

Search query (6): [SP]: grid-like building panel framework and members for making such panel frameworka framework type building panel, having opposed first and second sides, is formed of a plurality of primary and secondary structural members each of which has a web and a flange providing the member with a t-shaped cross-sectional shape each member also has a series of transverse notches spaced along its web. the panel includes a first series the primary members which are spaced apart and parallel to each other with their flanges defining the first side of the panel, and a second series of the secondary members which are spaced apart and parallel to each other and extend transversely to the primary members and have their flanges defining the second side of the panel, with the webs of the primary members having their transverse notches of their webs engaging areas of opposed webs of the secondary members. the edges of the panel may also be formed by the primary or secondary members, rotated 90 deg about their axes, so that their webs extend inwardly and engage the ends of the other panel members. the primary and secondary members are preferably differentiated as to their strength. (Results 24)

Search history

Search SFT=(modular and (wall or panel) and frame and rib*) (Results 16457)

1:

Search PN=(US4894974) (Results 1)

2:

Search [SP]: structural interlock frame systema structural panel for use in building construction and other applications has an internal rib structure with the ribs interlocked to form a two dimensional matrix. the ribs have tabs that are fitted into openings of facing sheets of the panels. this structure results in a strong prefabricated building panel. (Results 0)

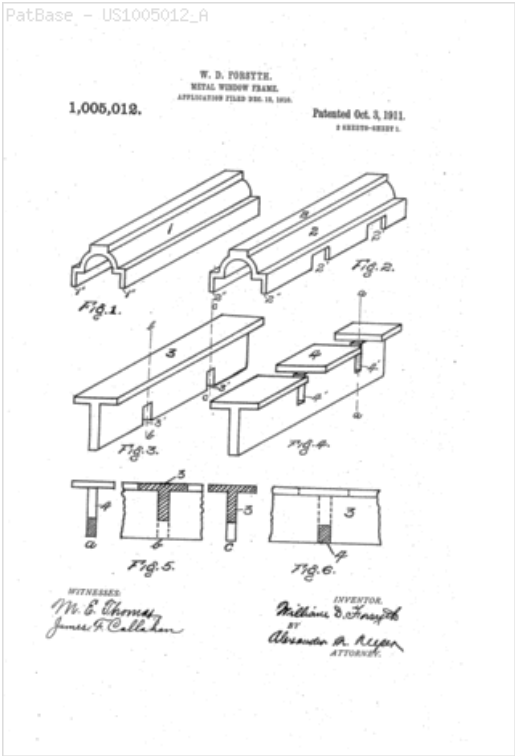
Search [SP]: it is claimed: 1. a structural interlock frame system, comprising: at least one first rib having at least one tab along one edge thereof at least one second rib for positioning at an angle with respect to said first rib to form a skeleton for the frame system with said first and second ribs connected at a junction, said second rib having at least one tab along one edge thereof means for fastening said first rib to said second rib at said junction, said fastening means including indentations in each of said first and second ribs, with said indentations being positioned on said first and second ribs, respectively, so as to register with one another at said junction a wood panel having a slot that receives said tabs in a manner to attach it to said ribs, thereby providing strength and rigidity to the frame system, said slot being of a depth such that said tabs form a substantially flush surface with said panel when said tabs are inserted therein and adhesive for fastening said panel to said junction of said first and second ribs, thereby distributing stress over the entire frame system.2. a frame system as defined in claim 1, including plurality of said first ribs disposed substantially parallel to one another, and a plurality of said second ribs disposed substantially parallel to one another, with each of said first and second ribs including a plurality of said first and second tabs and a plurality of said first and second indentations, respectively, for forming said skeleton in the form of a matrix when said second ribs are attached to said first ribs.3. a structural interlock frame system, comprising: at least one first rib having at least one tab along one edge thereof at least one second rib for positioning at an angle with respect to said first rib to form a skeleton for the frame system with said first and second ribs connected at a junction, said second rib having at least one tab along one edge thereof means for fastening said first rib to said second rib at said junction, said fastening means including respective first and second indentations in each of said first and second ribs, with said indentations being positioned on said first and second ribs, respectively, so as to register with one another at said junction said first indentation being disposed in said first tab said second indentation being formed on an edge of said second rib at a point substantially opposite said second tab, such that said first and second tabs form a substantially flush surface when said first and second indentations are interlocked and a panel having a slot that receives said tabs in a manner to attach it to ribs, thereby providing strength and rigidity to the frame system.4. in a building having a walls, a structural frame system for the walls, comprising: a plurality of substantially horizontal first ribs, each of said first ribs including a plurality of first tabs along an edge thereof, each of said first tabs having an indentation formed therein a plurality of substantially vertical second ribs, each of said second ribs including a plurality of second tabs along an edge thereof, and including a plurality of second indentations formed along an edge and at positions substantially opposite said second tabs, said second ribs attached to said first ribs by interlocking of said second indentations with said first indentations for forming a skeletal matrix having gaps for receiving insulating or other material, with said second indentations being of a depth sufficient to allow said first and second tabs to form a substantially flush surface when said skeletal matrix is assembled, said flush surface being defined by a plurality of pairs of said first and second tabs a first panel attached to skeletal matrix, said first panel having shape conforming to said flush surface and including a plurality of slots, each slot for receiving one of said pair of first and second tabs in a tight-fitting fashion for providing strength and resistance to twisting or other deformation of said frame system and a second panel attached to said skeletal matrix opposite said first panel, for forming a modular wall unit.5. a structural frame system as defined in claim 4, wherein said panels are configured to overlap the edges of said skeletal matrix, for attachment to a building frame. (Results 36)

Search [SP]: prefabricated building panela prefabricated building panel comprises a wooden grid of crossing longitudinal and transverse studs which are notched to interengage at the crossing points, one array of studs having surfaces coinciding with one major surface of the panel and having opposed surfaces recessed from the opposite major surface of the panel and vice-versa. the studs which are made of standard dimension lumber provide adequate nailing surfaces on each of the major surfaces of the panel for attachment of finish sheeting such as drywall thereto after installation. the panel may include molded in situ insulation and provides on the inner side of the panel large longitudinally recessed channels through which electric wiring, plumbing and the like can be ducted. (Results 0)

Search [SP]: grid-like building panel framework and members for making such panel frameworka framework type building panel, having opposed first and second sides, is formed of a plurality of primary and secondary structural members each of which has a web and a flange providing the member with a t-shaped cross-sectional shape each member also has a series of transverse notches spaced along its web. the panel includes a first series the primary members which are spaced apart and parallel to each other with their flanges defining the first side of the panel, and a second series of the secondary members which are spaced apart and parallel to each other and extend transversely to the primary members and have their flanges defining the second side of the panel, with the webs of the primary members having their transverse notches of their webs engaging areas of opposed webs of the secondary members. the edges of the panel may also be formed by the primary or secondary members, rotated 90 deg about their axes, so that their webs extend inwardly and engage the ends of the other panel members. the primary and secondary members are preferably differentiated as to their strength. (Results 24)

Title: METAL WINDOW-FRAME.

Classifications:
International (IPC 1-7): E06B3/12
CPC: Y10S52/08 Y10T403/7001 E04B9/127
US: 403/346 52/204.69 52/656.6 52/664 52/668 52/730.3 52/DIG.8



Family:

Publication number	Publication date	Application number	Application date
US1005012 A	19111003	US19100596762	19101212

Priority:

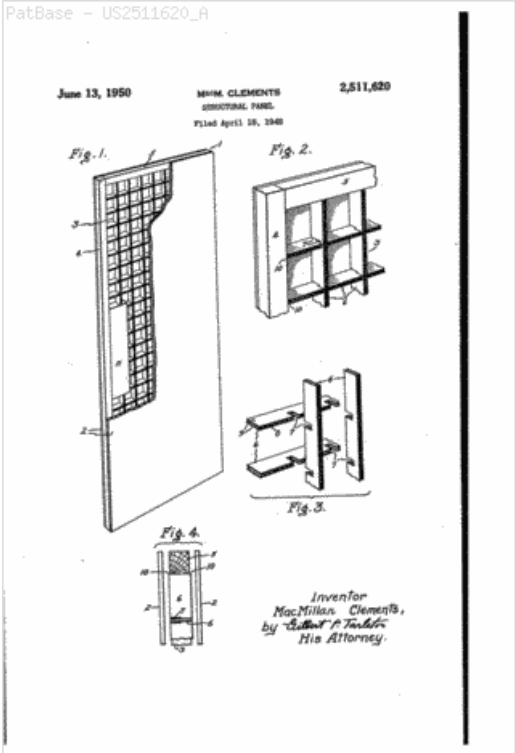
US19100596762 19101212

Probable Assignee: ALEXANDER M NEEPER
Assignee(s): (std): ALEXANDER M NEEPER ; FORSYTH WILLIAM D
Assignee(s): WILLIAM D FORSYTH
Inventor(s): (std): FORSYTH WILLIAM D
Inventor(s): WILLIAM D FORSYTH

Title: STRUCTURAL PANEL

Abstract: (Claim 1) 1. A structural panel comprising, in combination, a rectangular frame of relatively incompressible material, a compressible web grid core inside said frame, said core consisting of a series of corrugated paper members provided with convex outer members of paper having high tensile strength, core being thicker than said frame, and four sheets of paper glued to the four sides of said frame end to end core slid with said sheets not on said core under compression.

