

14 Documents

Publication numbers	Title	Current assignees
JP2017186761 A	Connection member for connecting reinforcement members and reinforced concrete structure	HINODE
JP2017179997 A	Column-beam joint structure and construction method therefor	SUMITOMO MITSUI CONSTRUCTION
JP2012154067 A	Shear force transmission structure at concrete column-beam joint	KAJIMA
JP2009097307 A	Joint structure and method of precast concrete member	TAKENAKA KOMUTEN
JP2009091873 A	Batch filling method for grout material at joint part of precast reinforced concrete member, and filling tool	TAKENAKA KOMUTEN
JP2008240291 A	Method of manufacturing prestressed concrete member, prestressed concrete member, method of constructing construction method of joint portion of column/beam structure, concrete member, and column/beam structure	OHBAYASHI
JP2008002213 A	Grouting method and grouting control system for joint part of precast reinforced concrete member	TAKENAKA KOMUTEN
JP2007270455 A	Precast column manufacturing method and precast column erection method	MAEDA CONSTRUCTION
JP2001214512 A	Construction method and structure for reinforcing column-to-beam connection of structure	TOKYU KENSETSU
KR101260392 B1	Precast concrete column and beam unit assembling structure being connected in the low bending moment zone	KYUNG HEE UNIVERSITY, ...
JP11029979 A	Anchored structure of beam main reinforcement at column-to-beam junction	OHBAYASHI
JP10110471 A	Beam connection structure of concrete pole	OHBAYASHI
JP06146478 A	Beam rod joining method of rc column/beam panel zone	TAISEI
JP54152669 A	Adsorptionndesorption apparatus	TAIKISHA, ...

Connection member for connecting reinforcement members and reinforced concrete structure **JP2017186761 A**

Current assignees

HINODE*

Inventors

SAEKI EIICHIRO

NAGATA MAKOTO

KITADA YUKIO

SHIBUTA KEIICHIRO

Priority data including date

2016JP-0074855 2016-04-04

IPC - International classification

E04B-001/16

E04B-001/21

E04C-005/18*

E04G-021/12

Family

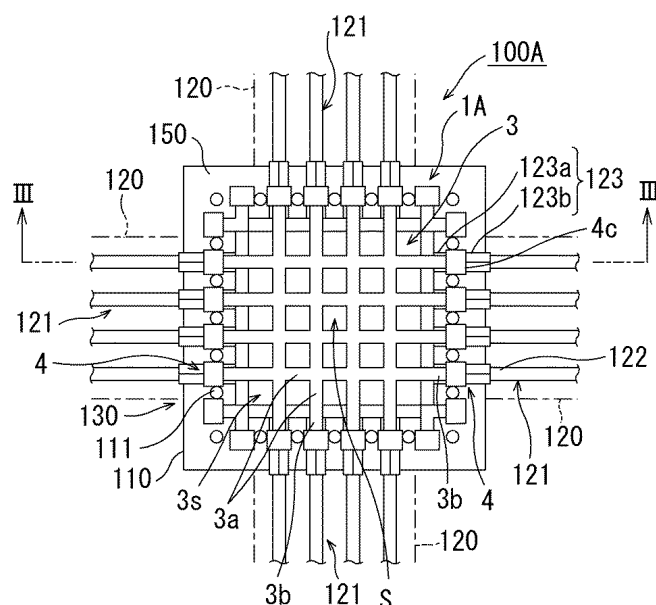
JP2017186761

A

2017-10-12



PROBLEM TO BE SOLVED: To provide a connection member that resists against pulling out of a beam main reinforcement in a junction between a column and a beam and enables a stress to be transmitted from the beam to the column. **SOLUTION:** A connection member 1A connects beam main reinforcements 121 that are inserted to a junction 130 between a column 110 and a beam 120. The connection member has a pair of connection units 2A (2B) that are combined in vertical direction. The connection units 2A (2B) include multiple resistance sections 4, which resist against pulling out of the beam main reinforcements 121 by being combined, and a stress transmission part 3 at which stress applied on the beam main reinforcements 121 is transmitted through the resistance sections 4. The stress transmission part 3 includes multiple connection passages 3b that are connected with the resistance sections 4. Each connection passage 3b is the connection member 1A disposed on each beam main reinforcement 121 on a straight line viewed from vertical direction. **SELECTED DRAWING:** Figure 1



