latest standardized assignees - inventors removed

HILFIKER PIPE

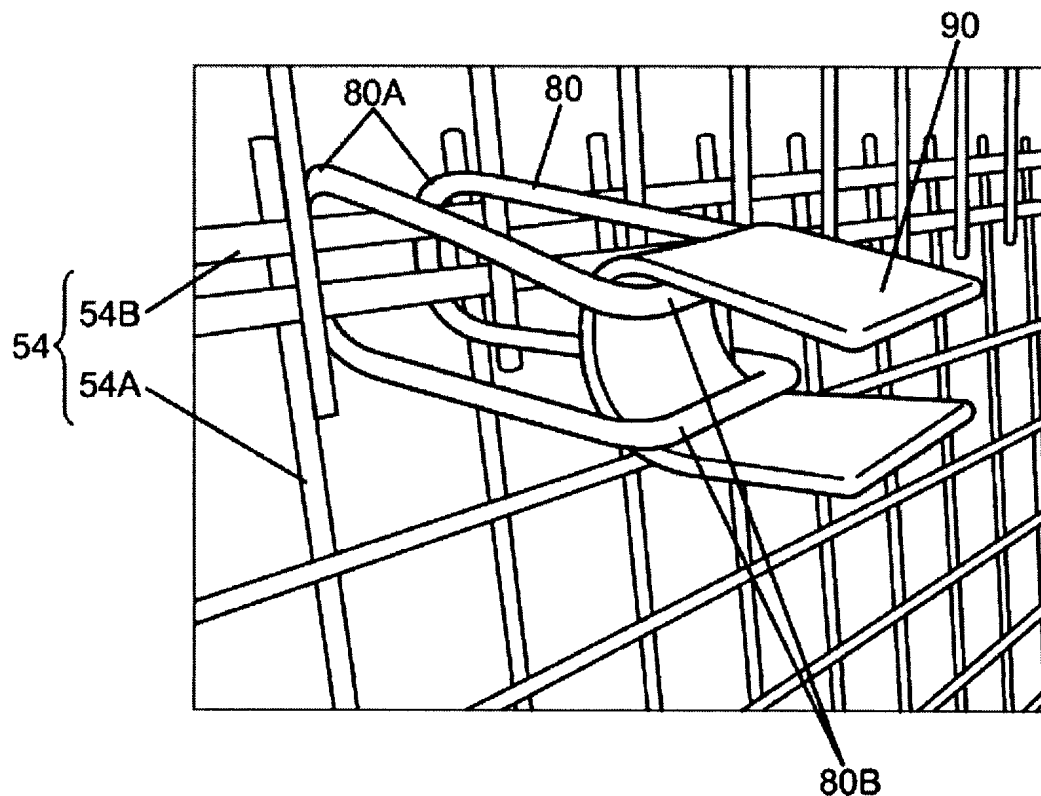
Family 65/200 - FAMPAT - ©Questel

Title

(EP2550406)

Retaining wall with reinforced earth elements in the backfill

Images



Publication data including kind & date

BR112012024186	B1	2019-08-13	BR112012024186
AU2010349356	B2	2016-10-27	AU2010349356
BR112012024186	A2	2016-07-05	BR112012024186
US9273443	B2	2016-03-01	US9273443
JP5674913	B2	2015-01-09	JP5674913
RU2521375	C2	2014-06-27	RU2521375
RU2012145274	A	2014-04-27	RU2012145274
HRP20140210	T1	2014-04-11	HRP20140210
ES2453473	T3	2014-04-07	ES2453473
PT2550406			



	E	2014-03-20	PT2550406				
IN8573/CHENP/2012	A	2014-02-14	IN2012CN08573				
EP2550406	B1	2013-12-25	EP2550406				
BR112012024186	A1	2013-06-25	BR112012024186				
JP2013524043	A	2013-06-17	JP2013524043				
EP2550406	A1	2013-01-30	EP2550406				
US20130008098	A1	2013-01-10	US20130008098				
MX2012010901	A	2012-11-23	MX2012010901				
AU2010349356	A1	2012-10-11	AU2010349356				
AR081126	A1	2012-06-27	AR--81126				
WO2011/117476	A1	2011-09-29	WO2011117476				

Abstract

(EP2550406)

The invention relates to a building including a cladding, a backfill at the back of the cladding, synthetic reinforcement strips distributed in the backfill, and a connection system between the reinforcement strips and the backfill. The connection system includes fasteners having the shape of a continuous closed loop, each including two first portions for hooking to the cladding and, alternating with the first portions along the closed loop shape, two second portions extending towards the back of the cladding where they are folded back to form two loops inside of which at least one reinforcement strip extends.

Inventors

FREITAG NICOLAS

MORIZOT JEAN-CLAUDE

BERARD GILLES

Latest standardized assignees - inventors removed

TERRE ARMEE INTERNATIONALE

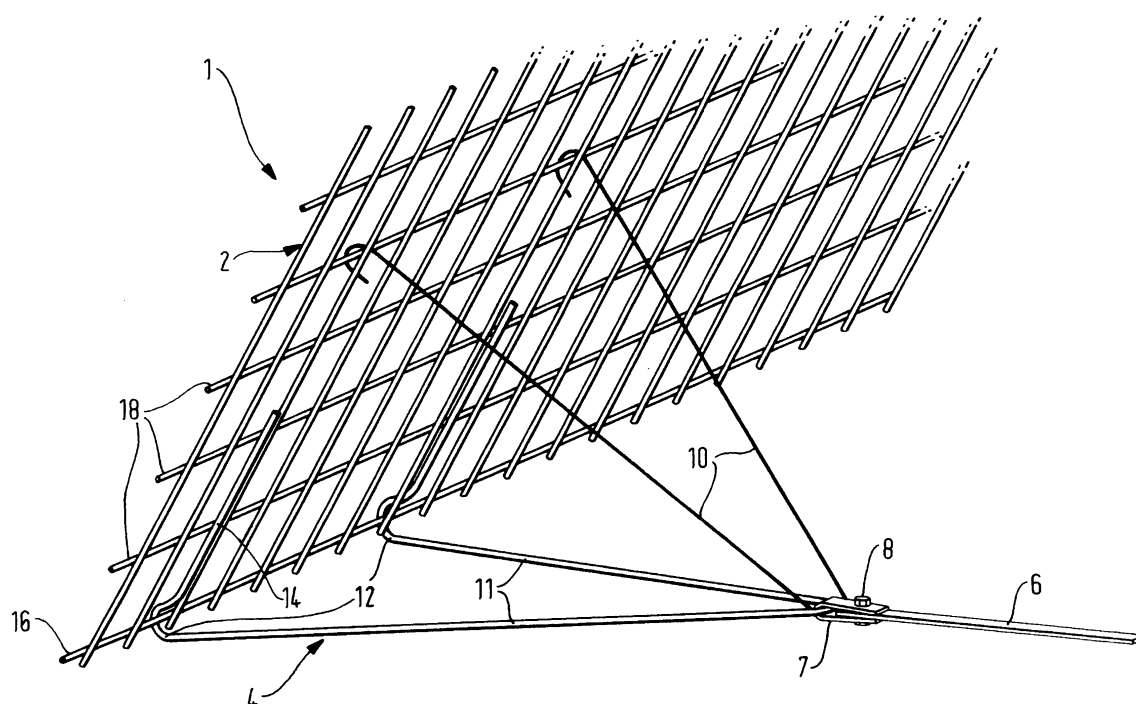
Family 66/200 - FAMPAT - ©Questel

Title

(EP-894169)

Earth structures

Images



Publication data including kind & date

HK1018636	A1	2005-01-21	HK1018636
ES2214616	T3	2004-09-16	ES2214616
JP3520092	B2	2004-04-19	JP3520092
EP0894169	B1	2004-03-24	EP-894169
BRPI9708665	B1	2002-09-03	BRPI9708665
US6345934	B1	2002-02-12	US6345934
AU722399	B2	2000-08-03	AU-722399
JP2000509118	A	2000-07-18	JP2000509118
BR9708665	A	1999-08-03	BR9708665
BRPI9708665	A1	1999-08-03	BRPI9708665
EP0894169	A1	1999-02-03	EP-894169
CO4700353	A1	1998-12-29	CO4700353A1
AU2571997	A	1997-11-07	AU9725719
CA2252035	A1	1997-10-23	CA2252035
WO97/39196	A1	1997-10-23	WO9739196
GB9607782	D0	1996-06-19	GB9607782

**Abstract**

(EP0894169)

An earth structure (1) comprising a plurality of facing panels (2), a stabilised earth mass behind the facing panels and a plurality of supports (4; 30; 40; 50) for supporting the facing panels, said supports having rearwardly located portions (11; 32; 46) and being able to rest on their rearwardly located portions to support the facing panels during construction.

Inventors

JAILLOUX JEAN-MARC

BREGOLI GIANLUIGI

Latest standardized assignees - inventors removed

TERRE ARMEE INTERNATIONALE

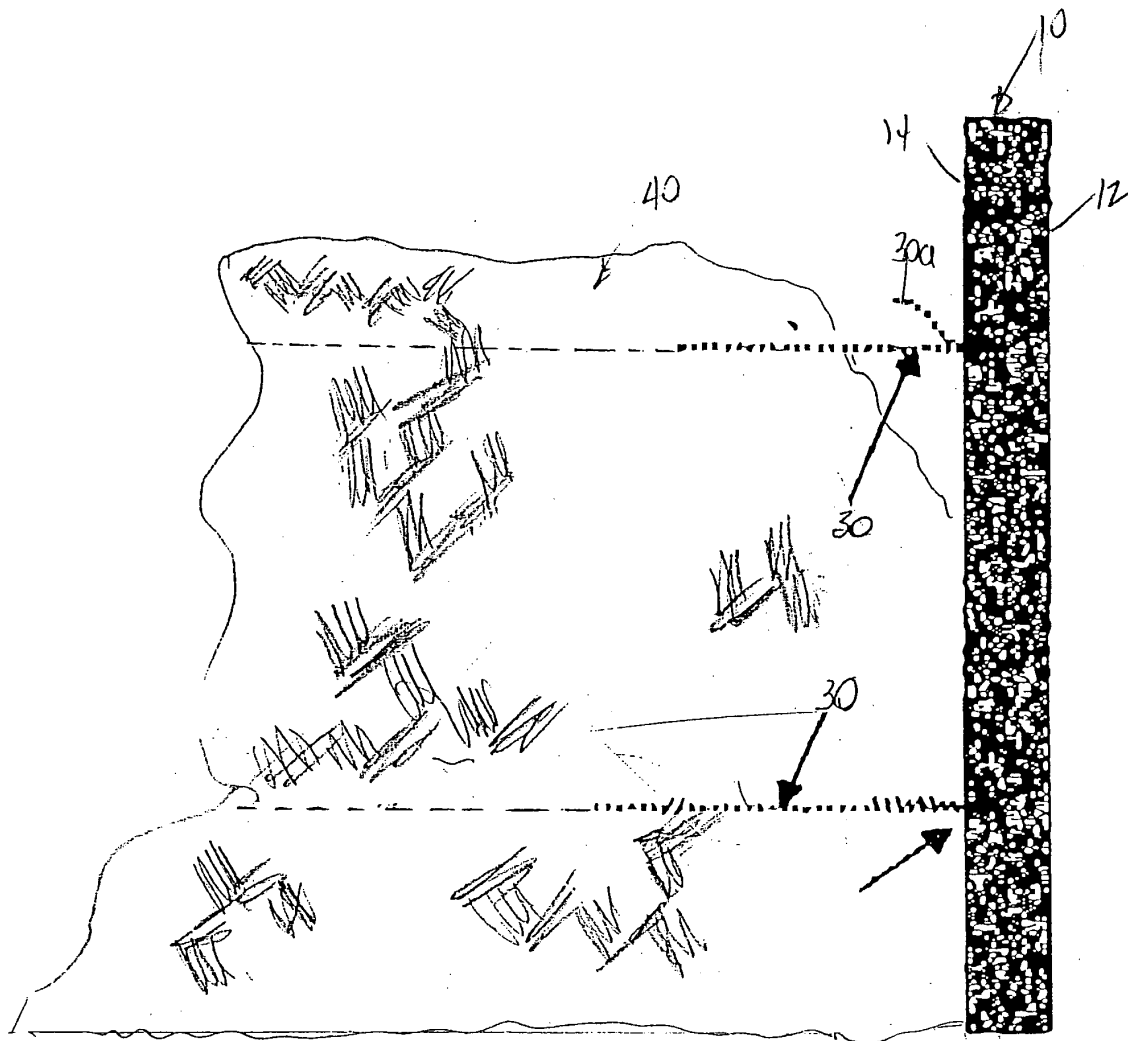
Family 67/200 - FAMPAT - ©Questel

Title

(US20040062614)

Reinforcement connection for pre-cast wall panel

Images



Publication data including kind & date

IN0485/KOL/2003	A	2005-07-22	IN2003KO00485
US20040062614	A1	2004-04-01	US20040062614
CA2442191	A1	2004-03-30	CA2442191



Abstract

(US20040062614)

A method of constructing a retaining wall by connecting one or more layers of reinforcing sheet material, such as a polymeric geogrid, to the rear of one or more wall panels via slots defined in the rear walls of the panels having an angular locking section inside the panels adapted to retain U-shaped end sections of the reinforcing material carrying a connection bar that is cammed into the locking sections of the slots by a wedge.

Inventors

ANDERSON ROBERT B

Latest standardized assignees - inventors removed

ATLANTECH INTERNATIONAL

TENSAR

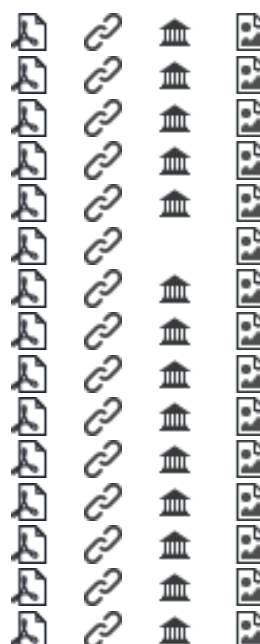
Family 68/200 - FAMPAT - ©Questel

Title

(EP1546467)

Reinforcing system for stackable retaining wall units

AU2003272836	C1	2010-09-09	AU2003272836
CA2495749	C	2010-05-04	CA2495749
AU2003272836	B2	2009-10-01	AU2003272836
EP1546467	A4	2005-12-28	EP1546467
CN1688768	A	2005-10-26	CN1688768
MXPA05001852	A	2005-10-19	MX2005PA001852
EP1546467	A2	2005-06-29	EP1546467
KR20050063634	A	2005-06-28	KR20050063634
US6792731	B2	2004-09-21	US6792731
TW200416327	A	2004-09-01	TW200416327
WO2004/018779	A3	2004-05-13	WO200418779
AU2003272836	A1	2004-03-11	AU2003272836
CA2495749	A1	2004-03-04	CA2495749
WO2004/018779	A2	2004-03-04	WO200418779
US20030213203	A1	2003-11-20	US20030213203



A stabilized retaining wall structure (10) comprising concrete blocks (11) stacked in an array of superimposed rows, and

with a stable anchoring assembly (21) being in restraining contact with selected blocks (11). A retainer detent (15) extends from the top surface of a wall of the block (11) between the outer surface of the block (11) and the hollow core (14, 54). An earthen fill zone (17) is arranged in spaced apart relationship to the rear surface (12) of the retaining wall (10) and clean granular back-fill (18) is interposed between the retaining wall (11) and the earthen fill zone (17). A retainer device (26) is provided to couple selected wall blocks (11) to a remote stable anchoring assembly (21), with the retainer device (26) being configured to be restrainably held within the hollow core (14, 54). One end of the elongated fastener (27) is coupled to the retainer device (26), with the fastener (27) or elongated connector extending outwardly through the retainer detent (15) and secured to the remote stable anchoring assembly (21).

Inventors

BOTT TIMOTHY A

GRAVIER ROBERT A

Latest standardized assignees - inventors removed

ALLAN BLOCK

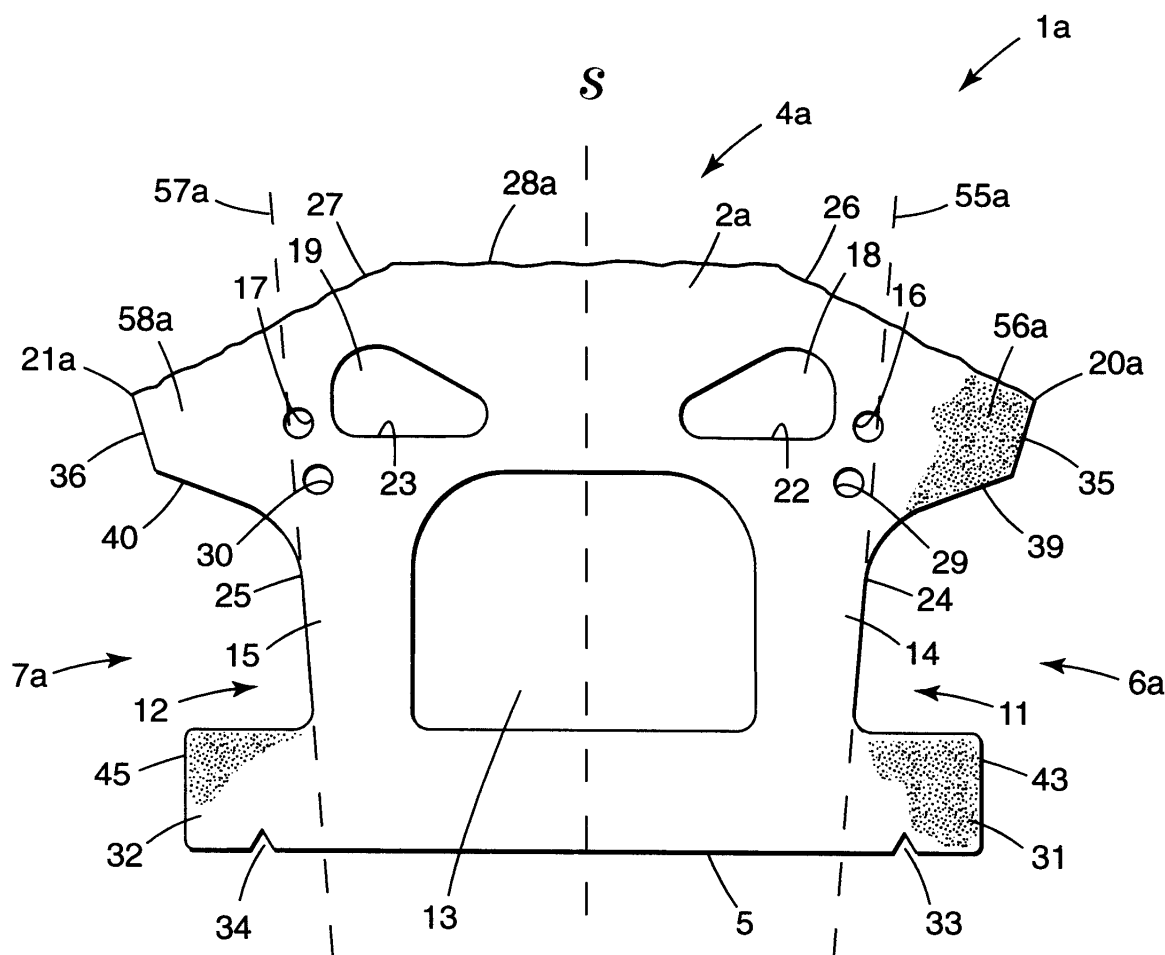
Family 69/200 - FAMPAT - ©Questel

Title

(WO2002101157)

Retaining wall block

Images



Publication data including kind & date

US6615561	B2	2003-09-09	US6615561
WO02/101157	A3	2003-04-24	WO2002101157
TW527460	B	2003-04-11	TW-527460
AU2002305804	A1	2002-12-23	AU2002305804
WO02/101157	A2	2002-12-19	WO2002101157



[US20020187010](#)

A1 2002-12-12 US20020187010

Abstract

(WO02/101157)

A retaining wall block is 1a provided with a core, pin 13 receiving cavities 18 and 19, and pin holes 17 and 16. The pin receiving cavities and pin holes are arranged on the block symmetrically on the block and substantially outside of block corner segments, thus resulting in a stronger block and permitting optimal alignment of the wall block cores when constructing a retaining wall. Retaining walls made using the block have increased strength.

Inventors

MACDONALD ROBERT

RACE ROBERT

Latest standardized assignees - inventors removed

STORMWATER MANAGEMENT

CONTECH ENGINEERED SOLUTIONS

PETRATECH

CONTECH TECHNOLOGIES

ALLIANCE CONSTRUCTION PRODUCTS

SAFETY PRECAST

CONTECH STORMWATER SOLUTIONS

CDS TECHNOLOGIES

CONTECH ARCH TECHNOLOGIES

SUPERIOR DRAINAGE

IMBRIUM SYSTEMS

CONTECH EARTH STABILIZATION SOLUTIONS

CONTECH TRUCKING & LOGISTICS

WEST TEXAS CULVERTS

CONTECH EARCH STABILIZATION SOLUTIONS

CONTECH CONSTRUCTION PRODUCTS

ARMORTEC

VORTECHNICS

CONTECH BRIDGE SOLUTIONS

THOMPSON CULVERT

KEYSTONE RETAINING WALL SYSTEMS

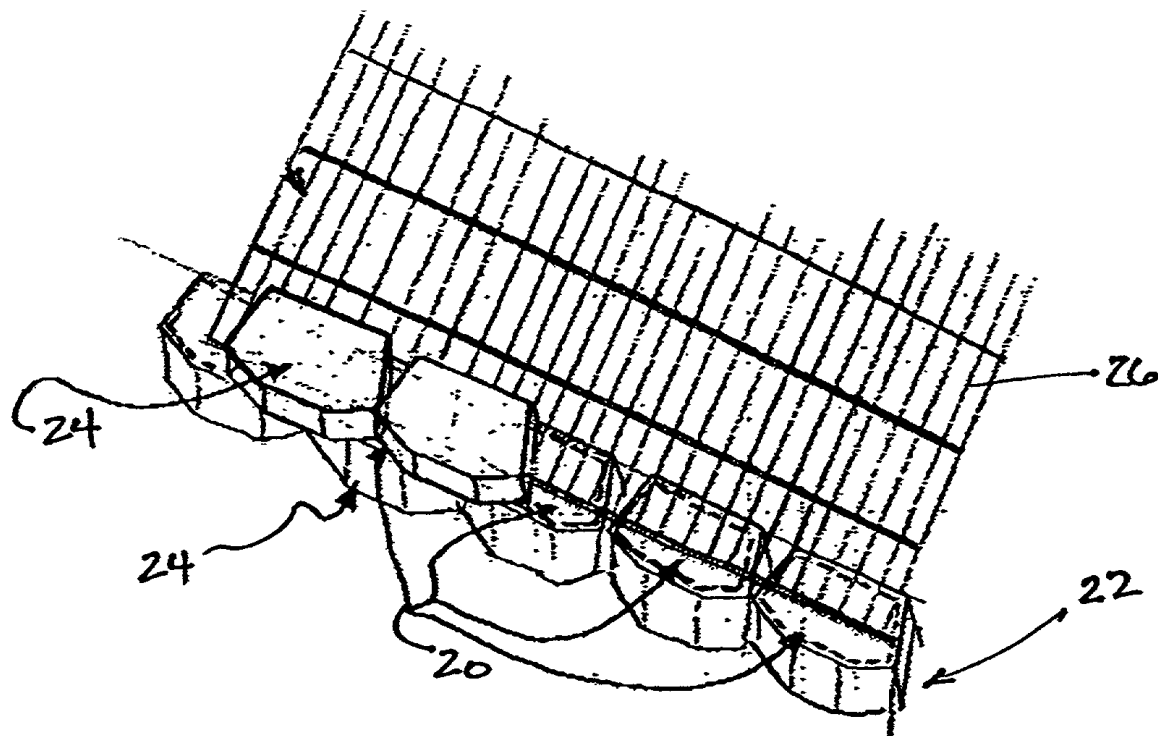
Family 70/200 - FAMPAT - ©Questel

Title

(US20020124516)

Segmental block connection system

Images

**Publication data including kind & date**

US20050042040	A1	2005-02-24	US20050042040
US20020124516	A1	2002-09-12	US20020124516

**Abstract**

(US20020124516)

A block pad for being disposed between courses of blocks in a segmental retaining wall, the block pad having frictional properties for transferring tensile load from a soil reinforcing geosynthetic to the wall. The block pad further providing cushioning between block courses to minimize block cracking from bearing loads and wall settlement.

Inventors

PAULSON JOHN

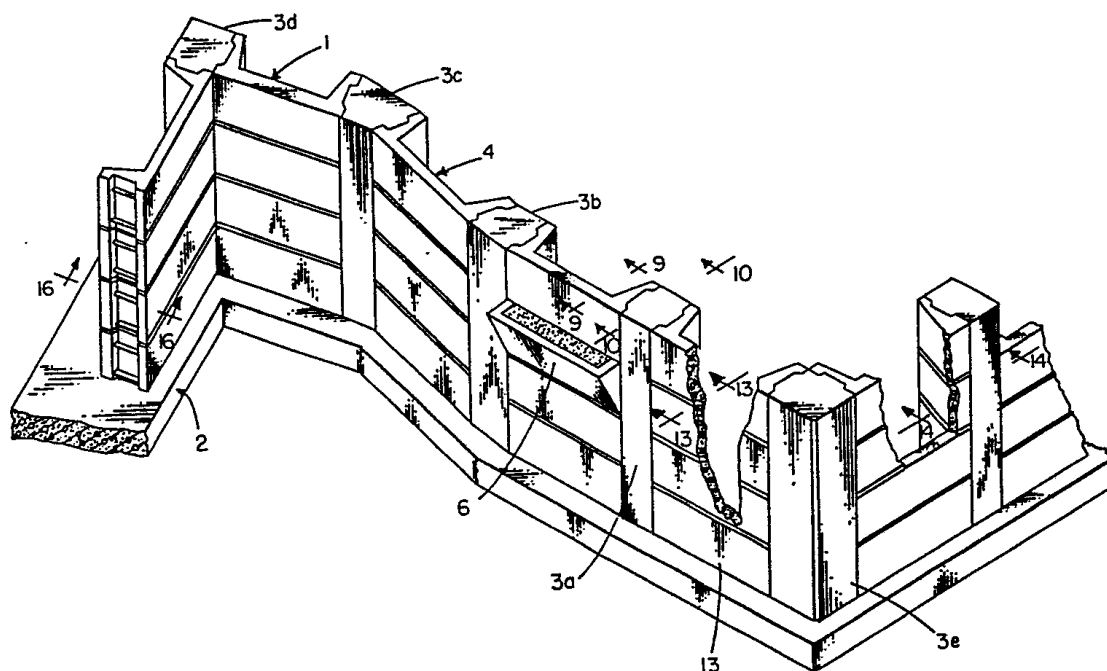
Family 71/200 - FAMPAT - ©Questel

Title

(EP-429637)

Pre-cast, reinforced concrete retaining wall system.

Images



Publication data including kind & date

DE69017364	T2	1995-08-24	DE69017364
DE69017364	D1	1995-04-06	DE69017364
AT119229	T	1995-03-15	ATE119229
EP0429637	B1	1995-03-01	EP-429637
CA1317120	C	1993-05-04	CA1317120
AU620012	B2	1992-02-06	AU-620012
EP0429637	A4	1991-11-13	EP-429637
EP0429637	A1	1991-06-05	EP-429637
WO90/15903	A3	1991-02-07	WO9015903
AU5932490	A	1991-01-08	AU9059324
WO90/15903	A2	1990-12-27	WO9015903
US4957395	A	1990-09-18	US4957395



Abstract

(EP0429637)

A lightweight, pre-cast, reinforced, module (4) is used to build a structurally engineered retaining wall system (1). Each module (4) has rearwardly extending flanges (30, 40) which have an exposed horizontal reinforcing rod (26a, 26b). Upon construction, each flange (30, 40) is positioned opposite a flange (30, 40) located on an adjacent module (4). Vertical column forms (57) are attached to the distal and proximal edges of opposite flanges and the concrete columns (3a, 3b, 3c, 3d, 3e) are poured therein thereby surrounding reinforcing rods (26a, 26b). After the concrete has cured, the column forms (57) are removed.

Inventors

NELSON NED

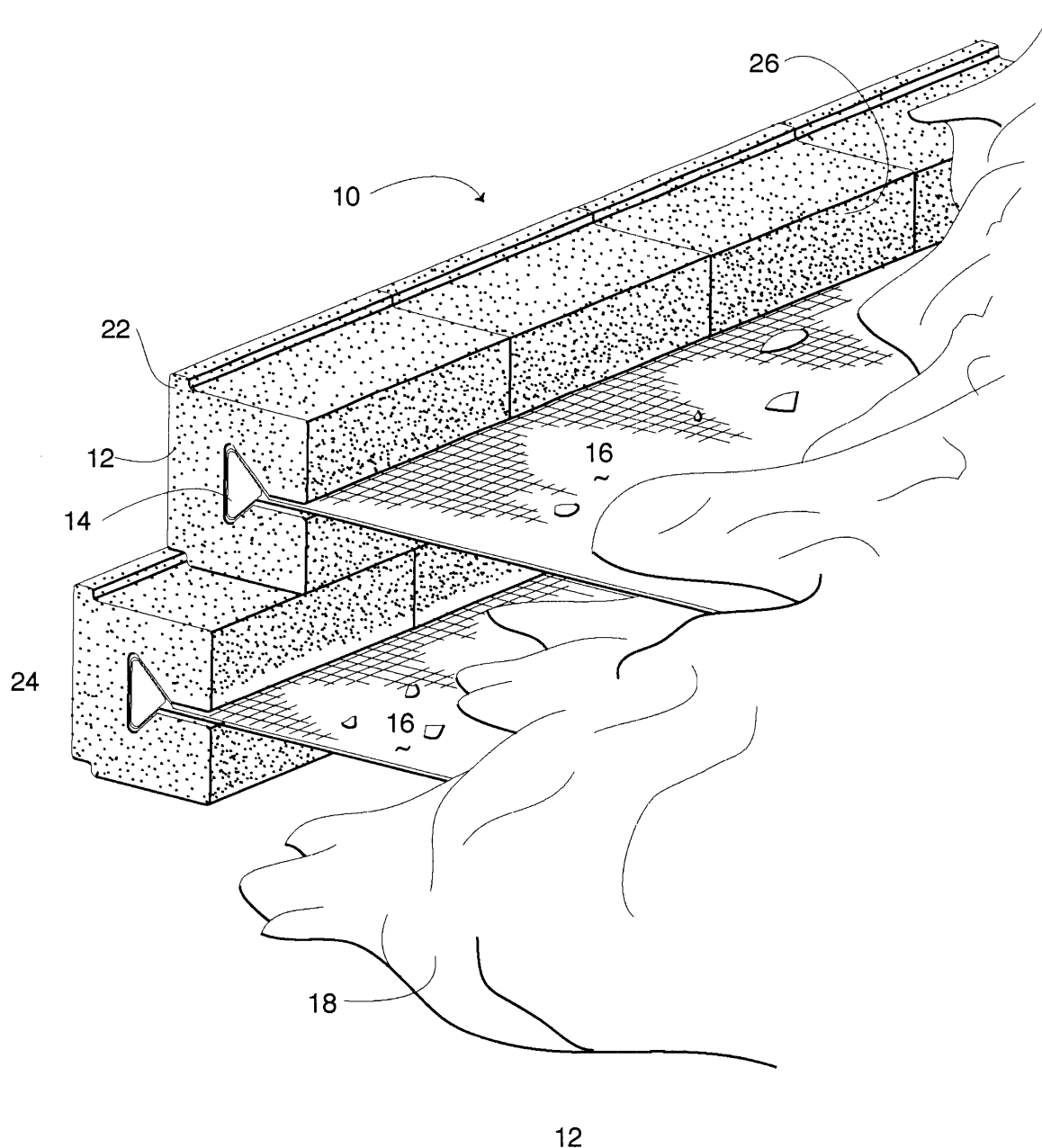
Family 72/200 - FAMPAT - ©Questel

Title

(US6443663)

Self-locking clamp for engaging soil-reinforcing sheet in earth retaining wall and method

Images



Publication data including kind & date

CN1243885	C	2006-03-01	CN1243885C
CN1419019	A	2003-05-21	CN1419019
US6443663	B1	2002-09-03	US6443663



Abstract

(US6443663)

A mechanically stabilized earth retaining wall, made of at least two stacked tiers of blocks placed side-by-side. Each block defines a channel extending between opposing sides with at least two adjacent bearing surfaces and an opening between the bearing surfaces to a slot extending laterally from the channel to a back side of the block. An elongate clamping bar conforming in cross-sectional shape at least relative to the pair of adjacent bearing surfaces defined in the channel, is received within the channel. A reinforcement sheet wrapped around the elongate clamping bar extends through the slot laterally of the tiers of blocks. The clamping bar mechanically engages the bearing surfaces of the channel such that the tensile loading by backfill covering the reinforcement sheet is distributed across the block. A method of constructing a mechanically stabilized earth retaining wall is disclosed as well as a clamping bar and blocks useful with such methods and walls.

Inventors

SCALES JOHN M

PE ZEHONG YUAN

Latest standardized assignees - inventors removed

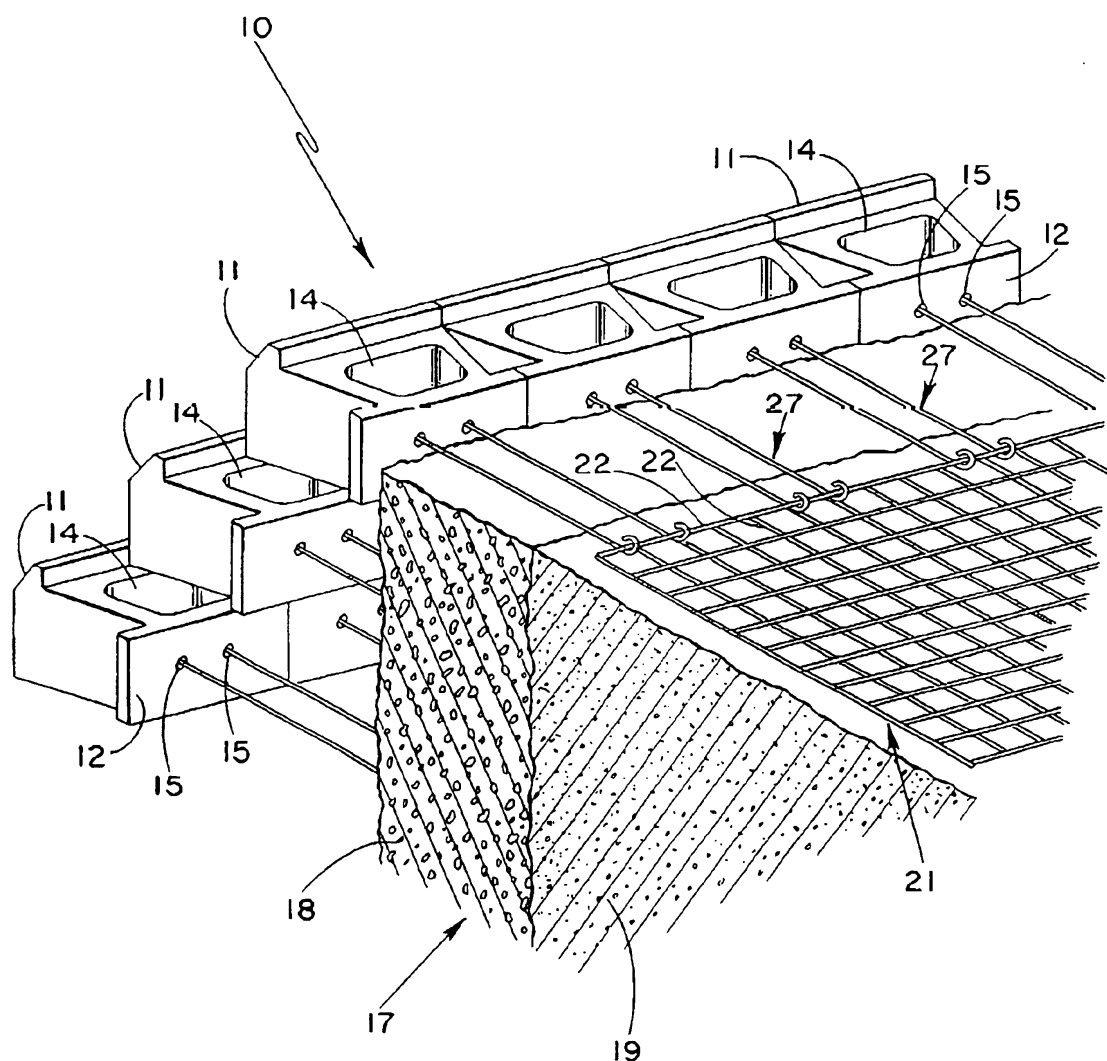
GEOSTAR

Family 73/200 - FAMPAT - ©Questel

Title

(EP1302598)

Reinforcing system for stackable retaining wall units

Images**Publication data including kind & date**

US6854236	B2	2005-02-15	US6854236
AU2003252903	A1	2003-11-06	AU2003252903
EP1302598	A3	2003-09-17	EP1302598
US20030070385	A1	2003-04-17	US20030070385
EP1302598	A2	2003-04-16	EP1302598
CA2367991	A1	2003-04-11	CA2367991

**Abstract**

(EP1302598)

A stabilized retaining wall structure (10) comprising concrete blocks (11) stacked in an array of superimposed rows, and with a stable anchoring assembly being in restraining contact with selected blocks. An access bore (15) extends from the rear surface of the block to the surface of the wall comprising the hollow core. An earthen fill zone is arranged in spaced

apart relationship to the rear surface of the wall and clean granular back-fill is interposed between the wall and the earthen fill zone. A keeper device (26) is provided to couple selected wall blocks to the stable anchoring assembly, with the keeper device being configured to be restrainably held within the hollow core (14). An elongated fastener (27) is coupled to the keeper device, with the fastener extending through the access bore and secured to the stable anchoring assembly.

<IMAGE>

Inventors

BOTT TIMOTHY A

Latest standardized assignees - inventors removed

ALLAN BLOCK

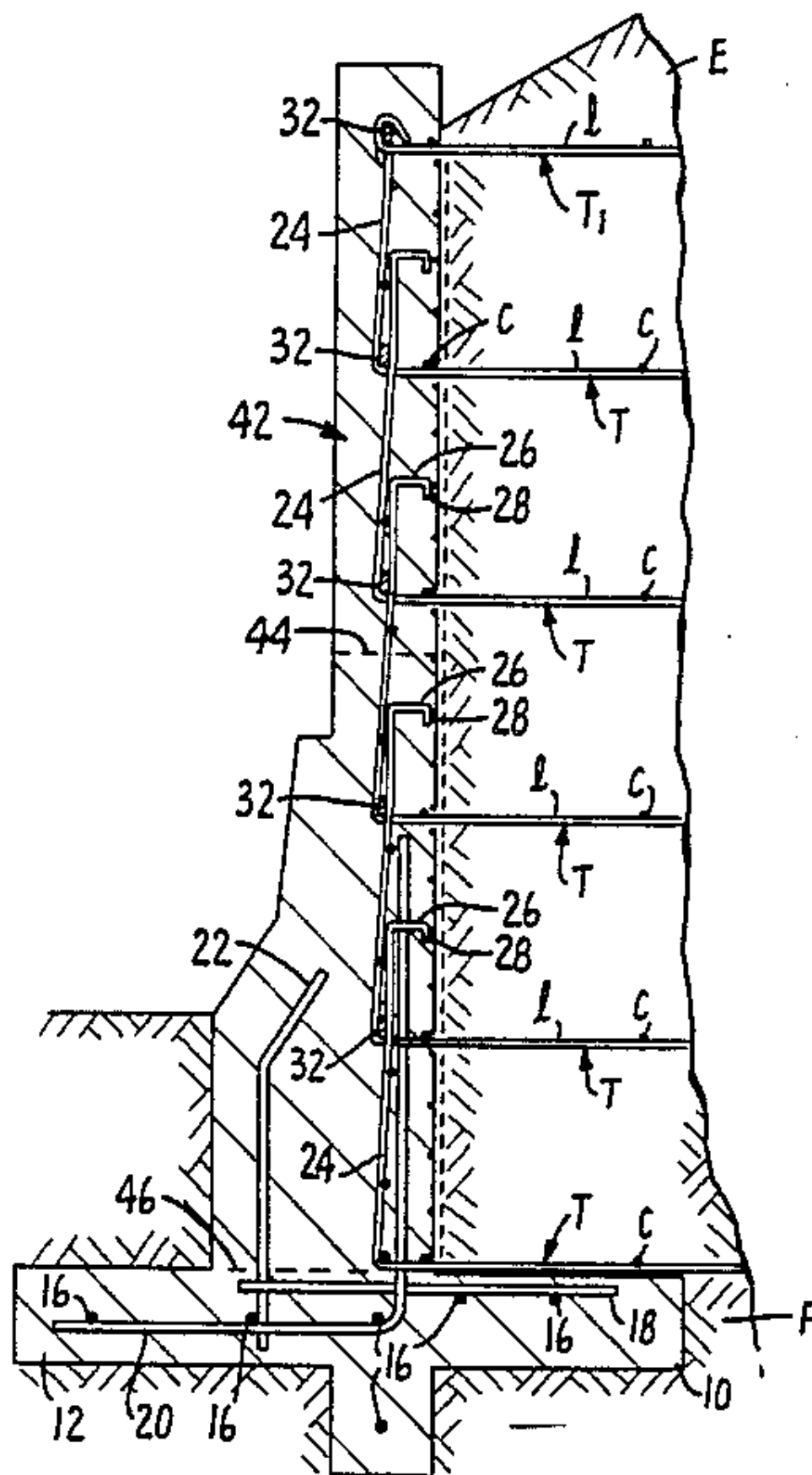
Family 74/200 - FAMPAT - ©Questel

Title

(US4643618)

Soil reinforced cantilever wall

Images



Publication data including kind & date

US4643618

A 1987-02-17 US4643618



Abstract

(US4643618)

A retaining wall for an earthen formation comprising a plurality of soil reinforcing mats and a cantilevered face which is anchored in place at the foot of the formation. The mats are embedded in the formation at vertically spaced levels and secured to the face. In the preferred embodiment the face is in situ formed concrete and the mats comprise welded wire trays with end portions cast in place within the face.

Inventors

HILFIKER WILLIAM K

HILFIKER ARTHUR L

Latest standardized assignees - inventors removed

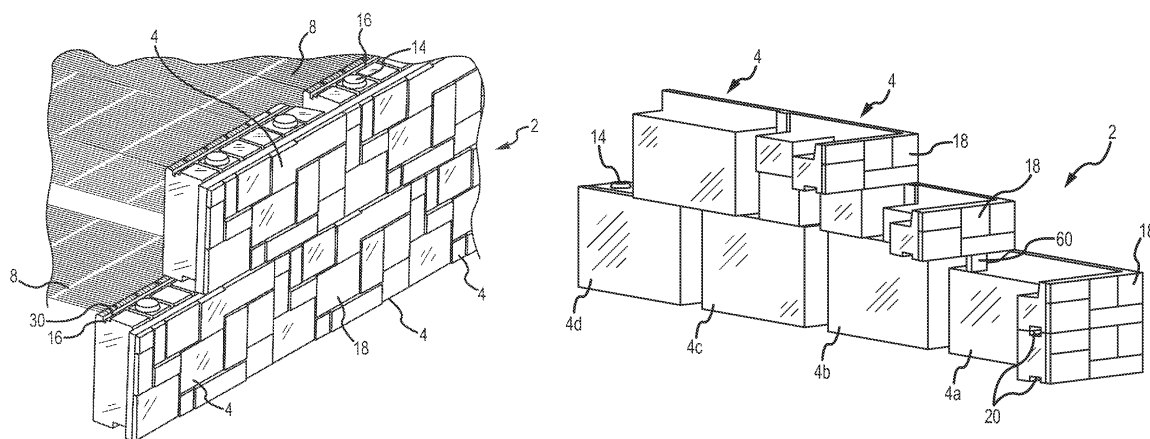
HILFIKER PIPE

Family 75/200 - FAMPAT - ©Questel

Title

(US9458594)

System and method for retaining wall

Images**Publication data including kind & date**[US9458594](#)

B2 2016-10-04

US9458594

[US20150063924](#)

A1 2015-03-05

US20150063924

**Abstract**

(US20150063924)

A retaining wall system for mechanically stabilizing an earthen wall is provided. The system comprises a plurality of modular block members that may be assembled in a number of desired states or orientations. Tieback members for supporting the wall and related fill are provided and the wall comprises interconnection members for the tieback members.

Inventors

BROOKHART CLINTON

USAGANI ROBINSON

Latest standardized assignees - inventors removed

OLDCASTLE PRECAST

Family 76/200 - FAMPAT - ©Questel

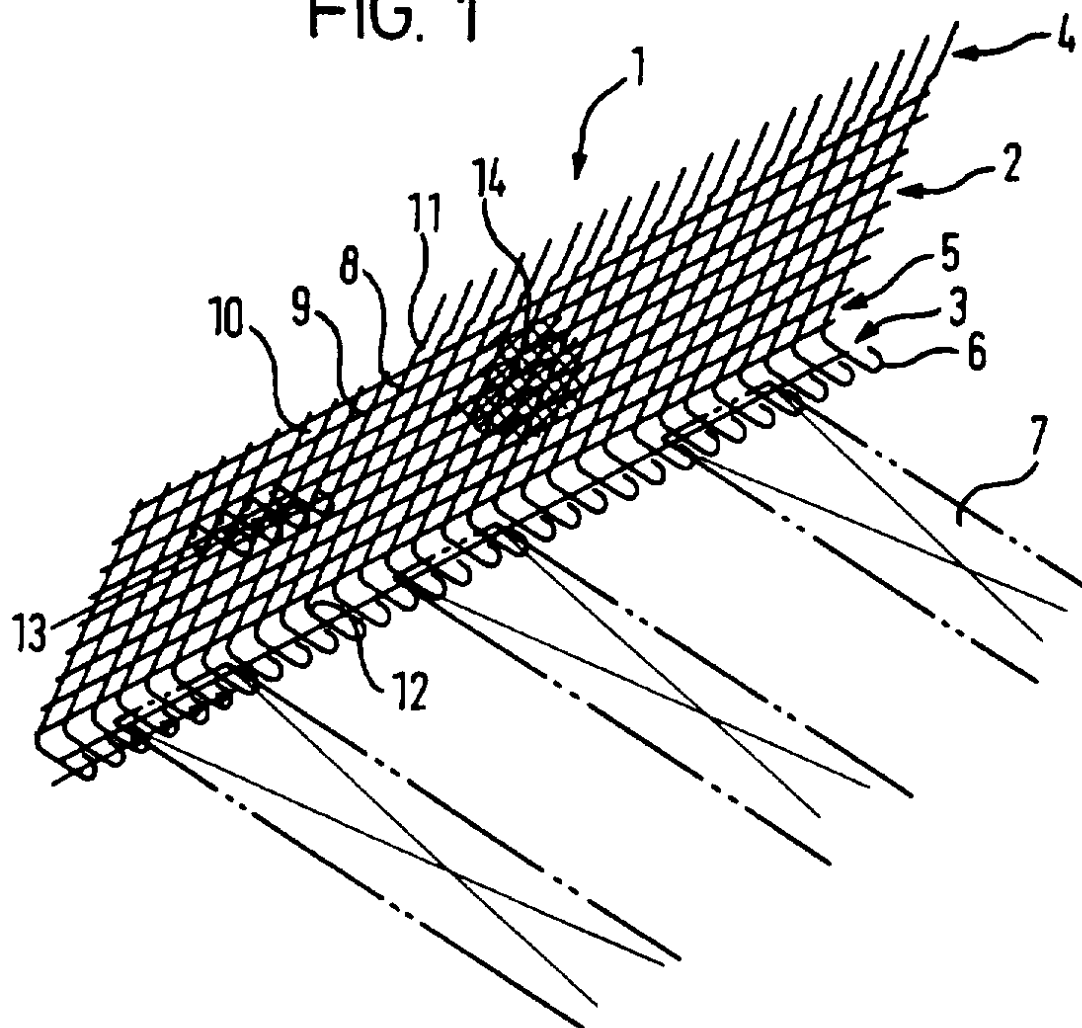
Title

(US4834584)

Dual swiggle reinforcement system

Images

FIG. 1

**Publication data including kind & date**

SG52515	A1	1998-09-28	SG--52515
GB2295180	A	1996-05-22	GB2295180
GB9519138	D0	1995-11-22	GB9519138
GB9418994	D0	1994-11-09	GB9418994

**Abstract**

(GB9418994)

A mesh facing panel 1 is provided for forming a facing of an earth structure stabilised by stabilising members 7 extending rearwardly from the facing into an earth mass. The mesh facing panel comprises a front portion 2, a base portion 3 arranged to extend rearwardly into the earth, and at least one hook 6 to which at least one said earth stabilising member 7 may be attached. In an upper or lower region thereof the panel 1 is formed with a crank 11 whereby upwardly extending bars 8 above and below the crank are offset and parallel. <IMAGE>

(From GB2295180 A)

Inventors

SMITH RODNEY JOHN HAMER

WILLETTS DAVID JAMES

WORRALL PAUL KIMBERLEY

SEGRESTIN PIERRE

Latest standardized assignees - inventors removed

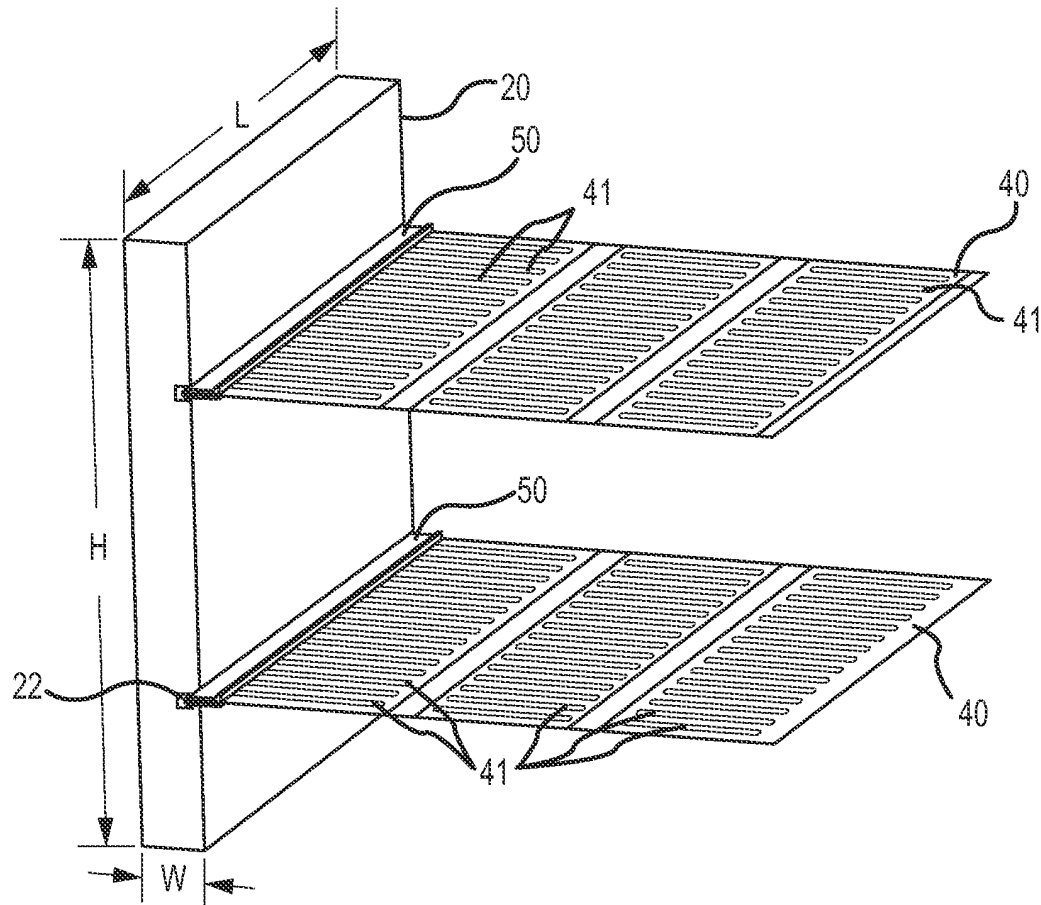
SOCIETE CIVILE DES BREVETS HENRI VIDAL

Family 78/200 - FAMPAT - ©Questel

Title

(US20140314501)

Mechanically stabilized earth retaining wall system and method of use

Images**Publication data including kind & date**[US20140314501](#)

A1 2014-10-23

US20140314501

**Abstract**

(US20140314501)

A retaining wall system is provided for mechanically stabilizing an earthen wall. The system comprises anchor receiving channels, anchoring tie back strips, and a plurality of connecting anchors. A face panel comprises at least one fastener receiving channel and a prefabricated wall fascia panel. Tie back members extend from the wall panels and are to be embedded within the earthen soil or backfill material thereby securing the tie backs and the wall panels in a fixed assembled, position.

Inventors

USAGANI ROBINSON

Latest standardized assignees - inventors removed

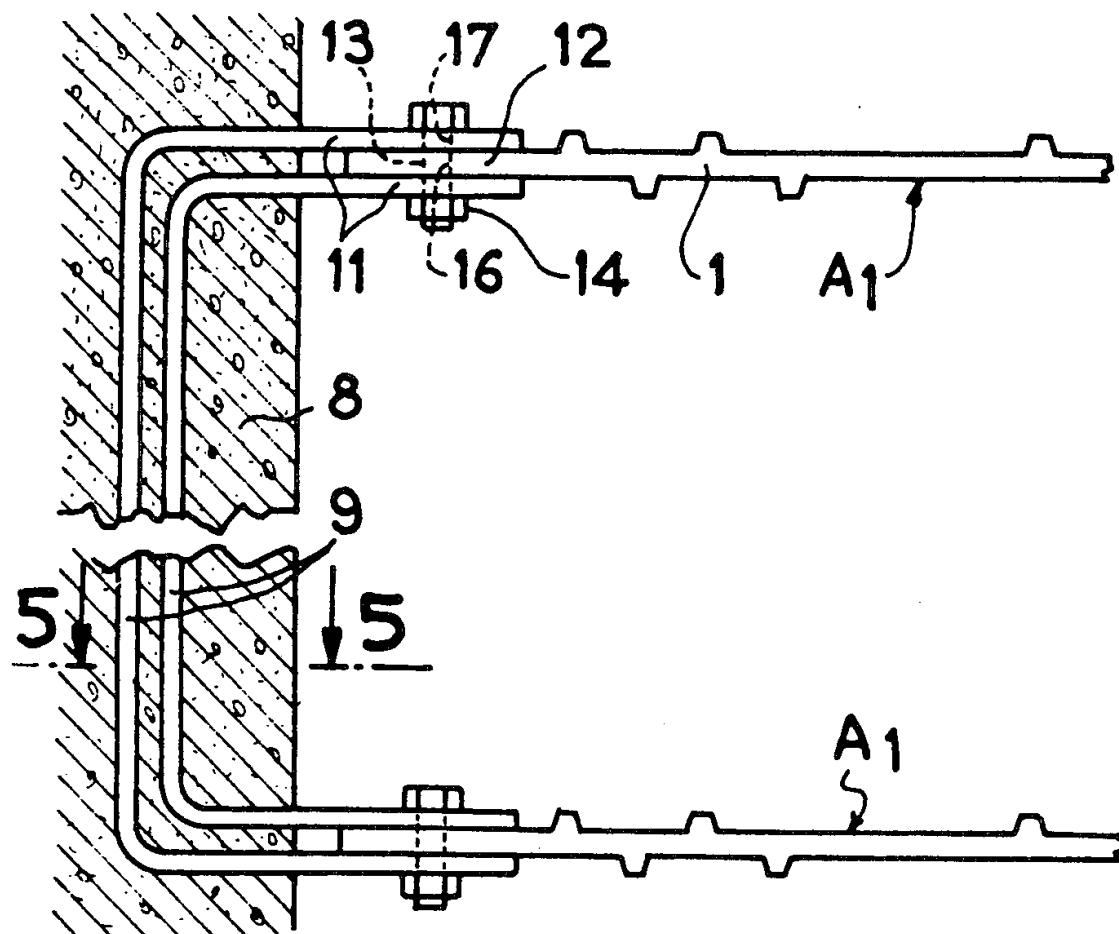
OLDCASTLE PRECAST

Family 79/200 - FAMPAT - ©Questel

Title

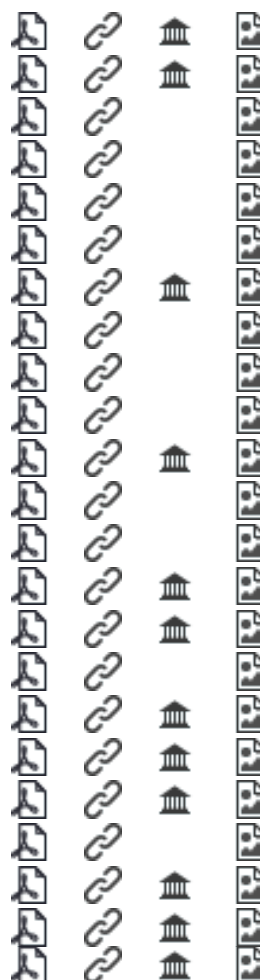
(US4116010)

Stabilized earth structures



Publication data including kind & date

DK148184	C	1985-12-02	DK-148184C
DK148184	B	1985-04-22	DK-148184
IT1071607	B	1985-04-10	IT1071607
FI67421	C	1985-03-11	FI--67421
FI67421	B	1984-11-30	FI--67421
MY8100239	A	1981-12-31	MY8100239
FR2325778	B1	1981-07-24	FR2325778
OA5493	A	1981-04-30	OA---5493
KE3097	A	1981-02-13	KE---3097
AT360917	B	1981-02-10	AT-360917
NZ182160	A	1981-01-23	NZ-182160
CY1093	A	1980-12-27	CY---1093
HK70880	A	1980-12-24	HK8000708
AU5755780	A	1980-07-17	AU8057557
AU510596	B2	1980-07-03	AU-510596
ATA707176	A	1980-06-15	AT7607071
GB1563317	A	1980-03-26	GB1563317
CH615235	A5	1980-01-15	CH-615235
IN146436	B	1979-06-02	IN-146436
AR213291	A1	1979-01-15	AR-213291
IL50515	B	1978-12-17	IL--50515
CA1043582	A	1978-12-05	CA1043582



GR61277	B	1978-10-17	GR--61277
US4116010	A	1978-09-26	US4116010
AU1814176	A	1978-04-06	AU7618141
ES452262	A1	1977-11-01	ES-452262
ZA7605615	B	1977-08-31	ZA7605615
BR7606367	A	1977-06-07	BR7606367
LU75831	A1	1977-05-04	LU--75831
FR2325778	A1	1977-04-22	FR2325778
JPS5242623	A	1977-04-02	JP52042623
DE2642659	A1	1977-03-31	DE2642659
NL7610660	A	1977-03-29	NL7610660
NO763262	L	1977-03-29	NO-763262
DK431576	A	1977-03-27	DK7604315
FI762720	A	1977-03-27	FI7602720
SE7610548	L	1977-03-27	SE7610548
BE846241	A	1977-03-15	BE-846241
IL50515	A	1976-11-30	IL--50515



Abstract

(US4116010)

A structure for stabilizing an earth mass, particularly an embankment. The structure includes elongated reinforcement members having transverse ribs for enhancing frictional engagement with the adjacent earth. The structure also includes skin or facing elements with brackets for connecting the reinforcement members to the skin elements. The connection between the brackets and the reinforcement members is arranged to minimize the effects of corrosion.

Inventors

VIDAL HENRI

Latest standardized assignees - inventors removed

SOCIETE CIVILE DES BREVETS HENRI VIDAL

Family 80/200 - FAMPAT - ©Questel

Title

(GB2454488)

Block panel modules and a tieback wall constructed therefrom

Images

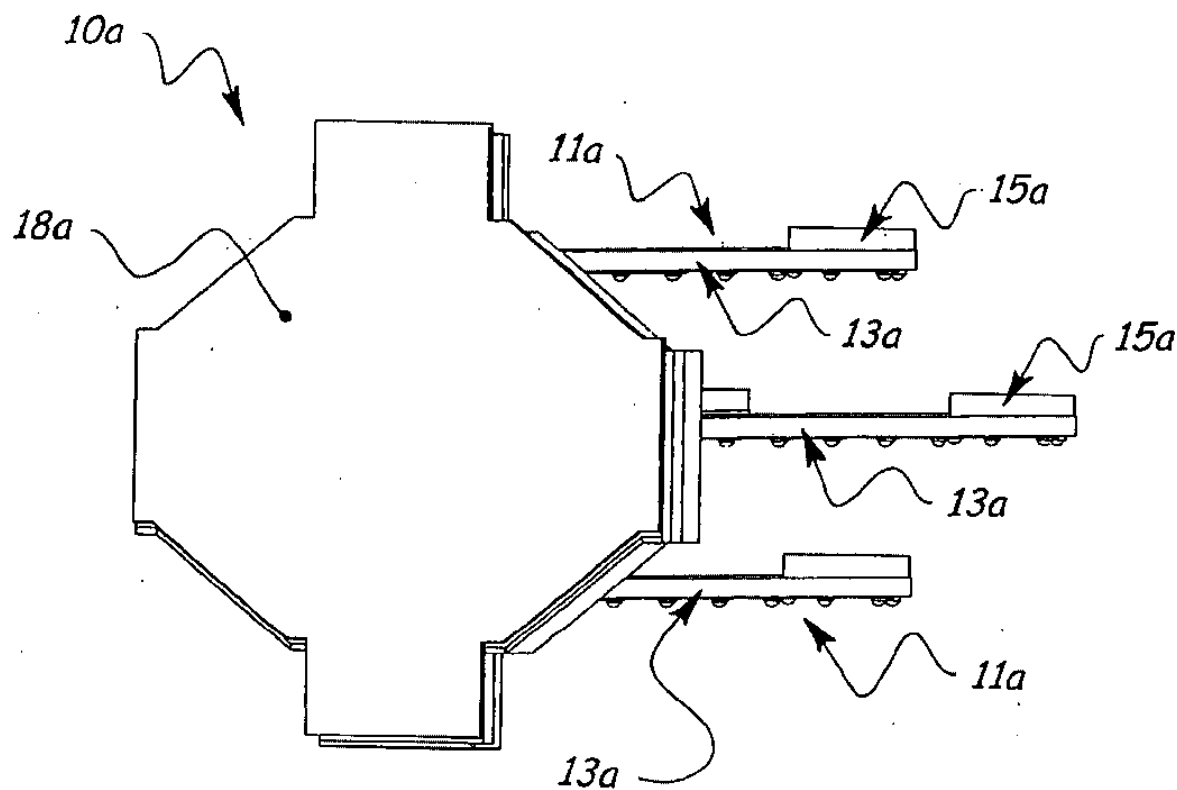


Figure 1

Publication data including kind & date

[GB2454488](#)

A 2009-05-13

GB2454488

[GB0721905](#)

D0 2007-12-19

GB200721905



Abstract

(GB0721905)

The present invention relates to a block panel module 10a and comprises a substantially octagonal shaped block panel 18a and at least four horizontal ladder-like strut members 11a installed to its back towards the top edge, the bottom edge, and two side edges. Each horizontal ladder-like strut member 11a preferably comprises two elongate members 13a, a plurality of intermediate cross members 14a between the elongate members 13a and an end rectangular block element 15a. A vertical alignment bar 16a is preferably integrally disposed at the back of the block panel 18a towards the top and bottom edges. These vertical alignment bars 16a help to align adjacent block panel modules 10a when they are installed one on top of another. To complete a tieback wall, substantially half-octagonal block panel modules (20 figure 5a) may also be employed along the top edge, the bottom edge and the side edges of the wall. Substantially quarter-octagonal block panel modules (30 figure 5a) may also be employed at the four corners of the wall. A later embodiment relates to a tieback wall constructed from courses of said block panel modules.

Inventors

TAW KA KEONG

Latest standardized assignees - inventors removed

ENHANCED MAN

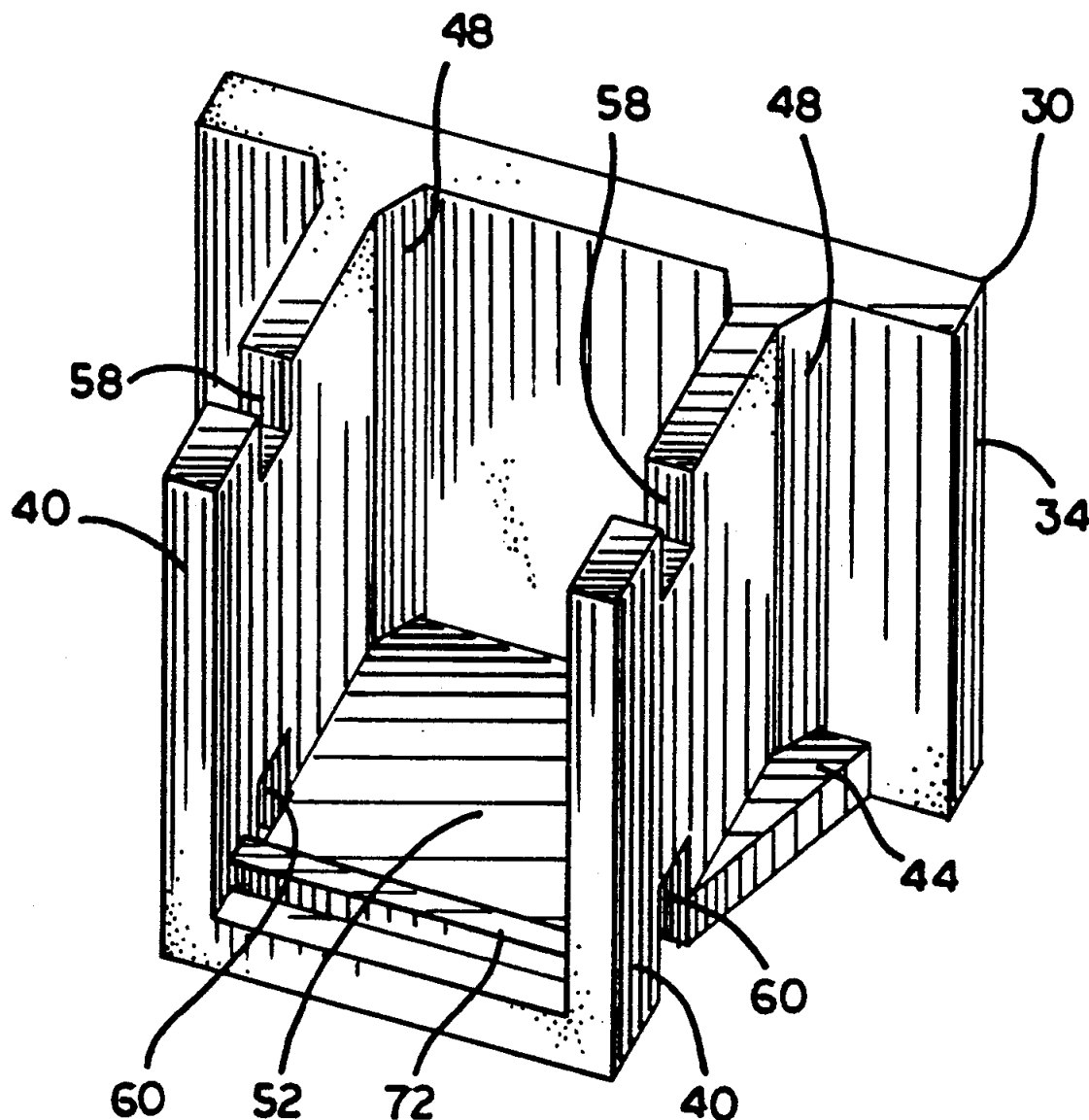
Family 81/200 - FAMPAT - ©Questel

Title

(US5066169)

Retaining wall system

Images

**Publication data including kind & date**[US5066169](#)

A

1991-11-19

US5066169

**Abstract**

(US5066169)

A retaining wall module with a front wall which includes a rearwardly depending horizontal base wall and two upstanding rearwardly depending side walls. The front wall extends beyond the attachment of the side walls. Another horizontal base wall is attached to the bottom of the extending portion of the front wall and to a side wall. Recesses are provided at the top and bottom of the side walls for receiving transversely, stabilizer bars which bridge between adjacent modules. Bar or ridge means on the bottom wall, generally parallel to the front wall, retain geogrid fabric when covered with weighty material.

Inventors

GAVIN NORMAN W

JAECKLIN FELIX P

Latest standardized assignees - inventors removed

PETER W GAVIN SPRAY TRUST

PETER GAVIN SPRAY TRUST UNDER AGREEMENT DATED MAY 26 2004 BY & BETWEEN NORMAN W GAVIN GRANTOR & PETER GAVIN & MICHAEL N DELGASS TRUSTEES

Family 82/200 - FAMPAT - ©Questel

Title

(WO9119057)

Improvements in embankment reinforcing structures

Images

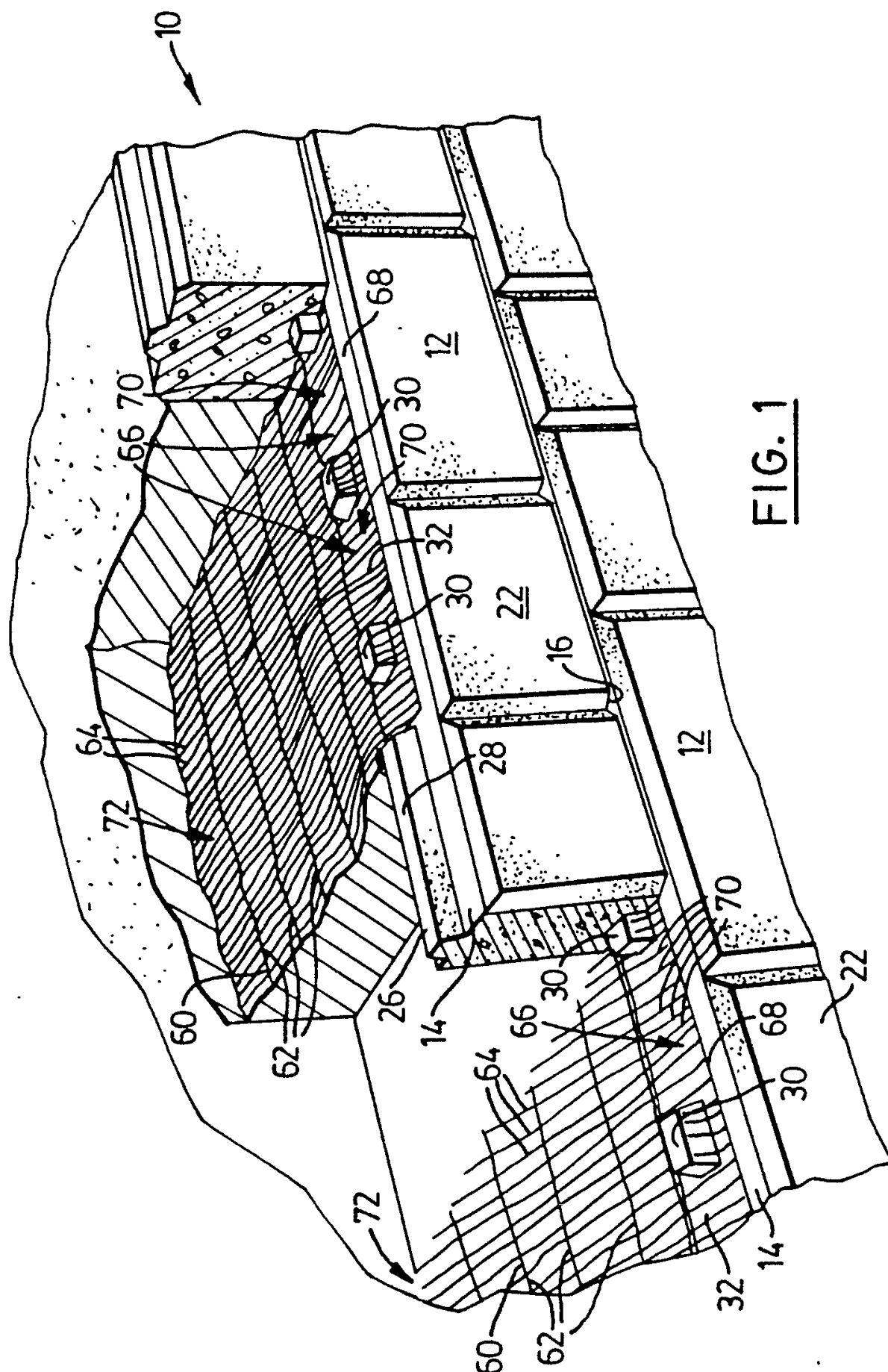


FIG. 1

Publication data including kind & date

CA2017578

C 1997-12-23 CA2017578

AU7889891

A 1991-12-31 AU9178898



[WO91/19057](#)

A1 1991-12-12 WO9119057

[CA2017578](#)

A1 1991-11-25 CA2017578

[US5064313](#)

A 1991-11-12 US5064313

Abstract

(WO91/19057)

This invention relates to improvements in the control and stabilization of earthen or soil embankments comprising a gravity facing wall (10) tied to and anchored by a grid or mesh (60) extending into the embankment. The gravity facing wall (10) is comprised of facing wall units or blocks (12) stacked in overlapping horizontal courses. In particular an improved facing wall unit or block (12) is provided featuring a projection formation (26) extending longitudinally of the block (12) in the upper surface (14) and, in the lower surface (16), an offset recess (34) of matching extent and configuration to the projection formation (26). The projection formation (26) further includes grid or mesh engaging projections (30, 92) which penetrate the mesh or grid (60) when registered thereover. A further recess or depression (32) is also included in the upper surface (14) of the facing wall unit or block (12) and is of such an extent and configuration so as to confine therewithin the grid or mesh engaging projections (30, 92) and the grid or mesh (60) when registered thereover.

Inventors

RISI ANGELO

RISI ANTONIO

Latest standardized assignees - inventors removed

BOHM CARLOTA M ESQ CHAPTER 7 TRUSTEE FOR DURA

ROTHBURY INTERNATIONAL

JAGNA

RISI STONE

Family 83/200 - FAMPAT - ©Questel

Title

(EP---2216)

Reinforcing elements for reinforced earth structures

Images

FORSTER, ROLF-JOACHIM, DR.

PREIS, LOTHAR, DR.

SCHMIDT, RUDOLF, DIPL.-ING.

Latest standardized assignees - inventors removed

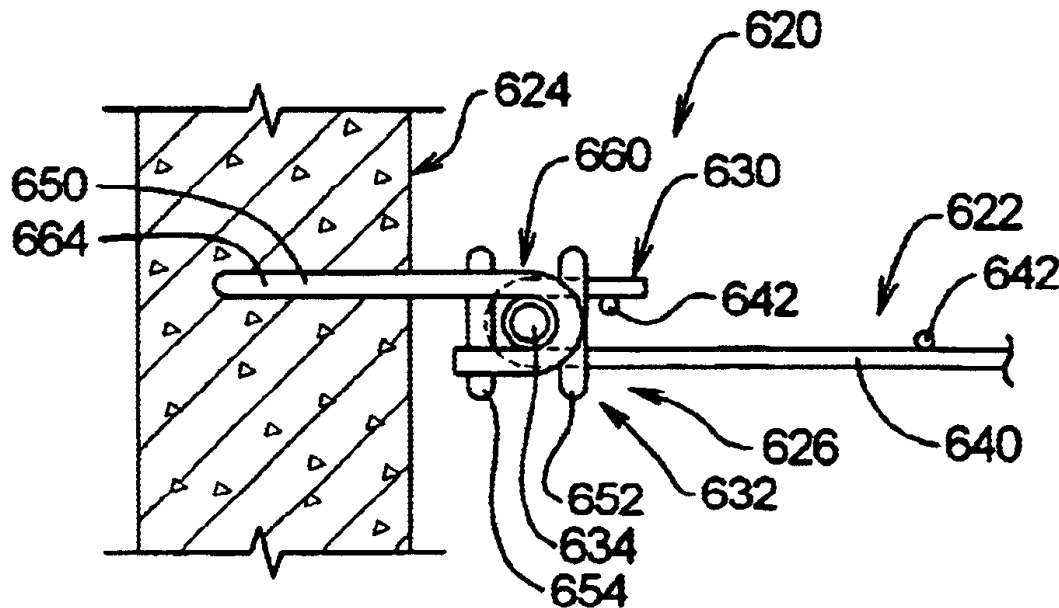
BAYER

Family 84/200 - FAMPAT - ©Questel

Title

(US6793436)

Connection systems for reinforcement mesh

Images**Publication data including kind & date**

US7857540	B2	2010-12-28	US7857540
US20090238639	A1	2009-09-24	US20090238639
US7503719	B1	2009-03-17	US7503719
US6793436	B1	2004-09-21	US6793436

**Abstract**

(US6793436)

A connecting system for connecting a first mesh sheet to a member comprising a housing member, a first loop portion, and a first pin member. The housing member defines a loop passageway, and the housing member is adapted to be rigidly connected to the member. The first loop portion is formed on the first mesh sheet and extends into the loop passageway. The first pin member extends through the first loop portion of the first mesh sheet such that a force applied to the first mesh sheet away from the housing member causes the first pin member to engage the housing member and the loop portion to inhibit movement between the first mesh sheet and the member. In one preferred embodiment, the member is a concrete panel. In another preferred embodiment, the member is a second mesh sheet.

Inventors

RUEL STEVE

SWANSON DAVE

Latest standardized assignees - inventors removed

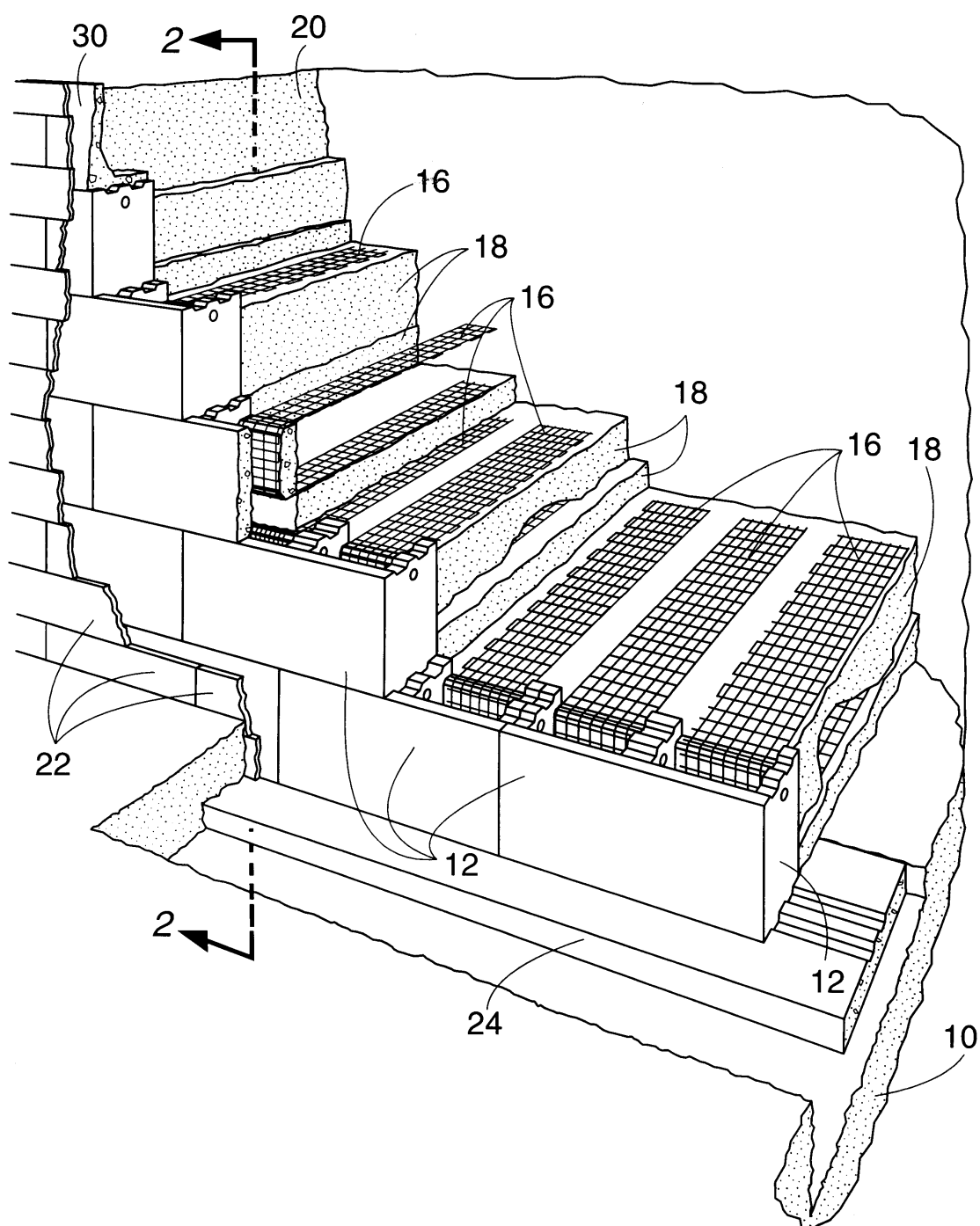
SSL

Family 85/200 - FAMPAT - ©Questel

Title

(US6416260)

Self-connecting, reinforced retaining wall and masonry units therefor

Images**Publication data including kind & date**

US6565289	B2	2003-05-20	US6565289
US20020119015	A1	2002-08-29	US20020119015
US6416260	B1	2002-07-09	US6416260

**Abstract**

(US6416260)

A self-connecting, reinforced retaining wall is provided comprised of precast, stacked concrete block masonry units stabilized with reinforcing members which extend from the masonry units at selected intervals into the adjacent reinforced

soil to form a mechanically stabilized earthen wall construction. The reinforcement members are generally in the form of horizontally oriented "U"-shaped members which extend from within the adjacent soil bank, to and through voids of the masonry units, thereby providing self-connecting devices thereat, and thence returning into the soil bank, forming a stabilized, retained and reinforced soil embankment. Suitable reinforcements may include metallic grids, geotextile and geogrid sheets, and other similar reinforcement devices. Concrete masonry units especially adapted for use in the aforesaid self-connecting soil reinforced retaining walls are also provided.

Inventors

KHAMIS SUHEIL RASHID

Latest standardized assignees - inventors removed

PERMAWALL SYSTEMS

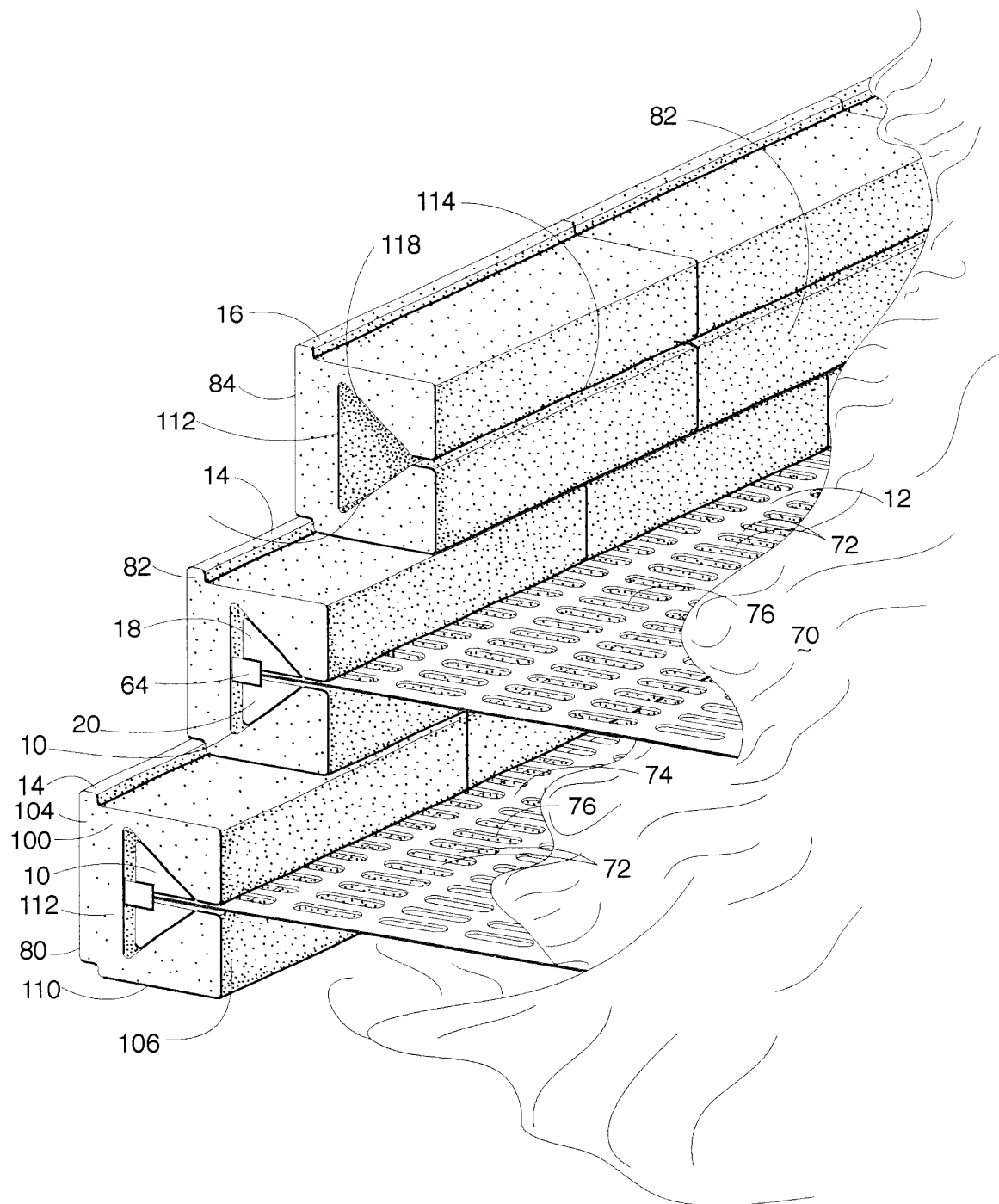
Family 86/200 - FAMPAT - ©Questel

Title

(US6443662)

Connector for engaging soil-reinforcing grid to an earth retaining wall and method for same

Images



Publication data including kind & date

[US6443662](#)

B1 2002-09-03 US6443662



Abstract

(US6443662)

A connector for joining a soil-reinforcement grid extending through a slot in a block stacked with other blocks to define a mechanically stabilized earth retaining wall, the connector comprising matingly engaged first member having pins that are slidably received in aligned openings defined in a second member while sandwiching a portion of soil-reinforcement grid therebetween, the grid having apertures through which the pins extend. The soil-reinforcing grid is loaded by being covered with backfill materials. The connector mechanically engages bearing surfaces within a channel in the block such that the tensile loading of backfill covering the soil-reinforcement grid lateral of the wall is distributed by the connector across the block. A method of constructing a mechanically stabilized earth retaining wall is disclosed as well as a connector and blocks useful with such methods and walls.

Inventors

SCALES JOHN M

YUAN ZEHONG

Latest standardized assignees - inventors removed

GEOSTAR

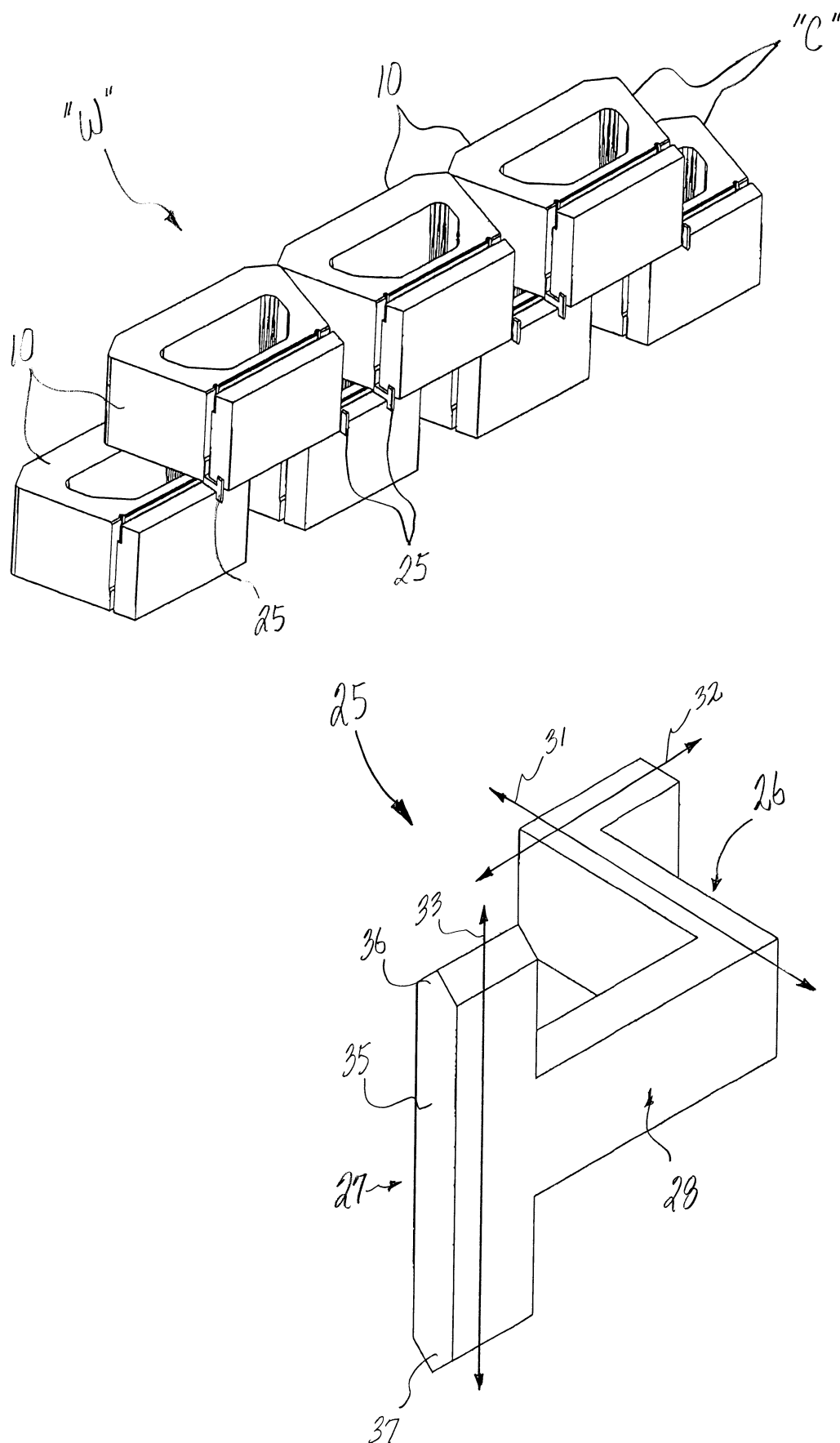
Family 87/200 - FAMPAT - ©Questel

Title

(US6701687)

Modular wall block with mechanical course connector

Images

**Publication data including kind & date**

CA2458007	C	2008-01-15	CA2458007
CA2458007	A1	2004-11-08	CA2458007
US6701687	B1	2004-03-09	US6701687

**Abstract**

(US6701687)

A modular wall block is adapted for being assembled together with a number of other blocks in stacked courses to form a retaining wall. The wall block has a front and rear, top and bottom, and opposing sides. At least one of the opposing sides defines a generally L-shaped vertical slot. A course connector is received in the vertical slot, and includes first and second ends joined together by a setback spacer. The first end extends in an x-direction and a y-direction, and defines a generally L-shaped structure received in the L-shaped slot and restricting forward, rearward, and outward movement of the course connector. The second end of the course connector extends outwardly in a z-direction beyond one of the top and bottom of the wall block to engage one of the number of other blocks in an upper or lower course. The setback spacer locates the second end of the course connector a spaced distance from the first end to position the wall block in the retaining wall relative to the other blocks in the upper or lower course.

Inventors

SHILLINGBURG CURTIS W

Latest standardized assignees - inventors removed

RIDGEROCK RETAINING WALLS

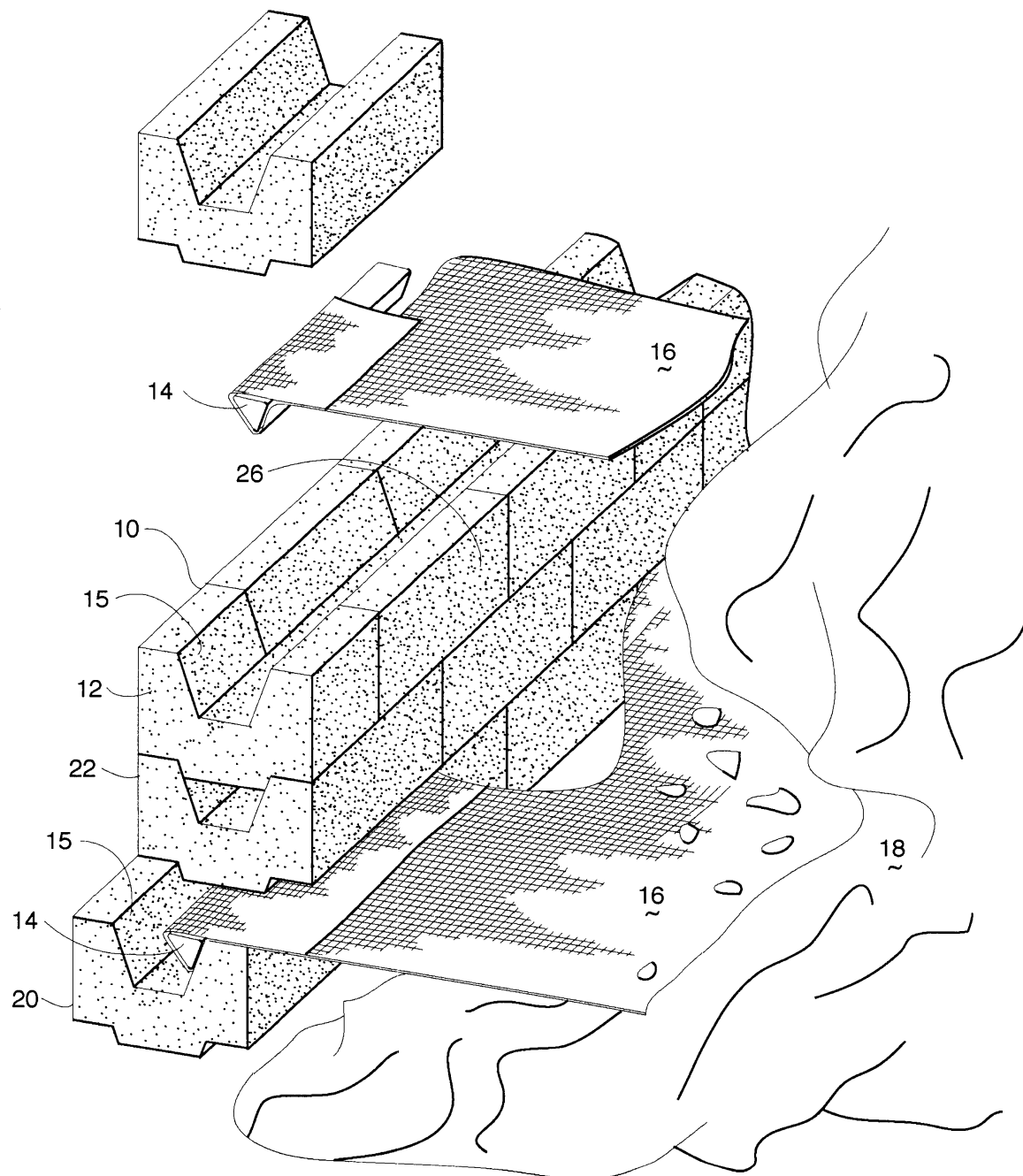
Family 88/200 - FAMPAT - ©Questel

Title

(US6457911)

Blocks and connector for mechanically-stabilized earth retaining wall having soil-reinforcing sheets

Images

**Publication data including kind & date**

US6457911

B1 2002-10-01 US6457911

**Abstract**

(US6457911)

An earth retaining wall made of stacked tiers of blocks placed side by side to form a wall with a channel extending at least partially along a longitudinal axis of the wall in which the channel is defined at least two adjacent bearing surfaces of vertically adjacent blocks and a pathway extending from the channel to an exterior side of the wall. The channel receives an elongate clamping bar that conforms in cross-sectional shape at least relative to the bearing surfaces. A reinforcement sheet wrapped around the elongate connector bar extends through the pathway laterally of the wall. The clamping bar communicates tensile loading of backfill on the reinforcement sheet to the wall. The wall is mechanically stabilized by normal loading from the blocks in the wall above a reinforcement sheet and the tensile loading of the backfill communicated by the clamping bar to the wall. A method of constructing an earth retaining wall and blocks useful in such wall are disclosed.

Inventors

SCALES JOHN M

PE ZEHONG YUAN

Latest standardized assignees - inventors removed

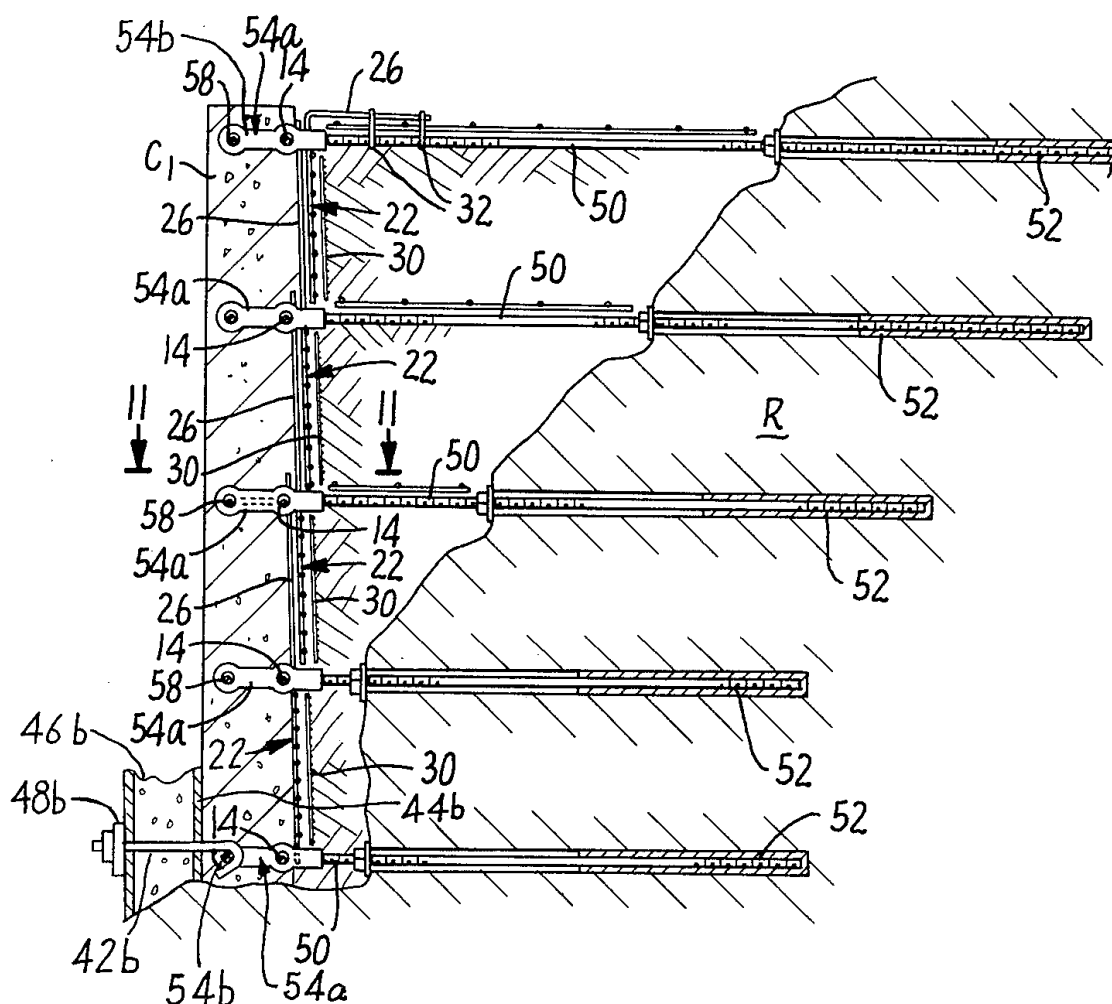
GEOSTAR

Family 89/200 - FAMPAT - ©Questel

Title

(US4329089)

Method and apparatus for retaining earthen formations through means of wire structures

Images**Publication data including kind & date**

US4391557	A	1983-07-05	US4391557
US4329089	A	1982-05-11	US4329089

**Abstract**

(US4329089)

A retaining structure for an earthen formation wherein spaced anchor members in the form of rock anchors or gridwork mats are embedded in the formation and wire retainers are secured between the anchor members. The retainers comprise primary retention rods secured to the anchors and secondary retention members secured to the rods to span the space between adjacent anchor members. In certain embodiments the anchors are provided with extensions to support form panels in spaced relationship to the secondary retention members and a concrete wall is formed in place between said panels and the secondary retention members.

Inventors

HILFIKER WILLIAM K
 HILFIKER HAROLD O
 HILFIKER WILLIAM B

Latest standardized assignees - inventors removed

HILFIKER

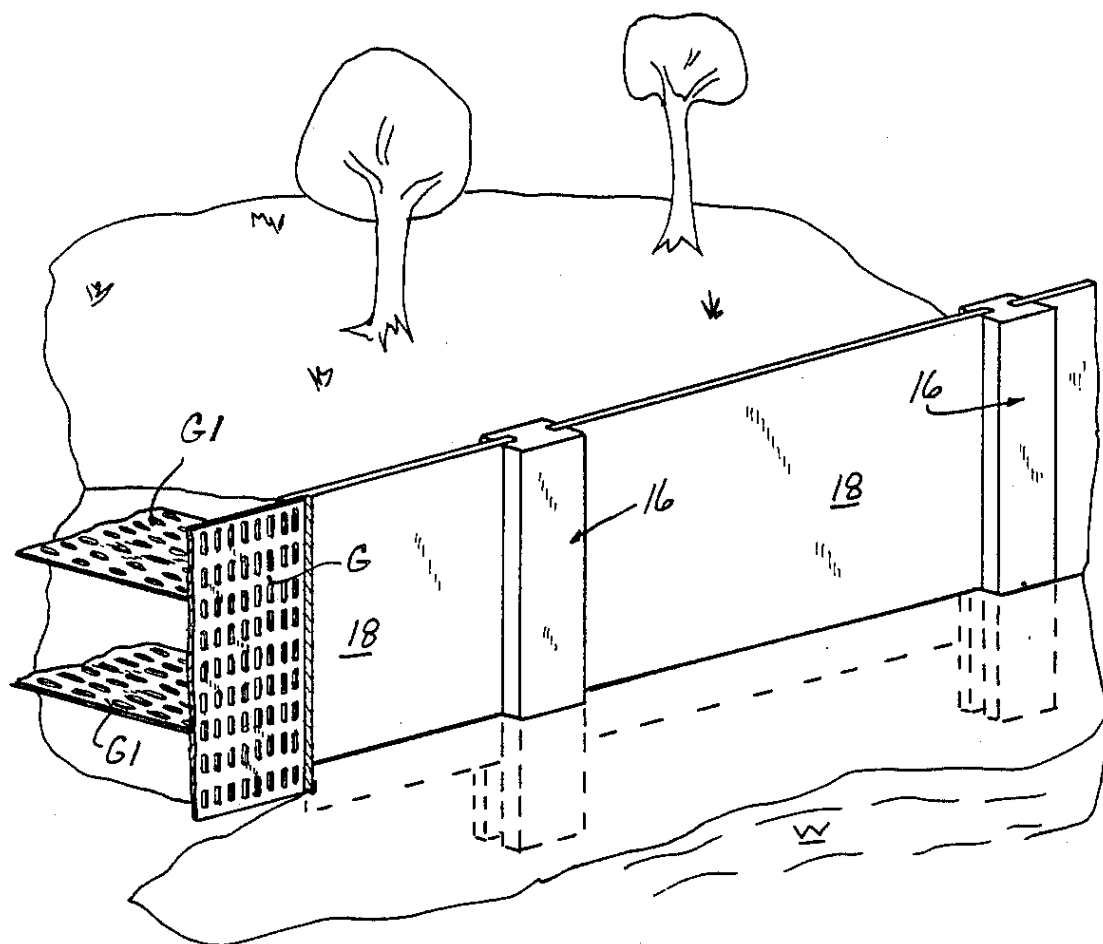
HILFIKER WILLIAM K

Family 90/200 - FAMPAT - ©Questel

Title

(US4804299)

Retaining wall system

Images**Publication data including kind & date**[US4804299](#)

A 1989-02-14 US4804299

**Abstract**

(US4804299)

A retaining wall system is made up of standardized posts and face panels formed of a polymeric cementitious material which are reinforced by a lattice-like polymer grid embedded in the posts and panels during their formation. Similar lattice-like polymer grids are mechanically attached to the grids embedded in the panels to project horizontally from the panels and to be embedded in earth fill at one side of the wall to permanently anchor the wall in position.

Inventors

FORTE GARY L

BROWN RICHARD L

MILLER WAYNE

MORRIS III GEORGE L

PRIOR MICHAEL D

Latest standardized assignees - inventors removed

UNITED INTERNATIONAL ENGINEERING

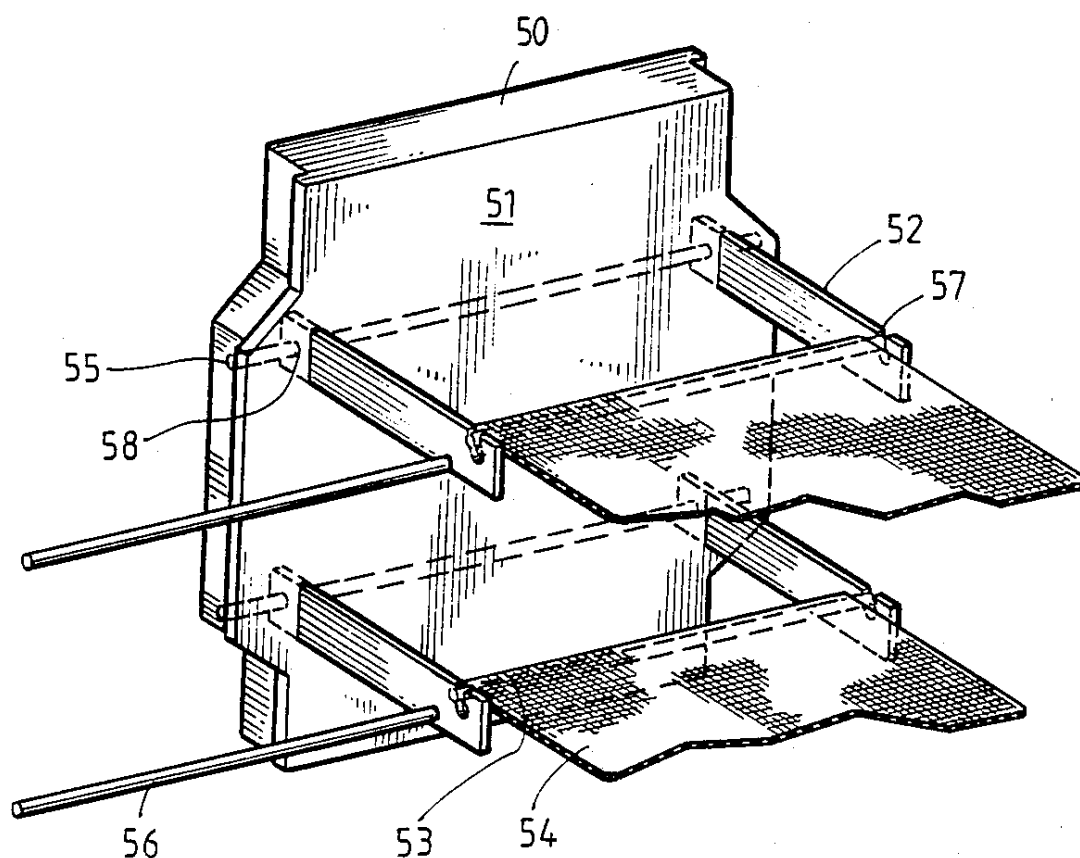
Family 91/200 - FAMPAT - ©Questel

Title

(US4968186)

Mechanically stabilized earth system and method of making same

Images



Publication data including kind & date

US4968186

A	1990-11-06	US4968186
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Abstract

(US4968186)

A mechanically stabilized earth wall system, including an upright retaining wall of modular facing panels and a number of horizontal reinforcement units or anchors, including a novel connector to simply and quickly connect the horizontal reinforcement anchors to the modular facing panels.

Inventors

OGORCHOCK JOHN M

Latest standardized assignees - inventors removed

TRICON PRECAST

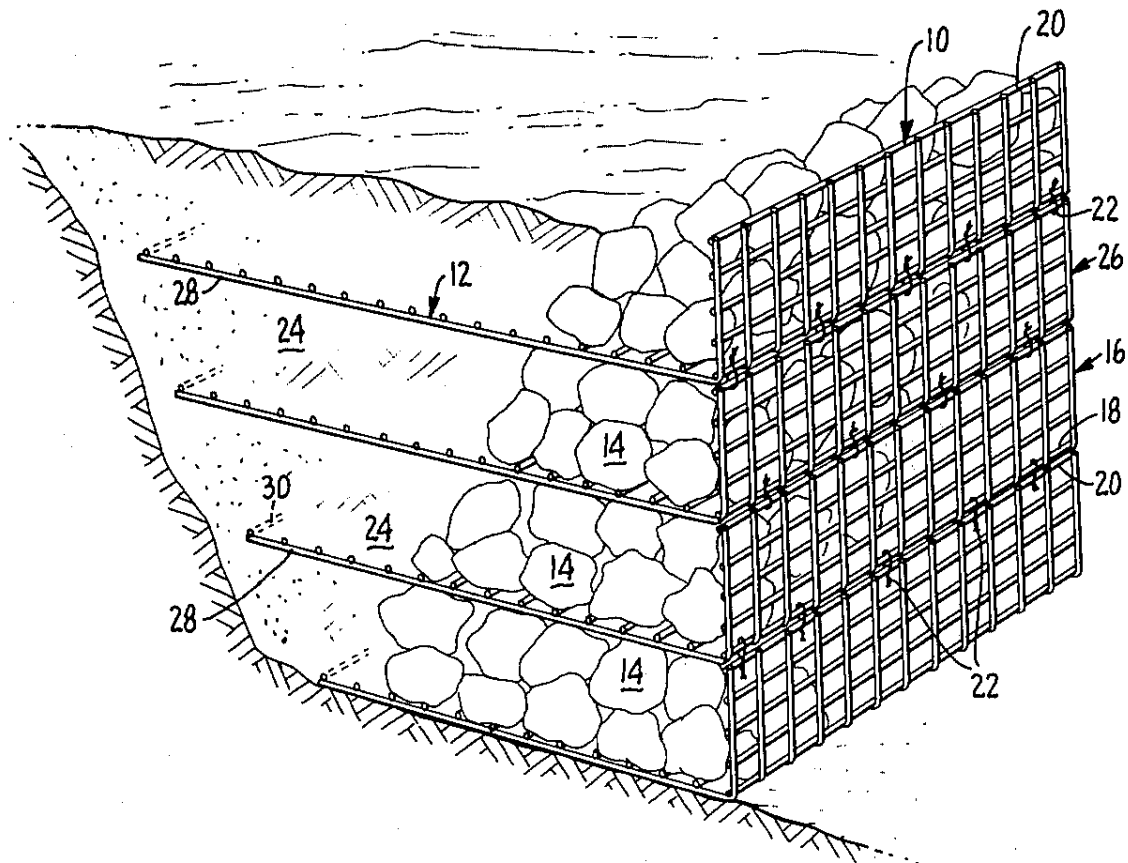
Family 92/200 - FAMPAT - ©Questel

Title

(US4117686)

Fabric structures for earth retaining walls

Images

**Publication data including kind & date**

US4117686

A 1978-10-03 US4117686

**Abstract**

(US4117686)

Low-cost and very effective retaining walls are constructed with stacked, generally rectangular, trays of steel wire fabric sheets, each with one end bent up to form a portion of the wall face. In constructing a wall, a first course of trays is set in place and filled, with filtering rocks and/or mats being placed toward the front and against the bent-up face section and fill soil being placed to the rear of the tray. A second course of trays is then placed on top of the first course and the corner of the face bend of the second course is securely fastened to the top of the lower course. Thus, the top of each face is supported and each course is anchored by the next course, thereby resulting in a strong monolithic and permeable wall that will readily conform to irregularities and settling of the foundation surface.

Inventors

HILFIKER WILLIAM K

Latest standardized assignees - inventors removed

HILFIKER

HILFIKER WILLIAM K

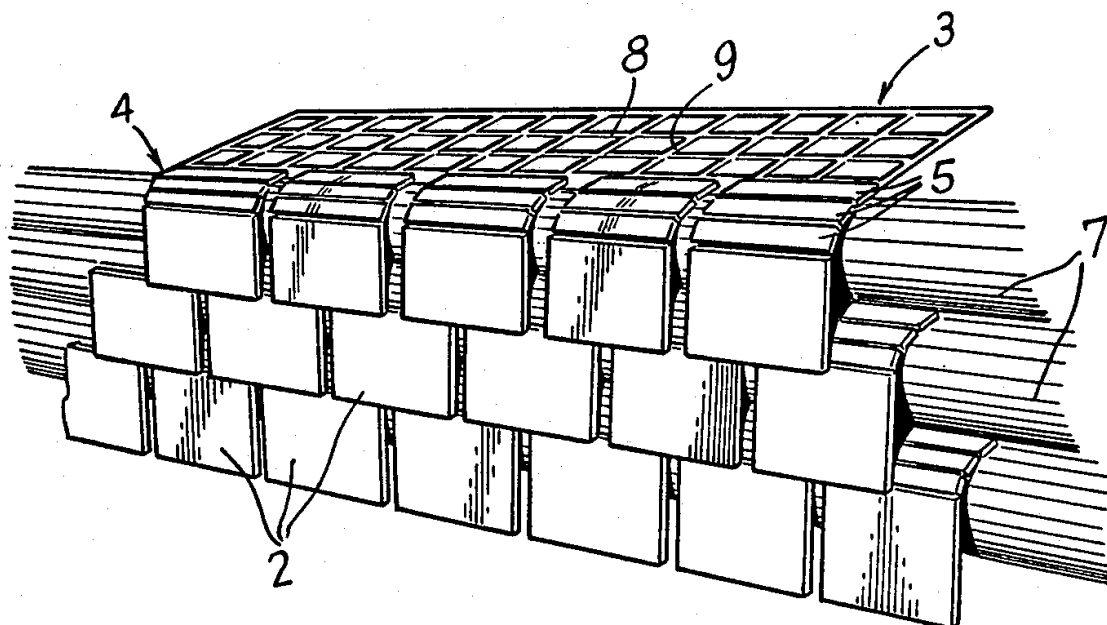
Family 93/200 - FAMPAT - ©Questel

Title

(EP-174253)

Slab facing for the slopes of earth fills, for instance earth fills reinforced by means of geotextile layers

Images



Publication data including kind & date

HU206228	B	1992-09-28	HU-206228
HUT54754	A	1991-03-28	HU-T54754
ES296986	Y	1989-02-01	ES-296986Y
DE3565701	D1	1988-11-24	DE3565701
AT38067	T	1988-11-15	ATE038067
EP0174253	B1	1988-10-19	EP-174253
CA1238200	A	1988-06-21	CA1238200
ES296986	U	1988-06-16	ES-296986U
US4662794	A	1987-05-05	US4662794
FR2569741	B1	1986-09-19	FR2569741
JPS61155517	A	1986-07-15	JP61155517
EP0174253	A3	1986-03-26	EP-174253
EP0174253	A2	1986-03-12	EP-174253
FR2569741	A1	1986-03-07	FR2569741



Abstract

(EP0174253)

This invention relates to a facing for the bank of earthen formations, particularly soil masses reinforced by geotextile sheets, said facing being composed of plates individually hooked to the bank by supple hooking elements, and the plates are disposed in substantially horizontal rows, the plates of one row partially overlapping the plates of the row immediately therebeneath.

(From US4662794 A)

Inventors

DELMAS, PHILIPPE

PUIG, JOSE

SCHAEFFNER, MARC

Latest standardized assignees - inventors removed

ETAT FRANCAIS REPRESENTE PAR LE MINISTERE DE L URBANISME & DU LOGEMENT LABORATOIRE CENTRAL
DES PONTS & CHAUSSEES

MUR EBAL DITE

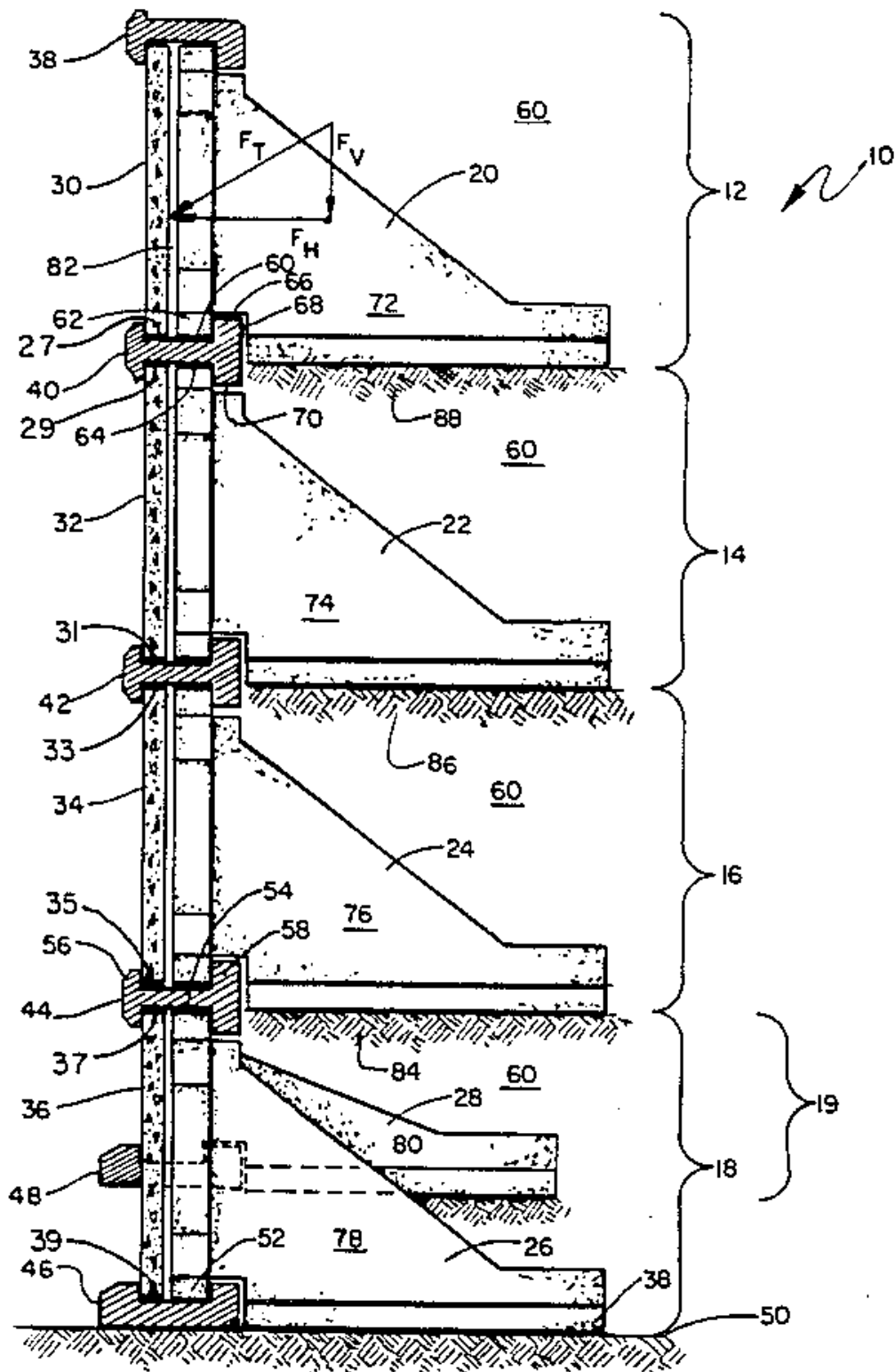
Family 94/200 - FAMPAT - ©Questel

Title

(US4655646)

Multitiered, rigid tieback, essentially vertical retaining wall system

Images



Publication data including kind & date

US4655646

A 1987-04-07 US4655646



Abstract

(US4655646)

A retaining wall system which provides an essentially a vertical wall without vertically aligned protrusions. The multitiered

retaining wall system uses a plurality of tieback elements which act independently of each other to prevent the transference of forces and moments to lower tiers. The design provides a high degree of flexibility in the horizontal spacing of the tieback elements, which is independent of the width of the retaining wall panel, so as to meet specified technical conditions and allow the use of standard size prefabricated concrete components.

Inventors

BABCOCK JOHN W

WORMUS RONALD K

Latest standardized assignees - inventors removed

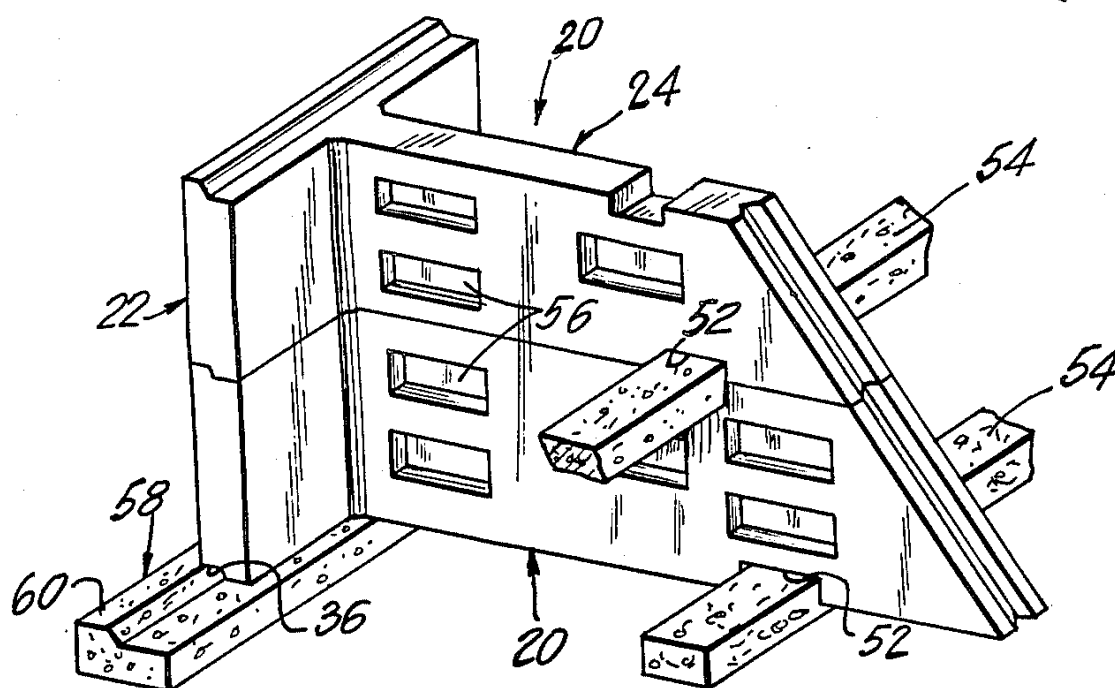
SHEARSON

Family 95/200 - FAMPAT - ©Questel

Title

(US4684294)

Retaining wall construction element

Images**Publication data including kind & date**[US4684294](#)

A 1987-08-04 US4684294

**Abstract**

(US4684294)

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.

Inventors

O'NEILL RAYMOND J

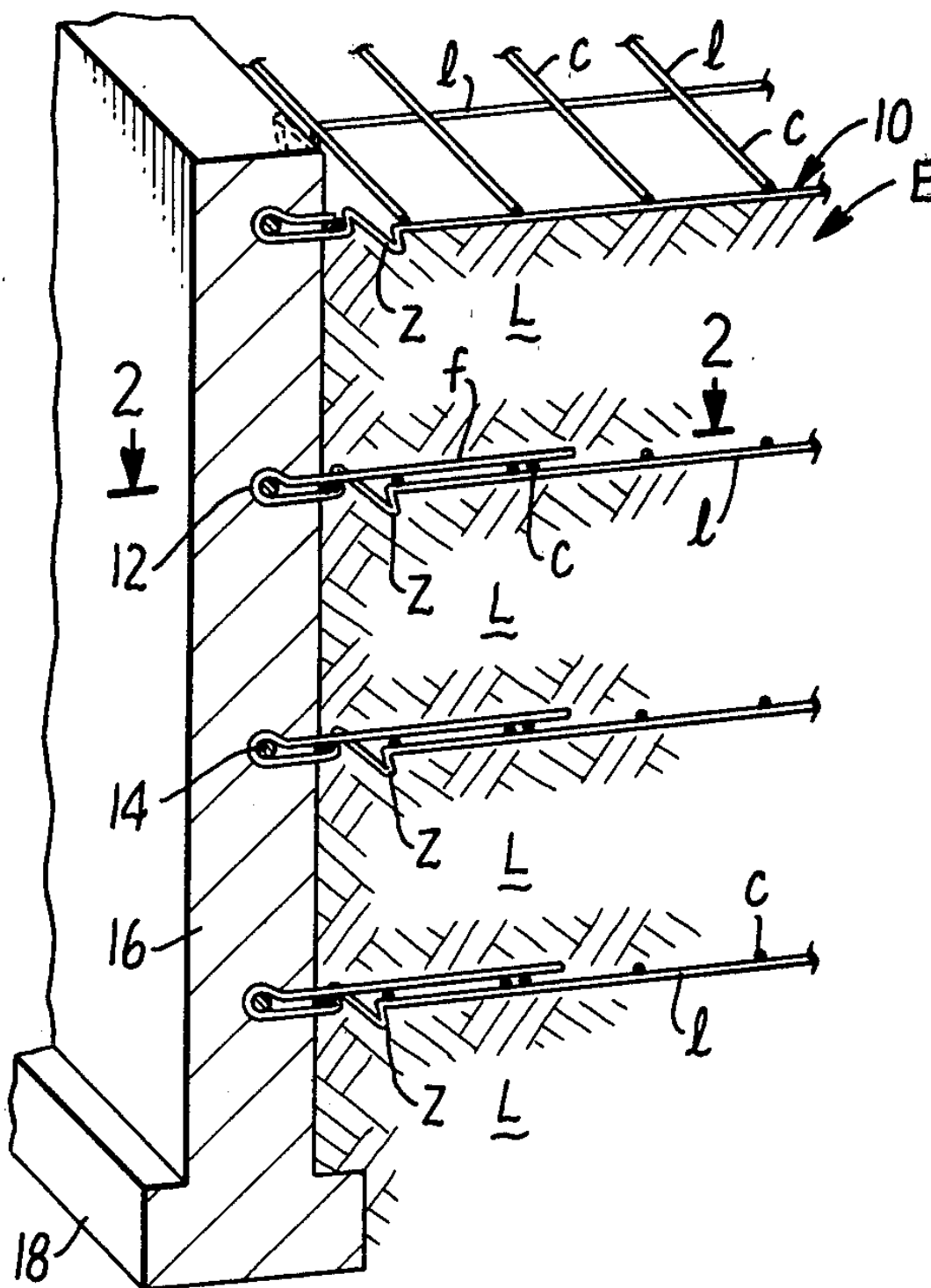
Family 96/200 - FAMPAT - ©Questel

Title

(US4343572)

Apparatus and method for anchoring the rigid face of a retaining structure for an earthen formation

Images



Publication data including kind & date

US4343572

A 1982-08-10 US4343572



Abstract

(US4343572)

A rigid face member is held in place at the face of an earthen formation by anchor elements embedded within the formation. Deformable sections are incorporated into the anchor elements adjacent the face member to permit the anchor elements to move with the formation in the event of earthquake or settling, while maintaining the face member in place.

Inventors

HILFIKER WILLIAM K

Latest standardized assignees - inventors removed

HILFIKER

HILFIKER WILLIAM K

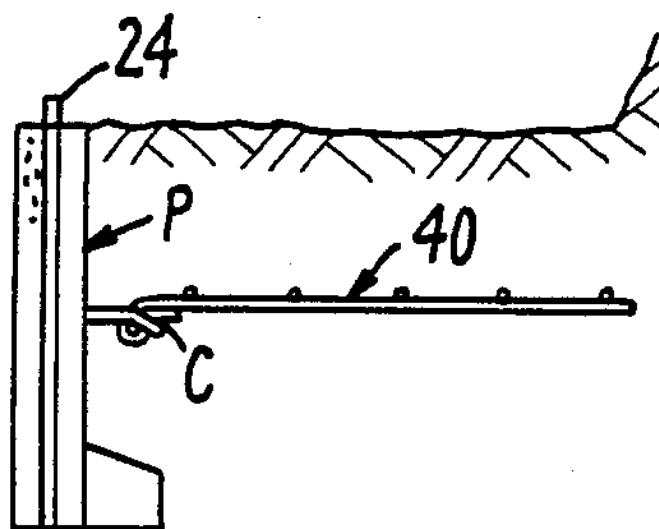
Family 97/200 - FAMPAT - ©Questel

Title

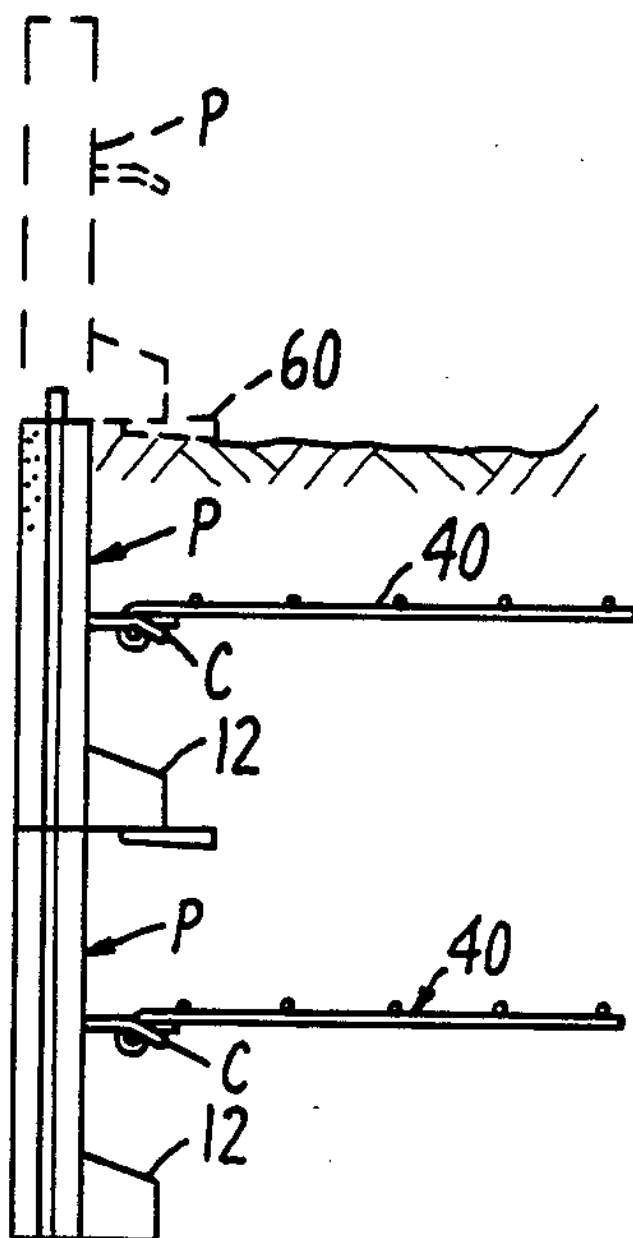
(US4929125)

Reinforced soil retaining wall and connector therefor

Images



- D -



Publication data including kind & date

US4993879	A	1991-02-19	US4993879
US4929125	A	1990-05-29	US4929125

**Abstract**

(US4929125)

A reinforced soil embankment having precast concrete face panels with cantilevered sections extending into the embankment to support the panels in an upright condition and provide a surface beneath which a wedge may be inserted to plumb the panels during erection of the embankment. Soil reinforcing elements are secured to the panels intermediate their height to reinforce the embankment and secure the face panels in place. Connectors are provided for securing the reinforcing elements to the panels by means of loops formed on the elements for extension through eyes on the panels. The connectors also serve to orient the reinforcing elements in a horizontal disposition within the embankment.

Inventors

HILFIKER WILLIAM K

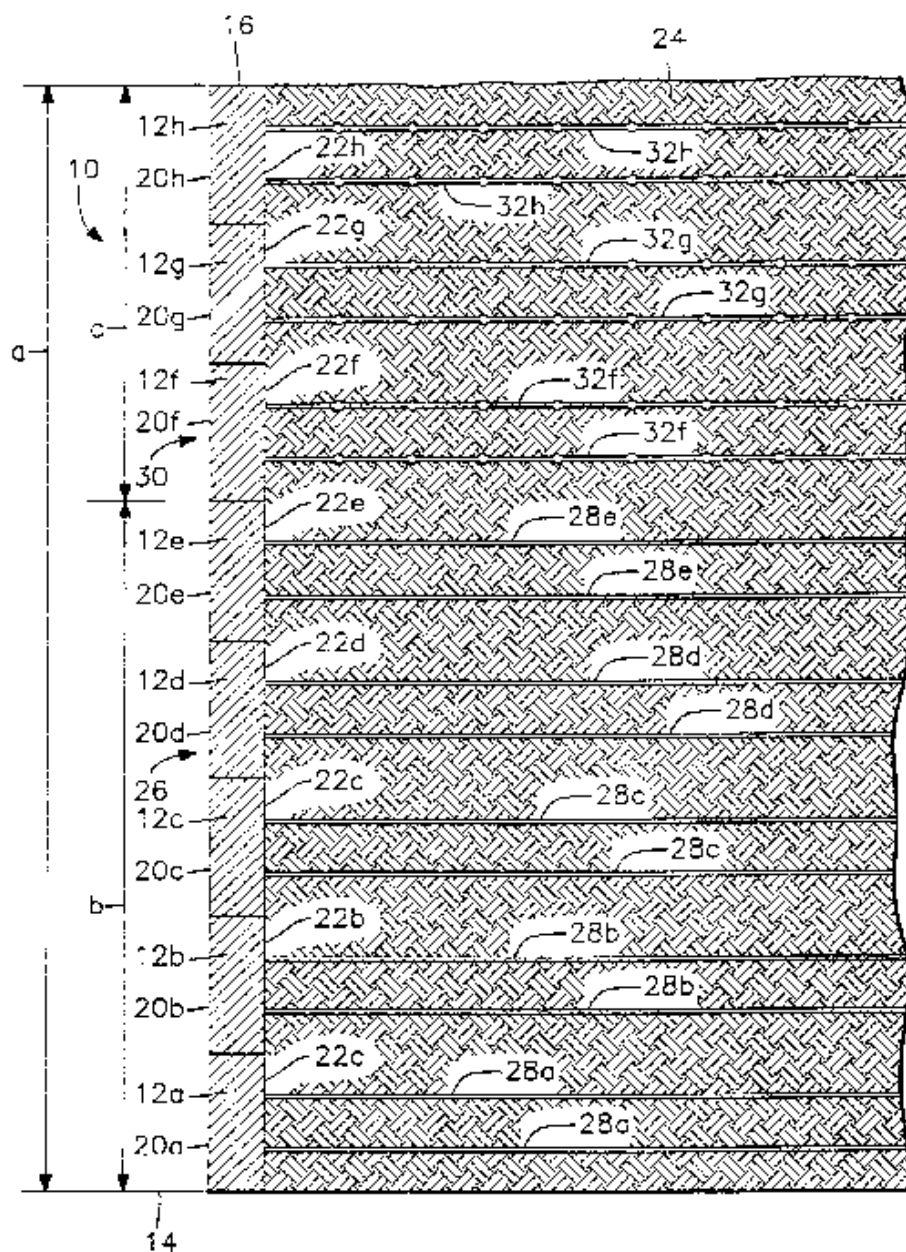
Family 98/200 - FAMPAT - ©Questel

Title

(WO9831878)

Composite retaining wall

Images



Publication data including kind & date

CA2244984	C	2007-02-27	CA2244984
US5800095	A	1998-09-01	US5800095
AU5907098	A	1998-08-07	AU9859070
CA2244984	A1	1998-07-23	CA2244984
WO98/31878	A1	1998-07-23	WO9831878



Abstract

(WO98/31878)

A retaining wall (10) having a height of greater than ten feet which includes a lower section of inextensible reinforcements (28a-e) and an upper section of extensible reinforcements (32f-h). By the use of inextensible reinforcements in place of extensible reinforcements in a lower portion of a wall having a height greater than ten feet, the lower portion of the wall will

tend to distribute the stresses of soil compaction and require less quality control/assurance during construction. Further, by the use of extensible reinforcements in the upper section of a retaining wall having a height greater than ten feet, the extensible reinforcements will maintain the retaining wall in place and have significantly improved corrosion resistance over inextensible metal reinforcements.

Inventors

EGAN PHILIP D

Latest standardized assignees - inventors removed

TENSAR

TENSAR INTERNATIONAL

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NORTH AMERICAN GREEN

Family 99/200 - FAMPAT - ©Questel

Title

(US5823709)

Interconnected block system

Images

sheet with a plurality of projections upstanding therefrom and passing through the matrix sheet. Free end portions of the projections are configured to retain block-forming material cast to surround the projections. Multiple layers of interconnected blocks may be made without waiting for the concrete to set by using preformed mold elements which are left in place in the final product and which act to support superimposed layers as they are cast. A sleeve may be secured to a leading edge of the matrix sheet to receive and retain a sand-filled tube or the like to prevent lifting of the matrix sheet by wave action or the like.

Inventors

MAHER STEVE

WAYNE MARK

EGAN PHILIP D

Latest standardized assignees - inventors removed

TENSAR

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MERITEX PRODUCTS

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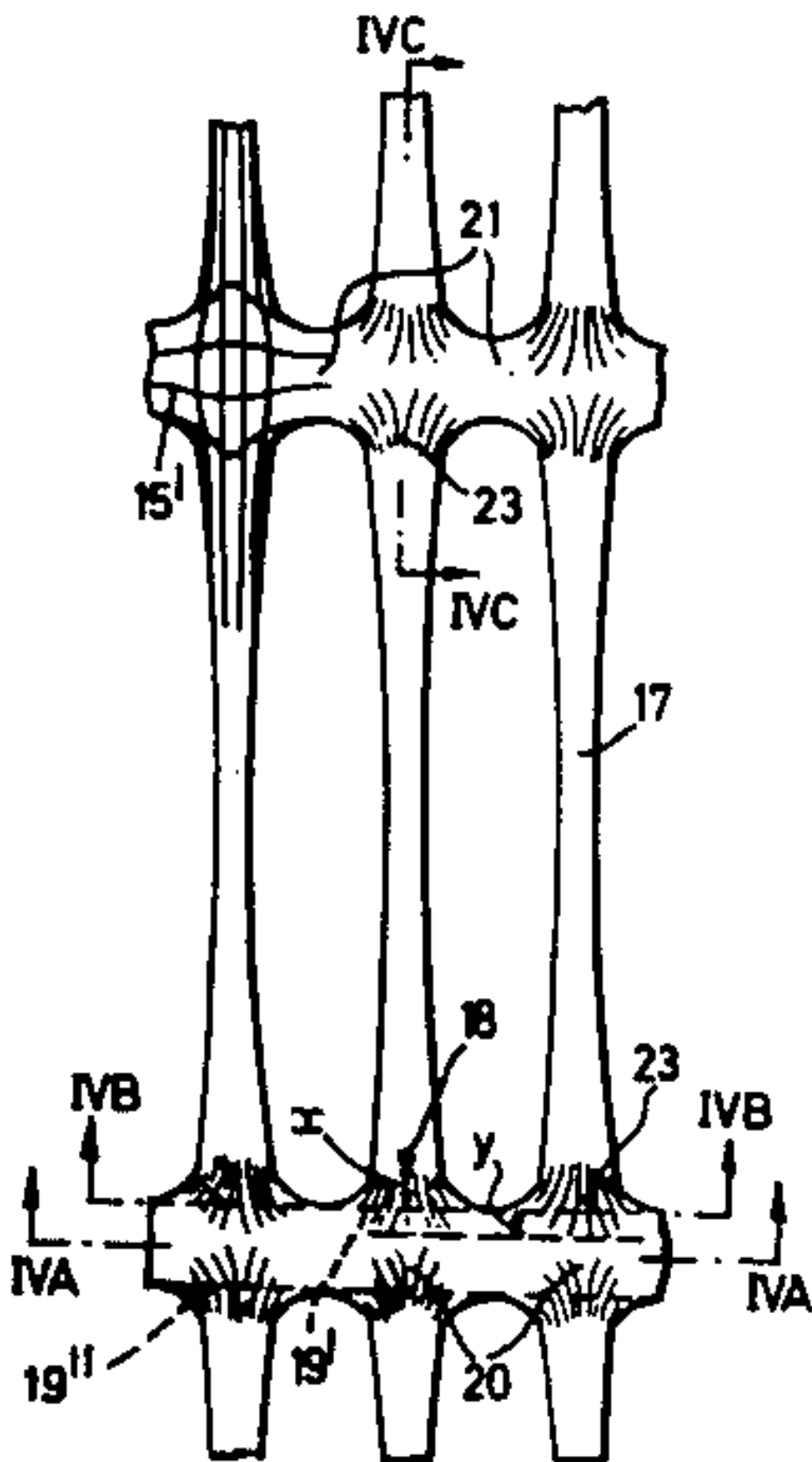
Family 100/200 - FAMPAT - ©Questel

Title

(US4374798)

Production of plastic mesh structure

Images



Publication data including kind & date

NL189009	C	1996-07-24	NL-189009
GB2035191	C	1995-11-23	GB2035191
DK154333	C	1989-04-17	DK-154333C
DK154333	B	1988-11-07	DK-154333



AT386228	B	1988-07-25	AT-386228				
US4756946	A	1988-07-12	US4756946				
ATA658679	A	1987-12-15	AT7906586				
FI72681	C	1987-07-10	FI--72681				
FI72681	B	1987-03-31	FI--72681				
DE2940581	C2	1986-12-04	DE2940581				
IT1125461	B	1986-05-14	IT1125461				
MY8500925	A	1985-12-31	MY8500925				
IE49622	B1	1985-11-13	IE--49622				
NO152611	C	1985-10-23	NO-152611				
NO152611	B	1985-07-15	NO-152611				
CH649030	A5	1985-04-30	CH-649030				
SG67084	G	1985-03-15	SG--67084				
HK90084	A	1984-11-23	HK8400900				
MX151400	A	1984-11-14	MX-151400				
SE435470	B	1984-10-01	SE-435470				
FR2439076	B1	1984-09-14	FR2439076				
AU535660	B2	1984-03-29	AU-535660				
NZ191795	A	1983-11-30	NZ-191795				
GR72495	B	1983-11-15	GR--72495				
PL125772	B1	1983-06-30	PL-125772				
CA1144327	A	1983-04-12	CA1144327				
US4374798	A	1983-02-22	US4374798				
YU245279	A	1983-01-21	YU7902452				
KR820001946	B1	1982-10-21	KR820001946				
GB2035191	B	1982-06-30	GB2035191				
ES493566	A0	1981-09-01	ES-493566				
ES8106434	A1	1981-09-01	ES8106434				
ES484862	A0	1981-04-16	ES-484862				
ES8104042	A1	1981-04-16	ES8104042				
PL218813	A1	1980-09-08	PL-218813D				
BR7906472	A	1980-06-24	BR7906472				
GB2035191	A	1980-06-18	GB2035191				
FR2439076	A1	1980-05-16	FR2439076				
LU81767	A1	1980-05-07	LU--81767				
AU5153379	A	1980-04-24	AU7951533				
DE2940581	A1	1980-04-24	DE2940581				
DK421879	A	1980-04-23	DK7904218				
NL7907475	A	1980-04-18	NL7907475				
FI793122	A	1980-04-17	FI7903122				
NO793155	L	1980-04-17	NO-793155				
SE7908309	L	1980-04-17	SE7908309				
IE791924	L	1980-04-16	IE7901924				
IT7926348	D0	1979-10-09	IT7926348				

Abstract

(US4374798)

In order to produce high tensile strength mesh structures, starting material, which is at least 0.75 mm thick and which has a square or rectangular pattern of holes or depressions, is stretched either in one direction or in two directions at right angles.

The uniaxially stretched structure has orientated strands which are connected by parallel bars, the orientation of the strands penetrating into the bars but the centers of the bars being thicker than the strands, all along the length of the bar center. The biaxially stretched structure has orientated strands which are interconnected by orientated junctions which have orientated crotches between the strands; the thinnest parts of the junctions are not less than 75% of the thickness of the strands, the thickest parts of the junctions are thicker than the thinnest parts and thicker than the strands, and the center of the junction is not the thinnest part of the junction.

Inventors

MERCER FRANK B

Latest standardized assignees - inventors removed

PLG RESEARCH

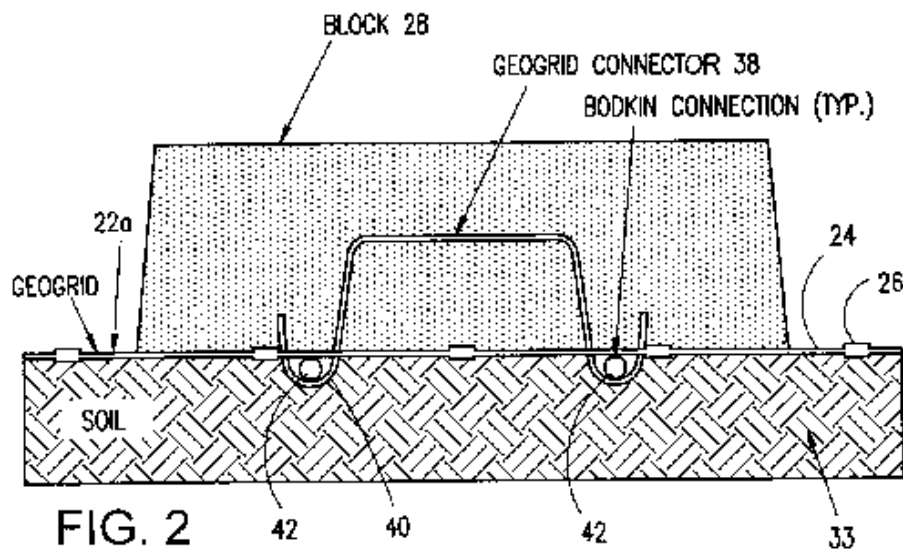
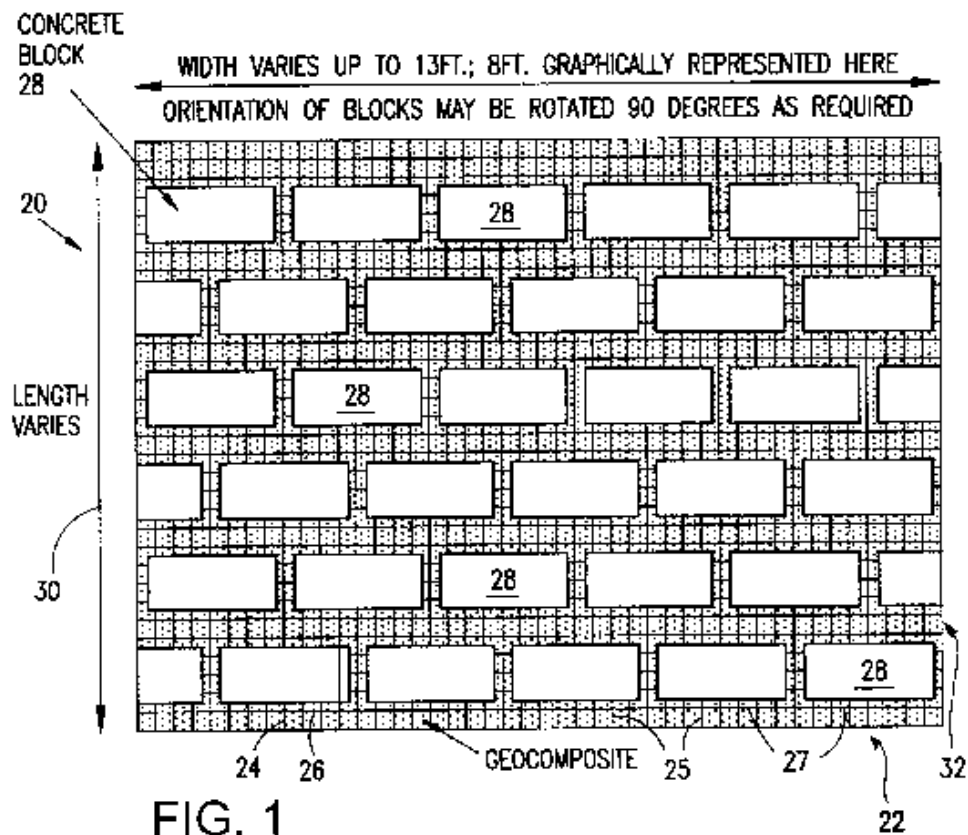
Family 101/200 - FAMPAT - ©Questel

Title

(US5911539)

Interconnected block system

Images



Publication data including kind & date

US5911539

A 1999-06-15 US5911539



Abstract

(US5911539)

An interconnected block system including a plurality of staggered rows of block members formed of concrete or the like secured to the upper surface only of an underlying, interconnecting, grid-like, matrix sheet. In one embodiment, a plurality of connector elements are connected to the matrix material preferably by bodkin connections to form one or a multiplicity of openings or apertures above the upper surface of the matrix sheet for reception of the block-forming material. The block members are cast on top of the matrix sheet material to capture the connector elements which provides a mechanical interlock between the block member and the matrix. The matrix sheet material preferably includes a layer of geotextile bonded on an opposite side from the block members. An alternate embodiment provides a strip or mat to underly the matrix

sheet with a plurality of projections upstanding therefrom and passing through the matrix sheet. Free end portions of the projections are configured to retain block-forming material cast to surround the projections. Multiple layers of interconnected blocks may be made without waiting for the concrete to set by using preformed mold elements which are left in place in the final product and which act to support superimposed layers as they are cast. A sleeve may be secured to a leading edge of the matrix sheet to receive and retain a sand-filled tube or the like to prevent lifting of the matrix sheet by wave action or the like. An alternative block includes slots extending from an upper surface to a lower surface for engagement with connector devices securing a sheet material matrix to the lower surface and optionally a sheet material matrix to the upper surface of the block.

Inventors

EGAN PHILIP D

MAHER STEVE

WAYNE MARK

Latest standardized assignees - inventors removed

TENSAR

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ATLANTECH ALABAMA

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MERITEX PRODUCTS

GEOPIER FOUNDATION

NORTH AMERICAN GREEN

Family 102/200 - FAMPAT - ©Questel

Title

(EP1534898)

Geogrid or mesh structure

Images

	A	2005-08-26	MX2005PA000231				
BR0312247	A	2005-06-07	BR200312247				
BRPI0312247	A1	2005-06-07	BRPI0312247				
EP1534898	A1	2005-06-01	EP1534898				
ECSP045515	A	2005-05-30	EC200405515				
AR040310	A1	2005-03-23	AR--40310				
TWI221870	B	2004-10-11	TWI221870				
US20040062615	A1	2004-04-01	US20040062615				
CN1485566	A	2004-03-31	CN1485566				
TW200403378	A	2004-03-01	TW200403378				
GB2391832	A	2004-02-18	GB2391832				
JP2004044374	A	2004-02-12	JP2004044374				
AU2003246908	A1	2004-01-19	AU2003246908				
AU2003246908	A2	2004-01-19	AU2003246908				
GB2390565	A	2004-01-14	GB2390565				
CA2491858	A1	2004-01-08	CA2491858				
WO2004/003303	A1	2004-01-08	WO200403303				
ITMI20031310	A1	2003-12-28	IT2003MI1310				
GB0314701	D0	2003-07-30	GB200314701				
ITMI20031310	D0	2003-06-27	IT2003MI1310				
GB0214931	D0	2002-08-07	GB200214931				

Abstract

(EP1534898)

To make an oriented plastics material geogrid (10) in which oriented strands (6, 9) form triangular meshes with a junction (11) at each corner and six of the strands (6, 9) meet at each junction (11), a plastics material sheet starting material has holes in an array of hexagons, opposite holes of each hexagon being aligned in the machine direction, and the starting material is stretched first in the machine direction and secondly in the transverse direction. In the eventual geogrid (10), the centre portions of the hexagons in the starting material form the junctions (11). The centres of the junctions (11) are slightly biaxially oriented, but at the edges of the junctions (11), the orientation of the edge of substantially each strand (6) or (9) runs around the edge of the respective junction (11) and into the edge of the next strand (6) or (9). During the second stretch, restraint can be applied in the first stretch direction and discontinued before the material is allowed to relax in the second stretch direction. If desired, the procedure can be terminated after the first stretch, to produce a uniaxially-oriented geogrid. By using a starting material which has through holes and weakened zones, it is possible to form the geogrid of the invention from a starting material having a rectangular array of through holes.

Inventors

WALSH ANTHONY THOMAS

Latest standardized assignees - inventors removed

TENSAR EARTH TECHNOLOGIES

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NORTH AMERICAN GREEN

TENSAR

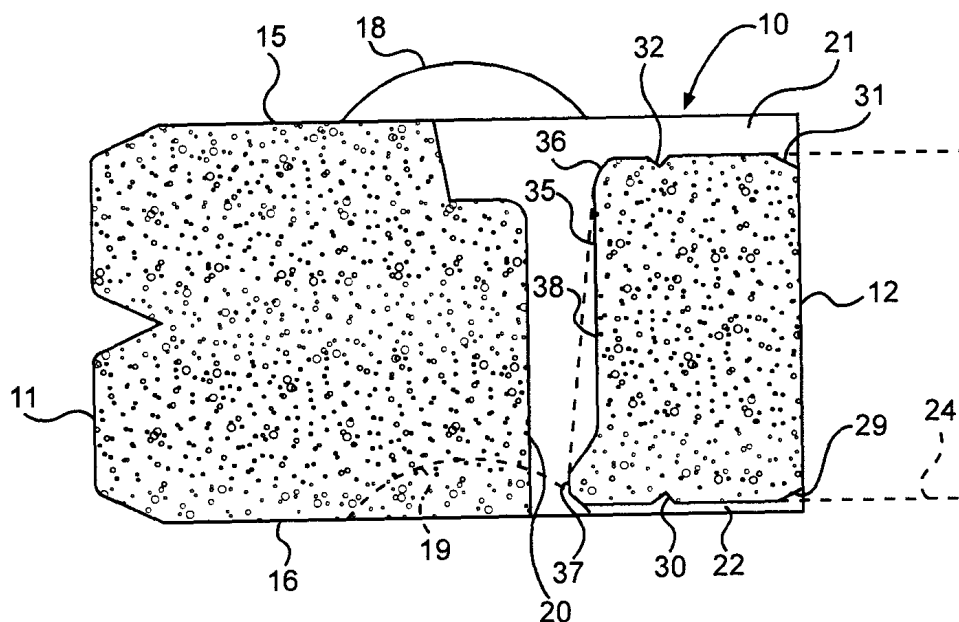
TENSAR TECHNOLOGIES

Family 103/200 - FAMPAT - ©Questel

Title

(WO201215791)

Process for casting concrete wall blocks for use with geogrids

Images**Publication data including kind & date**

CA2806963	C	2018-05-03	CA2806963
GB2495889	B	2016-06-01	GB2495889
US8876438	B2	2014-11-04	US8876438
GB2495889	A8	2013-05-29	GB2495889
GB2495889	A	2013-04-24	GB2495889
GB201302936	D0	2013-04-03	GB201302936
CA2806963	A1	2012-02-02	CA2806963
US20120023857	A1	2012-02-02	US20120023857
WO2012/015791	A1	2012-02-02	WO201215791

**Abstract**

(WO2012/015791)

In casting concrete retaining wall blocks (10), a plurality of mold inserts form a passage (20) between top (15) and bottom (16) surfaces of the block (10), a recess (21) in the block top between the passage (20) and the back (12) of the block (10) and a recess (22) in the bottom (16) of the block (10) between the passage (20) and the back (12) of the block (10). The recesses (21, 22) and the passage (20) are formed by a plurality of mold inserts. When the blocks (10) are used in a retaining wall, geogrid fabric (24) passes from the rear of the wall through one of the recesses (21, 22) in a block (10), through the passage (20) in the block (10) and through the other recess (21, 22) in the block (10) into backfill for stabilizing the wall. The recesses (21, 22) and passage (20) are designed so that any concrete flashing formed between abutting mold inserts is not contacted by the geogrid fabric (24).

Inventors

BERGMANN JOHN W

Latest standardized assignees - inventors removed

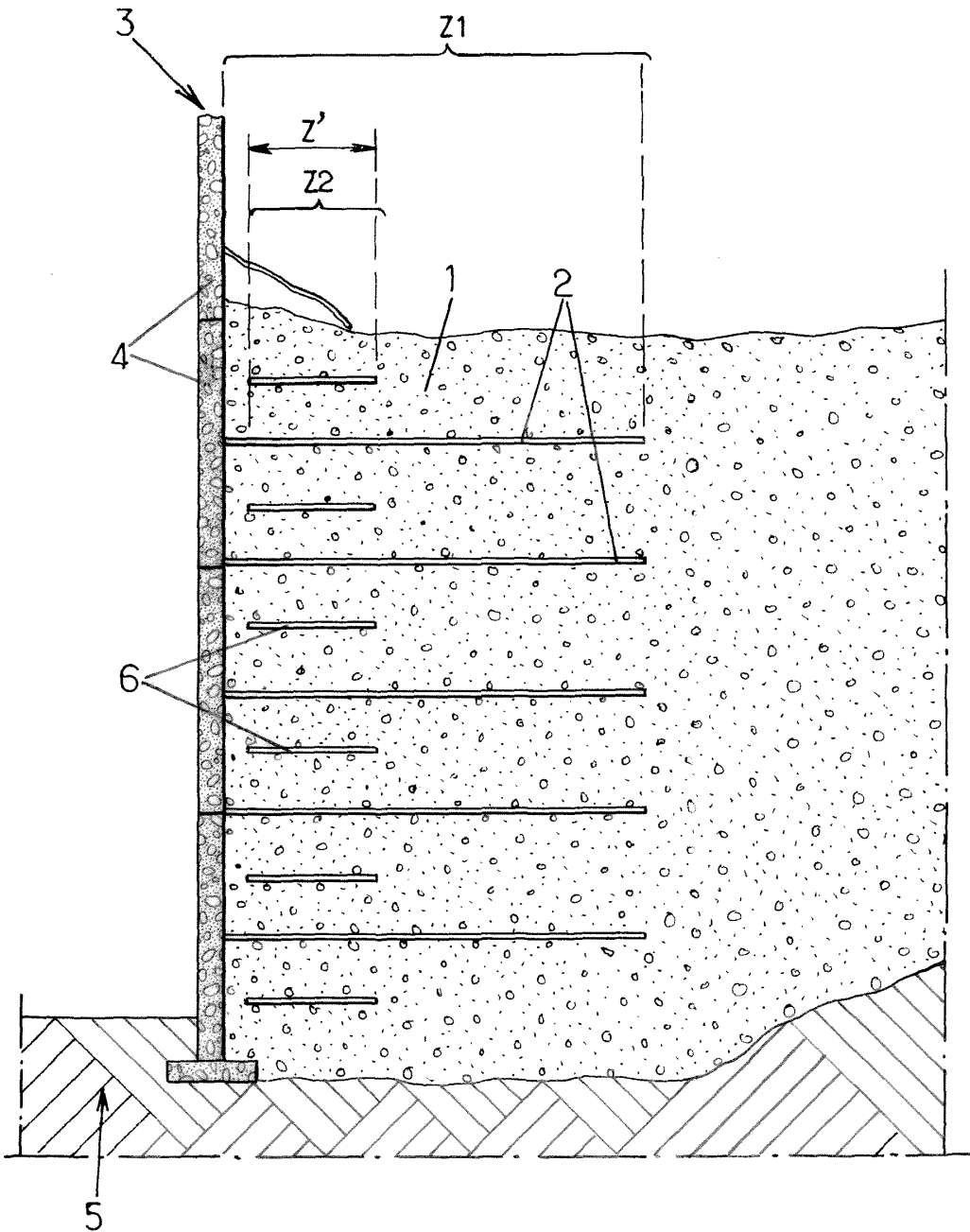
REDI ROCK INTERNATIONAL

Family 104/200 - FAMPAT - ©Questel

Title
(EP2434060)

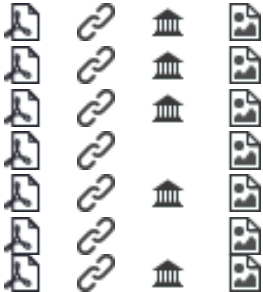
A reinforced soil structure

Images



Publication data including kind & date

CA2811375	C	2019-02-12	CA2811375
AU2011306875	B2	2017-04-20	AU2011306875
BR112013006696	A2	2016-06-07	BR112013006696
MX336078	B	2016-01-06	MX-336078
JP5842006	B2	2015-11-20	JP5842006
RU2567578	C2	2015-11-10	RU2567578



US9080303	B2	2015-07-14	US9080303				
RU2013118699	A	2014-10-27	RU2013118699				
ES2476268	T3	2014-07-14	ES2476268				
ZA201302019	B	2014-05-28	ZA201302019				
EP2434060	B1	2014-04-16	EP2434060				
PE15142013	A1	2014-01-15	PE201301514				
BR112013006696	A1	2014-01-07	BR112013006696				
JP2013540922	A	2013-11-07	JP2013540922				
US20130202367	A1	2013-08-08	US20130202367				
CL2013000805	A1	2013-07-05	CL0805201300				
MX2013003278	A	2013-04-24	MX2013003278				
AU2011306875	A1	2013-03-28	AU2011306875				
AR083094	A1	2013-01-30	AR--83094				
CA2811375	A1	2012-03-29	CA2811375				
WO2012/038549	A1	2012-03-29	WO201238549				
EP2434060	A1	2012-03-28	EP2434060				

Abstract

(EP2434060)

A reinforced soil structure comprising: - a fill (1); - a facing (3) placed along a front face of the structure; - at least one main reinforcement member (2, 9, 26) connected to the facing and extending through a first reinforced zone (Z1) of the fill situated behind said front face; and - at least one secondary reinforcement member (6) disconnected from to the facing and extending in a second reinforced zone (Z2) of the fill which has, with said first reinforced zone (Z1), a common part (Z'), wherein the secondary reinforcement member (6) extends into the fill (1) up to a distance substantially shorter than the main reinforcement member (2, 9, 26), with respect to the front face and wherein the stiffness of the secondary reinforcement member (6) is greater or equal to the stiffness of the main reinforcement member (2, 9, 26).

Inventors

FREITAG NICOLAS

MORIZOT JEAN-CLAUDE

Latest standardized assignees - inventors removed

TERRE ARMEE INTERNATIONALE

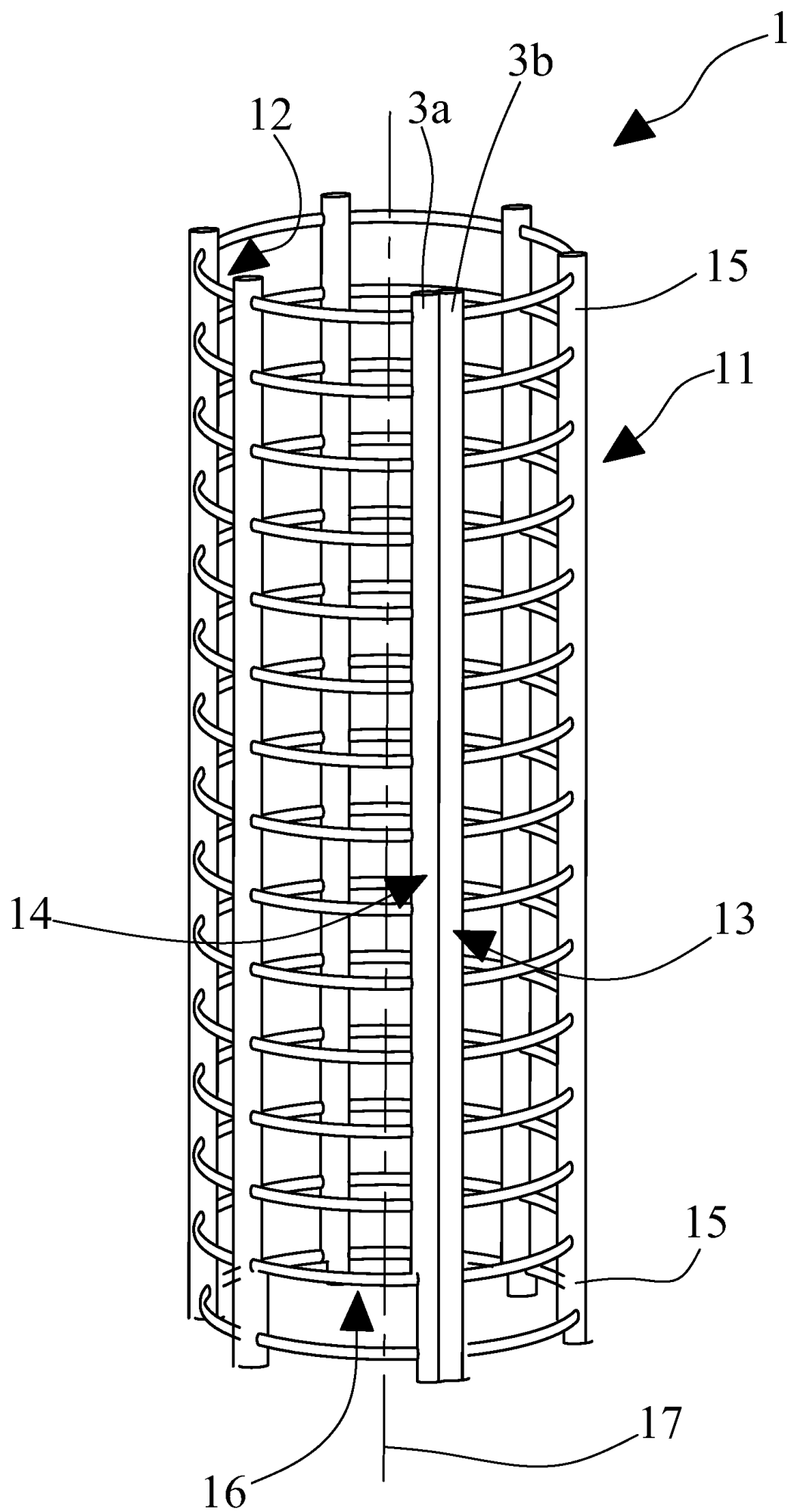
Family 105/200 - FAMPAT - ©Questel

Title

(EP2511429)

A product having a net structure, a process for realizing the product and use of the product for geotechnical applications

Images



Publication data including kind & date

US9358744	B2	2016-06-07	US9358744
EP2511429	A1	2012-10-17	EP2511429
ITMI20110606	A1	2012-10-12	IT2011MI0606
US20120257933	A1	2012-10-11	US20120257933

**Abstract**

(EP2511429)

It is described a reinforcing element (1) for geo-technical applications comprising a monolithic net structure (2) made of a plastic material, having a plurality of first elements (3) distanced from one another and having an elongate conformation in a respective prevalent development direction, a plurality of second elements (4) distanced from one another and also having an elongate conformation, which develop substantially in a transversal direction to the first elements (3), wherein the second elements (4) are stretched along a development thereof and wherein the second elements (4) are configured such that the net structure (2) exhibits a substantially arched profile and forms a longitudinal seating (16) having an axis of extension (17) substantially parallel to the first elements (3). A process of manufacturing the reinforcing element (3) and an artificial or partially artificial structure obtained by consolidating the terrain using the reinforcing element (3) are also described.

Inventors

DE GIUSEPPE GIULIO

BERETTA CESARE

RECALCATI PIERGIORGIO

Latest standardized assignees - inventors removed

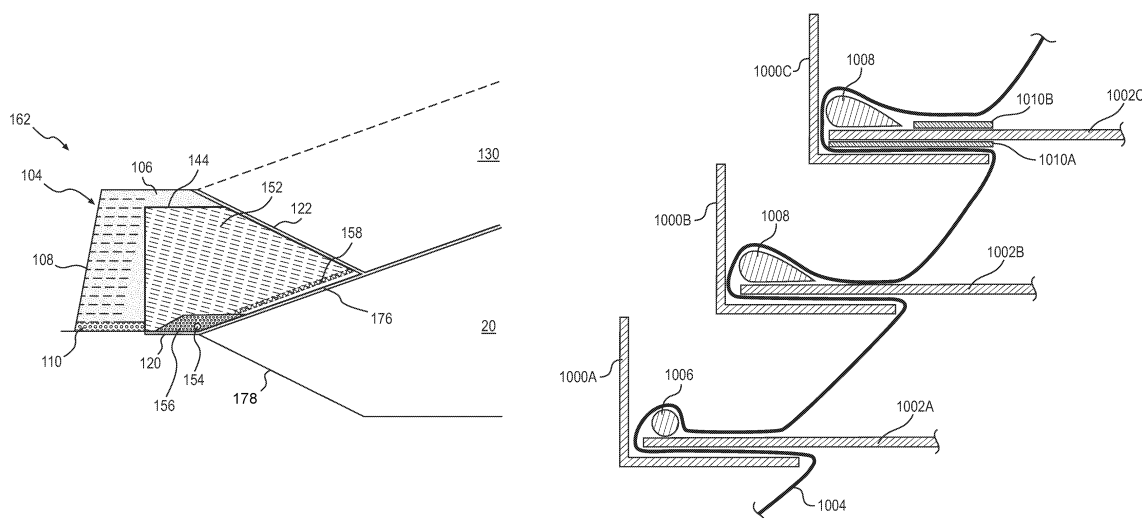
TENAX

Family 106/200 - FAMPAT - ©Questel

Title

(US20140294510)

Berm and method of construction thereof

Images**Publication data including kind & date**

US10174477	B2	2019-01-08	US10174477
US20170211253	A1	2017-07-27	US20170211253
US9662692	B2	2017-05-30	US9662692
US9649673	B2	2017-05-16	US9649673
US9593459	B2	2017-03-14	US9593459



US9540784	B2	2017-01-10	US9540784				
US20150125214	A1	2015-05-07	US20150125214				
US8961073	B2	2015-02-24	US8961073				
US20150037100	A1	2015-02-05	US20150037100				
US20140363235	A1	2014-12-11	US20140363235				
US20140356071	A1	2014-12-04	US20140356071				
US20140294510	A1	2014-10-02	US20140294510				
US8845240	B2	2014-09-30	US8845240				
US20140234028	A1	2014-08-21	US20140234028				
US8784008	B2	2014-07-22	US8784008				
US8727664	B2	2014-05-20	US8727664				
US20130129420	A1	2013-05-23	US20130129420				
US8430600	B2	2013-04-30	US8430600				
US8376657	B2	2013-02-19	US8376657				
US20120237299	A1	2012-09-20	US20120237299				
US20120201606	A1	2012-08-09	US20120201606				
US20110135393	A1	2011-06-09	US20110135393				
US20110135394	A1	2011-06-09	US20110135394				
US20110135403	A1	2011-06-09	US20110135403				

Abstract

(US20140294510)

A berm comprises a reinforced portion, backfill material, a drainage system, and a drainage layer. The reinforced portion has opposing inner and outer surfaces and comprises structural fill material and a plurality of reinforcing members disposed therein. The backfill material has an inner surface adjacent the inner surface of the reinforced portion. The backfill material is at least partially encapsulated by an impermeable membrane. The backfill material comprises contaminated fill material. The drainage system is within the impermeable membrane. The drainage layer is adjacent an inner surface of the impermeable membrane and contacting the drainage system.

Inventors

DUDDING CARLTON

Latest standardized assignees - inventors removed

AWT IP

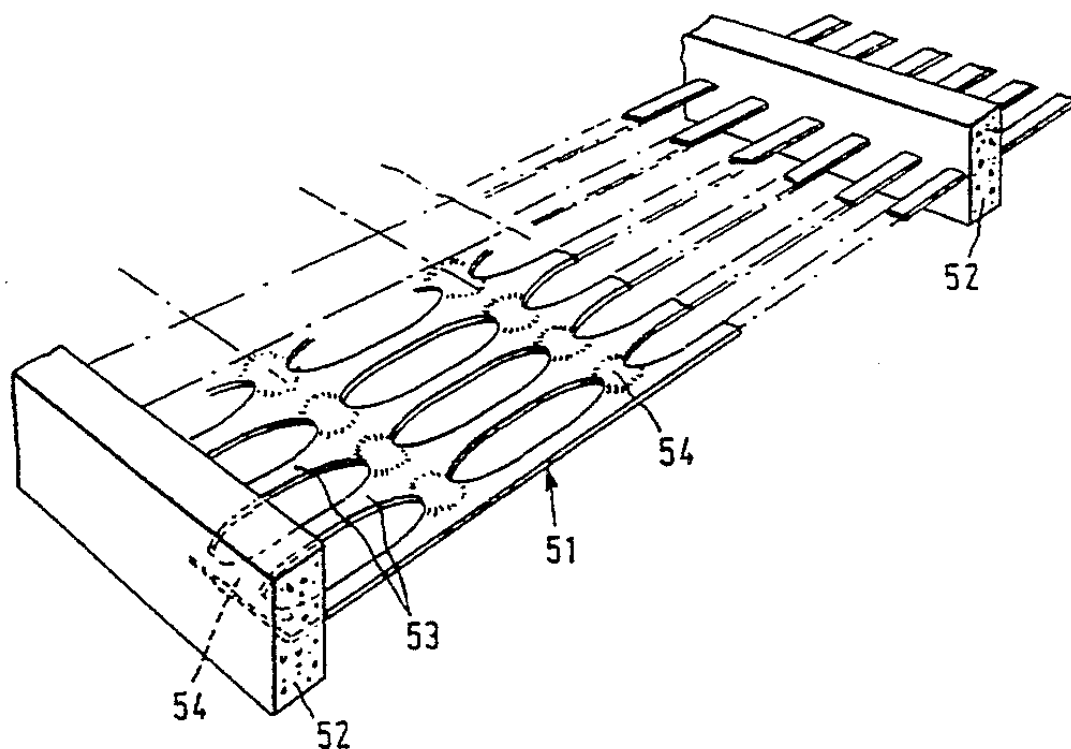
Family 107/200 - FAMPAT - ©Questel

Title

(US5419659)

Plastic material mesh structure

Images

**Publication data including kind & date**[US5419659](#)

A 1995-05-30 US5419659

**Abstract**

(US5419659)

A reinforced civil engineering structure is formed by embedding in soil one or more horizontal layers of a flexible, integral, plastics material mesh structure having oriented strands and transverse members with relatively large mesh openings. In the mesh structure, the orientation of the strands penetrates into the zones of the intersections of the strands and transverse members but the intersection zones have portions which are unorientated or substantially less orientated than the mid-points of the strands. The mesh structure has been formed by stretching a sheet of starting material having a thickness of not less than 1.5 mm and a pattern of holes whose centers lay on a square or rectangular grid, the stretching being parallel to one of the axes of the grid. The soil engages in the mesh openings, and the mesh structure provides good slip resistance properties and good stress transmission paths.

Inventors

MERCER FRANK B

Latest standardized assignees - inventors removed

TENSAR EARTH TECHNOLOGIES

ADVANCED EARTH TECHNOLOGY

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GEOTECHNICAL REINFORCEMENT

TENSAR POLYTECHNOLOGIES

MERITEX PRODUCTS

TENSAR HOLDINGS

GEOPIER FOUNDATION

NORTH AMERICAN GREEN

TENSAR

TENSAR TECHNOLOGIES

Family 108/200 - FAMPAT - ©Questel

Title

(US7740422)

Method for producing large surface area geogrids with high tensile strength and large surface area geogrids

Publication data including kind & date[US7740422](#)

B2

2010-06-22

US7740422

[US20080066847](#)

A1

2008-03-20

US20080066847

**Abstract**

(US20080066847)

The invention provides large surface area geogrids with a high tensile strength, a method and apparatus for producing them, and their use as drain and reinforcement grids and as fences. The method for the continuous production of geogrids which have a large surface area and comprise thermoplastic bars which cross one another and are joined together by welding at the areas where they cross one another is characterized in that single-layer, homogeneous, molecular-oriented plastic bars with a high tensile strength are used and a multiplicity of crossing areas arranged behind one another and next to one another are intermittently welded simultaneously using the vibration-welding technique. In this method, a newly developed vibration-welding apparatus is used, which is characterized in that it has at least one vibration device which can be used to weld at least 100 crossing areas, preferably up to 500 crossing areas, simultaneously.

Inventors

HEERTEN GEORG

MUELLER VOLKHARD

PRIEWICH STEPHAN

UEHLEMANN WERNER

Latest standardized assignees - inventors removed

JOHNSON CONTROLS

Family 109/200 - FAMPAT - ©Questel

Title

(EP1415053)

Multi-channel retaining wall block and system

Images

system in particularly useful for stabilizing free-standing walls. Horizontal reinforcing members (20) are also used in the channels (122a, 124a, 126a) and vertical reinforcing members (10) are used in cores (116) of adjacent blocks for reinforcing a wall. Reinforcing geosynthetic material (70) can also be firmly held in a wall by means of the pins (30) or by connectors (50) adapted to fit in the block channels.

Inventors

MACDONALD ROBERT

RACE ROBERT

Latest standardized assignees - inventors removed

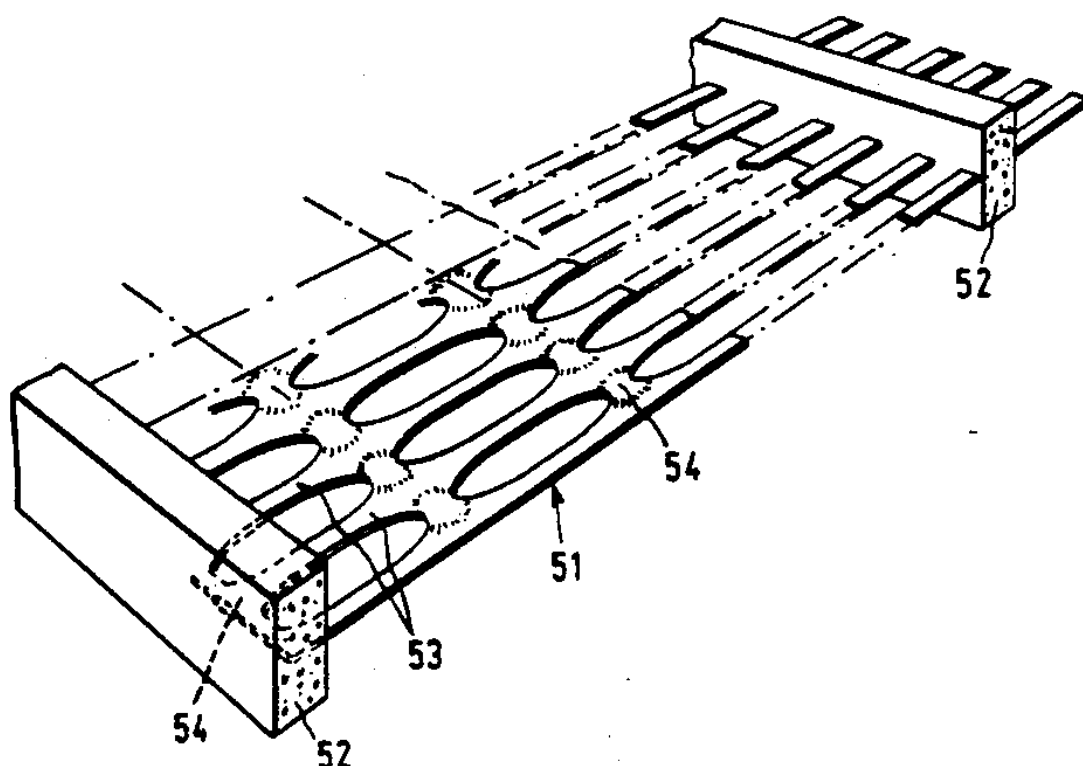
KEystone RETAINING WALL SYSTEMS

Family 110/200 - FAMPAT - ©Questel

Title

(US5156495)

Plastic material mesh structure

Images**Publication data including kind & date**

US5156495	B1	1994-08-30	US5156495
US5156495	A	1992-10-20	US5156495

**Abstract**

(US5156495)

In order to produce high tensile strength mesh structures, starting material, which is at least 0.75 mm thick and which has a square or rectangular pattern of holes or depressions, is stretched either in one direction or in two directions at right angles. The uniaxially stretched structure has orientated strands which are connected by parallel bars, the orientation of the strands penetrating into the bars but the centers of the bars being thicker than the strands, all along the length of the bar center. The biaxially stretched structure has orientated strands which are interconnected by orientated junctions which have orientated crotches between the strands; the thinnest parts of the junctions are not less than 75% of the thickness of the strands, the thickest parts of the junctions are thicker than the thinnest parts and thicker than the strands, and the center of the junction is not the thinnest part of the junction.

Inventors

MERCER FRANK B

Latest standardized assignees - inventors removed

TENSAR EARTH TECHNOLOGIES

ADVANCED EARTH TECHNOLOGY

ATLANTECH ALABAMA

GEOTECHNICAL REINFORCEMENT

TENSAR POLYTECHNOLOGIES

MERITEX PRODUCTS

TENSAR HOLDINGS

GEOPIER FOUNDATION

NORTH AMERICAN GREEN

TENSAR

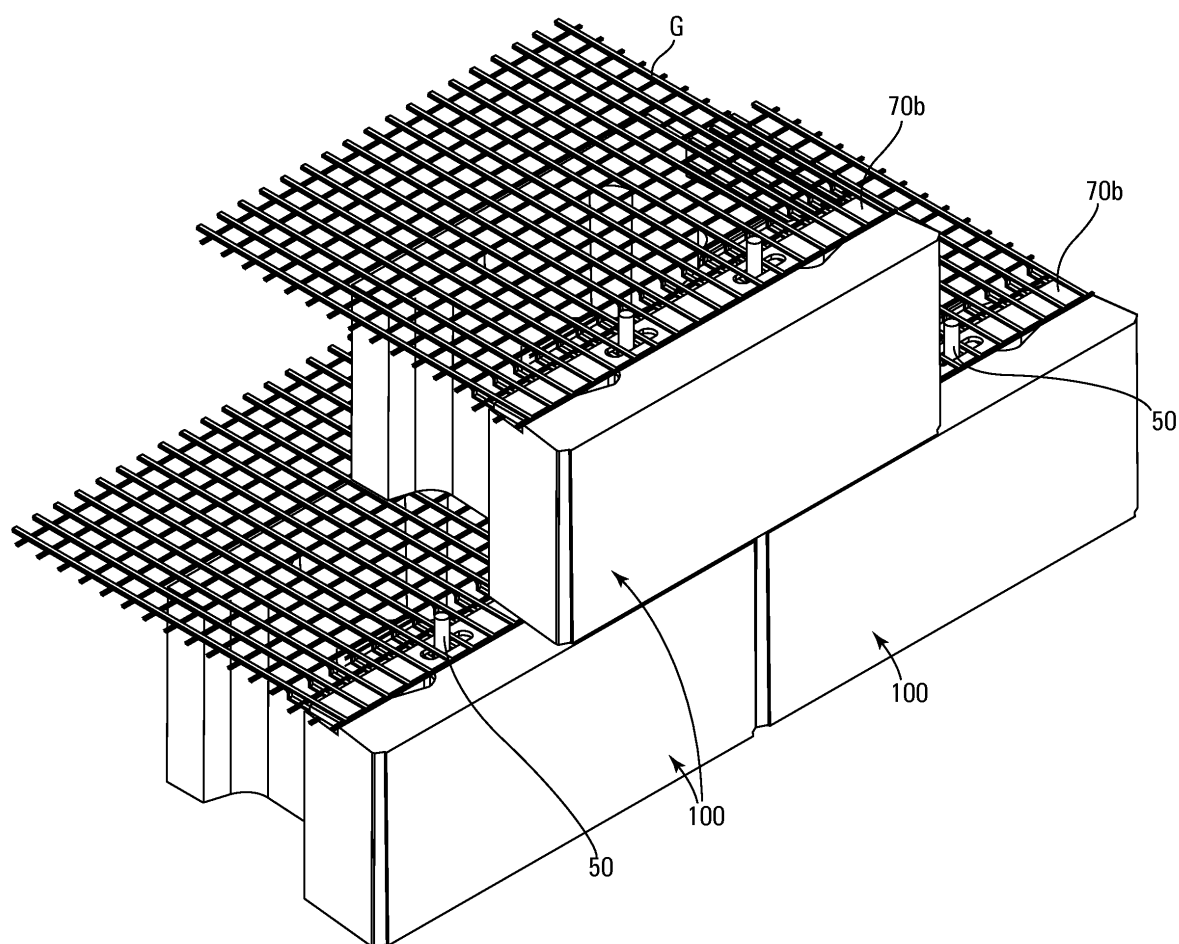
TENSAR TECHNOLOGIES

Family 111/200 - FAMPAT - ©Questel

Title

(EP2542724)

Retaining wall

Images**Publication data including kind & date**

AU2011223600	B2	2016-02-25	AU2011223600
US9028175	B2	2015-05-12	US9028175
EG27025	A	2015-04-05	EG--27025
US20140105691	A1	2014-04-17	US20140105691



US8622659	B2	2014-01-07	US8622659				
JP2013521422	A	2013-06-10	JP2013521422				
EP2542724	A1	2013-01-09	EP2542724				
MX2012009985	A	2012-09-21	MX2012009985				
AU2011223600	A1	2012-09-13	AU2011223600				
US20110243669	A1	2011-10-06	US20110243669				
CA2790972	A1	2011-09-09	CA2790972				
WO2011/109621	A1	2011-09-09	WO2011109621				

Abstract

(EP2542724)

A retaining wall, having blocks (100), said blocks (100) being locked together by channel bars (70a, 70b).

Inventors

FRIEDERICHS JOSEPH

MORITZ CRAIG

Latest standardized assignees - inventors removed

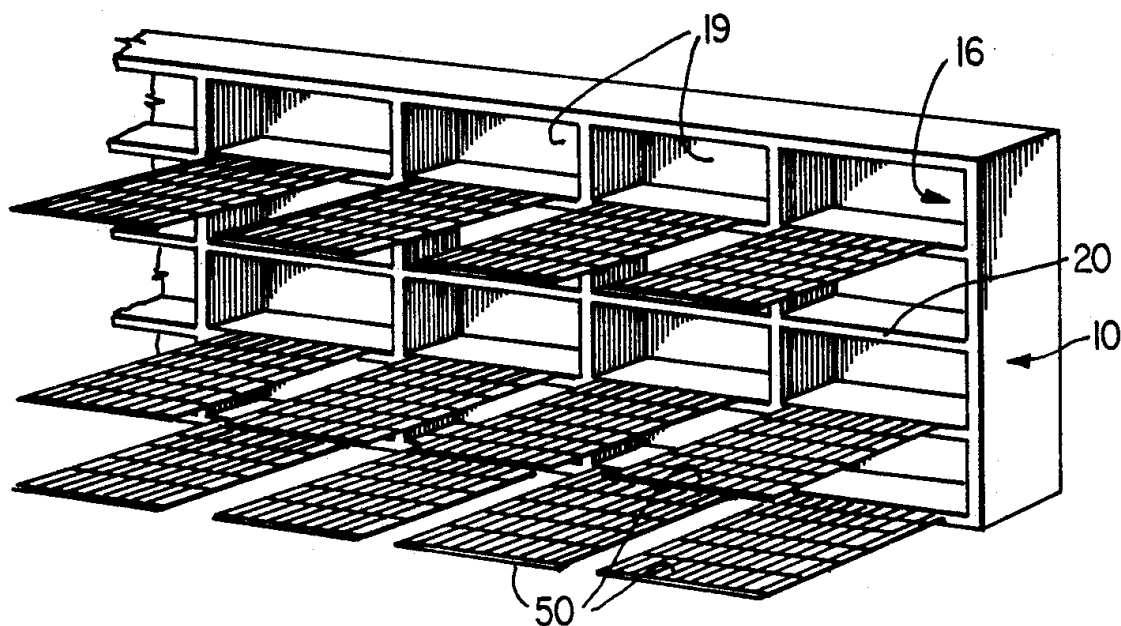
KEYSTONE RETAINING WALL SYSTEMS

Family 112/200 - FAMPAT - ©Questel

Title

(US4728227)

Retaining wall structure

Images**Publication data including kind & date**

US5028172	A	1991-07-02	US5028172				
CA1243497	A	1988-10-25	CA1243497				
US4728227	A	1988-03-01	US4728227				

Abstract

(US4728227)

There is described a new and improved soil reinforcing structure including an upright earth retaining wall having a front surface and a rear surface, at least one flexible anchoring grid extending rearwardly from the rear surface of the wall into compacted soil behind the wall, the grid having along its length a plurality of transverse rows of apertures, the apertures being spaced from one another by an intervening web, a second flexible grid horizontally anchored in the rear surface of

	A1	2010-12-01	EP2255039				
US20090214821	A1	2009-08-27	US20090214821				
CA2715473	A1	2009-08-20	CA2715473				
WO2009/102475	A1	2009-08-20	WO2009102475				

Abstract

(EP2255039)

A multi-axial geogrid possesses a series of interconnected strands or ribs that are arranged along at least two different axes within the plane of the structure. The strands or ribs have an aspect ratio, defined as the ratio of the thickness to width, of greater than 1.0, thickness being the direction normal to the plane of the structure. The geogrid can be manufactured by modifying the process parameters in order to create high aspect ratio ribs, using any of the various known methods for producing geogrids. A reinforced civil engineering structure, and method therefor, is formed by embedding in soil one or more horizontal layers of geogrid having high aspect ratio ribs. The reinforced structure shows improved rutting performance when subjected to vehicular traffic.

Inventors

WALSH ANTHONY T

Latest standardized assignees - inventors removed

TENSAR TECHNOLOGY

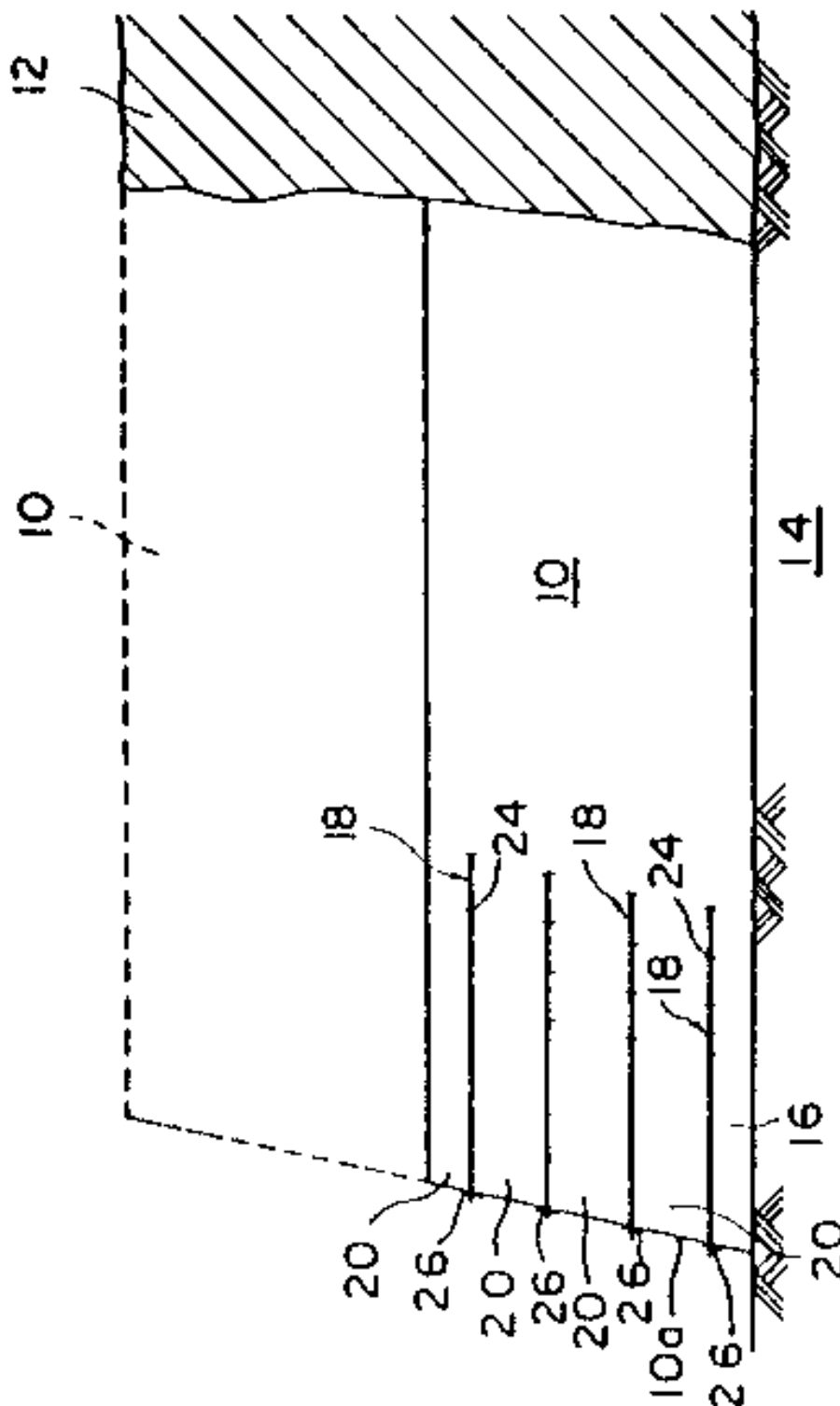
Family 114/200 - FAMPAT - ©Questel

Title

(JP61216928)

Construction of banking and reinforcement therefor

Images



Publication data including kind & date

[JPS61216928](#)

A 1986-09-26 JP61216928

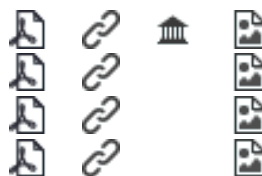


Abstract

(JPS61216928)

PURPOSE: To obtain a given bearing capacity by a method in which next stage soil layer is formed, a drawing force is applied to at least one reinforcement, and if the reinforcement is drawn out, a reinforcement having larger surface area than that of a reinforcement to be set on the next soil layer is used. **CONSTITUTION:** Soil is banked on the ground 14 where a banking is to be constructed and compacted to form the lowest soil layer 16, and reinforcements 18 are set with a spacing on the soil layer 16. Soil is then banked on the layer 16 and compacted to form the next stage soil layer 20, and a drawing force is applied to at least one reinforcement 18. In case where the reinforcement 18 is not drawn out, the reinforcement 18

FR2234427	A1	1975-01-17	FR2234427
DE2429949	A1	1975-01-16	DE2429949
NL7408165	A	1974-12-24	NL7408165
SE7308792	A	1974-12-23	SE7308792
FI185774	A	1974-12-22	FI7401857

**Abstract**

(US3925994)

An earth-filling reinforcement structure comprises one or more elongated, earth-imbedded carpets oriented in a plane substantially parallel to the surface of the earth being reinforced. Each carpet comprises a comparatively wide net-like sheet fabricated of a substantially non-corrosive metallic or synthetic material, with the opposing ends of each sheet being rigidly anchored between a pair of beam elements fabricated of concrete or the like.

Inventors

BROMS BENGT

WAGER OLEG

Latest standardized assignees - inventors removed

FODERVAEVNADER

Family 116/200 - FAMPAT - ©Questel

Title

(EP-680538)

Construction element, in particular supporting or sound insulating construction element capable of being planted, and set of construction elements

Images

NO951619	D0	1995-04-27	NO9501619
WO95/06783	A3	1995-04-27	WO9506783
AU7693194	A	1995-03-22	AU9476931
WO95/06783	A2	1995-03-09	WO9506783
DE4329370	A1	1995-03-02	DE4329370



Abstract

(EP0680538)

A construction element, in particular a supporting or sound-insulating construction element capable of being planted, has an at least partially permeable casing and a block-shaped, granulated, bulk and/or porous filling material. The object of the invention is to create a construction element of said type that is easy and cheap to produce, has a high supporting capacity and may be intensively planted. For that purpose, the casing (MT) has an at least partially stiff trellis (GT) and at least one net (NT) which at least in sections has finer and softer meshes than the trellis. The casing is designed as a closed hollow body which is frictionally, form-fittingly or materially coupled to the filling (FL) so as to form a prefabricated, substantially self-supporting construction element.

Inventors

JAECKLIN FELIX PAUL DR

Latest standardized assignees - inventors removed

JAECKLIN FELIX PAUL

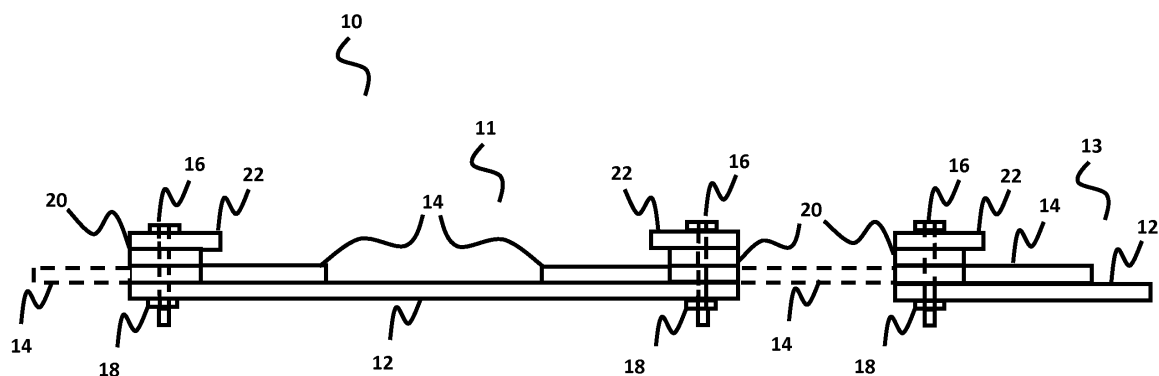
Family 117/200 - FAMPAT - ©Questel

Title

(EP2572044)

Tire georeinforcing system

Images



Publication data including kind & date

IL223041	B	2016-07-31	IL-223041
BR112012029316	A2	2016-07-26	BR112012029316
EP2572044	A4	2016-04-20	EP2572044
US9051707	B2	2015-06-09	US9051707
CA2799668	C	2015-03-17	CA2799668
RU2541993	C2	2015-02-20	RU2541993
KR101464616	B1	2014-11-24	KR101464616
RU2012154326	A	2014-06-27	RU2012154326
US8485760	B2	2013-07-16	US8485760
BR112012029316	A1	2013-07-02	BR112012029316
US20130149047	A1	2013-06-13	US20130149047
MX2012013311	A	2013-04-03	MX2012013311



EP2572044	A1	2013-03-27	EP2572044				
IL223041	A	2013-02-03	IL-223041				
KR20130010494	A	2013-01-28	KR20130010494				
CA2799668	A1	2011-11-24	CA2799668				
WO2011/146545	A1	2011-11-24	WO2011146545				
US20110280671	A1	2011-11-17	US20110280671				

Abstract

(EP2572044)

A georeinforcing system, comprising a plurality of georeinforcement elements, each georeinforcement element formed from one or more basic connector pieces having one or more tire treads and one or more tire sidewalls fastened together in an alternating pattern with non-metallic screws. The plurality of georeinforcement elements are attached to a facing element and surrounded in particulate matter to support the facing element.

Inventors

MERRILL MICHAEL J

Latest standardized assignees - inventors removed

ARMATERRA

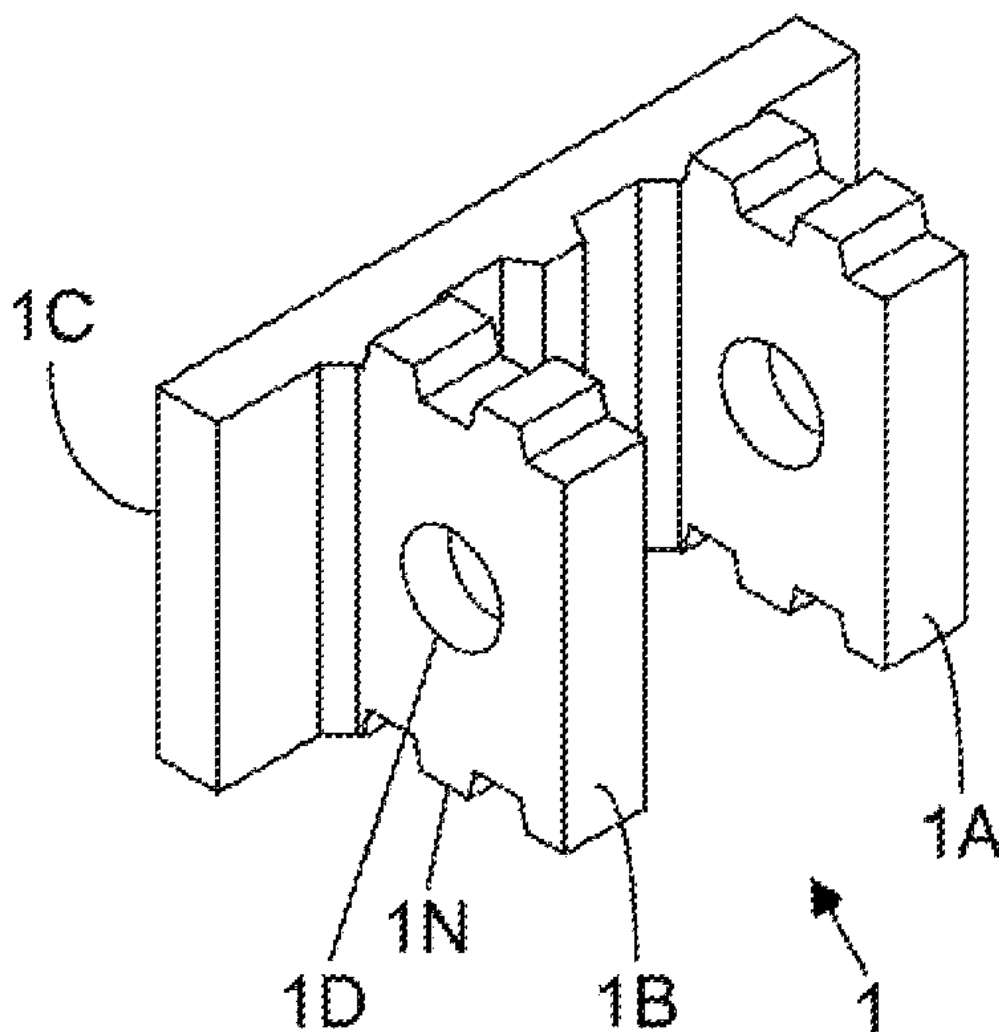
Family 118/200 - FAMPAT - ©Questel

Title

(US20190136482)

Block reinforcement cage having stem reinforcement portions with open apertures formed therein, for use in reinforcing a molded concrete u-wall construction block

Images



Publication data including kind & date

US20190136482	A1	2019-05-09	US20190136482
US10053832	B2	2018-08-21	US10053832
US20170298588	A1	2017-10-19	US20170298588
US9630342	B2	2017-04-25	US9630342
US20150072038	A1	2015-03-12	US20150072038
US8888481	B2	2014-11-18	US8888481
US20120175814	A1	2012-07-12	US20120175814



Abstract

(US20190136482)

A block reinforcement cage made from reinforcing material and adapted for loading within a machine during a block manufacturing process for molding a concrete U-wall construction block structure. The block cage includes an open aperture formed in each of its stem reinforcing portions. During the block manufacturing process, the first and second support members of a support mechanism are inserted within the open apertures formed in the stem reinforcing sections of the block cage, and cooperate with the open apertures of the block cage so as to (i) support the block cage when being loaded into a block manufacturing machine, (ii) define central apertures molded in each stem portion of the concrete U-wall construction block structure, and (iii) lift the molded concrete U-wall construction block when being unloaded from the machine.

Inventors

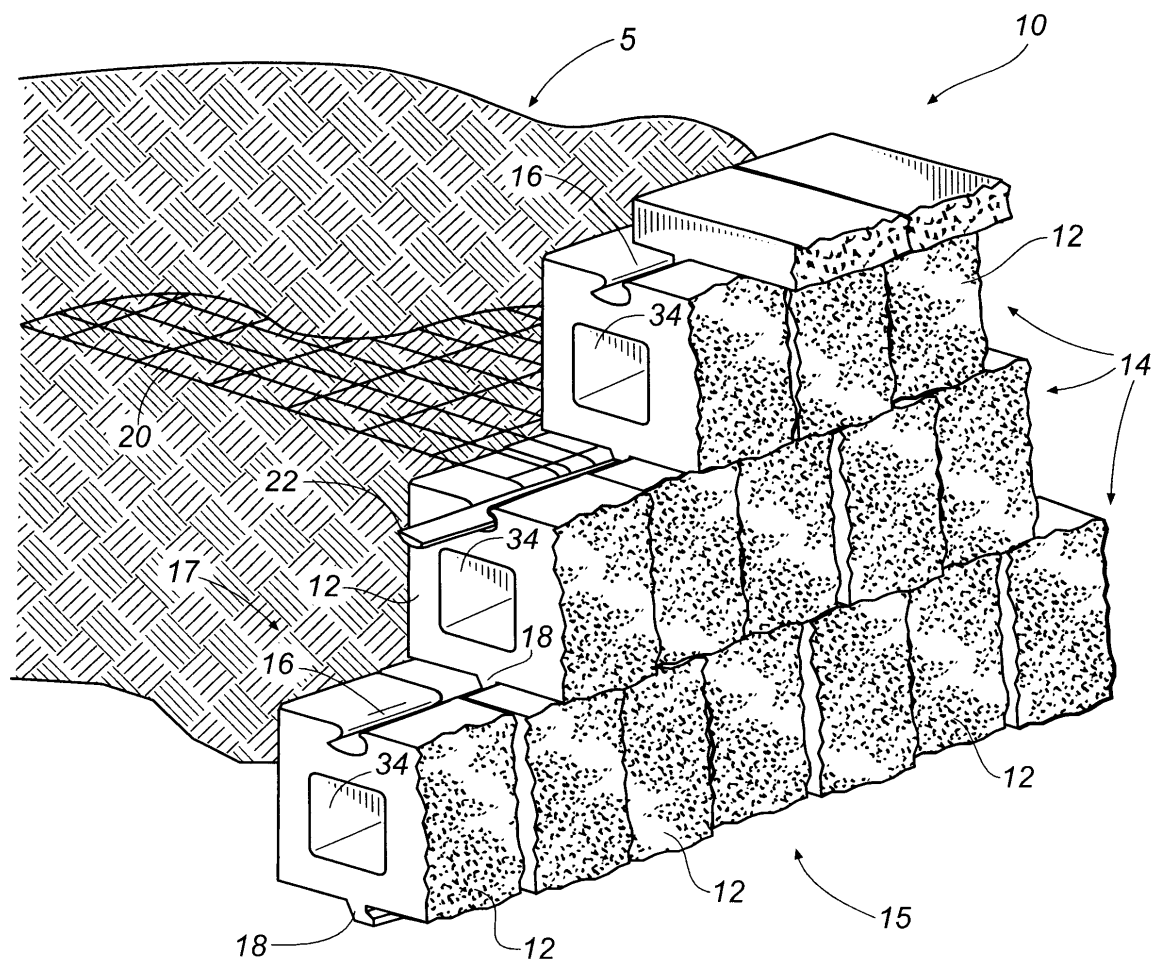
O'NEILL RAYMOND

CARR DENNIS

STABLE CONCRETE STRUCTURES

Segmental retaining wall system

Images



CZ303170	B6	2012-05-09	CZ-303170
JP4676120	B2	2011-02-04	JP4676120
ES2318651	T3	2009-05-01	ES2318651
DE60041673	D1	2009-04-09	DE60041673
PT1788158	E	2009-03-24	PT1788158
AT423875	T	2009-03-15	ATE423875
EP1788158	B1	2009-02-25	EP1788158
IN225004	B	2008-10-31	IN-225004
BRPI0011855	B1	2008-10-21	BR200011855
USRE39922	E1	2007-11-20	USRE39922
DE60032901	T2	2007-10-25	DE60032901
ES2279755	T3	2007-09-01	ES2279755
CA2370574	C	2007-05-29	CA2370574
EP1788158	A1	2007-05-23	EP1788158
PT1196662	E	2007-04-30	PT1196662



DE60032901	D1	2007-02-22	DE60032901				
MY128211	A	2007-01-31	MY-128211				
EP1196662	B1	2007-01-10	EP1196662				
IL147230	B	2006-04-10	IL-147230				
IN1193/KOLNP/2001	A	2006-02-03	IN2001KN01193				
KR100522261	B1	2005-10-19	KR100522261				
HK1047779	A1	2004-12-10	HK1047779				
CN1155757	C	2004-06-30	CN1155757C				
PL355836	A1	2004-05-17	PL2000355836				
AR033795	A1	2004-01-07	AR--33795				
AU2003259600	A1	2003-11-20	AU2003259600				
NZ516498	A	2003-08-29	NZ-516498				
AU764241	B2	2003-08-14	AU-764241				
JP2003504535	A	2003-02-04	JP2003504535				
EP1196662	A4	2003-01-08	EP1196662				
CZ20014554	A3	2002-08-14	CZ200104554				
IL147230	A	2002-08-14	IL-147230				
KR20020062566	A	2002-07-26	KR20020062566				
CN1360656	A	2002-07-24	CN1360656				
US6416257	B1	2002-07-09	US6416257				
MXPA01013378	A	2002-07-02	MX2001PA013378				
EP1196662	A1	2002-04-17	EP1196662				
BR0011855	A	2002-03-05	BR200011855				
BRPI0011855	A1	2002-03-05	BRPI0011855				
NO20016186	A	2002-02-20	NO200106186				
NO20016186	L	2002-02-20	NO20016186				
NO20016186	D0	2001-12-18	NO200106186				
US6318934	B1	2001-11-20	US6318934				
AU2742000	A	2001-01-31	AU200027420				
CA2370574	A1	2001-01-04	CA2370574				
WO01/00932	A1	2001-01-04	WO200100932				

Abstract

(EP1196662)

The present invention relates to a wall block for use in a segmental retaining wall system (10). The wall block (12) comprises an interior face (26) for forming an interior surface of a segmental retaining wall, an exterior face (24) for forming an exterior surface of the segmental retaining wall, first and second sides (32) that extend from the exterior face to the interior face, and a top surface (28) and a bottom surface (30). Further provided in the wall block is a channel (16) defined by a front wall (36), a rear wall (38), and an arcuate bottom surface (40). The channel extends across one of the faces and surfaces.

Inventors

BORGERSSEN SVENN

RAINEY THOMAS L

TURGEON-SCHRAMM JOHN W

Latest standardized assignees - inventors removed

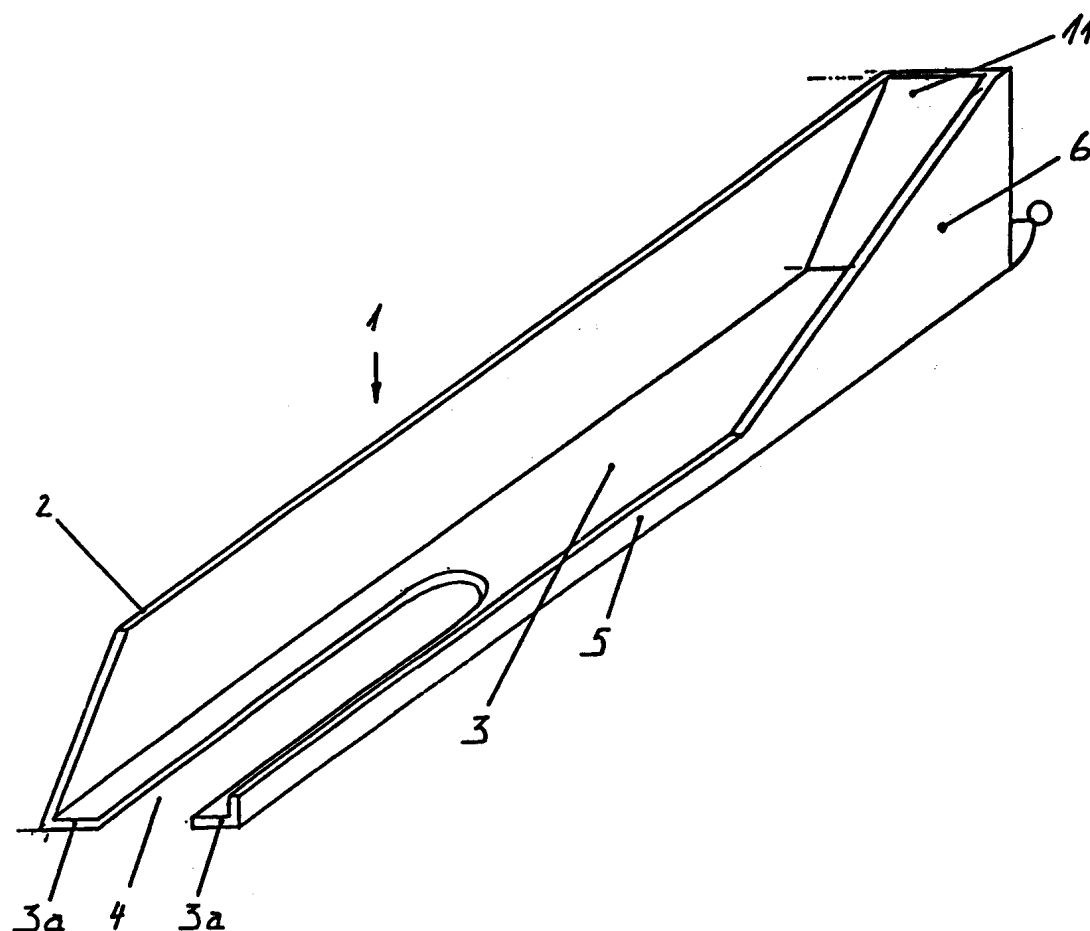
ANCHOR WALL SYSTEMS

Family 120/200 - FAMPAT - ©Questel

Title

(WO9923313)

Slip form for constructing support walls

Images**Publication data including kind & date**[WO99/23313](#)

A1 1999-05-14

WO9923313

**Abstract**

(WO99/23313)

The aim of the invention is to create a side slope stabilisation which can be produced at the construction site without the use of prefabricated bodies, but with all the same advantages and with the option of reusing the excavated material. The invention should therefore save time and be more economical. To this end, a trough-type form (1) consisting of a resistant dimensionally stable material is provided. Said form (1) comprises a front wall (2) positioned at an angle with a base wall (3) which corresponds to the angle of incidence of the slope side or the embankment. Said base wall (3) is provided with a recess (4) extending in a longitudinal direction for approximately half the length of the form (1) and a guiding groove (5) which is positioned on the base wall (3) at least approximately perpendicularly thereto and which extends over the entire length of the form (1), as a lateral finish to the base wall (3).

Inventors

VON KAENEL HANS RUDOLF

Latest standardized assignees - inventors removed

SYTEC BAUSYSTEME

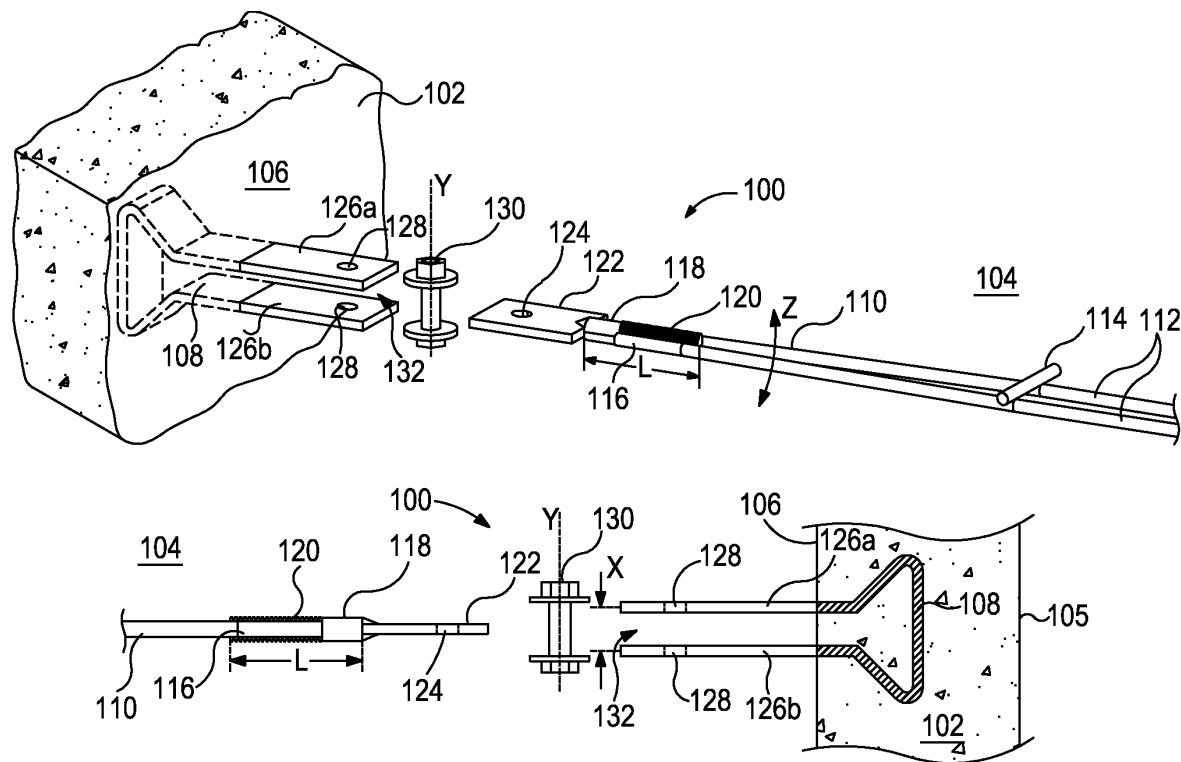
Family 121/200 - FAMPAT - ©Questel

Title

(WO2012151342)

Retaining wall soil reinforcing connector and method

Images

**Publication data including kind & date**

US9605402	B2	2017-03-28	US9605402
WO2012/151342	A3	2013-01-24	WO2012151342
CA2834919	A1	2012-11-08	CA2834919
WO2012/151342	A2	2012-11-08	WO2012151342
US20110229274	A1	2011-09-22	US20110229274

**Abstract**

(WO2012/151342)

An apparatus for connecting an earthen formation to a concrete facing of a mechanically stabilized earth (MSE) structure, and a method of manufacturing the same. A one-piece, flat, plate-like connector has a stem and a tab, wherein the stem is resistance welded to a soil reinforcing element embedded within the earthen formation. The tab is connected to a facing anchor attached to the concrete facing. The stem of the plate connector has grooves formed in its opposing sides and longitudinal channels to increase the strength of the resistance weld.

Inventors

TAYLOR THOMAS P

Latest standardized assignees - inventors removed

T & B STRUCTURAL SYSTEMS

Family 122/200 - FAMPAT - ©Questel

Title

(EP1038069)

Retaining wall block

Images

NO20003025	D0	2000-06-13	NO200003025				
AU5482799	A	2000-05-01	AU9954827				
CA2314133	A1	2000-04-20	CA2314133				
WO00/22243	A1	2000-04-20	WO200022243				
AUPP647298	A0	1998-11-05	AU-647298				

Abstract

(EP1038069)

A retaining wall block (1) has parallel top and bottom faces, a front face (4), a rear face (5), first and second side wall faces (6, 7) and a vertical plane of symmetry (S) extending between the front and rear faces (4, 5). The block (1) is formed as a body portion (8) including the front face (4), a head portion (9) including the rear face (5) and a neck portion (10) connecting the body portion (8) and the head portion (9). The body, head and neck portions (8, 9, 10) each extend between the top and bottom faces and between the first and second side wall faces (6, 7). An opening (13) extends through the neck portion (10) from the top face (2) to the bottom face, dividing the neck portion (10) into first and second neck wall members (14, 15) extending rearwardly from the body portion (8) to the head portion (9). First and second pin holes (16, 17) are each disposed in the body portion (8) and open onto the top face (2) for receiving a pin with a free end of the pin protruding beyond the top face.

Inventors

MACDONALD ROBERT

RACE ROBERT

Latest standardized assignees - inventors removed

STORMWATER MANAGEMENT

CONTECH CONSTRUCTION PRODUCTS

CONTECH ENGINEERED SOLUTIONS

ARMORTEC

PETRATECH

CONTECH TECHNOLOGIES

CONTECH STORMWATER SOLUTIONS

CDS TECHNOLOGIES

CONTECH ARCH TECHNOLOGIES

VORTECHNICS

CONTECH BRIDGE SOLUTIONS

IMBRIUM SYSTEMS

CONTECH EARTH STABILIZATION SOLUTIONS

CONTECH TRUCKING & LOGISTICS

MELLON BANK

KEYSTONE RETAINING WALL SYSTEMS

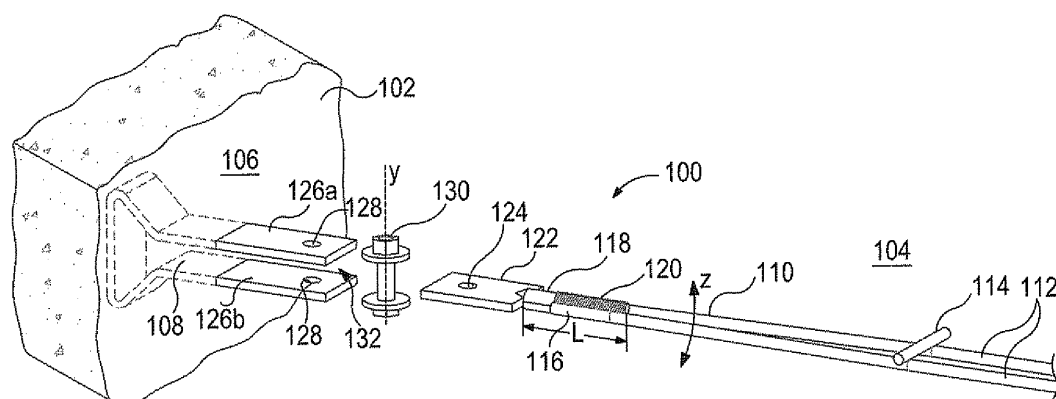
Family 123/200 - FAMPAT - ©Questel

Title

(WO2011127349)

Retaining wall soil reinforcing connector and method

Images



Publication data including kind & date

CA2795764	C	2018-06-26	CA2795764
AU2011237469	B2	2016-10-20	AU2011237469
US8632277	B2	2014-01-21	US8632277
AU2011237469	A1	2012-11-01	AU2011237469
WO2011/127349	A3	2012-01-26	WO2011127349
CA2795764	A1	2011-10-13	CA2795764
WO2011/127349	A2	2011-10-13	WO2011127349
US20100247248	A1	2010-09-30	US20100247248



Abstract

(WO2011/127349)

An apparatus and method of connecting an earthen formation to a concrete facing of a mechanically stabilized earth (MSE) structure. A one-piece connector having a stem and a tab, wherein the stem is connected to a soil reinforcing element embedded within the earthen formation and the tab is connected to a facing anchor attached to the concrete facing. The connection allows soil reinforcing mats to swivel in a horizontal plane, but also to shift vertically in reaction to MSE settling or thermal expansion/contraction of an MSE structure.

Inventors

TAYLOR THOMAS P

Latest standardized assignees - inventors removed

T & B STRUCTURAL SYSTEMS

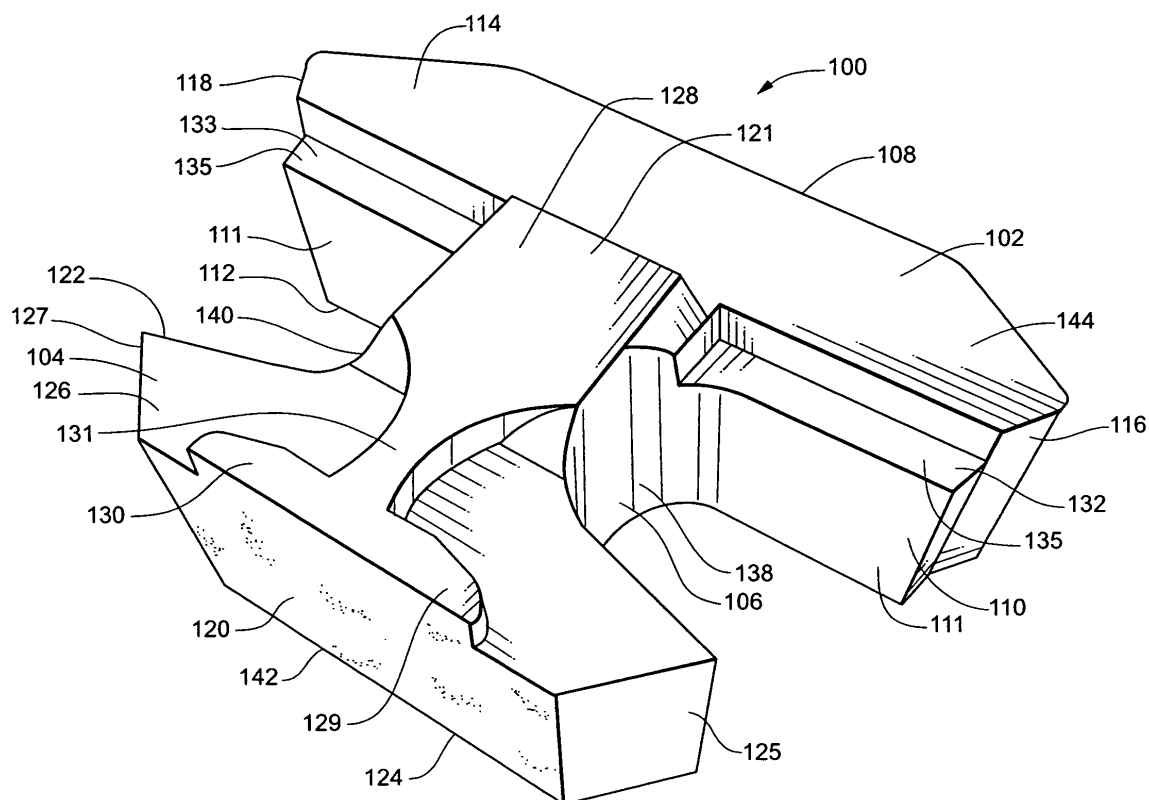
Family 124/200 - FAMPAT - ©Questel

Title

(WO2007117250)

Invertible retaining wall block

Images



Publication data including kind & date

US7351015	B2	2008-04-01	US7351015
US20080063480	A1	2008-03-13	US20080063480
WO2007/117250	A1	2007-10-18	WO2007117250
US20070094991	A1	2007-05-03	US20070094991



Abstract

(WO2007/117250)

An invertible retaining wall block comprises a front portion, a rear portion and a neck portion connecting the front portion and rear portion. A projection extends outwardly from the block to interlock with similar blocks in adjacent courses of blocks. One or more notches are provided to the front portion in order to allow the base course of blocks to be placed in an inverted orientation with respect to subsequent courses because the notch provides clearance for the protrusion.

Inventors

PRICE BRIAN A
PRICE RAYMOND R
PRICE GERALD P

Latest standardized assignees - inventors removed

ANCHOR WALL SYSTEMS

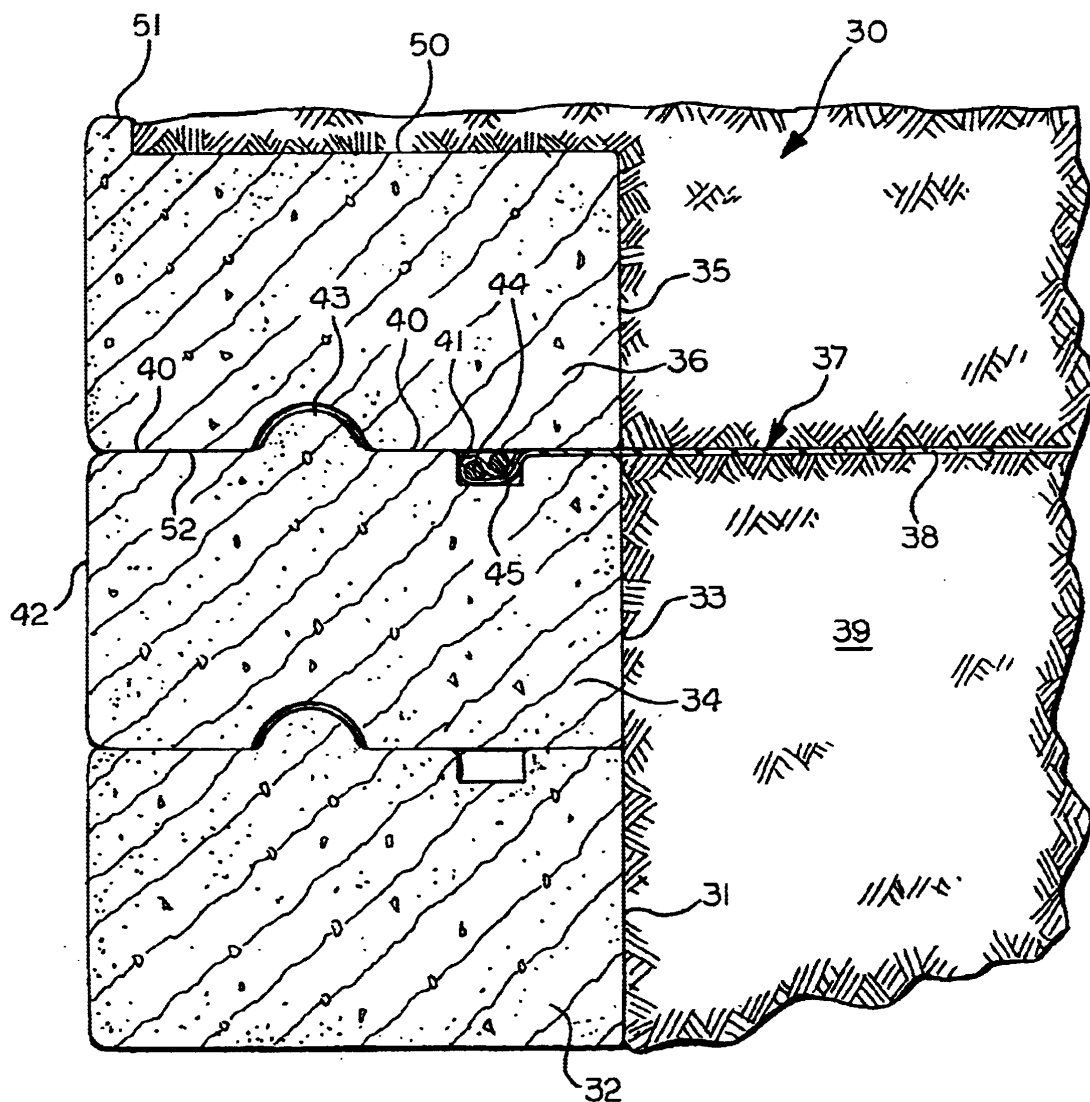
Family 125/200 - FAMPAT - ©Questel

Title

(US6679656)

Connection for geogrid to concrete block earth retaining walls

Images

**Publication data including kind & date**[US6679656](#)

B1 2004-01-20 US6679656

**Abstract**

(US6679656)

A connection for securing a geogrid fabric to between two tiers of concrete blocks which are stacked to form an earth retaining wall. A groove is formed in the top of each block in the lower tier to extend across the width of each block substantially parallel to the face of the block. The fabric is positioned to extend from the rear of the block over the groove and a first rod is positioned in the groove over the fabric. The fabric is folded to wrap around the first rod to extend past the groove towards the rear of the block and a second rod is positioned in the groove over the fabric to the rear of the first rod. When an upper tier of blocks is stacked on the lower tier, the rods and fabric are locked into the groove in the lower blocks.

Inventors

MANTHEI BENJAMIN R

Latest standardized assignees - inventors removed

REDI ROCK INTERNATIONAL

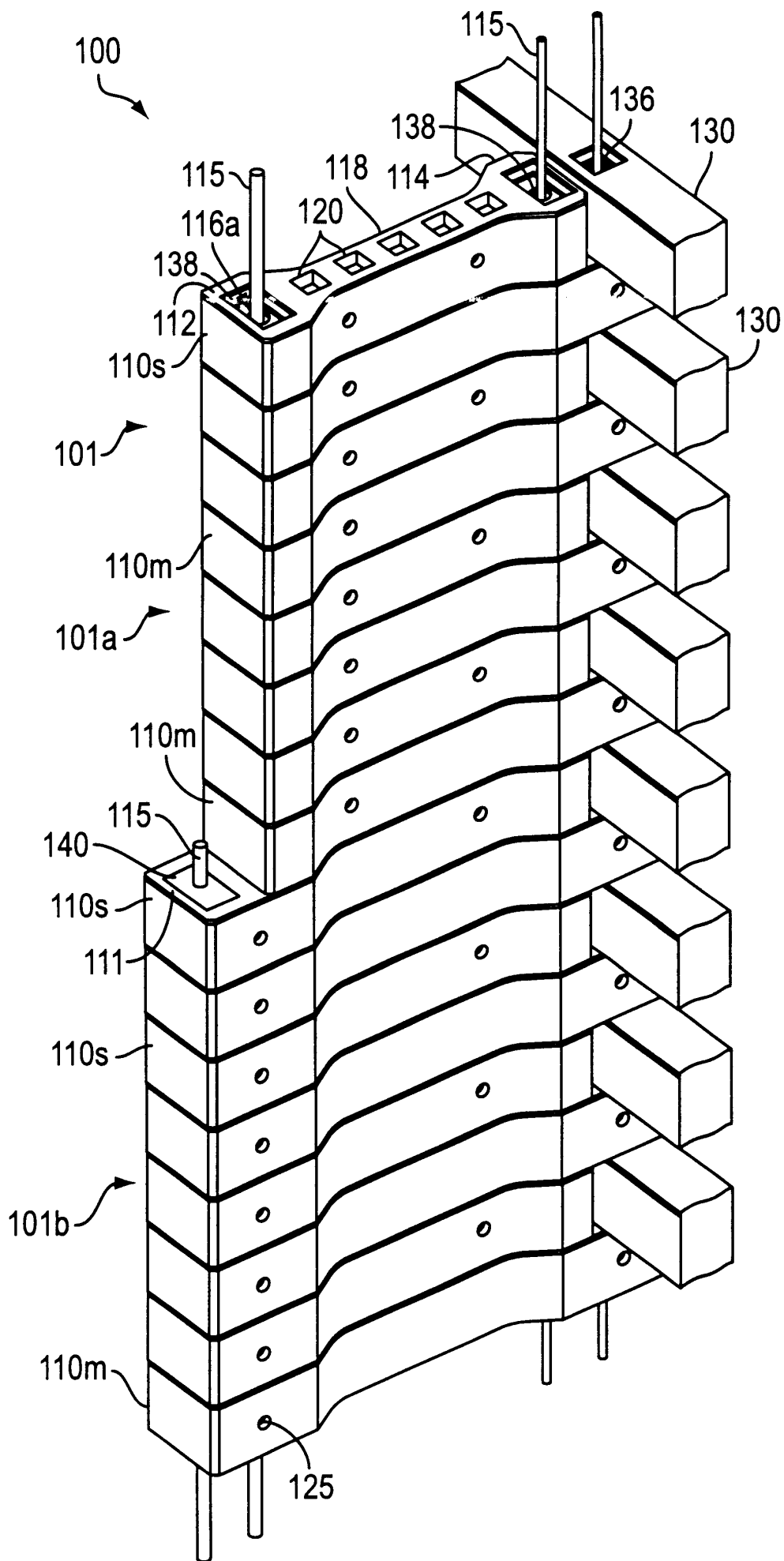
Family 126/200 - FAMPAT - ©Questel

Title

(EP1246972)

Pre-stressed modular retaining wall system and method

Images



Publication data including kind & date

GB2375361	C	2009-06-01	GB2375361				
HK1051563	A1	2007-12-07	HK1051563				
DE60033318	T2	2007-11-22	DE60033318				
ES2281365	T3	2007-10-01	ES2281365				
PT1246972	E	2007-05-31	PT1246972				
DE60033318	D1	2007-03-22	DE60033318				
AT353383	T	2007-02-15	ATE353383				
EP1246972	B1	2007-02-07	EP1246972				
US7086811	B2	2006-08-08	US7086811				
HK1051564	A1	2004-11-26	HK1051564				
AU773103	B2	2004-05-13	AU-773103				
US20040052589	A1	2004-03-18	US20040052589				
GB2375361	B	2003-12-17	GB2375361				
MXPA02006435	A	2003-09-22	MX2002PA006435				
NZ519317	A	2003-07-25	NZ-519317				
JP2003519307	A	2003-06-17	JP2003519307				
GB2375361	A	2002-11-13	GB2375361				
US20020164213	A1	2002-11-07	US20020164213				
EP1246972	A2	2002-10-09	EP1246972				
GB0217161	D0	2002-09-04	GB200217161				
US6402435	B1	2002-06-11	US6402435				
WO01/49943	A3	2001-11-22	WO200149943				
AU1725101	A	2001-07-16	AU200117251				
CA2393533	A1	2001-07-12	CA2393533				
WO01/49943	A2	2001-07-12	WO200149943				

Abstract

(EP1246972)

The present invention relates to a system and method for constructing a pre-stressed modular construction for supporting or retaining an applied load. In particular, the present invention relates to a system and method for pre-stressed modular retaining walls. The system comprises a plurality of header stacks (101) constructed from a variety of header units (110). The header stacks are coupled by structural members (130). Active reinforcement elements (115) are used to induce a pre-stressing force into the header stacks to support or retain the applied load. A method for constructing the modular construction is provided.

Inventors

LEWIS CYRRUS G

Latest standardized assignees - inventors removed

CGL SYSTEMS

Family 127/200 - FAMPAT - ©Questel

Title

(WO2013158735)

Wall block and wall block system

Images

Family 128/200 - FAMPAT - ©Questel

Title

(GB2031833)

Device for holding a number of containers

Images

21

973005

22

ветствии с другим вариантом ячеистая конструкция может быть прикреплена иным образом к одному или нескольким предварительно отлитым элементам или, например, к одной или нескольким стальным плитам. Упомянутым элементом, например, проходящим вдоль одного края ячеистой конструкции может быть подпорная стенка.

На фиг. 17 две противоположные крайние зоны ячеистой конструкции 32 залиты в жесткие бетонные элементы, или брусья 33. Ячеистая конструкция имеет параллельные ориентированные стренги 34 и параллельные полосы 35 и является одноосновытанутой конструкцией (см. фиг. 2 и пример 1). Как показано, в брусья 33 заделаны полосы 35 так, что бетон, подвергаемый воздействию вибрации во время формирования брусьев 33, заходит в промежутки между стренгами 34 и плотно обхватывает полосы 35.

На фиг. 18 показано использование конструкции, изображенной на фиг. 17, для предотвращения сдвигания с места подпорной стенки 36 под напором земли 37. Имеется несколько параллельных слоев из ячеистых конструкций 32, уложенных друг над другом с некоторыми промежутками в земле 37, причем концевой брус 33 каждого слоя заделан в подпорную стенку 36. Как показано, брусья 33 одного слоя расположены непосредственно над брусьями следующего слоя. Предполагаемое растяжение ячеистой конструкции 32 будет происходить в направлении стренг 34, и каждый слой прямолинеен в сечении, находящемся в плоскости фигуры 18. Сама ячеистая конструкция имеет хорошее сопротивление скольжению относительно земли 37, а брусья 33 (кроме брусьев в стенке 36) увеличивают сопротивление скольжению, так что ячеистые конструкции 32 действуют как анкерные связи, предотвращая смещение подпорной стенки 36 от вертикального положения.

На фиг. 19 показаны заложенные в земляную насыпь с некоторыми промежутками между ними слои из одноосновытанутой конструкции 32, таких, как описанная, например, со ссылкой на фиг. 2 и пример 1.

Данное изобретение позволяет изготавливать ячеистую конструкцию

из пластического материала хорошего качества.

Формула изобретения

1. Способ изготовления ячеистой конструкции из пластика, заключающийся в вытяжке исходного пластического материала, имеющего систему отверстий или углублений, которые расположены столбцами и перпендикулярными им рядами в направлении, параллельном столбцам, до образования из зон материала, размещенных между смежными отверстиями или углублениями, ориентированных стренг, соединенных между собой полосами материала, расположенными перпендикулярно стренгам, имеющим в средней части толщину, меньшую толщины узла на полосе, соединяющего стренги, отличающийся тем, что, с целью повышения качества ячеистой конструкции, исходный пластический материал имеет толщину по меньшей мере 0,75 мм, а вытяжку осуществляют до смещения точки, лежащей на пластическом исходном материале на прямой линии, параллельной рядам и касательной к отверстиям или углублениям, с указанной прямой линии в соответствующую стренгу.

2. Способ по п. 1, отличающийся тем, что смещение точки от указанной прямой линии в соответствующую стренгу составляет не менее 25% толщины стренги в средней части.

3. Способ по п. 2, отличающийся тем, что вытяжку осуществляют до такой степени, что ориентация проходит через полосу материала от одной стренги к другой в направлении вытяжки.

4. Способ по пп. 1-3, отличающийся тем, что исходный пластический материал имеет толщину по меньшей мере 1 мм.

5. Способ по пп. 1-3, отличающийся тем, что расстояние между смежными отверстиями или углублениями не превышает толщины исходного пластического материала.

6. Способ по пп. 1-5, отличающийся тем, что осуществляют дополнительную вытяжку в направлении, параллельном рядам отверстий или углублений.

7. Способ по п. 6, отличающийся тем, что дополнительную



	B2	1989-06-29	JP89032060				
GB2031833	B	1983-01-12	GB2031833				
SU973005	A3	1982-11-07	SU-973005				
GB2073090	B	1982-06-30	GB2073090				
ES257385	Y	1982-05-01	ES-257385Y				
ES257386	Y	1982-05-01	ES-257386Y				
ES257385	U	1981-11-16	ES-257385U				
ES257386	U	1981-11-16	ES-257386U				
GB2073090	A	1981-10-14	GB2073090				
ZA7905384	B	1980-09-24	ZA7905384				
JPS5590337	A	1980-07-08	JP55090337				
GB2031833	A	1980-04-30	GB2031833				
BE879294	A	1980-04-09	BE-879294				

Abstract

(GB2031833)

The plastics material device 6 has a plurality of generally quadrilateral openings 8 for receiving and gripping the containers 9, the openings 8 having their sides formed by strips 5, 10, each of the strips 5 of two opposite, corresponding sides of each opening being orientated along their length, the strips 10 of the remaining two opposite sides not being substantially orientated. The strips 5, at least, have substantial elasticity. The device may be made by forming holes or depressions in a plastics web and then stretching the web longitudinally to orientate just the strips 5 and to form the holes or depressions into the openings 8.

Inventors

MERCER FRANK BRIAN

Latest standardized assignees - inventors removed

PLG RESEARCH

Family 129/200 - FAMPAT - ©Questel

Title

(US5975810)

Geo-grid anchor

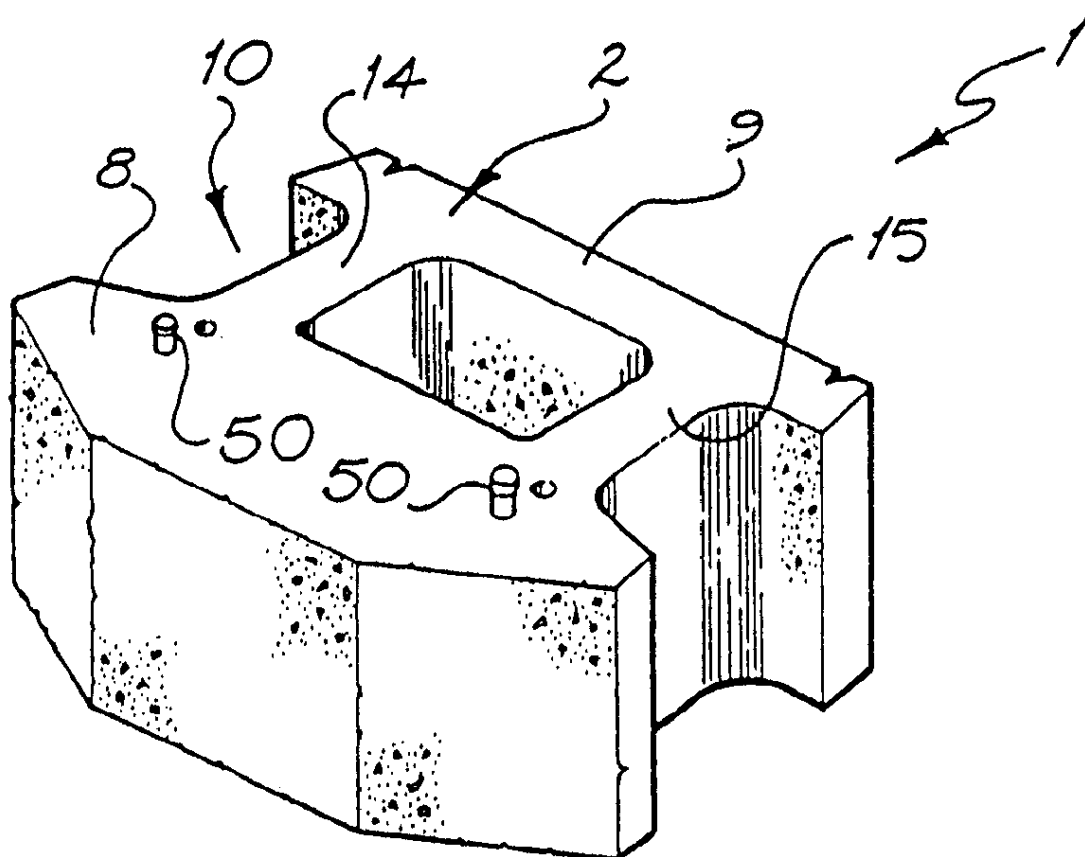
Images

Latest standardized assignees - inventors removed
T & B STRUCTURAL SYSTEMS

Title

Retaining wall block

Images



US20120279163

A1 2012-11-08

US20120279163



(US20120279163)

A retaining wall block has parallel top and bottom faces, a front face, a rear face, first and second side wall faces and a vertical plane of symmetry extending between the front and rear faces. The block is formed as a body portion including the front face, a head portion including the rear face and a neck portion connecting the body portion and the head portion. The body, head and neck portions each extend between the top and bottom faces and between the first and second side wall faces. An opening extends through the neck portion from the top face to the bottom face, dividing the neck portion into first and second neck wall members extending rearwardly from the body portion to the head portion.

MACDONALD ROBERT A
RACE ROBERT J

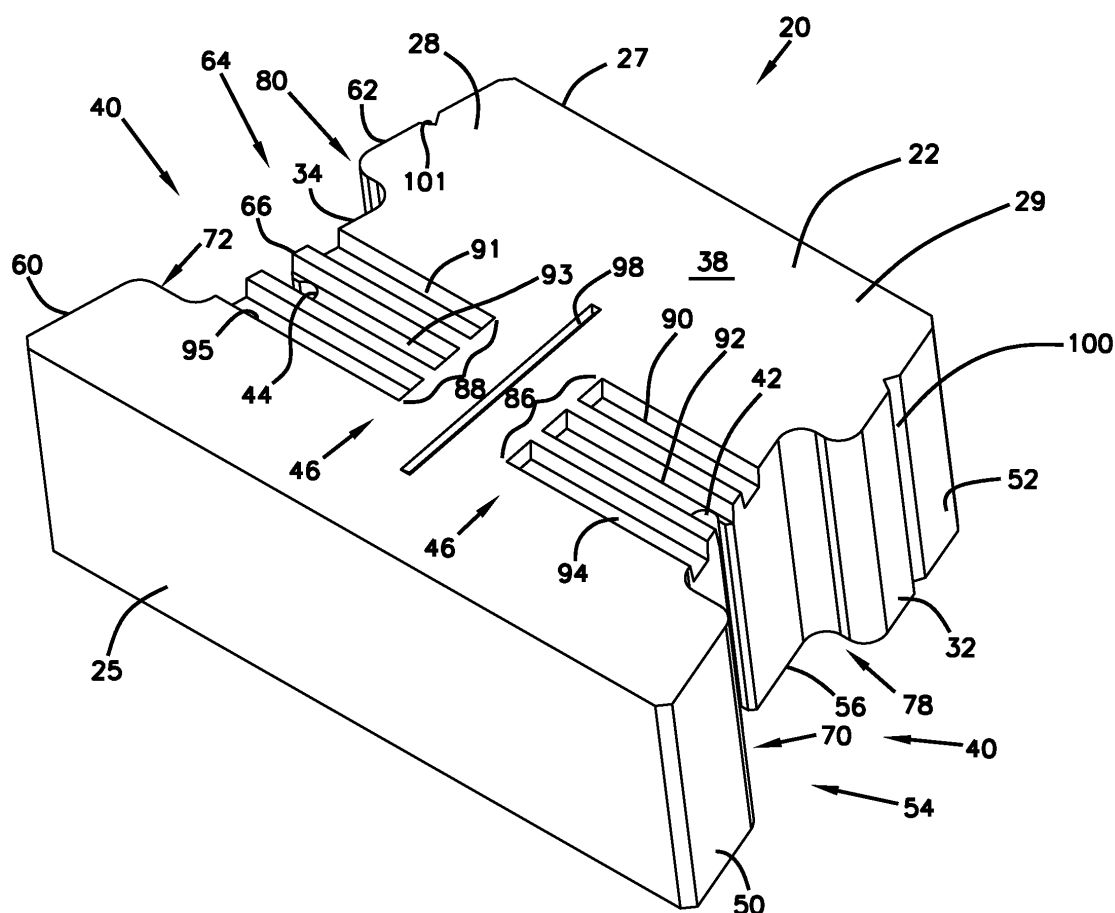
Latest standardized assignees - inventors removed
KEYSTONE RETAINING WALL SYSTEMS

Family 131/200 - FAMPAT - ©Questel

Title

(WO2018175326)

Building block, wall constructions made from building blocks, and methods

Images**Publication data including kind & date**[US10358817](#)

B2 2019-07-23

US10358817

[US20180274229](#)

A1 2018-09-27

US20180274229

[WO2018/175326](#)

A1 2018-09-27

WO2018175326

**Abstract**

(WO2018/175326)

A concrete building block includes indicators (58, 68) along each end (32, 34) to assist in aligning a pin (48) placed in the block with a channel (46) in a like block in a course below as a wall is being constructed.

Inventors

BURNQUIST ROBERT

SCHLUETER JONATHAN

Latest standardized assignees - inventors removed

ANCHOR WALL SYSTEMS

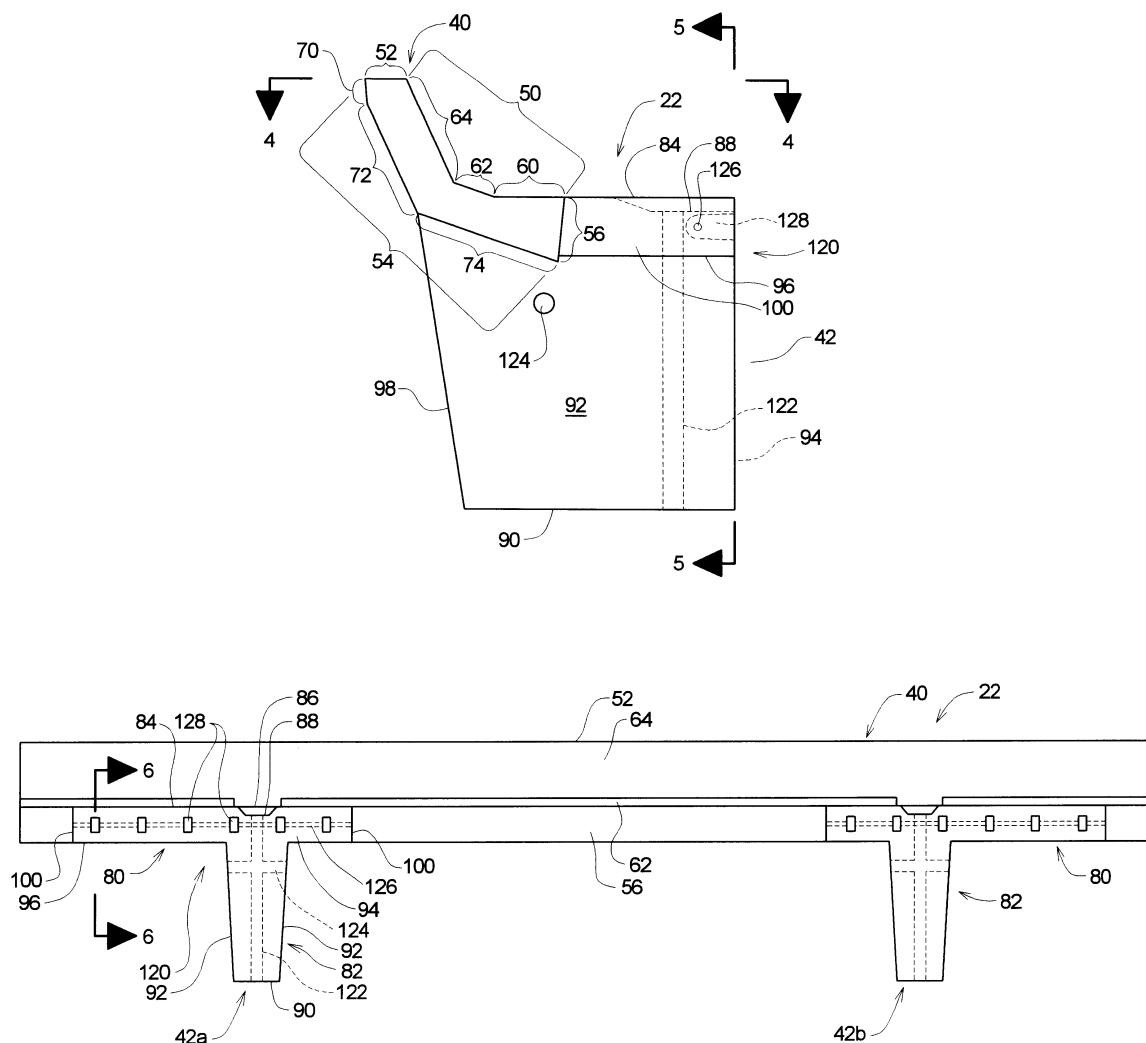
Family 132/200 - FAMPAT - ©Questel

Title

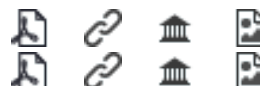
(US6685400)

Mechanically stabilized earth wall systems and methods

Images

**Publication data including kind & date**

US6908263	B1	2005-06-21	US6908263
US6685400	B1	2004-02-03	US6685400

**Abstract**

(US6685400)

A retaining wall system for stabilizing an earthen wall. The retaining wall system comprises a plurality of face panels, a plurality of anchor mesh panels, and a plurality of connecting pins. The face panels each comprise a wall portion and at least one connecting portion. Each connecting portion defines a void system comprising at least one third passageway that intersects the mesh opening. In use, the face panels are stacked in a plurality of vertically spaced rows with openings between vertically spaced wall portions. The anchor mesh panels are buried within the earthen wall with a portion of one of the anchor mesh panels inserted into each of the mesh openings. Connecting pins are inserted into one of the third passageways and one of the mesh openings to connect the anchor mesh panels to the face panels. The earthen wall is accessible through the gaps or openings defined by the wall portions.

Inventors

RUEL STEVE
SWANSON DAVID

Latest standardized assignees - inventors removed

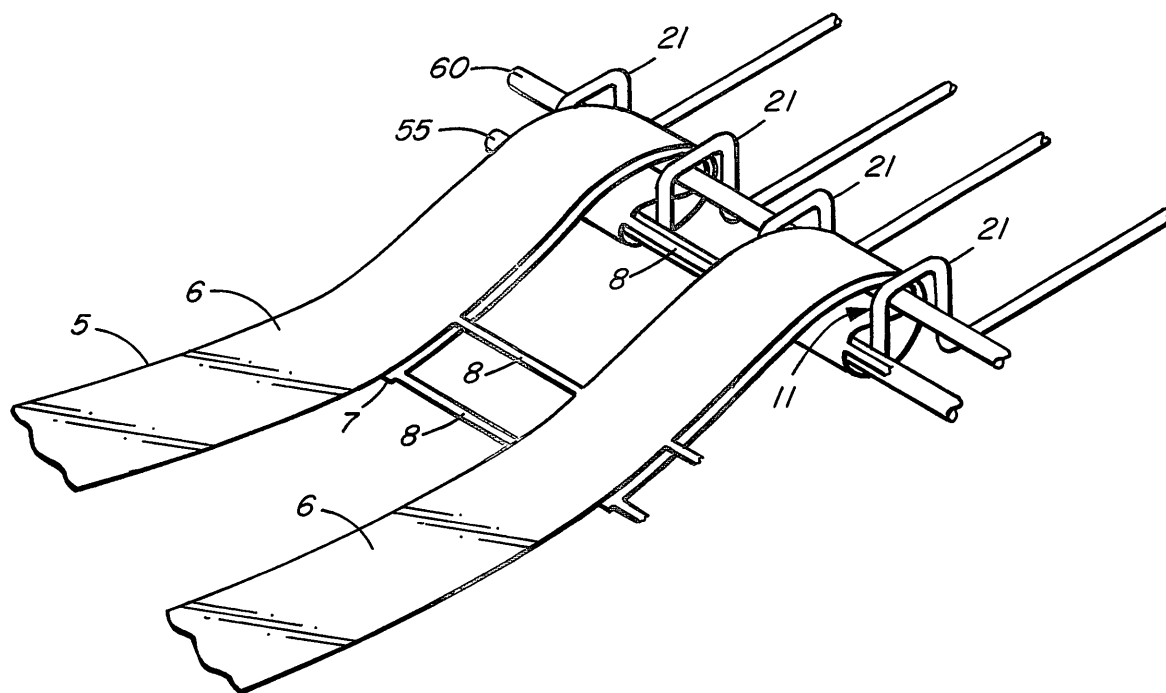
SSL

Family 133/200 - FAMPAT - ©Questel

Title

(WO200476751)

Apparatus and method for stabilizing an earthen embankment

Images**Publication data including kind & date**

CA2516683	C	2009-12-01	CA2516683
US7399144	B2	2008-07-15	US7399144
US20060239783	A1	2006-10-26	US20060239783
CA2516683	A1	2004-09-10	CA2516683
WO2004/076751	A1	2004-09-10	WO200476751

**Abstract**

(WO2004/076751)

A structure for stabilizing an earthen embankment comprises an embankment support for restraining movement of at least a part of the embankment, a flexible fiber geogrid (5) extending longitudinally through the embankment from a first end portion secured to the support to a second end portion, and anchor means (55, 60, 11) for securing one of the end portions. The anchor means comprises a pair of anchor rods (55, 60) extending transversely in relation to the geogrid, and means (11) for limiting movement of the anchor rods. The end portion secured by the anchor means is wrapped back and forth around the anchor rods so as to tighten thereon when the geogrid is pulled in longitudinal tension away from the anchor means. A method of anchoring a flexible fiber geogrid to a support utilizing such anchor rods is also disclosed.

Inventors

KALLEN MICHAEL CHARLES

Latest standardized assignees - inventors removed

M D S K ENTERPRISES

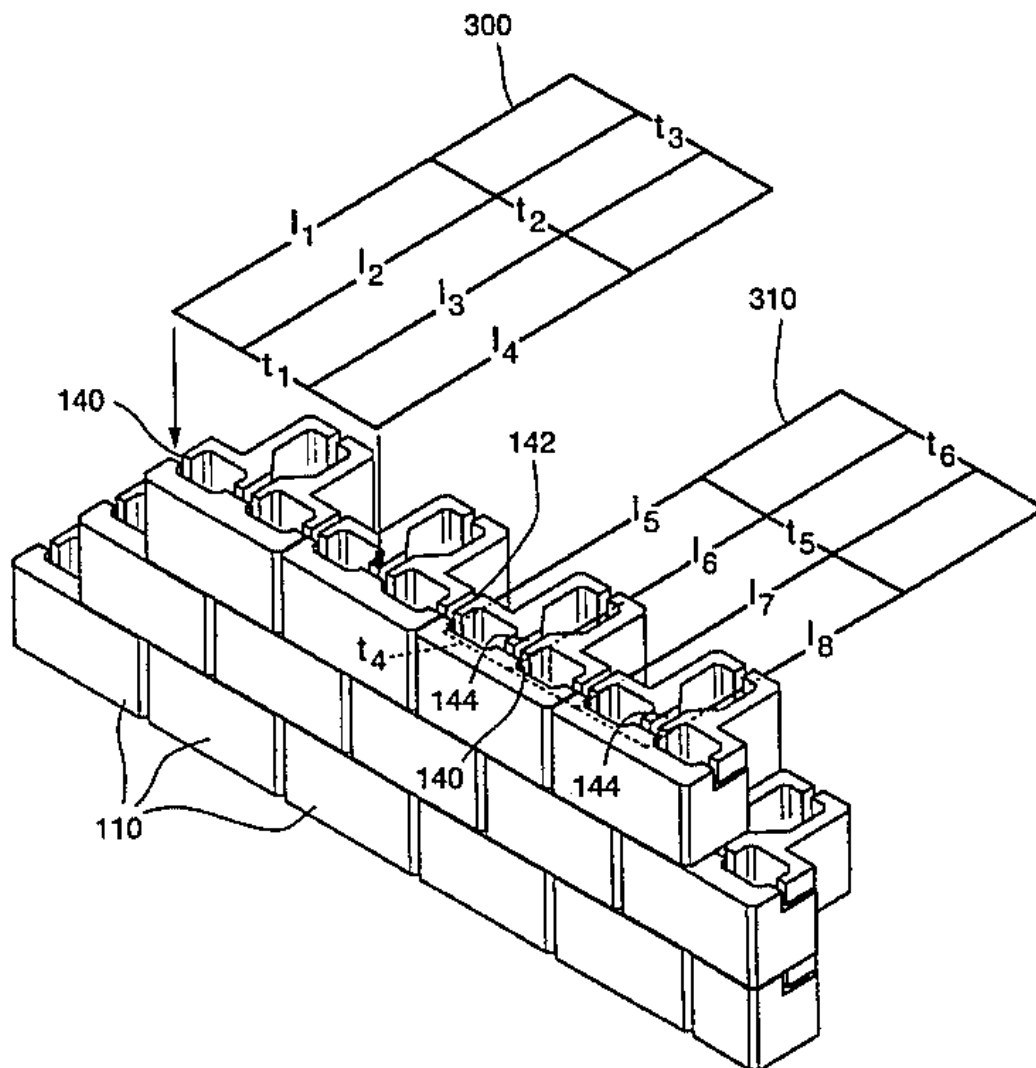
Family 134/200 - FAMPAT - ©Questel

Title

(US5484235)

Retaining wall system

Images



Publication data including kind & date

US5702208	A	1997-12-30	US5702208
US5484235	A	1996-01-16	US5484235



Abstract

(US5484235)

A retaining wall system including a wall portion interconnected with welded wire mat and secured in position is disclosed. The wall may be composed of a plurality of modular blocks, preferably made of concrete, having grooves into which individual wires of the welded wire mat are placed. Examples of modular blocks disclosed are concrete S, T and J-blocks. Alternately, the wall may be a concrete panel. One embodiment of the present invention employs a concrete shaft placed into the soil behind the wall and to which the welded wire mats are secured to hold the wall in place.

Inventors

HILFIKER WILLIAM K
TAYLOR THOMAS P

Latest standardized assignees - inventors removed

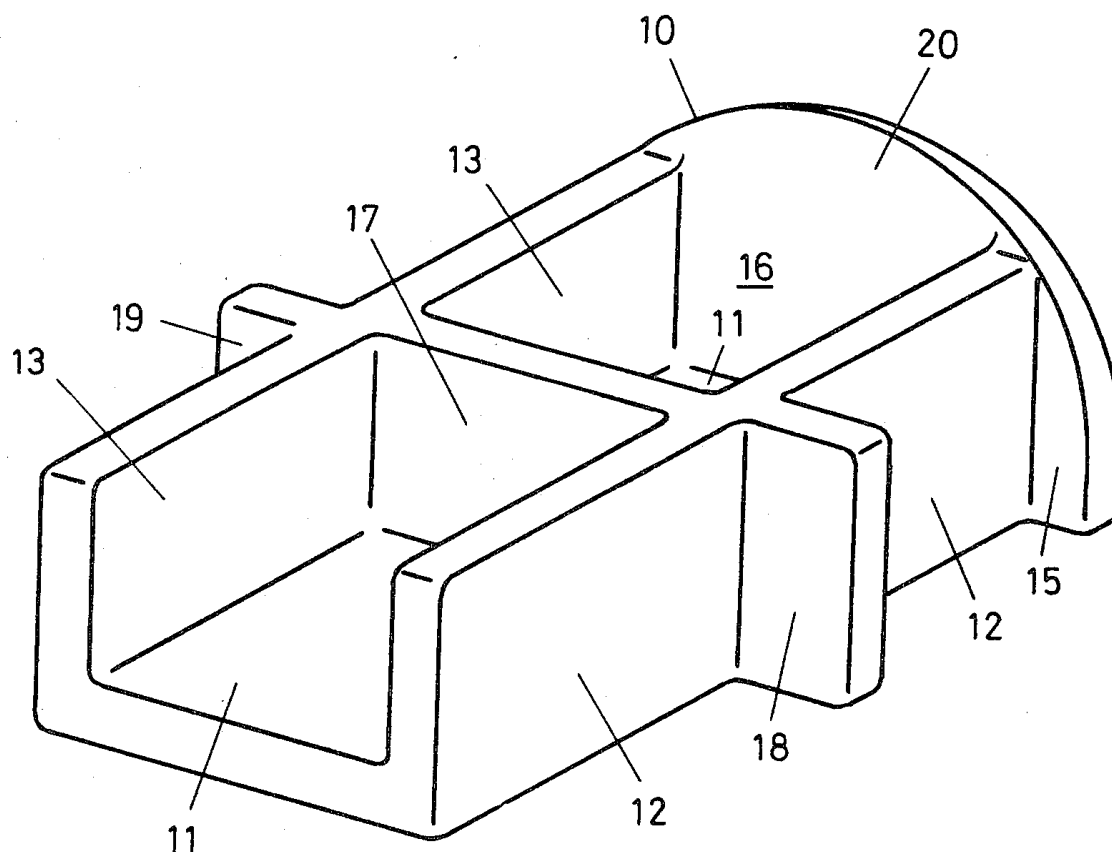
T & B STRUCTURAL SYSTEMS

Family 135/200 - FAMPAT - ©Questel

Title

(US4379659)
Building blocks

Images



Publication data including kind & date

JPH0671539	U	1994-10-07	JP06071539U
JP1690089	C	1992-08-27	JP1690089
JPH0348293	B2	1991-07-24	JP91048293
JPH02232428	A	1990-09-14	JP02232428
NO162086	C	1989-11-01	NO-162086
NO162086	B	1989-07-24	NO-162086
DK154844	C	1989-05-29	DK-154844C
DK154518	C	1989-05-08	DK-154518C
DK154844	B	1988-12-27	DK-154844
DK154518	B	1988-11-21	DK-154518
AU575674	B2	1988-08-04	AU-575674
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DK325386	D0	1986-07-08	DK8603253
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CA1159266	A	1983-12-27	CA1159266
ES262872	Y	1983-07-01	ES-262872Y
US4379659	A	1983-04-12	US4379659
ES262872	U	1983-01-01	ES-262872U
ES260200	Y	1982-11-16	ES-260200Y
ES260200	U	1982-05-01	ES-260200U
AU7501081	A	1982-03-11	AU8175010
NO813008	L	1982-03-08	NO-813008



[DK392781](#)

A 1982-03-06 DK8103927

[IL63748](#)

A 1981-12-31 IL--63748

**Abstract**

(US4379659)

A shaped hollow building block suitable for lining bank slopes at the ground water level has a face wall in the form of a shield standing perpendicularly to a base wall, includes on both sides a margin projecting relative to side walls and has a height greater than that of the side walls. The side walls and the base wall jointly form an elongate trough in a direction normal to the face wall. The shaped block includes two compartments separated by a transverse wall extending parallel to the face wall in the trough and includes reinforcing walls projecting outwardly from the side walls. A building block for walls which are laid in courses without mortar and can be stabilized by planting, has a face wall, two domed side walls, and a base wall having rounded transition sections to the face wall and to the side walls. The block includes at least two curved dividing walls bounding a central space and two outer spaces between the side walls, with the upper edges of the face wall, of the side walls and of the dividing walls lying at least approximately in one plane.

Inventors

STEINER ALFRED

Latest standardized assignees - inventors removed

WALDERMILLS

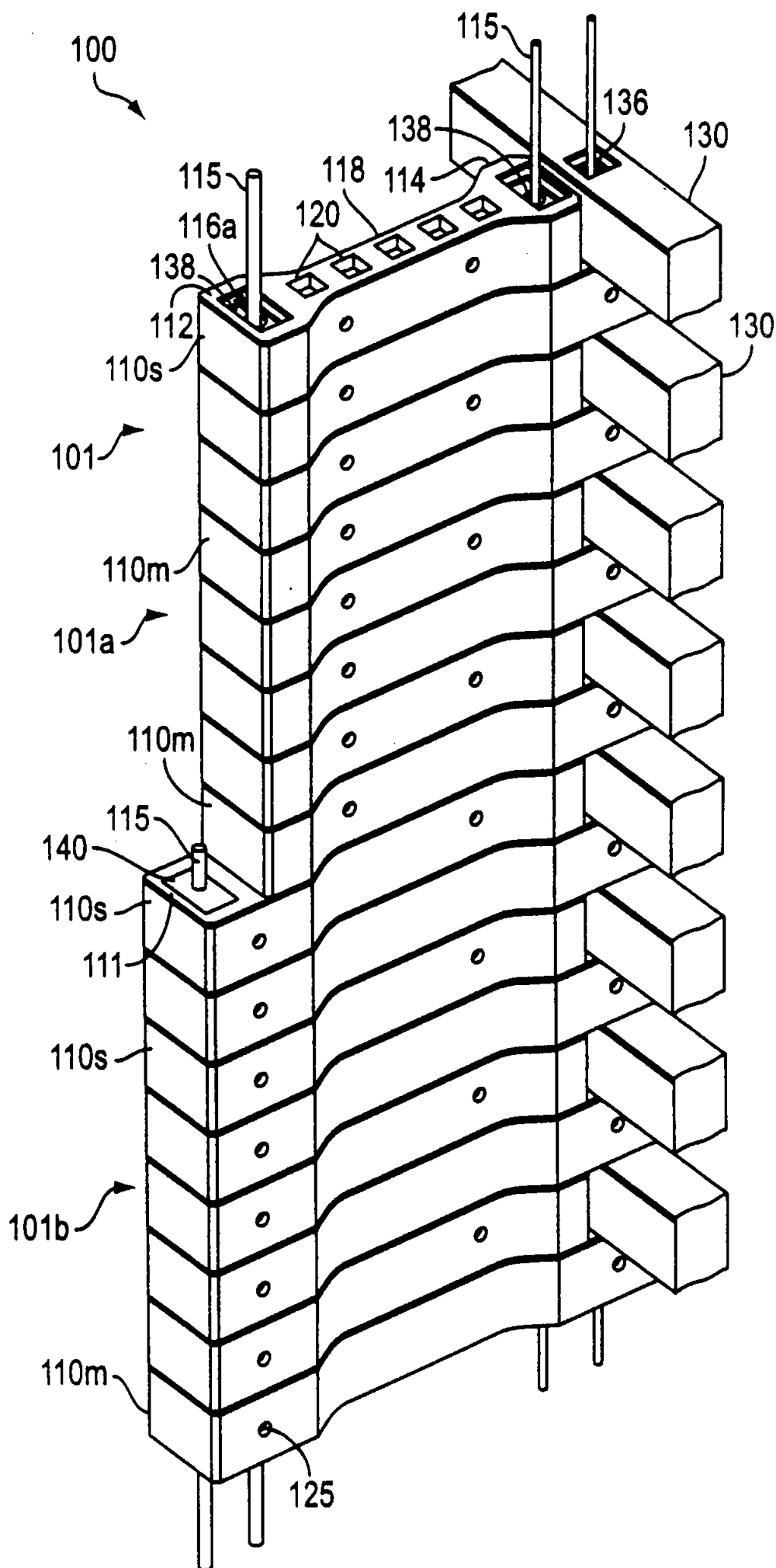
Family 136/200 - FAMPAT - ©Questel

Title

(US20080193227)

Pre-Stressed Modular Retaining Wall System and Method

Images



Publication data including kind & date[US20080193227](#)

A1 2008-08-14

US20080193227

**Abstract**

(US20080193227)

The present invention relates to a system and method for constructing a pre-stressed modular construction for supporting or retaining an applied load. In particular, the present invention relates to a system and method for pre-stressed modular retaining walls. The system comprises a plurality of header stacks constructed from a variety of header units. The header stacks are coupled by structural members. Active reinforcement elements are used to induce a pre-stressing force into the header stacks to support or retain the applied load. A method for constructing the modular construction is provided.

Inventors

LEWIS CYRRUS G

Latest standardized assignees - inventors removed

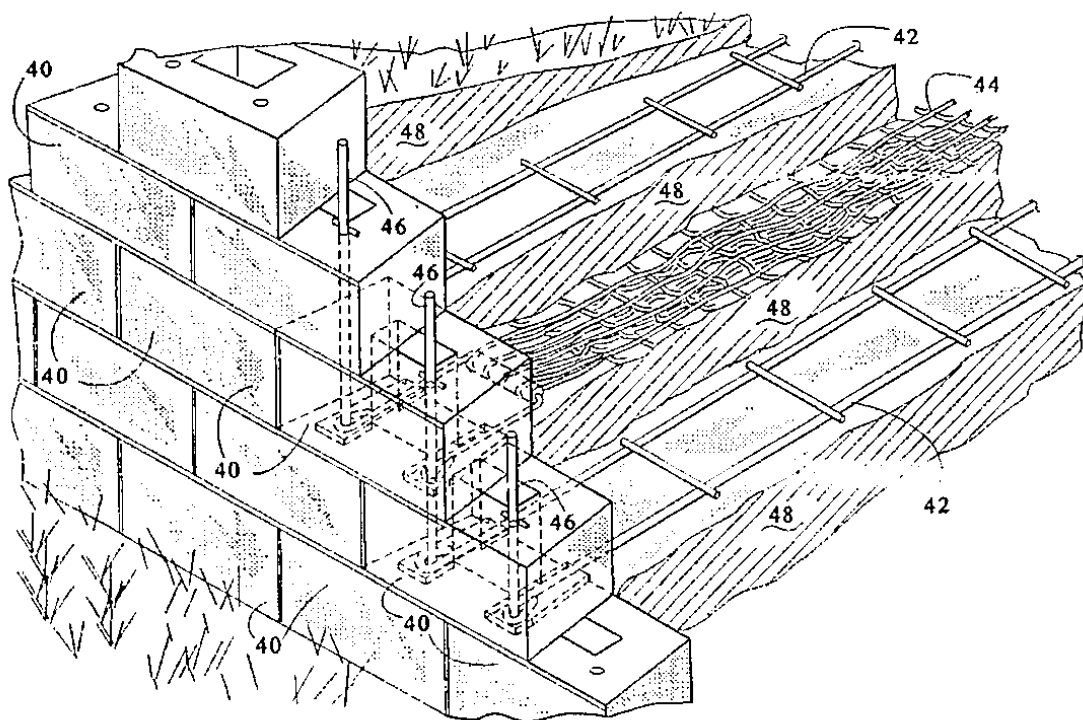
CGL SYSTEMS

Family 137/200 - FAMPAT - ©Questel

Title

(EP-692047)

Modular block retaining wall construction and components

Images**Publication data including kind & date**[MY131935](#)

A 2007-09-28

MY-131935

[JP3817676](#)

B2 2006-06-23

JP3817676

[JP3584036](#)

B2 2004-08-06

JP3584036

[JP2004132174](#)

A 2004-04-30

JP2004132174

[HK1013320](#)

A1 2003-05-09

HK1013320

[ES2091168](#)

T3 2002-12-01

ES2091168

[PT707117](#)

E 2002-11-29

PT-707117

[DE69430953](#)

D1 2002-08-14

DE69430953

[AT220436](#)

T 2002-07-15

ATE220436



EP0707117	B1	2002-07-10	EP-707117
AU701433	B2	1999-01-28	AU-701433
SG52473	A1	1998-09-28	SG--52473
US5624211	A	1997-04-29	US5624211
JPH08511590	A	1996-12-03	JP08511590
ES2091168	T1	1996-11-01	ES2091168
EP0707117	A1	1996-04-17	EP-707117
EP0692047	A1	1996-01-17	EP-692047
WO94/23136	A3	1995-03-16	WO9423136
AU6589594	A	1994-10-24	AU9465895
CA2159455	A1	1994-10-13	CA2159455
WO94/23136	A2	1994-10-13	WO9423136



Abstract

(EP0692047)

A modular block wall includes dry cast, unreinforced modular wall blocks (40) with anchor type, or frictional type or composite type soil stabilizing elements (42, 44) recessed therein and attached thereto by vertical rods (46) which also connect the blocks (40) together. The soil stabilizing elements (42, 44) are positioned in counterbores (70) or slots in the blocks (40) and project into the compacted soil (48) behind the courses of modular wall blocks (40).

Inventors

ANDERSON PETER L

COWELL MICHAEL L

HOTEK DAN J

Latest standardized assignees - inventors removed

SOCIETE CIVILE DES BREVETS HENRI VIDAL

Family 138/200 - FAMPAT - ©Questel

Title

(US5816749)

Modular block retaining wall system

Images

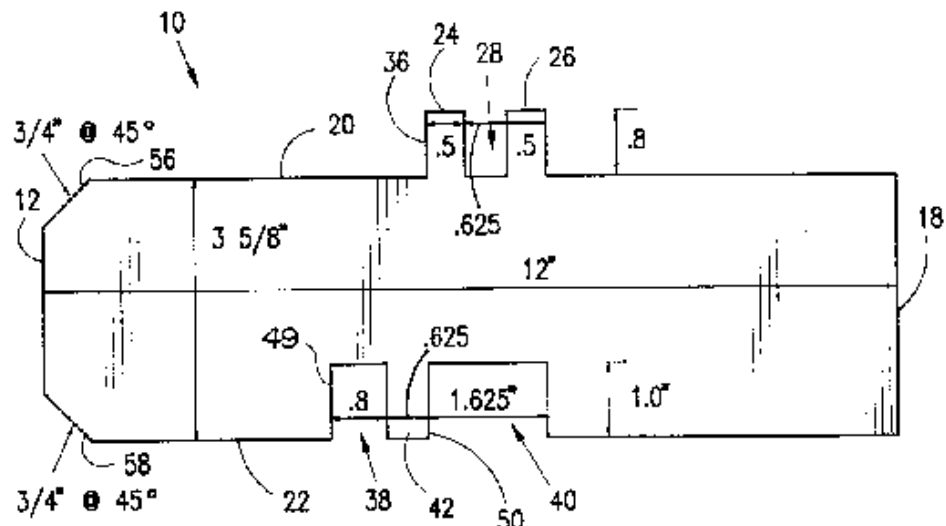


FIG. 1

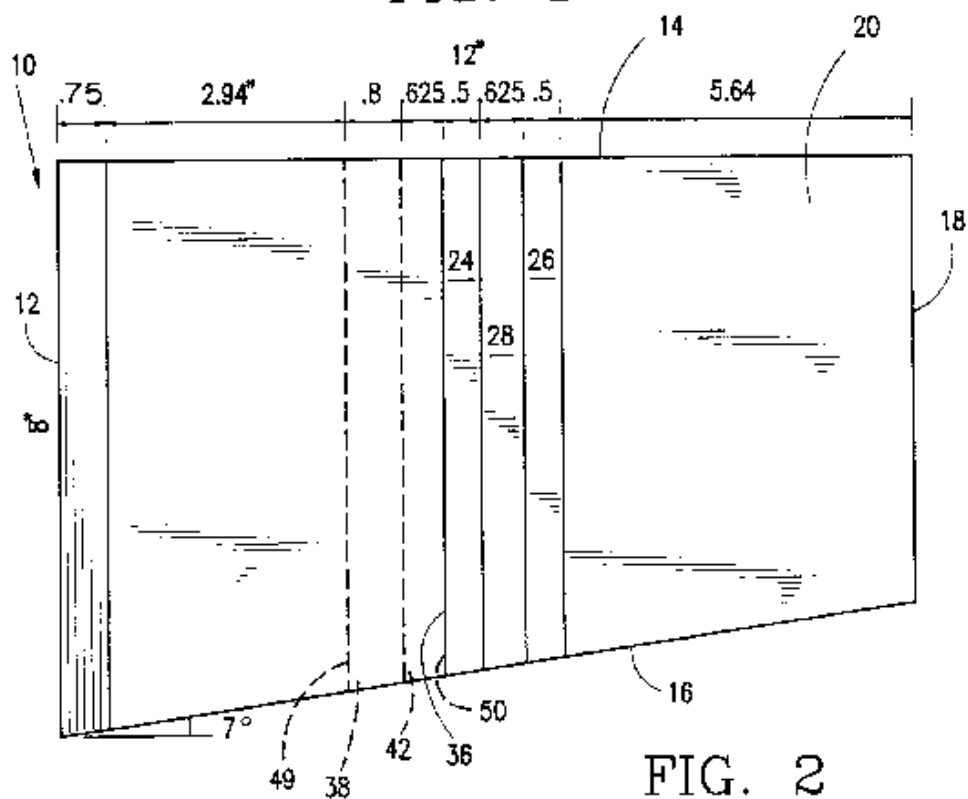


FIG. 2

Publication data including kind & date

US5816749

A 1998-10-06 US5816749

**Abstract**

(US5816749)

A modular wall block is formed with two integral, transverse projections extending upwardly from its top surface, spaced from the front face of the block and spaced from each other by an upwardly opening groove. Each block also includes two downwardly opening, transversely extending, grooves of different widths spaced from the front face and spaced from each other by a downwardly extending projection. The width of the downwardly extending projection and the upwardly opening groove are approximately the same and the combined distance between the extreme edges of the two upwardly extending projections is substantially equal to the width of the larger of the two downwardly opening grooves. The height of the upwardly extending projections is equal to or less than the depth of the two downwardly opening grooves. By this

arrangement, it is possible to selectively superimpose such blocks in a manner which either positions the front faces of superior blocks in a vertically aligned orientation or a vertically set-back orientation. An optional recessed area located in the upper surface behind the two projections is adapted to receive a grid-like sheet of reinforcing material which is captured therein by the lower surface of a superimposed block. The blocks of this application are dimensioned to be integrated in a retaining wall constructed of a mixture of these blocks and more robust modular wall blocks interconnected by a comb-like device. Multiple wall blocks are simultaneously formed on their side to enhance the high speed molding techniques.

Inventors

BAILEY II JOSEPH S

Latest standardized assignees - inventors removed

TENSAR

TENSAR INTERNATIONAL

TENSAR EARTH TECHNOLOGIES

ATLANTECH ALABAMA

TENSAR POLYTECHNOLOGIES

TENSAR HOLDINGS

ADVANCED EARTH TECHNOLOGY

GEOTECHNICAL REINFORCEMENT

MERITEX PRODUCTS

GEOPIER FOUNDATION

NORTH AMERICAN GREEN

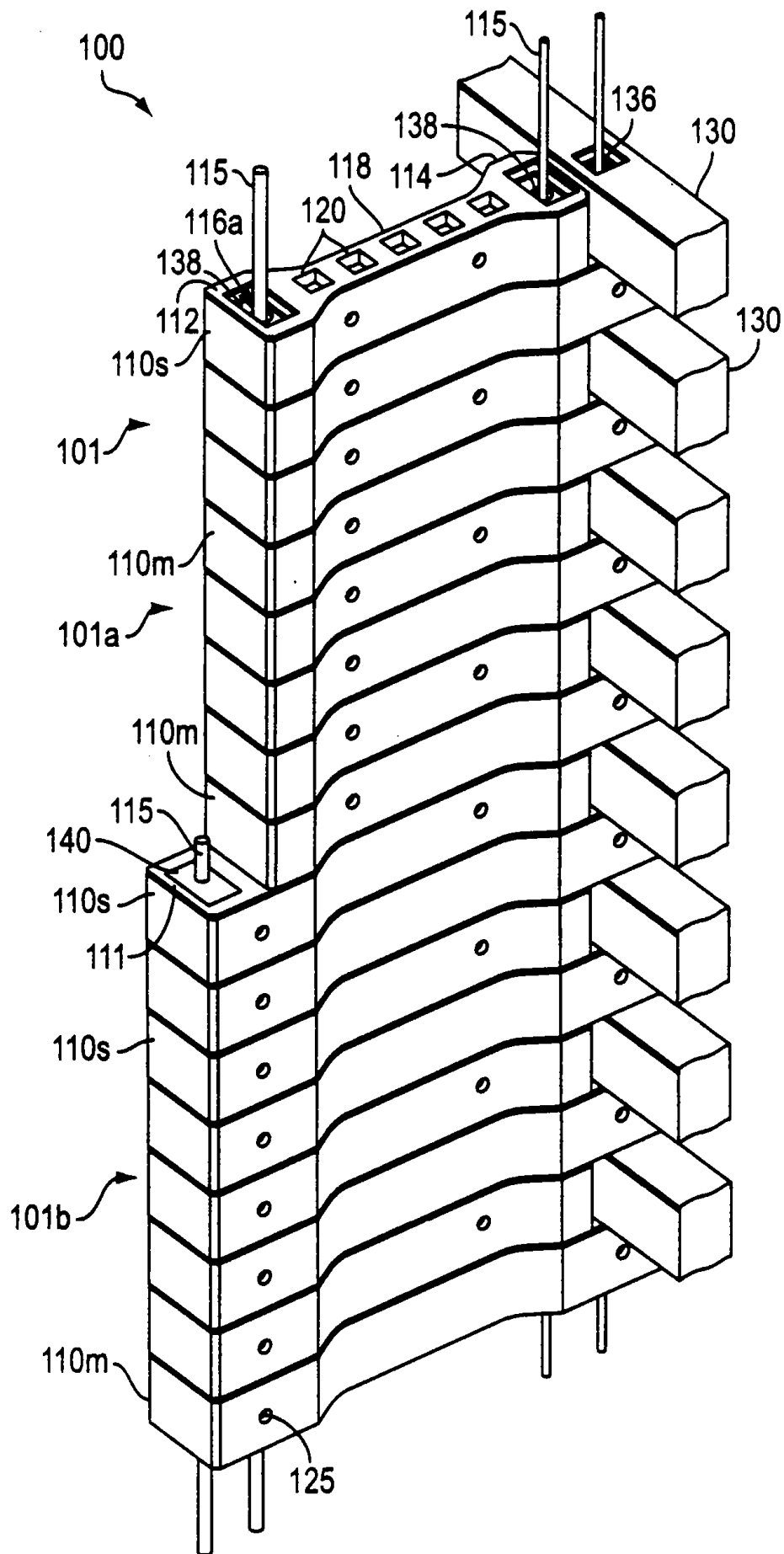
Family 139/200 - FAMPAT - ©Questel

Title

(US20060269365)

Pre-stressed modular retaining wall system and method

Images



(US20060269365)

The present invention relates to a system and method for constructing a pre-stressed modular construction for supporting or retaining an applied load. In particular, the present invention relates to a system and method for pre-stressed modular retaining walls. The system comprises a plurality of header stacks constructed from a variety of header units. The header stacks are coupled by structural members. Active reinforcement elements are used to induce a pre-stressing force into the header stacks to support or retain the applied load. A method for constructing the modular construction is provided.

Inventors

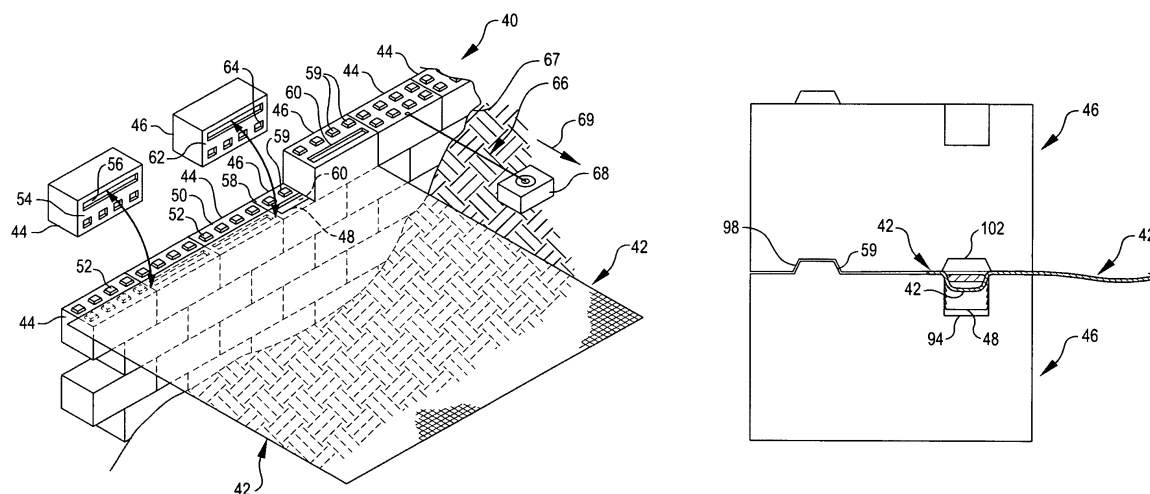
LEWIS CYRRUS G

Family 140/200 - FAMPAT - ©Questel

Title

(US8413399)

Block combinable with other similar blocks to form a wall, and related systems and methods

Images**Publication data including kind & date**

US8956084	B2	2015-02-17	US8956084
US20130305651	A1	2013-11-21	US20130305651
US8413399	B2	2013-04-09	US8413399
US20110192097	A1	2011-08-11	US20110192097

**Abstract**

(US20110192097)

A block combinable with other similar blocks to form a wall comprises a front surface; a top surface including a plurality of bosses, two or more of which are located adjacent each other in a direction along the front surface; and a bottom surface including a groove that has a floor. Each of the two or more bosses of the top surface includes a summit, and the summit of each define a plane. When the block is placed on another similar block such that the bottom surface of the block and a top surface of the other similar block oppose each other to form an interface region, the groove holds two or more bosses of the other similar block that are included in the other similar block's top surface, and the floor does not intersect the plane defined by the two or more bosses of the other similar block.

Inventors

KELLEY MICHAEL L JR

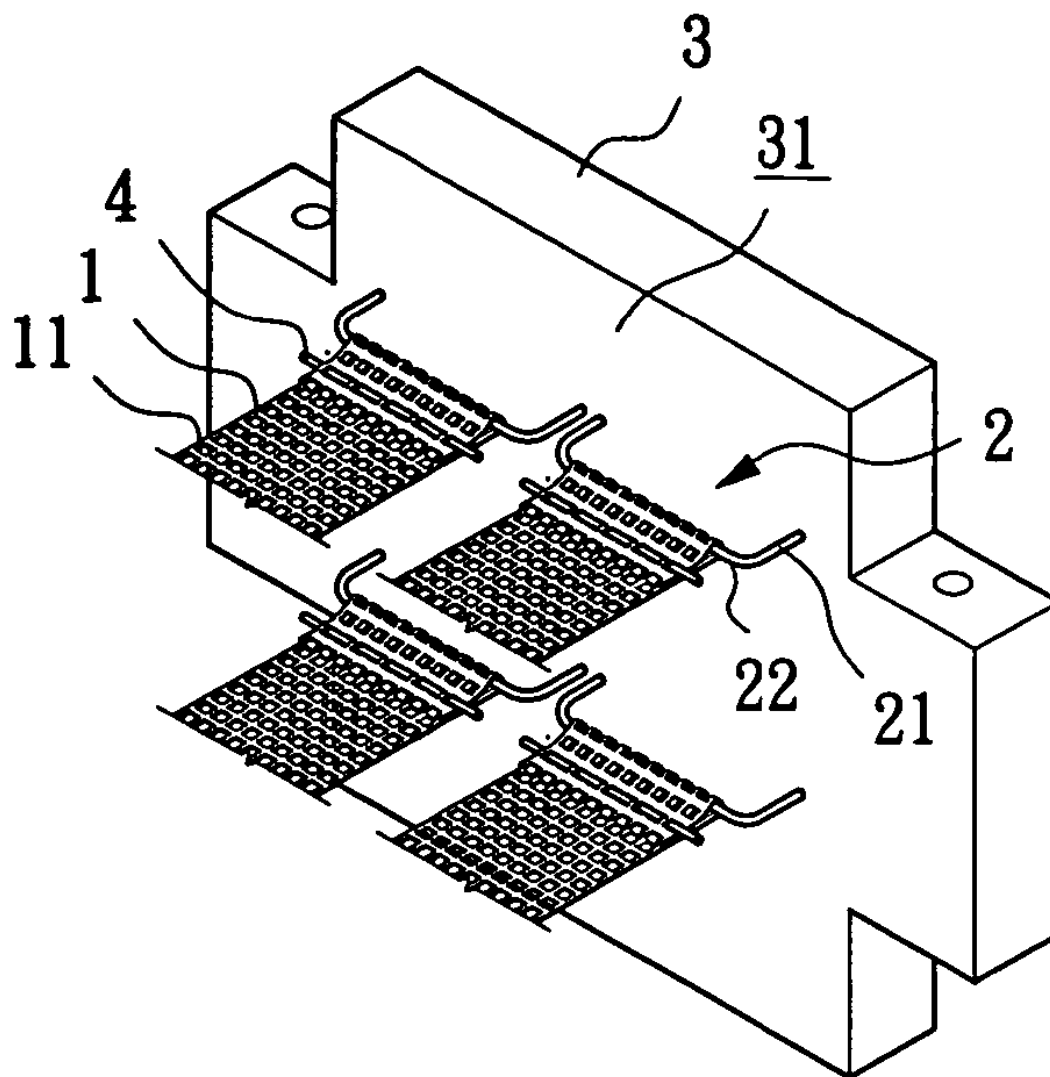
Family 141/200 - FAMPAT - ©Questel

Title

(US20060236617)

Latticed net stretching and fixing structure

Images

**Publication data including kind & date**

US20060236617

A1 2006-10-26

US20060236617

**Abstract**

(US20060236617)

A latticed net stretching and fixing structure includes at least one fixing element fixedly mounted onto a vertical wall surface of a precast wall panel and having at least one horizontal section; at least one latticed net having a plurality of arrayed meshes and a winding section provided at one end thereof for winding around the horizontal section of the fixing element to overlap the latticed net, with the meshes on the winding section aligned with the meshed on the latticed net; and at least one transverse bar for weaving through the aligned meshes on the overlapped winding section and latticed net to thereby fix the latticed net to the fixing element, allowing the latticed net to be stretched and pulled in a direction opposite to the precast wall panel without separating from the fixing element.

Inventors

CHEN SHIH-YIN

Family 142/200 - FAMPAT - ©Questel

Title

(EP1963089)

Pyramidal fabrics having multi-lobe filament yarns and method for erosion control

Images

Abstract

(EP1963089)

A pyramidal geotextile fabric (10) comprising two sets of multi-lobe filament yarns, warp yarns (15W) and fill yarns (15F) interwoven in substantially perpendicular direction to each other, each of the multi-lobe filament yarns having pre-determined, different heat shrinkage characteristics such that, upon heating, the fabric forms a three-dimensional, cusped profile. A method of stabilizing soil and reinforcing vegetation comprises the steps of placing a three-dimensional, high-profile woven fabric into soil, wherein the fabric comprises two sets of multi-lobe filament yarns interwoven in substantially perpendicular direction to each other, each of the multi-lobe filament yarns having pre-determined, different heat shrinkage characteristics such that, upon heating, the fabric forms a three-dimensional, cusped profile; securing the fabric to the ground; and, distributing soil and seed onto the fabric such that the section of ground is quickly revegetated and thereby protected from further erosion.

Inventors

WEISER SIDNEY M

Latest standardized assignees - inventors removed

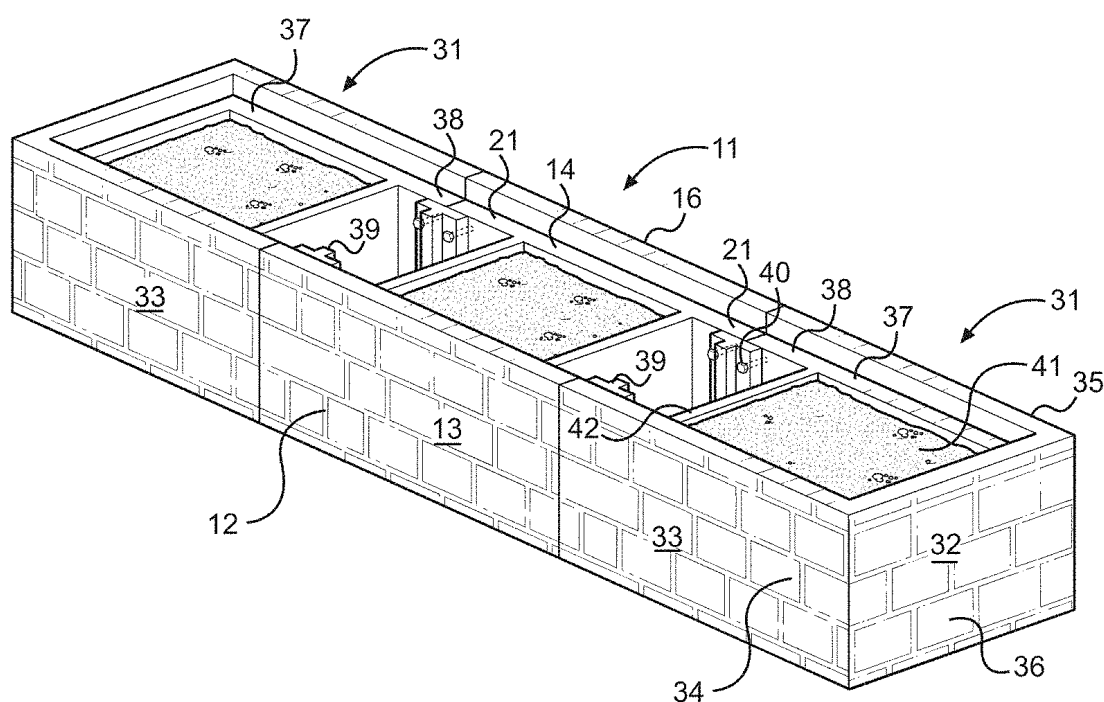
PROPEX OPERATING

Family 143/200 - FAMPAT - ©Questel

Title

(US9725871)

Retaining wall kit having interconnecting units

Images**Publication data including kind & date**[US9725871](#)

B2 2017-08-08

US9725871

[US20150197912](#)

A1 2015-07-16

US20150197912

**Abstract**

(US20150197912)

Described is a kit for constructing retaining walls including multiple interconnecting units. Various units are provided including primary retaining wall units, end units, and corner units. Each unit is square or rectangular in shape and includes an interior volume, a lip on an upper end thereof, and a protrusion on a lower end thereof. The units can be stacked on top of one another and can be secured by engagement of the lip of a first unit with the protrusion of a second unit. The units can also be arranged side-by-side and secured to one another using securement posts and fasteners. The units include

one or more exterior surfaces having a finished appearance that resembles wood, brick, or stone, among others. Further, each unit includes one or more drainage apertures thereon. In this way, the present invention provides a versatile system for constructing a retaining wall of a desired configuration.

Inventors

PARSONS MARCUS

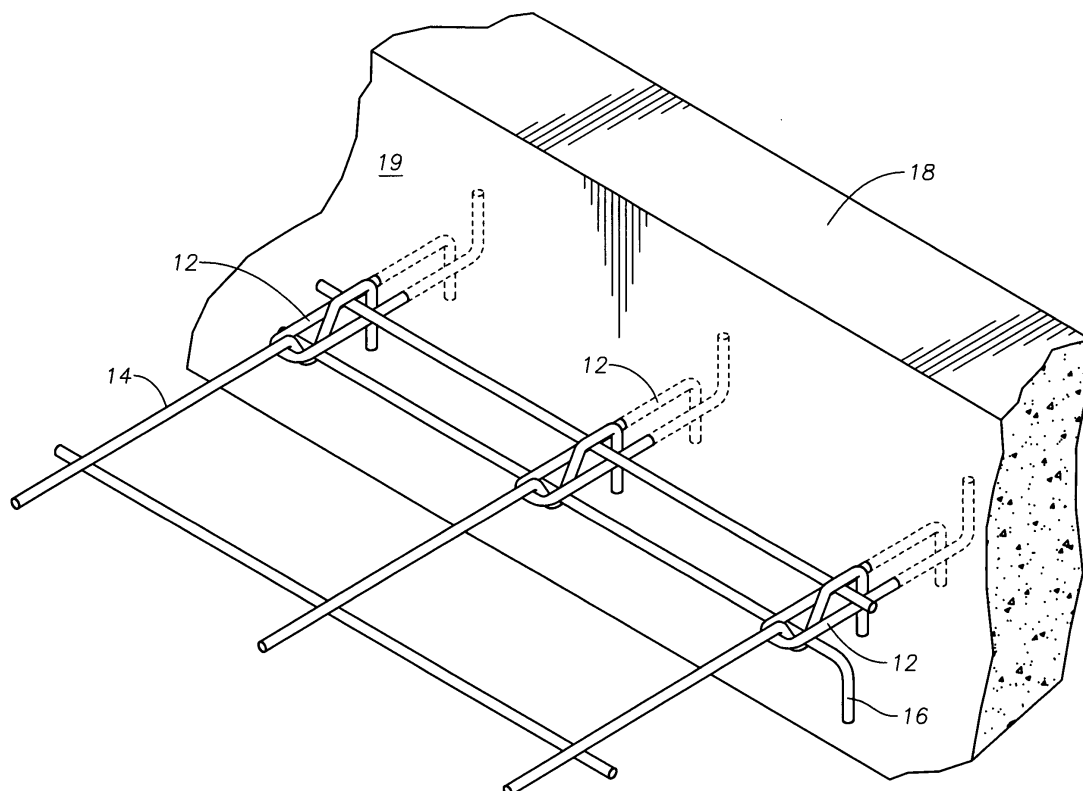
Family 144/200 - FAMPAT - ©Questel

Title

(US8840341)

Connection system and method for mechanically stabilized earth wall

Images



Publication data including kind & date

US8840341	B2	2014-09-23	US8840341
CA2756268	C	2014-07-29	CA2756268
US20130142577	A1	2013-06-06	US20130142577
CA2756268	A1	2012-04-27	CA2756268



Abstract

(US20130142577)

A crimped connection system and methods for use in connection with the construction of earth walls is disclosed. A grid-type soil mat may be provided with a number of crimped ends. The crimped ends may be adapted for engagement through the use of a locking member with another soil mat or with a plurality of anchors partially embedded within a precast concrete panel. The plurality of anchors may be formed as part of a gang or unitary structure to facilitate alignment of the anchors when being cast into the precast concrete panels.

Inventors

NELSON GUY C

OGORCHOCK JOHN M

SEVICK PETER M

Latest standardized assignees - inventors removed

TRICON PRECAST

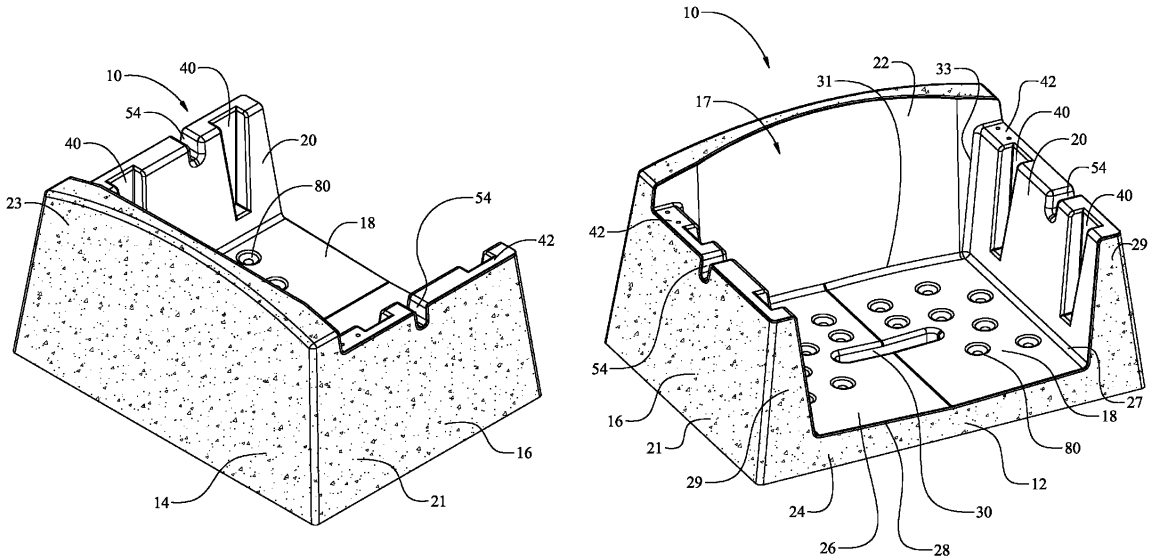
Family 145/200 - FAMPAT - ©Questel

Title

(EP2321473)

Retaining wall system

Images



Publication data including kind & date

EP2321473	A4	2014-09-17	EP2321473
US8745953	B2	2014-06-10	US8745953
NZ591508	A	2013-03-28	NZ-591508
US20130025223	A1	2013-01-31	US20130025223
US8272812	B2	2012-09-25	US8272812
BRPI0917651	A2	2011-09-06	BR200917651
EP2321473	A2	2011-05-18	EP2321473
US20100251649	A1	2010-10-07	US20100251649
WO2010/019949	A3	2010-05-20	WO201019949
AU2009281786	A1	2010-02-18	AU2009281786
CA2733690	A1	2010-02-18	CA2733690
WO2010/019949	A2	2010-02-18	WO201019949



Abstract

(EP2321473)

Retaining wall building blocks for receiving fill material during construction of a retaining wall, retaining walls constructed with the building blocks and methods of manufacture of the building block wherein the block comprises a cast cement body having a base, a generally upright face wall extending upward from the base, two generally upright side walls extending upward from the base and generally rearward of the face wall, the base, upright face wall, and side walls each having an inner and an outer surface, the side walls each having a top and a rearward most end, and a fill receiving cavity defined by base inner surface, side wall inner surfaces and face wall inner surface for receiving fill material, the fill receiving cavity having a volume wherein a ratio of the volume of the fill receiving cavity to the volume of the retaining wall building block is at least 0.75:1, respectively.

Inventors

WOOLBRIGHT MARK

Latest standardized assignees - inventors removed

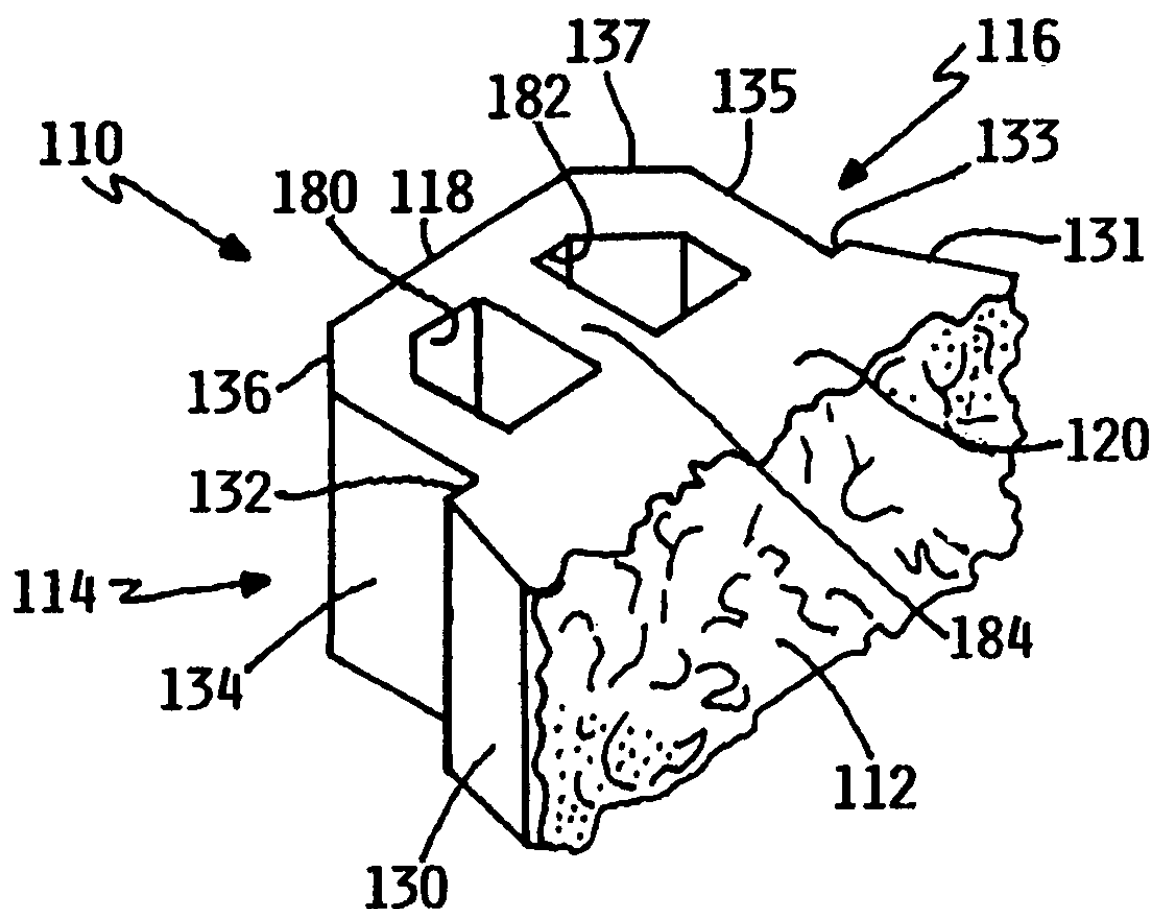
GREENWALL VENTURES

Family 146/200 - FAMPAT - ©Questel

Title

(EP1812655)

Extended width retaining wall block

Images**Publication data including kind & date**

US7396190	B2	2008-07-08	US7396190
CN101091024	A	2007-12-19	CN101091024
EP1812655	A2	2007-08-01	EP1812655
MX2007005700	A	2007-07-20	MX2007005700
US20070144099	A1	2007-06-28	US20070144099
WO2006/053235	A3	2006-11-02	WO200653235
US20060110222	A1	2006-05-25	US20060110222
WO2006/053235	A2	2006-05-18	WO200653235

**Abstract**

(EP1812655)

A retaining wall block having a front surface, a rear surface, side surfaces, a top surface, and a bottom surface. Each side surface comprises a first section, a second section, a third section, and a fourth section, with the sections configured and arranged to allow a plurality of blocks to be arranged in a convex wall structure. The retaining wall block includes a projection that is configured to abuttingly engage a portion of a vertically adjacent block in a wall structure. Preferably, the block has a width/depth ratio in the range of about 1.87 to 2.67. The retaining wall block may be combined with an earth anchor for use in multi-course walls.

Inventors

PRICE BRIAN A

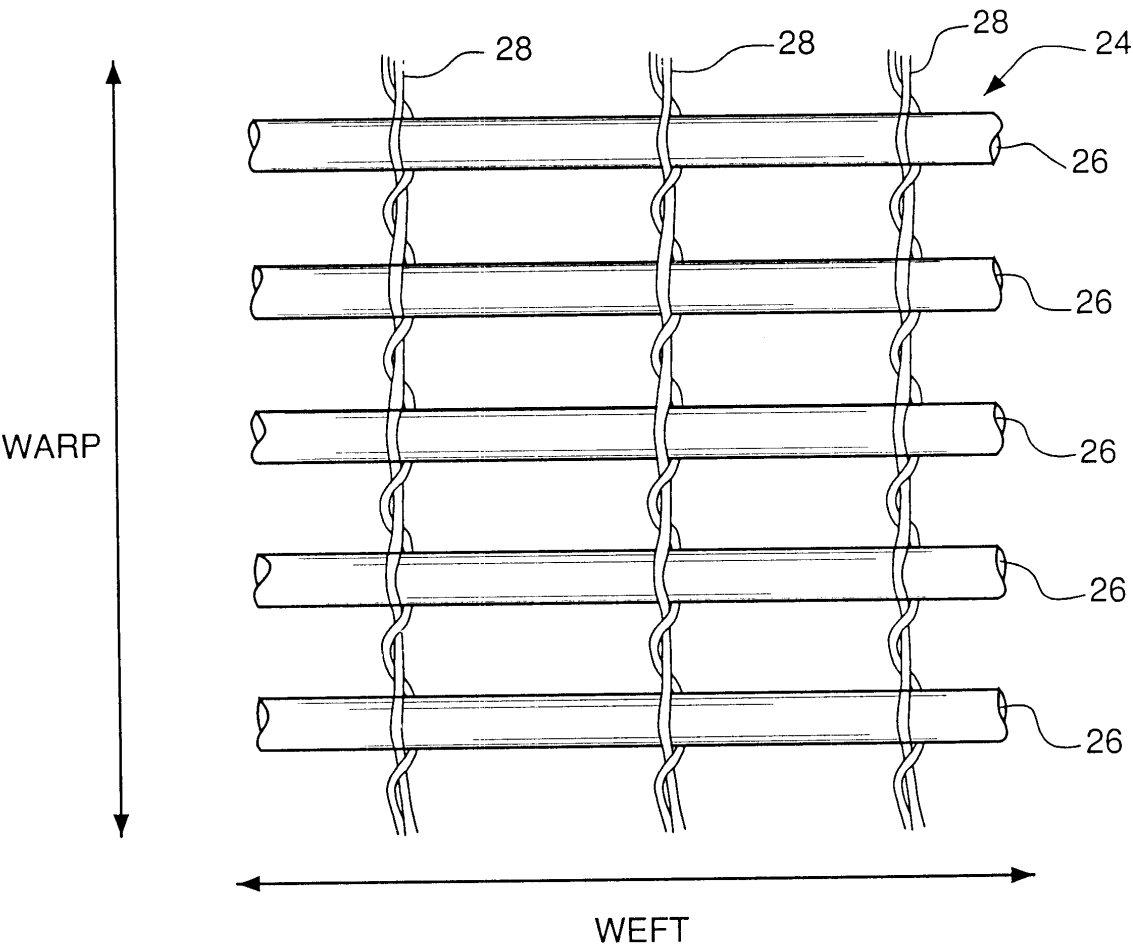
Latest standardized assignees - inventors removed

MORTARLESS TECHNOLOGIES

Family 147/200 - FAMPAT - ©Questel

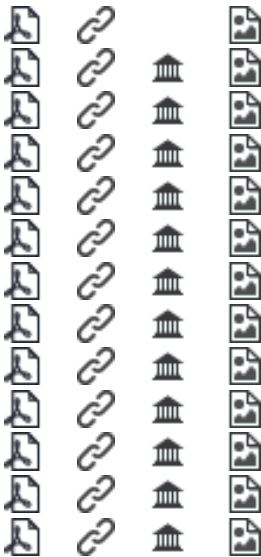
Title
(EP1117876)
Geotextile fabric

Images



Publication data including kind & date

HK1043615	A1	2008-02-22	HK1043615
CA2345948	C	2007-09-25	CA2345948
CN100335698	C	2007-09-05	CN100335698C
AU762380	B2	2003-06-26	AU-762380
EP1117876	A4	2002-11-06	EP1117876
US6368024	B2	2002-04-09	US6368024
CN1328607	A	2001-12-26	CN1328607
EP1117876	A1	2001-07-25	EP1117876
US20010002971	A1	2001-06-07	US20010002971
WO00/18992	A9	2000-08-31	WO200018992
AU6405599	A	2000-04-17	AU9964055
CA2345948	A1	2000-04-06	CA2345948
WO00/18992	A1	2000-04-06	WO200018992



Abstract

(EP1117876)

A unidirectional geotextile fabric (24) for use in reinforcement of earthen retaining walls, embankment, slopes and related

structures. The fabric is an open grid of high modulus of elasticity strands (26) extending in the weft direction and strands (28) of comparatively lower modulus of elasticity material extending in the warp direction. The fabric is preferably coated with a curable resinous material of sufficient thickness to protect the glass strands from breaking as the fabric is rolled onto cores and unrolled at the job site. When laying the fabric, a roll of the fabric is placed at one end of the face of the earthen structure being constructed and simply unrolled in a direction generally parallel to the structure's face. Because the high modulus strands of the fabric are the weft strands they extend and inhibit soil movement in a direction substantially perpendicular to the face of the structure.

Inventors

KITTSOON MARK

Latest standardized assignees - inventors removed

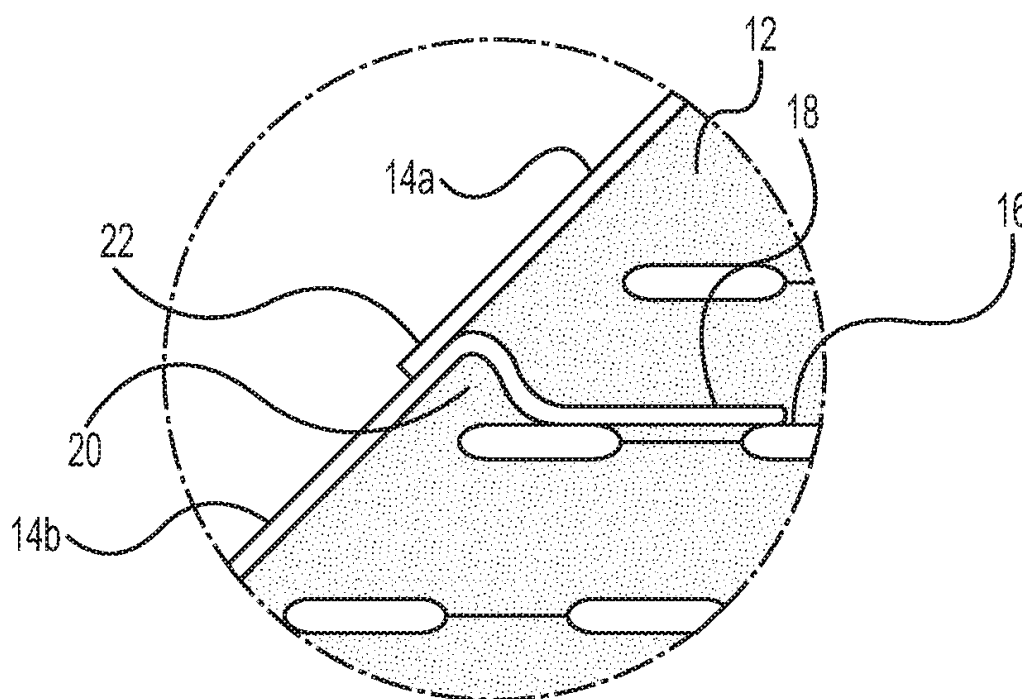
SAINT GOBAIN TECHNICAL FABRICS

Family 148/200 - FAMPAT - ©Questel

Title

(US10145079)

Berm and method of manufacturing a berm

Images**Publication data including kind & date**[US10145079](#)

B1 2018-12-04

US10145079

**Abstract**

(US10145079)

A berm comprises fill material having a sloped face portion, a plurality of reinforcing members disposed within the fill material, and an impermeable membrane encapsulating the fill material. The impermeable membrane is impermeable to fluid and comprises a plurality of joined impermeable membrane segments. The sloped face portion is encapsulated by at least a portion of each of two or more of the impermeable membrane segments. Where two impermeable membrane segments encapsulating the sloped face portion meet, an upper end portion of a lower one of the impermeable membrane

segments extends into the fill material and a lower end portion of an upper one of the impermeable membrane segments overlaps the lower one of the impermeable membrane segments in a shingled fashion.

Inventors

SWENSON JOHN PAUL

SHERIDAN SCOTT K

DUDDING CARLTON

Latest standardized assignees - inventors removed

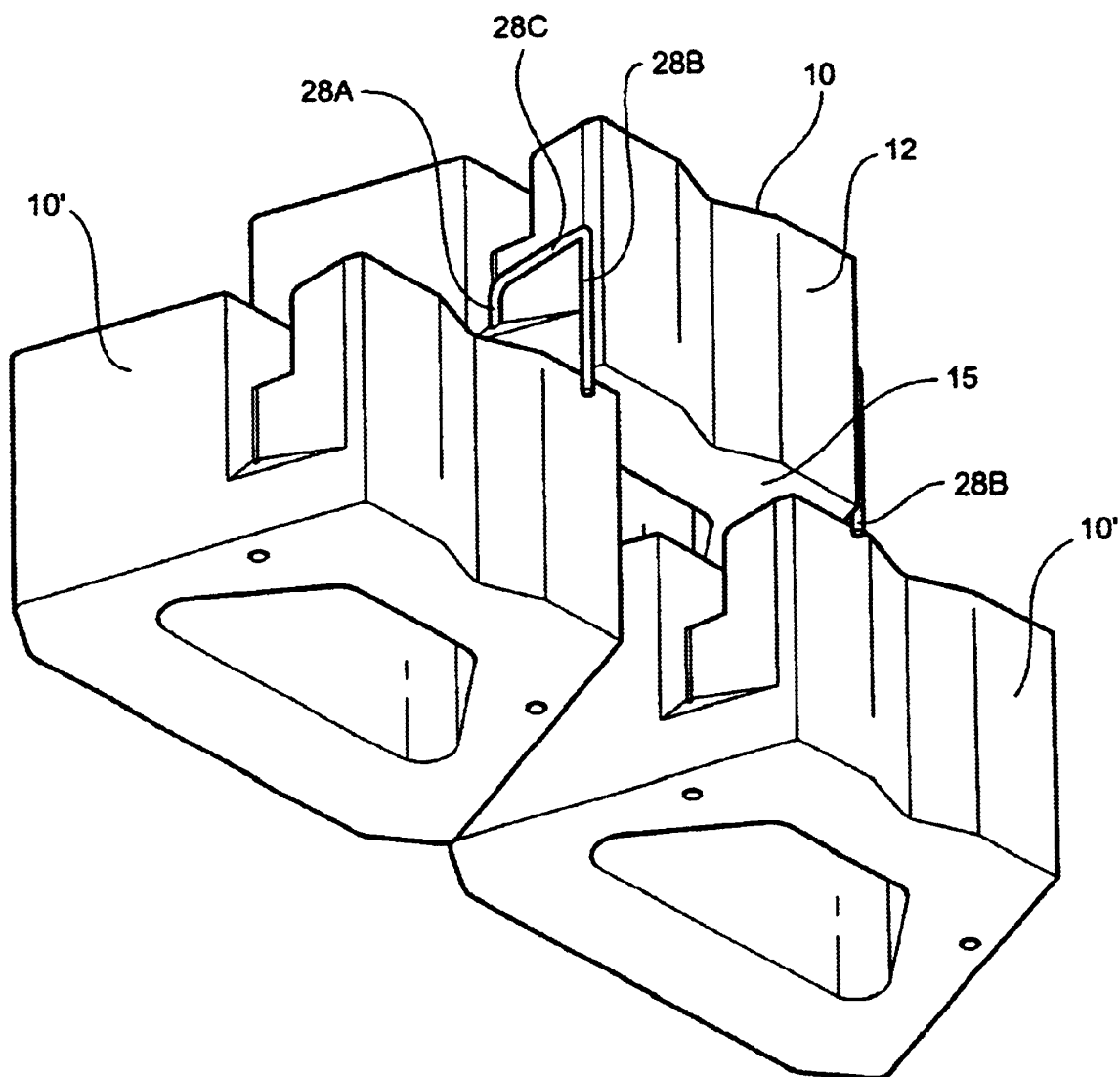
AWT IP

Family 149/200 - FAMPAT - ©Questel

Title

(US6622445)

Modular wall block with mechanical anchor pin

Images**Publication data including kind & date**

CA2398188	C	2006-08-22	CA2398188
US6622445	B1	2003-09-23	US6622445
CA2398188	A1	2003-05-20	CA2398188

**Abstract**

(US6622445)

A modular wall block is adapted for being assembled together with a number of like blocks in stacked courses to form a

retaining wall. The wall block includes a front and rear, top and bottom, and opposing sides. A generally J-shaped anchor has a connecting end and an anchoring end integrally joined by a setback spacer. The connecting end is adapted for being inserted into the wall block to secure the anchor to the block. The anchoring end extends outwardly from one of the top and bottom of the wall block to engage one of the number of like blocks in an upper or lower course. The spacer locates the anchoring end a spaced distance from the rear of the block. The anchor secures the block in the retaining wall at a predetermined setback relative to like blocks in the upper or lower course.

Inventors

SHILLINGBURG CURTIS W

MARTIN JAMES S

Latest standardized assignees - inventors removed

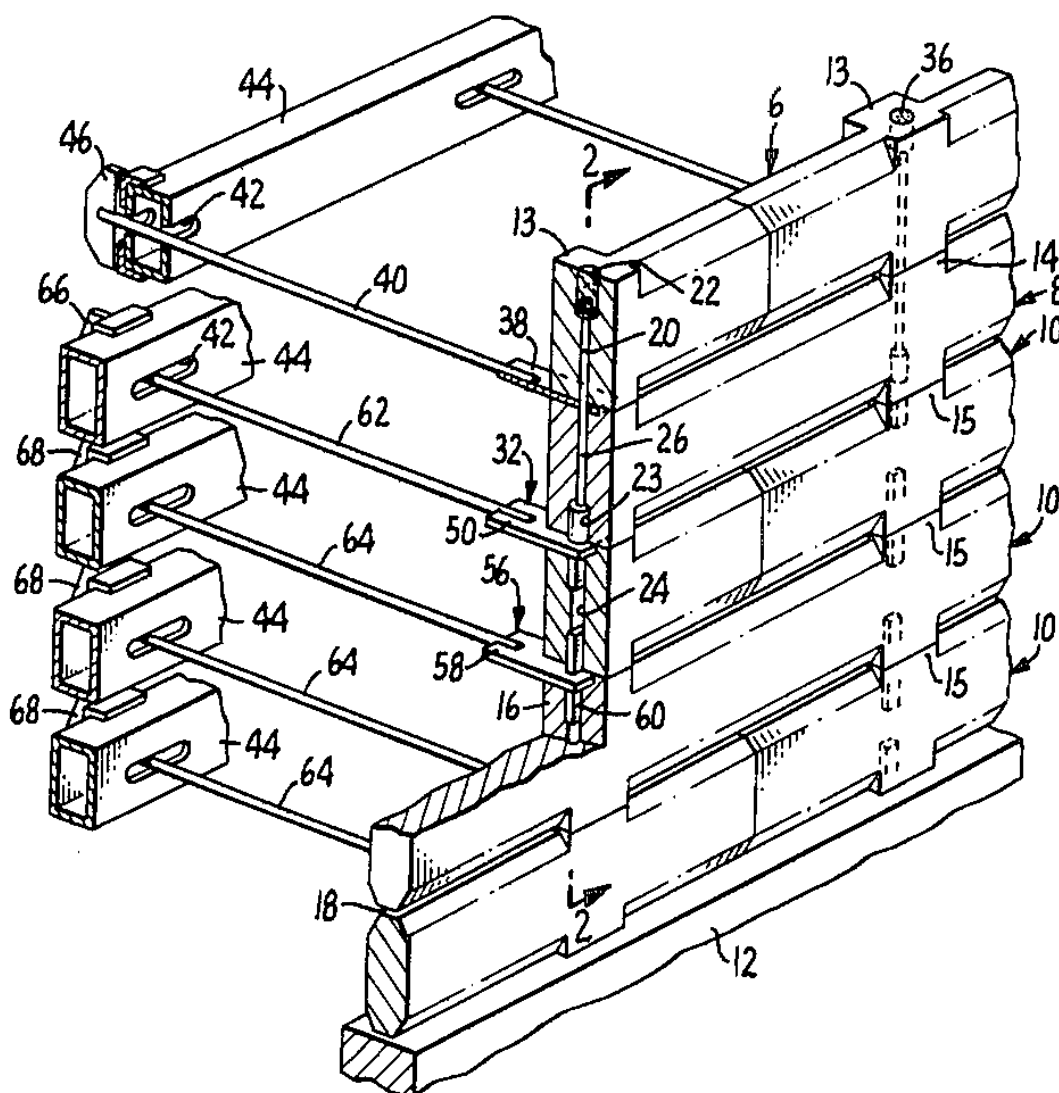
RIDGEROCK RETAINING WALLS

Family 150/200 - FAMPAT - ©Questel

Title

(US4266890)

Retaining wall and connector therefor

Images**Publication data including kind & date**[US4266890](#)

A

1981-05-12

US4266890

**Abstract**

(US4266890)

A retaining wall comprised of stacked precast stretchers having stacking pads with oppositely disposed slots formed therein for the receipt of connectors. The connectors comprise plates interposed between the pads and pins secured to the plates for engagement with the slots. Anchor rods are secured to the plates for attachment to embedded anchors.

Inventors

HILFIKER WILLIAM K

Latest standardized assignees - inventors removed

VIDAL HENRI

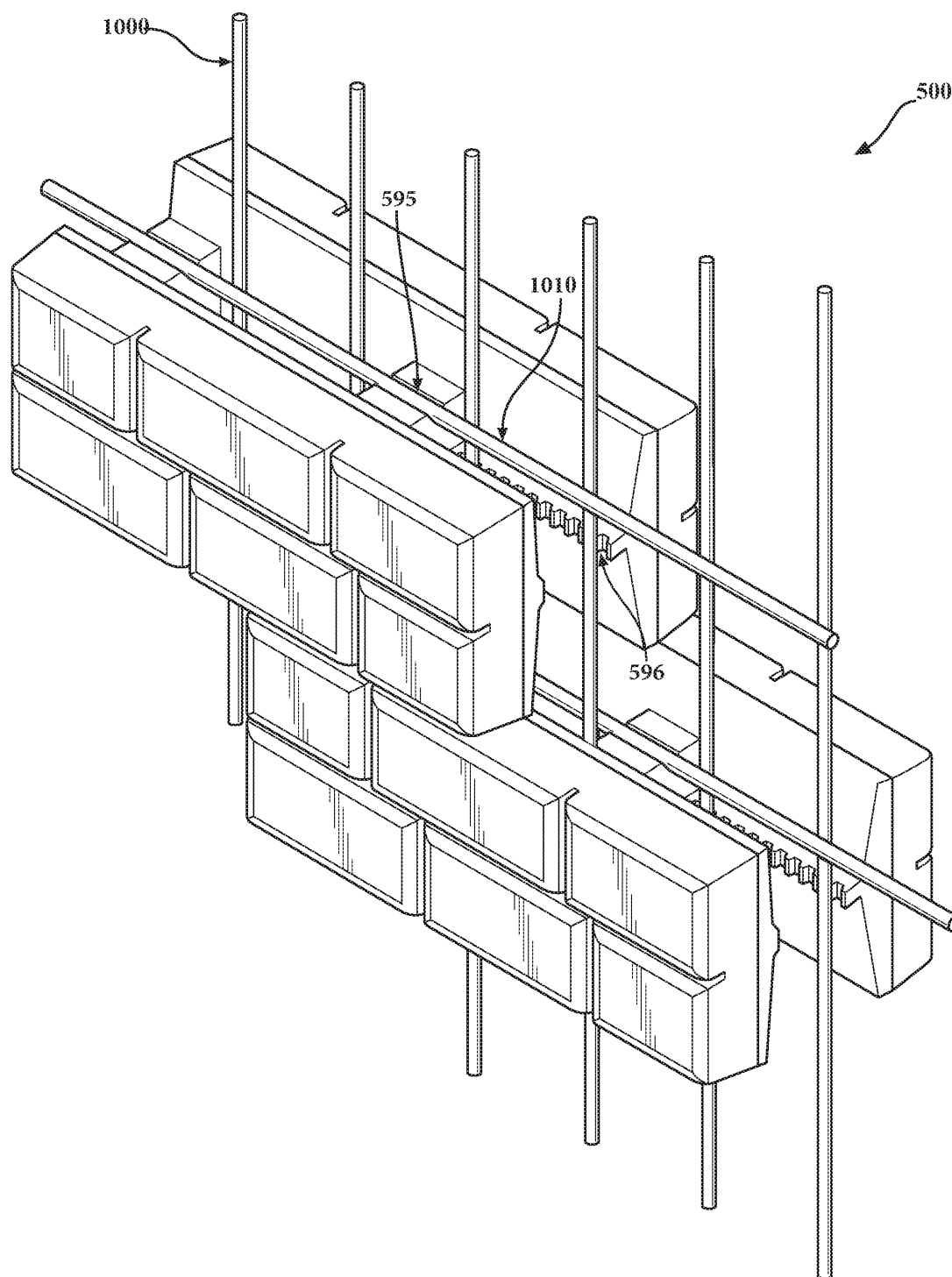
Family 151/200 - FAMPAT - ©Questel

Title

(WO201826736)

Method for casting reinforcement alignment features into concrete wall blocks

Images

**Publication data including kind & date**

WO2018/026736	A1	2018-02-08	WO201826736
US20180030728	A1	2018-02-01	US20180030728

**Abstract**

(WO2018/026736)

What is provided is a method for casting reinforcement alignment feature into concrete wall blocks and precast concrete wall blocks configured for assembly into a wall. Reinforcement alignment features, such as horizontal reinforcement grooves and/or vertical reinforcement grooves, are precast simultaneously with panels, ribs, and other components of the concrete wall blocks in the forms in which the concrete wall blocks are cast. As a result, reinforcing members, such as rebar and welded wire mesh, may be positioned, either horizontally or vertically, in desired and appropriate locations on the concrete wall blocks. Consequently, there is a significant increase in the convenience and ease of wall construction, while greatly reducing the amount of labor that is needed. In addition, the constructed walls have increased stability, strength,

and water resistance.

Inventors

JOHNSON JAMES R

Latest standardized assignees - inventors removed

REDI ROCK INT

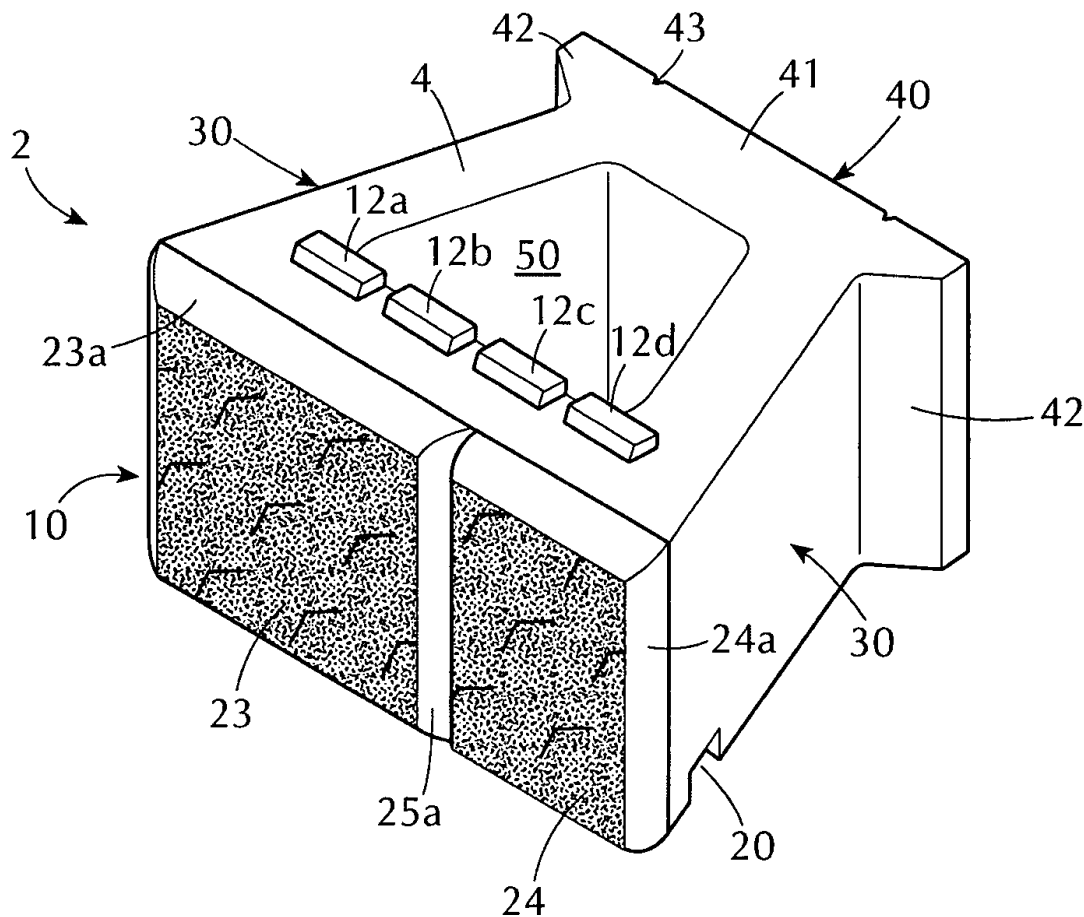
Family 152/200 - FAMPAT - ©Questel

Title

(US20110078978)

Retaining wall block, method of manufacturing retaining wall block and retaining wall comprised of retaining wall blocks

Images



Publication data including kind & date

[US7963727](#)

B1 2011-06-21

US7963727

[US20110078978](#)

A1 2011-04-07

US20110078978



Abstract

(US20110078978)

A retaining wall block has spaced-apart front and rear sections interconnected by two laterally spaced-apart side sections that jointly define a through-cavity that extends through the block from a top face thereof to a bottom face thereof. Two or more protuberances protrude outwardly from the top face of the front section frontwardly of the through-cavity. A groove extends laterally in the bottom face of the front section frontwardly of the through-cavity. The groove is located and dimensioned relative to the protuberances so that two blocks can be stacked one atop another in staggered relation with one or more protuberances of the lower block engaged with one but not both of a front wall and a rear wall of the groove of the upper block and the upper block setback with respect to the lower block.

Inventors

WAUHOP BILLY J

Latest standardized assignees - inventors removed

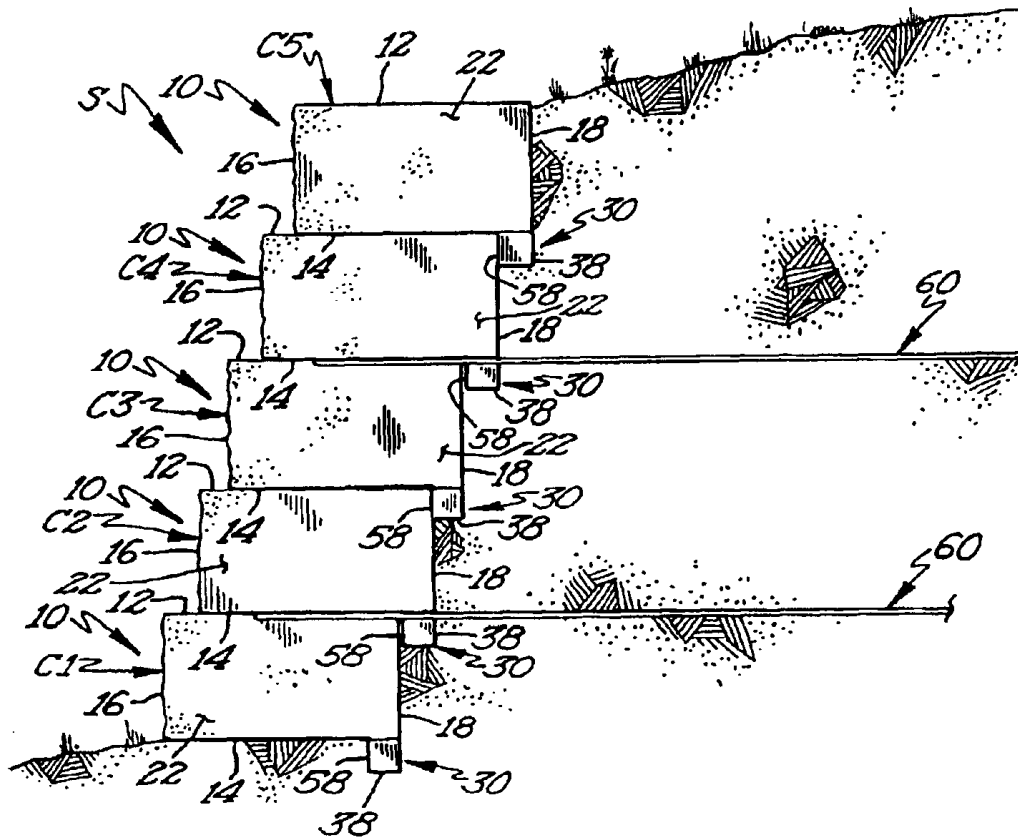
E DILLON

Family 153/200 - FAMPAT - ©Questel

Title

(US6857825)

Retaining wall block and wall grid system

Images**Publication data including kind & date**[US6857825](#)

B1 2005-02-22 US6857825

**Abstract**

(US6857825)

A retaining wall block and a system and method for constructing a retaining wall with multiple blocks laid in successive courses. The system comprises a plurality of building blocks and a flexible anchor grid. Each block has top and bottom surfaces, front and rear surfaces, opposing side surfaces, and a downwardly extending engagement section. The downwardly extending engagement section is configured to be directly connected to a sheet of flexible, pliant anchoring material of the type having plurality of perforations. The sheet of anchoring material is laid over a course of blocks and extended into earth fill behind the wall. The downwardly extending engagement section is also configured to engage and position adjacent courses of blocks relative to each other in a predetermined, setback relation. Preferably, the engagement section has one or more teeth that are arranged in a linear row and which are constructed and arranged to project through apertures in the anchoring grid sheet.

Inventors

MORRELL KELLY J

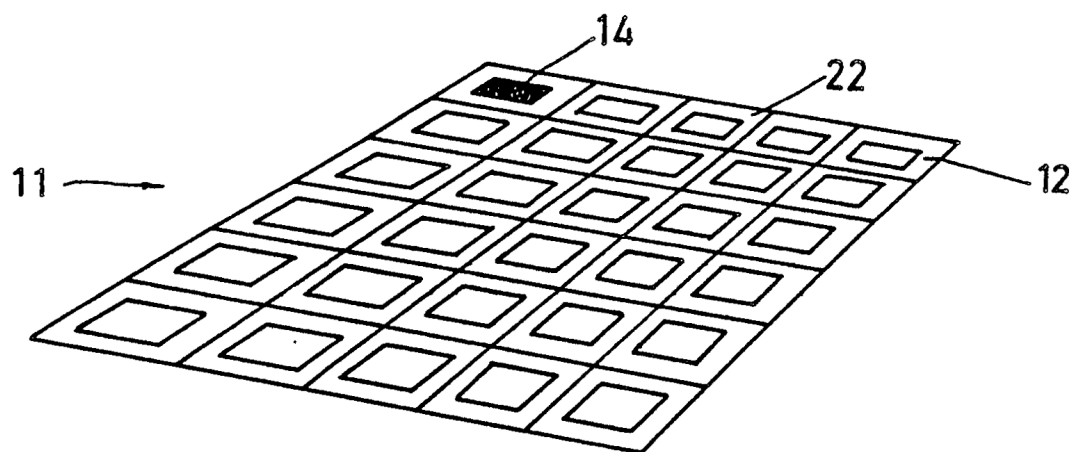
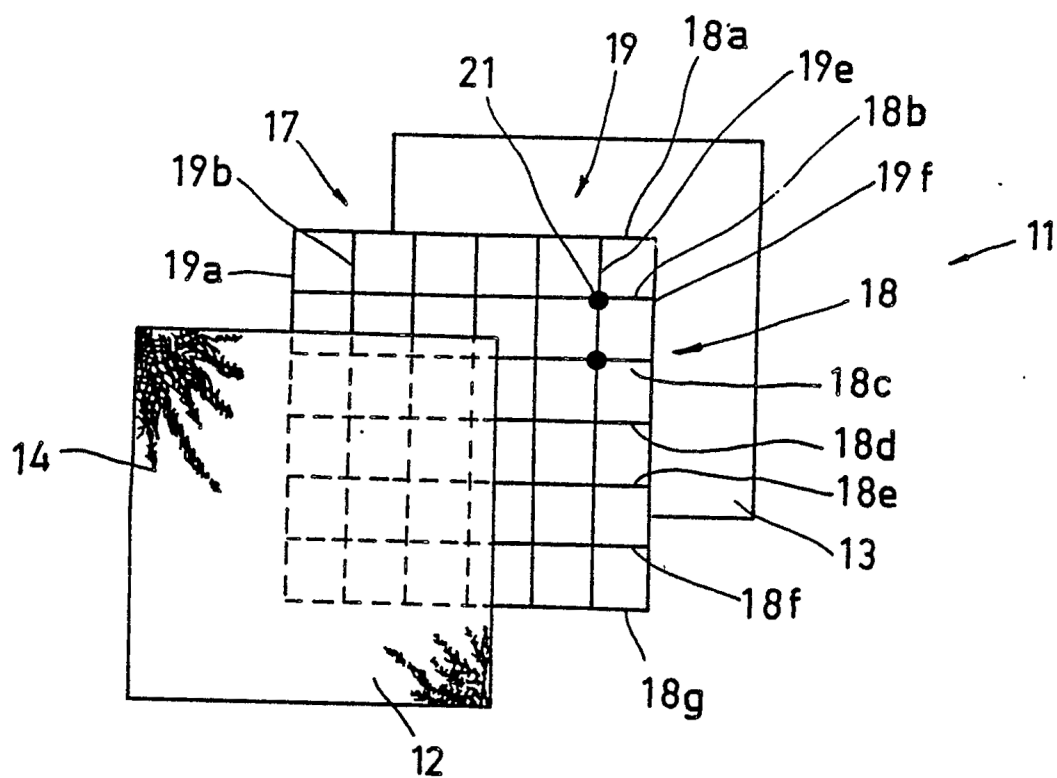
Family 154/200 - FAMPAT - ©Questel

Title

(US4992003)

Unit comprising mesh combined with geotextile

Images



Publication data including kind & date

US4992003

A 1991-02-12 US4992003



Abstract

(US4992003)

A geotextile unit comprising a rigid mesh combined with geotextile material.

Inventors

PERACH CHAIM

Latest standardized assignees - inventors removed

YEHUDA WELDED MESH

Family 155/200 - FAMPAT - ©Questel

Title

(DE3920514)

Concrete prefabricated slope block - has coarse-mesh plastics anchoring grille grouted into rear wall

Images

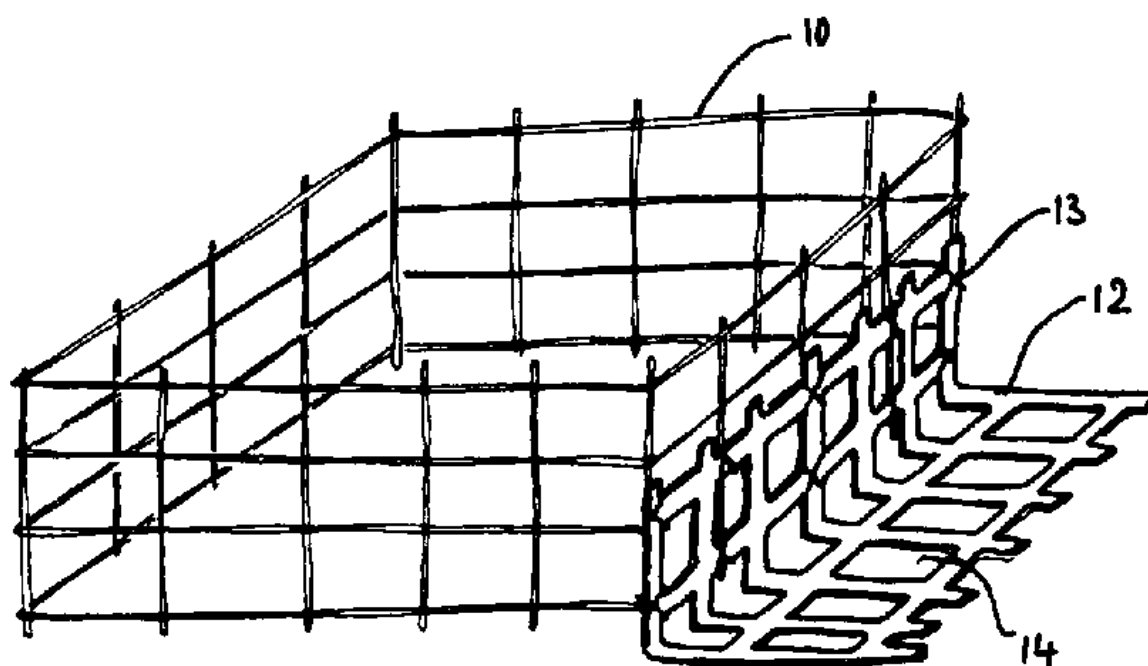


Fig. 1

Publication data including kind & date

CH681818

A5 1993-05-28 CH-681818

DD296136

A5 1991-11-21 DD-296136

DE3920514

A1 1991-01-10 DE3920514



Abstract

(DE3920514)

The prefabricated slope block is for a supporting structure built up by placing the concrete blocks one above the other. In plan view, the block is a hollow body with a closed peripheral wall, open to the top and at least partly to the bottom, with parallel horizontal edges. At the rear wall of the block (20), the ring (10) of reinforcing members is joined to a coarse-mesh anchoring grille (12), which is grouted into the rear wall and protrudes from it in the rearwards direction. The grille is in one piece and of high-tensile plastic resistant to bending loads. ADVANTAGE - Simple anchoring, with no backfilling or compacting problemsn.

Inventors

REINSCHUETZ HANS

REINSCHUETZ PETER

Latest standardized assignees - inventors removed

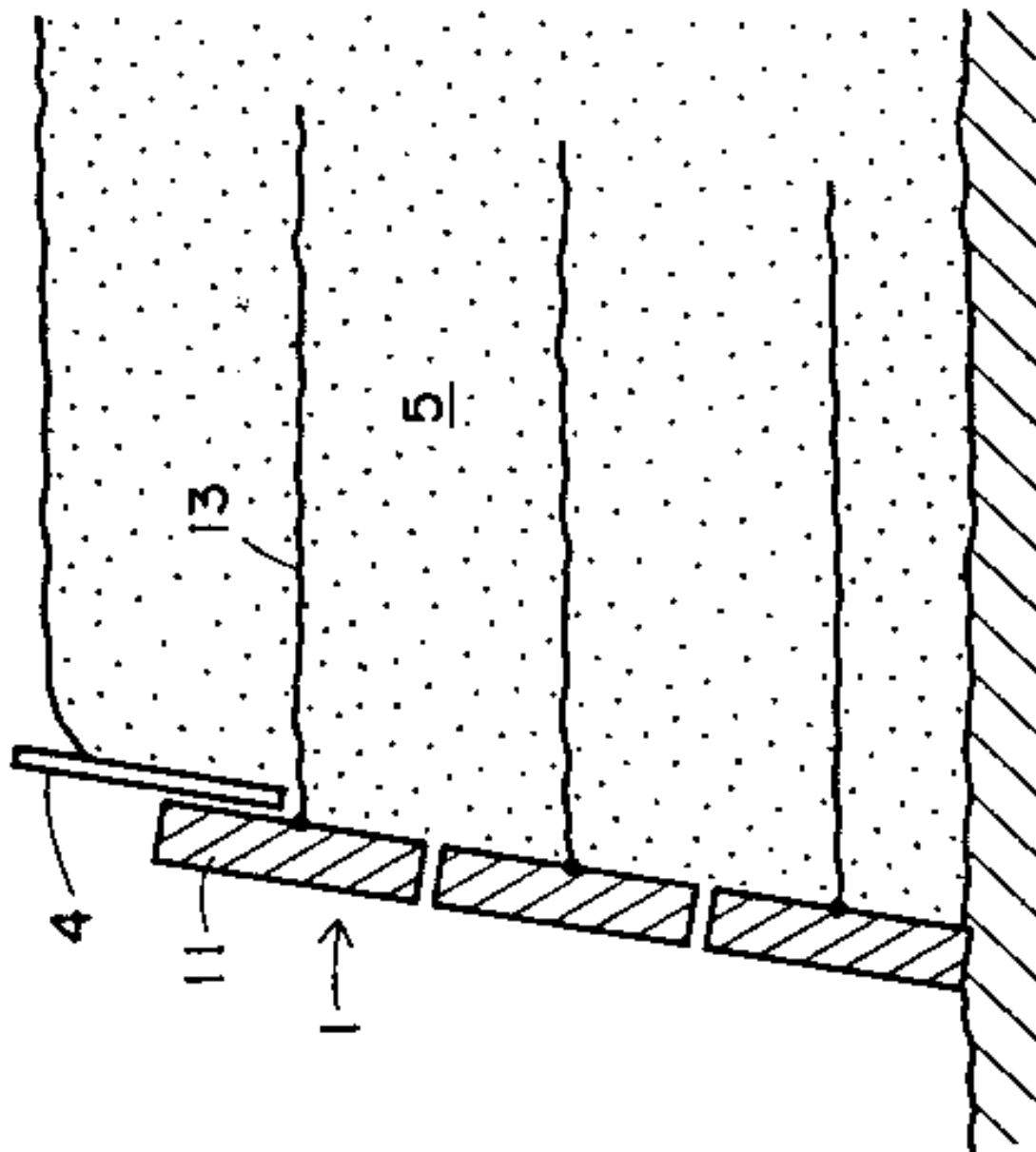
BETONWERKE MUNDERKINGEN REINSCHÜTZ

Family 156/200 - FAMPAT - ©Questel

Title

(JP61155516)

Slope stabilization work and reinforcement therefor

Images

Publication data including kind & date

JP1894830	C	1994-12-26	JP1894830
JPH0547688	B2	1993-07-19	JP93047688
JPS61155516	A	1986-07-15	JP61155516

**Abstract**

(JPS61155516)

PURPOSE:To effectively stabilize a slope by a method in which one end of a banking reinforcement is attached to the back of slope reinforcement, the banking reinforcements are sideways laid and buried in the banking, and the slope reinforcements are stacked up and banking work is proceeded while forming the slope. **CONSTITUTION:**One end of a banking reinforcement 13 as at least one kind of water-permeable sheet, net, or rope is attached to the back of a slope reinforcement 11 to form a reinforcement 1. The reinforcements 13 of the materials 1 are sideways laid and buried in the banking 5, and the reinforcements 11 are stacked up and banking work is proceeded while forming the slope. Since a steep slope having a nearly verticality can be effectively stabilized, the effective uses of land can be made possible. the degree of subsidence after the stabilization work can also be reduced.

Inventors

NAKAMURA KAZUYUKI

KURODA EIZO

TAMURA YUKIHIKO

MINAMI TETSUHISA

IWASAKI TAKAAKI

Latest standardized assignees - inventors removed

TOKYU KENSETSU

MITSUI PETROCHEMICAL INDUSTRIES

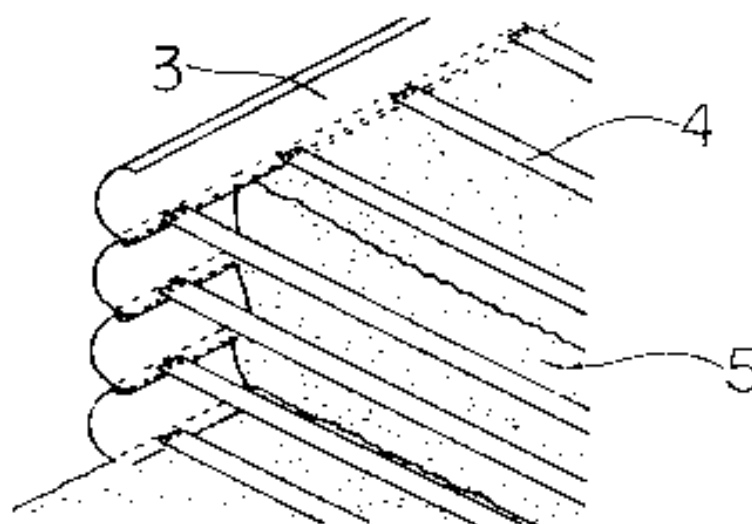
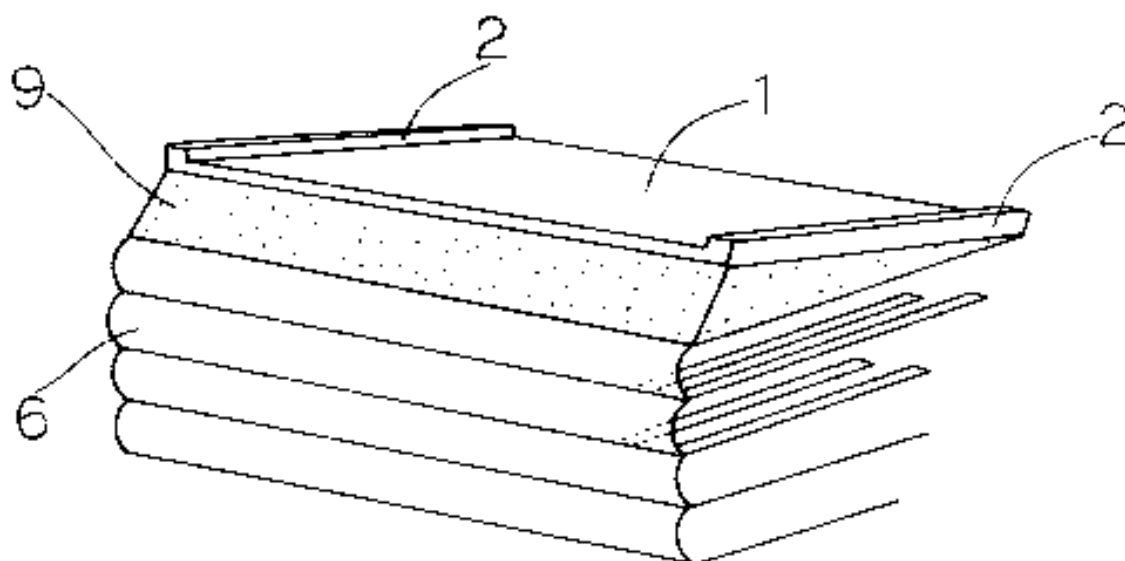
Family 157/200 - FAMPAT - ©Questel

Title

(JP59203126)

Soil fortification work

Images

**Publication data including kind & date**[JPS59203126](#)

A 1984-11-17 JP59203126

**Abstract**

(JPS59203126)

PURPOSE: To prevent the corrosion of reinforcing strips by a method in which sloped ground whose wall side is made higher is provided on the upside of the ground of fortified soil structure, and a plate structure is laid on the sloped ground over the flooding range of the strips. **CONSTITUTION:** Strips 4 are nearly horizontally set and clamped with bolts on the back side of concrete blocks or galvanized steel plates 3 constituting a vertical wall, and soil and sand 5 are sent on the strips 4 and compacted. These processes are repeated to construct a desired height of fortified ground 6 (reinforced earth work). Sloped ground 9 whose wall 3 side is made higher is provided on the upside of the fortified ground 6, and a plate

structure 1 is set on the sloped ground 9 over the flooding range of the strips 4. Soil and sand are sent on the plate structure 1 and compacted to construct the ground. The corrosion of the strips 4 can thus be prevented.

Inventors

WAGI KUNIIHIKO

Latest standardized assignees - inventors removed

KOYO IRON WORKS & CONSTR

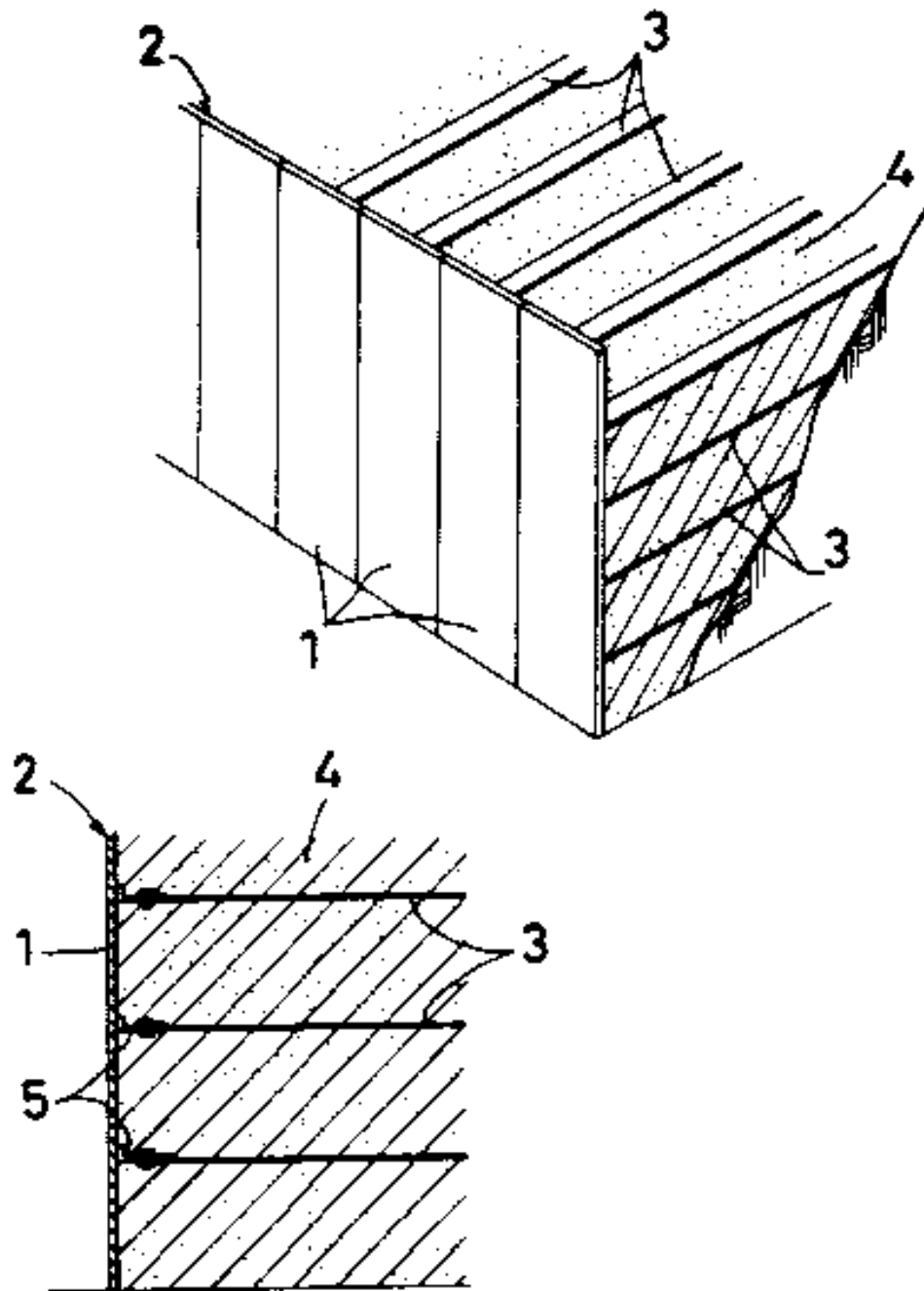
Family 158/200 - FAMPAT - ©Questel

Title

(JP57140424)

Construction work of reinforced soil

Images

**Publication data including kind & date**[JPS57140424](#)

A 1982-08-31 JP57140424

**Abstract**

(JPS57140424)

PURPOSE:To shorten the working period as well as reduce the construction cost for reinforced banking by a method in which an exterior member is erected, a strip member is connected to the exterior member and laid horizontally, and then banking and tamping are conducted. **CONSTITUTION:**An exterior member 1 is erected on the ground to form an exterior wall 2, banking 4 is conducted up to the level of the lowermost fitting metal 5 and tamped horizontally, and then a strip member 3 is connected to the lowermost fitting metal 5. And so, the strip member 3 is laid horizontally on the banking. The connection and laying of the strip member 3 and the moving and tamping of the banking are orderly repeated upwardly for

every interval of the fitting metals 5 in order to construct a reinforced banking.

Inventors

HATSUTA SHIYUNJI

Latest standardized assignees - inventors removed

KAWASHO

Family 159/200 - FAMPAT - ©Questel

Title

(AU-511797)

Reinforced earth structure

Publication data including kind & date

AU511797	B2	1980-09-04	AU-511797
AU2291277	A	1978-09-07	AU7722912

**Inventors**

VIDAL H

REID J B

Family 160/200 - FAMPAT - ©Questel

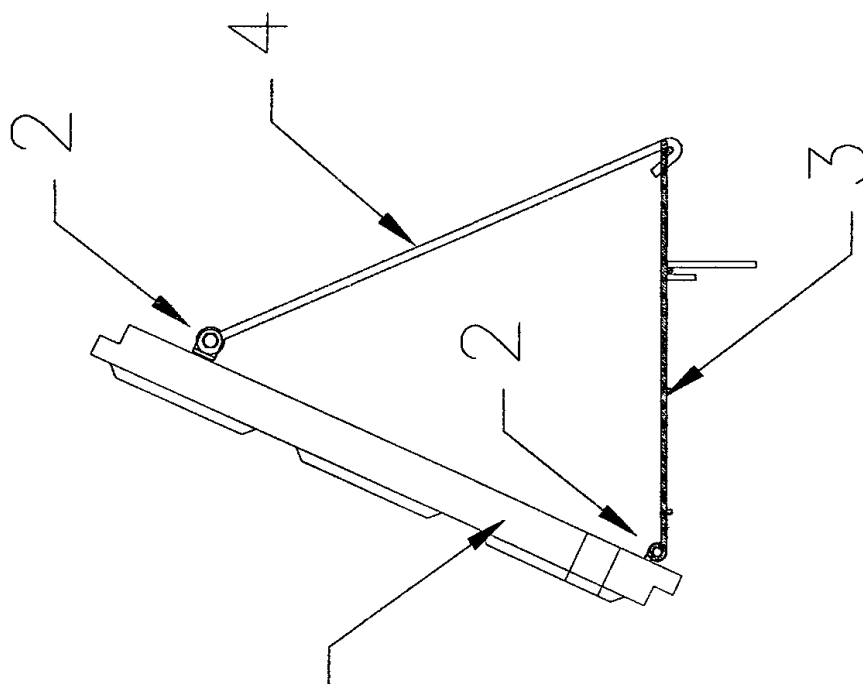
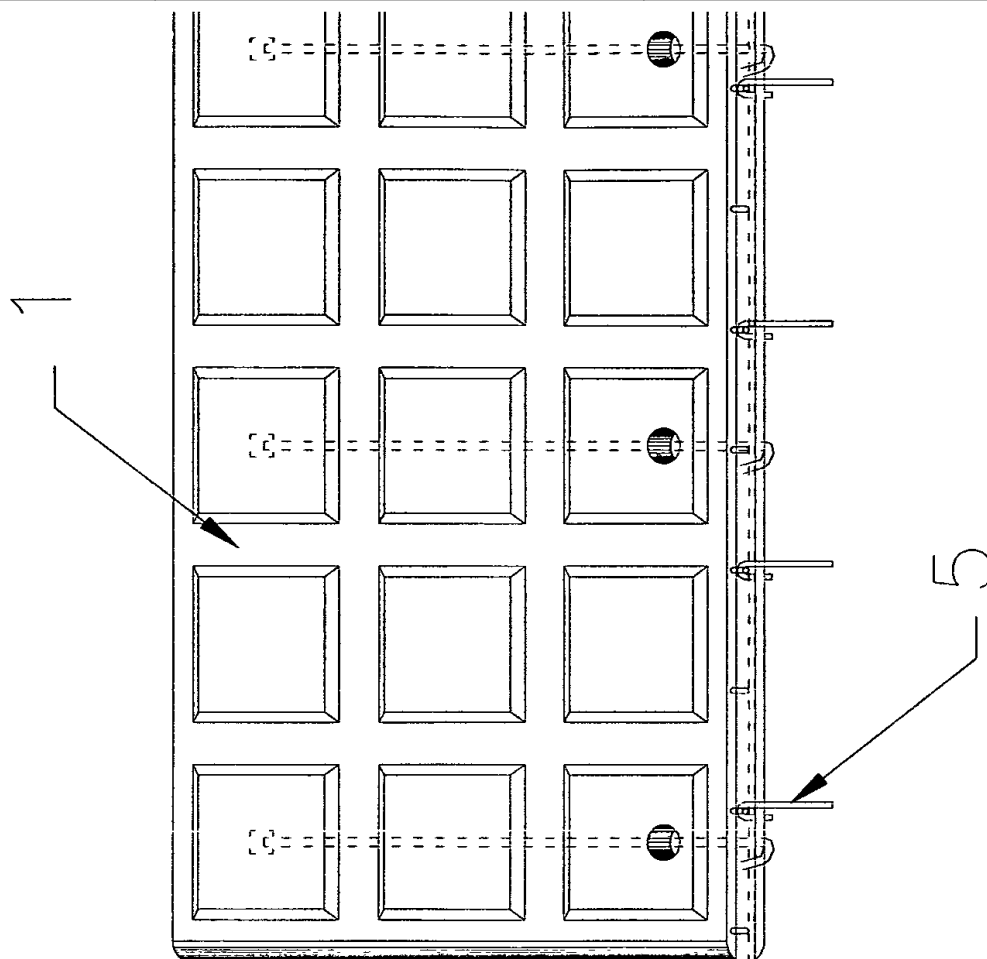
Title

(BR8701874U)

METALLIC MODEL [ARTICULAVEL] WITH PLATE CONCRETELY CONNECTED

Images

1/2
Fig. 1



BRMU8701874	U8	2015-06-09	BR198701874U
BRMU8701874	U2	2009-06-09	BR8701874U
BRMU8701874	U1	2008-01-02	BR198701874U

**Abstract**

(BRMU8701874)

METALLIC MODEL WITH [PRE]-MOLDADO CONCRETELY CONNECTED PLATE, INTERNAL LIFTERS AND [PIQUTETES] FOR EXECUTION OF THE STRUCTURE OF DEEP SUN REINFORCEMENT. Patent of the model of utility for a metallic model with plate concretely for ground structure strengthened that and understood by a metallic screen coated concretely 1, with one threshes concretely in steel set in the base of plate 3, through the points of attachment located in the inferior part of 2 plate concretely [formando] a "V", with changeable angle settled by lifter keeps the uniformity of the ground structure strengthened 4 and base settled for poles in steel.

Inventors

COELHO ISABEL CRISTINA DE OLIVA

SPONGA MAURIZIO

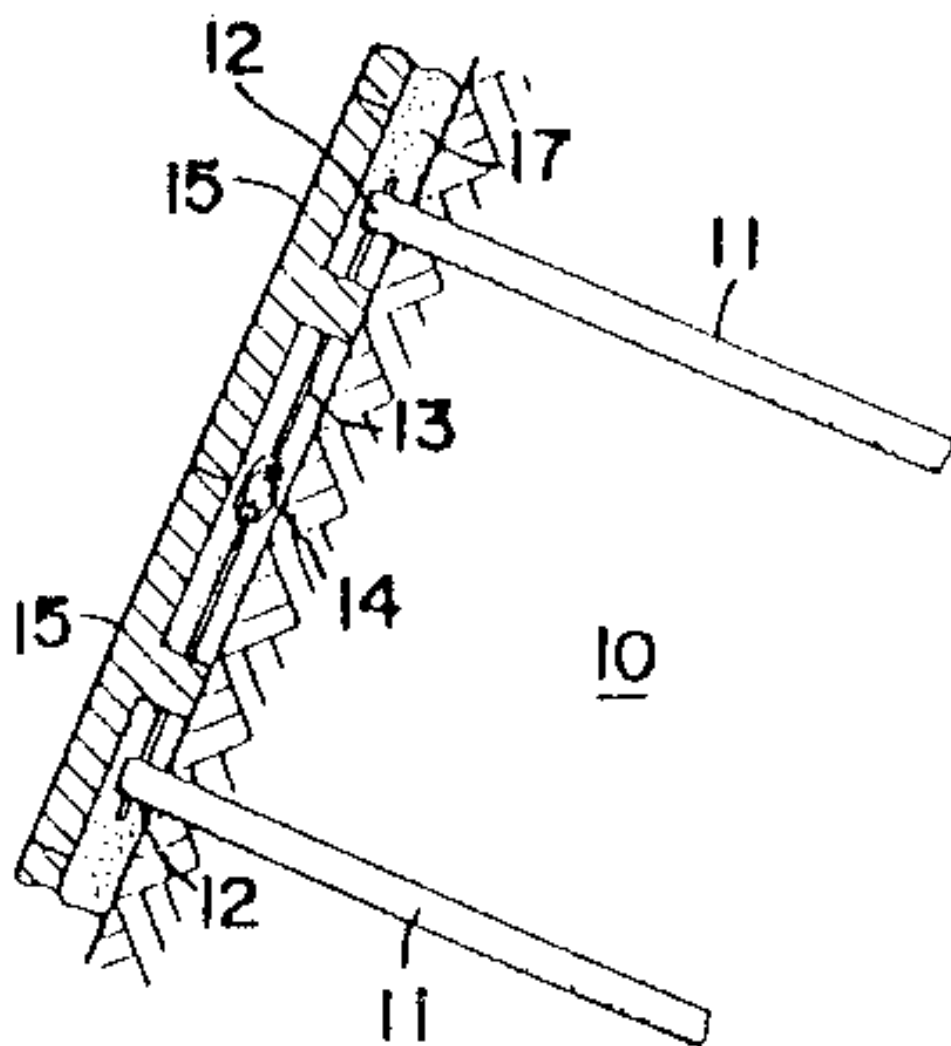
Family 161/200 - FAMPAT - ©Questel

Title

(JP60168826)

Construction of retaining wall

Images



Publication data including kind & date

JP1571642	C	1990-07-25	JP1571642
JPH0154492	B2	1989-11-20	JP89054492
JP60168826	A	1985-09-02	JP60168826



Abstract

(JP60168826)

PURPOSE:To enlarge the inclined angle of a retaining wall by permitting the use of a thin concrete slab by a method in which a reinforcement is inserted into the cut soil face, reinforcing bars are pierced through the back of the concrete slab, and the top of the reinforcement and the reinforcing bars are tensed by a turnbuckle. **CONSTITUTION:**Plural reinforcements 11 are inserted in almost parallel into the cut face of the natural ground 10, and only the top 12 of the

reinforcements 11 is exposed from the cut face. Reinforcing bars 13 are pierced through holes provided in the back of an rectangular concrete slab 15, and the slab 15 is attached to the cut face. The top 12 of each reinforcement 11 is connected with the reinforcing bars 13, and they are tensed by a turnbuckle 14. Cement mortar 17 is then packed into the space between the cut soil face and the concrete slab 15.

Inventors

KUROSE MASAYUKI

Latest standardized assignees - inventors removed

TAIYO GIJUTSU KAIHATSU

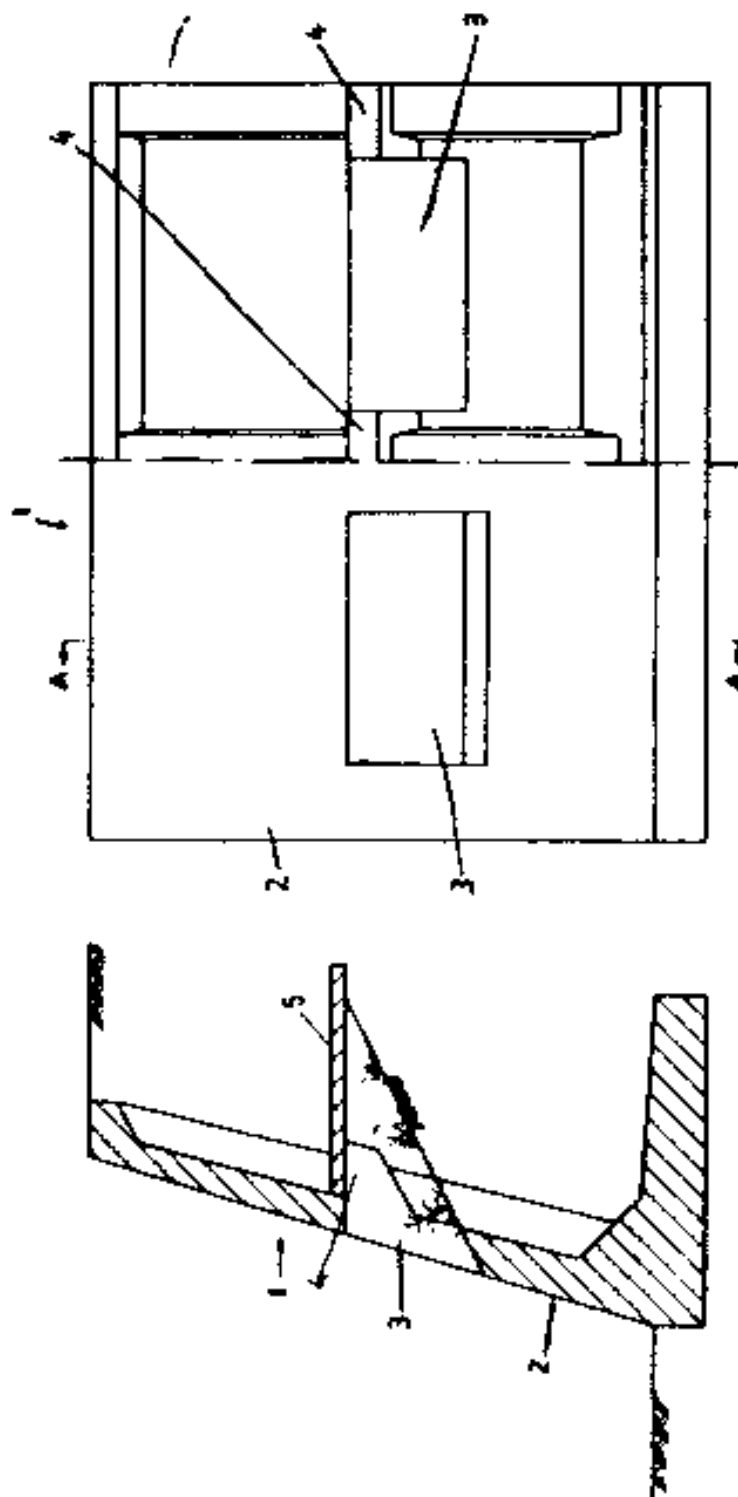
Family 162/200 - FAMPAT - ©Questel

Title

(JP60037335)

Sheathing and retaining wall

Images



Publication data including kind & date

JP1493256	C	1989-04-20	JP1493256
JPS6340890	B1	1988-08-15	JP88040890
JPS6037335	A	1985-02-26	JP60037335



Abstract

(JPS6037335)

PURPOSE:To fortify the structure of a sheathing and retaining wall as well as simplify the construction work by a method in which a soil-receiving plate is provided sideways on the upper back of an opening provided in the sheathing and retaining wall to prevent the run-off of soil from the opening, and a space permitting the growth of greens is provided below the soil-receiving plate. **CONSTITUTION:**In a sidewardly long sheathing block 1 with a front face of a retracted cross section, a pair

of openings 3 are provided sideways symmetrically at the central part of the uprising wall 2, and racks 4 are projectionally provided to the back of the wall 2 above the openings 3. A square soil-receiving plate 5 is set across the racks 4 and a recession for growing greens is provided in the lower space. The greens growth in front of the block 1, prevention of run-off of soil from the openings 3, and stable and strong construction of the blocks 1 can thus be attained, and the mass production of the blocks 1 can be made easier.

Inventors

KUSATAKE SUGIMITSU

Family 163/200 - FAMPAT - ©Questel

Title

(DE2805096)

Building, preferably Retaining Wall, Dam o.dgl.

Images

Anmeldetag:

7. Februar 1978

Offenlegungstag:

10. August 197

- 17 -

Fig. 1 2805096

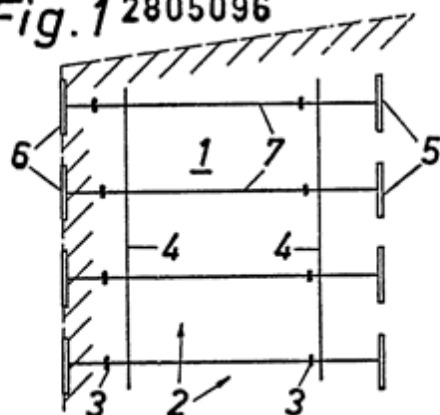


Fig. 2

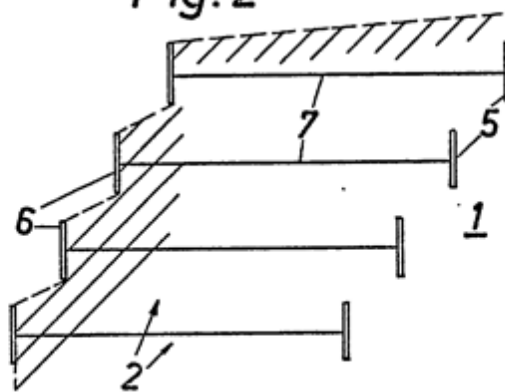


Fig. 3

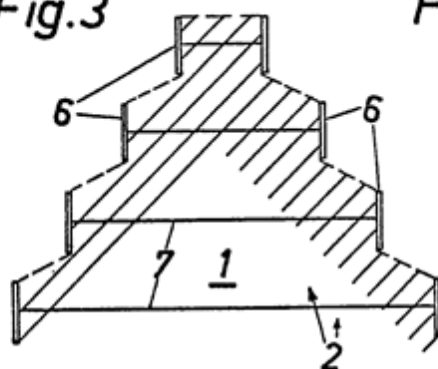


Fig. 4

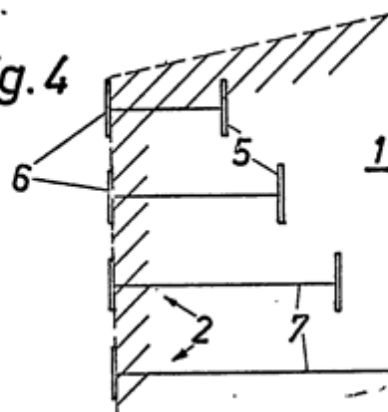


Fig. 5

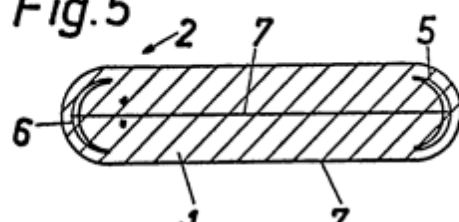


Fig. 6

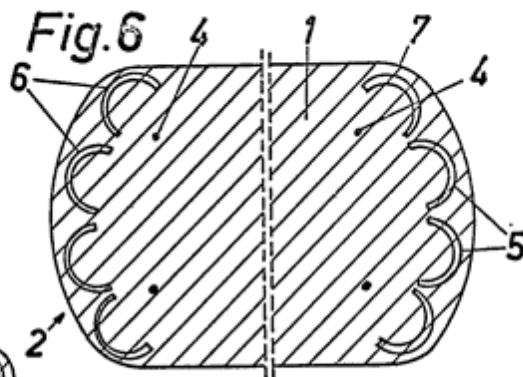
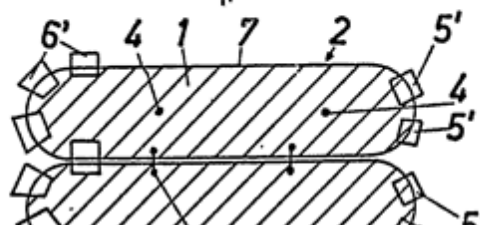
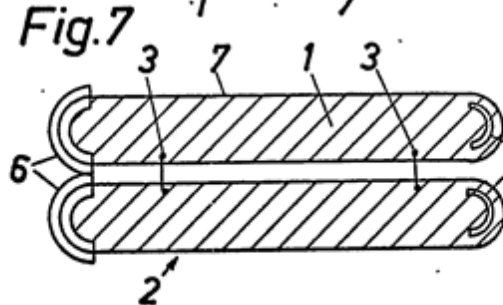
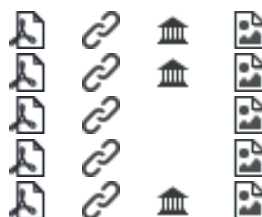


Fig. 7



Publication data including kind & date

DE2805096	C2	1987-11-19	DE2805096
CH632795	A5	1982-10-29	CH-632795
AT367129	B	1982-06-11	AT-367129
ATA84377	A	1981-10-15	AT7700843
DE2805096	A1	1978-08-10	DE2805096



Abstract

(DE2805096)

A number of structural elements (2) with flexible tension members (7) are used to retain layers of a backfill material lying one above the other. These tension members (7) extend between a retaining part (6) and at least one anchoring part (5) embedded in backfill material (1) or to another retaining part (6) arranged on the opposite side of the structure. The tension members (7) run smoothly through the backfill (1) with little friction and thus remain largely unaffected by the inner stresses occurring in this backfill and by soil movements caused by stress. The layers of the structure are restrained and held together completely independently of one another by the soil pressure acting on the retaining parts (6) on the one side and on the anchoring parts (5) or the retaining parts (6) arranged opposite. <IMAGE>

Inventors

VERZICHT DES ERFINDERS AUF NENNUNG

Latest standardized assignees - inventors removed

SCHWARZ GERHARD DIPL ING DR TECHN WIEN

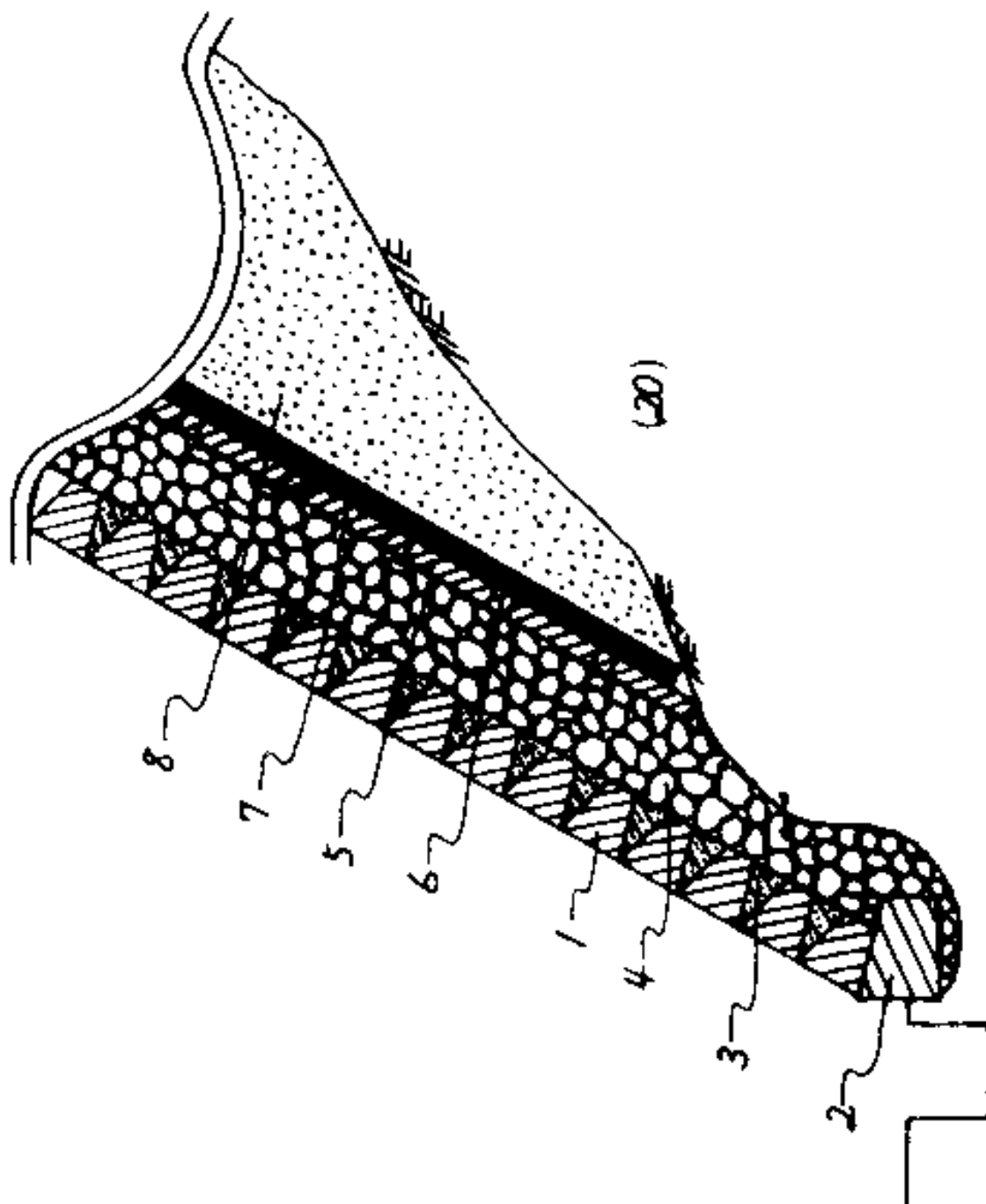
Family 164/200 - FAMPAT - ©Questel

Title

(JP57161230)

Construction of retaining wall

Images

**Publication data including kind & date**

JP1338036	C	1986-09-29	JP1338036
JPS614935	B2	1986-02-14	JP86004935
JPS57161230	A	1982-10-04	JP57161230

**Abstract**

(JPS57161230)

PURPOSE:To eliminate the need to compensate for a difference between a design longitudinal section and actual longitudinal section by using an expensive cobble stone by a method in which bury panels are provided with a proper spacing in relation to a retaining wall, and the areas between the retaining wall, the bury panel, and sloped ground are embedded with mountain soil. **CONSTITUTION:**A bury panel 5 with a water drain hole 6 is provided with a proper spacing

from a retaining wall constructed by stacking up interposing blocks 1, and a send mat to collect water coming into the mountain soil is bonded to the mountain side back of the panel 5. Then, the area between the sloped ground and the bury panel 5 is embedded with mountain soil 8, and also the space between the retaining wall and the bury panel 5 is filled with a cobble stones 4 and compacted.

Inventors

SHIBATA TADASHI

KISHI MASAYOSHI

Latest standardized assignees - inventors removed

NISSHOKU

GUNMA KENZAI

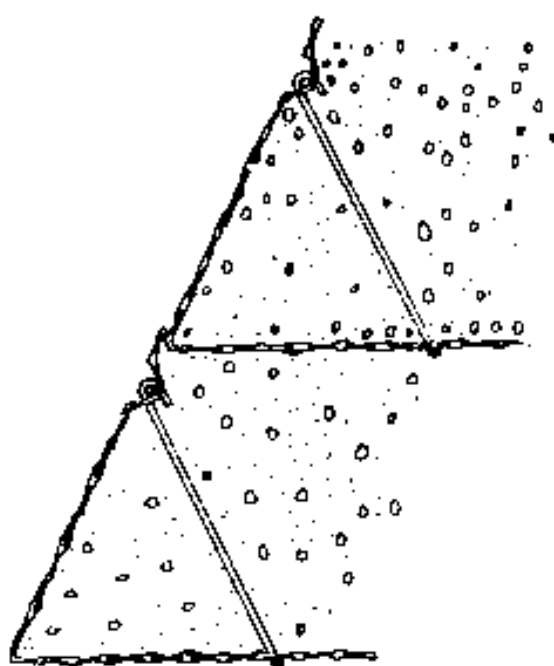
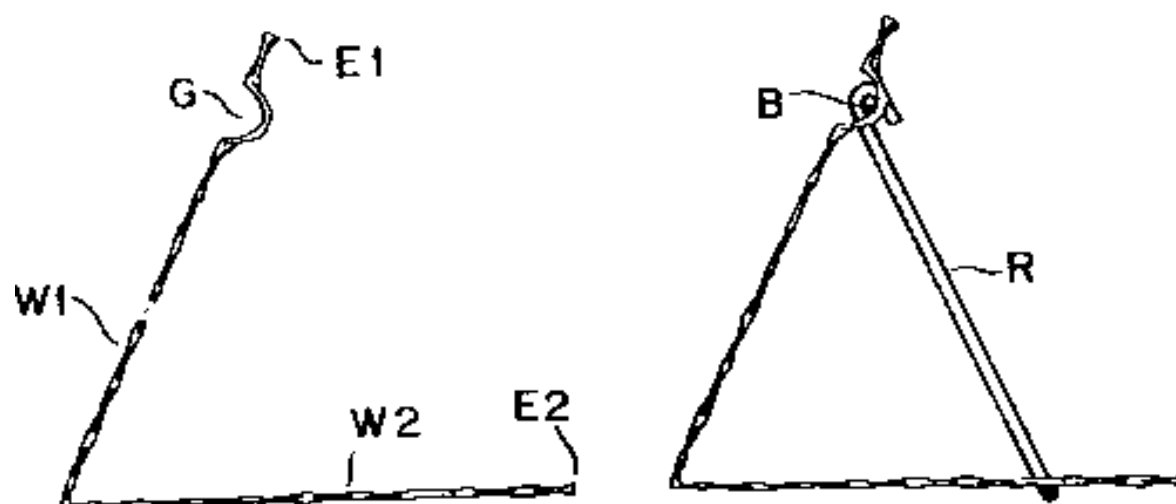
Family 165/200 - FAMPAT - ©Questel

Title

(JP60016616)

Construction of retaining wall and unit therefor

Images



Publication data including kind & date

JP1462418	C	1988-10-14	JP1462418
JPS6311488	B2	1988-03-14	JP88011488
JPS6016616	A	1985-01-28	JP60016616



Abstract

(JPS6016616)

PURPOSE: To simply construct a strong retaining wall by a method in which one side piece of an L-shaped netting part is set in the direction of slope, the other side piece is set in the inside direction of the slope, and both the side pieces are connected by bars through beams. **CONSTITUTION:** The face of one side piece W1 of an L-shaped metal netting part LX is set in the direction of slope by turning its end portion E1 toward the upper part of the slope, and the face of the other side

piece W2 is set in the inside direction of the slope. Both the side pieces W1 and W2 are connected by a bar R through a beam B. Soil and sand are packed into the inside of the netting part LX, and the netting part LX is further set on the part LX and soil is packed into the part LX in repeated manner to construct a retaining wall.

Inventors

NOZUNA TOSHIO

Latest standardized assignees - inventors removed

KYOSEI GIJUTSU KAIHATSU KIKO

SABO JISUBERI GIJUTSU SENTAA

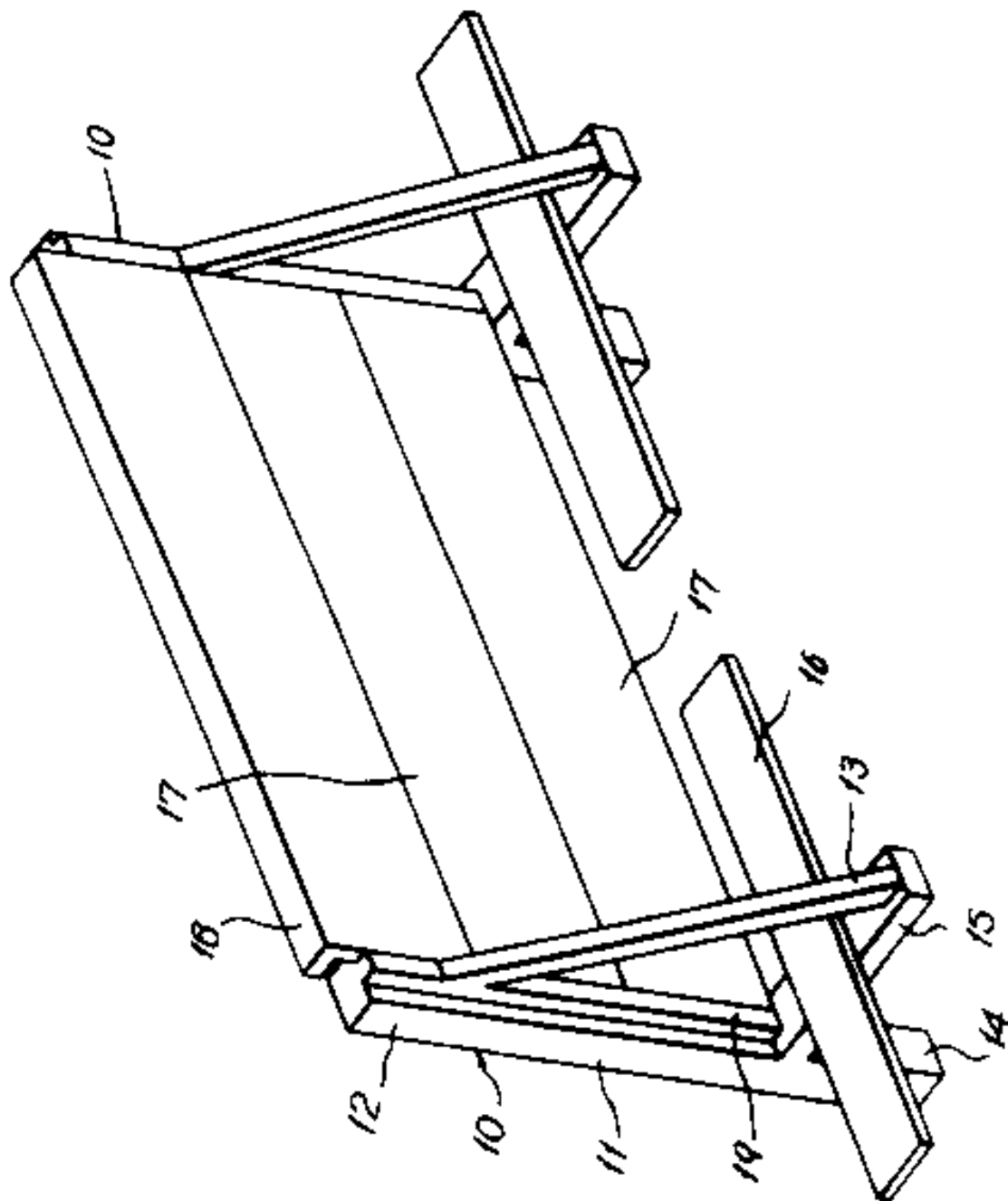
Family 166/200 - FAMPAT - ©Questel

Title

(JP60019832)

Retaining wall

Images



Publication data including kind & date

[JPS6019832](#)

A 1985-02-01 JP60019832



Abstract

(JPS6019832)

PURPOSE:To simplify the foundation work of a retaining wall even for soft ground by a method in which a pile is made up of a column material, a diagonal member, and a beam connecting the column material and the diagonal member, a bottom plate is placed on the beam, and soil is covered on them. **CONSTITUTION:**A retaining wall consists at least of two piles 10, a bottom plate 16, side plates 17, and coping stones 18. The pile 10 made of reinforced concrete consists of a column material 11 of an angular cross section, a diagonal member 13 extended slantly downwards from the head 12 of the column material, and a beam 15 extending horizontally from the leg 14 of the column material and connecting to the

diagonal member 13. In constructing the retaining wall, the column leg 14 and beam 15 of the pile 10 are buried, the side plates 17 are laid, the bottom plate 16 is laid on the beam 15, and then soil is covered on them. Other side plates are erected on the side plates 17, sheathing is covered on them, and lastly coping stones 18 are stacked up thereon.

Inventors

YAMANE IZUMI

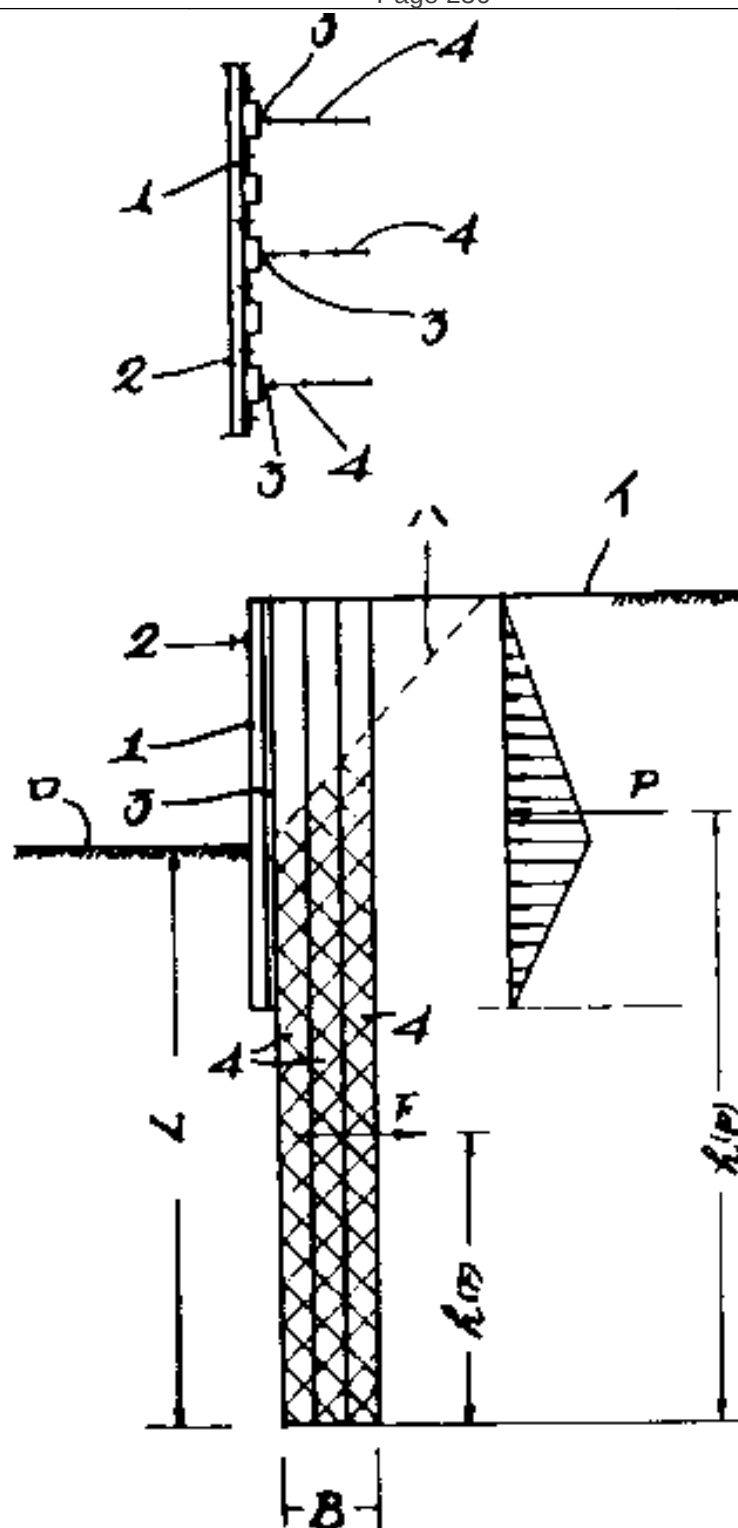
Family 167/200 - FAMPAT - ©Questel

Title

(JP58044119)

Stabilization work for sheathing wall

Images



Publication data including kind & date

JPS5844119

A 1983-03-15 JP58044119



Abstract

(JPS5844119)

PURPOSE: To prevent the sliding and falling of sheathing and retaining walls by erecting an auxiliary wall attached to the back of a sheathing into soil of less than active earth pressure. **CONSTITUTION:** An auxiliary wall 4 attached to the back of a sheathing wall 1 is erected into soil below an active earth pressure degradation line (c) in such a way as to make a deformation moment $PXh(p)$ acting on the sheathing wall 1 correspond with a resistance moment $FXh(F)$ by the circumferential friction force F of soil, acting on the auxiliary wall 4, whereby stabilizing the sheathing wall 1. The straight steel sheet piles of the auxiliary wall 4 are additionally provided in the direction of the auxiliary wall 4 or deeply driven and

thereby the frictional area of the auxiliary wall 4 is easily increased. Thus, by providing the auxiliary wall 4 corresponding to a side pressure P acting on the sheathing wall 1, the sliding and falling of the sheathing wall can be prevented. The sliding stabilization condition for the sheathing wall 1 is $F > P$, and also falling stabilization condition for the sheathing wall 1 is $F \cdot X_h(F) > P \cdot X_h(p)$. These conditions can be formed by adjusting the width B and footing length L of the auxiliary wall.

Inventors

TORIUCHI SHIYUUZOU

Family 168/200 - FAMPAT - ©Questel

Title

(US1358042)

Roadway reinforcement

Images

Fig. 1.

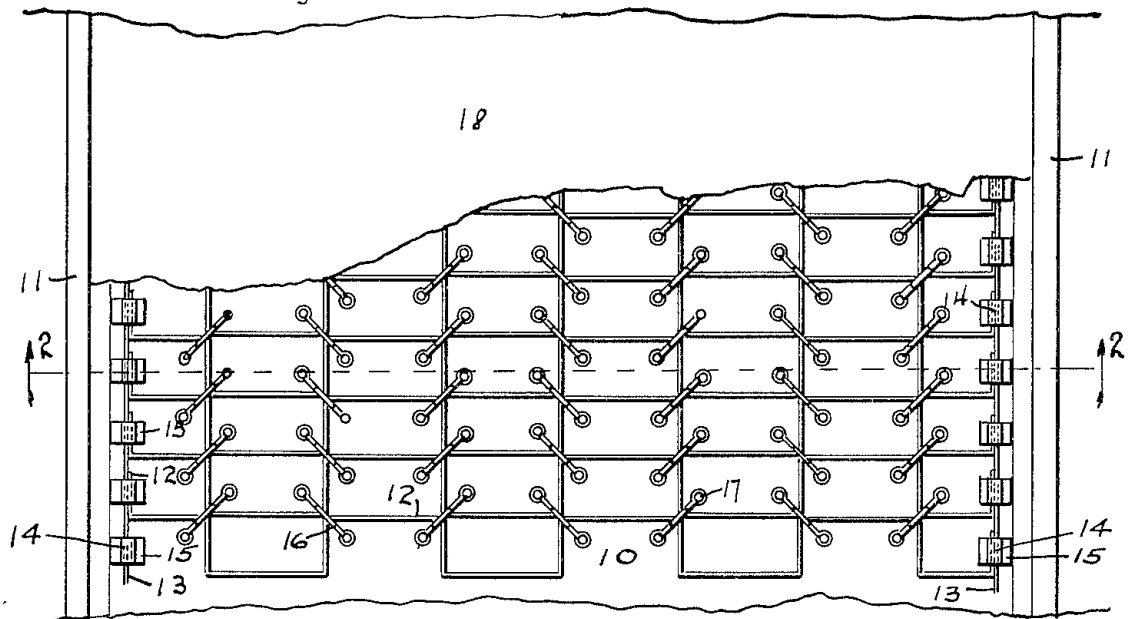


Fig. 2.

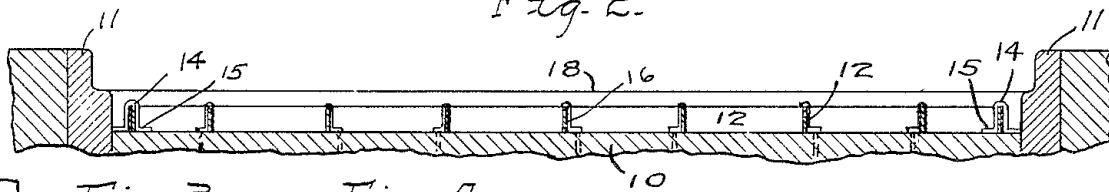


Fig. 3.

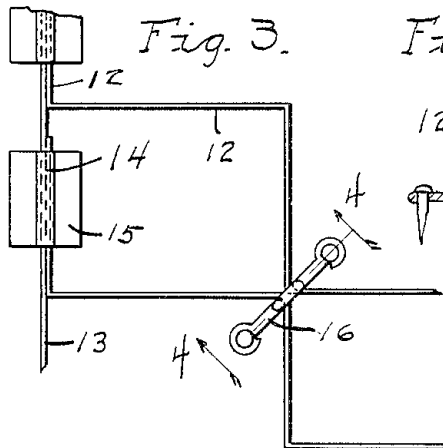


Fig. 4.

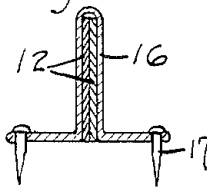
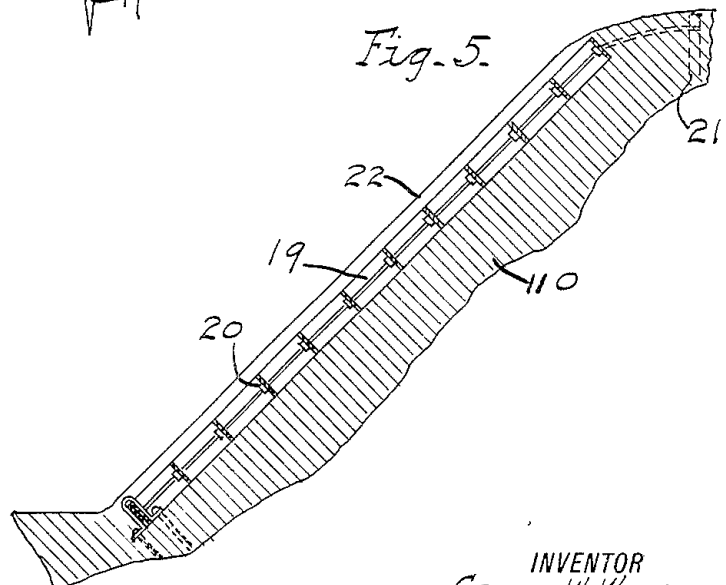


Fig. 5.



WITNESSES:

J. Swan
R. Lockwood

INVENTOR
 GEORGE W. WARMOTH

BY
V. H. Lockwood
 ATTORNEY

Publication data including kind & date

US1358042

A 1920-11-09 US1358042



Inventors

WARMOTH GEORGE W

Family 169/200 - FAMPAT - ©Questel

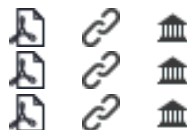
Title

(JP59122623)

Prevention of landslide of soil

Publication data including kind & date

JP1467053	C	1988-11-30	JP1467053
JPS6316435	B2	1988-04-08	JP88016435
JPS59122623	A	1984-07-16	JP59122623



Abstract

(JPS59122623)

PURPOSE:To prevent the degradation of sloped ground by forming a strong protective film on the surface of the ground by a method in which a liquid formed by dispersing wood chips, paper pieces, or color pigment in an aqueous synthetic resin emulsion is spread and permeated into the surface of the sloped ground and solidified by drying. **CONSTITUTION:**A dispersion liquid is prepared by uniformly dispersing wood chips of bright colors, e.g., shite, yellow, etc., small paper pieces of similar colors, or fine color pigment, e.g., calcium carbonate, etc., into an emulsion of butyl acrylate-styrene copolymer, etc., having 5% solid content. The dispersion liquid is spread over and permeated into the surface of sloped ground and dried naturally to form strong protective film on the surface, thereby preventing the landslide of the ground effectively.

Inventors

HOSHIKAWA YOSHIGO

HASHIMOTO KAZUHISA

YOMI KATSUNORI

Latest standardized assignees - inventors removed

SANYO KOKUSAKU PULP

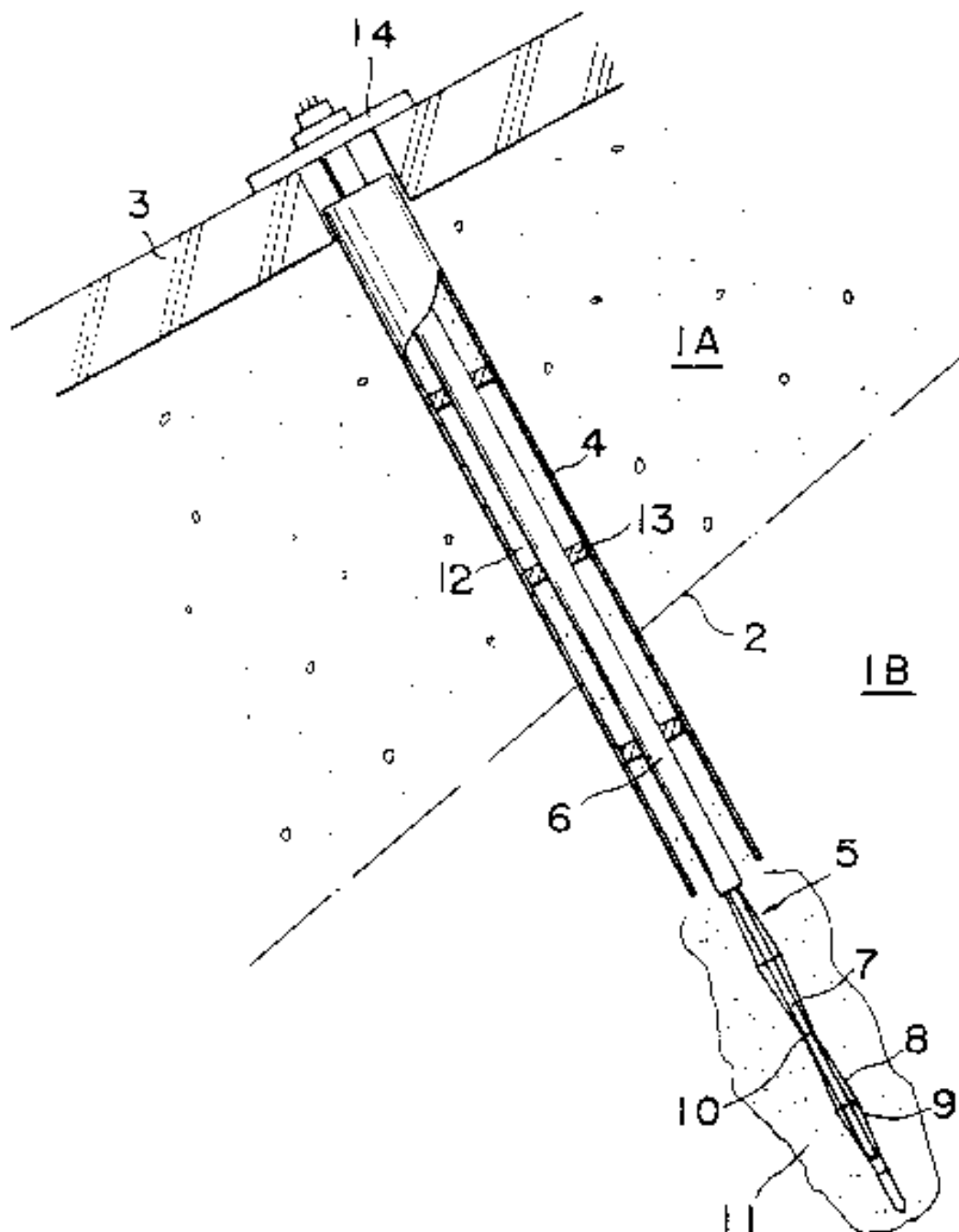
Family 170/200 - FAMPAT - ©Questel

Title

(JP58024017)

Soil stabilization work

Images



Publication data including kind & date

JP1412470	C	1987-11-27	JP1412470
JPS6216288	B2	1987-04-11	JP87016288
JPS5824017	A	1983-02-12	JP58024017



Abstract

(JPS5824017)

PURPOSE: To prevent the land slide of surface ground by a method in which a tension steel member is inserted into a hollow pile driven into the surface ground and extended into the stable ground so as to fix it to the surrounding stable ground, and then a prestress is introduced into the tension steel member. **CONSTITUTION:** A hollow pile 4 is driven into the ground 1A to be treated and further penetrated into a stable ground 1B deeper than an imaginary land slide line 2, land

then a tension steel member 5 is inserted into the hollow pile 4. Then, a grout is injected through an injection tube 7 into the surrounding ground to form an anchor footing 11 for fixing the tension steel member 5 to the surrounding ground. Then, PC steel material 8 is tensed and fixed on the basis of a tension fixing seat plate 14, and also a grout 12, e.g., cement mortar, etc., is packed into the hollow pile 4.

Inventors

SUZUKI KAZUO

Latest standardized assignees - inventors removed

RAITO

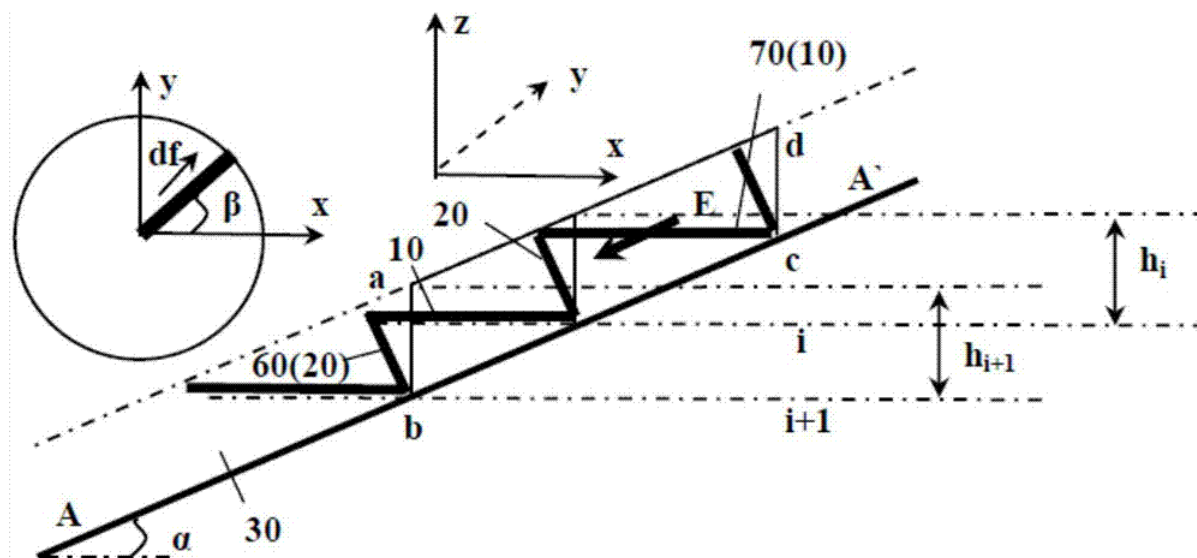
Family 171/200 - FAMPAT - ©Questel

Title

(CN107190759)

Geogrid slope fixing method, geogrid model selecting method and geogrid component

Images



Publication data including kind & date

[CN107190759](#)

A

2017-09-22

CN107190759



Abstract

(CN107190759)

The invention discloses a geogrid slope fixing method. The geogrid slope fixing method comprises the following steps: arranging a plurality of horizontal geogrid pieces in a slope in the vertical direction at intervals, wherein each horizontal geogrid piece extends in the horizontal direction, an inclined geogrid piece is arranged between every two adjacent horizontal geogrid pieces, and preferably, the inclined geogrid pieces are perpendicular to the slope; or arranging a plurality of inclined geogrid pieces in the slope in the length direction of the slope at intervals, wherein each horizontal geogrid piece is arranged in an inclined manner, a horizontal geogrid piece which extends in the horizontal direction is arranged between every two adjacent inclined geogrid pieces, and preferably, each inclined geogrid piece is perpendicular to the slope. The geogrid slope fixing method disclosed by the invention has the advantages of slope instability prevention, slope sliding prevention, good slope fixing effect and the like.

Inventors

KONG XIANGXUN

TANG LIANG

LING XIANZHANG

DING MAOTING

HUI SHUQING

Latest standardized assignees - inventors removed

CHINA SHENHUA ENERGY

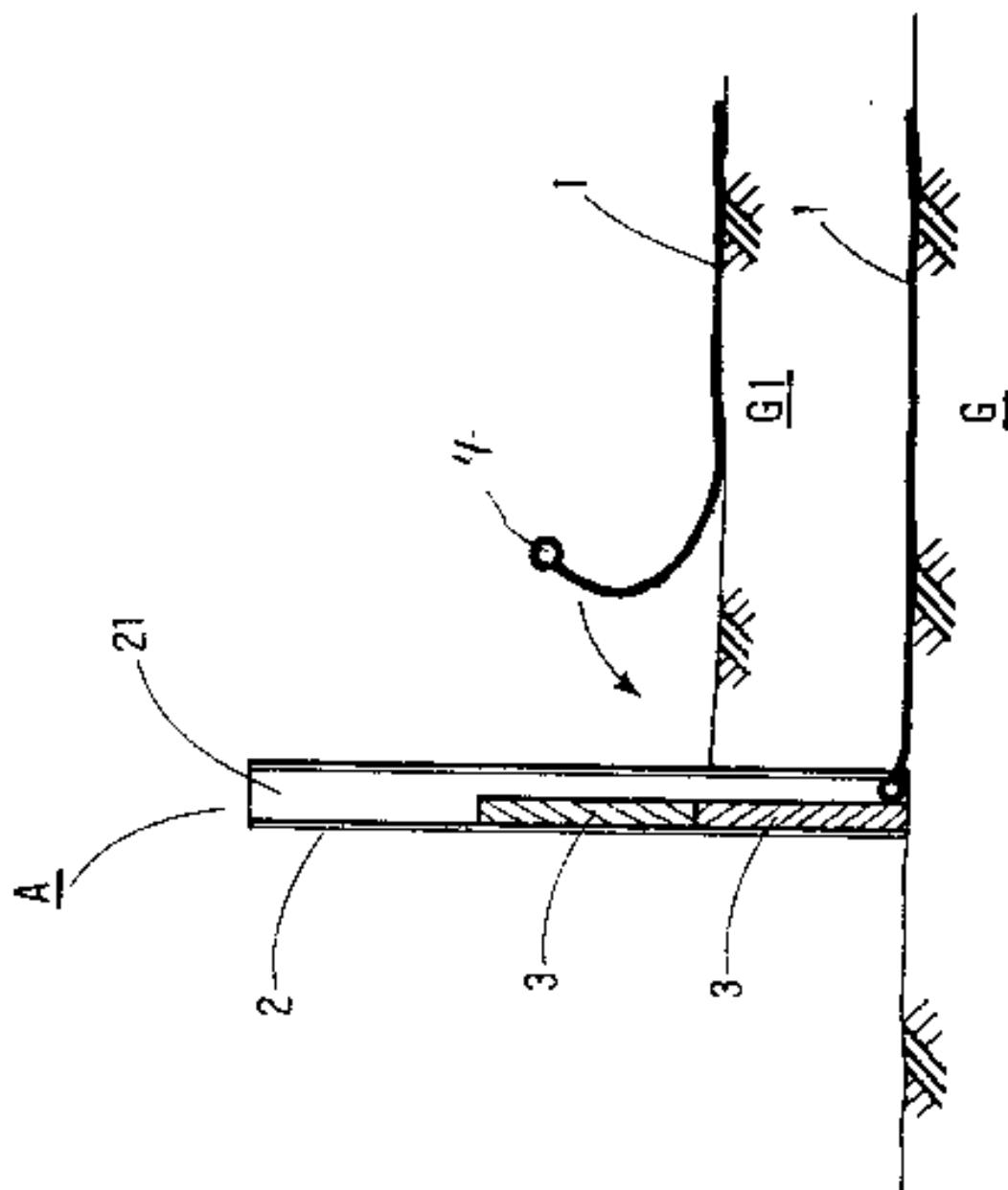
SHENHUA BAOSHEN RAILWAY

Family 172/200 - FAMPAT - ©Questel

Title

(JP61134435)

Method of building simple retaining wall

Images**Publication data including kind & date**[JP1737451](#)

C 1993-02-26 JP1737451

[JPH0423688](#)

B2 1992-04-23 JP92023688



[JPS61134435](#)

A 1986-06-21 JP61134435

Abstract

(JPS61134435)

PURPOSE:To simplify construction and to build a retaining wall being excellent indraining ability, by a method wherein a retaining wall is formed,a nd afer a water permeable sheet is horizontally laid on the back of the retaining wall, soil is rolling-compacted on the sheet to orderly build banking layers between which the water permeable sheet is located.

CONSTITUTION:Strut 2 are pressed in a ground, and a retaining wall panel 3 is engaged between the struts 2 to build a retaining wall A. The one end of the water permeable sheet 1 is folded back arond a locking rod 4 to secure the one end by heat fusion and bolt locking, and the one end of the sheet 1 is secured to the retaining wall A. Soil is conveyed to the back of the retaining wall A and is spread on the water permeably sheet 1 for rolling compaction to build a banking layer G1, and following banking layers are built in a similar manner as described above. This reduces an earth pressure exerted on the retaining wall, markedly improves safety of the retaining wall through prevention of fall-down of the same, enables rapid drainage of water, and enables prevention of production of an exessive gap water pressure in a banking.

Inventors

NAKAMURA KAZUYUKI

IWASAKI TAKAAKI

Latest standardized assignees - inventors removed

TOKYU KENSETSU

MITSUI PETROCHEMICAL INDUSTRIES

Family 173/200 - FAMPAT - ©Questel

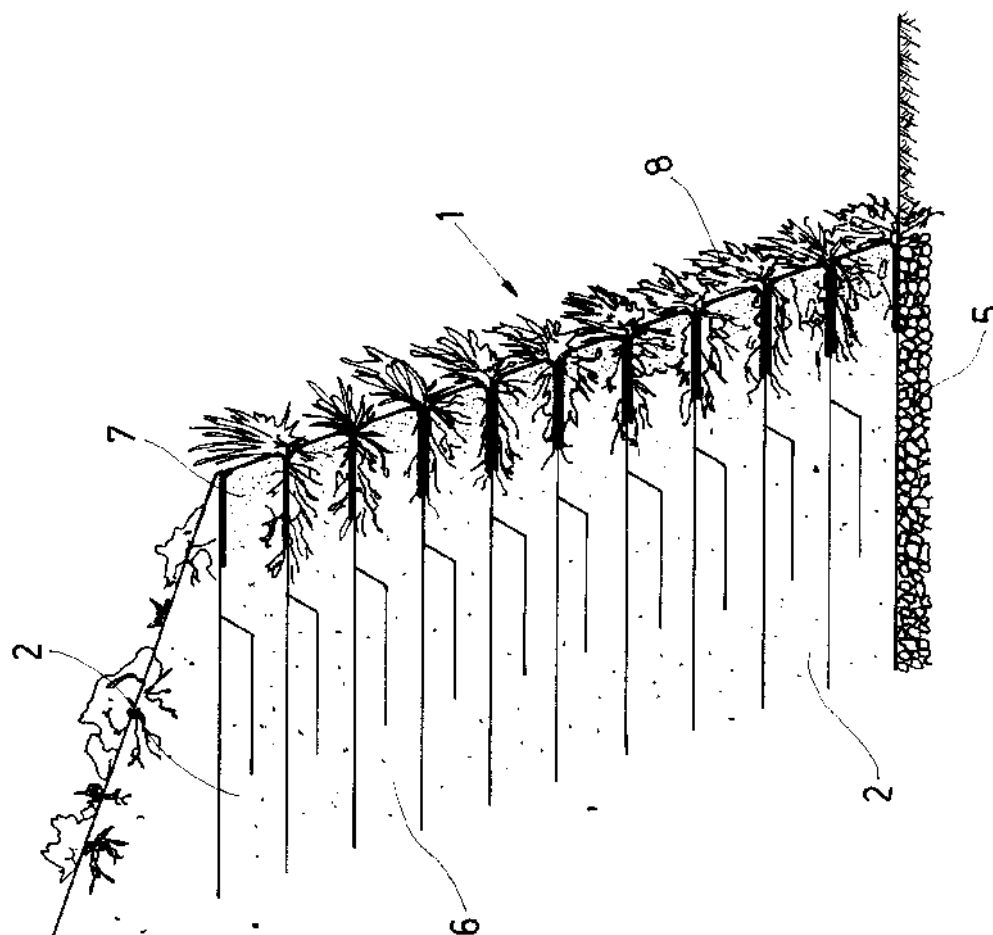
Title

(EP-480890)

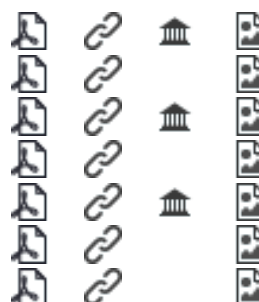
A reinforced soil vegetative wall and method for realizing the same.

Images

FIG. 1

**Publication data including kind & date**

DE69101235	D1	1994-03-31	DE69101235
AT101891	T	1994-03-15	ATE101891
EP0480890	B1	1994-02-23	EP-480890
IT1242074	B	1994-02-08	IT1242074
EP0480890	A1	1992-04-15	EP-480890
IT9048360	A1	1992-04-13	IT9048360
IT9048360	D0	1990-10-12	IT9048360

**Abstract**

(EP0480890)

The object of the invention is a vegetative wall (1) made up of superposed horizontal layers (2) and having a front face inclined to the horizontal level everytime for an angle corresponding to the desired one, in which each of said horizontal layers (2) comprises an extruded geogrid (3), frontly arranged, folded inwards; a presown biomat (4), arranged inside said geogrid (3), at least in correspondence with its front wall; vegetable soil (7), arranged on said layer (2) in its front zone, in correspondence with the geogrid (3) and the biomat (4); and a filler material (6), arranged at the rear of said vegetable soil (7), and the method for the realization of the same.

Inventors

CHICCOLONI FRANCO

SCHILIRO' RUBINO ANTONINO

Latest standardized assignees - inventors removed

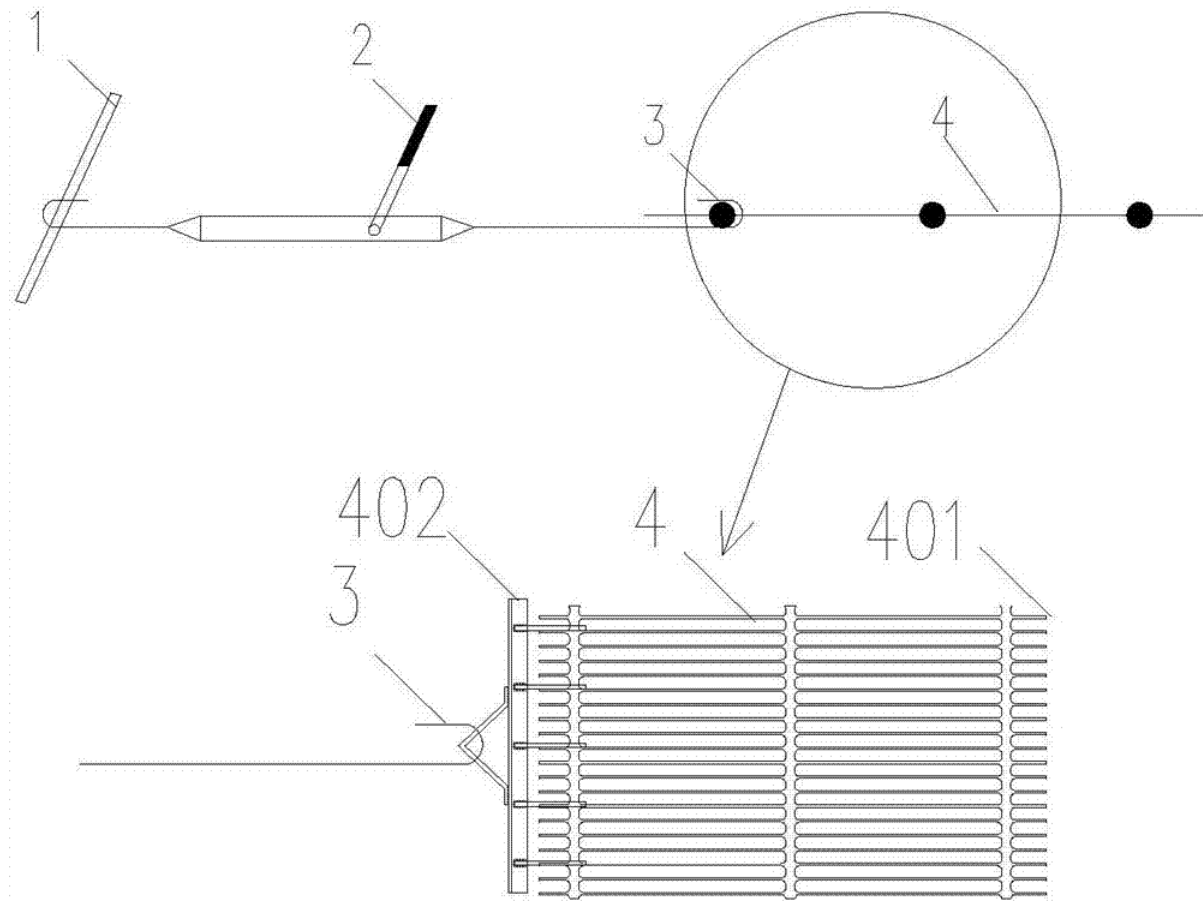
COMES

Family 174/200 - FAMPAT - ©Questel

Title

(CN108035364)

Geogrid construction structure and construction method

Images**Publication data including kind & date**[CN108035364](#)

A

2018-05-15

CN108035364

**Abstract**

(CN108035364)

A geogrid construction structure is used for laying tensioning construction of geogrid and further comprises a take-up device, a connection piece and a fixing piece. The geogrid comprises a fixed end and a free end. The fixing piece is arranged on a laid ground on one side of the free end of the geogrid, and the fixing piece and the free end are arranged in a spaced manner. The connection piece is detachably connected with the take-up device and the geogrid. The take-up device comprises two side connection parts, one side connection part is connected with the fixing piece, and the other side connection part is connected with the connection piece. The fixed end is fixed to the laid ground. According to a construction method for the geogrid carrying out pulling and tensioning through the take-up device, the construction method has the beneficial effects that the pulling strength is large, the pulling effect is good, labor is saved, the construction speed is high, the working efficiency is improved, and materials are saved and other beneficial effects, and the construction method is wide in application range.

Inventors

XIA FEI

YANG GUANGQING

WANG QIAN

YANG BAOHE

WANG XIAOQIANG

DAI ZHENGJIE

WANG ZHIJIE

LI HONGKAI

HE SHIJUN

SHI XUEKUN

CHEN LILI

WANG XULONG

CHEN ZEMING

Latest standardized assignees - inventors removed

QINGDAO NEWGRID GEO MATERIAL

SHIJIAZHUANG TIEDAO UNIVERSITY

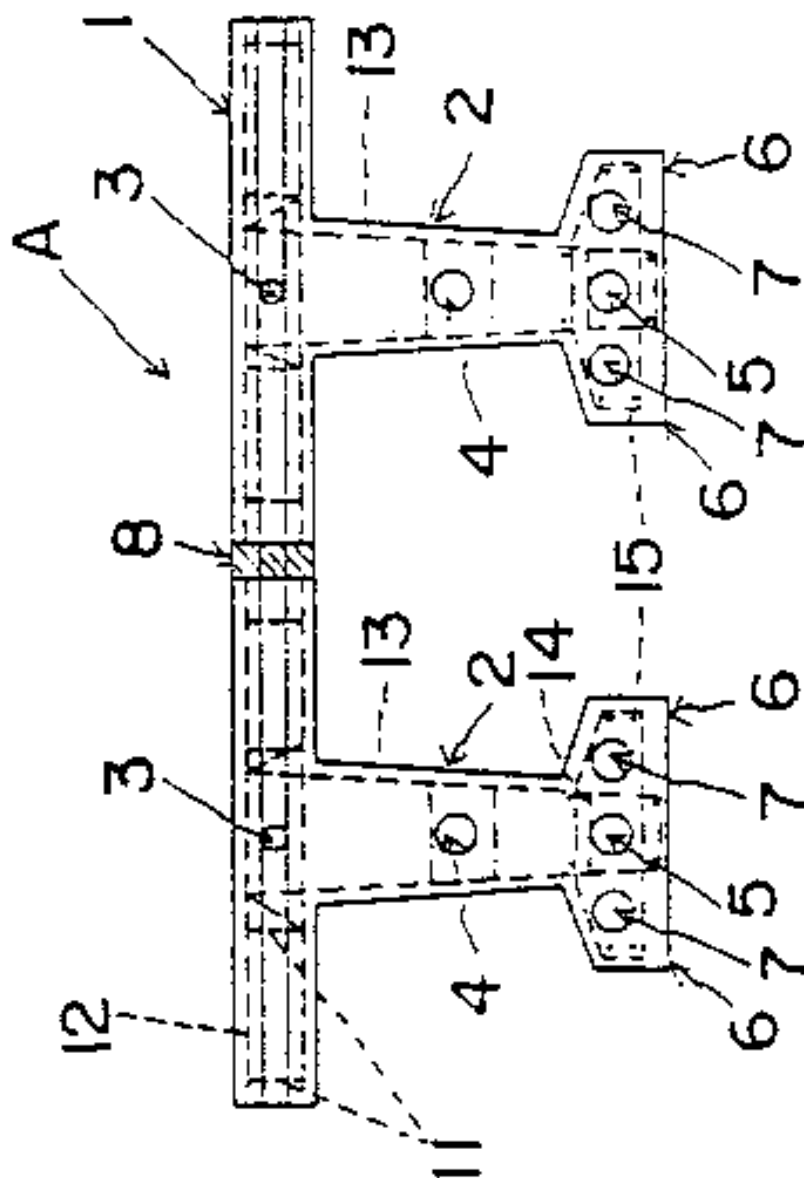
Family 175/200 - FAMPAT - ©Questel

Title

(JP60192030)

Terraced block for reinforced concrete retaining wall

Images

**Publication data including kind & date**

JPS60192030

A 1985-09-30 JP60192030

**Abstract**

(JPS60192030)

PURPOSE: To enable a retaining wall to be durable to an earth pressure and to improve safety, by a method wherein counterforts are symmetrically protruded from the rear side of a front wall, and overhanging walls are protruded from the forward end of the counterfort, and one - plural reinforcing rod inserting holes are bored therein.

CONSTITUTION: Counterforts 2 are symmetrically protruded from the rear side of a front wall 1, front wall reinforcing rod inserting holes 3 are vertically bored in the front wall 1 positioned facing the each counterfort 2, and counterfort reinforcing rod inserting holes 4 and 5 are also bored in the central part and the forward end of the counterfort 2. Overhanging walls 6

are protruded from the forward end of the counterfort 2, and reinforcing rod inserting holes 7 are provided in each overhanging wall 6. Lateral reinforcing rods 11-15 are arranged in the walls 1, 2 and 6 and vertical reinforcing rods, not shown, are arranged in the reinforcing rod inserting holes 2-5 and 7. This enables easy and inexpensive building of a retaining wall, and permits improvement of stability and safety.

Inventors

AKAMINE MASUMI

Family 176/200 - FAMPAT - ©Questel

Title

(NL8203229)

Sectional sound attenuating wall - has grid shaped frames with end supports and soil filling between back-to-back units

Publication data including kind & date

NL8203229 A 1984-03-16 NL8203229

**Abstract**

(NL8203229)

The grid shaped wall (a), to reduce motorway noise may be built up of separate concrete grid shaped sections (1) defining apertures. A base frame supports the construction. Different patterns may be constructed to follow e.g. the contour of the banking. The grid frame may have stepped edges, ensuring interlocking, and thus avoiding a sliding distortion effect of the unit. The stepped configuration may be V or U-shaped.

Latest standardized assignees - inventors removed

G J VAN SCHOONHOVEN AANNEMINGS

Family 177/200 - FAMPAT - ©Questel

Title

(NL7809026)

Constructing underground circular storage tank - made of concrete panels without reinforcement but using spaced deformable screen inside structure during excavation

Publication data including kind & date

MX150748 A 1984-07-11 MX-150748
NL7809026 A 1980-03-06 NL7809026

**Abstract**

(NL7809026)

Flat, unreinforced concrete panels are used to form the vertical wall of an underground tank having a roughly circular cross-section. Before the tank is excavated a deformable screen with an approx. circular cross-section is installed at a short distance inwards from the wall panels, and sunk to a depth below ground level which is approx. equal to the depth of the wall panels. The screen is given a starting thickness of about 10cm. and is for pref. positioned at about 50cm from the wall panels. The thickness given to the wall panels is abt. 1m. The screen is formed from a suspension of bentonite. The wall panels are formed in the ground and run down to a natural or artificial layer which excludes water.

Inventors

WEELE ABRAHAM FRANCOIS VAN

Latest standardized assignees - inventors removed

KONINKL NEDERHORST BOUW

Family 178/200 - FAMPAT - ©Questel

Title

(US3614870)

Soil tight retaining wall

Images

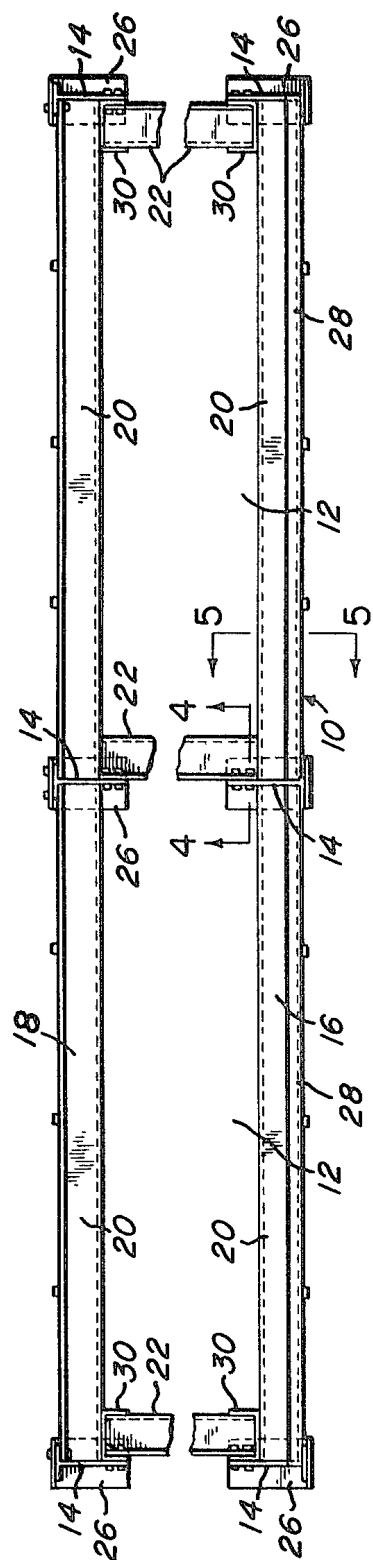


FIG-1

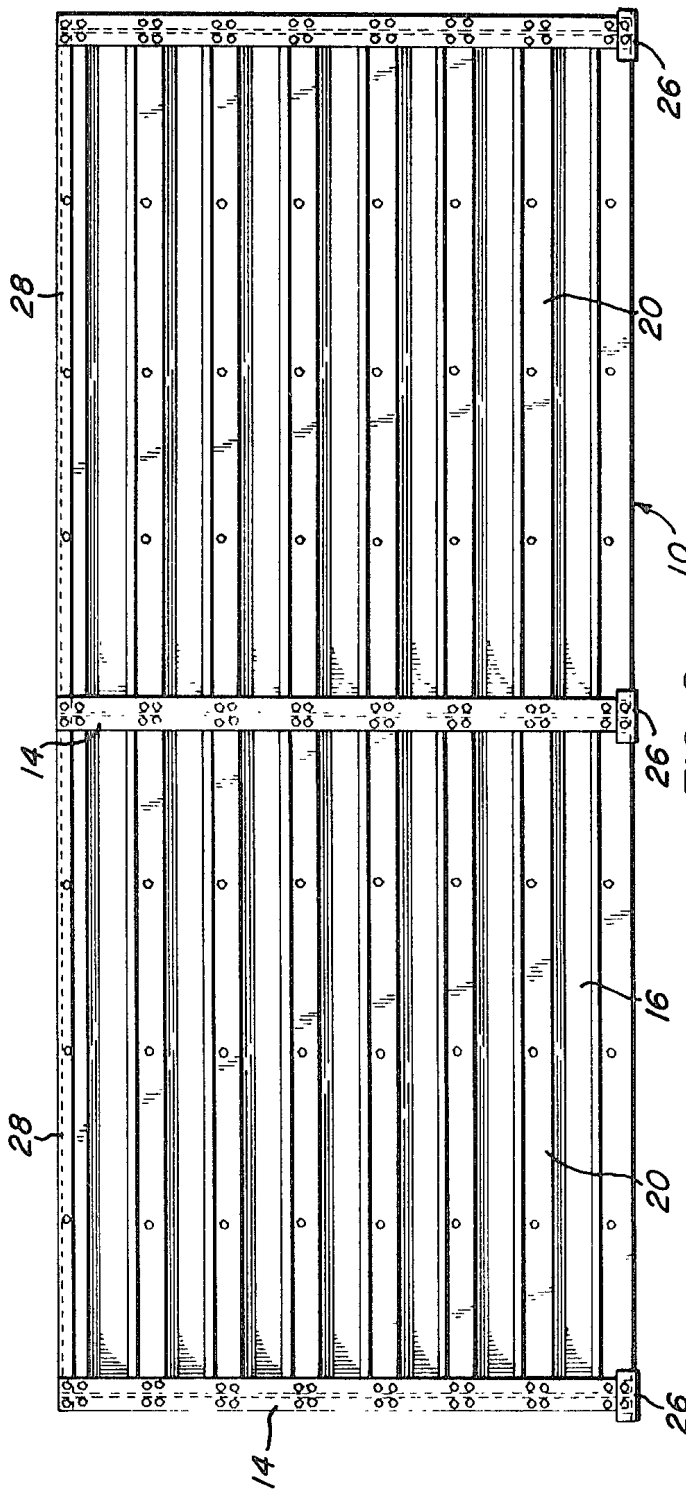


FIG-2

INVENTOR/S
JERALD H. BOYNTON

BY *Melville, Shasser, Foster and Hoffman*

Publication data including kind & date

US3614870

A 1971-10-26 US3614870



Inventors

BOYNTON JERALD H

Latest standardized assignees - inventors removed

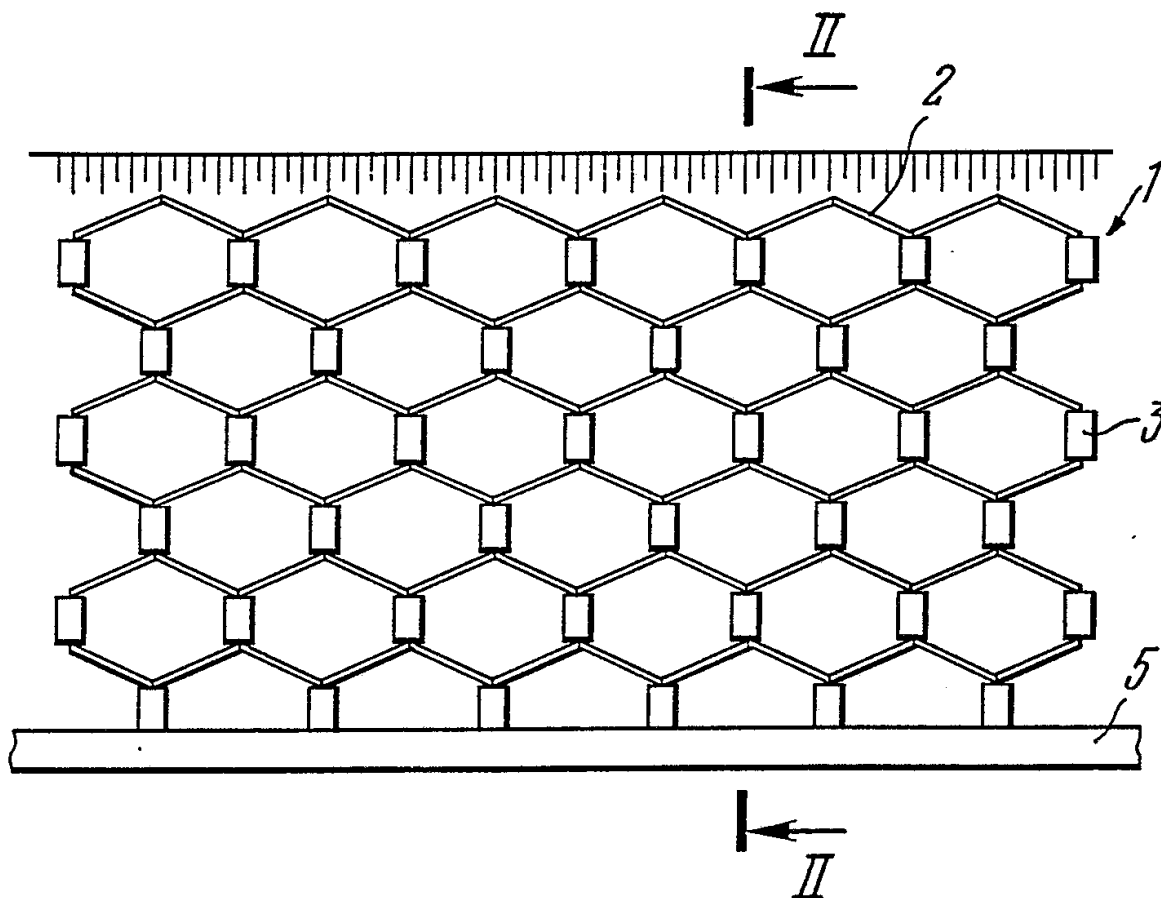
CONTECH CONSTRUCTION PRODUCTS

Family 179/200 - FAMPAT - ©Questel

Title

(WO9108349)

Retaining wall

Images**Publication data including kind & date**[WO91/08349](#)

A1 1991-06-13 WO9108349

**Abstract**

(WO91/08349)

A retaining wall (1) comprises reinforced concrete elements arranged in tiers and forming a three-dimensional honeycomb structure filled with earth (4). The reinforced concrete elements consist of blocks (2) of "V" cross-section and anchor-beams (3) positioned horizontally and mutually spaced by a distance essentially equal to the width of the block (2). The blocks (2) are supported on the anchor-beams (3). The invention is applicable, in particular, for reinforcing banks, excavations, embankments, natural slopes, coastal landslip prevention installations in the course of local development concerning buildings and recreation facilities.

Inventors

TETIOR ALEXANDR NIKANOROVICH

BOGUTSKY GRIGORY ALEXEEVICH

RUBEL ALEXANDR ANDREEVICH

POLARSHINOVA LIA SERGEEVNA

VANJUSHKIN SERGEI GRIGORIEVICH

Latest standardized assignees - inventors removed

SIMFEROPOLSKY DN INZH

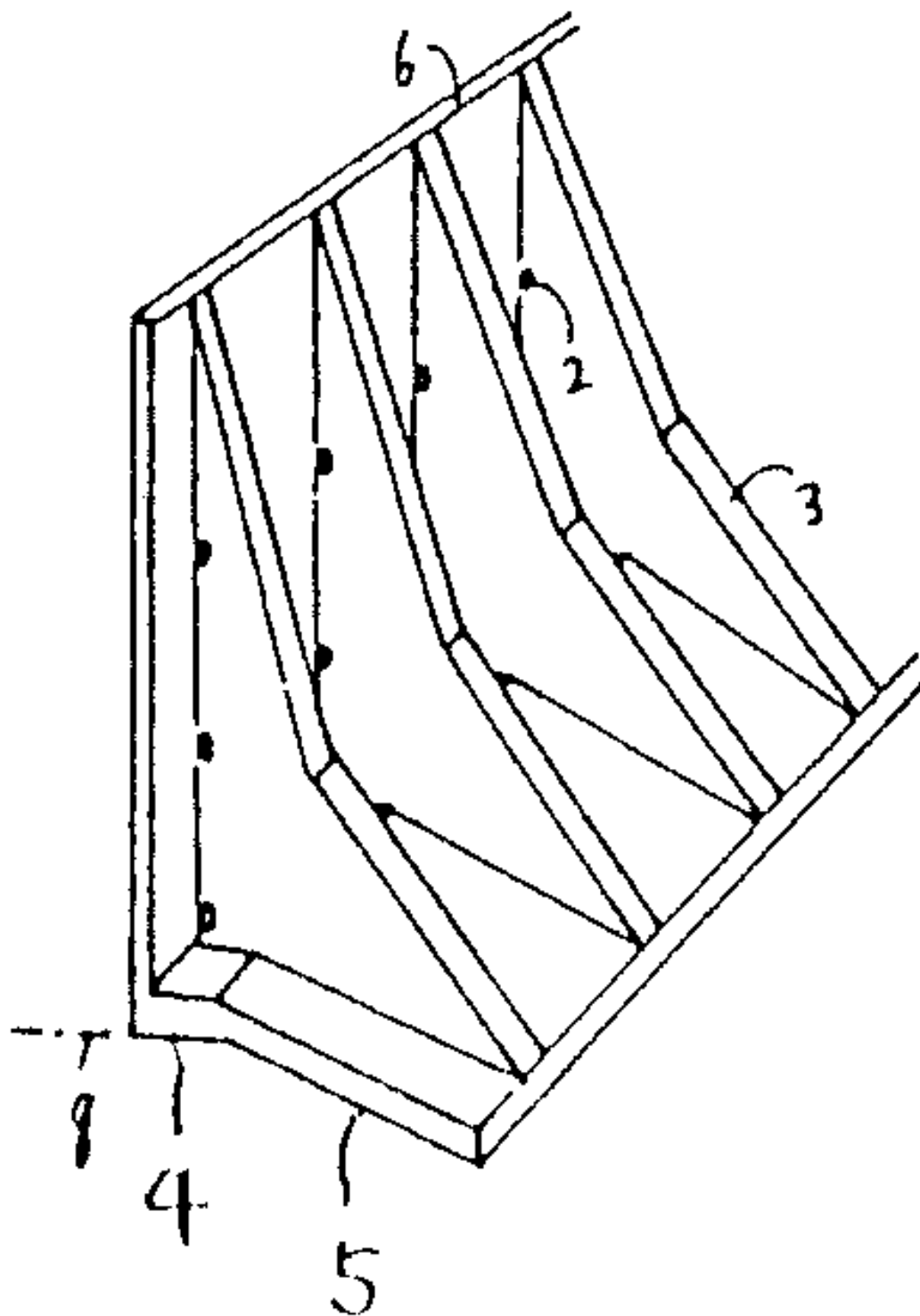
Family 180/200 - FAMPAT - ©Questel

Title

(JP61179925)

Retaining wall structure increased in resistance to earthquake and device and apparatus thereof

Images



Publication data including kind & date

[JPS61179925](#)

A

1986-08-12

JP61179925



Abstract

(JPS61179925)

PURPOSE:To increase the safety factor of fall down by means of a backward eccentric load exerted during back-filling with soil is effected, by a method wherein a foundation bottom surface is formed to the lower end part of a vertical front wall at right angles, and a rear surface, inclined downward, is formed in succession to the foundation bottom surface.

CONSTITUTION:A foundation bottom surface 4 is formed to the lower end part of a front wall 6, having a pipe 2 for discharge, at right angles, a rear surface 5 having inverted inclination is formed in succession to the foundation bottom surface 4, and stay walls are integrally installed to the front wall 6 and a rear surface 5 to form a retaining structure. The retaining wall structure is located in a position, and the retaining wall side is filled with soil. In this case, the center of gravity of superimposed load is eccentrically positioned toward the rear, and this enables building of a retaining wall which has the high safety factor against fall down.

Inventors

TOZAWA YASUO

Latest standardized assignees - inventors removed

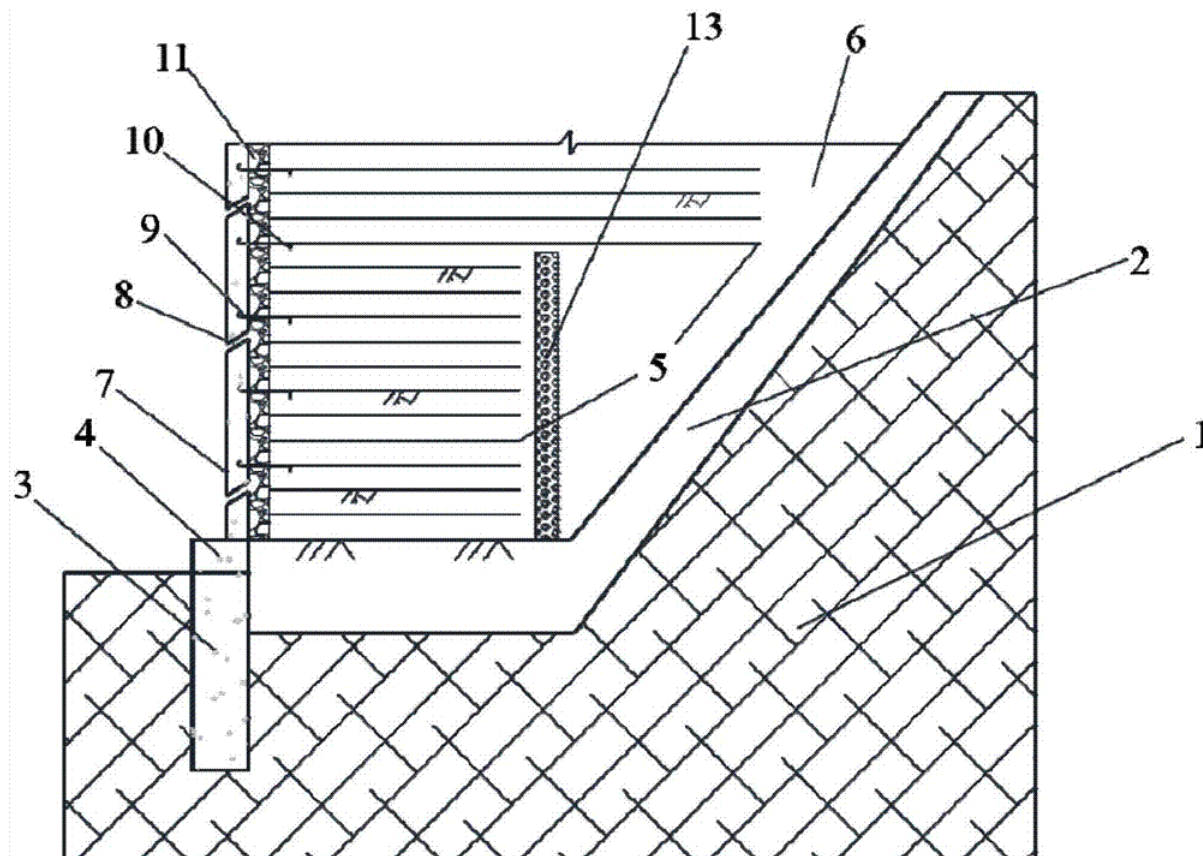
TOYO JITSUGYO

Family 181/200 - FAMPAT - ©Questel

Title

(CN109371989)

Combined retaining structure suitable for slope stabilization support and construction method thereof

Images**Publication data including kind & date**[CN109371989](#)

A

2019-02-22

CN109371989

**Abstract**

(CN109371989)

The invention belongs to the technical field related to geotechnical engineering slope stabilization supports, and discloses a combined retaining structure suitable for a slope stabilization support and a construction method thereof. The retaining structure comprises an slide-resistant pile, a crown beam, a reinforced retaining wall, an EPS plate and a rigid panel, wherein the slide-resistant pile penetrates through the covering soil layer and then is anchored in the good ground, the crown beam is arranged on the slide-resistant pile, the rigid panel is arranged on the crown beam and is connected with the

reinforced retaining wall, the reinforced retaining wall comprises a wall surface, a geogrid and filling soil, the EPS plate is arranged behind the reinforcement area, and is built to a certain height along with the reinforced retaining wall, the geogrid at the top spans the EPS plate, namely the length of the geogrid on the top is larger than the interval between the EPS plate and the rigid panel, a connecting component is arranged between the rigid panel and the reinforced retaining wall and is correspondingly connected with the rigid panel and the reinforced retaining wall. According to the combined retaining structure, the stability is improved, the construction difficulty is reduced, and the applicability is good.

Inventors

CAO WENZHAO

ZHENG JUNJIE

JING DAN

XUE PENG PENG

SHAO ANDI

LI LI

Latest standardized assignees - inventors removed

HUAZHONG UNIVERSITY OF SCIENCE & TECHNOLOGY

METALLURGICAL CONSTRUCTION RESEARCH INSTITUTE

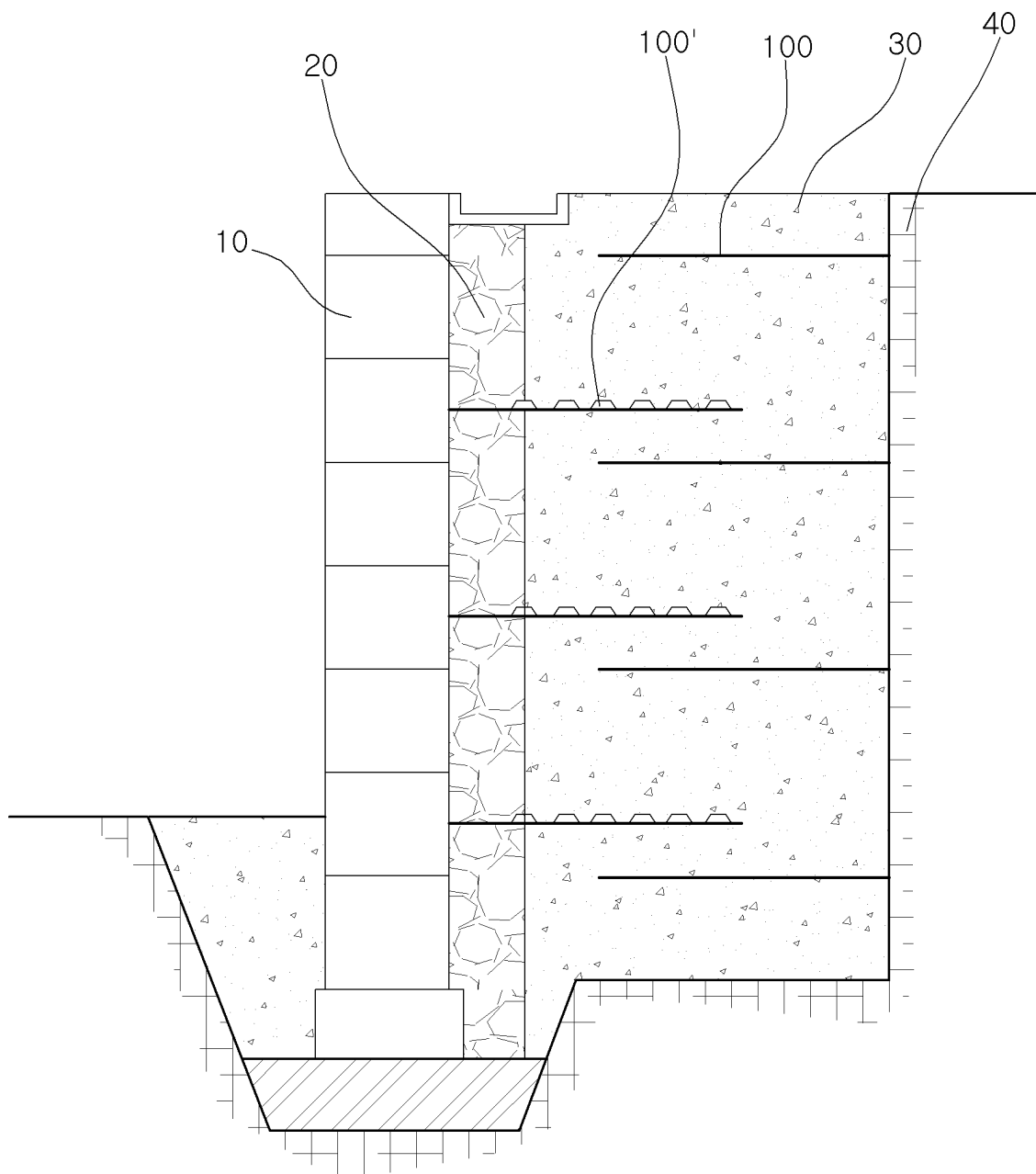
Family 182/200 - FAMPAT - ©Questel

Title

(KR101080815)

Construction method of front block type reinforced earth retaining wall using geogrid improving pull-out resistance

Images

**Publication data including kind & date**[KR101080815](#)

B1 2011-11-07 KR101080815

**Abstract**

(KR101080815)

PURPOSE: A construction method of a front block type reinforced earth retaining wall with improved pull-out resistance using geogrid is provided to prevent bulging by increasing the friction with backfilling soil. **CONSTITUTION:** A construction method of a front block type reinforced earth retaining wall with improved pull-out resistance using geogrid is as follows. The ground of a construction site is excavated and arranged. Foundation is formed in the arranged ground. Front blocks(10) are built on the top of the foundation. Backfilling aggregate(20) is filled in the rear of the front blocks. Backfilling soil(30) is filled in the rear of the backfilling aggregate. Geogrid(100) is installed on the backfilling soil. Other front blocks are built on the top of the front blocks. Backfilling aggregate is filled in the rear of the front blocks. Backfilling soil is filled in the rear of the backfilling aggregate. Geogrid(100') coupled with a friction plate is connected to the front blocks.

Inventors

KWEAN, KI CHANG

YU, CHUL-HO

Moon Hong-gul

Latest standardized assignees - inventors removed

GYEONGNAM NATIONAL UNIVERSITY OF SCIENCE & TECHNOLOGY INDUSTRY ACADEMIC COOPERATION
FOUNDATION
KISUNG

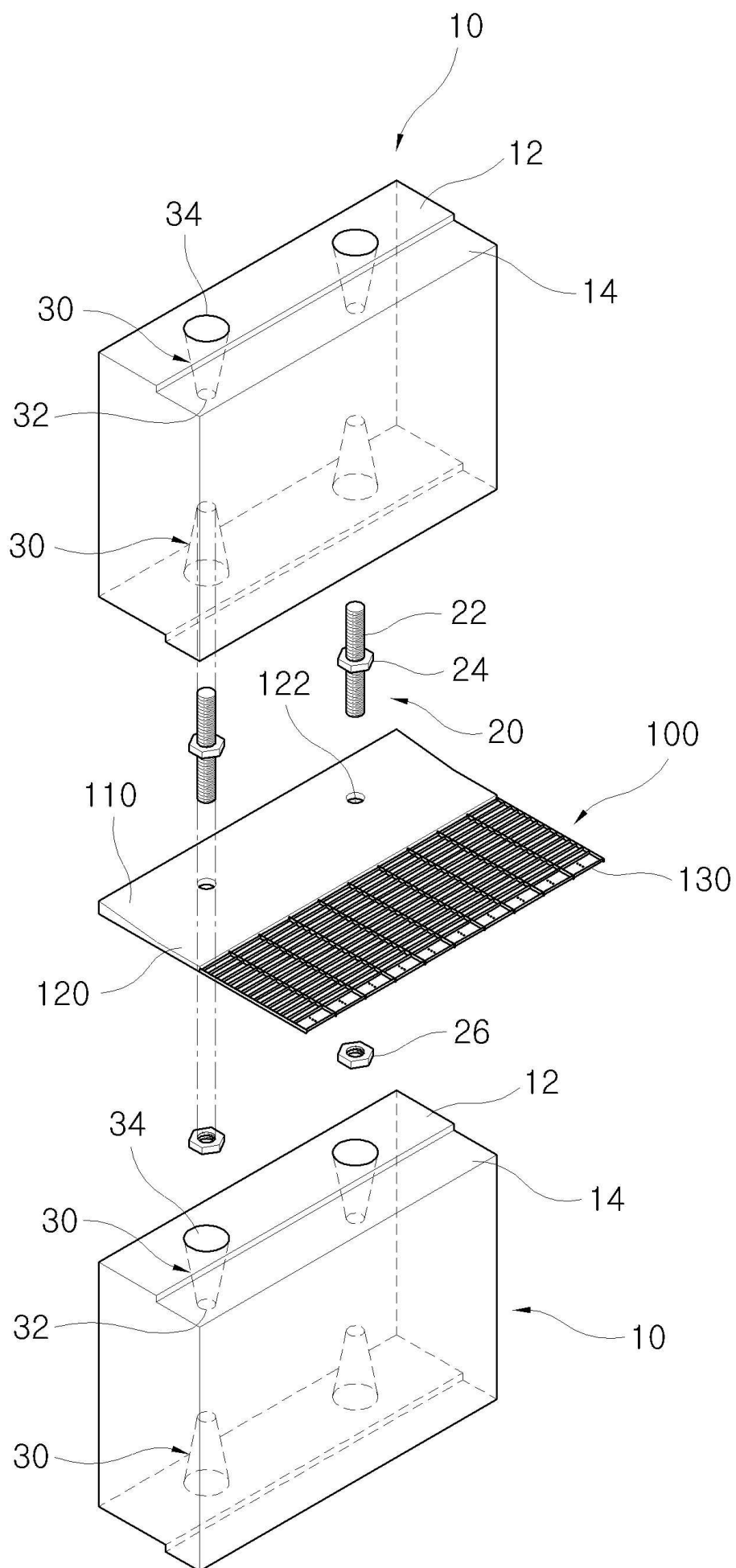
Family 183/200 - FAMPAT - ©Questel

Title

(KR20110016702)

Geogrid structure for constructing a retaining wall block with reinforced earth and a method of constructing a retaining wall using the same

Images



Publication data including kind & date

KR20110016702 A 2011-02-18 KR20110016702

**Abstract**

(KR20110016702)

PURPOSE: A geogrid structure for constructing a retaining wall block with reinforced earth and a method of constructing a retaining wall using the same are provided to stably maintain the slope angle of a retaining wall block, since a wedged part is inserted between upper and lower retaining wall blocks.

CONSTITUTION: A geogrid structure for constructing a retaining wall block with reinforced earth comprises a wedged part(110), a connection fixing part(120), and a geogrid part(130). The wedged part and the connection fixing part are inserted between upper and lower retaining wall blocks(10). The geogrid part is inserted into the reinforced earth. The slope of the wedged part is inclined downwardly to the rear part thereof. The wedged part is integrated with the connection fixing part. A fixing hole(122) is formed in the connection fixing part to correspond to an insertion hole(30). The connection fixing part passes through a rear stepped projection and connects to the geogrid part.

COPYRIGHT KIPO 2011

Inventors

KANG, GU JONG

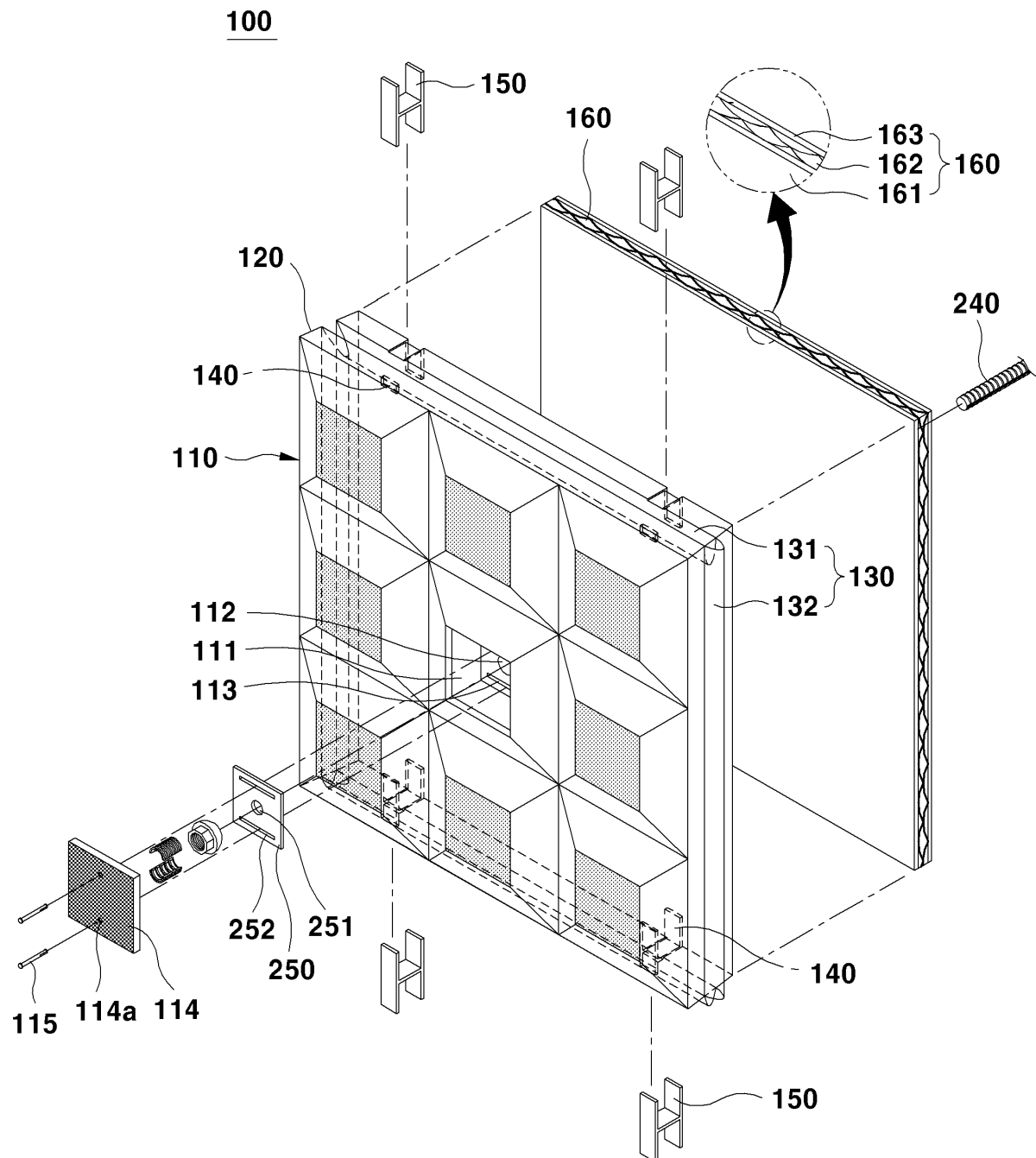
Family 184/200 - FAMPAT - ©Questel

Title

(KR20190045445)

Concrete panel for Cutting retaining wall that is Cutting retaining wall by the Concrete panel

Images



Publication data including kind & date

[KR10-2019-0045445](#) A 2019-05-03 KR20190045445



Abstract

(KR10-2019-0045445)

The present invention relates to a concrete panel for a cutting retaining wall and a cutting retaining wall constructed thereby. Particularly, a three-dimensional pattern is formed on a front surface of the concrete panel for a cutting retaining wall, and an inclined portion is formed on a side surface to smoothly and firmly construct straight and convex and concave round retaining walls, thereby enhancing the appearance of the cutting retaining wall. A plurality of H-shaped connecting pins is connected through a plurality of coupling grooves formed on upper and lower surfaces of the concrete panel for a cutting retaining wall to join the concrete panel for a cutting retaining wall and the concrete panel for a cutting retaining wall. A triple drainage guide member is coupled to the back of the concrete panel for a cutting retaining wall to easily induce the drainage to a perforated drain pipe or a collector well-formed in a lower part of the concrete panel for a cutting retaining wall, thereby preventing the rise of an earth pressure due to the water inflow. As a result, prevented is the formation of stains on the front surface of the concrete panel for a cutting retaining wall due to rainwater leaking along with soil microparticles on the front surface of the concrete panel for a cutting retaining wall, thereby improving the appearance of the retaining wall, and offsetting the earth pressure by preventing the water flow to the backside. This results in improved

constructability, economic feasibility, and safety. The structure of the concrete panel for a cutting retaining wall has the plurality of three-dimensional patterns with various colors applied on the front surface thereof, the inclined portion at the side surface, and a concave-convex engaging portion for rigid coupling at upper and lower or left and right surfaces.

Inventors

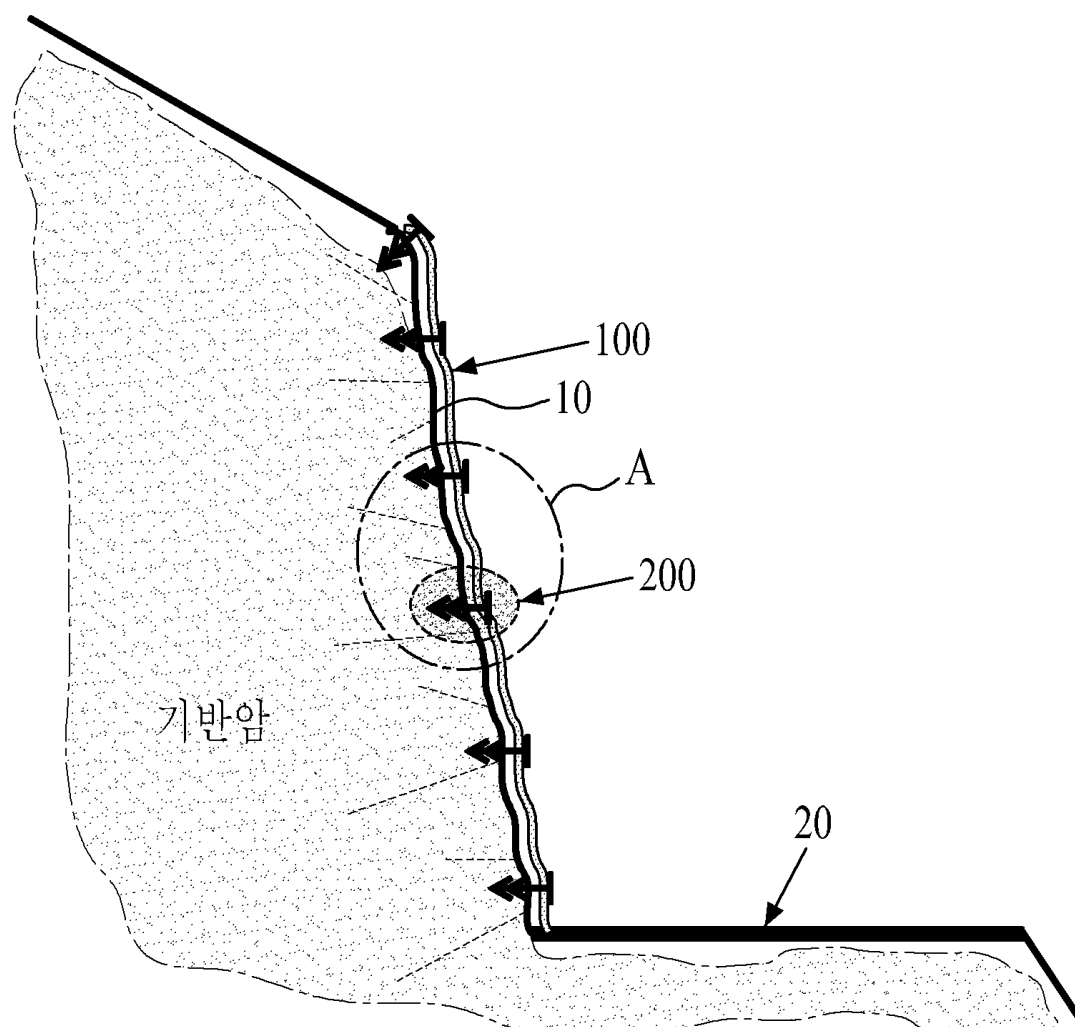
GONG, HACK BONG

Family 185/200 - FAMPAT - ©Questel

Title

(KR101390354)

Method for Stabilizing Forest Hillslope and Siffening Structure thereof

Images**Publication data including kind & date**

[KR101390354](#)

B1 2014-04-30

KR101390354

**Abstract**

(KR101390354)

Disclosed are a method for stabilizing a hillslope and a stiffening structure thereof. The present invention is realized through a process of joining a geogrid to an exposed rock slope exposed relative to a cut rock slope (latent weak section or an object to be rapidly repaired), which is formed at the time of establishment of forest road, using a fixing means. Moreover, the present invention further includes a stabilizing method by installing a stepped pocket-type geogrid mound layer inside a filling slope of a forest road. According to the present invention, provided is the method for stabilizing a

hillslope and a stiffening structure thereof which can prevent the small-sized cut slope and the mound slope around the forest road from being collapsed by virtue of the installation of the geogrid and which are economic and eco-friendly.

COPYRIGHT KIPO 2014

[Reference numerals] (AA) Bedrock

Inventors

KIM MAN IL

LEE, MUN SE

KIM, MIN-SUK

Latest standardized assignees - inventors removed

NATIONAL FORESTRY COOPERATIVES FEDERATION

Family 186/200 - FAMPAT - ©Questel

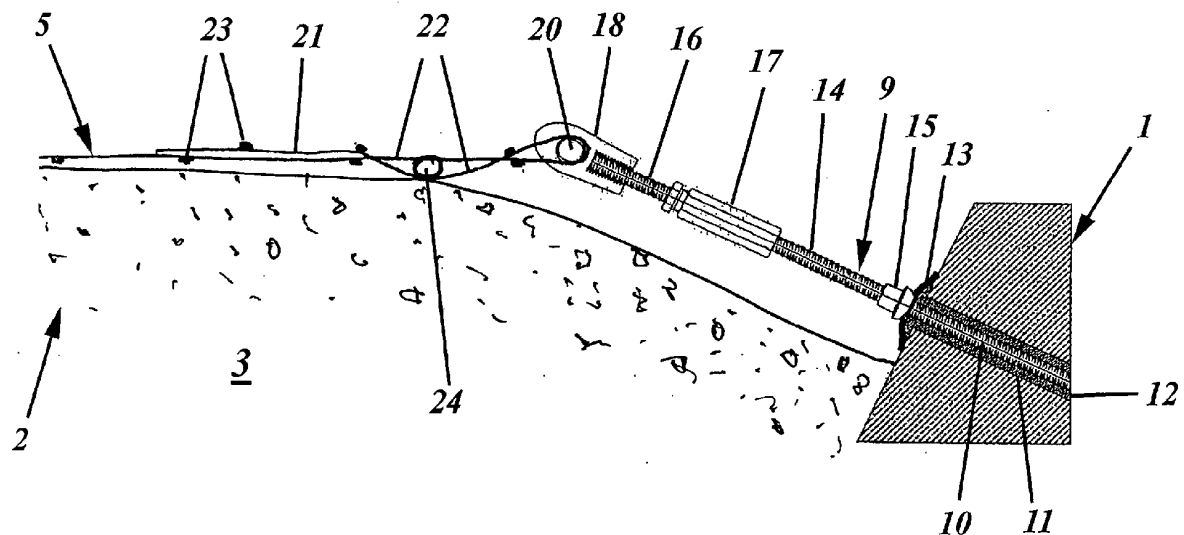
Title

(EP2378003)

Assembly for connecting a geoplastic to a stable base

Images

Figur 2



Publication data including kind & date

EP2378003	B1	2015-06-24	EP2378003
EP2378003	A1	2011-10-19	EP2378003
DE202010005858	U1	2011-09-29	DE202010005858



Abstract

(EP2378003)

The arrangement has two ground nails (9) forming anchor rods, which are fixed in the stable substrate with a longitudinal section (10). A connecting rod (20) runs perpendicular to the longitudinal axis of the anchor rods. The geoplastic is attached on the connecting rod and over the length of the connecting rod in a force-fit manner.

Inventors

GLASSL MICHAEL

Latest standardized assignees - inventors removed

DYWIDAG SYSTEMS INTERNATIONAL

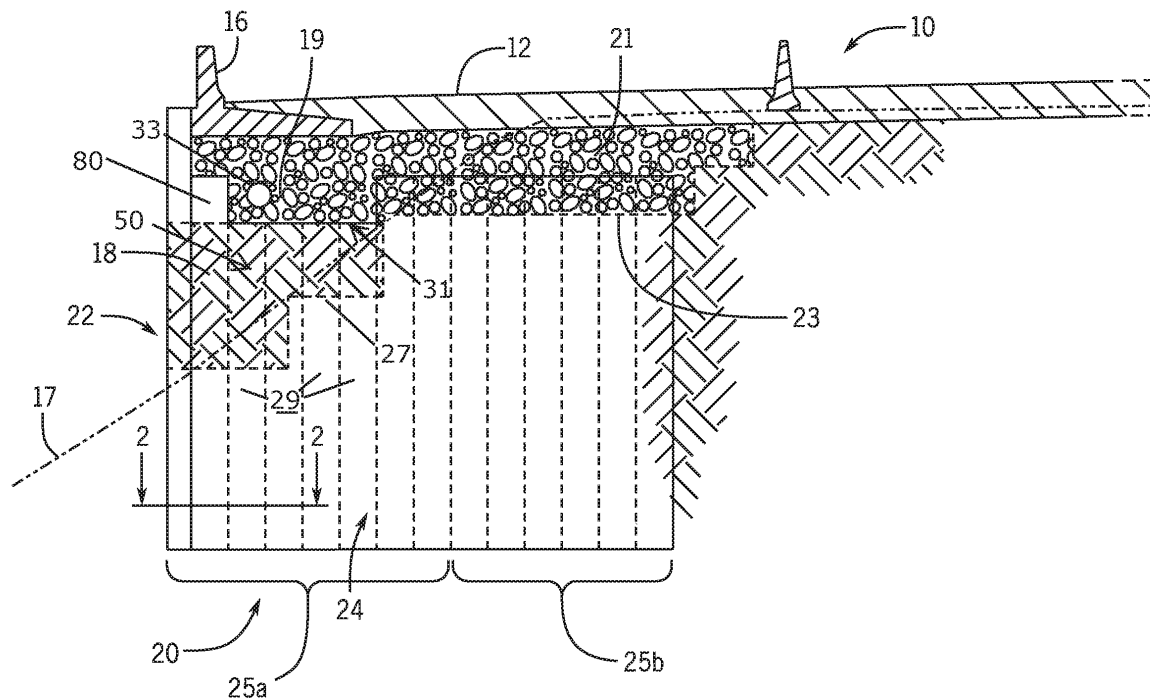
Family 187/200 - FAMPAT - ©Questel

Title

(US10094088)

Sheet pile retaining wall system

Images



Publication data including kind & date

US10407861	B2	2019-09-10	US10407861
US20190127941	A1	2019-05-02	US20190127941
US10094088	B1	2018-10-09	US10094088



Abstract

(US10094088)

A one-step sheet pile retaining wall system for embankment widening typically associated with highway widening not requiring temporary shoring. The wall system may provide a front wall face having a plurality of resistance fins perpendicularly extending therefrom. The fin sheet piles first include a brace fin sheet for reducing stresses in the front wall face, then a series of cradle fin sheets terminating at an elevation below the brace fin sheet for accommodating a pipe drainage/utility cradle, and finally a series of predominantly resistance fin sheets terminating at an elevation above the cradle fin sheets. Between the slope of the existing embankment and the higher front wall face may be cementitious flowable backfill for pre-stressing the wall system when fluid and, when set, supporting the aforementioned cradle, from which the remaining construction can build off of while reducing overall earth pressure acting on the wall face upon completion of construction.

Inventors

SYDLIK MICHAEL

Latest standardized assignees - inventors removed

EARTH

Family 188/200 - FAMPAT - ©Questel

Title

(EP3231944)

Facing member for reinforced-soil retaining-wall, reinforced-soil retaining-wall structure using facing member, and construction method for band type fiber reinforcing material for reinforced-soil retaining-wall

Images

member (10) and is laid on a reinforced soil body (G), wherein the reinforcing material insertion hole (20) comprises: two entrances (21, 22) which are each opened toward the rear side (12) of the facing member (10), and are spaced from side to side; and a through path (23) in which a predetermined curvature radius is formed from the two entrances (21, 22) to the inside of the rear side (12) of the facing member (10), wherein the two entrances (21, 22) have an inner surface (21a, 22a) opened perpendicularly to the rear side (12) of the facing member (10) and have an outer surface (21b, 22b) opened with the front side thereof being wide and the rear side thereof being narrow with respect to the rear side (12) of the facing member (10), whereby a flexible band type fiber reinforcing material (30) is inserted into one entrance (21, or 22) and is drawn out from the other entrance (22 or 21), and then is connected, laid on the reinforced soil body, and buried.

Inventors

LEE JEUNG SU

Latest standardized assignees - inventors removed

HANFORCE

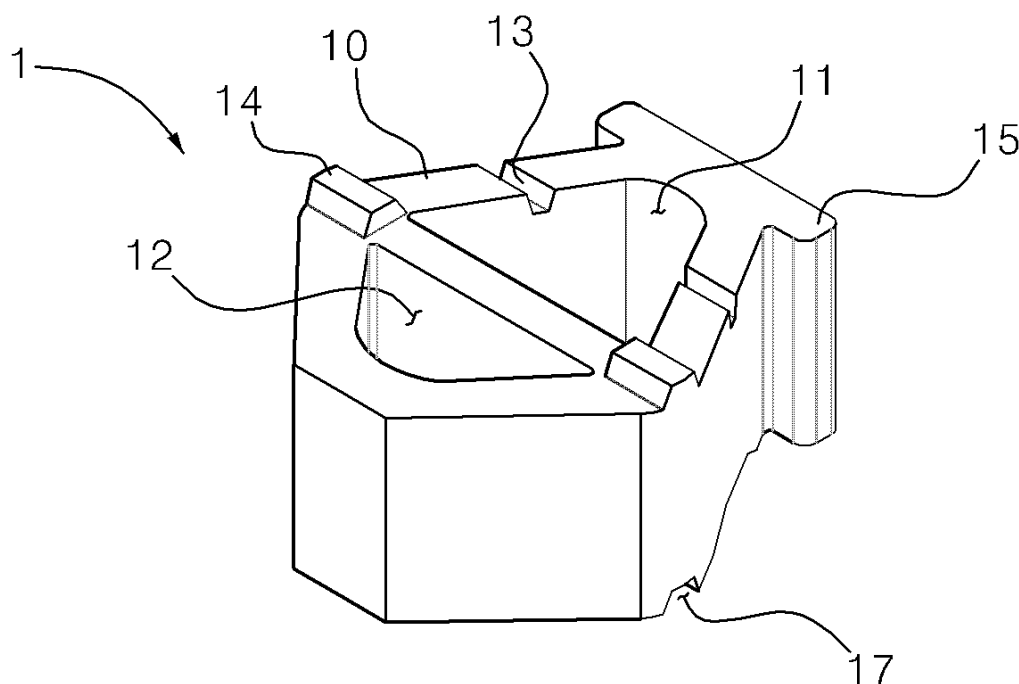
Family 189/200 - FAMPAT - ©Questel

Title

(KR101340489)

Reinforced block with water supply and reinforcement method using reinforced block

Images



Publication data including kind & date

[KR101340489](#)

B1 2013-12-12 KR101340489

[KR20120136185](#)

A 2012-12-18 KR20120136185



Abstract

(KR20120136185)

PURPOSE: A reinforced earth retaining block and a reinforcement method thereof are provided to facilitate the growth of a plant with nature-friendly effect and to obtain the structural stability of a laminated reinforced earth block. **CONSTITUTION:** A reinforced earth retaining block with water supply device(1) includes a block body(10). The block body comprises a soil-filling groove(11), a flowerpot-type planting groove(12) for the plant, and a reinforcing bar fixing groove(13) in which steel reinforcement bar is inserted, and a fixing bump(14).

Inventors

CHOI, JONG SUN

Latest standardized assignees - inventors removed

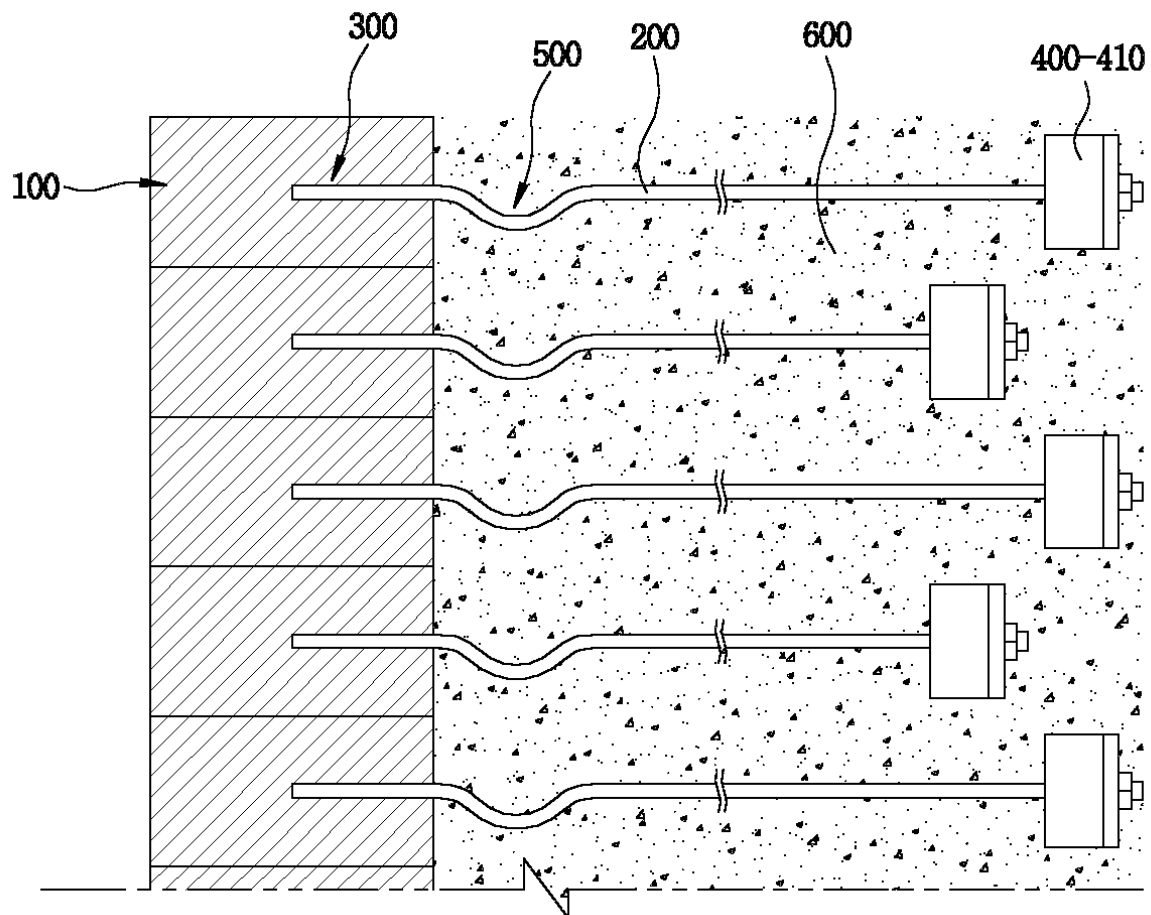
BOTTOM LINE

Family 190/200 - FAMPAT - ©Questel

Title

(KR100626717)

Reinforced retaining wall

Images**Publication data including kind & date**[KR100626717](#)

B1 2006-09-21

KR100626717

[KR20050041798](#)

A 2005-05-04

KR20050041798

**Abstract**

(KR20050041798)

PURPOSE: A reinforced retaining wall is provided to prevent the transformation of a surface block structure constructed against harmful external force such as ground subsidence, an earthquake, etc. stably and strongly.

CONSTITUTION: A reinforced retaining wall contains: surface members(100) forming a surface structure by construction; a longitudinal reinforcement member(200) having an anchored part formed on the front end is anchored on the surface structure by a reinforcement anchorage(300) and a support part formed on the rear end is supported by a reinforcement supporter(400); a ductility supplier(500) for preventing breakage formed between the anchored part and the support part of the longitudinal reinforcement member to supply ductility against reciprocal displacement; and reinforced earth(600) filled and tamped to the rear space of the surface member to support rear earth and the reinforcement supporter.

(C) KIPO 2006

Inventors

HONG, GUN YOUNG

Latest standardized assignees - inventors removed

HONG GUN YOUNG

Family 191/200 - FAMPAT - ©Questel

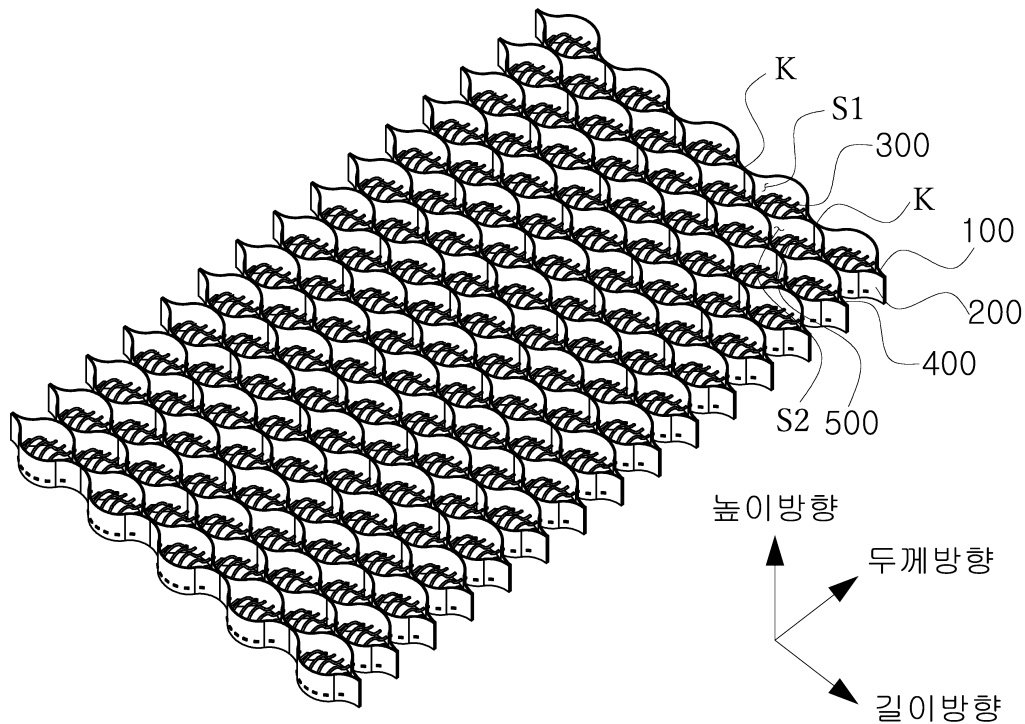
Title

(KR101895915)

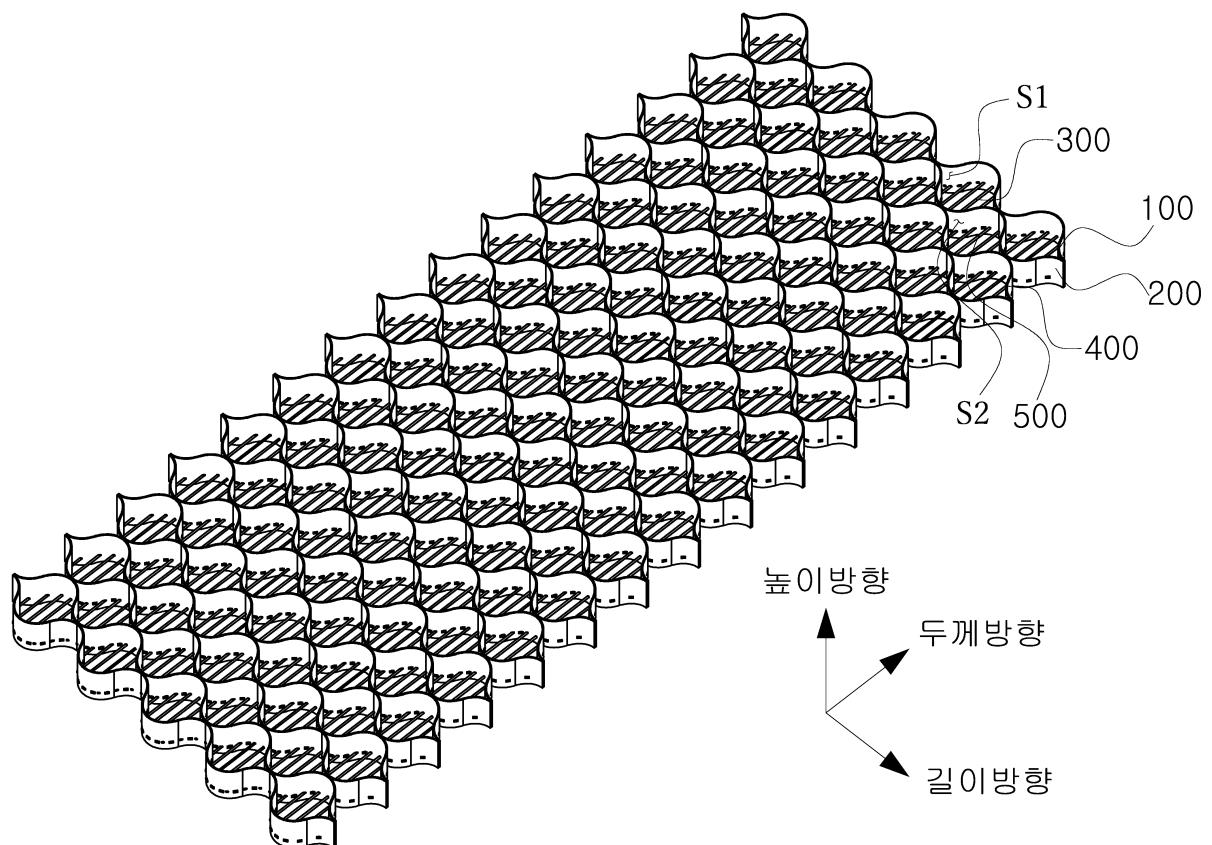
Ground reinforcement apparatus

Images

10



(a)



(b)

Publication data including kind & date

KR101895915

B1 2018-10-04

KR101895915

KR20170085429

A 2017-07-24

KR20170085429



Abstract

(KR20170085429)

According to an embodiment of the present invention, a ground reinforcement apparatus is disposed on the ground to stabilize the ground of a river, a roadside or a slope to facilitate filling of reinforced soil on the ground and prevent loss of the reinforced soil. The ground reinforcement apparatus comprises a first member and a second member formed with a predetermined height, a predetermined thickness and a predetermined length with respect to the ground, and arranged in parallel to each other in the longitudinal direction on the ground to overlap with each other, and joined to each other at predetermined intervals in the longitudinal direction. The first member and the second member are provided with a first filling space filled with the reinforced soil formed between parts joined to each other due to relative movement in the thickness direction by an external force, and include a first separation prevention portion for connecting the first member and the second member to define a limit of the first filling space, to prevent the parts where the first member and the second member are joined to each other from being separated in the process of forming the first filling space by the external force.

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Inventors

HWANG, KWANG HYEON

CHUNG, Jong Ki

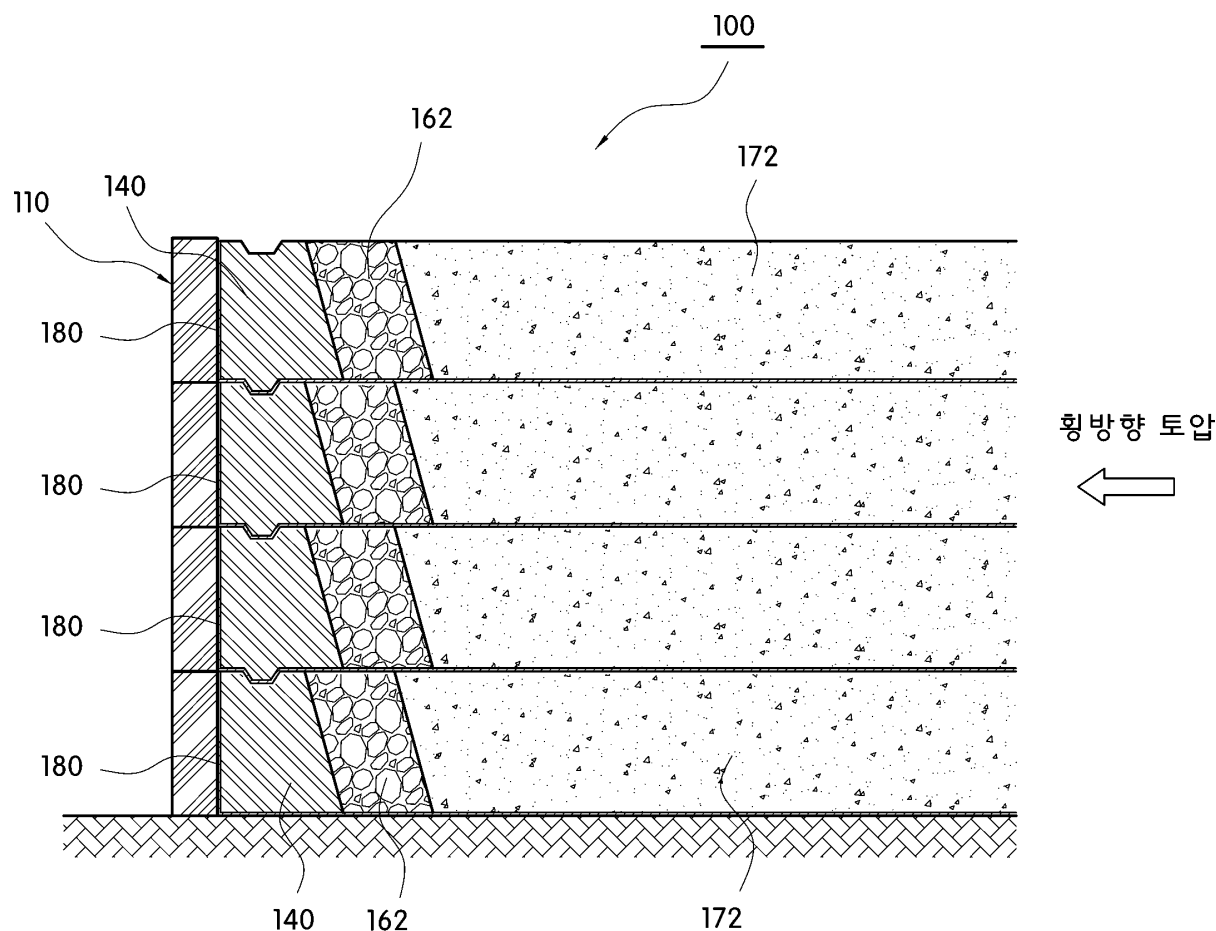
Family 192/200 - FAMPAT - ©Questel

Title

(KR101203289)

Reinforced earth retaining wall with a curb element and a construction method thereof which do not require curing time

Images



Publication data including kind & date

[KR101203289](#)

B1 2012-11-21

KR101203289



Abstract

(KR101203289)

PURPOSE: A reinforced earth retaining wall with a curb element and a construction method thereof are provided to remarkably improve safety by reducing earth pressure applied to a block wall and controlling horizontal displacement.

CONSTITUTION: A reinforced earth retaining wall(100) with a curb element comprises block bodies(110), horizontal control elements, drain boards, back filling materials, and geotextiles(180). The block bodies are piled up in multi layers. The horizontal control elements form the retaining wall by piling up curb elements(140) on the rear surfaces of the block bodies. The drain boards are formed by spreading rubble(162) on the rear surfaces of the horizontal control elements. The back filling materials are formed by spreading earth(172) on the rear surfaces of the drain boards. The geotextiles are arranged between the curb elements and the rubbles of the drain boards and between the rubbles and the earth of the back filling materials to reinforce the ground.

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[Reference numerals] (AA) Horizontal earth pressure

Inventors

PARK, SUNG-SIK

Latest standardized assignees - inventors removed

KYUNGPOOK NATIONAL UNIVERSITY INDUSTRY ACADEMIC COOPERATION FOUNDATION

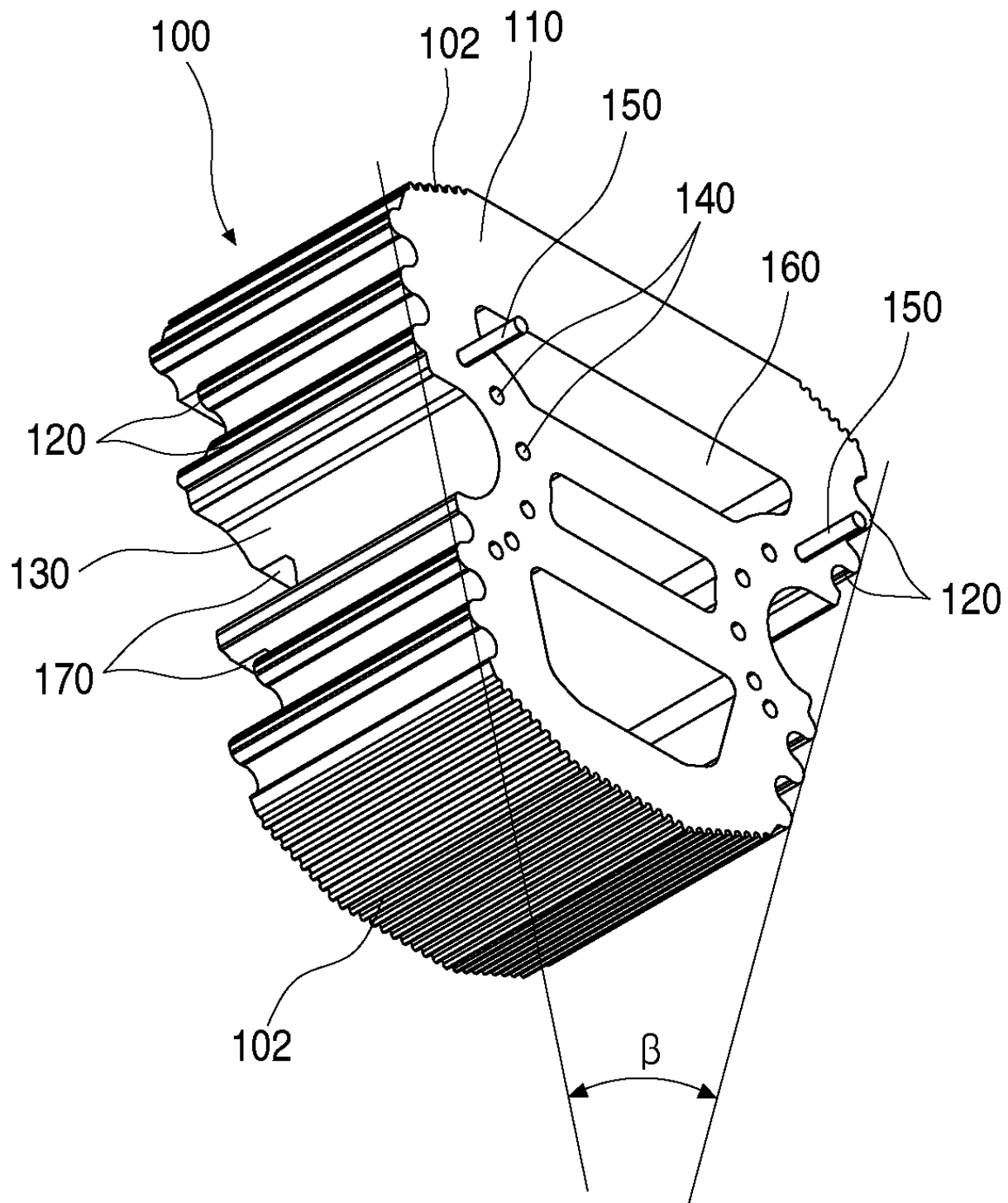
Family 193/200 - FAMPAT - ©Questel

Title

(KR101009293)

Reinforcement Block possible for Rotation Construction

Images



Publication data including kind & date

[KR101009293](#)

B1 2011-02-15 KR101009293

[KR20100037691](#)

A 2010-04-12 KR20100037691



Abstract

(KR20100037691)

PURPOSE: A reinforced soil block capable of rotation-construction is provided to improve construction performance and structural stability, and to reduce maintenance and administrative expense without using sub-materials.

CONSTITUTION: A reinforced soil block(100) capable of rotation-construction comprises a block body(110), concavo-convex parts(120), multiple pin insertion parts(140), multipurpose holes(160), and pin hanging parts(170). The concavo-convex parts are formed on the left and right surfaces of the block body, and coupled to a contiguous block body. Pins(150) are selectively inserted into the pin insertion parts formed in the block body. The multipurpose holes are formed in the block body, and selectively communicated with one or more pin insertion parts. The pin hanging parts limit movement of the block body by being contacted with the pins.

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Inventors

SON, JEONG-HO

Latest standardized assignees - inventors removed

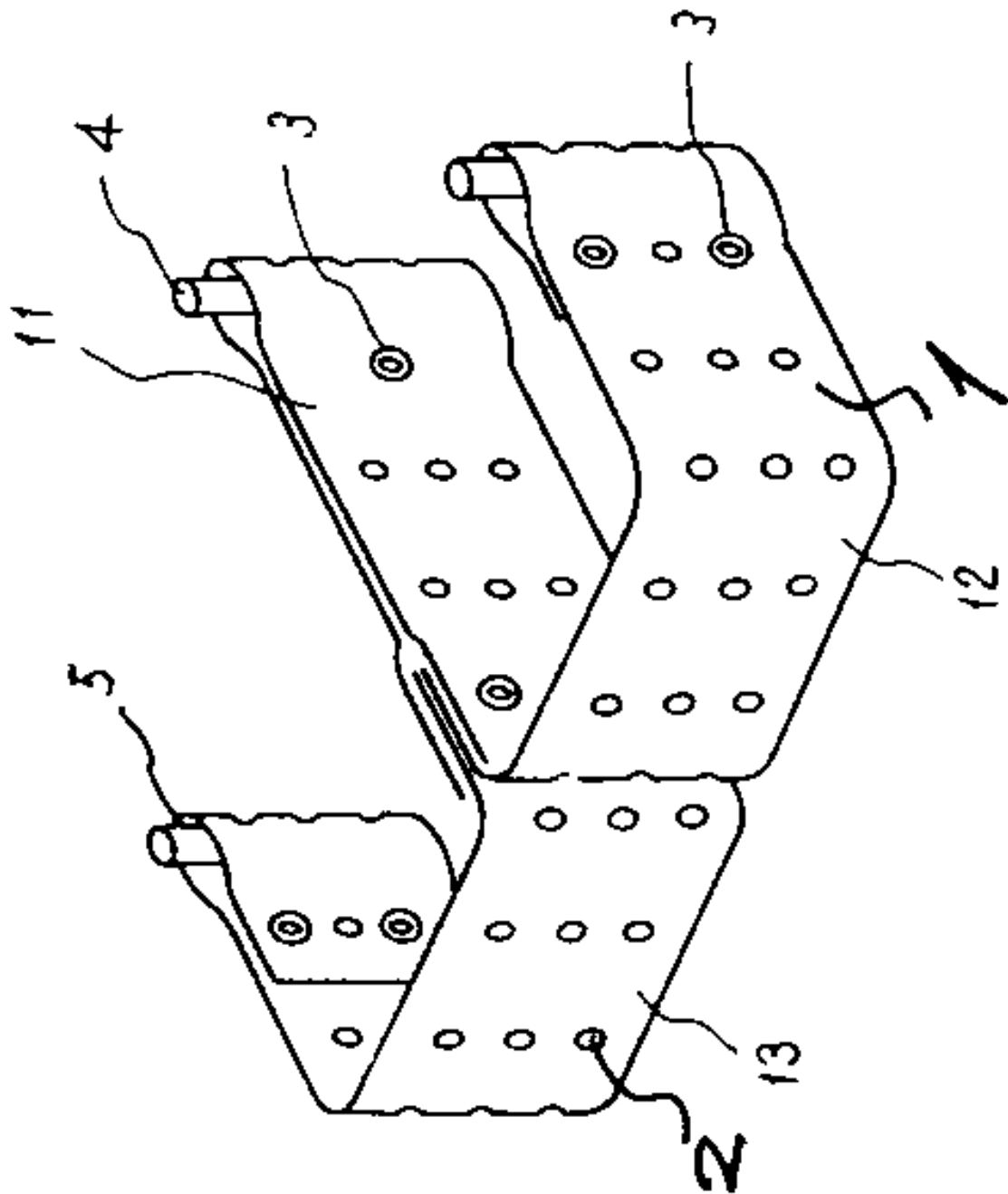
TAEWOONG

Family 194/200 - FAMPAT - ©Questel

Title

(JP59228535)

Constructive plate for retaining wall

Images

Publication data including kind & date

JPS59228535

A 1984-12-21 JP59228535

**Abstract**

(JPS59228535)

PURPOSE:To quickly and simply construct a disaster preventing levee having good draining property by a method in which a belt-like plate, e.g., steel thin plate, etc., having large numbers of bolt holes is bent, and the bent plates are connected with each other by bolts and fixed to the ground with piles. **CONSTITUTION:**A large number of bolt holes 2 are regularly drilled in a belt-like unit plate 1, e.g., steel thin plate or high-tensile plastic plate, in such a way that the interval between the drilled bolt holes is made wider than half of the circumferential length of a pile 4 to be fixed to the ground. The plate 1 is two-folded and a supporter 11 is provided to the plate 1. Also, the piles 4 are allowed to insert into the folded portions 5, and another plate 1 is also folded into a U-shaped form to form retaining walls 12 and 13. Through holes 5 are provided on one ends of the retaining walls 12 and 13. The retaining walls 12 and 13 are fixed on both sides of the supporter 11 by means of the bolts 3, fixed to the ground by the piles 4, and buried in soil.

Inventors

SHIGEMORI YOSHIROU

HANADA SHIGETOMI

Latest standardized assignees - inventors removed

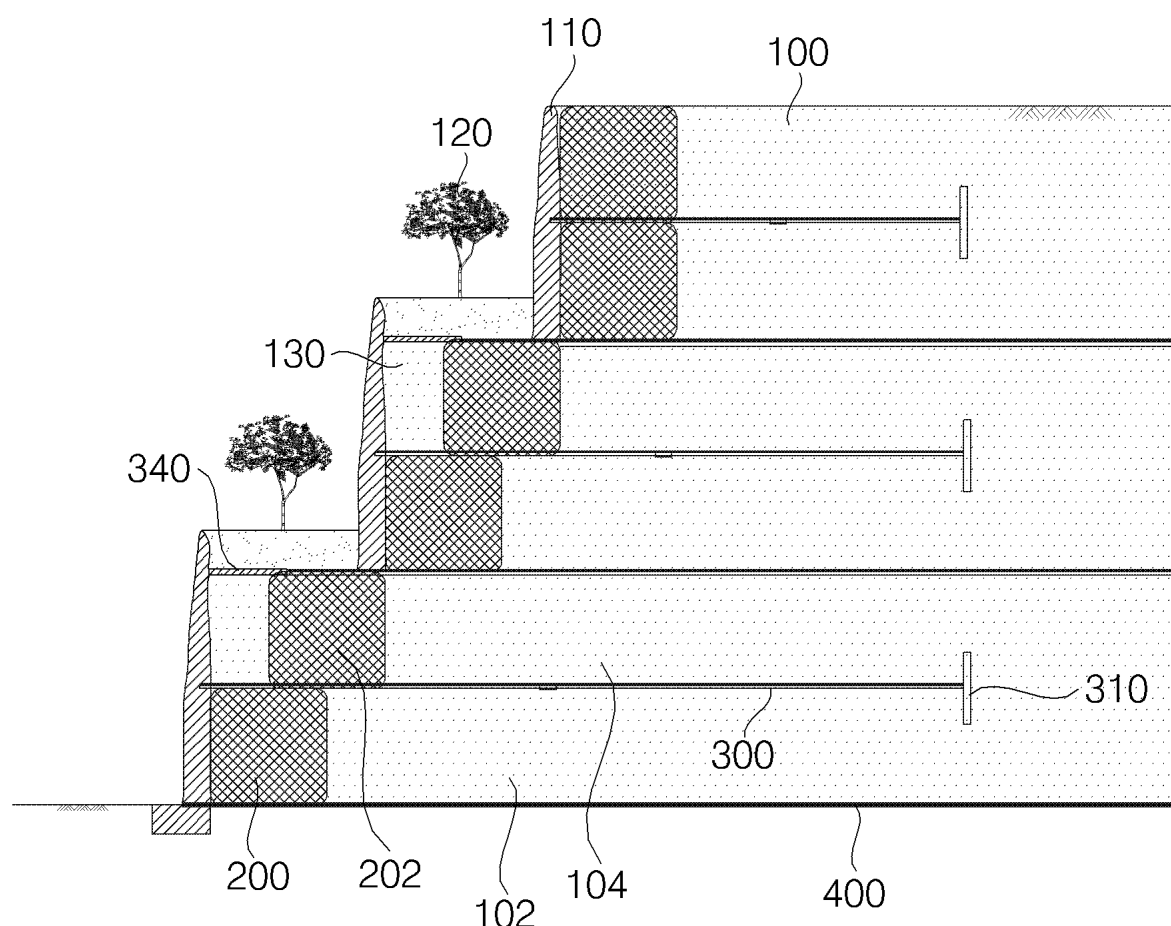
SUZUKI METAL INDUSTRY

Family 195/200 - FAMPAT - ©Questel

Title

(KR101125072)

Retaining-wall constructing method considering landscape with soil-filled bags, geogrids and wires

Images**Publication data including kind & date**

KR101125072

B1 2012-03-21 KR101125072



Abstract

(KR101125072)

PURPOSE: A retaining-wall constructing method considering landscape is provided to make landscape beautiful with landscape stone on the front of soil-filled bags.

CONSTITUTION: A retaining-wall constructing method considering landscape is as follows. A geogrid(400) is arranged on the base. A first soil-filled bag(200) is filled on the geogrid. A first layer(102) is formed by filling compacted soil(100) on the geogrid to have the same height to the first soil-filled bag. A wire(300) is arranged on the first layer. One end of the wire is arranged on the first soil-filled bag and the other end of the wire is fixed to a support plate. A second soil-filled bag(202) is arranged on the first soil-filled bag and the wire of the first layer. A second layer(104) is formed by filling compacted soil on the first layer to have the same height to the second soil-filled bag to form new ground.

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Inventors

KIM, KWANG-HO

Latest standardized assignees - inventors removed

MU SUNG CONSTRUCTION

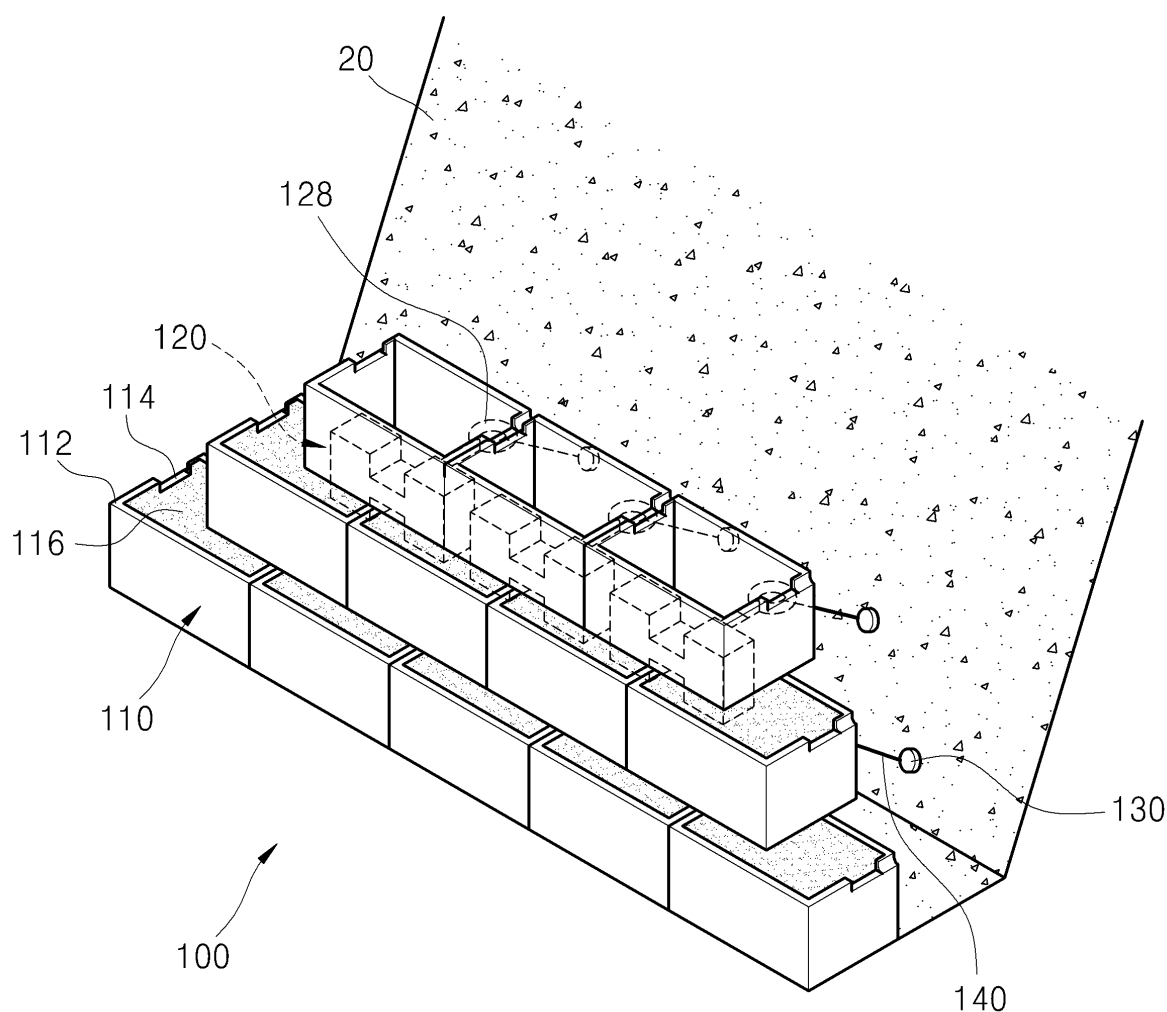
KIM SUNG SOO

Family 196/200 - FAMPAT - ©Questel

Title

(KR101117149)

Retaining wall structure for a slope surface having an environmentally-friendly exterior and a construction method thereof

Images

[KR101117149](#)

B1 2012-03-07 KR101117149

Abstract

(KR101117149)

PURPOSE: A retaining wall structure for a slope surface and a construction method thereof are provided to improve durability by inserting H-shaped connecting reinforcements into blocks and connecting the blocks to each other.

CONSTITUTION: A retaining wall structure(100) for a slope surface comprises blocks(110), connecting reinforcements(120), anchors(130), and wire ropes(140). The blocks are loaded along a slope surface in multi stages. Each block comprises a sheath(112), connection grooves(114), and concrete(116). The connection grooves are formed in the top end of the sheath. The inner space of the sheath is filled with the concrete. The connecting reinforcements are coupled to the connection grooves to connect the blocks to each other and have hooks(128). The anchors are fixed to the slope surface. The wire ropes connect the hooks and the anchors.

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Inventors

YUN, JUNG-SIK

KIM, KYOUNG AE

Latest standardized assignees - inventors removed

PACIFIC GEOLOGICAL ENGINEERING

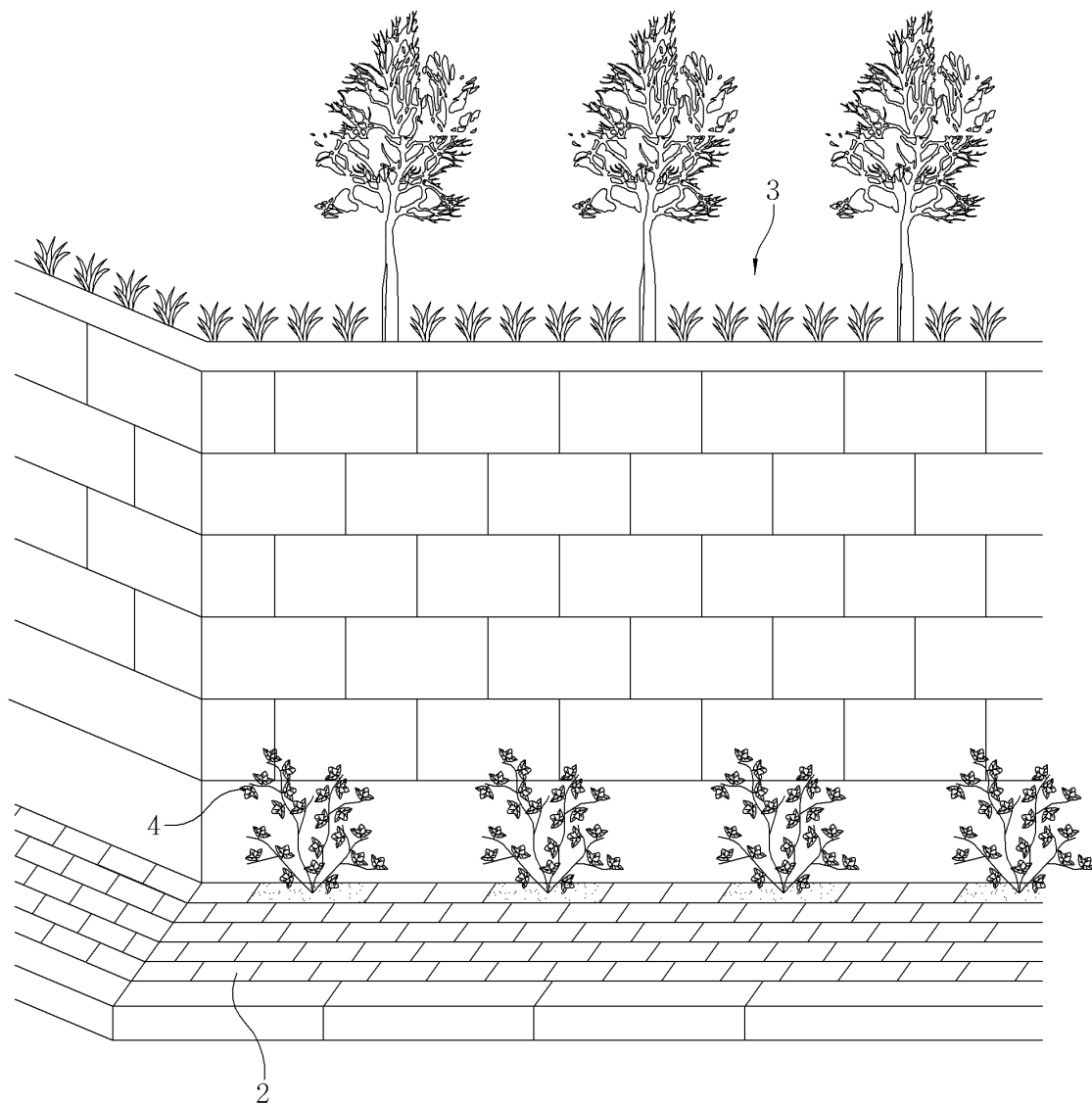
Family 197/200 - FAMPAT - ©Questel

Title

(KR200446723U)

Vine and shrub having vegetation of reinforced soilretaining wall

Images



Publication data including kind & date

[KR200446723](#)

Y1 2009-11-24

KR200446723U



Abstract

(KR200446723)

Shrub plants to the present invention relates to a vegetation of the plant and has the function of a reinforced soil retaining wall as, reinforced soil retaining wall plants planted in the plant or shrub rainwater can be supplied to the vines or bushes are provided with means preventing the development of a plant seed plants or shrubs and also promote the growth of plants growing in the fast reinforced soil retaining wall of the front surface of the dome to be recorded in the urban environment can assist in beautifying, reinforced soil retaining wall around the periphery of the ecology of the road by lowering the temperature to be able to protect the object.

The present invention relates to plants and shrubs in the reinforced soil retaining wall having a function of the plant vegetation is stepped grooves are formed on the top and bottom surface which is inclined towards the inside of the stepped groove is formed in the vertical plane is formed between the inclined surface, vines or bushes plants planted vegetation block breeders with sand, soil and vegetation block at the bottom of the stepped grooves are formed and the seating unit, the inclined surface of the soil and vegetation on top of the block is in contact with the contact portion is formed in each of the radiation, the radiation of the contact portion between the seat and a vertical plane and perpendicular to the soil and vegetation block in contact with the contact section is formed as a reinforced soil block, the block is stacked on top of a

reinforced soil on top of the vines or shrubs can be grown and exposed at the bottom of the opening portion is formed so as to pass through a hole formed therein and the planting blocks, stacked on top of the planting block on, through the inlet hole is formed with a plurality of rainwater sewer block, wherein the inlet is coupled to the top of each bent in the middle of the hole, and a lower portion of the soil and vegetation in the soil and vegetation block passing through the water supply pipe and the rainwater block consists of a preferred embodiment of the invention.

Inventors

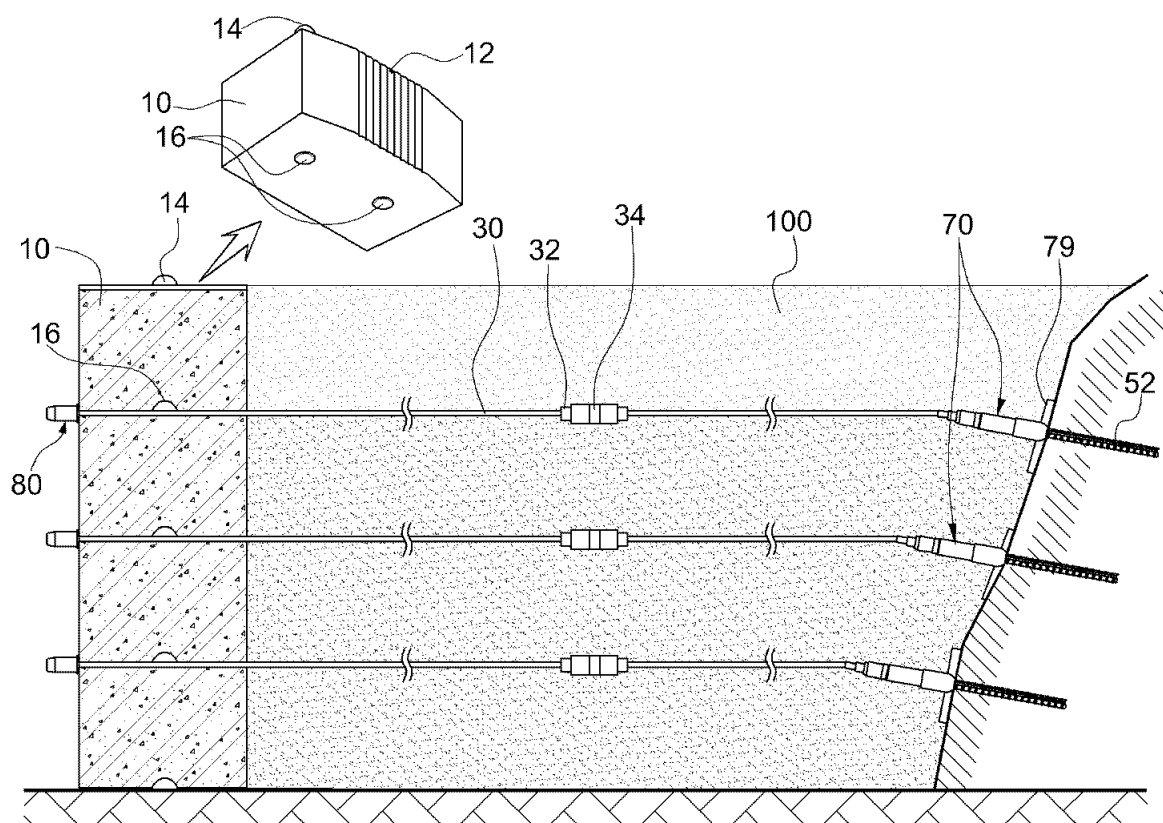
KIM, HAK EUN

Family 198/200 - FAMPAT - ©Questel

Title

(KR101494740)

Retaining wall using large block and construction method thereof

Images**Publication data including kind & date**[KR101494740](#)

B1 2015-02-24

KR101494740

**Abstract**

(KR101494740)

The present invention relates to a retaining wall capable of preventing a reinforcing member from coming in contact with water. The retaining wall includes: retaining wall blocks which are stacked together in multiple units and have mounting groove units; a reinforcing member which is inserted into the mounting grooves to be extended from the retaining wall blocks; a support unit which is arranged on the back of the retaining wall block and is extended to the rear side of the retaining wall; and a sealing unit which is installed on the reinforcing member to prevent the reinforcing member from being exposed to the outside.

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Inventors

CHOI EUNJIN

Latest standardized assignees - inventors removed

DONG MYOUNG ENGINEERING & CONSTRUCTION

HONG IK ENGINEERING

Family 199/200 - FAMPAT - ©Questel

Title

(KR20040072586)

Reinforced earth construction method for tree-planting and stabilization of slope, making use of front and underground geo-grids

Publication data including kind & date

[KR20040072586](#)

A

2004-08-18

KR20040072586



Abstract

(KR20040072586)

PURPOSE: A reinforced earth construction method for tree-planting and stabilization of a slope, making use of front and underground geo-grids is provided to obtain a drainage effect and a soil particle loss-preventing effect in rainfall, by installing geo-grids on the front and in the ground and installing a vegetation mat on the rear of the front geo-grid and to make the slope environmentally friendly. CONSTITUTION: In a reinforced earth construction method for tree-planting and stabilization of a slope, making use of front and underground geo-grids, a prevention fence for falling stone is installed at a vertical or predetermined angle. A front vertical geo-grid(4) and a vegetation mat(5) are installed to the rear of a horizontal steel bar or a wire rope(2) installed to a post(1) of the prevention fence for falling stone and a chain link wire net(3). A rear banking layer is compacted and an underground horizontal geo-grid(6) is laid every predetermined high. The underground horizontal geo-grid, the horizontal steel rod or wire rope and the front vertical geo-grid are integrally fixed by a connecting hook(7) and soil mass is restricted and stabilized. A reinforced earth retaining wall is completed through successively repeated construction to predetermined height. The front is finished by planting herbs and trees and the slope is landscaped and stabilized.

Inventors

PARK SEONG EON

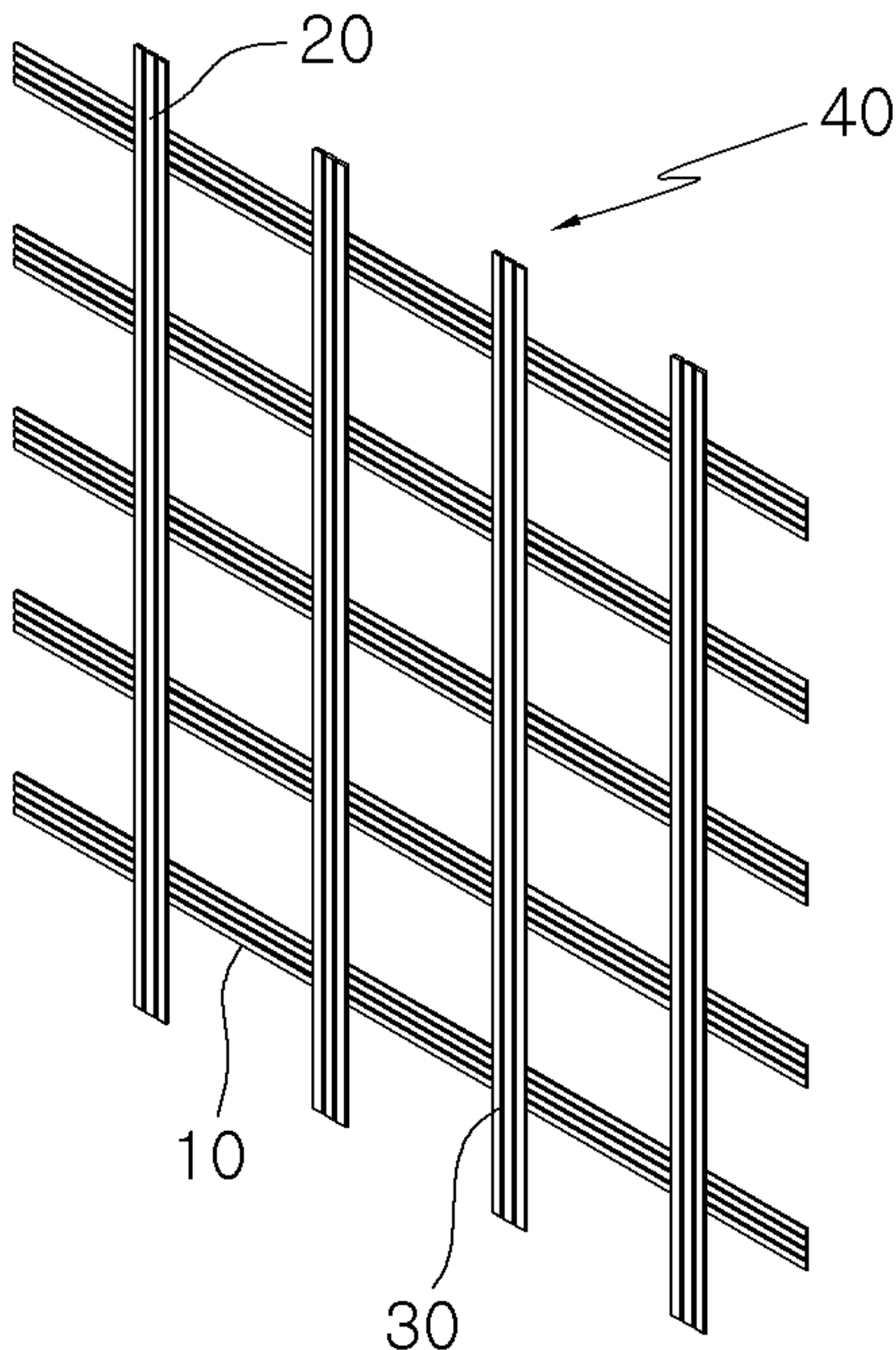
Family 200/200 - FAMPAT - ©Questel

Title

(KR100981913)

Rib using geogrid joint binding method

Images

**Publication data including kind & date**[KR100981913](#)

B1 2010-09-13 KR100981913

**Abstract**

(KR100981913)

PURPOSE: A geogrid joint joining using a rib, which prevents the displacement of a joint of geogrid, is provided to reinforce a weak soil foundation using a reinforcing member and to prevent the deformation of a joint. **CONSTITUTION:** A geogrid joint joining using a rib is as follows. First and second geogrids(40) can be ground or concrete. The joint parts of first and

second geogrid are united using a rib for a joint made of the same material of a horizontal rib(20) and a vertical rib(10).

Inventors

IL YANG INDUSTRY CO.,LTD.

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IL YANG INDUSTRY