

1) Family number: 64692024 (KR101697361B)

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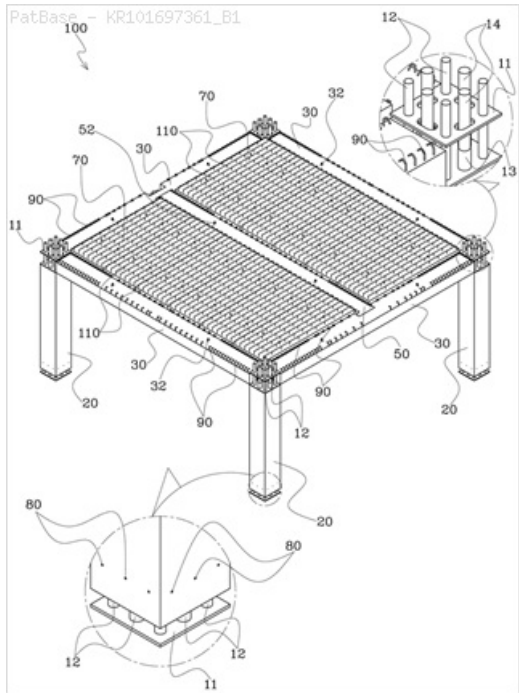
Title: PREFABRICATED COLUMNS AND BEAMS AND SLABS CONNECTING STRUCTURE

Abstract: The present invention relates to a connection structure for an assembly type column, a beam, and a slab. The present invention comprises: a plurality of connection units; a plurality of assembly type columns; a large beam; a first coupling means; a small beam; a second coupling means; and assembly type slabs. The present invention is able to reduce a time required to construct a building.

Classifications:

International (IPC 8-9): E04B1/19 E04B1/21 E04B1/38 E04B1/41 E04B1/58 E04B1/90 E04B5/04 E04C5/16 (Advanced/Invention)

CPC: E04B1/38 E04B1/1903 E04B1/21 E04B1/215 E04B1/40 E04B1/58 E04B1/90 E04B5/04 E04C5/16



Family:

Publication number	Publication date	Application number	Application date
■ KR101697361 B1	20170118	KR20150141260	20151008

Priority:

KR20150141260 20151008

Probable Assignee: HWANG SEONG SEOP

Assignee(s): (std): HWANG SEONG SEOP

Assignee(s): HWANG SUNG SUP

Inventor(s): (std): HWANG SEONG SEOP

2) Family number: 32127209 (EP1561874A1)

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Title: Connecting device and node for buildings with prefabricated elements

Abstract: A connection device (1,1') for connecting a first pillar (21) to a structural element (31) of a building, the first pillar (21) including first fixing elements (23-25), characterised in that: the connection device (1,1') includes a first winged section (2), a distinctly separate second winged section (3) and further includes at least one spacer element (4) connected between the first and the second winged sections, the first winged section (2) including first fixing means (9,10) suitable to cooperate with the first fixing elements (23-25) of the first pillar (21) and the second winged section (3) being fixable to said structural element (31).

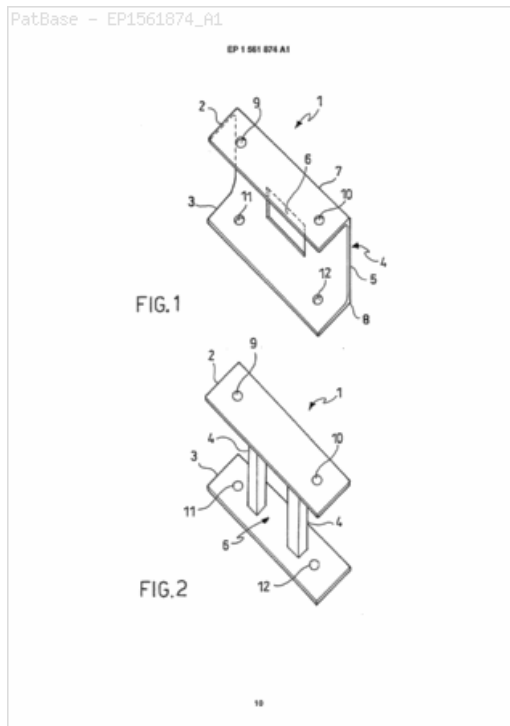
Classifications:

International (IPC 8-9): E04B1/21 E04B5/43 (Advanced/Invention); E04B1/20 E04B5/43 (Core/Invention)

International (IPC 1-7): E04B1/20 E04B1/21 E04B5/43

CPC: E04B1/215 E04B5/43

European: E04B1/21B E04B5/43

**Family:**

Publication number	Publication date	Application number	Application date
EP1561874 A1	20050810	EP20040425062	20040205

Priority:

EP20040425062 20040205

Probable Assignee: EUCLIDE S R L**Assignee(s):** (std): EUCLIDE S R L**Assignee(s):** EUCLIDE SRL**Inventor(s):** (std): CROCE ANGELO ; ABBONDANZA PIERLUIGI**Designated states:** AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR**3) Family number: 30486729 (JP2004076336A)**

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Title: PRECAST CONCRETE (PC) COLUMN, BEAM-COLUMN CONNECTION STRUCTURE, AND METHOD FOR CONNECTING BEAM AND COLUMN

Abstract: PROBLEM TO BE SOLVED: To provide a PC column which dispenses with scaffolding for a form in field connection work at a beam-column connection, and dispenses with a part where concrete is placed with a thickness greater than the structurally required thickness of cover concrete and which does not contribute to strength. SOLUTION: The PC columns 20a and 20b are equipped with PC column bodies 22 and PC rising parts 25 which are integrally formed in a state of being protruded upward from outer peripheral sides of column capitals 23; a column joint member 27 for connecting a main reinforcement 26 for the column is embedded in the column capital 23; column-and-main-reinforcement connecting ends 26a and 26b, which are fixed to the column joint members 27 for the PC column 20b on a lower floor, are protruded downward from a column base 28; the joint members 27 for connecting ends 26a and 26b are embedded in positions which coincide with the ends 26a and 26b of the bodies 22 on an upper floor, on the upper end surface 25a of the rising part 25; and a field connection space 29 for the beam-column connection 21 is formed between the end surface 23a of the column capital 23 of the body 22 on the lower floor and the inside 25b of the rising part 25, and the end surface 28a of the base 28 of the body 22 on the upper floor.