Column-beam joint structure and construction method therefor

JP2017179997 A

Current assignees

SUMITOMO MITSUI CONSTRUCTION*

Inventors

KOSAKA HIDEYUKI

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Priority data including date

2016JP-0071794 2016-03-31

IPC - International classification

E04B-001/16

E04B-001/21

E04B-001/58*

E04C-005/18

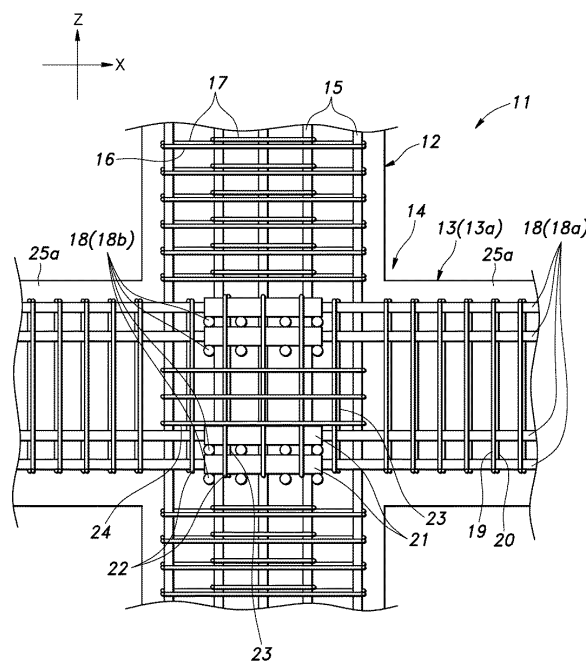
Family

JP2017179997

A 2017-10-05



PROBLEM TO BE SOLVED: To provide a column-beam joint structure having a mechanical joint in a column-beam joint part, the structure suppressing damaging of concrete when a beam main reinforcement yields. **SOLUTION:** A beam main reinforcement (18a) of a beam (13a) extending in a prescribed direction (X-direction) is connected by a mechanical joint (21) in a column-beam joint part (14). A stirrup-direction shear reinforcement (22) for reinforcing the column-beam joint part is disposed in a same direction as a stirrup (19) of the beam, including a vertical direction. At a time of large-scale earthquake, force is exerted in a direction opposite of the X-direction to each of the beam main reinforcements disposed on top and bottom. A damage on concrete aggravates when an adhesion between the beam main reinforcement and the concrete is broken by the force and the beam main reinforcement slides on the concrete. The shear reinforcement provided on the top and bottom resists the force, and suppresses breaking of the adhesion between the beam main reinforcement and the concrete. **SELECTED DRAWING:** Figure 2



