

17 Documents

Publication numbers	Title	Current assignees
US4295308 A	Pole base assembly, bolt circle adaptor	K CORPORATION DENVER
BE-859327 A	DEVICE Of COUPLING FOR REINFORCED CONCRETE ELEMENT OR PRESTRESSES	GRAM
KR101260392 B1	Precast concrete column and beam unit assembling structure being connected in the low bending moment zone	KYUNG HEE UNIVERSITY, ...
KR101228012 B1	Precast concrete column connecting structure	KYUNG HEE UNIVERSITY, ...
FI201006110 A0	Column shoe	PEIKKO
JP2009185447 A	Joint structure of precast concrete structural member, building, and construction method for building	TAKENAKA KOMUTEN
JP2009162004 A	Joint structure of precast concrete column-beam member, building, and construction method for building	TAKENAKA KOMUTEN
GB8512642 D0	Concrete beams and connecting means therefor	RUSSELL JAMES BAILIE
US20100322717 A1	Pile Splice Assemblies, Pile Systems Involving Such Assemblies and Methods for Splicing Piles	STANDARD CONCRETE PRODUCTS
JP2010065459 A	Joining structure and joining method of column-beam joint member and column member of precast concrete construction	SHIMIZU CONSTRUCTION
EP1857602 A2	Foundation, in particular concrete foundation, with a foundation shoe for attaching a concrete pillar	KRUMMEL GERHARD, ...
FI200505702 A0	Column shoe	PEIKKO FINLAND
DE9114329 U1	Connecting element for connecting construction units	INTER POWER CONSTRUCTION
US4330970 A	Building structure and steel parts for same	COPREAL
IT7824886 D0	DEVICE FOR the CONNECTION End to end Of ELEMENTS LENGTHENING-PIECES OUT OF CONCRETE, PREFERABLY OF the PILES OR PILES CONCRETE FOUNDATION INTENDS FOR the REINFORCEMENT GROUNDS	SILVANDER FRANK OTTO
ZA7507432 B	Modular piling system	WESTS PILING CONSTRUCT
US3785097 A	Adjustable anchor bolt & block building and leveling means	SEYMOUR W

Pole base assembly, bolt circle adaptor US4295308 A

Current assignees

K CORPORATION DENVER*

Inventors

KORFANTA CARL

Priority data including date

1979US-06088530 1979-10-26

IPC - International classification

E04H-012/22*

CPC - Cooperative classification

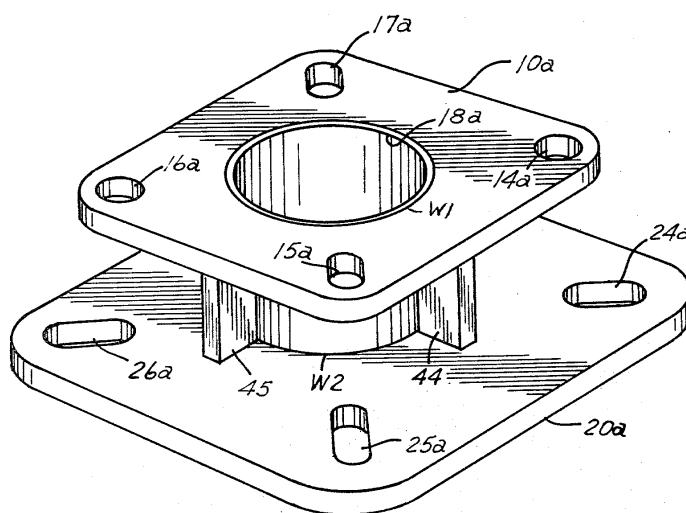
E04H-012/22/61*

PCL - US patent classification**PCLO:** 052296000***PCLX:** 248158000**Family**

US4295308 A 1981-10-20

(US4295308)

An adapter for the concrete foundation mounted bolts to the bolt holes of a pole base of a different configuration, including a lower plate arranged to be secured to bolts on the concrete base, an upper plate arranged to be secured to the pole base and interconnecting braces inclusive of a central electric wire passage and supporting braces between the plates.