Classifications:

International (IPC 8-9): E04B1/16 E04B1/21 (Advanced/Invention);
E04B1/16 E04B1/20 (Core/Invention)

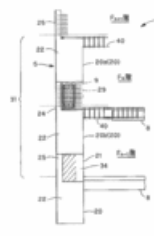
International (IPC 1-7): E04B1/16 E04B1/21

23	底面部	
23a	底面部側壁	
24	側面側壁部	
25	PC製立上り部	
25a	上部側壁	
25b	内部側壁部	
26	底土部	
26a	底土部側壁部	
26b	底土部側壁部	
27	底面下部材	10
28	底面部	
28a	底面部側壁	
29	底面部側壁部	
30	先付け部等部	
30a	先付け部等部	
31	底面部側壁部	
32	底土部	
32a	底土部側壁部	
33	コナラー（底面側下部材）	20
34	コナラー（底面側下部材）	
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【図1】



【図2】

**Family:**

Publication number	Publication date	Application number	Application date
JP2004076336 A2	20040311	JP20020235907	20020813

Priority:

JP20020235907 20020813

Probable Assignee: SUMITOMO MITSUI CONSTR CO LTD**Assignee(s):** (std): SUMITOMO MITSUI CONSTR CO LTD ; SUMITOMO MITSUI CONSTRUCTION C**Assignee(s):** SUMITOMO MITSUI CONSTRUCTION CO LTD**Inventor(s):** (std): MATSUMOTO KEIJI ; SUGAYA KAZUTO ; ODA MINORU**4) Family number: 48930165 (KR20110053831A)**

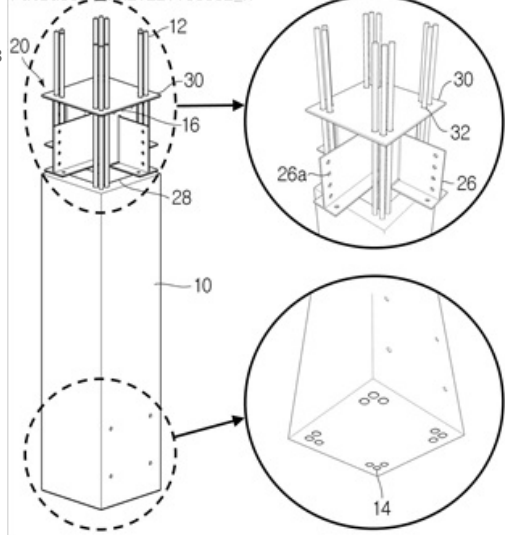
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Title: STEEL REINFORCEMENT AND CONCRETE COMPOSITE COLUMN HAVING VERTICALLY COUPLING MEANS AND CONSTRUCTION METHOD USING THE SAME

Abstract: PURPOSE: A reinforced concrete composite column with a vertical coupling unit and a construction method using the same are provided to facilitate the arrangement of steel reinforcements in slab construction because the steel reinforcements of slab can be continuously extended through the column. CONSTITUTION: A reinforced concrete composite column comprises a concrete body(10), a joint steel structure(20) which is installed on the top of the concrete body, a mounting plate(30) which is attached to the top of the joint steel structure and has passing holes(32), connecting steel reinforcements(12) which are buried lengthwise in the concrete body and extended through the passing holes, and insertion holes(14) which are formed on the bottom surface of the concrete body in positions corresponding to the connecting steel reinforcements.

Classifications:**International (IPC 8-9):** E04B1/20 E04B1/30

E04C3/293 (Advanced/Invention)

CPC: E04C3/34 E04B1/185 E04B1/20 E04B1/215 E04B1/40 E04B1/58 E04B2001/405**Family:**

Publication number	Publication date	Application number	Application date
KR101215060 B1	20121224	KR20090110514	20091116

Priority:

KR20090110514 20091116

Probable Assignee: KH HOUSING SOLUTIONS CO LTD

Assignee(s): (std): KH HOUSING SOLUTIONS CO LTD ; UNIV KYUNG HEE UNIV IND COOP ; UNIV KYUNG HEE UNIV IND COOP GROUP ; IND COOPERATION GROUP OF KYUNG HEE UNIV

Assignee(s): KH HOUSING SOLUTIONS CO ; UNIVERSITY INDUSTRY COOPERATION GROUP OF KYUNG HEE UNIVERSITY

Inventor(s): (std): GIM SEON GUK ; HONG WON KEE

5) Family number: 67934745 (WO17217863A1)

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Title: A BUILDING STRUCTURE CONNECTING MEANS AND A METHOD OF USING SAME

Abstract: A building structure connecting means (1) and a method for connecting an end portion (3) of at least one first building element (5) having a thickness (T5), to an end portion (7) of at least one second building element (9), the connecting means (1) comprising: - a first joint element (11) for connection to the end portion (3) of the first building element (5); the first joint element (11) having a length substantially corresponding to the thickness (T5) of the first building element (5); - a second joint element (13) for connection to the end portion (7) of the second building element (9); and - at least one elongate member (20) for slidable engagement with at least one of the first joint element (11) and the second joint element (13), such that relative movement between the first joint element (11) and the second joint element (13) in at least one direction is prevented.

