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Señora Jefe de la
DIVISION DE NUEVAS CREACIONES
Superintendencia de Industria y Comercio
E. S. D.

SECRETARÍA DE INDUSTRIA Y COMERCIO



No. 06-041542-000003-0000

Unidad de Gestión de Patentes (UGP)
Unidad de Gestión de Marcas (UGM)
Unidad de Gestión de Diseños Industriales (UGDI)
Unidad de Gestión de Patentes de Invención (UGPI)
Unidad de Gestión de Patentes de Modelo de Utilidad (UGPMU)
Unidad de Gestión de Patentes de Invención (UGPI)
Unidad de Gestión de Patentes de Modelo de Utilidad (UGPMU)
Unidad de Gestión de Patentes de Invención (UGPI)
Unidad de Gestión de Patentes de Modelo de Utilidad (UGPMU)

Trámite : 011
Evento : 378
Actuación : 538

Referencia : Expediente No. 06.041.542
Asunto : Solicitud de Patente para **ENCOFRADO DE GRAN RESISTENCIA PARA MURO DE HORMIGON**
Solicitante : **POLYFINANCE COFFOR HOLDING S.A.**
Clase : E04B 002/086
Publicada en : La Gaceta No. 581 Del 31 de octubre de 2007
Fecha de Solicitud : 3 de mayo de 2006

1. Yo, Emilio FERRERO, identificado como aparece al pie de mi firma, actuando como apoderado en el asunto de la referencia, atentamente, solicito se efectúe el examen de patentabilidad de la solicitud en referencia presentada de acuerdo con el Capítulo I del PCT y según lo establecido en el artículo 44 de la Decisión 486 de la Comisión de la Comunidad Andina. Para tal efecto presento junto con este escrito el recibo por valor de \$420.000.00, que corresponde a la tasa fijada según lo dispuesto en la resolución No. 44372 de 26 de diciembre de 2007.

2. Ruego atentamente a la Señora Jefe se sirva ordenar que se anexe este recibo para que se efectúe dicho examen y se continúe con el trámite de la solicitud.

Señora Jefe,

EMILIO FERRERO
T.P.A. No. 31.929

q ✓ COLO-15327-841-001-1
ASG\AHP\ID-122543\WPC15327
No. M-2008-122543\ASG

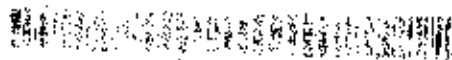
7/20/20

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

REF: 801176000-2

REGISTRO OFICIAL DE DCAH . 00 24,472
FECHA : MARZO 03 DE 2008

SECRETARIA DE INDUSTRIA Y COMERCIO



SECRETARIA DE INDUSTRIA Y COMERCIO

SECRETARIA DE INDUSTRIA Y COMERCIO

***** D E B I T O S A D E B I T O *****

DEBITANTE	TIPO PAGO	RANGO	CUENTA	Nº. PAGO	FECHA PAGO	Nº. PAGO
EMELIA MEDRANO	CONSIGNACION	PAGO DE BOGOTA	062754007	0670157	20/03/2008	07,000,000.00

***** D E V E N I D O *****

CANT. DEVENIDOS	CONCEPTO	TOTAL CONCEPTO
1	PAGO DE SOLICITUDES	112
	112 PAGO DE PAGO DE PATENTABILIDAD	400,000.00
	TOTAL :	120,000.00

CON: CUATROCIENOS VEINTE MIL PESOS

RESPONSABLE :

RECIBO DE DCAH APLICADO AL EXPEDIENTE No. _____

Col 15327-841-001-1

DIVISIÓN DE NUEVAS CREACIONES

RADICACIÓN EXPEDIENTE No. 06-41542

EL EXTRACTO DE LA PRESENTE SOLICITUD DE **PATENTE DE INVENCION**

FUE PUBLICADO EN LA GACETA DE PROPIEDAD INDUSTRIAL No **581** DE

FECHA **31 DE OCTUBRE DE 2007** EL TÉRMINO HÁBIL SEÑALADO POR LA

LEY EXPIRA EL **31 DE ENERO DE 2008**

NOTA: Dentro del plazo de los seis (6) meses siguientes a partir de la fecha de publicación en la gaceta de Propiedad Industrial, deberá solicitar y cancelar el examen de patentabilidad so pena de que la solicitud caiga en abandono, de acuerdo con lo establecido en el Artículo 44 de la Decisión 486/2000.

SE PRESENTARON OPOSICIONES POR PARTE DE TERCEROS.

SI _____

NO X

25 7/2
72



US006167671B1

(12) **United States Patent**
Wilson

(10) **Patent No.:** **US 6,167,671 B1**
(45) **Date of Patent:** **Jan. 2, 2001**

(54) **PREFABRICATED CONCRETE WALL FORM SYSTEM**

(76) **Inventor:** **Steven D. Wilson, 20501 85th Ave.,
Mediapolis, IA (US) 52637**

(*) **Notice:** Under 35 U.S.C. 154(b), the term of this patent shall be extended for 0 days.

(21) **Appl. No.:** **09/216,961**

(22) **Filed:** **Dec. 21, 1998**

(51) **Int. Cl.:** **F04C 2/36; F04B 2/86**

(52) **U.S. Cl.:** **52/654.1; 52/293.3; 52/309.15;
52/309.17; 52/426**

(58) **Field of Search** **52/426, 425, 442,
52/424, 654.1, 309.11, 309.15, 309.17,
293.3**

(56) **References Cited**

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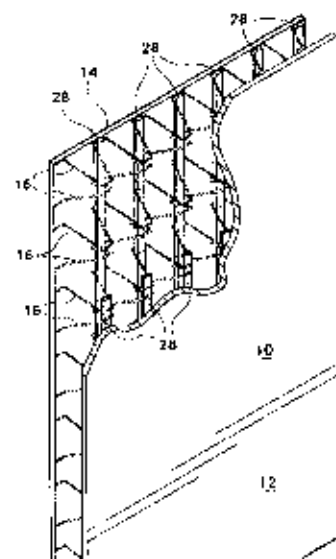
Primary Examiner—Michael Safavi

(74) **Attorney, Agent, or Firm**—Richard C. Litman

(57) **ABSTRACT**

A prefabricated concrete wall form system which can be taken to a construction site, joined to other wall forms to form a wall, and filled with concrete. The wall form has an outer wall and an inner wall, each of which can be made from gypsum wall board, plywood sheathing, OSB sheathing, medium density overlay plywood, cement board, rigid foam board, exterior gypsum sheathing, steel siding, steel or aluminum sheet, or fiberglass panels. The outer and inner panels are braced by a series of horizontal, zigzag wires. Vertical wood strips having horizontal grooves corresponding to the wires are used to hold these wires in place. Electrical boxes, plumbing conduits, electrical conduits, doors, windows, and floor joist pockets are made by including a wood mold inside the wall mold, forming the desired hollow structure within the concrete.

17 Claims, 7 Drawing Sheets



24 25
27

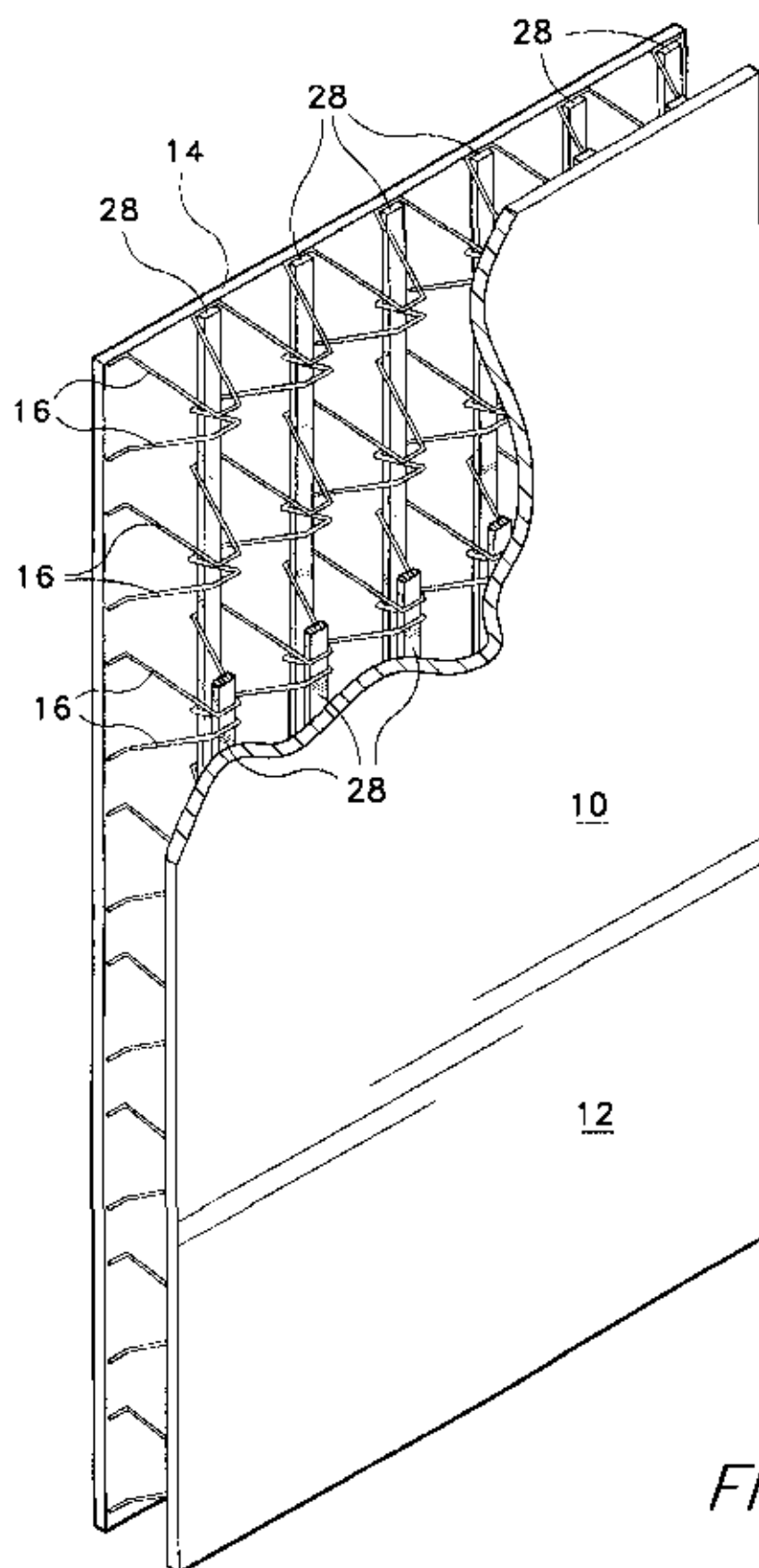


FIG. 1

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None of the above patents describes a pair of parallel panels connected by the wire webbing proposed by the present inventor. The present inventor's wire webbing provides sufficient reinforcement to the parallel panels forming the mold so that thinner panels may be used than with any other known concrete wall mold.

None of the above inventions and patents, taken either singularly or in combination, is seen to describe the instant invention as claimed. Thus a prefabricated concrete wall form system solving the aforementioned problems is desired.

SUMMARY OF THE INVENTION

The invention is a modular, prefabricated concrete wall form. The basic individual wall form comprises a pair of parallel panels connected by a wire webbing made from horizontally oriented, zigzag wires. The wires are held in place by vertical wood members, each wood member having horizontal channels to secure the wires in place. The wall forms will be joined together and to the floor to form a structure, and then filled with concrete. When the concrete dries, the wall form remains as part of the wall. Metal rods extending from the concrete into the floor or foundation provide additional support. A surface finish or covering can then be applied to the outside of the panels as desired.

The parallel panels forming the outside of the wall form can be made from a wide variety of materials, depending on the purpose of the structure and needs of its ultimate users. Examples of preferred and suggested materials include gypsum wall board, plywood sheathing, OSB sheathing, medium density overlay plywood, cement board, rigid foam board, exterior gypsum sheathing, steel siding, steel or aluminum sheet, or fiberglass panels.

The individual wires run horizontally in an angled zigzag pattern across the width of the wall form. Each wire is patterned or bent to have alternating flat peaks adjoining the wall sections. Each of the vertical wood members has horizontal grooves on its inside surface, which receive the flat peaks. Elongated wood members run vertically across the flat peaks, securing them to the panels. Each of the vertical wood members has horizontal grooves which receive the flat peaks. Additionally, the wall form may include rigid Styrofoam (Polystyrene foam) strips inserted into the wire webbing to provide insulation. These rigid foam strips preferably extend vertically across the flat peaks of the wire, adjacent to one of the two panels.

The individual wall forms are manufactured to include various features desired or required at a specific location within the building structure where the form will be used. For example, a wall form can include electrical boxes, electrical conduits, plumbing, window openings, door openings, joist pockets, etc. These openings are formed by making plywood boxes within the wall form so that concrete does not enter these areas, allowing hollow space for the necessary features.

Although dimensions will vary with individual applications, suggested dimensions are panels four feet wide by eight feet high, the panels spaced four inches apart, and each panel connecting to an individual wire at eight inch centers.

Accordingly, it is a principal object of the invention to provide a wall form for concrete walls achieving the necessary strength with reduced weight as compared to other wall forms.

It is another object of the invention to reduce the cost of constructing a building by providing for prefabricated sec-

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tions of wall form having the necessary conduits, pockets, and openings built into the form.

It is a further object of the invention to provide a wall form for concrete walls which does not require external bracing.

It is an object of the invention to provide improved elements and arrangements thereof for the purposes described which is inexpensive, dependable and fully effective in accomplishing its intended purposes.

These and other objects of the present invention will become readily apparent upon further review of the following specification and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is cutaway perspective view of a prefabricated concrete wall form system according to the present invention.

FIG. 2 is a top plan view of a single wire brace used in a prefabricated concrete wall form system of according to the present invention.

FIG. 3 is a top plan view of a joint between two concrete wall forms according to the present invention.

FIG. 4 is a top plan view of a second joint between two concrete wall forms according to the present invention, forming the corner of a building.

FIG. 5 is a top plan view of a prefabricated concrete wall form system of according to the present invention, showing insulation between the parallel mold panels.

FIG. 6A is a side cross sectional view of a prefabricated concrete wall form system of according to the present invention, showing how the wall mold is secured to a foundation.

FIG. 6B is a side cross sectional view of a prefabricated concrete wall form system of according to the present invention, showing a second means of securing the wall mold to a foundation.

FIG. 7 is a side cross sectional view of a prefabricated concrete wall form system of according to the present invention, showing the joint between the wall and a ceiling, and internal structures to provide for plumbing and electrical wiring.

FIG. 8 is a side cross sectional view of a prefabricated concrete wall form system of according to the present invention, showing the joint between the wall and a floor joist, and internal structures to provide for plumbing and electrical wiring.

FIG. 9 is perspective view of a prefabricated concrete wall form system according to the present invention, showing door and window openings.

FIG. 10 is an elevational view of a single vertical wood member used to construct a prefabricated concrete wall form system according to the present invention, showing grooves for containing the wire braces.

Similar reference characters denote corresponding features consistently throughout the attached drawings.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention is a prefabricated concrete wall form using a pair of parallel panels joined by a wire webbing. The panels are joined to each other and to a floor or foundation, and filled with concrete to form a structure.

Referring to FIG. 1, wall form 10 includes panels 12, 14, joined by zigzag wires 16. An individual wire 16 is illus-

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trated in FIG. 2. The wire includes angled sections 18, running from one panel to the other, and flat peaks 20,22 on either side of the zigzag structure, for joining with panels 12,14. Each wire 16 runs horizontally across wall form 10, angled so that one set of flat peaks 20,22 is elevated with respect to the other set of flat peaks 20,22. Referring to FIGS. 1 and 3, elongated wood members 28 attach to and extend vertically across inside surfaces 26 of panels 12,14, securing flat peaks 20,22 to the panels 12,14. Referring to FIGS. 1 and 10, elongated wood members 28 define grooves 24, with grooves 24 corresponding in width to the width of wires 16. The flat peaks 20 pass through the channels formed by the grooves 24 of wood members 28, and the inside surface 26 of panels 12,14.

Referring to FIGS. 7, 8, and 9, wall form 10 may include various boxes, conduits, and openings for preventing the flow of concrete into areas of the wall form which must remain open. For example, FIG. 9 illustrates door opening 30 and window opening 32, constructed by cutting the appropriate openings in panels 12,14, and including frame panels 34 to prevent the flow of concrete into door opening 30 or window opening 32. FIG. 7 illustrates plumbing conduit 36, preventing concrete from flowing into the area where plumbing must run. FIG. 8 illustrates electrical box 38, electrical conduit 40, and joist pocket 42. Electrical box 38 and conduit 40 are formed by placing box panels 44 or pipes 46 around the area which must be kept free of concrete. Electrical box 38 and conduit 40 allow for providing electrical wiring within the wall, as is necessary for most buildings. Joist pocket 42 provides a support pocket for ceiling or floor joists 43 after the concrete has been poured and allowed to dry. Alternatively, joist 43 may be attached to the top of wall form 10, as shown in FIG. 7. FIG. 5 illustrates a method of including insulation in the wall form. Rigid Styrofoam (Polystyrene foam) strips 45 extend vertically over flat peaks 20 or 22 of wires 16.

At the site where a building is to be built, the wall forms 10 are joined to each other and to the foundation. FIGS. 3 and 4 show alternative methods of joining two wall forms 10 together. Referring to FIG. 3, two wall forms 10 are joined end to end at juncture 49. On one wall form 10, panel 12 extends past panel 14, while on the other wall form 10, panel 14 extends past panel 12. Panel 12 on one wall form 10 abuts panel 12 of the other wall form 10. Similarly, the two panels 14 also abut. The abutting ends are overlapped by elongated wood members 28, with screws 48 passing through panels 12,14 and into elongated members 28. The ends of two wires 16 come together adjacent to the panels 14, with two elongated wood members 28 placed over them to secure them in place.

FIG. 4 illustrates how two wall forms 10 are joined to form a building corner. The ends of both panels 14 are longer than the ends of both panels 12. The ends of panel 12 are positioned abutting each other and perpendicular to each other, and secured in this position. The ends of panel 14 are joined and secured in a similar manner, attached to wood member 50 inside the forms at this joint, preferably by screws 48.

FIGS. 6A and 6B illustrate a method of securing wall forms 10 to the foundation 56. Panels 12 or 14 are secured to a wood member 52, preferably a 2"x2" elongated block, which is also secured lengthwise across the foundation 56, preferably by screws 48. Metal rebar 54 extends vertically through wall form 10, extending into foundation 56. Rebar 54 has end 58 within foundation 56, with end 58 being bent to further secure the rebar 54 within foundation 56. End 58 is preferably perpendicular with respect to the rest of rebar 54.

The parallel panels 12,14 can be made from a wide variety of materials, depending on the purpose of the structure and needs of its ultimate users. Examples of preferred and suggested materials include gypsum wall board, plywood sheathing, OSB sheathing, medium density overlay plywood, cement board, rigid foam board, exterior gypsum sheathing, steel siding, steel or aluminum sheet, or fiberglass panels.

To use the invention, the individual wall forms 10 are first constructed at a factory according to the design of the individual building wherein they will be used. Preferred and suggested dimensions for most wall forms 10 are four feet long, eight feet high, four inches thick, and have eight inches between centers for flat peaks 20,22 of wires 16. These dimensions will change for certain panels so that the sum of the lengths of the panels for each wall form is the desired length of the finished wall, and the height of the panels is the desired height of the finished wall. Many of the wall forms 10 will arrive at the construction site having plumbing conduits 36, electrical boxes 38, electrical conduits 40, joist pockets 42, door openings 30, and window openings 32.

Wall forms 10 will then be assembled together at the construction site. Rebars 54 will be placed inside the foundation. Wood members 52 will be attached to foundation 56, and panels 12 or 14 will then be attached to wood members 52. Wall forms 10 will be attached to each other, with panels 12 abutting at their ends, and panels 14 likewise abutting at their ends. Wood members 28 are positioned overlapping the joints between end sections of panels 12 and 14, and screwed into position. When the wall forms 10 are positioned adjacent to each other, they are positioned so that the electrical conduits 40 and plumbing conduits 36 in adjacent wall forms 10 are aligned with each other, and so that door openings 30, window openings 32, electrical boxes 38, and joist pockets 42 are in the locations desired for the completed building. The result is a complete exterior form for the wall to be built.

Concrete is poured into the wall forms, taking up all of the space within the form not occupied by a plumbing conduit 36, electrical box 38, electrical conduit 40, joist pocket 42, door opening 30, and window opening 32. Once the concrete dries, the wall form will remain in place, with panels 12 and 14 forming the exterior panels of the resulting wall. The concrete forming around rebar 54 between panels 12 and 14 will serve to anchor the resulting wall in place.

At this point, the basic wall is complete. Joists may be inserted and attached within joist pockets 42 to form the framework for floors and ceilings. Electrical wiring is installed into electrical boxes 38 and electrical conduits 40. Plumbing is installed into plumbing conduits 36. Doors and windows are installed into door and window openings 30 and 32. Protective and/or decorative coatings are applied to panels 12,14.

It is to be understood that the present invention is not limited to the embodiment described above, but encompasses any and all embodiments within the scope of the following claims.

I claim:

1. A prefabricated wall form for construction of concrete walls, said wall form comprising:

a first and second parallel panel, said panels having a width and a height, said panels having an inside surface, an outside surface, a bottom edge, and a first and second side edge;

a wire webbing between said parallel panels, said wire webbing comprising a plurality of zigzag wires, each

Octrooiraad



⑫ A Terinzagelegging ⑪ 8501343

Nederland

⑲ NL

⑤4 Betonbekisting en hiermede verkregen betonconstructies.

⑤1 Int.Cl.: E04B 2/86.

⑦1 Aanvrager: Reko B.V. te Beek (L).

⑦4 Gem.: Drs. W.C.R. Hoogstraten o.s.
Octroobureau DSM
Postbus 9
6180 MA Gelsen.

②1 Aanvraag Nr. 8501343.

②2 Ingediend 10 mei 1985.

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③3 --

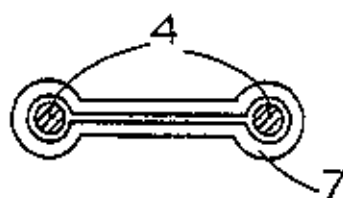
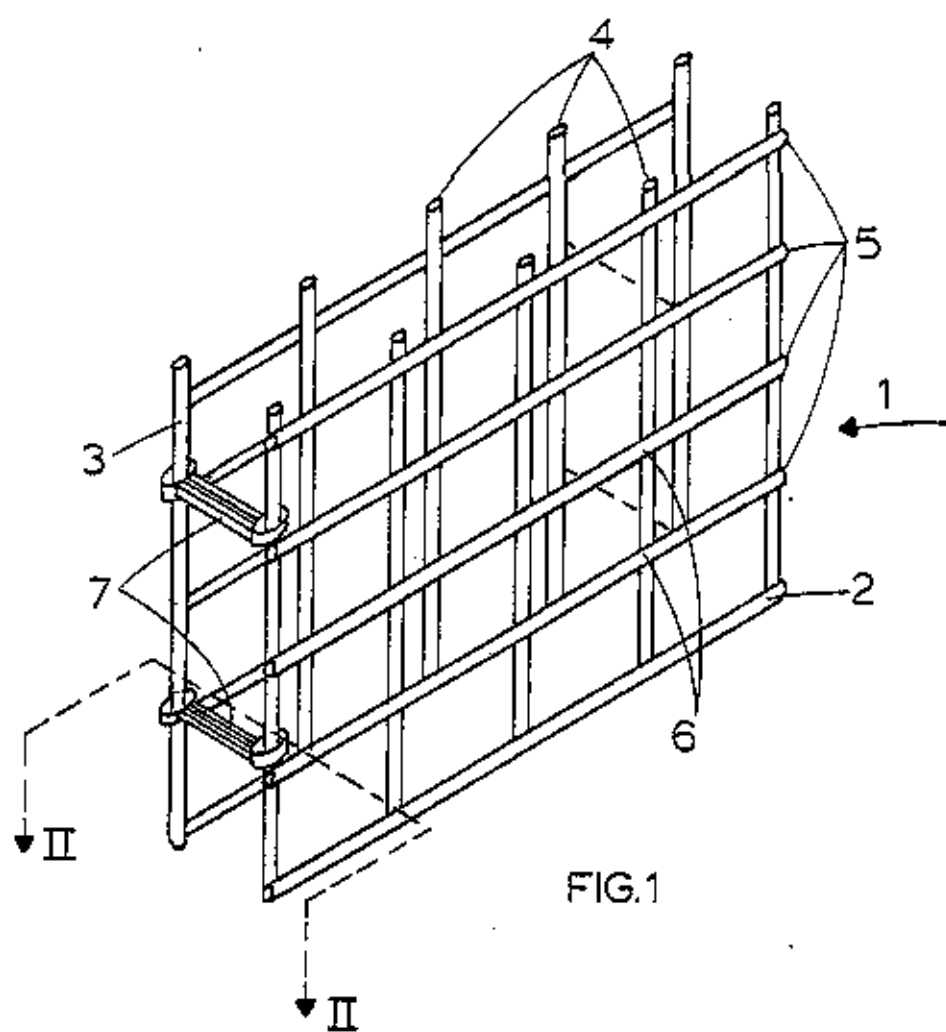
③1 --

③2 --

④3 Ter inzage gelegd 1 december 1986.

De aan dit blad gehechte stukken zijn een afdruk van de oorspronkelijk ingediende beschrijving met conclusie(s) en eventuele tekening(en).

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**SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIVISION DE NUEVAS CREACIONES**

Radicación No. 06-041542

Clasificación Internacional (IPC): E04B02/86

Concepto Técnico No. 3641

Patente de Invención

☒

Patente de Modelo de Utilidad

☐

Vía Nacional

☐

Vía PCT (fase nacional)

☒

Cap. I

☐

Cap. II

☒

No. Sol. Internacional

PCT/IB2003/005541

Fecha de Presentación Internal.

2003-11-26

Como resultado del examen definitivo, realizado con fundamento en el artículo 48 de la Decisión 486 de la Comisión de la Comunidad Andina, se le comunica:

1. Documentos estudiados

Descripción:

Folios: 27-38.

Reivindicaciones:

Folios: 39 – 41.

Dibujos:

Folios: 42 – 48.

Prioridad:

El solicitante presentó prioridad de Suiza con número de registro CH20031875/03 con fecha de 2003-11-03, folio 6.

1. Objeto de la invención

La presente solicitud fue titulada originalmente: "Encofrado de gran resistencia para muro de hormigón" folio 1.

De acuerdo con el texto de la descripción, los dibujos y las reivindicaciones, el objeto de la presente solicitud es proporcionar un "encofrado que aumente la rigidez de armado que se integrado durante la disposición de éste, facilitando el trabajo de los ingenieros civiles que pueden determinar la contribución a la resistencia del muro de las armaduras horizontales, al tiempo que disminuyen los costos de fabricación de éstas". (Folio 28).

Por lo anterior para solucionar este problema la presente solicitud trata de proporcionar: reivindicaciones 1-15, folios 39-41.

IPC: E04B02/86.

2. Determinación del Estado de la Técnica

Teniendo en cuenta que la fecha de prioridad es el 2003-11-03, se encontró los siguientes documentos relevantes:

79 79

Nº	Documento	Título	Fecha de Publicación
D1	US6167671 Inventor y solicitante: Steven D. Wilson	Prefabricated concrete wall form system (Sistema de pared prefabricada de concreto)	2001-01-02
D2	NL8501343 Inventor y solicitante: REKO BV	Shuttering for concrete structure has recycle plastic panels	1986-12-01

Se anexa las páginas correspondientes a los documentos, ver folios 72-77.

4. Evaluación de los requisitos de patentabilidad (artículo 14 D486)

4.1 Novedad y Nivel inventivo (artículos 16 y 18 D486)

Para esta solicitud se realizará la evaluación de cada reivindicación independiente en este caso es la reivindicación 1. La anterior reivindicación va soportada por el dispositivo que se describe a continuación:

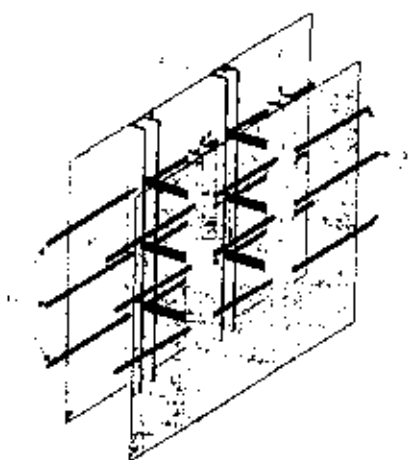


FIGURA 1

De acuerdo al estado de la técnica citado D1 sugiere una forma de pared prefabricados para la construcción de muros de concreto, dicha pared comprende: un grupo de placas paralelas como primero y segundos elementos, dichos paneles tienen una anchura y una altura, dichos paneles con una superficie interior, una superficie exterior, un borde inferior, y un borde lateral para el primero y segundo; un cable de membrana entre dichos paneles paralelos, unas correas de alambre que comprende una pluralidad de cables en zigzag, cada cable configurado para tener secciones en ángulo y picos planos en medio de estas, dichos picos planos que se colocan alternativamente en contra de dicho primer panel y dicho segundo panel, y una pluralidad de formas alargadas que se extienden a través y colocadas en el interior de los dichos paneles paralelos.

El documento D2 sugiere un encofrado de una estructura de hormigón que tiene al menos un muro constituido por uno o más paneles de plástico cada uno provisto de medios para garantizar que una jaula de refuerzo se mantenga en la posición deseada posición que cuando se someta a la presión del hormigón pueda soportarlo. Los medios de fijación están en forma tal que los paneles se pueden mover en su propio plano en relación con el fortalecimiento y cada uno de estos prefabricado y consistente en un gancho en forma de L con una parte fija y en ángulo recto con el panel y una parte de sus paralelo a participar detrás de una

barra de refuerzo. Los paneles están prefabricados en extrusión de plástico compuesto de poli-alúquenos con más de 70% de polietileno

Teniendo en cuenta tal y como se plantea la reivindicación 1, además, de acuerdo al estado de la técnica establecido en el numeral 3 se plantea la siguiente tabla comparativa de características reivindicadas dando a entender que las contiene (SI) o que no las contiene (NO).

REIVINDICACION 1	D1	D2
1) Encofrado para muro de hormigón que comprende dos paredes de encofrado (1, 1') paralelas, colocadas una enfrente de la otra, provistas de barras perfiladas que forman unos tensores (2, 2') verticales y conectadas por al menos un dispositivo de unión articulado que permite o bien mantener las paredes de encofrado (1, 1') con una distancia de separación que define un espacio destinado a recibir un material de relleno como el hormigón, o bien plegadas para su almacenamiento y transporte,	SI Elementos 12 y 14 son las paredes de encofrado paralelas con barras perfiladas (28) que forman tensores, con elementos de unión articulado (15) y (16) para definir una distancia de separación entre los paneles y facilitar el depósito del hormigón entre ellos Figura 1 folio 73	NO
2) caracterizado por el hecho de que el dispositivo de unión incluye una primera barra horizontal (3) rectilínea paralela a la primera pared de encofrado (1) y que atraviesa los tensores (2) de dicha primera pared (1),	NO	NO Posee unas barras horizontales (5) pero no poseen una pared de encofrado y no atraviesan los tensores verticales (3). Figura 1 folio 77.
3) una segunda barra horizontal (3') rectilínea paralela a la segunda pared de encofrado (1') y que atraviesa los tensores (2') de dicha segunda pared (1'), dicha segunda barra (3') estando situada enfrente de la primera barra (3),	NO	NO Posee unas barras horizontales (5) pero no poseen una pared de encofrado y no atraviesan los tensores verticales (3). Figura 1 folio 77.
4) y una pluralidad de barras de unión (4) que conectan de manera perpendicular las dos barras horizontales (3, 3'), dichas barras de unión (4) estando articuladas alrededor de dichas barras horizontales (3, 3').	NO	NO Solo poseen unos elementos (7) que unen los elementos tensores. Figura 1 folio 77.

El estado de la técnica más cercano es D1 pero tiene la diferencia de no poseer las barras horizontales que atraviesan los tensores que sostienen las paredes del encofrado y una pluralidad de barras de unión que se conectan de manera perpendicular a las barras horizontales, donde dichas barras están articuladas alrededor de dichas barras horizontales. Lo anterior hace que se cumpla el requisito de novedad contemplado en el artículo 16 de la decisión 486 de la comunidad Andina de Naciones.

El efecto técnico que se logra es el proporcionar un encofrado que aumenta la rigidez de armado que se integra durante la disposición de éste, facilitando el trabajo de los ingenieros civiles que pueden determinar la contribución a la

resistencia del muro de las armaduras horizontales, al tiempo que disminuye los costos de fabricación de éstos.

La solicitud se diferencia con D2 en que no consta de los perfiles verticales como tensores y las barras horizontales que las atraviesan y las barras de sujeción intermedias como lo expone la presente solicitud

Así pues, con el empleo de los dos documentos: D1 y D2, que hacen parte del estado de la técnica, NO se proporcionan herramientas de conocimiento a una persona del oficio normalmente conocedora de la materia técnica correspondiente, para emplearlos y derivar de ellos el resultado obtenido y que se desea proteger con la presente solicitud, por tal razón la presente solicitud, en las reivindicaciones 1-15, tiene nivel inventivo.

El estudio anterior permitiría afirmar que la solicitud en la reivindicación 1 cumpliría con lo estipulado en el artículo 18 de la Decisión 486 de la Comunidad Andina de Naciones.

4.2 Aplicación industrial (artículo 19 D 486)

Se considera que la invención titulada: "Encofrado de gran resistencia para muro de hormigón" la cual contiene las reivindicaciones 1-15 (folios 39-41) son susceptibles de aplicación industrial por que pueden ser producidas o utilizadas en la industria. Con lo anterior se podría afirmar que cumple con lo estipulado en el artículo 19 de la Decisión de la Comunidad Andina de Naciones.

5. Conclusión:

En consecuencia y por todo lo expuesto anteriormente, se recomienda **Conceder** las reivindicaciones: 1-15 (folios 39-41)

Bogotá, D.C.,

CONCEPTO TECNICO No. 3641	EXAMINADOR TECNICO Código No. 202083
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