DEVICE OF COUPLING FOR REINFORCED CONCRETE ELEMENT OR PRESTRESSES BE-859327 A

Current assignees

GRAM*

Inventors

BECK RENE

Priority data including date

1976CH-0012560 1976-10-05

IPC - International classification

E04B-001/21* E04H-012/12

CPC - Cooperative classification

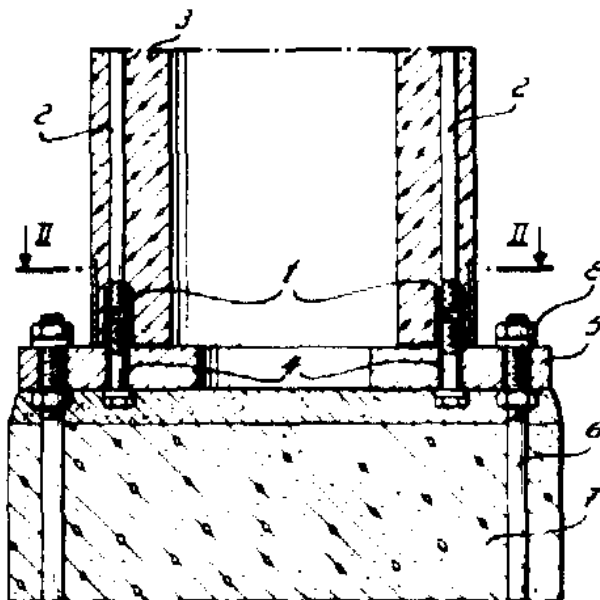
E04B-001/21/5* E04H-012/12

Family

BE859327	A	1978-04-04	CH599432	A5	1978-05-31
DE2744474	A1	1978-04-06	DE7730563	U1	1979-02-08
FR2367158	A1	1978-05-05	FR2367158	B3	1980-06-27

(FR2367158)

The invention refers to reinforced concrete structures. It relates to a device of coupling for element out of reinforced concrete or prestressed which comprises, drowned in the mass of concrete, at least a threaded casing, connected at the loose lead of a reinforcement of the element, this casing levelling the free face of this element having to be coupled. Thanks to this device it is possible to couple by screwing two reinforced concrete elements by their reinforcements.



**Precast concrete column and beam unit assembling structure being connected in the
low bending moment zone
KR101260392 B1**

<u>Current assignees</u> KH HOUSING SOLUTIONS KYUNG HEE UNIVERSITY <u>Inventors</u> KIM SUN KUK HONG WON KEE LEE SUNG HO PARK SEON CHEE <u>Priority data including date</u> 2011KR-0130375 2011-12-07	<u>IPC - International classification</u> E04B-001/21* E04B-001/38 E04B-001/58
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<u>Family</u> KR101260392 B1 2013-05-07

(KR101260392)

PURPOSE: A prefabricated structure of a PC(precast) concrete column and a beam unit is provided to improve structural performance with respect to vertical and horizontal loads and to rapidly perform a task in high-altitude.CONSTITUTION: A PC concrete column and a beam unit joined in a low bending moment zone comprises an upper PC column(UC), a lower PC column(DC), a column re-bar(CB), a bracket member(110), lower bracket concrete(120), joint concrete(200), and a low bending moment joint material.The lower bracket concrete and joint concrete are integrally poured for pre-producing PC columns and beams for one unit or floor.The upper part of the upper PC column and the lower part of the lower PC column are positioned in the low bending moment zone.Both ends of the bracket member are positioned in a beam low bending moment zone(BLM).

Precast concrete column connecting structure KR101228012 B1

Current assignees

KH HOUSING SOLUTIONS
KYUNG HEE UNIVERSITY

Inventors

KIM SUN KUK
HONG WON KEE
CHUNG HYE KYO
LEE GOON JAE
LIM CHAE YEON
NA YOUNG JU

Priority data including date

2011KR-0079051 2011-08-09

IPC - International classification

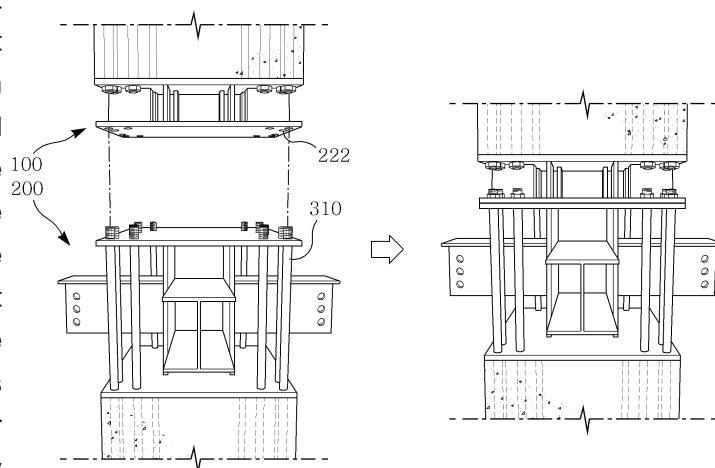
E04B-001/20* E04B-001/21 E04B-001/58

Family

KR101228012 B1 2013-02-14

(KR101228012)

PURPOSE: A PC(Precast Concrete) column joint is provided to be pre-constructed by improving the structure of both ends of a first joint of a PC column, to be easily installed at a site and to have an excellent structural performance corresponding to a buckling or a vertical and a horizontal load after an installation. **CONSTITUTION:** A PC(Precast Concrete) column joint structure includes a joint part of a PC column, a main joint part(100), and a sub joint part(200). The PC column is arranged with multiple column reinforcing bars(310) inside, made with poured concrete and composed of the reinforcing bars pressed out from the concrete surface at the upper and lower ends to the outside. The main joint part includes a bottom plate of the main part joint, a center steel structure of the main part joint and multiple beam joint brackets, and an upper plate of the main part joint. The bottom plate of the main part joint is combined with the upper part of a PC column. The center steel structure of the main joint part is perpendicularly installed on the center of the bottom plate of the main joint part. The multiple beam joint brackets are installed on the side surface of the center steel structure of the main joint part. The upper plate of the main part joint is installed on the side surface of the center steel structure of the main joint part with the same form as the bottom plate of the main joint part. The sub joint part includes an upper plate of the sub



joint part, multiple buckling prevention materials, and a lower plate of the sub joint part. The upper plate is combined with the lower part of a PC column. Multiple buckling prevention materials are installed on the bottom plane of the upper plate of the sub joint part. The lower plate of the sub joint part is installed on the lower parts of multiple buckling prevention materials with the same form as the upper late of the sub joint part.

Column shoe FI201006110 A0

<u>Current assignees</u> PEIKKO*	<u>IPC - International classification</u> E02D-005/72* E02D-027/32 E04B-001/21
<u>Inventors</u> JUNES MARKUS	<u>CPC - Cooperative classification</u> E02D-005/72 E04B-001/21 E04B-001/21/5*
<u>Priority data including date</u> 2010FI-0006110 2010-10-26 2011WO-FI50928 2011-10-24 2011WO-FI50929 2011-10-24	<u>PCL - US patent classification</u> PCLO: 052297000* 052297000* PCLX: 052251000 052293300 052708000 052849000

<u>Family</u>			
FI20106110	A0	2010-10-26	EA201390590 A1 2013-10-30
FI20106110	A	2012-04-27	US8789327 B2 2014-07-29
WO2012056102	A1	2012-05-03	EP2633126 A4 2014-11-26
WO2012056101	A1	2012-05-03	US8984825 B2 2015-03-24
FI123244	B	2013-01-15	CN103210150 B 2015-05-20
CN103210150	A	2013-07-17	CN103221615 B 2015-07-08
CN103221615	A	2013-07-24	EP2633125 A4 2016-01-06
US2013199123	A1	2013-08-08	EP2633125 B1 2016-12-14
EP2633125	A1	2013-09-04	EA026253 B1 2017-03-31
EP2633126	A1	2013-09-04	EA026220 B1 2017-03-31
US2013247488	A1	2013-09-26	EP2633126 B1 2018-01-24
EA201390589	A1	2013-10-30	

(EP2633126)

The object of the invention is a column shoe for securing steel concrete columns (1) to a base (2). The column shoe comprises a bolt housing (3), which comprises a base-plate (5) provided with a bolt hole (4), and an upper structure (6) which is connected to the baseplate (5) and to which at least one attachment unit (7) is connected for securing the column shoe and the steel concrete column (1) together. The bolt housing (3) is fabricated by casting such that the upper structure (6) and the baseplate (5) form a single-piece casting. A hole (11) is formed in the bolt housing (3) for the attachment unit (7). The hole (11) is substantially coaxial with the bolt hole (4) of the baseplate (5). The upper structure (6) of the bolt housing (3) comprises a sleeve structure (12) which is formed integrally with the upper structure (6) and on which the hole (11) for the attachment unit (7) is formed, and the upper structure (6) of the bolt housing (3) comprises a wall structure (13) by which the sleeve structure (12) is connected with the base-plate (5), and the wall structure (13) of the bolt housing (3) is tapering in direction of the sleeve structure (12).

Joint structure of precast concrete structural member, building, and construction method for building JP2009185447 A

Current assignees

TAKENAKA KOMUTEN*

Inventors

HIRAKAWA YASUAKI

YANAGISAWA NOBUYUKI

IKEUCHI KUNIE

TAKEUCHI MITSURU

KAWAI EISAKU

HOSHIKUMA KENJI

NARITA HIDEYUKI

KISHIMOTO KOHEI

KUSAKA SATORU

Priority data including date

2008JP-0023249 2008-02-01

IPC - International classification

E04B-001/21

E04B-001/58*

Family

JP2009185447

A

2009-08-20

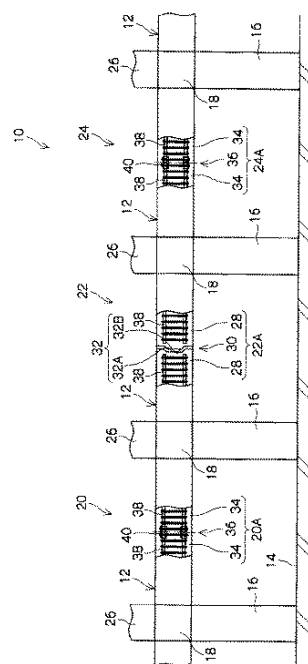
JP5154962

B2 2013-02-27

(JP5154962)

PROBLEM TO BE SOLVED: To provide a joint structure of a precast concrete structural member capable of reducing time and labor required by the work for joining a beam part of the structural member made of PCa and a beam member made of PCa mutually, to provide a building having the joint structure of the precast concrete structural member, and to provide a construction method for the building having the joint structure of the precast concrete structural member.

SOLUTION: Generally speaking, the bending moment generated in a beam due to load of earthquake becomes the maximum in a connection part of column and beam and is gradually reduced toward a central part of the beam. The beam part of the horizontal member and the beam member are mutually joined by using pins at a position where generated bending moment is small, namely, in an intermediate part of the beam except the connection part of column and beam where the bending moment becomes the maximum in accordance with the stress state of this beam. Since bending moment is not generated in, in particular, the central part of the beam and stress is not generated in beam reinforcing bars arranged in the central part, it is unnecessary to join the beam reinforcing bars



mutually. As a result, it is possible to reduce the time and labor required by the work for joining the beam part of the horizontal member and the beam member mutually.

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Joint structure of precast concrete column-beam member, building, and construction method for building JP2009162004 A

Current assignees

TAKENAKA KOMUTEN*

Inventors

OGURA KIYOSHI

KAWAI EISAKU

TAKEUCHI MITSURU

Priority data including date

2008JP-0001549 2008-01-08

IPC - International classification

E04B-001/21*

Family

JP2009162004

A

2009-07-23

JP5160907

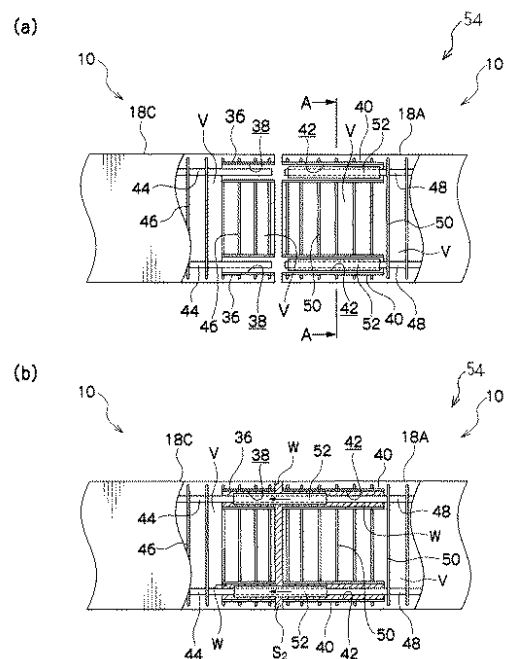
B2 2013-03-13

(JP5160907)

PROBLEM TO BE SOLVED: To provide a joint structure of a precast concrete column-beam member capable of reducing time and labor required by the work for joining beam parts of the precast concrete column-beam members mutually, to provide a building having this joint structure of the precast concrete column-beam member, and to provide a construction method for the building having this joint structure of the precast concrete column-beam member.

SOLUTION: In this construction method for the building having this joint structure of the precast concrete column-beam member, an end face of the beam part 18A of the column-beam member 10 on one side and an end face of a beam member 18C of the column-beam member 10 on the other side are first arranged to oppose to each other, and then a joining means 52 is inserted into a joint face of the beam member 18C to join the beam part 18A and the beam member 18C mutually. Consequently, since the beam part 18A and the beam member 18C can be mutually joined by a simple method, the time and labor required by the work for joining the beam part 18A and the beam member 18C mutually can be reduced, and the work for joining them can be efficiently performed.

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Concrete beams and connecting means therefor GB8512642 D0

Current assignees

BAILIE RUSSEL JAMES
RUSSELL J B
RUSSELL JAMES BAILIE*

Inventors

RUSSELL, JAMES BAILIE

Priority data including date

1985GB-0012642 1985-05-18
1986GB-0012077 1986-05-19
1986WO-GB00769 1986-12-17
1987EP-0900209 1986-12-17

IPC - International classification

E04B-001/21* E04C-003/20

CPC - Cooperative classification

E04B-001/21/5* Y10T-403/645

PCL - US patent classification

PCLO: 405252000*

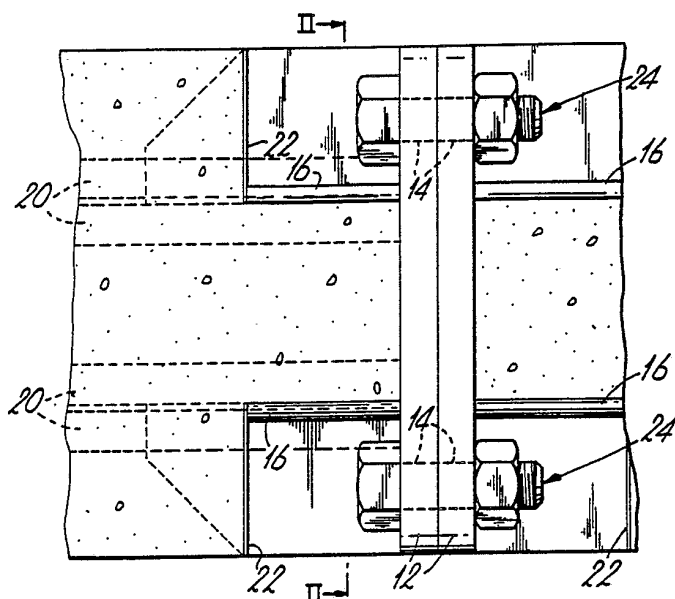
PCLX: 052649200 052849000 403337000
405231000 405251000

Family

GB8512642	D0	1985-06-19	GB2176221	B	1988-09-14
GB8612077	D0	1986-06-25	NO883656	A	1988-10-12
IE861318	L	1986-11-18	EP0294370	A1	1988-12-14
GB2176221	A	1986-12-17	EP0294370	B1	1990-04-04
WO8804711	A1	1988-06-30	AT51662	T	1990-04-15
AU6775987	A	1988-07-15	DE3670115	D1	1990-05-10
NO883656	D0	1988-08-16	US4938635	A	1990-07-03
FI883813	A	1988-08-17	AU611383	B2	1991-06-13
FI883813	A0	1988-08-17	IE57555	B1	1992-12-16
DK461088	A	1988-08-17	DK167453	B1	1993-11-01
DK461088	D0	1988-08-17	FI93249	B	1994-11-30

(EP-294370)

A beam of concrete has similar end pieces at each end spaced apart by an internal reinforcing elongate cage of rectangular cross-section formed of four longitudinals (10) having a lengthwise series of hoops therearound. Each end piece comprises a rectangular plate (12) transverse of the beam's longitudinal axis. The plate (12) has at least four apertures (14), normally one at each corner, and similar angular wall surrounds (16) outstand from the inner face of the plate (12) and from around the apertures (14) to separate each aperture from the others. Two starter bars (20) are provided for each surround (16), being welded, one to each limb of the surround (16) adjacent to the corner on the side remote from the corresponding aperture. The bars (20) are spaced from each other a distance to accommodate therebetween a respective longitudinal (10) of the cage. Nut and bolt fastenings (24) are used to secure



abutting plates (12) of adjacent beams in a multi-beam assembly.

Pile Splice Assemblies, Pile Systems Involving Such Assemblies and Methods for Splicing Piles

US20100322717 A1

<u>Current assignees</u> STANDARD CONCRETE PRODUCTS* <u>Inventors</u> PAUL LARRY A <u>Priority data including date</u> 2009US-12487708 2009-06-19	<u>IPC - International classification</u> E02D-005/00 E02D-005/10* <u>CPC - Cooperative classification</u> E02D-005/10/5 E02D-005/58* E04B-001/21/5 E04C-005/12/2 E04C-005/16/5 <u>PCL - US patent classification</u> PCLO: 405252000* PCLX: 405250000
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<u>Family</u> US2010322717 A1 2010-12-23
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(US20100322717)

Pile splice assemblies, pile systems involving such assemblies and methods for splicing piles are provided. In this regard, a representative method includes: using strand locking devices to attach first and second anchors to respective strands of first and second piles; and securing the first and second anchors to each other.

Joining structure and joining method of column-beam joint member and column member of precast concrete construction
JP2010065459 A

Current assignees

SHIMIZU CONSTRUCTION*

Inventors

NAKAZAWA HARUO

OKUBO KAORI

FUCHIMOTO MASAKI

OSAKABE AKIRA

Priority data including date

2008JP-0233079 2008-09-11

IPC - International classification

E04B-001/21*

E04B-001/58

E04C-005/18

Family

JP2010065459

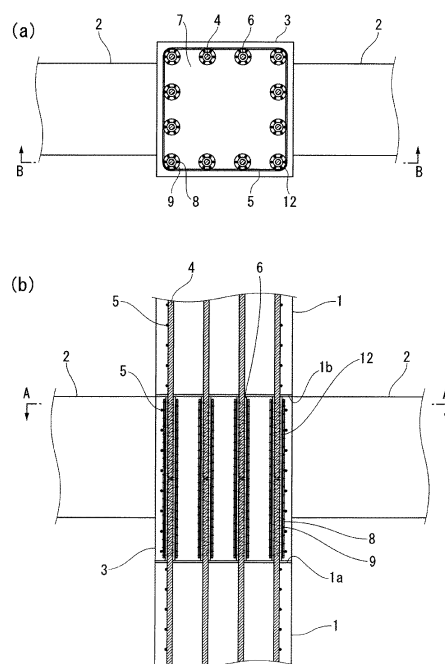
A 2010-03-25

(JP2010065459)

PROBLEM TO BE SOLVED: To easily join a column-beam joint member and a column member of precast concrete construction.

SOLUTION: The column-beam joint member 3 of precast concrete construction is provided with through-holes 6 formed in concrete 7 of the column-beam joint member 3. A plurality of shaft reinforcements 8 and circular spiral reinforcements 9 surrounding the shaft reinforcements 8 are disposed in the concrete 7 formed with the through-holes 6. Column main reinforcements 4 projected from an upper end 1a and a lower end 1b of the column member 1 are inserted in the through-holes 6 from the upper side and lower side of the through-holes 6, and grout 12 is filled in air gap parts between the column main reinforcements 4 and the through-holes 6. The grout 12 is hardened to join the column-beam joint member 3 and the column member 1.

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Foundation, in particular concrete foundation, with a foundation shoe for attaching a concrete pillar EP1857602 A2

<u>Current assignees</u> KRUMMEL GERHARD SCHMIDT PATRICK <u>Inventors</u> KRUMMEL GERHARD SCHMIDT PATRICK <u>Priority data including date</u> 2006DE-10023296 2006-05-18	<u>IPC - International classification</u> E04B-001/21* E04B-001/41 E04C-005/18 E04H-012/22 <u>CPC - Cooperative classification</u> E04B-001/21/5 E04G-021/18/5 E04H-012/22/61*
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<u>Family</u>					
EP1857602	A2	2007-11-21	EP1857602	B1	2011-10-05
DE102006023296	A1	2007-11-22	AT527416	T	2011-10-15
EP1857602	A3	2009-07-22			

(EP1857602)

The device has an anchoring bolt (5) projecting into a concrete column (1) e.g. concrete pile. The column is fastened to a foundation (2) e.g. concrete foundation, which has a foundation shoe, where the shoe has an anchoring bar (12), which projects into the foundation. The shoe is connectable with the bolt, and has a borehole (13) for retaining the bolt, where the bolt is screwable with the shoe. A gap (20) is provided between a lower side of the column and an upper side of the foundation, where the foundation has a larger horizontal extension.

Column shoe FI200505702 A0

Current assignees

PEIKKO
PEIKKO FINLAND*

Inventors

KINNUNEN JORMA

Priority data including date

2005FI-0005702 2005-12-27
2006WO-FI50568 2006-12-20

IPC - International classification

E02D-005/22* E02D-005/52* E04B-001/21
E04C-003/34

CPC - Cooperative classification

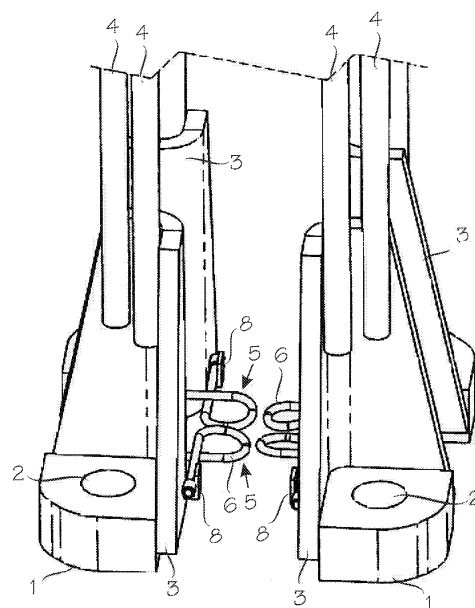
E02D-005/22/6* E02D-005/52 E04B-001/21/5*
E04C-003/34

Family

FI20055702	A0	2005-12-27	EP1966445	A1	2008-09-10
FI20055702	A	2007-06-28	EP1966445	A4	2013-12-11
WO2007074212	A1	2007-07-05	EP1966445	B1	2014-05-21
FI118186	B	2007-08-15	NO340105	B1	2017-03-13
NO20082417	L	2008-05-28			

(EP1966445)

The invention relates to a column shoe for fastening reinforced concrete columns to a base. The column shoe comprises a bottom plate (1) provided with a bolt hole (2) and a side plate (3) fastened to the bottom plate for providing a bolt casing, main bonds (4) for fastening the column shoe and the reinforced concrete column to one another, and a back bond (5) for transmitting a lower horizontal force of a horizontal force couple, produced by eccentric positions of the main bonds and the bolt at the bolt hole (2), to concrete. The back bond (5) is arranged to comprise a flexible cable loop (6).



Connecting element for connecting construction units DE9114329 U1

Current assignees

GLEZERMAN JOSEF
IBS GESELLSCHAFT FUER INTEGRIERTES BAUEN
MBH 4050 MOENCHENGLADBACH
INTER POWER CONSTRUCTION*
INTER POWER CONSTRUCTORS

Inventors

PAPANIKOLAOU DIMITRIS

Priority data including date

1991DE-G043292 1991-11-16
1991DE-U014329 1991-11-16
1992DE-4293901 1992-11-13
1992WO-DE00947 1992-11-13

IPC - International classification

E04B E04B-001/04 E04B-001/21
E04B-005/43*

CPC - Cooperative classification

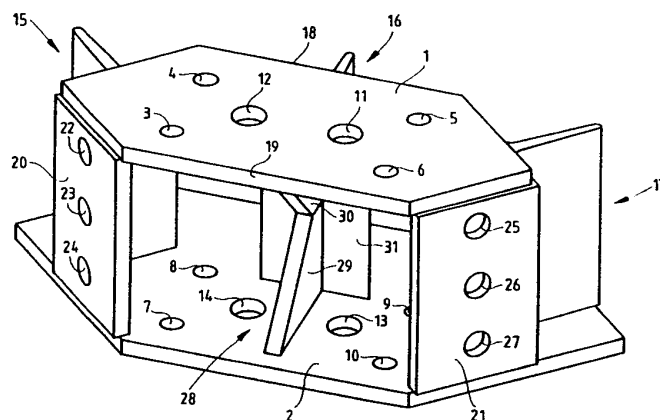
E04B-001/21/5*

Family

DE9114329	U1	1992-01-16	KR19947000594	A	1994-02-22
WO9310314	A1	1993-05-27	CZ9301512	A3	1994-04-13
AU2933192	A	1993-06-15	AU651744	B2	1994-07-28
NO932356	A	1993-06-28	DE4293901	D2	1994-10-20
NO932356	D0	1993-06-28	HUT69121	A	1995-08-28
FI933195	A	1993-07-14	PL169144	B1	1996-06-28
FI933195	A0	1993-07-14	CZ8331	U1	1999-05-12
SK75393	A3	1993-11-10	SK280284	B6	1999-11-08
HU9302048	D0	1993-11-29			

(WO9310314)

A connecting element for connecting construction elements is permanently fixed to one of the units to be connected and can be detachably fixed to at least one other. The connecting element has bridging elements (15, 16, 17) arranged between and at oblique angles to its top and bottom panels (1, 2). Between these bridging elements there is at least one through-aperture extending between opposite sides of the top and bottom panels (1, 2). The cross-section of the bridging elements is designed to give them a good rigidity, thus making it possible to increase the size of the apertures while maintaining a high degree of stability, and in particular to improve accessibility to the attachment elements.



Building structure and steel parts for same US4330970 A

Current assignees

COPREAL*

Inventors

BONINK JOHANNES A

Priority data including date

1979US-06087564 1979-10-23

IPC - International classification

E04B-001/21*

CPC - Cooperative classification

E04B-001/21/5*

PCL - US patent classification**PCLO:** 052125400*

PCLX:	052223500	052223800	052235000
	052236700	052236800	052251000
	052283000	052292000	052263000

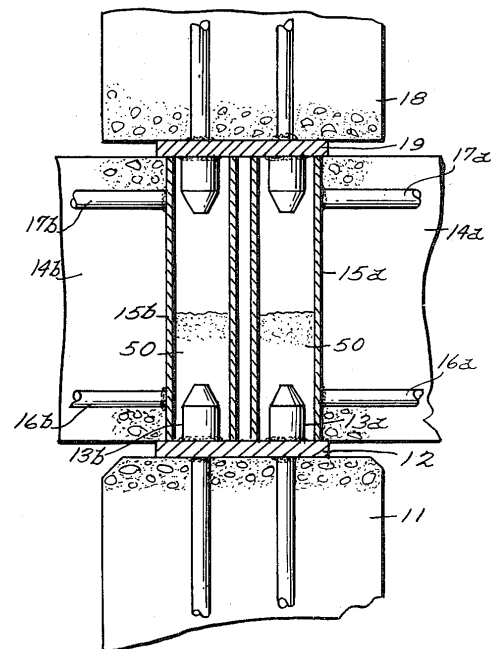
Family

US4330970

A 1982-05-25

(US4330970)

A building structure whose frame, consisting of prefabricated parts or pieces, is formed by a number of elements in the form of slabs (floor or ceiling elements) arranged one above the other and connected to one another by support columns at the corners of the elements, with tubular sections transmitting both the weight of the elements to the columns and the forces exerted by columns aligned with each other, and a steel structure for use in such a building structure.



**DEVICE FOR the CONNECTION End to end Of ELEMENTS LENGTHENING-PIECES OUT OF CONCRETE, PREFERABLY OF the PILES OR PILES CONCRETE FOUNDATION INTENDS FOR the REINFORCEMENT GROUNDS
IT7824886 D0**

<u>Current assignees</u> FRANK OTTO SILVANDER SILVANDER SILVANDER F SILVANDER FRANK SILVANDER FRANK OTTO*	<u>IPC - International classification</u> E02D-005/24* E02D-005/52 E04B-001/21 E04B-001/58 <u>CPC - Cooperative classification</u> E02D-005/52/3* E04B-001/21/5
<u>Inventors</u> SILVANDER F O	
<u>Priority data including date</u> 1978JP-0015510 1978-02-15	