Classifications:

International (IPC 8-9): E04B1/04 E04B1/21 E04B1/38 E04B1/41

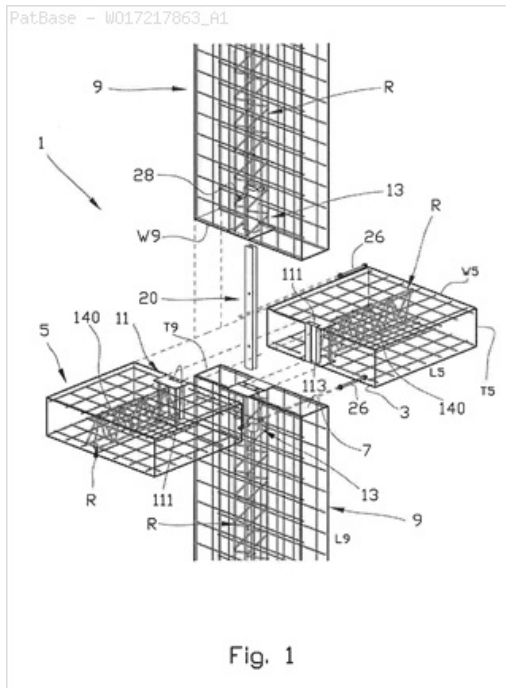
E04B1/58 E04B1/61 E04B5/04 E04B5/32 E04C5/06

E04C5/065 (Advanced/Invention);

E04B1/41 (Advanced/Non-invention)

CPC: E04B1/215 E04B5/32 E04C5/0645 E04C5/065 E04B2001/4192

E04B1/21 E04B1/38 E04B1/40 E04B1/585 E04B1/6162



Family:

Publication number	Publication date	Application number	Application date
■ CN109415893 A	20190301	CN201780037359	20170613
■ EP3469160 A1	20190417	EP20170813663	20170613
■ EP3469160 A4	20200129	EP20170813663	20170613
■ IN201817046967 A	20190215	IN201817046967	20181212
■ NO20161000 A	20171215	NO20160001000	20160614
■ NO20161845 A	20171215	NO20160001845	20161122
■ NO342534 B1	20180611	NO20160001000	20160614
■ NO342700 B1	20180709	NO20160001845	20161122
■ WO17217863 A1	20171221	WO2017NO50157	20170613

Priority:

NO20160001000 20160614

NO20160001845 20161122

WO2017NO50157 20170613

Probable Assignee: POLYBO AS

Assignee(s): (std): POLYBO AS

Inventor(s): (std): OLSEN ARNE ; HELLE NILS MAGNAR

Agent(s): HAMSOE PATENTBYRA AS; HAMSO PATENTBYRA ANS

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

6) Family number: 66578431 (US2018127966A)

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Title: METHOD FOR JOINTING CONCRETE COLUMN AND IRON BEAM

Abstract: A method is provided for jointing a concrete column and an iron beam. A structure joint portion is provided between a column-beam junction and an end of the iron beam, which is mounted on a cogging provided to the column. Prestressing tendons are arranged in plural rows to horizontally penetrate the column-beam junction. Tension-introduction forces are applied to the prestressing tendons to tensionally anchor an anchor plate, and thereby to integrally joint the column and the beam.

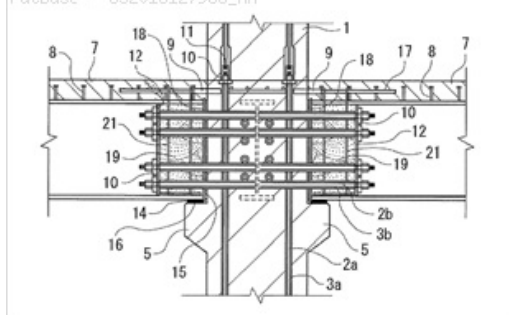
Classifications:

International (IPC 8-9): E04B1/06 E04B1/18 E04B1/22 E04B1/24 E04B1/30 E04B1/58 E04B1/98 E04B5/29 E04C5/06 E04C5/08 E04H9/02 (Advanced/Invention)

CPC: E04B1/185 E04B1/30 E04B1/98 E04B2103/06 E04H9/025 E04C5/08 E04B2103/02 E04H9/021 E04B5/29 E04C5/0645

US: 1/1 52/745.05

PatBase - US2018127966_AA



Family:

Publication number	Publication date	Application number	Application date
JP2018071305 A2	20180510	JP20160216206	20161104
JP6171070 B1	20170726	JP20160216206	20161104
TR201717079 A2	20180521	TR20170017079	20171102
TR201717079 A3	20200121	TR20170017079	20171102
US2018127966 AA	20180510	US20170800718	20171101
US10378197 BB	20190813	US20170800718	20171101

Priority:

JP20160216206 20161104

Probable Assignee: KUROSAWA CONSTRUCTION CO LTD

Assignee(s): (std): KUROSAWA KENSETSU KK

Assignee(s): KUROSAWA CONSTRUCTION CO ; KUROSAWA CONSTRUCTION CO LTD

Inventor(s): (std): TAKAGI HITOYUKI ; KUROSAWA RYOHEI ; HYAKUTAKE SHIGERU

Inventor(s): RYOHEI KUROSAWA ; SHIGERU HYAKUTAKE ; HITOYUKI TAKAGI

Agent(s): TOKYO ARPA IP AND CO; HATICE TOKSOY; WENDEROTH LIND AND PONACK LLP

7) Family number: 63313511 (US2017350088A)

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Title: METHOD OF BUILDING A FOUNDATION COMPRISING A STEEL MONOPILE AND A CONCRETE PART AND ASSOCIATED FOUNDATION FOR CONSTRUCTION WORK