Classifications:
International (IPC 8-9): E06B3/70 (Advanced/Invention); E06B3/70 (Core/Invention)
International (IPC 1-7): E04C2/12 E04C2/34 E04C2/38 E06B3/82
CPC: Y10S220/918 E06B3/7017 Y10T428/234 Y10T428/239 Y10T428/24694
European: E06B3/70F2
US: 220/918 428/182 428/72 428/76 49/503 52/784.14 52/799.14



Family:

Publication number	Publication date	Application number	Application date
US2511620 A	19500613	US19480021480	19480416

Priority:
US19480021480 19480416

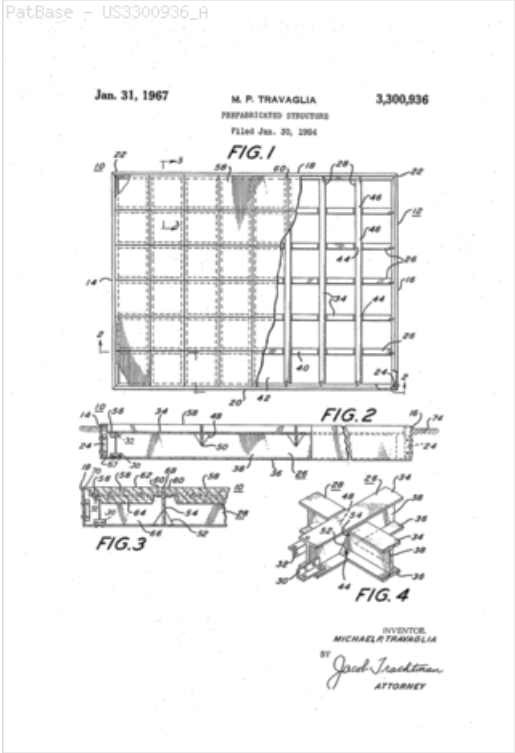
Probable Assignee: MACMILLAN CLEMENTS
Assignee(s): (std): MACMILLAN CLEMENTS
Inventor(s): (std): MACMILLAN CLEMENTS
Inventor(s): CLEMENTS MACMILLAN

Title: PREFABRICATED STRUCTURE

Abstract: (Claim 1) 1. A prefabricated structure comprising an outer frame provided by a plurality of connected elements, a grid comprising a plurality of intersecting longitudinal and transverse members of uniform height confined within said frame and connected with said frame elements, said members defining a plurality of rectangular modules and have interengaging cut-out portions at their intersections providing interlocking means between said members, and a plurality of slab units adapted to be received upon and overlap said grid modules, said frame elements and grid members being composed of light weight metallic material being connected and interlocked to provide a rigid open structure, said members having a cross section with a substantially I configuration and are provided with longitudinally spaced substantially triangular cut-out portions for providing said interlocking means between intersecting members, said longitudinal and transverse members having substantially identical configurations and are positioned with respect to each other so that their interengaging cut-out portions are in inverted relationship to each other, said longitudinal and transverse members each having a top flange and a bottom flange, said longitudinal members having their top flanges provided with said cutout portions having a substantially V configuration while said transverse members have their bottom flanges provided with cut-out portions having a substantially inverted V configuration for providing said interlocking means between members.

Classifications:

International (IPC 8-9): E04F15/08 (Advanced/Invention);
E04F15/08 (Core/Invention)
International (IPC 1-7): E04C2/50 E04F13/08
CPC: E04F15/08
European: E04F15/08
US: 52/169.1 52/477 52/656.1 52/668



Family:

Publication number	Publication date	Application number	Application date
US3300936 A	19670131	US19640341277	19640130

Priority:

US19640341277 19640130

Probable Assignee: PRE FAB PATIO SYSTEMS INC
Assignee(s): (std): PRE FAB PATIO SYSTEMS INC
Inventor(s): (std): TRAVAGLIA MICHAEL P

Title: CEILING GRID SYSTEM WITH INTERLOCKED JOINTS

Abstract: A sub-ceiling grid system in which the splices or joints in the main and intersecting runners are interlocked on assembly without the use of clips.

Classifications:

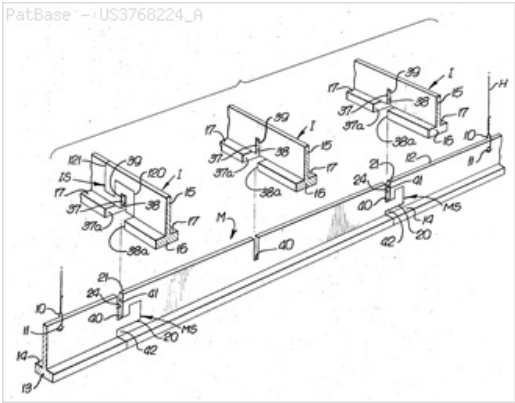
International (IPC 8-9): E04B9/10 E04B9/12 (Advanced/Invention); E04B9/06 (Core/Invention)

International (IPC 1-7): E04B5/55 E04B5/62

CPC: Y10T403/7001 E04B9/125 E04B9/10

European: E04B9/10 E04B9/12B1

US: 403/346 52/506.07 52/66.8 52/668



Family:

Publication number	Publication date	Application number	Application date
CA959229 A1	19741217	CA19720144398	19720612
US3768224 A	19731030	US19710190957	19711020

Priority:

US19710190957 19711020

Probable Assignee: INTEGRATED CEILINGS INC

Assignee(s): (std): INTEGRATED CEILINGS INC

Assignee(s): INTEGRATED CEILINGS INC US ; CURTIS ROLANDO T ; INTEGRATED CEILINGS

Inventor(s): (std): CURTIS R ; CURTIS ROLANDO T

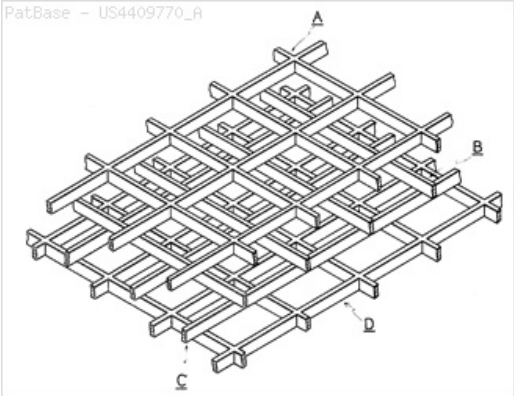
Inventor(s): CURTIS R US

Title: Vacuum insulation spacer

Abstract: Various embodiments of vacuum insulation spacers include supporters comprising crosspiece members formed of insulating material and having rectangular cross section. The spacers have at least three supporting levels. The crosspiece members of each level are positioned so that contact points between crosspiece members of a selected level and an adjacent level on a first side of the selected level do not overlap contact points between crosspiece members of the selected level and an adjacent level on a second side of the selected level.

Classifications:

International (IPC 8-9): A47J41/02 B65D81/38 F16L59/06 F17C13/00 F25D23/06 (Advanced/Invention); A47J41/00 B65D81/38 F16L59/06 F17C13/00 F25D23/06 (Core/Invention)
International (IPC 1-7): B65D25/18 B65D90/02 E04C2/36 F16L59/06 F25D23/06
CPC: A47J41/022 B65D81/38 F17C13/00
European: A47J41/02G B65D81/38 F17C13/00
US: 220/422 220/423 220/425 220/445 220/592.27 52/666 52/668 52/793.11 52/807
JP F-Term: 3H036 3H036/AA09 3H036/AB03 3H036/AB12 3H036/AB23 3H036/AB33 3H036/AB42 3H036/AC06 3H036/AE01 3L102 3L102/AA01 3L102/CA01 3L102/CA03 3L102/CA17 3L102/CA20 3L102/EC05 3L102/ED00 3L102/JA00 3L102/MA04 3L102/MB17 3L102/MB30
JP F-Index: F16L59/06 F16L59/065 F25D23/06 F25D23/06/V



Family:

Publication number	Publication date	Application number	Application date
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US4409770 A	19831018	US19800199170	19801022

Priority:

JP19800012527 19800206

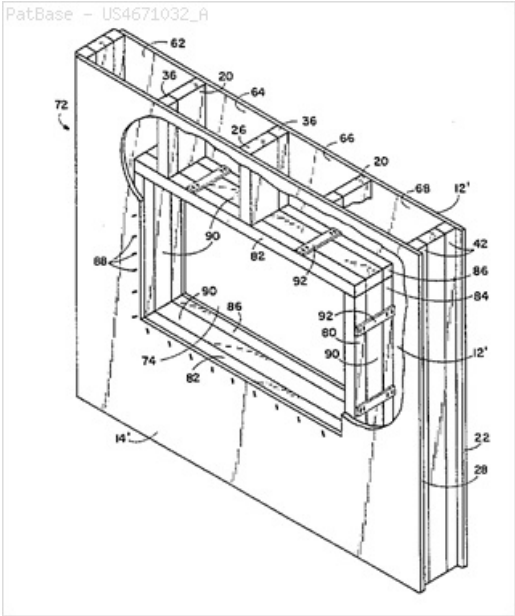
Probable Assignee: KAWAGUCHI GENBEE
Assignee(s): (std): KAWAGUCHI GENBEE ; NAGAI KIYOSHI
Inventor(s): (std): KAWAGUCHI GENBEE ; NAGAI KIYOSHI

Title: Thermally insulating structural panel with load-bearing skin

Abstract: A stressed-skin building panel including structural strengthening members located alternately adjacent the two opposite skin members of the building panel, each of the structural strengthening members being spaced apart from the opposite skin member by a block of high-density rigid foam material, and the remainder of the space between the skin members being occupied by a foamed-in-place foam insulating material adhering to the skin members and structural strengthening members and providing a significant amount of strength and resistance to compressive stresses. The opposite skin members are spaced apart from one another and held together at the proper spacing during and after construction by a plurality of bridge members which form the only direct connection between the skin members by other than insulating foam material, so that the insulating quality of the panels is maximized.