Shear force transmission structure at concrete column-beam joint

JP2012154067 A

Current assignees

KAJIMA*

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FUTAMURA ARINORI

Priority data including date

2011JP-0012887 2011-01-25

IPC - International classification

E04B-001/16

E04B-001/21*

E04C-005/18

Family

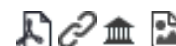
JP2012154067

A 2012-08-16



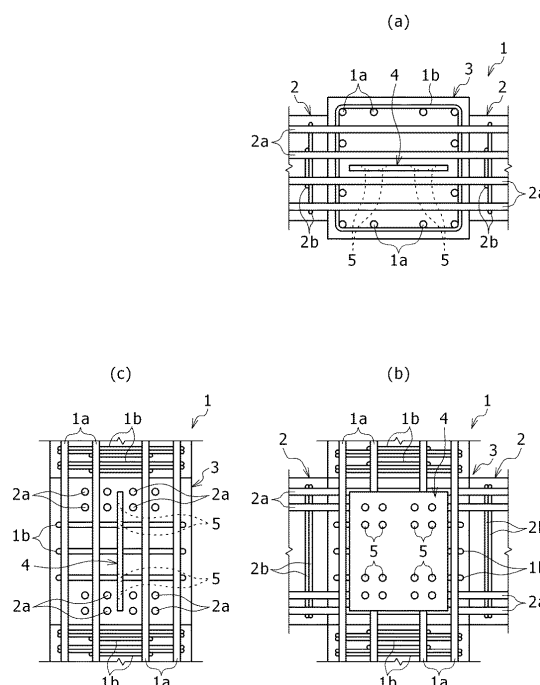
JP5653236

B2 2015-01-14



PROBLEM TO BE SOLVED: To provide a joint of a reinforced-concrete column member and a beam member provided with a steel plate for transmitting shear force from the beam member to the column member for enhancing transmission performance of the shear force from the beam member to the column member, which allows an arrangement of one steel plate to resist the shear force (vertical shear force) due to axial direction force from both directions across the column member.

SOLUTION: A concrete column member 1 having a bar arrangement composed of a column main reinforcement 1a and a shear reinforcement 1b enclosing the column main reinforcement 1a is provided with a joint with a beam member 2 formed of reinforced-concrete or the like therein. A steel plate 4 is arranged at the joint, in parallel with the axial direction of the beam member 2, so as to form a vertical plane. The surface or the edge of the steel plate 4 is provided with a through hole 5, or a recess or a protrusion such as a rib 6. A shear reinforcement 1b of the column member 1 penetrates through at least one of the through-holes 5 of the steel plate 4.



Joint structure and method of precast concrete member JP2009097307 A

Current assignees

TAKENAKA KOMUTEN*

Inventors

OGURA KIYOSHI

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Priority data including date

2007JP-0272633 2007-10-19

IPC - International classification

E04B-001/21

E04B-001/58

E04C-005/18*

Family

JP2009097307

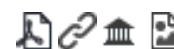
A

2009-05-07



JP4989411

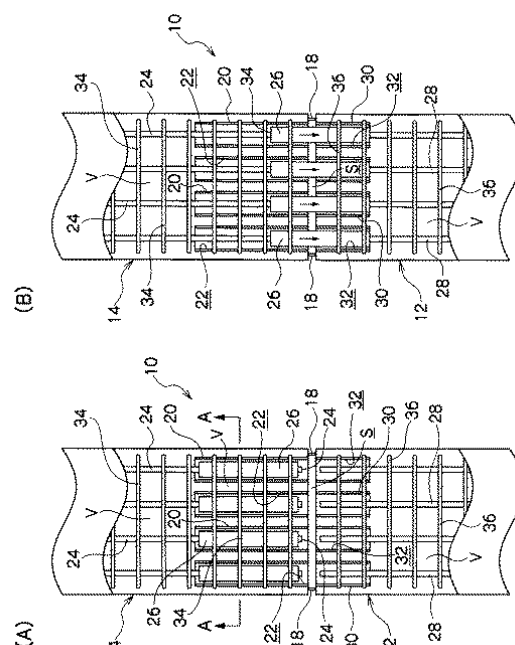
B2 2012-08-01



PROBLEM TO BE SOLVED: To provide a joint structure and a method of joining precast concrete members which enable lateral or horizontal movement of an upper member mounted on a lower member.

SOLUTION: The upper member 14 made of precast concrete is mounted on the lower member 12 made of precast concrete. Joint members 26 accommodated in the upper member 14 are pulled out and inserted into insertion parts 32 to joint the lower member 12 and the upper member 14. When the upper member 14 is mounted on the lower member 12, the joint members 26 are not protruded from the upper member 14, thereby enabling the lateral or horizontal movement of the upper member 14 mounted on the lower member 12.