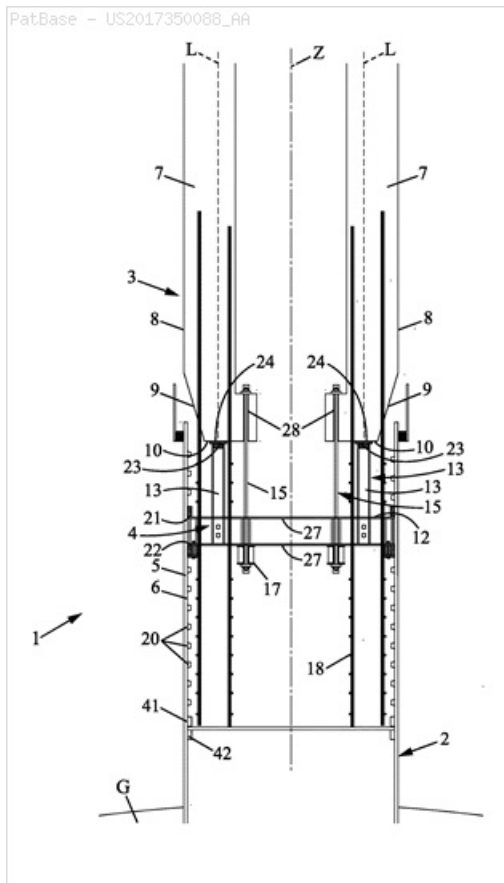
Abstract: The invention relates to a method of building a foundation (1) comprising a steel monopile (2) and a precast concrete part (3) on top of the monopile (2), comprising:-arranging a support structure (12) inside the monopile (2), the support structure (12) having a plurality of rods (16) extending radially with respect to a longitudinal axis of the monopile;- bringing the concrete part (3) above the monopile (2), with supporting columns (13) interposed between the support structure (12) and the concrete part (3), wherein reinforcement bars (14) protruding from a bottom surface (9) of the precast concrete part (3) extend downwardly beyond the support structure (12) by passing between the rods (16) of the support structure (12);-arranging tendons (15) between the support structure (12) and the concrete part (3) and tensioning the tendons (15); and-pouring concrete into an upper part of the monopile (2).

Classifications:

International (IPC 8-9): E02D27/42 E02D5/30 E02D5/48 E02D5/50 E02D7/00 E02D7/02 (Advanced/Invention)

CPC: E02D5/30 E02D5/50 E02D7/00 E02D7/02 E02D27/42 E02D2250/0023 E02D2300/002 E02D2300/0029

US: 1/1 405/233

**Family:**

Publication number	Publication date	Application number	Application date
DE602015027567 D1	20190425	DE201560027567T	20150220
DK3259405 T3	20190701	DK20150730239T	20150220
EP3259405 A1	20171227	EP20150730239	20150220
EP3259405 B1	20190403	EP20150730239	20150220
ES2731374 T3	20191115	ES20150730239T	20150220
PT3259405 T	20190710	PT20150730239T	20150220
US2017350088 AA	20171207	US20150551702	20150220
US10378173 BB	20190813	US20150551702	20150220
WO16132166 A1	20160825	WO2015IB00345	20150220

Priority:

EP20150730239 20150220 WO2015IB00345 20150220

Probable Assignee: SOLETANCHE FREYSSINET

Assignee(s): (std): SOLETANCHE FREYSSINET

Inventor(s): (std): GUY SEVOZ ; ETIENNE COMBESURE ; COMBESURE ETIENNE ; SEVOZ GUY

Agent(s): CABINET PLASSERAUD; VEIGA SERRANO MIKEL; DENTONS US LLP; CABINET PLASSERAUD ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG 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 PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

8) Family number: 44662468 (US2010071315A)

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Title: COMPOSITE CONCRETE COLUMN AND CONSTRUCTION METHOD USING THE SAME

Abstract: A composite concrete column comprising: upper and lower concrete column portions extending in the lengthwise direction and having an exposed portion between the upper and lower concrete column portions; and an H-beam connected between the upper and lower concrete column portions to be exposed at the exposed portion; and wherein the H-beam has a plurality of holes through which reinforcement bars for slab pass.

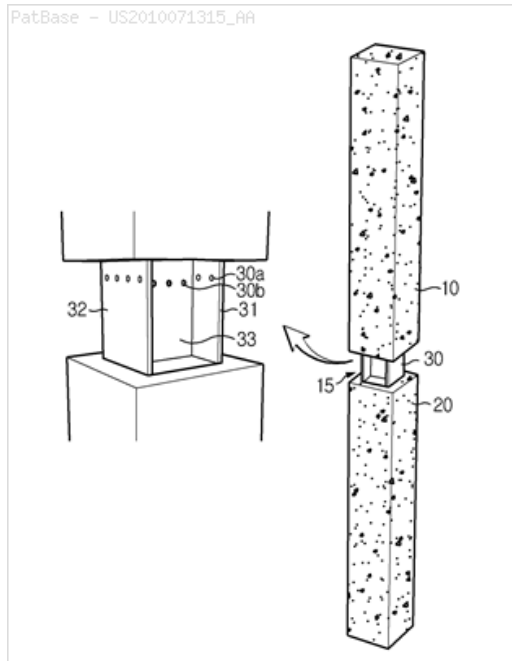
Classifications:

International (IPC 8-9): E04B1/30 E04C3/30 E04C3/34 E04C3/36 E04C5/01 E04C5/06 E04G21/00 E04G21/02 (Advanced/Invention); E04B1/30 E04C3/30 E04G21/00 E04G21/02 (Core/Invention)

CPC: E04C3/36 E04C5/012 E04C5/06 E04B1/215 E04B2001/2415 E04B2001/2418 E04C3/20 E04C3/293 E04B1/30 E04C3/34

European: E04B1/21B E04B1/30 E04C3/20 E04C3/293 E04C3/34 P04B1/24B4 P04B1/24B5

US: 52/742.14 52/742.140S 52/745.17 52/848 52/848P

**Family:**

Publication number	Publication date	Application number	Application date
■ KR101157147 B1	20120622	KR20090087823	20090917
■ KR20100033934 A	20100331	KR20090087823	20090917
■ US2010071315 AA	20100325	US20090564135	20090922
■ US2014331596 AA	20141113	US20140444657	20140728

Priority:

KR20080092546 20080922 US20090564135 20090922 US20140444657 20140728

Probable Assignee: IND COOPERATION GROUP OF KYUNG HEE UNIV

Assignee(s): (std): DONGSU P C C CO LTD ; SEOUL METROPOLITAN DEV CORP ; UNIV KYUNG HEE UNIV IND COOP ; KH HOUSING SOLUTIONS CO LTD ; COMPOSITE FRAME INC ; UNIV KYUNG HEE UNIV IND COOP GROUP

Assignee(s): DONGSU P C C CO ; IND COOPERATION GROUP OF KYUNG HEE UNIV ; DONGSU P CC CO ; KH HOUSING SOLUTIONS CO ; SEOUL METROPOLITAN DEVELOPMENT CORP