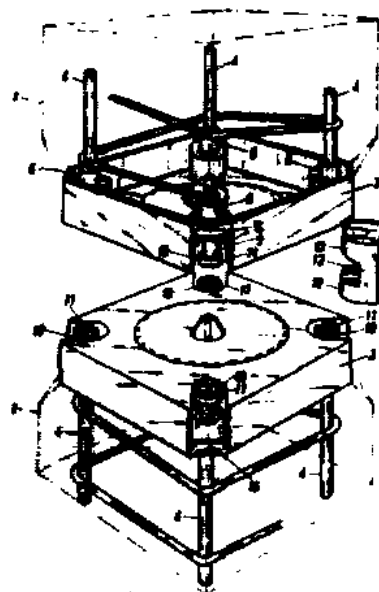
Family

IT7824886	D0	1978-06-23	AU3742278	A	1980-01-03
PT68243	A	1978-07-01	PL208193	A1	1980-02-25
ES237413	U	1978-10-16	AR219337	A1	1980-08-15
BE869223	A	1978-11-16	IN147973	B	1980-08-30
ES237413	Y	1979-02-16	CA1087408	A	1980-10-14
DD136163	A5	1979-06-20	AU519171	B2	1981-11-12
ZA7803670	B	1979-07-25	MX145610	A	1982-03-12
JPS54108411	A	1979-08-25	JPS5827365	B2	1983-06-09
FR2417592	A1	1979-09-14	JP1196785	C	1984-03-21
BR7805354	A	1979-09-25	IT1096753	B	1985-08-26

(FR2417592)

An improved joint for end-to-end connection of elongated concrete element by means of coupling members and connecting elements. The coupling member comprises a sleeve section intended to be treaded on or otherwise secured to reinforcement rods of the elongated concrete elements, such as concrete piles, to be joined together, and a stub section, preferably provided with a head. The connecting element is arranged to engage the stub sections of two oppositely disposed coupling members, thus joining together the elongated elements associated therewith.

(From CA1087408 A)



Modular piling system ZA7507432 B

Current assignees

WEST S PILING & CONSTRUCTION C
WESTS PILING CONSTRUCT*

Inventors

YOUNG FRANK EDWARD

Priority data including date

1974CA-0215085 1974-12-02

IPC - International classification

E02D-005/52* E04B-001/21

CPC - Cooperative classification

E02D-005/52/3 E04B-001/21/5*

PCL - US patent classification

PCLO: 405251000*

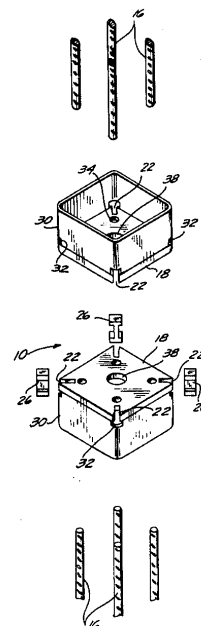
PCLX: 052127700 249093000 405256000

Family

ZA7507432	B	1976-11-24	CA1009856	A	1977-05-10
US4009550	A	1977-03-01	ES472627	A3	1979-02-16

(US4009550)

A precast modular piling system of square-sectioned reinforced concrete sections of standard interchangeable lengths are capable of being connected by a joint constituted by a steel jointing piece appearing at either end of the pile sections for purposes of enabling any length of pile to be constructed. Each jointing piece includes a shaped plate secured to the end of a pile section with a framing sleeve extending laterally from each plate. A recess extends inwardly from each corner of the jointing piece through the plate, adjacent parts of the framing sleeve and concrete of the pile section. The recesses are so dimensioned and shaped to receive an end of a substantially I-shaped locking pin which serves to join a driven pile section to a driving pile section upon placement of the respective facing plates in bearing relationship with one another. The abutting surfaces of the and the facing plates are planar to optimize surface-to-surface contact between these parts. The proper location of the locking pins during pile driving and subsequent thereto is maintained by distorting the plates with a hammer or appropriate tool at the shank portion of each recess to prevent the pins from retracting. The spacing between the locking pins and reinforcement bars appearing in the concrete sections at each corner thereof are held to an absolute minimum to assure proper performance of the joint in transmitting loads and stresses during the driving operation and demands of structural support.



Adjustable anchor bolt & block building and leveling means US3785097 A

Current assignees

SEYMOUR W

Inventors

SEYMOUR W

Priority data including date

1972US-00304101 1972-11-06

IPC - International classification

E04B-001/21* E04G-021/14

CPC - Cooperative classification

E04B-001/21/5 E04G-021/14*

PCL - US patent classification**PCLO:** 052126700***PCLX:** 052223700**Family**

US3785097 A 1974-01-15

(US3785097)

Anchor bolt means for a building whereby all vertical or horizontal structural components such as columns and floor slabs, either reinforced concrete or steel, are securely anchored and leveled by means of simple bolt adjustments. Steel anchor plates, including outwardly projecting anchor bolts, are embedded in concrete footings, floor slabs, beams or columns and when any two or more of the above components are joined, adjustment nut means are provided to perfectly align and level all of the main structural components relative to each other. Additionally, all of said components are continuously tied together by steel reinforcing members.