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Batch filling method for grout material at joint part of precast reinforced concrete member, and filling tool

JP2009091873 A

Current assignees

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MIYOSHI TETSUSHI

SAEGUSA DAISUKE

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Priority data including date

2007JP-0266409 2007-10-12

IPC - International classification

E04B-001/21

E04B-001/58*

E04C-005/18

Family

JP2009091873

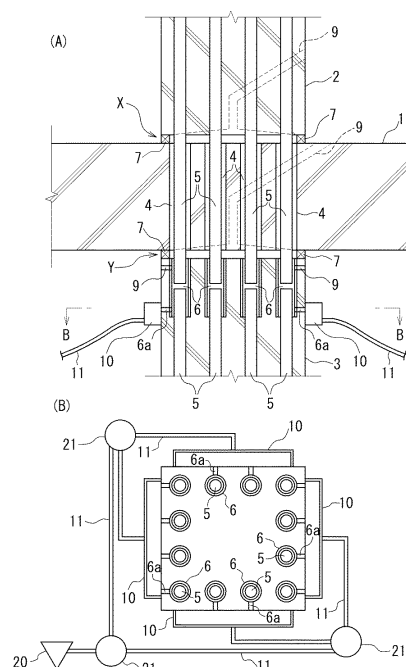
A 2009-04-30



PROBLEM TO BE SOLVED: To provide a batch filling method for a grout material at a joint part of a precast reinforced concrete member, and filling tools.

SOLUTION: The batch filling method for the grout material at the joint part of the precast reinforced concrete member comprises processes for allowing column main reinforcements 5 projecting from the lower face of a column member 2 on the upper side, to penetrate through-holes 4 formed in a beam member 1, and inserting the column main reinforcement 5 into sleeve joints 6 provided at a column head part of a column member 3 on the lower side, to assemble a column-beam joint part; joint-sealing the outer peripheries of joint parts formed between the beam member 1 and the upper and lower column members 2, 3; positioning the filling tools 10 of box shape with openings in inner side face parts so that the openings cover grout material-filling holes 6a provided in the sleeve joints 6; and supplying the grout material 8 into the filling tools 10 to fill the grout material 8 into the respective injection holes 6a almost simultaneously to thereby fill the grout material 8 continuously into the joint part X while increasing the inside volume of the respective sleeve joints 6 almost equally, and confirming the overflow of the grout material 8 from an air vent hole 9 provided above the joint part X.

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Method of manufacturing prestressed concrete member, prestressed concrete member, method of constructing construction method of joint portion of column/beam structure, concrete member, and column/beam structure
JP2008240291 A

Current assignees

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Inventors

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Priority data including date

2007JP-0079905 2007-03-26

IPC - International classification

E04B-001/16*

Family

JP2008240291

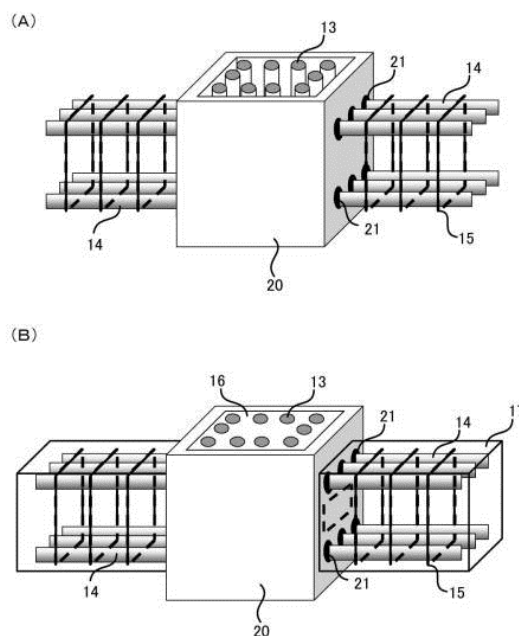
A 2008-10-09



PROBLEM TO BE SOLVED: To provide a method of manufacturing a prestressed concrete beam-joint member capable of surely depositing concrete in a short time when the prestressed concrete beam-joint member is constructed by selectively depositing the concrete between a beam part and a joint part.

SOLUTION: A structural part is formed on the outer periphery of the joint part. A beam reinforcement 14 is inserted into a through hole 21 formed in a cylindrical outer shell prestressed concrete member 20 having a side surface in which the through hole 21 is formed at the position corresponding to the beam reinforcement 14. A concrete 16 forming the joint part is deposited in the outer shell prestressed concrete member 20, and a concrete 17 forming the beam part is deposited therein.

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Grouting method and grouting control system for joint part of precast reinforced concrete member

JP2008002213 A

Current assignees

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MIYOSHI TETSUSHI

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ISHIKAWA YUJI

Priority data including date

2006JP-0174572 2006-06-23

IPC - International classification

E04B-001/21

E04B-001/58

E04C-005/18*

Family

JP2008002213

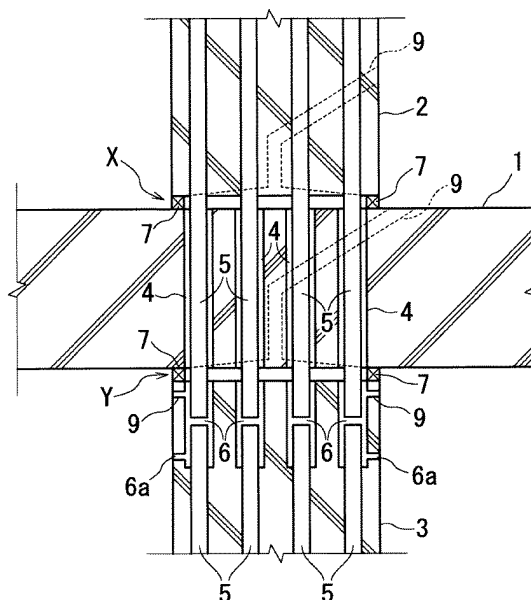
A 2008-01-10



PROBLEM TO BE SOLVED: To provide a grouting method and a grouting control system for a joint part of a precast reinforced concrete member, extremely economical with good workability.

SOLUTION: The joint part of the precast reinforced concrete member is structured to joint column members 2, 3 to the upper and lower sides of a beam member 1 and to allow a plurality of column main reinforcements 5 protrusively provided at the lower face of the upper side column member 2, to pass through a plurality of through holes 4 formed in the beam member 1, to provide a column capital part of the lower side column member 3 with sleeve joints 6 of the main reinforcements 5. The grouting method comprises processes for sealing the outer peripheries of joint parts X, Y formed at the upper face part and lower face part of the beam member 1 by joint sealing members 7, grouting respective injection holes 6a provided in the sleeve joints 6 almost simultaneously, continuously filling grout up to the joint part X formed at the upper face part of the beam member 1 while increasing the quantity inside each sleeve joint almost equally, and exhausting air from air vent holes 9 above.

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Precast column manufacturing method and precast column erection method JP2007270455 A

Current assignees

MAEDA CONSTRUCTION*

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IWAOKA SHINICHI

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FURUMIYA YOSHIYUKI

Priority data including date

2006JP-0094682 2006-03-30

IPC - International classification

E04B-001/21*

E04B-001/58

Family

JP2007270455

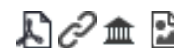
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2007-10-18



JP4866641

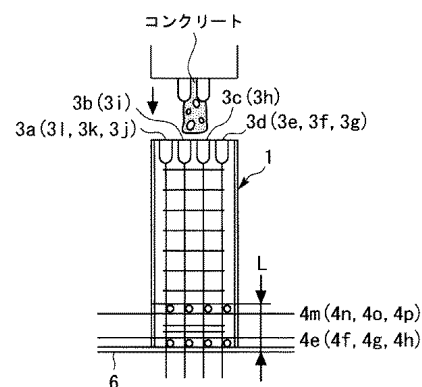
B2 2012-02-01



PROBLEM TO BE SOLVED: To provide a precast column manufacturing method which solves the problem of material separation during pouring of concrete for manufacturing a precast concrete column, and facilitates manufacturing of a concrete column inclusive of a beam-column connection portion, having required quality ensured, and to provide a precast column erection method.

SOLUTION: The precast column manufacturing method for manufacturing the vertically extending concrete column is composed of: a step of arranging necessary reinforcements including column reinforcements 2a to 2l and beam reinforcements 4a to 4p, and assembling the reinforcements so as to form the beam-column connection portion at which the beam reinforcement intersect the column reinforcements, at a lower portion of the column; and a step of setting a form 1 around the reinforcements which have been assembled, and pouring the concrete from an upper opening of the form 1 to fill the interior of the form 1 with the concrete.

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Construction method and structure for reinforcing column-to-beam connection of structure

JP2001214512 A

Current assignees

TOKYU KENSETSU*

Inventors

MIYASHITA SHINICHI

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UENO SHUICHI

KATO AKITOSHI

Priority data including date

2000JP-0026190 2000-02-03

IPC - International classification

E04B-001/21*

E04B-001/58

E04C-005/18

Family

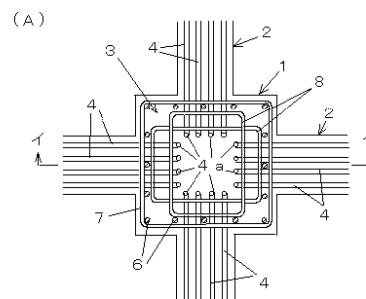
JP2001214512

A 2001-08-10

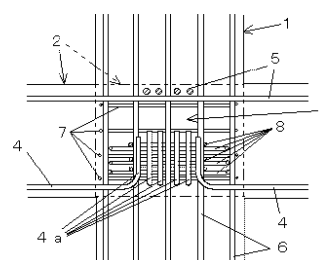


PROBLEM TO BE SOLVED: To provide a construction method and structure for reinforcing the column-to-beam connections of a structure capable of effectively preventing breakdown caused by scraping-out and of enhancing productivity regarding the arrangement of reinforcement.

SOLUTION: At the column-to-beam connection 3 for a reinforced concrete column or a steel reinforced concrete column 1 and a reinforced concrete beam or a steel reinforced concrete beam 2, the end 4a of lower beam end reinforcement 4 for the beam 2 is bent upwards inside the column-to-beam connection 3 and is bent in front (forwardly of the center of the column) and anchored in place. Restraining reinforcements 8 are placed inside the main column reinforcement 6 of the column 1 in such a manner as to surround the end 4a of the lower beam end reinforcement 4 bent in front and anchored in place.



(B) イ-イ断面



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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Family

KR101260392

B1 2013-05-07



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).

Anchored structure of beam main reinforcement at column-to-beam junction JP11029979 A

Current assignees

OHBAYASHI*

Inventors

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YONEZAWA KENJI

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Priority data including date

1997JP-0185194 1997-07-10

IPC - International classification

E04B-001/21*

E04C-005/18

E04G-021/12

Family

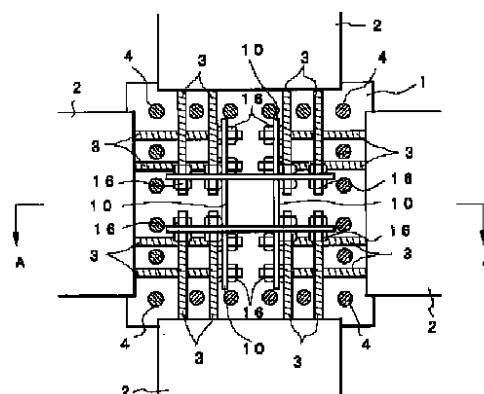
JPH1129979

A 1999-02-02



PROBLEM TO BE SOLVED: To enable improving anchoring workability that was difficult to attain, while keeping the anchoring property of beam main reinforcement sufficiently high.

SOLUTION: At the junction between the column 1 of a reinforced concrete structure and beams 2 arranged to cross the column 1 in cruciform, a plurality of beam main reinforcements 3 arranged inside column main reinforcements 4 in such a way as to cross one another in an X-Y shape and projecting from the ends of the beams 2 are anchored to the inside of the column via a joint. In this case, the joint comprises four strips of anchoring metal fittings 10, which are located in the inside surrounded by the column main reinforcements 4, and in which fitting grooves are formed that can be assembled into an well crib shape, and a plurality of holes through which the beam main reinforcements 3 are passed are formed in the anchoring metal fittings 10. The ends of the beam main reinforcements 3 which project from the beams 2 facing the anchoring metal fittings 10 are passed through the holes, and a plurality of anchoring nuts 16 that are screwed to the beam main reinforcement 3 are secured to both sides of each hole, and the anchoring metal fittings 10 are assembled into the well crib shape and secured to one another to anchor each beam main reinforcement 3 inside the column 1.



Beam connection structure of concrete pole JP10110471 A

Current assignees

OHBAYASHI*

Inventors

TADA TOSHIMASA

TAKAMI NOBUTSUGU

KOBAYASHI YUZURU

Priority data including date

1996JP-0267529 1996-10-08

IPC - International classification

E04B-001/16*

E04B-001/21

Family

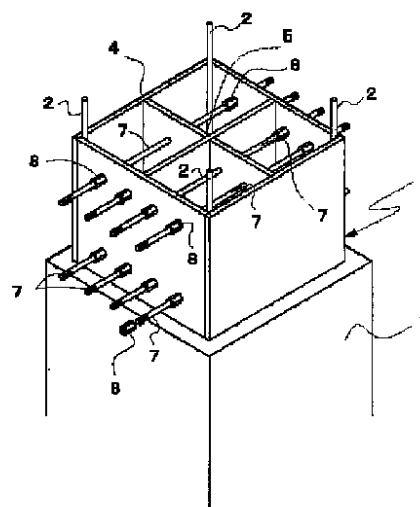
JPH10110471

A 1998-04-28



PROBLEM TO BE SOLVED: To install and position a pole, and to simplify combination with beam main reinforcements by integrally preparing a reinforcing body into a steel plate frame, sideways penetrating the steel plate frame by a plurality of beam main-reinforcement connecting rods and uniting the beam main reinforcements at the projecting end of the steel plate frame through couplers.

SOLUTION: A connection unit 3 is positioned and arranged around pole main reinforcements 2 projected from the upper section of the RC-constructed pole 1, and the insides and outsides of projecting ends from a steel plate frame 4 of each connecting rod 7 and beam main reinforcements are connected firmly. Consequently, the pole 1 and a beam are joined completely by disposing forms around a connection section under the constrained state of the end sections of the beam and placing concrete. The cross section of the steel plate frame 4 is formed in the same shape as a hoop, and the arrangement of the hoops in the connection sections can be omitted at that time. As a result, the assembling properties and the workability of joining with the beam are improved in the beam connection structure of the concrete pole 1, and a constraining effect to the beam under a finished state is ensured. Accordingly, the shearing strength of joining sections is increased, and the extraction of beam main reinforcements can be prevented.



Beam rod joining method of rc column/beam panel zone JP06146478 A

Current assignees

TAISEI*

Inventors

IKEDA HIROTOSHI

Priority data including date

1992JP-0298785 1992-11-09

IPC - International classification

E04B-001/21*

E04C-003/30

E04C-005/18

Family

JPH06146478

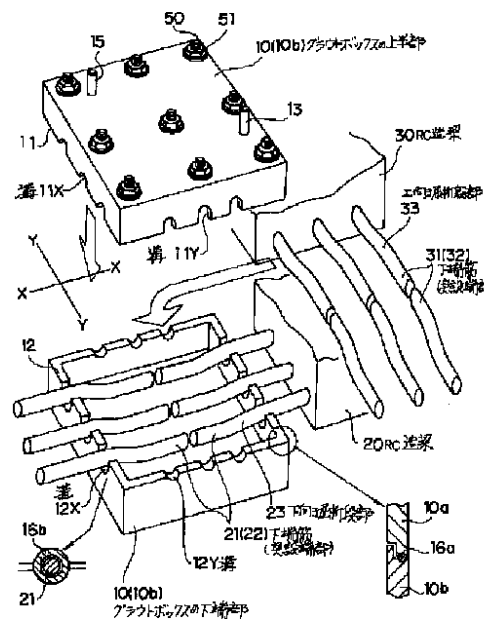
A

1994-05-27



PURPOSE: To join beam bars to a column by means of grout fixation using an RC lamination method in which the joint parts of beam bars in a panel zone are bundled.

CONSTITUTION: The lower half 10b of a grout box is placed fast on the head of an RC column, and an RC beam 20 stretching in the X-direction has a downward facing bent step part 23 at the protruding end part 22 of a bottom bar 21. An RC beam 30 in the Y-direction has an upward facing bent step part 33 at the protruding end part 32 of the bottom bar 31, and the bottom rod 21 end part 22 is detained with a groove 12x provided in the grout box. Then the bottom rod 31 end part 32 is detained with a groove 12y in the grout box, and they are placed intersecting three-dimensionally, and then the upper half 10a of the grout box is placed upon the lower half 10b followed by coupling together using a bolt 50 and nut 51. This grout box 10 of consolidated structure is sealed with a sealing material, and a grouting material is injected from a grout port 13. According to this method, there is no problem in execution of works and the quality, and no high precision is required for the position management of the joint part of beam rod.



Adsorption-desorption apparatus JP54152669 A

<u>Current assignees</u> TAIKISHA TOYO BOSEKI* <u>Inventors</u> OOMORI SUSUMU KAWASAKI TAKAO TAKAHASHI SEIICHI <u>Priority data including date</u> 1978JP-0061464 1978-05-22	<u>IPC - International classification</u> B01D-053/02 B01D-053/06* F24F-003/14 <u>CPC - Cooperative classification</u> F24F-003/14/23* F24F-2203/1012 F24F-2203/1032 F24F-2203/1068 F24F-2203/1084
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Family

JPS54152669

A

1979-12-01



PURPOSE: To provide an adsorption-desorption apparatus which is capable of desorbing a large quantity of adsorbed substance with a small quantity of desorbing gas, by introducing exhaust gas of low content of harmful substance into a partitioned cylindrical rotator having a number of gas-flow openings, and embodying adsorbing agent, and by introducing desorbing gas into a path attached to a portion of the rotator.

CONSTITUTION: Exhaust gas containing substance to be adsorbed such as organic solvent, malodorous gas enters through a duct 3, distributing pipe 4, into a cylindrical rotator, passing through a number of gas passages 2, made by dividing the rotator with walls containing adsorbing agent, in the axial direction of the cylindrical rotator. While the exhaust gas passing through the rotator, substances to be adsorbed are adsorbed with the adsorbing agent. After adsorption, the exhaust gas is brought together in a gas-collecting chamber 4' and is discharged through a duct 3'. The desorbing gas, on the other hand, enters through a right side passage of a duct 7, passing through gas passages 2, into a duct 7', turning back at the end of the duct 7', where dividing wall is absent, passing once again through the gas passages 2, then it is delivered through the left side passage of the duct 7 to a separator for the desorbed substances (omitted in Figure). While passing through the gas passages 2, the desorbing gas desorbs substances adsorbed on the wall surface of the gas passages 2.