Inventor(s): (std): HONG WON KEE

Agent(s): STEIN MCEWEN LLP

9) Family number: 57490103 (WO14156072A1)

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Title: HYBRID STRUCTURE AND CONSTRUCTION METHOD FOR SAME

Abstract: The purpose of the present invention is to make the cross section of a post smaller and improve the seismic performance of a building. PC steel wires (22) project upward from the four corners of an upper edge (10A) of a concrete post (10). A beam-to-post joint (14) has a steel beam section (12A), top and bottom band plates (30) attached to the top and bottom of the steel beam section (12A), an enclosing plate (32) that delimits the interior space and that is attached in between and around the top and bottom band plates (30), concrete (34) that is poured into the interior space, and a plurality of insertion holes (36A, 36B). For the beam-to-post joint (14), the bottom band plate (30) is mounted to the upper edge (10A) of the concrete post (10), and the PC steel wires (22) pass through the insertion holes (36A, 36B) and project upward from the top band plate (30). A tensile force is applied to the PC steel wires (22) on the top band plate (30), and the concrete post (10) and the beam-to-post joint (14) are pre-stressed.

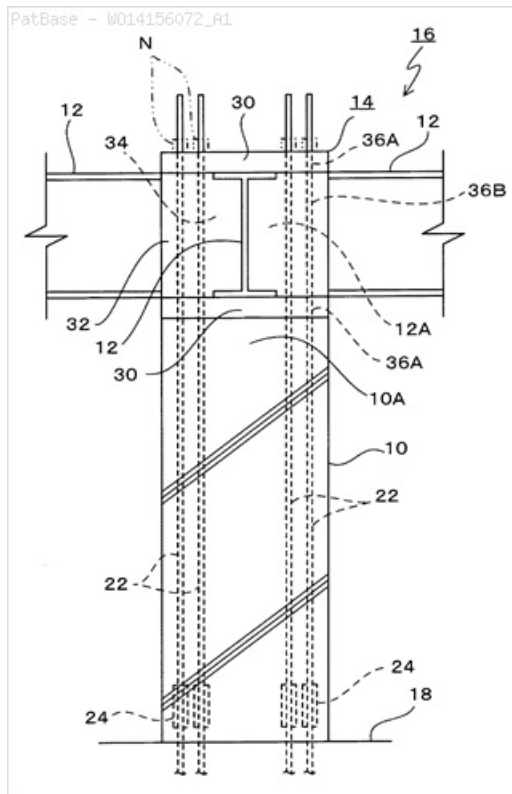
Classifications:

International (IPC 8-9): E04B1/22 E04B1/30

E04B1/58 (Advanced/Invention)

International (IPC 1-7): E04B1/22 E04B1/30 E04B1/58

CPC: E04B1/22 E04B1/30 E04B2001/2448 E04H9/024 E04H9/025

**Family:**

Publication number	Publication date	Application number	Application date
■ CN105102734 A	20151125	CN201480013043	20140319
■ CN105102734 B	20170315	CN201480013043	20140319
■ IN03509KN2015 A	20160318	IN2015KN03509	20151020
■ JP2014190040 A2	20141006	JP20130066438	20130327
■ JP6215552 B2	20171018	JP20130066438	20130327
■ VN19680 A1	20180827	VN20150003519	20140319
■ WO14156072 A1	20141002	WO2014JP01578	20140319

Priority:

JP20130066438 20130327 WO2014JP01578 20140319

Probable Assignee: FUJITA CORP**Assignee(s):** (std): FUJITA CORP**Inventor(s):** (std): SASAKI HITOSHI ; MATSUDO MASASHI ; SINGH RAVI ; RAVI SINGH**Agent(s):** NODA SHIGERU

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

10) Family number: 18729040 (US3513610A)

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Title: CONCRETE STRUCTURAL MEMBER,FRAMEWORK STRUCTURE,AND CASTING METHOD

Abstract: 1,163,537. Moulding concrete pillars. TRENT CONCRETE Ltd. 9 Feb., 1967 [26 Feb., 1966], No. 8552/66. Heading B5A. [Also in Division E1] A mould for a plurality of concrete pillars comprises a base 35a and opposed sides 35b adjustably spaced from each other, and partitions 36 which are spaced apart according to the required pillar lengths, the reinforcement 37 of the columns being arranged to extend through the partitions. Recesses in the pillar sides are formed by plates 41a, 41b, 41c, the plate 41a being located by engagement of a recess therein with a boss 40 attached to the mould base 35a by impact adhesive. The plates 41b, 41c are located by bosses 42 engaging holes in an insert 11¹¹ which is to be embedded in the pillar (see Divisions E1-E2).

Classifications:

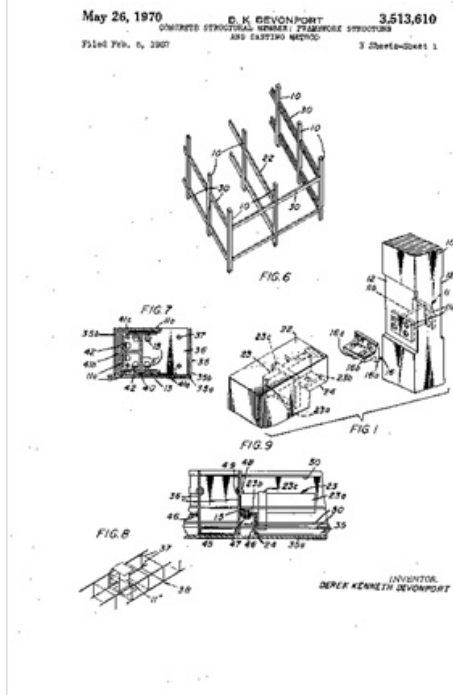
International (IPC 8-9): B28B23/00 E04B1/21 (Advanced/Invention); B28B23/00 E04B1/20 (Core/Invention)

International (IPC 1-7): E04B1/00 E04B1/20 E04B1/56 E04B1/58 E04B5/00 E04B7/00 E04C3/34 E04C3/44