Classifications:

International (IPC 8-9): E04B1/00 E04B2/82 E04C2/38 E06B1/04 (Advanced/Invention); E04C2/38 (Core/Invention)
International (IPC 1-7): E04B1/00 E04B1/60 E04B2/82 E06B1/04
CPC: E04C2/386 E04C2/388
European: E04C2/38D E04C2/38E
US: 52/127.11 52/127.6 52/210 52/220.1 52/221 52/309.9 52/404 52/404.1 52/793.11 52/807



Family:

Publication number	Publication date	Application number	Application date
CA1279970 A1	19910212	CA19870532792	19870324
US4671032 A	19870609	US19860846249	19860331

Priority:

US19860846249 19860331 CA19870532792 19870324

Probable Assignee:

REYNOLDS KENT M

Assignee(s): (std):

REYNOLDS KENT M ; REYNOLDS PHILIP W

Assignee(s):

REYNOLDS WILLIAM A

Inventor(s): (std):

REYNOLDS WILLIAM A

Agent(s):

OYEN WIGGS GREEN AND MUTALA LLP

Title: WALL PANEL WITH FOAM INSULATION

Abstract: A wall panel of the type having two outer sheathing boards separated by rigid foam insulation has a continuous top header and a base reinforcement which are also each formed of two boards separated by rigid foam insulation. Vertical stud members formed of elongated boards have a central web extending between the boards of the top header and of the base reinforcement, and have side flanges nailed and bonded to the sheathing boards and extending between the bottom of the header and the top of the base reinforcement. The stud flanges allow nails to be applied internally of a flange into a first of the outer sheathing boards. The wall panels may have window and door openings cut out underneath the header after the foam has hardened between the panels.

Classifications:

International (IPC 8-9): E04C2/26 E04C2/288

E04C2/38 (Advanced/Invention);

E04C2/26 E04C2/38 (Core/Invention)

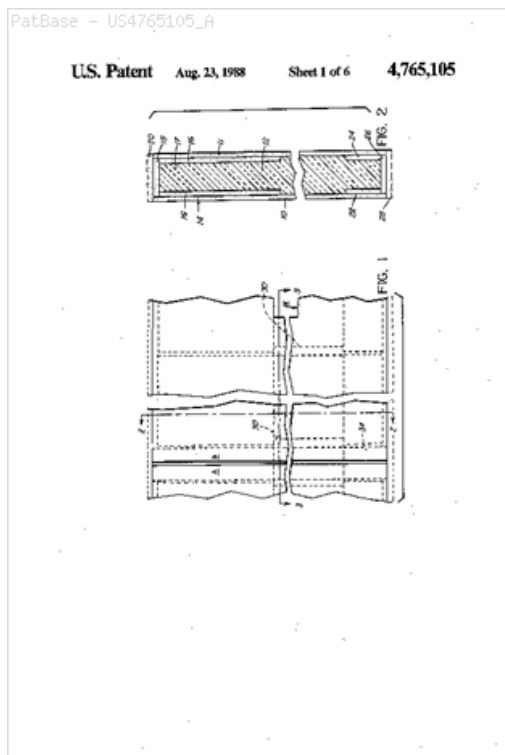
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E04B2/72 E04C2/24 E04C2/26 E04C2/34 E04C2/38 E04C2/46

CPC: E04C2/288 E04C2/382

European: E04C2/288 E04C2/38B

US: 264/46.5 52/272 52/282 52/309.11



Family:

Publication number	Publication date	Application number	Application date
AT62964 E	19910515	AT19870305460T	19870619
AU198774461 A1	19871224	AU19870074461	19870618
AU598552 B2	19900628	AU19870074461	19870618
CA1287964 A1	19910827	CA19870539010	19870605
DE3769521 D1	19910529	DE19873769521	19870619
EP0250258 A1	19871223	EP19870305460	19870619
EP0250258 B1	19910424	EP19870305460	19870619
FI84927 B	19911031	FI19870002585	19870609
FI84927 C	19920210	FI19870002585	19870609
FI872585 A	19871220	FI19870002585	19870609
FI872585 A0	19870609	FI19870002585	19870609
NO175545 B	19940718	NO19870002544	19870618
NO175545 C	19941026	NO19870002544	19870618
NO872544 A	19871221	NO19870002544	19870618
NO872544 A0	19870618	NO19870002544	19870618
NZ220698 A	19900726	NZ19870220698	19870615
US4765105 A	19880823	US19870064479	19870622

Priority:

US19860876027 19860619 CA19870539010 19870605 EP19870305460 19870619
US19870064479 19870622

Probable Assignee: SEVEN S STRUCTURES INC

Assignee(s): (std): SEVEN S STRUCTURES INC ; SEVEN STRUCTURES INC

Assignee(s): TISSINGTON FREDERICK B ; TISSINGTON SIDNEY K ; SEVEN S STRUCTURES INC GRANDE PRAIRIE ALBERTA CA ; 626739 ALBERTA LTD ; JOHNSTON CLARE M ; SCHEUNHAGE HENRY J

Inventor(s): (std): CLARENCE M JOHNSTON ; FREDERICK B TISSINGTON ; FREDERICK BERNARD TISSINGTON ; HENRY J SCHEUNHAGE ; JOHNSTON CLARE M ; JOHNSTON CLARENCE M ; SCHEUNHAGE HENRY J ; SIDNEY K TISSINGTON ; SIDNEY KEITH TISSINGTON ; TISSINGTON FREDERICK B ; TISSINGTON FREDERICK BERNARD ; TISSINGTON SIDNEY K ; TISSINGTON SIDNEY KEITH

Inventor(s): TISSINGTON FREDERICK BERNARD GRANDE PRAIRIE... ; TISSINGTON FREDERICK BERNARD GRANDE PRAIRIE ALBERT

Agent(s): WATERMARK PATENT AND TRADE MARKS ATTORNEYS; WATERMARK INTELLECTUAL PROPERTY PTY LTD; OSLER HOSKIN AND HARCOURT LLP

Designated states: AT BE CH DE ES FR GB IT LI NL SE

Title: Grating system

Abstract: An interlock grate structure is provided which includes longitudinal load bearing span bars having lateral locating slots spaced therealong for receiving transverse tie bars and transverse tie bars having axial locking means which engage the longitudinal span bar at the point of juncture and prevent axial displacement of the tie bar relative to the span bar. A longitudinal interlock member serves to interlock the position of the transverse tie bar locking means with respect to the longitudinal span bar and in some instances provides added structural support.

Classifications:

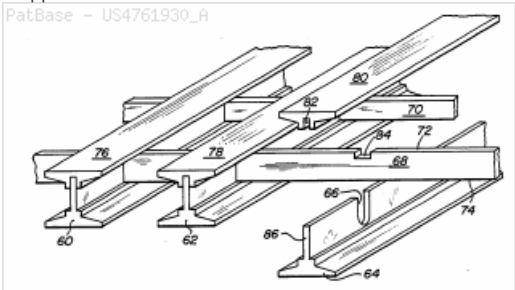
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E04C2/30 (Core/Invention)

International (IPC 1-7): E04C2/42

CPC: E04C2/423

European: E04C2/42A1A

US: 52/664 52/666 52/668 52/669



Family:

Publication number	Publication date	Application number	Application date
US4761930 A	19880809	US19810330700	19811214

Priority:

US19810330700 19811214

Probable Assignee:

FIBERGRATE CORP

Assignee(s): (std):

FIBERGRATE CORP

Inventor(s): (std):

TEPERA JOSEPH E

Title: Structural interlock frame system

Abstract: A structural panel for use in building construction and other applications has an internal rib structure with the ribs interlocked to form a two dimensional matrix. The ribs have tabs that are fitted into openings of facing sheets of the panels. This structure results in a strong prefabricated building panel.

Classifications:

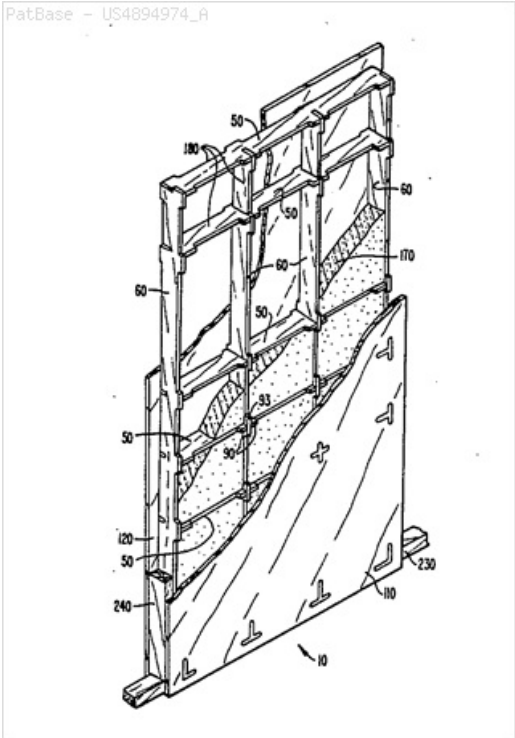
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E04C2/34 (Core/Invention)

International (ipc 1-7): E04B2/72 E04C2/36 E04C2/54

CPC: E04C2/36

European: E04C2/36

US: 52/668 52/782.2 52/783.1 52/785 52/793.11 52/807



Family:

Publication number	Publication date	Application number	Application date
AU198937846 A1	19900111	AU19890037846	19890704
US4894974 A	19900123	US19880215080	19880705

Priority:

US19880215080 19880705

Probable Assignee: DEL LONEY

Assignee(s): (std): JAWORSKI WALTER J ; WALTER J JAWORSKI

Assignee(s): LONEY DEL MORGAN HILL CA ; STRESS LOCK PANELS INC ; LONEY DEL ; CONSTRUCTION DEVELOPMENT AND INVESTMENT CO INC ; DEL LONEY

Inventor(s): (std): SCHEID E NOLAN ; MAYHEW DAVID

Inventor(s): E NOLAN SCHEID ; DAVID MAYHEW

Agent(s): FB RICE; FB RICE PTY LTD

Title: METHOD AND APPARATUS FOR REMELTING AND REFINING OR MAGNESIUM AND MAGNESIUM ALLOYS

Abstract: A and apparatus for melting and refining of magnesium and magnesium alloys is used both for melting of ingots and remelting of return metal. Metal is melted by pumping an overheated salt melt from a heating zone in a salt melt furnace and distributing it over the metal, which is placed in a basket above the liquid level in the furnace. The metal melts and is immediately removed from the basket without being further heated. A melt composition rich in calcium chloride with a content of calcium fluoride is preferably used.

Classifications:

International (IPC 8-9): C22B26/22 C22B9/16 F27B3/08

F27B3/20 (Advanced/Invention);

C22B9/16 (Advanced/Non-invention);

C22B26/00 C22B9/16 F27B3/08 F27B3/20 (Core/Invention);

C22B (Subclass/Invention)

International (IPC 1-7): C04B35/60 C22B C22B26/22 C22B9/00 C22B9/10 C22B9/16 C22B9/187 C22C23/00 F27B14/06 F27B17/00 F27B3/08

CPC: F27B3/20 C22B26/22 F27B3/08 Y02P10/214 Y02P10/226

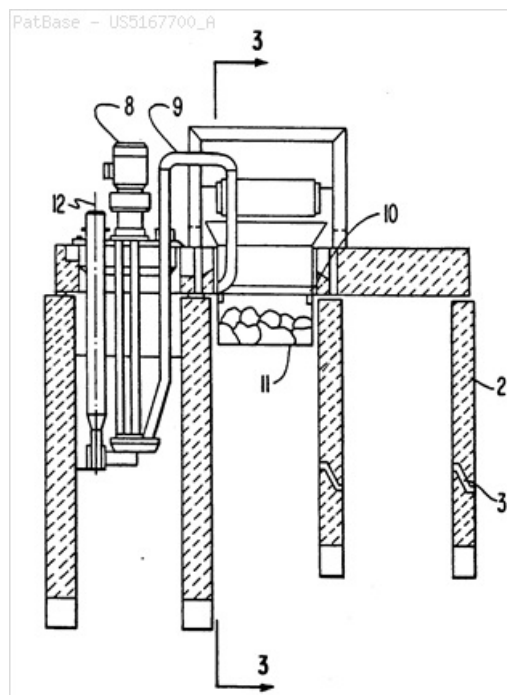
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US: 75/10.65 75/594 75/595

JP F-Term: 4K001 4K001/AA38 4K001/BA22 4K001/BA23

4K001/EA04 4K001/FA14 4K001/GA14 4K001/KA08 4K001/KA10

JP F-Index: C22B26/22 C22B9/16



Family:

Publication number	Publication date	Application number	Application date
AU199185989 A1	19920430	AU19910085989	19911021
AU650290 B2	19940616	AU19910085989	19911021
CA2053718 AA	19920425	CA19912053718	19911018
CA2053718 C	19981124	CA19912053718	19911018
DE4135146 A1	19920430	DE19914135146	19911024
DE4135146 C2	19980326	DE19914135146	19911024
FR2668497 A1	19920430	FR19910013111	19911023
FR2668497 B1	19940805	FR19910013111	19911023
GB2250028 A1	19920527	GB19910022516	19911023
GB2250028 B2	19940713	GB19910022516	19911023
GB9122516 A0	19911204	GB19910022516	19911023
IT1251439 B	19950509	IT1991MI02828	19911024
ITMI912828 A0	19911024	IT1991MI02828	19911024
ITMI912828 A1	19920425	IT1991MI02828	19911024
JP2028675 C3	19960319	JP19910277824	19911024
JP5005135 A2	19930114	JP19910277824	19911024
JP7057896 B4	19950621	JP19910277824	19911024
NO171120 B	19921019	NO19900004597	19901024
NO171120 C	19930127	NO19900004597	19901024
NO904597 A	19920427	NO19900004597	19901024
NO904597 A0	19901024	NO19900004597	19901024
RU2020173 C1	19940930	SU19915010053	19911023
US5167700 A	19921201	US19910779911	19911021

Priority:

NO19900004597 19901024 CA19912053718 19911018

Probable Assignee: NORSK HYDRO AS

Assignee(s): (std): NORSK HYDRO AS ; NORSK KHYUDRO A S

Assignee(s): NORSK KHYUDRO AS ; WALLEVIK ODDMUND ; RONHAUG JAN BERNHARD ; NORSK HYDRO ASA ; NORSK HYDRO ; NORSK HYDRO A S ; NORSK HYDRO A S OSLO NO

Inventor(s): (std): BERNHARD RONHAUG JAN ; ODDMUND WALLEVIK ; OTSUDOMUNDO BUAREBUIKU ; R NHAUG JAN BERNHARD ; RENKHAUG YAN BERNKHARD ; ROENHAUG JAN B ; ROENHAUG JAN BERNHARD ; RONHAUG JAN B ; RONHAUG JAN BERNHARD ; VALLEVIK ODDMUND ; WALLEVIK ODDMUND ; YAN BERUNHARUDO RANHAUGU

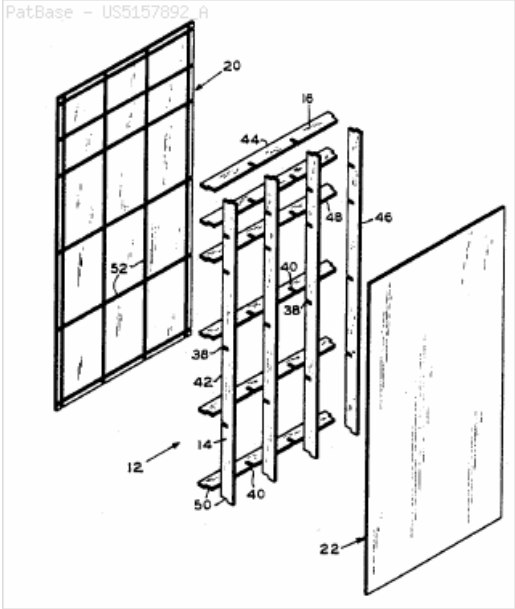
Inventor(s): WALLEVIK ODDMUND PORSGRUNN NO ; ROENHAUG JAN BERNHARD PORSGRUNN NO ; JAN BERNHARD ROENHAUG ; JAN BERNHARD ROENHAUG ; JAN BERNHARD RONHAUG

Agent(s): PHILLIPS ORMONDE FITZPATRICK; FETHERSTONHAUGH AND CO

Title: Structural interlocking joint system

Abstract: The invention involves a structural interlocking joint system for structural panels used in building construction. A skeleton is formed of interlocking ribs which engage panel skins which are grooved in a pattern to receive the edges of the interlocked ribs. The grooves of each panel skin are formed with their edges angled away from the groove to provide both a wider opening for insertion of the rib skeleton into the grooves, and to provide, after such joining insertion, a reservoir for any excess glue forced out by the joining process. Along the longitudinal edges of the ribs is formed a uniform channel which provides a defined reservoir for glue of substantially even width and depth between the edge of each rib and the bottom of the corresponding groove within the skin. Thus, in the insertion of a rib within a groove, the glue is directed into a substantially uniform strip within the rib edge channel, maximizing strength and minimizing localized glue overflow. Any overflow which occurs from the rib edge channel is contained by the reservoir formed by the angle-edge grooves in the skin.

Classifications:
International (IPC 8-9): E04C2/36 (Advanced/Invention);
E04C2/34 (Core/Invention)
International (IPC 1-7): E04C2/54
CPC: E04C2/36
European: E04C2/36
US: 52/668 52/793.11 52/799.14 52/807 52/820 527/850



Family:

Publication number	Publication date	Application number	Application date
US5157892 A	19921027	US19910796921	19911122

Priority:
US19900559198 19900727 US19910796921 19911122

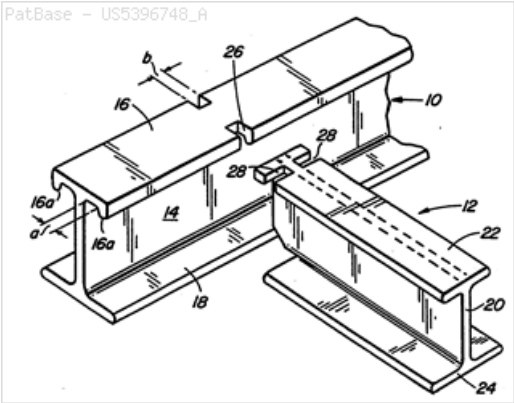
Probable Assignee: RYTER RONALD R
Assignee(s): (std): RYTER RONALD R
Inventor(s): (std): RYTER RONALD R

Title: JOINT CONSTRUCTION FOR SUSPENDED CEILING SYSTEM

Abstract: A new joint construction is provided for connecting main members and cross members of a suspended ceiling grid. Both members are in the form of I-beams having a central web and top and bottom flanges projecting at opposite sides of the web, and the top flanges of the main members have depending lips at their edges. Each joint construction includes a notch in a depending lip capable of receiving the web of a cross member, and opposed slots in the top flange of the end portion of the cross member capable of receiving portions of depending lip on each side of the notch. The lower flange and web of the cross member end portion are configured to allow the lip to be interlocked with the slots by a relative tilting motion between the cross member and the main member, and the cross member rests on the main member lower flange when the parts are in their final position.

Classifications:

International (IPC 8-9): E04B9/12 E04B9/22 (Advanced/Invention); E04B9/06 (Core/Invention)
International (IPC 1-7): E04B1/58 E04B9/22
CPC: Y10T403/7001 E04B9/127
European: E04B9/12D
US: 403/346 52/506.06 52/506.07 52/664 52/726.2 52/729 52/729.1 52/837 526/640



Family:

Publication number	Publication date	Application number	Application date
CA2144239 AA	19950925	CA19952144239	19950308
CA2144239 C	19980901	CA19952144239	19950308
US5396748 A	19950314	US19940217149	19940324

Priority:

US19940217149 19940324 CA19952144239 19950308

Probable Assignee:

ROGERS DAVID J

Assignee(s): (std):

ROGERS DAVID J ; ROGERS DAVID JAMES

Inventor(s): (std):

ROGERS DAVID J ; ROGERS DAVID JAMES

Agent(s):

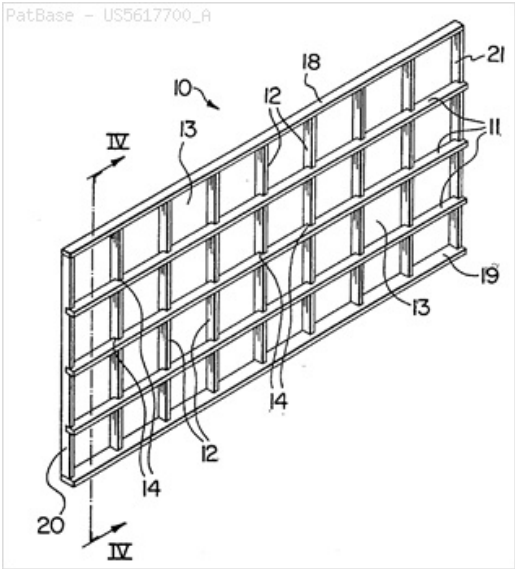
MACRAE AND CO

Title: Prefabricated building panel

Abstract: A prefabricated building panel comprises a wooden grid of crossing longitudinal and transverse studs which are notched to interengage at the crossing points, one array of studs having surfaces coinciding with one major surface of the panel and having opposed surfaces recessed from the opposite major surface of the panel and vice-versa. The studs which are made of standard dimension lumber provide adequate nailing surfaces on each of the major surfaces of the panel for attachment of finish sheeting such as drywall thereto after installation. The panel may include molded in situ insulation and provides on the inner side of the panel large longitudinally recessed channels through which electric wiring, plumbing and the like can be ducted.

Classifications:

International (IPC 8-9): E04B1/10 E04B2/32
E04C2/38 (Advanced/Invention);
E04B1/02 E04C2/38 (Core/Invention)
International (IPC 1-7): E04B2/32 E04C2/32
CPC: E04B1/10 E04C2/386
European: E04B1/10 E04C2/38D
US: 52/698 52/793.1 52/794.1



Family:

Publication number	Publication date	Application number	Application date
CA2181303 AA	19970118	CA19962181303	19960716
US5617700 A	19970408	US19950503389	19950717

Priority:

US19950503389 19950717 CA19962181303 19960716

Probable Assignee: 626739 ALBERTA LTD
Assignee(s): (std): TISSINGTON SIDNEY K ; WRIGHT JERAULD G
Assignee(s): 626739 ALBERTA LTD
Inventor(s): (std): TISSINGTON SIDNEY K ; WRIGHT JERAULD G
Agent(s): SMART AND BIGGAR

Title: Oriented strand board wall panel system

Abstract: A wall panel includes an outer surface layer, an oriented strand board layer, and mounting channels. The outer surface layer includes an outer surface, an inner surface, and edges. The oriented strand board layer includes an outer surface, an inner surface, and edges, with the outer surface of the oriented strand board layer being attached to the inner surface of the outer surface layer. The mounting channels are defined along and between the edges of the outer surface layer and the oriented strand board layer, and define a region recessed from the edges of the outer surface layer and the oriented strand board layer.

Classifications:

International (IPC 8-9): B29C44/14 E04B2/58 E04C2/16 E04C2/20 E04C2/34 (Advanced/Invention);

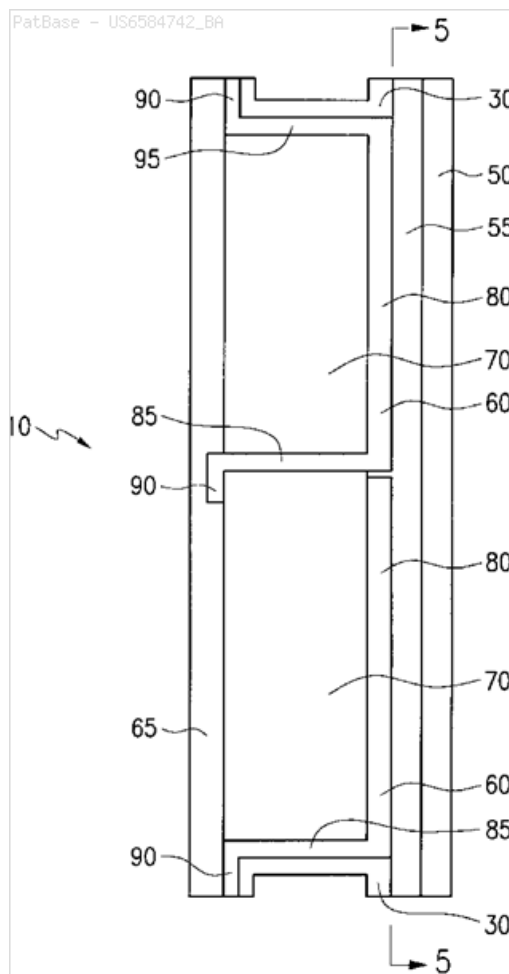
B29C44/02 E04C2/10 (Core/Invention)

International (IPC 1-7): E04C1/00 E04C2/26

CPC: B29C44/146 E04C2/205 E04B2/58 E04C2/16 E04C2/34

European: B29C44/14E E04B2/58 E04C2/16 E04C2/20B E04C2/34

US: 52/241 52/309.7 52/309.8 523/97



Family:

Publication number	Publication date	Application number	Application date
AU199728039 A1	19971107	AU19970028039	19970418
US6584742 BA	20030701	US20000573796	20000516
WO9739205 A1	19971023	WO1997US06458	19970418

Priority:

US19960015602P 19960418 US19970844514 19970418 WO1997US06458 19970418
US20000573796 20000516

Probable Assignee: STRUCTURAL TECH

Assignee(s): (std): HARRINGTON BRUCE ; STRUCTURAL TECH

Assignee(s): STRUCTURAL TECHNOLOGIES INC

Inventor(s): (std): UNGER WOLFGANG ; MURPHY PAUL ; KLIGLER LENNARD J ; HARRINGTON BRUCE

Inventor(s): BRUCE HARRINGTON

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CH CN CU CZ DE DK EE ES FI FR GB GE GH GR HU IE IL IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MC MD MG MK MN MW MX NL NO NZ PL PT RO RU SD SE SG SI SK SZ TJ TM TR TT UA UG US UZ VN

Title: Grid-like building panel framework and members for making such panel framework

Abstract: A framework type building panel, having opposed first and second sides, is formed of a plurality of primary and secondary structural members each of which has a web and a flange providing the member with a T-shaped cross-sectional shape; each member also has a series of transverse notches spaced along its web. The panel includes a first series of the primary members which are spaced apart and parallel to each other with their flanges defining the first side of the panel, and a second series of the secondary members which are spaced apart and parallel to each other and extend transversely to the primary members and have their flanges defining the second side of the panel, with the webs of the primary members having their transverse notches of their webs engaging areas of opposed webs of the secondary members. The edges of the panel may also be formed by the primary or secondary members, rotated 90 DEG about their axes, so that their webs extend inwardly and engage the ends of the other panel members. The primary and secondary members are preferably differentiated as to their strength.

Classifications:

International (IPC 8-9): E04B2/62 E04C2/38

E04C2/42 (Advanced/Invention);

E04C2/38 (Core/Invention)

International (IPC 1-7): E04B2/62 E04C2/38 E04C2/42

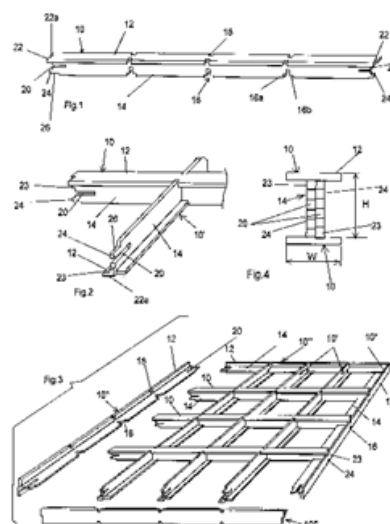
CPC: E04C2/388

European: E04C2/38E

US: 52/506.07 52/660 52/665 52/668 52/730.7 526/680

PatBase - US5901524_R

U.S. Patent May 11, 1999 Sheet 1 of 4 5,901,524



Family:

Publication number	Publication date	Application number	Application date
CA2245299 AA	19990227	CA19982245299	19980819
EP0899392 A2	19990303	EP19980306737	19980821
EP0899392 A3	19991229	EP19980306737	19980821
US5901524 A	19990511	US19970917725	19970827

Priority:

US19970917725 19970827 CA19982245299 19980819

Probable Assignee: WRIGHT JERAULD GEORGE

Assignee(s): (std): WRIGHT JERAULD GEORGE

Inventor(s): (std): WRIGHT JERAULD GEORGE

Agent(s): SWANN JULIAN B

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

Title: COMPOSITE WOODEN BEAM AND METHOD FOR PRODUCING SAID BEAM

Abstract: A wooden I beam comprising upper and lower wooden members each having an outer longitudinal flange secured by glue to an elongated web, upper members of the beam being connected at end joints which are staggered relative to end joints between lower members of the beam, the webs of all members being inwardly projecting and connected together by means including non-metallic pegs or bolts fitting into aligned bores in the webs and/or members connecting said webs. The beam can be produced by continually connecting additional upper members and lower members to one end of the beam, each upper member having its web connected to the web of a lower member already incorporated in the beam, and vice versa. Required lengths of the beam are continually sawn off from the other end of the beam as it is produced.

Classifications:

International (IPC 8-9): B27M1/08 B27M3/00 E04C3/12 E04C3/14 E04C3/36 F16B19/00 F16B21/16 (Advanced/Invention); E04C3/12 (Core/Invention)

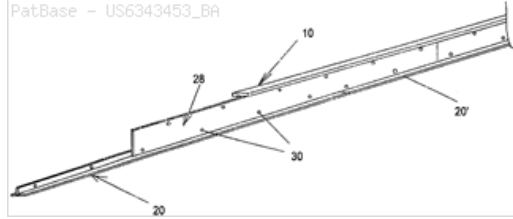
International (IPC 1-7): B27M1/08 B27M3/00 E04C3/12 E04C3/14 E04C3/36 F16B19/00 F16B21/16

CPC: E04C3/14

European: E04C3/14

US: 52/729.1 52/729.4 52/730.6 52/730.7 52/837 52/841 52/846

PatBase - US6343453_BA



Family:

Publication number	Publication date	Application number	Application date
CA2261526 AA	20000812	CA19992261526	19990212
CA2298292 AA	20000812	CA20002298292	20000204
US6343453 BA	20020205	US20000500235	20000208

Priority:

CA19992261526 19990212

CA20002298292 20000204

Probable Assignee:

WRIGHT JERAULD GEORGE

Assignee(s): (std):

WRIGHT JERAULD GEORGE

Inventor(s): (std):

WRIGHT JERAULD GEORGE

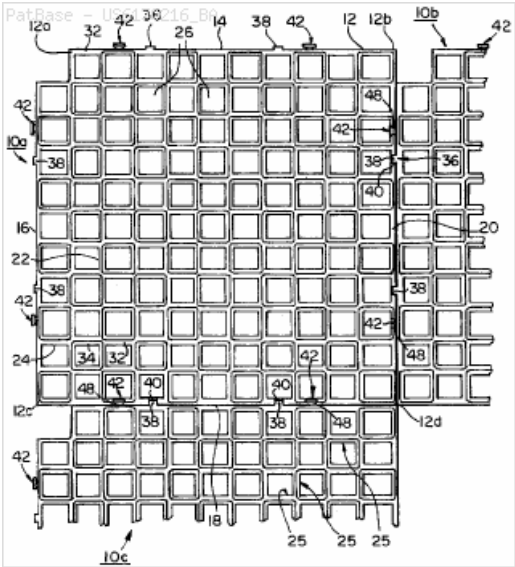
Agent(s):

SWANN JULIAN B

Title: Grid structure

Abstract: A grid structure capable of withstanding a compressive force comprises a peripheral frame, a plurality of first grid members connected to and extending within the peripheral frame and a plurality of second grid members connected to and extending within the peripheral frame. The second grid members intersect the first grid members. The first and second grid members form a grid of small frames disposed within the peripheral frame. The grid has an upper surface and a lower surface wherein a first group of at least a portion of at least one of the first and second grid members have flanges on the upper surface, the flanges being generally perpendicular to the first and second grid members and a second group of at least a portion of at least one of the first and second grid members have flanges on the lower surface, the flanges being generally perpendicular to the first and second grid members. A process of making the grid structure is also disclosed, as is an assembly of such grid structures.

Classifications:
International (IPC 8-9): B29C45/26 E04C2/42 E04F19/10 (Advanced/Invention)
International (IPC 1-7): E04C2/42
CPC: B29C45/2628 B29L2031/737 E04C2/427 E04F19/10
European: B29C45/26K E04C2/42B E04F19/10 L29L31/737
US: 52/656.8 52/660 52/662 52/663 52/664 52/666 526/600



Family:

Publication number	Publication date	Application number	Application date
US6170216 BA	20010109	US19990268517	19990312

Priority:
US19990268517 19990312

Probable Assignee: BRENTWOOD IND NC
Assignee(s): (std): BRENTWOOD IND INC
Assignee(s): BRENTWOOD IND NC ; BRENTWOOD INDUSTRIES INC ; BRENTWOOD IND
Inventor(s): (std): AULL RICHARD ; KRELL TIMOTHY ; MCDOWELL CURTIS ; RYE PALLE

Title: GRID-LIKE BUILDING PANEL FRAMEWORK

Abstract: A framework type building panel having opposed first and second sides is formed of primary and secondary structural members, each primary member having a web and a flange connected to form a T-shaped cross-section, and each secondary member being a flat board having parallel side surfaces. The panel includes a first series of the primary members which are parallel to each other with their flanges defining the first side of the panel, and a second series of the secondary members which extend transversely to the primary members and have outer side surfaces defining the second side of the panel, the primary members having their web outer edges attached to inner overlying surfaces of the secondary members. The panel further includes two additional flat boards forming the opposite ends of said panel and each connected to aligned ends of said primary members.

Classifications:

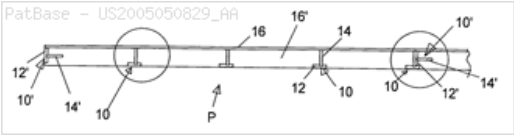
International (IPC 8-9): E04B1/10 E04B2/00 E04B5/12 E04C2/30 E04C2/38 E04C3/14 E04C3/17 E04C3/28 (Advanced/Invention); E04B1/02 E04B5/12 E04C2/38 E04C3/02 E04C3/12 (Core/Invention)

International (IPC 1-7): E04B2/00 E04C2/30 E04C3/02

CPC: E04B1/10 E04B5/12 E04C2/386 E04C3/14 E04C3/17 E04C3/28

European: E04B1/10 E04B5/12 E04C2/38D E04C3/14 E04C3/17 E04C3/28

US: 52/633



Family:

Publication number	Publication date	Application number	Application date
CA2439658 AA	20050305	CA20032439658	20030905
US2005050829 AA	20050310	US20040933410	20040903

Priority:

CA20032439658 20030905

Probable Assignee: WRIGHT JERAULD GEORGE
Assignee(s): (std): WRIGHT JERAULD GEORGE
Assignee(s): WRIGHT JERAULD G
Inventor(s): (std): WRIGHT JERAULD G ; WRIGHT JERAULD GEORGE
Inventor(s): WRIGHT JERAULD
Agent(s): MILTONS LLP SRL; DAVID J FRENCH MILTON GELLER LLP

Title: SUSPENDED CEILING SYSTEM

Abstract: A grid system is provided that is particularly suited for the suspended ceiling system that varies in the vertical plane. An elongated carrier tube is provided the spans substantially the width of the grid system that has a slot therein adapted to receive the strengthening bulb of a main runner. A clip is provided that seats on the carrier tube that has opposed faces for capturing the bulb of the runner, so as to secure the runner to the tube carrier.

Classifications:

International (IPC 8-9): E04B9/00 E04B9/12

E04B9/18 (Advanced/Invention);

E04B9/00 E04B9/06 E04B9/18 (Core/Invention)

CPC: Y10T403/7164 Y10T403/7182 Y10T403/7188 Y10T403/7194

E04B9/10 E04B9/061 E04B9/067 E04B9/068 E04B9/127 E04B9/16

E04B9/18

European: E04B9/06A E04B9/06F2 E04B9/06F2D E04B9/10

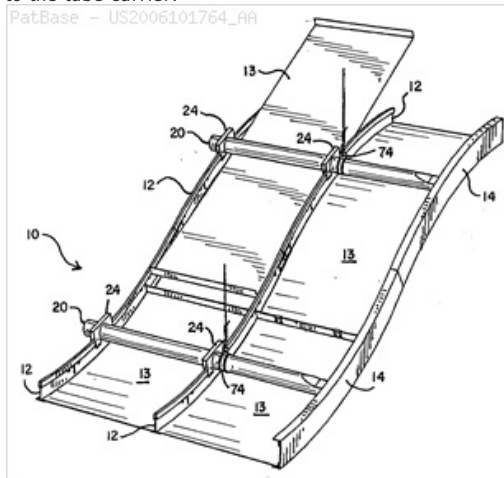
E04B9/12D E04B9/16 E04B9/18

US: 248/57 248/62 248/74.1 403/395 403/398 403/399 403/400

52/245 52/506.01 52/506.07 52/506.070P 52/506.08 52/506.09

52/506.090P

PatBase - US2006101764_AA

**Family:**

Publication number	Publication date	Application number	Application date
CA2524559 AA	20060427	CA20052524559	20051026
CA2524559 C	20101207	CA20052524559	20051026
US2006101764 AA	20060518	US20050257726	20051025
US2010242396 AA	20100930	US20100816500	20100616
US7752821 BB	20100713	US20050257726	20051025
US8006454 BB	20110830	US20100816500	20100616

Priority:

US20040622418P 20041027

US20050257726 20051025

CA20052524559 20051026

US20100816500 20100616

Probable Assignee: ROCKWOOL INT AS

Assignee(s): (std): CHICAGO METALLIC CORP ; JAHN PETER G ; JANKOVEC SCOTT G ; SMITH THOMAS E

Assignee(s): ROCKWOOL INT A S ; ROCKWOOL INT AS ; CHICAGO METALLIC CORP4849 SOUTH AUSTIN AVENUECHICAGOIL60638US ; CHICAGO METALLIC CO LLC ; CHICAGO METALLIC CO LLC4849 SOUTH AUSTIN AVENUECHICAGOIL60638US

Inventor(s): (std): SMITH THOMAS E ; JANKOVEC SCOTT G ; JAHN PETER G

Inventor(s): JAHN PETER ; JAHN PETER GUS ; JANKOVEC SCOTT ; JANKOVEC SCOTT GUS ; SMITH THOMAS ; SMITH THOMAS EUS

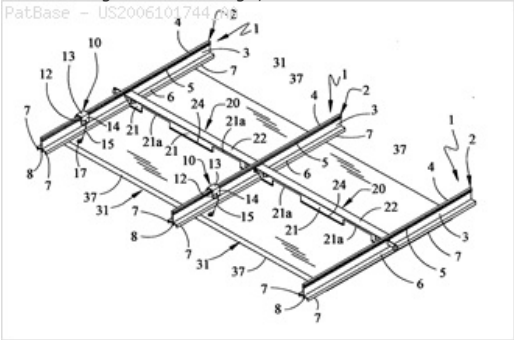
Agent(s): FINLAYSON AND SINGLEHURST; COOK ALEX MCFARRON MANZO CUMMINGS AND MEHLER LTD; COOK ALEX LTD; COOL ALEX LTD

Title: CEILING AND WALL PANEL CLIPS

Abstract: Ceiling and wall panel clip assemblies are characterized by wall and ceiling panel clips having extending fingers that engage companion U-shaped spring-steel panel clips attached to various panels for securing the panels to a framework or grid on the wall or ceiling of a structure. The ceiling panel clip includes a main tee characterized by a main tee leg, typically fitted with a top cross member and a bottom cross member and extending downwardly to a finger mount that mounts the three fingers which engage the corresponding panel clips in a friction-fit. In one embodiment the ceiling panel clips accommodate a support clip fitted over the top of the main tee at the top cross member and having a flange and a downwardly-extending leg attached to a lanyard secured to a decorative ceiling panel, for safety purposes. The wall panel clips include a finger mount flange for supporting the three outwardly-extending panel fingers that engage the companion panel clips attached to selected wall panels. Mount openings are provided in the finger mount flange for receiving screws and securing the finger mount flange to a wall structure or a wall and mounting the panels on the wall structure or wall by engaging the respective panel clips and corresponding fingers attached to the finger mount flange, in a friction-fit.

Classifications:

International (IPC 8-9): E04H1/00 (Advanced/Invention); E04H1/00 (Core/Invention)
CPC: E04B9/003 E04B9/127 E04B9/225 E04B9/26 E04F13/0812
European: E04B9/00B E04B9/12D E04B9/22A E04B9/26 E04F13/08B2C2
US: 52/238.1 52/238.100P



Family:

Publication number	Publication date	Application number	Application date
US2006101744 AA	20060518	US20050088417	20050324

Priority:

US20040557530P 20040330 US20050088417 20050324

Probable Assignee: FALBAUM RAND H

Assignee(s): (std): FALBAUM RAND H ; JONES JAY P ; LEON RODGER G ; NICHOLS WILLIAM D

Inventor(s): (std): FALBAUM RAND H ; JONES JAY P ; LEON RODGER G ; NICHOLS WILLIAM D

Inventor(s): FALBAUM RAND ; NICHOLS WILLIAM ; LEON RODGER ; JONES JAY

Agent(s): JOHN M HARRISON

Title: COMPOSITE MATERIAL STRUCTURE AND METHOD FOR MAKING SAME

Abstract: The invention provides a composite material structure comprising a plate having an upper side, an under side and at least first and second beams, each beam having a plurality of faces comprising at least an upper face and a base face and a pair of spaced apart side faces intermediate to and adjoining the upper and base faces, each beam being attached to the underside of the plate at the upper face wherein the first beam has an open ended passage extending between the side faces and the second beam extends through the open ended passage.

Classifications:

International (IPC 8-9): B21D47/00 E02D29/14 E04C2/20 E04C2/38 (Advanced/Invention);

B21D47/00 E02D29/14 E04C2/10 (Core/Invention)

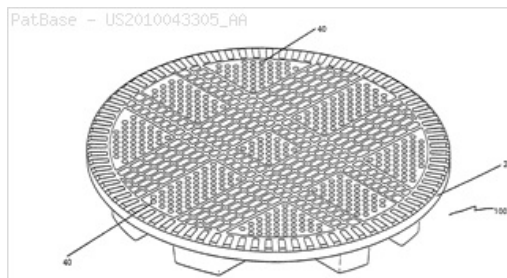
CPC: Y10T29/49623 E02D29/14 E02D29/124 E02D29/1454 E02D29/1472

European: E02D29/12E E02D29/14

US: 29/897.3 29/897.300S 52/20 52/20P 52/309.1 52/309.100S 52/653.1 52/799.13

JP F-Term: 2D047 2D047/BB21 2D147 2D147/BB21

JP F-Index: E02D29/14/E



Family:

Publication number	Publication date	Application number	Application date
AT458870 E	20100315	AT20060766094T	20060821
CN101273174 A	20080924	CN200680035875	20060821
CN101273174 B	20100707	CN200680035875	20060821
DE602006012500 D1	20100408	DE200660012500T	20060821
EP1917401 A2	20080507	EP20060766094	20060821
EP1917401 B1	20100224	EP20060766094	20060821
ES2341622 T3	20100623	ES20060766094T	20060821
IE20050552 A2	20070221	IE20050000552	20050819
JP2009504953 T2	20090205	JP20080526607T	20060821
RU2008110497 A	20090927	RU20080110497	20060821
RU2393301 C2	20100627	RU20080110497	20060821
US2010043305 AA	20100225	US20060063327	20060821
US8726614 BB	20140520	US20060063327	20060821
WO07020618 A2	20070222	WO2006IE00089	20060821
WO07020618 A3	20070510	WO2006IE00089	20060821
WO07020618 C1	20080403	WO2006IE00089	20060821

Priority:

IE20050000552 20050819 US20060791349P 20060412 US20060063327 20060821
WO2006IE00089 20060821

Probable Assignee: TB COMPOSITES LTD

Assignee(s): (std): DONNELLAN NUALA ; N JUTON DZHON REDZHINALD ; NEWTON JOHN REGINALD ; TI BI KOMPEHZITS LTD ; REGINALD NEWTON JOHN ; NUALA DONNELLAN ; TB COMPOSITES LTD

Assignee(s): TI BI KOMPEHZITS LIMITED ; TB COMPOSITES LIMITED ; JOHN REGINALD NEWTON

Inventor(s): (std): DONNELLAN NUALA ; N JUTON DZHON REDZHINALD ; NEWTON JOHN REGINALD ; NUALA DONNELLAN ; REGINALD NEWTON JOHN ; NEWTON JOHN

Inventor(s): N'JUTON DZHON REDZHINALD ; JOHN REGINALD NEWTON

Agent(s): MCCARTHY DENIS ALEXIS; OSTROLENK FABER GERB AND SOFFEN; OSTROLENK FABER LLP

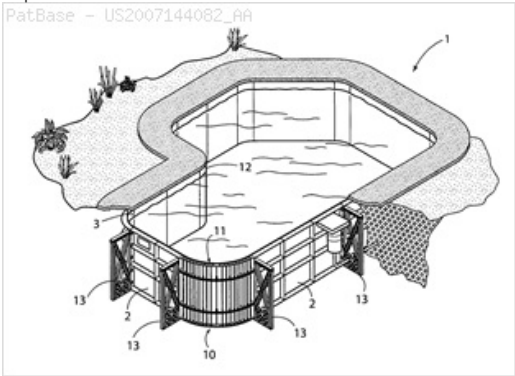
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Title: POOL HAVING CURVABLE WALL

Abstract: A curvable panel for swimming pools and the like includes a panel that is flexible to form concave or convex surfaces. At least one elongated reinforcing member is secured to the panel to retain the panel in the desired shape. Locating features such as notches or the like in the elongated reinforcing member and the panel ensure that the panel retains the desired shape. The panel can be readily formed into a variety of shapes, thereby reducing the tooling, inventory, and other such costs that would otherwise be incurred if a plurality of rigid curved panels were utilized.

Classifications:

International (IPC 8-9): E02D27/00 (Advanced/Invention);
E02D27/00 (Core/Invention)
CPC: E04H4/0043
European: E04H4/00C3
US: 52/169.7 52/169.700



Family:

Publication number	Publication date	Application number	Application date
US2007144082 AA	20070628	US20060643383	20061221

Priority:

US20050753070P 20051222 US20060643383 20061221

Probable Assignee: CARAVELLE INT INC
Assignee(s): (std): KANTOR PAUL
Assignee(s): CARAVELLE INT ; CARAVELLE INT INC
Inventor(s): (std): KANTOR PAUL
Agent(s): PRICE HENEVELD COOPER DEWITT AND LITTON LLP

Title: LIGHT STEEL CEILING RACK

Abstract: A light steel ceiling rack formed of first frame bars and second frame bars, each second frame bar having respective second horizontal top flanges terminating in beveled end edges for engaging into respective notches in the first frame bars and respective first horizontal top flanges provided with end projections for stopping below respective first horizontal top flanges of the first frame bars upon insertion of end plug strips of the second frame bars into respective mounting holes of the first frame bars to enhance the connection and to prevent formation of a gap in the connection area between each first frame bar and each second frame bar.

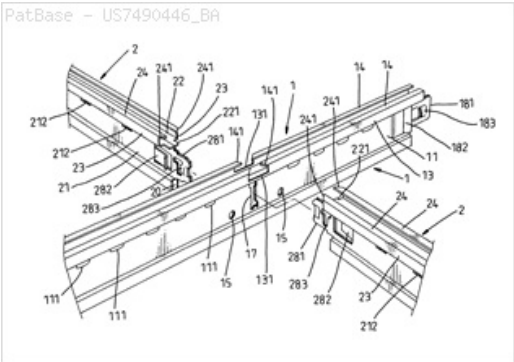
Classifications:

International (IPC 8-9): E04B9/00 (Advanced/Invention); E04B9/00 (Core/Invention)

CPC: E04B9/122 E04B9/127

European: E04B9/12B E04B9/12D

US: 52/232 52/506.06 52/664 52/733.1



Family:

Publication number	Publication date	Application number	Application date
US7490446 BA	20090217	US20030748266	20031231

Priority:

US20030748266 20031231

Probable Assignee:

CHUANG SEN JUNG

Assignee(s): (std):

CHUANG SEN JUNG

Inventor(s): (std):

CHUANG SEN JUNG

Agent(s):

TROXELL LAW OFFICE PLLC

Title: SOLAR MODULE, SOLAR MODULE SUPPORT, AND PHOTOVOLTAIC POWER GENERATION SYSTEM

Abstract: A solar module according to an embodiment of the present invention includes a solar cell panel 2, main frame members 10 each including a main holder configured to hold the solar cell panel 2, sub-frame members 20 each including a sub-holder configured to hold the solar cell panel 2, a reinforcing frame member 30 provided to span between the main frame members 10, and a reinforcing-frame supporting member 40 provided to span between the sub-frame members 20 while intersecting the reinforcing frame member 30, and including a concave portion configured to straddle a bottom surface of the reinforcing frame member 30 from below at a portion where the reinforcing-frame supporting member 40 intersects the reinforcing frame member 30.

Classifications:

International (IPC 8-9): H01L31/04 H01L31/042

H01L31/048 (Advanced/Invention);

H01L31/04 H01L31/042 (Core/Invention)

CPC: Y02E10/47 F24S25/20 F24S25/632 F24S2080/09 H02S30/10

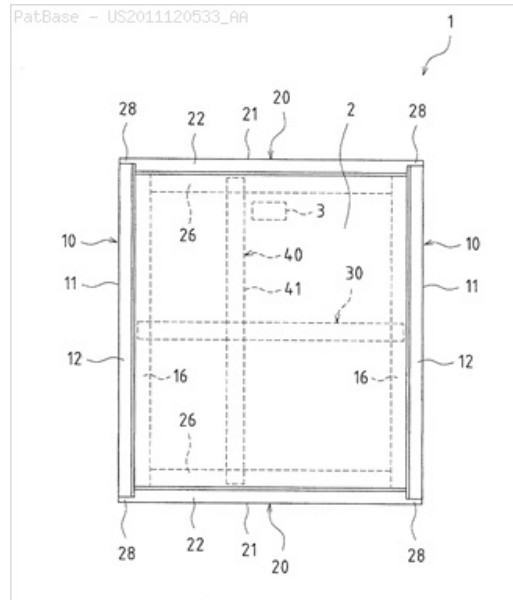
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Y02E10/47 Y02E10/50

US: 136/251

JP F-Term: 2E145 5F051 5F051/BA18 5F051/JA09 5F151

5F151/BA18 5F151/JA09 5F151/JA13 5F151/BA03

JP F-Index: H01L31/04/R H01L31/04/Z H02S20/10/S H02S30/10



Family:

Publication number	Publication date	Application number	Application date
EP2312645 A1	20110420	EP20090766669	20090617
JP2009302485 A2	20091224	JP20080158460	20080617
JP2010283397 A2	20101216	JP20100212161	20100922
JP4722164 B2	20110713	JP20080158460	20080617
JP5191519 B2	20130508	JP20100212161	20100922
US2011120533 AA	20110526	US20090999902	20090617
WO09154221 A1	20091223	WO2009JP61008	20090617

Priority:

JP20080158460 20080617 WO2009JP61008 20090617 JP20100212161 20100922

Probable Assignee: SHARP KK

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Inventor(s): TERUNUMA MIHO C O SHARP KABUSHIKI KAISHA ; OHKOSHI YASUSHI C O SHARP KABUSHIKI KAISHA ; TERUNUMA MIHO ; OHKOSHI YASUSHI

Agent(s): MUELLER HOFFMANN AND PARTNER; ARC PATENT ATTORNEYSOFFICE; ARC PATENT ATTORNEYS OFFICE

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