CPC: B28B23/00 E04B1/215

European: B28B23/00 E04B1/21B

US: 52/283 52/649.2 52/724.1 52/742.14 522/830

**Family:**

Publication number	Publication date	Application number	Application date
AU1755767 A1	19680815	AU19670017557	19670210
AU1755767 B1	19680815	AU19670017557	19670210
BE694357 A	19670731		19670221
DE1609535 B1	19710225	DE19671609535	19670221
DE6604507 U	19700115	DE19660004507U	19670221
DK129104 B	19740819	DK19670000997	19670224
ES337810 A1	19680301	ES19670337810	19670220
FR1514484 A	19680223	FR19670096315	19670224
GB1163537 A	19690910	GB19660008552	19660226
NL6702994 A	19670828	NL19670002994	19670224
SE331896 B	19710118	SE19670001864	19670210
US3513610 A	19700526	US19670614631	19670208

Priority:

GB19660008552 19660226

Probable Assignee: TRENT CONCRETE LTD**Assignee(s):** (std): TRENT CONCRETE LTD ; TRENT CONCRETE LTD COLWICK IND ; TRENT CONCRETE LTD GB ; TRENT CONCRETE LIMITED**Assignee(s):** TRENT CONCRETE LIMITED COLWICK INDUSTRIAL ESTATE ; TRENT CONCRETE STRUCTURES LTD**Inventor(s):** (std): DEVONPORT DZREK KENNETH ; DEVONPORT D GB ; DEVONPORT DEREK KENNETH ; KENNETH DEVONPORT DEREK ; DEVONPORT DEREK K ; DEVONPORT D**Inventor(s):** DEREK KENNETH DEVONPORT ; DEREK K DEVONPORT ; DEREK KENNETH DEVONPORT**11) Family number: 6607054 (GB2227761A)**

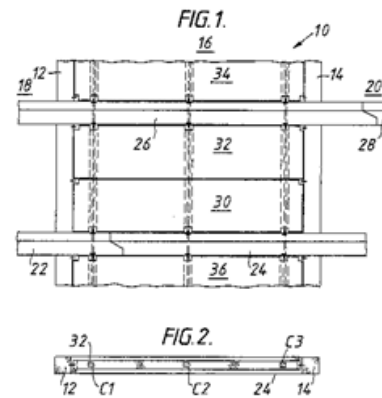
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Title: Connecting reinforcement: shear connections

Abstract: A pair of adjacent structural components (38, 40a) are interconnected by a connector (56) which connects together a reinforcing member (46) carried by one structural component and reinforcing member carried by said adjacent structural component. The connector is adjustably attached to the one structural component but is permanently secured e.g. by welding (61) to the adjacent structural component so that installation adjustments between the two structural components can initially be made to achieve a desired setting between the components.

Classifications:**International (IPC 8-9):** E04B1/21 E04C5/16 (Advanced/Invention); E04B1/20 E04C5/16 (Core/Invention)**International (IPC 1-7):** E04B1/21 F16B7/00**CPC:** E04B1/215 E04C5/165**European:** E04B1/21B E04C5/16B1A

1/5

**Family:**

Publication number	Publication date	Application number	Application date
GB2227761 A1	19900808	GB19890001165	19890119
GB8901165 A0	19890315	GB19890001165	19890119

Priority:

GB19890001165 19890119

Probable Assignee:

PCE LIMITED

Assignee(s): (std):

PCE LIMITED

Assignee(s):

PCE LTD

Inventor(s): (std):

WETTON E V

Inventor(s):

E V WETTON

12) Family number: 30860392 (US5809712A)

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Title: System for joining precast concrete columns and slabs

Abstract: A precast concrete system is provided that consists of columns and slabs joined together in one point. Each corner of the slab is equipped with a steel pipe mounted on a steel plate that is attached at and covers the top surface of the column. Each column is equipped with high tensile steel reinforcement strands protruding at the top end to penetrate the steel pipes of the four corners of four slabs, through the holes in the steel base plate attached at the bottom surface of the next column above it, and through the pipes implanted vertically at the lower section of the next column. The implanted pipes are in line with the holes on the base plate. The four steel pipes of four slabs meeting on one column are tied together with high tensile steel wire rope through three holes drilled horizontally at three places of the pipe length: upper, middle, and lower sections. The pipes of the slab corners and the gaps between pipes and slabs are filled with a special mortar cement that hardens fast. Then a special mortar cement is injected to the implanted pipes through each pipe's opening on the side surface of the column.

Classifications:

International (IPC 8-9): E04B1/16 E04B1/20 E04B1/21 E04B5/02 E04C3/34 E04C5/08 (Advanced/Invention); E04B1/16 E04B1/20 E04B5/02 E04C3/30 E04C5/00 (Core/Invention)

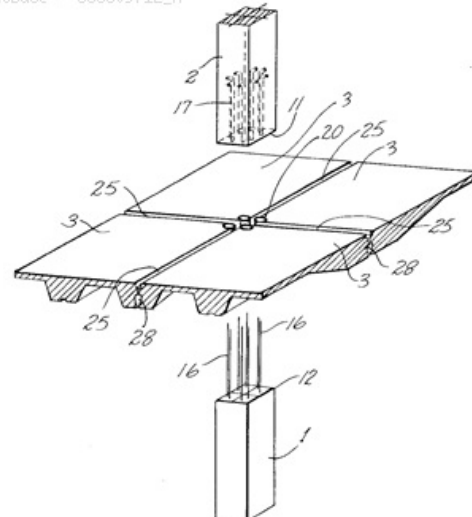
International (IPC 1-7): E04B1/16 E04B1/20 E04B1/21 E04B5/02 E04C5/08

CPC: E04C3/34 E04C5/08

European: E04C3/34 E04C5/08

US: 52/223.7 52/236.8 52/236.9 52/251 52/263 52/283 52/583.1 52/585.1 52/742.14 52/747.12

PatBase - US5809712_A

**Family:**

Publication number	Publication date	Application number	Application date
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JP10096263 A2	19980414	JP19970163338	19970605
US5809712 A	19980922	US19970870086	19970605

Priority:

ID19960001540 19960606

Probable Assignee: SIMANJUNTAK JOHAN HASIHOLOAN

Assignee(s): (std): I R JOHANN HASHIHORAN SIMANJUN ; SIMANJUNTAK JOHAN HASIHOLOAN

Assignee(s): I R JOHANN HASHIHORAN SIMANJUNTAKK

Inventor(s): (std): I R JOHANN HASHIHORAN SIMANJUN ; SIMANJUNTAK JOHAN HASIHOLOAN

Inventor(s): I R JOHANN HASHIHORAN SIMANJUNTAKK

13) Family number: 77716857 (KR102079674B)

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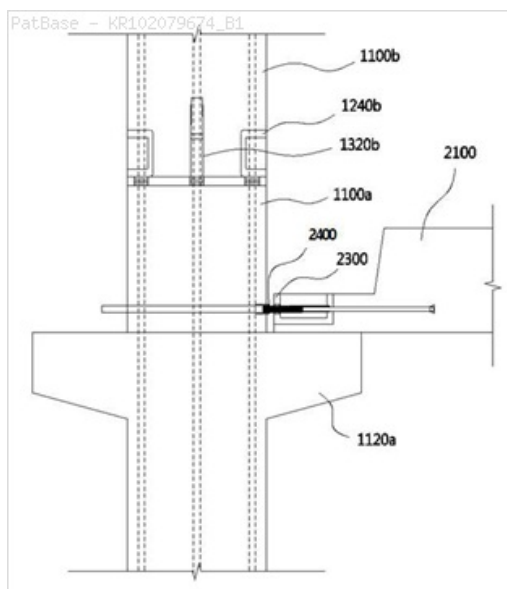
Title: PRECAST CONCRETE COLUMN FOR USED BY CONTINUOUS CONSTRUCTION METHOD

Abstract: Source: KR102079674B **Machine translation:** The present invention is pre-manufactured in a factory installed in the field in the field, the precast concrete columns and beams is a method for the construction, precast concrete pillars between during installation of the pre-cast concrete beams the precast concrete columns precast concrete beam, installed in the end portion of the connection end portion of the fastened to securing by sandwiching the connecting reinforcement and the lower layer of the upper layer of the top of the pre-cast concrete column in the process of installing the precast concrete columns precast concrete pillars, the lower layer of the upper layer with at least a portion protruding to the upper portion of the reinforcement provided in the lower portion of the precast concrete pillar to pillar tightening the connection in the installation of the precast concrete beams and concrete pouring concrete toppings, in a state that does not perform the pre-cast concrete beams the precast concrete columns and beams connected to the construction of the upper face is opened structure and a hollow, through hole formed at the ends of the beam, the beam connecting reinforcement is inserted into the end portion of the connection reinforcement in a state sandwiched between the precast concrete columns and beams connected to the screw thread formed on the surface of the reinforcement by tightening the nut on the connection reinforcement and connection, and the Column connection and a hollow outer surfaces of a side part of the precast concrete pillars, the through-hole is formed at the bottom of an open structure the lower end inserted into the reinforcement of the precast concrete columns and precast concrete pillars of the lower thread is formed on the surface of the reinforcement by tightening the nut on the lower precast concrete columns with the reinforcement of the pillar connection is characterized in that for fastening.

Classifications:

International (IPC 8-9): E04B1/21 E04C5/16 (Advanced/Invention)

CPC: E04B1/21 E04C5/162



Family:

Publication number	Publication date	Application number	Application date
KR102079674 B1	20200220	KR20190029114	20190314

Priority:

KR20190029114 20190314

Assignee(s): CO ESSEN DI ENTEC ; ZONAL BLOOD SEED SEEDS CO

14) Family number: 67053379 (KR20170107117A)

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Title: - PC PC THE RIGID CONNECTION STRUCTURE BETWEEN HYBRID PRECAST CONCRETE COLUMN AND PRECAST CONCRETE BEAM THE CONSTRUCTION METHOD OF RIGID CONNECTION STRUCTURE USING THE SAME

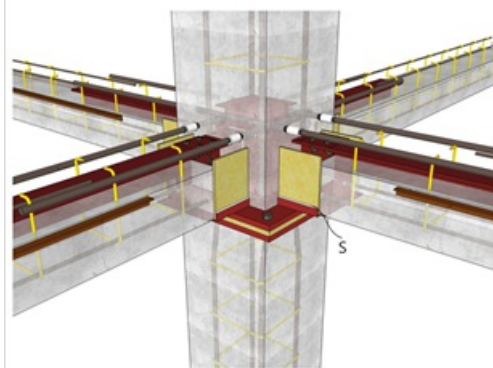
Abstract: The present invention provides a steel frame-concrete hybrid rigid-jointing structure of a PC pillar, and a PC beam with a joint unit on which concrete is placed; and a construction method for a rigid-jointing structure using the same. The frame-concrete hybrid rigid-jointing structure of the PC pillar and the PC beam with the joint unit on which the concrete is placed, comprises: a lower PC pillar (100) including lower pillar concrete (110), a lower pillar reinforcing bar (120), and a lower pillar plate (130) connected to an upper end of the lower pillar reinforcing bar (120); an upper PC pillar (200) including upper pillar concrete (210), an upper pillar reinforcing bar (220), and an upper pillar plate (230) connected to a lower end of the upper pillar reinforcing bar (220); a pillar plate (PP) installed between the lower pillar plate (130) and the upper pillar plate (230); a beam mounting bracket (300) installed in an end of the upper pillar plate (230) protruding outside of the upper pillar concrete (210); and the PC beam (400) including beam concrete (410) and an upper beam reinforcing frame (490) protruding to the upper end of the beam concrete (410). A beam connection pillar reinforcing bar (270) protrudes from the outer surface of the upper pillar concrete (210), and an upper beam reinforcing bar (450) is connected to the beam connection pillar reinforcing bar (270).

Classifications:**International (IPC 8-9):** E04B1/19 E04B1/21 E04B1/41

E04B1/58 (Advanced/Invention)

CPC: E04B1/215 E04B1/1903 E04B1/40 E04B1/58

PatBase - KR20170107117_A

**Family:**

Publication number	Publication date	Application number	Application date
KR101844343 B1	20180521	KR20160030209	20160314
KR20170107117 A	20170925	KR20160030209	20160314

Priority:

KR20160030209 20160314

Probable Assignee: UNIV IND COOP GROUP OF KYUNG HEE UNIV**Assignee(s):** (std): IND COOPERATION GROUP OF KYUNG HEE UNIV ; UNIV IND COOP GROUP OF KYUNG HEE UNIV**Assignee(s):** UNIVERSITY INDUSTRY COOPERATION GROUP OF KYUNG HEE UNIVERSITY**Inventor(s):** (std): HONG WON KEE ; KIM SUN KUK**15) Family number: 53704834 (KR20130048081A)**

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Title: JOINT STRUCTURE OF PRECAST CONCRETE COLUMN AND BEAM BY USING ONE UNIT BEAM

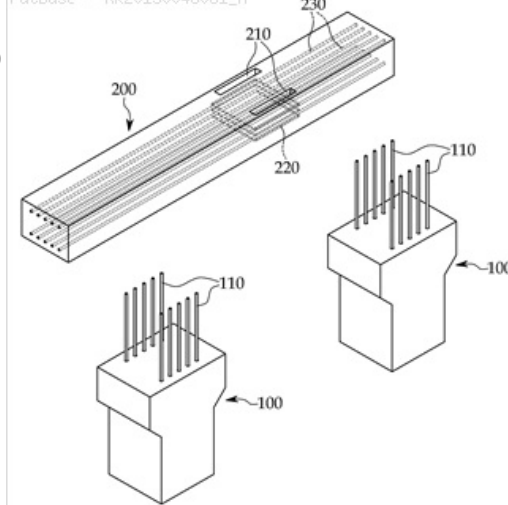
Abstract: PURPOSE: A connection structure of a precast concrete beam and a column using one unit beam is provided to improve the stiffness by supplementing the structural weak points and obtain structural stability in lifting the operation of a beam. CONSTITUTION: A connection structure of a precast concrete beam and a column using one unit beam comprises a precast concrete column(100) protruding towards the upper part and a beam(200) forming a connection unit(210). The connection unit of the beam is formed in order to insert a main bar into a position corresponding to the main bar of the column. The main bar is connected to the connection unit of the beam by being penetrated, and concrete is placed on the connection unit in a construction field. A hoop bar(220) is included in the outer side of the connection unit.

Classifications:**International (IPC 8-9):** E04B1/21 E04B1/38

E04B1/58 (Advanced/Invention)

CPC: E04B1/20 E04B1/19 E04B1/1903 E04B1/21 E04B1/58 E04C3/20 E04C3/34

PatBase - KR20130048081_A

**Family:**

Publication number	Publication date	Application number	Application date
KR101329483 B1	20131113	KR20110113012	20111101
KR20130048081 A	20130509	KR20110113012	20111101

Priority:

KR20110113012 20111101

Probable Assignee: UNIV SEOUL IND COOP FOUND
Assignee(s): (std): UNIV SEOUL IND COOP FOUND ; YUNWOO STRUCTRAL ENGINEERS CO LTD
Assignee(s): OF SEOUL IND COOPERATION FOUNDATION UNIV ; UNIVERSITY OF SEOUL INDUSTRY COOPERATION FOUNDATION ; YUNWOO STRUCTRAL ENGINEERS CO
Inventor(s): (std): CHOI IL SEOB ; KIM KANG SU

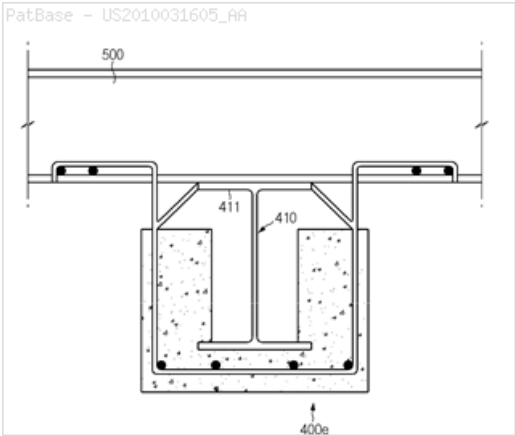
16) Family number: 41685526 (US2010031605A) © PatBase

Title: COMPOSITE CONCRETE COLUMN AND CONSTRUCTION METHOD USING THE SAME

Abstract: A composite concrete column comprising: upper and lower concrete column portions extending in the lengthwise direction and having an exposed portion between the upper and lower concrete column portions; an H-beam connected between the upper and lower concrete column portions to be exposed at the exposed portion; and a plurality of reinforcement bars embedded in the upper and lower concrete column portions around the H-beam to extend in the lengthwise direction.

Classifications:

International (IPC 8-9): E04B1/18 E04B1/20 E04B1/30 E04C3/293 (Advanced/Invention); E04B1/20 E04B1/30 (Advanced/Non-invention); E04B1/18 E04B1/20 E04B1/30 E04C3/29 (Core/Invention)
CPC: E04B5/43 E04C3/293 E04C3/34 E04B1/30
European: E04B1/30 E04B5/43 E04C3/293 E04C3/34
US: 52/745.2 52/839



Family:

Publication number	Publication date	Application number	Application date
KR100797194 B1	20080129	KR20070040724	20070426
US2010031605 AA	20100211	US20080445218	20080425
WO08133460 A1	20081106	WO2008KR02381	20080425

Priority:

KR20070040724 20070426 WO2008KR02381 20080425

Probable Assignee: COMPOSITE FRAME INC

Assignee(s): (std): HONG WON KEE ; KIM JUM HAN ; LEE HO CHAN ; M C S TECH ; CROSS STRUCTURAL CONSULTANT CO

Assignee(s): CROSS STRUCTURAL CONSULTANT CO LTD ; COMPOSITE FRAME INC ; MCS TECH

Inventor(s): (std): KIM JUM HAN ; HONG WON KEE ; LEE HO CHAN

Agent(s): STEIN MCEWEN LLP; LEE SANG YONG

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 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 JP KE KG KM KN KP KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW