Dpirnum Derecho de la Competencia, Propiedad

Industrial y COrnercio Exterior

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nivisiO$ DE NUEVAScciois SUPLIN ILNDENCIA UL INDUS IRtA Y COMRCIO Superint4dencia de Industria yComercioo. I-122765.!
E. s./ D. DIRNUEVASCR
Act. 329 CTOINFORMACON Folio 39

Refer’ :ExpedientØ N° 6 12276

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Munto /

* Remisión de información a la solicitud de pateute titulada
"ACCESORIOS PABA ENCOFRADO METALICO"
Solidta4te GUSTAVO SERRANO RODRIGUEZ.
 Remiso SILPECO S.A.

P.ublicada en laGaceta de la Propiedad Industrial
N 554 del 3lde diciembre de 2007.

71EW ANGELA PF1A RODRIGUEZ, abogada en ejerciclo, identi&ada coma
ce al pie de su firma, con tarjcta profeional No 82701 del Consejo Superior de idicatura, en nu conthcion de apoderada de la souedad SILPECO SA rmada baja las Ieyes de la Republica de Colombia y domicihada en la ciudad de tootÆ, Colombia, atentmenre manifiesto que par orden expresa de nu representada, el ammo de o1aborar con esa ’Entzdai en la decision que sobre 6patentabibdad de /a sohcitud de la referencia se tomarÆ, m permito sohurarle, miy repetuosamente, da curso a la siguiente rnfonn.con reLitiva al arte anterior relevante para que sea tofuado en cuenta en ci estudio de pareritabilidad de la sohcitud de patente titulada "ACCESOR1OS PARA ENCOFRADO METALICO" cuyo soltcitante es ci senor 9USTAVO SERBANO RODRIGUEZ

Camra 13 N- 119-93, Of, 10Tc571)2 1312 L3 -(W50 21 -Fax. (571)6 12 19 79
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para

Derecho de la Cornpetencia,. Propiedad Industrial y Comercio Exterior

1. PETICION.

al Seæor Superintendente, NEGAR, en los tØrrninos de artfculo 48 de.. la
n 486 de. 2000 de la CAN, la Solicitud de Patente de Invención denominada SOB1OS PARA ENCOPRADO 1{ETALICO", cuyo solicitante es GUFAVO .NO RODRIGUEZ, con base en los siguientes hechos y fundamentos de , relacionados con ci incumplimiento de los requisitos fundamentales exigidos concesión de Patentes, segun la legislacion vigente.

2. FUNDAMI3NTOS DE HECHOS

.1.La solicitud objeto de la presente fue presentada ci 6 de dicietnbrc de 2006 y fue publicada en Colombia, en la Gaceta de la Propiedad Industrial N° 584 del 31 de diciembre de 2007.

2.2.La ac4icitud 6 122765 objeto de la presente remisiôn, se refiere a acesorios pr encofrado metÆlico destinados al anclaje y fijaciôn de placas a lÆminas modulates de encofrado o formaletas tnetlicas perforadas en su superficie, que se caracteriza por comprender: un cuerpo que integra por sold8dura una chapa mctiilica dobiada, una ranura mtermedi.a y una vanilla que ptenta dobicces a mancra de gancho para fijar y anclar ci encofrado a naves de sus perforaciones; y un distanciador con perforaciones de ajuste y perforación para desensamble que no dafla la estructura moldeada.

2.3. Con base en el articulo 14 de la DecisiOn 486 de la CAN que consagra: "Los paises mietnbros otorgan4n patentes para Las inve icivnes, scan de producto o

. t’13N°iJ9-95,Of.1O4 Tel. (57.D213i1J-62O5O2l- Fax (571)6I2I9 19
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- foguca Colombia

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Como se ilustra, la mordaza es igual a la ilustrada en la figura 7 de D4 de 1935 y su uso en la figura 3. El uso de las mordazas consiste en amarrar la estructura con un elernento alargado Para posicionarlo en alineacion. La Unica diferencia radica en que en la scilicitud el elemento alargado es un canal (perfil en U) pero esto no puede constituir patente pues no se mejora la tØcnica con es configuracion, simplemente se cambio Pero no apotta ninon efecto tcnico que antes no tenla. No puede constituir un sako invenUvo ci hecho de considerar que (ademas de un perfil en U un tubo redonLo), un encofrado se puede alinear con, pot ejemplo, un tubo cuadrado o una simple platina de alto calibre; y, liegar a considcr4r que ello es patentable. Es funciOn propia del perfil, alinear por contacto pot la cara Plana y rigida, luego, mientras se cumpla la condición, es independiente de su forma. La forma sOlo ofrecc rigidez. Esto, xjr to canto Cs una soluciOn usual y no es un salto cualitariwo. Ahora bien, en cuanro a las herramientas de enganche, tampoco son novedosas. Como se ilusi:ra en todas las figuras, se refiere a una mordaza con prolongaciones en garfio y un tornillo interno, mejor conocida como prensa de a;ustc. Esta pieza se usa bace muchos aæos, y de manera particular en encofrados, como to demuestran las tablas anteriores en las que se evidencia quc ou iguales entre sL y se usan desde 70 afios atrÆs.COmo puede esto constituir un alto tecnologico de los sistemas de encofrado si ya existe con anterioridad y por lo tanto, bace parte del estado de Ia tØcnica.
2 7 Para ofrecer ngidez a Las estructuras de Los encofrados se deben disponer de elementos adicionales como perfiles angulados soldados en los marcos. Ms

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aün cuando los parales tranaversales y verticales son de bajo perifi, cuyo espesor
es muy reducido. Cuando los paneles son de otros materiales recientemente
utiJizados como PVC y Plgstico, no son necesanos estos refuerzos. No obstante,
debido a que la solicitud es metÆlica integramente,el peso es mayor y pot ello
requiere de refuerzos. Pot ello, es que las patentes que involucran estos
refuerzos son de tantos aæos atrÆs,como los referenciados. Como se observa estas estructuras de encofrados de esta 6poca comprenden tambin de refuerzos para distribuir las cargas. Esto tampoco puede ser considerado novedoso, dado que cualquier ingeniero puede liegar a deducir el requerimiento de inedios de absorclOn de dichos refuerzos. La soluciOn propuesta por este documento es simple, una platina doblada. Lo que no resuka claro, es la razón pot la cual no se desarrollO con las nuevas alternativas de ingenieria y-haciendo uso de nuevos materiales mts livianos. Segun se ilustra en las figuras, la caracterizaciOn es una copia de La tØcnica de1935. Pot esta razOn, estos refuerzos:no aportan ninguna novedad. Mi enronces las reivindicaciones de la solicitud objeto de la presente rernisiOn, carecm tmbiØn de novedad.

2 8 En conseLuencta y de acuerdo a to descrito antenormerae, se deriva que la sólicitud colombiana 6 122765 no puede pretender un monopolio pot patente
toda vez que lo que pretende no cumple con dos de los tres requisitos necesarios para su protecciOn.

2.9.Que pot consiguiente, respecto a la solicitud pretendida se tiene que:

2.9.1. CARECE DE NOVEDAD: Segün la decision 486 de la Comunidad Andina de Naciones, ArtIcubo 16. "Una invenciOn se considertzrd nueva
comprenda en el esmdo & la tdcnica. El eso de la timicacqmendd wdo lo que

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Bogota Colombia

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Industrial y Comercio Exterior

h2yu2 sido accesible al pb1ico por una descripcion escrita u oral, utilización,
comercializacian o cualquier otro medio antes de la fecha de presenw.ción de la solicitud
d.c patente o, en su caso, de la prioridad. reconocida.". A La fecha de prioridad, 6 de
dicieinbre de 2006 ya era conocido, pues como se demosttO, era parte del arte
anterior con base en el documento Dl a 1)4, accesorios Para encofrado
metâlico destinados al anclaje y fijadón de placas o igminas modulares de

S - encofrado o formaletas metlicas perforadas en su superficie, con tin cuerpo

que integra pot sokiadura una chapa metÆiica doblada, unaranura intermedia y
 una varilla que presents dobleces a manera de gancho Para fijar y anclar el
encofrado a travØs de sus perforaciones y un distanciador con perforaciones de
ajuste y perforacion Para desensaxnble que no daiia la estructura moldeada,
sobre el cual busca protecciOn en el capitulo reivindicatorio.
2.9.2. CARENCIA DE ALTURA INVENTIVA. Segun la Decision 486 de la Coniunidad Andina de.Naciones., Arriculo 18.- "Se considerard que una invención
tiene nivel inventLvo, SL para una persona del oficio nonnalmenre versada en la matena tØcnzca corresponthente, esa znvenc26n no hubiese resultado obvza nz se kubzese denvado
d.c manern evidente del estado de la tØcnica" A la fecha de pnoridad, 6 de dicietubre de 2006, a partir del documento Dl o 1)2 en combmaciOn con D3 y
1)4, puede ilegar de manera evidente a accesorios Para encofrado -metalico
destinados at ariclaje y fijacion de placas o l&minas modulares de encofrado o
formaletas metÆlicas perforadas ensu superficie, sobre ci cual busca protecciOn
en ci capitulo reivindicatorio.

2.10. Dado lo anterior, es posible deducir que la solicitud y4o reivindicado no
es objeto de patenrabiidad pues es contrario a lo que dicta la DecisiOn 486 de
II la Comunidad Andina de Naciones, Articulo 14 "Los Pazses Mzernbros otorgathn
patentes Para las invericwnes, scan de producto o de procedimzento, en wdos los campos

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CAMARA DE COMERCIO DE BOGOTA

SEDE CHAPINERO

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PAGINA: 1 de 2

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CERTIFICADO DE EXISTENCIA Y REPRESENTACION LEGAL 0 INSCRIPCIOIsI DR
DOCUMENTOS

LA CAMARA DE COMERCIO DE BOGOTA, CON FUND.AMENTO EN LAS MATRICULAS E
INSCRIPCIONES DEL REGISTRO MERCANTIL
CERTIFICA:
NOMBRE: SIIJPECO SA

N.I.T.: 900179212-9.ADMINISTRACIQN DIRECCION SECCIONAL 1)3 IMPUESTOS

DE BOGOTA
DOMICILIO: BOGOTA D.C.
CERTIFICA:

MATRICtJLp NO: 01747660 DEL 18 DR OCTUBRE DE 2007
CERTIFICA:

DIRECCION DR NOTIFICACION JUDICIAL CR 69 C NO 98k-50
MUNICIPIO: BOGOTA D.C.
DIRECCION COMERCIAL DG 81 NO 45-09/17
MUNICIPIO: BOGOTA D.C.
CERTIFICA

CONSTITUCION: QT.TE POR:ESCRITURA PUBL,ICA. NO. 0007898 DE NOT.ARIA 6 DR
BOGOTA D.C. DEL 4 DE OCTUBRE DR 2007, INSCRITA EL 18 03 OCTUBRE DR
2007 BAJO EL N04ER0 01165192 DEL LIBRO IX, SE CONSTIDUYO LA SOCIEDAD
COMBRCI.AL DENOMINADA SILPECO SA
CERTIFICA

VIGENCIA: Q1JE LA SOCIEDAD NO SE HALLA DISUELTA. DURACION HASTA EL
4 DE OCTUBRE DE 2027
CERTIFICA:

OBJETO SOCIAL: LA SOCIEDAD TENDRA COMO OBJETO PRINCIPAL LAS
SIGUIENTES ACTIVIDADES LA PRESTACION DE SERVICIOS PARA LA. INDUSTRIA])E LA CONSTRUCCION, ASESORIAS PARA. CONSTRUIR CON
CONCRETOS Y MORTEROS LIVIANOS, INCL1JYE FORIVIALETAS, MtJROS, PLACAS
03 ENTRE P150 Y CUALQUIER TIPO DR PREFABRICADO LA SOCIEDAD PODRA
AUQUIRIR, CEDER DER.ECHOS Y CONTRP.ER OBLIGACIONES DERIVADAS]DE
LICENCIAS, PERMISOS, CONTRATOS DE OPERACION, CONVENIOS DR
ASOCIACION, ETC , QtJE FACULTEN PARA EL DESARROLLO DE LAS
ACTIVIDADES INDUSTRIALES Y COMERCIALES DESCRITOS. IGUALMENTE,
PODRA COMPRAR, VENDER Y.ADMINISTR.AR TODA CLASE DR BIENES MOEBLES
EINMUEBLES, INCLUIDOS LOS EQUIPOS NECESARIOS PARA EL EJERCICIO
DE LAS ACTIVIDADES PROPTJESTAS, Y PODRA, ADEMAS, TOMAR EN
:ARRENDA}4IENTO TODO TIPO DR BIENES, HIPOTECARLOS 0 GRAVARLOS DR
L CUALQUIER FORMA., DR TAL MANERA. QUR PIJEDA MONTAR OFICINAS, PLANTAS
Y T000 LO NECESARIO PARA LA PRODUCCION Y VENTA DE SUS PRODUCTOS Y
SERVICIOS; ACTIVAR TODA CLASE DR OPERACIONES DE CREDITO; GIRAR,
CEDER, ENDOSAR, ACEPTAR, NEGCCIAR, ETC., TITTJLOS TRANSMISIBLES
POR LA VIA 1)3 CESION 0 ENDOSO Y TODA CLASE DR DERECHOS CONTENIDOS
EN LETRAS, PAGARES, Y DEMAS TITTJLOS VALORES; CELEBP.AR CONTRATOS
DR MUTUO DE DINER.O U OTROS GENEROS, FORMAR PARTE DE OTRAS

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ARADE HOOO1.

CAMARA DR COMERCIO DR BOGOTA

SEDE CHAPINERO

2 DE JULIO DE 2010

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PAGINA: 2 de 2

CERTIFICA:

REPRESENTACION LEGAL: LA SOCIEDAD TENDRA UN GERENTE, QUE PODRA

SER 0 NO MIEMBRO DR LA JUNTA DIRECTIVA, CON UN StJPLENTE QUE REEMPLAZARA AL PRINCIPAL, EN SUB FALTAS ACCIDENTALES, TEMPORALES

O ABSOLUTAS.

CERTIFICA: ** NOMBRANIENTOS **
QUE POR ESCRITURA PUBLICA NO. 0007898 DR NOTARIA 6 DR BOGOTA D.C. DEL
4 DE OCTtJBRE DE 2007, INSCRITA EL 18 DE OCTUBRE DE 2007 BAJO EL NUMERO 01165192 DEL LIBRO IX, FUR (RON) NOMBRADO (B):
NOMBRE IDENTIFICACION
GERENTE

DI BELLA QUARENGHI ROBERTO C.C. 000000019241487
CERTIFICA:.

FACULTADES DEL REPRESENTANTE LEGAL: EL GERENTE, 0 QUIEN HAGA SUB
VECES ES EL REPRESENTANTE LEGAL DE LA SOCIEDAD PARA TODOS LOS
EFECTOS. EL GERENTE EJERCERA TODAS LAS FUNCIONES PROPIAS DE LA
NATURALEZA DE SU CARGO, Y EN ESPECIAL, LAS SIGUIENTES: 1.
REPRESENTAR A LA. SOCIEDAD ANTE LOS ACCIONISTAS, ANTE TERCEROS Y
ANTE TODA CLASE DR ATJTORIDADRS DEL; ORDEN ADMINISTRATIVO Y JURISDICCIONAL. 2. EJECUTAR TODOS LOS ACTOS U OPERACIONES CORRESPONDIENTES AL OBJETO SOCIAL, DR CONFORMIDAD CON LO PREVISTO
EN LAS LEYES Y RN ESTOS ESTATUTOS. AUTORIZAR CON SU FIRMA TODOS
LOS IJOCUMENTOS PUBLICOS 0 PRIVADOS QUE DEBAR OTORGARSE EN
DESARROLLO DE LAS ACTIVIDADES SOCIALES 0 EN tNTERES DE LA
SOCIEDAD. 4. PRESENTAR A LA ASAMBLEA GENERAL RN SUB REUNIONES
ORDINARIAS, UN INVENTARIO Y UN BALANCE DE FIN DR EJERCICIO JUNTO
CON UN INFORNE ESCRITO SOBRE LA. SITUACION DR LA SOCIEDAD, UN
DETALLE COMPLETO DE LA CUENTA DE PERDIDAS Y GANANCIAS Y UN
PROYECTO DE DISTRIBUCION DR UTILIDADES OBTENIDAS. 5. NOMBRAR Y
REMOVER LOS EMPLEADOS DE LA SOCIEDAD CUYO NOMBRANIENTO Y REMOCION
LE DELEGUE LA JUNTA DIRECTIVA. 6. TOMAR TODAS LAS MEDIDAS QT.JB
RECLANE LA. CONSERVACION DE LOS BIENES SOCIALES, VIGILAR LA
ACTIVIDAD DE LOS EMPLEADOS DE LA ADMINISTRACION DE LA SOCIEDAD E
IMPARTIRLES LAS ORDENES E INSTRUCCIONES QUE EXIJA LA BUENA MARCHA
IDE LA C0MPAIA. 7. CONVOCAR LA ASAMBLEA GENERAL A REUNIONES
EXTRAORDINARIAS CUANDO LO JLJZGUE CONVENIENTE 0 NECESARIO Y RACER
LAS CONVOCATORIAS DEL CASO CUANDO LO ORDENEN LOS ESTATUTOS, LA
JUNTA DIRECTIVA 0 EL REVISOR FISCAL DE LA SOCIEDAD. 8. CONVOCAR
LA JUNTA DIRECTIVA CUANDO LO CONSIDERE NECESARIO 0 CONVENIENTE Y
MANTENERLA INFORMADA DEL CURSO DE LOS NEGOCIOS SOCIALES. 9.
CUMPLIR LAS ORDENES E INSTRTJCCIONES QUE LB IMPARTAN LA ASAMBLEA
GNERAL 0 LA JUNTA DIRECTIVA, Y, EN PARTICULAR, SOLICITAR ATJTORIZACIONES PARA. LOS NEGOCIOS QUE DEBEN APROBAR PREVI.ANENTE LA
ASAMBLEA 0 LA JUNTA DIRECTIVA BEGUN LO DISPONEN LAS NORNAS

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VILLANIL ANCIZ HUGO HERNAL)Q C.. 0
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VALOR: $ 3 600 1
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POR LA SCJ ERINTENDENCIA DE INDUSIA Y COMERCJ 0,
DEL 18 DE NOVIEMBRE DE 196, I4 FIRMA M’E(A3
CONTINtJACTh TIENE PLENA VALIJZ PA T000S LOS IFE

Dec. 21, 1937. W, A. JENNiNGS 2,102,717
METAL POEM CLAMPING DEVICE

Filed July 27, 196

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Patented Dec. 21, 131 2,102,71?

UNITED STATES PATENT, OFFICE

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METAL FORM CLAMPING DliVICE

S William Allen Jennings, Des Moines, Iowa,asslgn-
or to Economy Forms Corporation, Des Moines,
S
levj!6 a corporation of Iowa S

Application July 2, 1936, Serial No. 9275

lCIaIm..

In the art of sheet metal forms for. concrete structures it Is customary to provide sheet metal forms In relatively small sections with flanges extended outwardly from the edges thereof, and 5 to provide holes In said flanges through which bolts or other clamping devices may be extended to rigidly bold the forms together.
My object Is to provide means of simple, dur-able and inexpensive construction by which said 10 mould forms may be readily, quIckly and easily clamped together with sumclent firmness to with-stand the shooks and jars to which such struc-tures’ are subjected In use, and particularly when

the cement between the forms Is tamped or agi-. 16 tated, andwhich clamping devices may be readily, u1ckly and easily detached when the forms are being removed from a finished concrete structure.
Referring to the accompanying drawing, Fig-
are 1 shows a perspective view of my Improved clamping device.. -

S

Figure. 2 shows a side elevatiOn of one of my Improved clamping devices; applied to the flanges
Of a metal form and Illustrated In clamped posi-tion.- The dotted shows tim position of the 25 pin.
Flgue 3 shows a transverse, sectional view through portions of two abutting metal forms and, their flanges, and through my Improved

clamping device applied thereto, illustrating a form of the invention In which the clamping de..
vice Is frictionally held in position by bending the adjacent portions of the flanges of the metal form.

P’lgare 4 shows a similar view Illustrating a modification In which, the jaws of the clamping
.35 device, are retained in position by springing Into openings In the flanges of the forms.
FIgure 5 Is a similar view Illustrating another modification In Which the clamping device Is held in position on the flanges by bending the flange, 40 laterally*to one side and employing the resiliency of the flange to bold the clamp In place.
Figure 6 shows a. similar view of another modi-fication. In which the clamping device Is held In
- place by ’a projection on the resilient jaw of the clamping device being sprung into position below the looped portion of the flange of the mould form.
Figure 7 shows a, similar view of another mod!-
50 ficatlon In which both jaws of the clamping de-vice are resilient, and In this view they are shown spread apart by the thickness of the over-lapped portions Of the flange; and
FIgure 8 shows a’vlow of the same form of the Invention with the resilient jaws sprung to posl-

(CI. 25-131)

fion engaging the lower edges of the overlapped portions of the flange of the metal forms.
Referring to the accompanying drawing, the clamping device, as clearly shown in FIgure 1, comprises a. body portion 60, With a handle per- S tion.11 at one end and an extension 62 at the other end, to which extension there Is fixed a pin 63.. Between the handle portion It ’and the ex-tension Il there are two Jaws.I4 and IS. In this figure the two ’jaws are provided with extensions 10

16 and Ii at their ends furthest from the body, the extensions projecting toward each other.
This entire clamping device. Is preferably formed of a single piece of resilient metal and Is. preferably cast. complete In one piece so that it 10

Is. cheap to manufacture and does not. need any machine.. S
The metal forms which I employ in connection with my InventiOn are composed of relatively

flat body portions’ IS made of resilient sheet metal 20 and provided with flanges 19 which extend from
the edges of the body substantially at right angles, and their outer ends are folded back upon the flanges at 20, the edges of the members 20 being spaced apart from the body 68. These flanges are 25 provided with series of openings 26 preferably equally spaced apart throughout their entire lengths, So that the clamping device may be placed on any part of the flange.

In the form of the Invention Illustrated In Fig- So ures 1, 7 and 8, I apply the clamping device as follows: I first Insert the pin 63 through the

aligned openings 26 in two of the flanges of the metal form. I then. grasp the handle portion and turn It pivotally centered upon the pin 13 35 until the jaws 64 and IS engage opposite sides of the two flanges, as shown In Figure 7 where they are seen to be slightly sprung apart. I then, preferably with a hammer, strike the handle and drive the jaws toward the bodies of the forms 40 until the projections.66 and I have passed below the lower edges of the flanges 20, whereupon the jaws spring, toward each other and thereby yield-

clamp the two adjacent mould forms firmly to- ds

In practice I have found that with my Improve-ment the forms are held together with aumcient rigidity to withstand the tamping or agitation to

narily subjected. . - When it Is desired to dismantle the mould form
the operator may, by grasping the handle II or by using a lever to pry them outwardly, quickly and easily swing them to position with the jaws

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beyond the ends of the overlapped flanges, and
then the handle may be moved laterally, either
by hand or with the use of a hammer, to withdraw
the pin. Obviously, these operations of applying

G the. clamping device, or removing It, can be ac- complished very quickly and easily by unskilled

labor.

In the modified form Illustrated In Figure 6
I have shown a próection 22 on one of the jaws tO only, the other one being left smooth and straight and parallel with the adjacent portion of the Lange of the form. With this construction the operation of applying or removing the clamping

device Is the same as that hereinbefore de- 15 scribed, except that only one projection* 22. is
employed to hook under the adjacent edge of the overlapped portion of the flange.
In Figure 4 I have shown another modification
in which the clamping jaws are somewhat shorter 20 In length than that shown In Figure ’, and other-wise the same only the projections 23’ and 24 thereon are so positioned as to enter the adjacent openings 21 In the flanges of the mould forms.
In the modification, shown in Figure ’5 I have
25 shown one of the jaws 25 to be of the same length as the adjacent overlapped portion. 20 of the

flange 10, and the other law Is provided with an extension 20 at its lower end to pass under the lower edge of the adjacent overlapping portion 30 20 of the flange of the mould form. In this mod1-
flcatlon the clamp Is held In position both by the resiliency of the flanges 19 which are ’bent later-when this mdIfled form of the’ device Is applied, and by the extension 26 being moved to 35 position under the shoulder formed by the adjam

ceni overlapping member of the flange. - In the modified farm Illustrated In Figure 3

I have shown the inner adjacent -surfaces of: both jaws, and slightly curved, and one jaw 27.ter.

40 minates at about the lower end. of the over- lapping portion of the flange, while the other

Jaw is longer and has a prOjection 28 that.’.ex-

tends toward the adjacent flange below the over-lapping portion. In: this form of the Invention the resiliency of the flanges themselves aid In holding the clamping device In position, and In this form of the invention the part. Indicated as 28 constitutes an Inwardly extended projec-tion which functions somewhat similar to the projections IS and I of the form of the inven-tion illustrated in Figure 1..
In practical operation with any of the forms of. my invention herein described I can easily, readily and quickly Insert the pin 13, drive the handle toward the flanges, turn the handle In the direction toward the flanges of the metal forms and then drive the body tO with a hammer, or otherwise, to position for causing one of the projections on the Inner face of the jaws to posi-tion belów’tlie overlapping edge of the flange or Into the pin openings 21, and when this has been ’done the resiliency either of the ’jaws themselves or of the flanges securely holds the clampsin posi-tion and the metal forms rigidly In -engagement. with each other.
I claim as my invention:
A clamping device comprising a lever, a ful-crum pin extended laterally from one end por-tion of the lever, and a pair of laws formed inte-gral with the lever and of resilient material, the space between the ends of the jaws furthest from the lever being less than the space between the remainder of the jaws and whereby when the jaws are ’forced upon two articles to be clamped together and which are relatively thick at ’their outer edges and of lessthickness at a point spaced from Said outer edges,, the jaws will be forced

apart during the time when the jaws. are moving over said relatively thick portions and then spring
toward each other and form a frictional locking engagement with said articles. when the end por-tions of the jaws reach said less thick portions of the articles.
WILLIAM ALLEN JE7NINGS.’

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Jam 5, 1932. . A. Q. NASH
COM8INATIONOrAMP AND DRIFT PIN
Filed Jan. 24, 1930

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JOT-

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1,840,169

Patented Jan. 5, 4932. 1RAA

UNITED. STATES PATENT OFFICE:

ALEXA1DER Q. NASR; 0F CINCINNATI, ORTO; GEORGE W. STEVENSON, ADMINISTR&TOR O EAE) AT AN])EB Q.NASN])EO.&SFD, ASSIGNOR TO CXROCLA3 CONORRTE CON-
TAThJEE COBORATON, CINCINNATI, qR10,7 CORPORATION OP OXo

OOM3INATXON CTA?rP AND DREPT PIN

Appiiatlon Sieii 3anuary 24, 1530. Serial No. 423,171.

This invention is dlireeted t a combination the jaws into. clamping. relatiOn with the clainp and drifi; pin designed more particu-
la for in in

angle iron sections or free the sections..
.use couneclion assembling and The invention is illustrated in the accom-
relatively fixing the sections of shell molds panying drawings, in which:
used in cement or:,like molding. Fig. 1. is a perspecthe view, showing.the
In ’building,structures of cement or like
plastic niateriu.l it ii.usual to provide a shell-

iTuproveci clamping element-in’ in operative re- lation with the angle-iron margins of a mold
like mold to receive and form the plastic ma- section.
terial, and, particularly in large construe- Fig. 2 is a plan of the same.
10 tions, these shell molds are made up of see- Fig. 3 is an edge view of the sarrie the mold 00
tins with edges of id on, or, like rein- sections being shown in section.
foreenient. in previous constructions these Fig. 4 is a perspective view.of the improved
sections of the mold are assembled and held clomp.
in molcl-fotmiiig relation by bolts, passed Fig. 5 is a transverse section through the
15 through openings in the outstanding mar- clomp ia operative position.
gins of the angle-iron edges 011(1 held by nuts
the bolt during the

The improved chimp comprises:an integral
tightefled on molding metallic body 1, having U-shaped 2,
The time to

.a portion
operation.. requiied place.and the side. wails of which, as 3 and 4, have their remove the nuts and bolts, to say nothing of
difficulty incident to lioWing the

inner.surfaces relatively convergent; as indi
the sections catoci more particularly in Fig. 5. The clamp 70 in proper relation to aline the bolt boles of includes a handle section, extended from the adjacent sections, rendered the work of as- upper part of the U-baed portion, such seniblin and dismantling the molds a dim- h,indl.e section, indicated at 5, projecting at cult..anexpensive detail of the building op.. substantially right angle from the portidn eration. 2, and forming a substantial, rigid, and 75 The primary object of the present inven- strong extensmn.
tion is to materially simplifyand reduce the ne of the walls of tle U-shaped portion One* time and expense f both assembling and dis- 2.6f the clamp is extended forwardly for’a mantling the mold sections through provision portion, of the height of such wall, this cx-
30 of a single element serving as a combined
drift throi.igh the

tension 3 projecting in the plane of the walL 80
pin and clamp, and use, of of the portion 2 from which it exteids, and
which the sections are assembled in proper being thus at one side of the clamping space
relation by use of the drift pin feature of between the side walls 3 and 4. rflj5 exten-the element and the angle-iron elements of siGn 6 is provided with. a, rigid drift pin 7, 35 the sections securely and relatively clamped projecting at right angles to the plane of the 85 to hold the riiold ectious in mold-forming
relation, through which both the assembling

extension, and of couise tapering toward its
re end.. The drift l’.ha a length exceed-

and dismantling of the mold sections may b ing the transverse dimension of. the clamp
40 carried out in a speedy and convenient, man- proper. Do

nor, with a consequent saving of time and ex-pableIn6nddd pense.

The improvement, structurally considered, flY be put, is primarily designed for posi-tioning and clamping mold sctions’in con- comprises an integral element tormed to pro- crete or
sheet
with an extended reinforcements’ at
extended drift

the drift present outstanding
the together thereafter assembling
the element vertically

1,840,189

sections are placed in contact and are de- Having thus described the invention, what
signed to be secured together, both in annu- is claimed as new, is:--
lar formation and in superimposed relation. 1. A. combined clamp and centering pin
These flanges 10 are formed with openings for use in aligning the bolt holes in thóflanges 11, and in assembling the sections, as hereto- of molding sections and for damping said 70 fore prOposed, these openings of the respec- sections with relation to each other after tive flanges 10 are brought into proper rela- bolt hole alignment including a member hay’ tionU;by drift pin action. and bolts passed ing jawstoform a clamp for the flanges, ’and such aligned ho and secured by a cylindrical tapered pin depending. from
nuts. The ’difficulty of holding, the holes in oneóf said jaws to cooperate with and align 75

the flanges 10 aligned after use of. the drift the bolt holes of. superimpOsed flanges. pin and while inserting the bolts,, together to serve as a pivot pin for the operation of

with the time consuming operation of apply- the clamp following such aligning function.
ing the bolts and nuts in assembling and re-. 2. A combined clamp and centering pin
’is moving same in dismantling, added avery including an element formed to provide SO

S.material expense to the ultimate molding., clamping jaws, and a cylindrical tapered pin

operation. :, .. . carried by. the element wholly beyond the
The ’ present improvement avoids all the clamping jaws whereby the pin maybe used
difficulties, and so reduces the time necessary as a centering pin without jaw interfereno
to the operition, as to render the assembling and thereafter serve as a pivot for clamping85
and-dismantling a comparatively minor item movement of the jaws.

of time or expense. In:use, when the see- ’&.A clamp including a U-shaped camp- . tions are initially arranged in proper rela- ink section providing clamping jaws, one

tion, the drift pin is driven through*the ap- of the jaws being extended, and a cylindri-
p plopriate boles in the meeting.flanges 10, cal, tapering pin fixed in such jaw extension. CO

and such holes brought into alignment, thus 4. A combined clamp and centering pin ’properly’ positioning the. adjacent mold sec- operating to center the bolt holes. in the

tions. Then without removing the drift pin, lateral flanges of superimposed molding sec-
ond thereby holding the sections of the mold tions and to clamp the flanges together, com-

so their proper relation, the clamp as a wholeprising a clamping member formed to em- Isturned on the drift pin as a pivot, and the brace the superimposed flanges.and clamp

jaws of the clamp forced to embrace the meet- them. in fixed relation, and a pin carried by
mg flanges 10.. This’operation,. by reason of. said member of cylindrical tapered form,
the convergence of the walls of the portion said pin., being operative to initially and
U ol the clamp, forces the. flanges 10 into perfectly align the bolt holes of the super- °°
fltd and close contact, and secures the mold imposed flanges and following such align.

actions in desired relation. Of course; the in operation serve as a pivot for the opera- ’ aspiration of the clamp, when dismantling tive movement of the clamp: with respect to the sections, is carried out in an obvious man- such flanges while maintaining the aligned relation of the bolt holes. 103
The clamp thus provides for drift-pin ar-, In testimony whereof I affix my signa.
rangement of mold sections and subsequent tare.
clamping of such sections in fixed relation in. ALEXANDER Q. NASH.
a simple speedy operation, requiring, only a
sufficient number of the clamps and a meni- . , 110
for driving the drift pins, and the clamps
ami be continually reused The clamps are
of oeurae to be constructed of rugged metal

to stand the specified usage, though they may F be of any size requisite for the particular ’ mold.’ The handle 6 is sufficiently strong to

permit driving, thus insuring that force may

be used if desired to insure a proper clamp- ing. action even under a,’slight distortion of no
flanges 10, as. may in fact occur in re-
peated use of the mold sections. The handle,
by reason of the plane of its projection rela
*ive to the clamping section 21 will, when in

 as damping relation, rest closely adjacent the . free edges of the angle-iron sections 10, as

shown in Fig. 1, thus avoiding undue projec-
tion, while, at the same time free
aacem to the handle for removing the clamp
ihen dseired.’ . . ito

cf;

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May 12, 1964 W. A. JENNINGS 3,1329405
STRUCTURAL LOCK
Filed Oct. 12. 1962

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United States Patent-Office3132,405 Pgaented May, 1984
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3,132,405
STRUCTURAL LOCI

William A. Jennings, Des Moines, Iowa, assignor to

Economy Forms Corporation, Des Mohies Iowa, a corporation of Iowa

Filed Oct- 12 1962, Ser. No, 230,124
2 Claims. (CL25.-131)

This invention relates generally to a locking device for

securing form members together and more particularly to an improved locking pin for releasably securing spreader
ties to spaced concrete form panels.
An object of this invention is to provide an improved Meader tie clamp for metal concrete forms.
Another object of the invention is to provide a jacking pin which Is readily connected to and releasable from spreader ties and forms without the use of special tools. A further object of the invention is to provide a lock-ing pin for clamping a spreader tie across the top of a

form structure wherein the spreader tie may be of the same type throughout the form structure.
A further object of this invention is to provide a simpli-fied, low cost and relatively strong locking pin forspreader ties and which is rugged in construction, ecient in use, and economical to manufacture.
These objects, and other features and advantages of this invention will become readily apparent from the follow-ing description and the accompanying drawings, wherein: FIGURE 1 is a fragmentary perspective view of the upper portions of a pair of concrete form structures con-nected together by a spreader tie with the locking pins of the invention;
FIGURE 2 is a plan view of the locking pin as contem-plated by the present invention;
FIGURE, 3 Is a cross sectional view showing the lock-ing pin in the unlock position indicated as A in FIG-1.11kB 1; and
FIGURE 4 Is a cross sectional view taken along the line 4-4 of FIGURE 1 showing the locking pin in the lock position indicated as B in FIGURE 1.
Referring to the drawing, there is shown in FIGURE 1, fragmentary portions of laterally spaced concrete metal forms 10 and 11 illustrated in assembled position. The forms arc conventional, commercially available members having a rectangular shape and which are substantially identical, differing only as to size. The forms have op-posed flat base plates 12 and 13 to confine Wet concrete therebetween. Laterally projecting flanges 14 and 16 each having a plurality of rows of apertures 17 are secured to the peripheral edges of the plates 12 and 13 to permit the coupling of abutting bonus. One or more stiffening ribs 18 and 19 project laterally of the base plate and extend longitudinally and vertically of the forms.
The lateral distance between the forms 10 and 11 dur-the pouring and setting of the concrete is maintained by a plurality of spreader ties 20 having apertures 21 at each end thereof.

The spreader ties are dispersed over the surface of the form structure. Most of the spreader ties extend through the flat walls 12 and 13 and are connected at their ends to the vertical ribs 19 by means of locking pins. The ribs 19 have apertures which correspond in position with the aper-tures 17 of the flanges 14 and 16 thus enabling the use of substantially Identical spreader ties throughout the form
structure. S

As shown in FIGURE 1, the spreader tie 20 Is posi-tioned on top of the top flanges 14 and 16 of the forms Instead of in the usual position through a spreader tie hole In the forms. This step is used to keep the top spreader tie above the concrete when concrete is poured close to the top of the form thus eliminating spelling or cranking of the concrete and loss of the spreader tie. The top

spreader ties are substantially Identical to the spreader ties

extending through the forms 10 and U. The apparatus 21 in the ends of the spreader ties 20 have substantially the same diameter as the apertures 17 in the flanges 1

and 16. A’ locking pin 22 has a portion which extends through the aligned apertures 17 and 21 to connect the

spreader tie 20 to the flanges 14. and 16 of the panels.. The locking pins which connect the spreader ties to the
vertical ribs 19 are substantially identical to baking pin

10.22.. . . Referring to FIGURE 2, the locking pin 22 has an L-shape and is formed from an elongated rod means hav-

ing a circular cross section area which has a diameter sub-stantially equal to the diameter of the holes 17 and 21.

15 Integrally formed with one and of the body. 23 of the rod means is a leg 24 extending at an angle of about between -. 80° and 87° from the aids of the body 2g. The leg has a circular cross section with a diameter substantially equal

to the diameter of the holes 17 and 21 and terminates in a chamfer end or toe 26. An offset spur means 27 is spaced from the toe 26 and is secured to the body by means of weld -or brazing 28. The spur means 27 lies in
the plane of the body 23 and leg 24 and is open toward

the toe 26 or outer end of the leg 24 to form a clamp.25 recess 29 between the body 23 and the spur 27. The recess 29 has a width which is slightly larger than the
thickness of the flange 14 of the panel and a wedge-shaped bottom 30. The outer end 31 of the spur 27 is chamfered
to provide an inclined plane for the outer edge of the lat-oral flange 14.
As shown in FIGURE 3 the distance between the end
of the spur 27 and the leg 24 is slightly greater than the width of the lateral flange 14 from the inside row of holes to the outside edge thereby permitting the leg 24 to be 85 inserted through the holes 17 and 21 without interference

from the spur 27. The spreader-tie 20 is placed flat upon the top lateral flange 14 of the panel 10 with the holes 17 and 21 in alignment, so that the leg 24 of the lock pin 22 can be inserted therethrougb. In this position the body 40 23 extends in a plane which converges with the plane formed by the flange 14 and engages the upper surface 32

of the flange 14.
The lock pin is firmly secured to the flange 14 by rotat-
ing it about the axis of the leg 24. As shown in PIG-4s URE 1, the lock pin is rotated from the unlocked posi-

tion A to. the locked position B. This Is accomplished by stalking the body 23 with an ordinary hammer. In the
locked position the spur 27 engages the bottom surface 33 of the flange 14 and the body engages the top surface so 32 of the flange 14 thereby clamping the outer edge of the lateral flange 14 in the recess 29. In order to release the pin 22 from the flange 14 the construction worker, with

the use of a hammer, strikes the body 23 of the pin to move it in the unlocked position indicated as A In FIG- 5r) URE I and shown in section in FIGURE 3.

The locking pin leg 24 can be withdrawn from the

aligned openings 17 and 21 thereby permitting the re- moval of the spreader tie 20. The spreader tie 20 and
locking pins 22 are immediately available for subsequent

on use as they are not destroyed or distorted in use. While there have been shown, described, and pointed out the fundamental novel features of the invention as applied to the preferred embodiment, it will be understood
that various omissions, substitutions, changes in form and details of the apparatus Illustrated may be made by those skilled in the art without departing from the spirit of the invention as defined in the appended claims. It is intended to be limited only as Indicated by the scope of the fol-

(a) an L-shaped rod means having a straight elongated

body and a leg extended from one end of’said body. ’. length and a. chamfered toe, offsetspurmeanssecured
at an angle of about 80 to 87 degrees from the.axls.. to the body adjacent the other end thereof, said spur
of said body, said leg having a clar cross section means extending in the plane formed by the body and
throughout its length anda chamfered toe, and H leg and being open toward the outer end of the leg
(B) offset spur means secured to the body and posi-. 5 to form a clamp recess therebetween, whereby said
tloned In the plane formed by the body and leg, said leg extends through said aligned holes to hold said
spur means. being spaced from said leg and forming’’ first and second members in juxtaposed relationship
with said body a clamp recess open to said log. and said body and spur means being engageable with
2. In combination, .. S opposite surfaces of the first member adjacent the
(a) a first flat member having an outer edge and at least 10 outer edge thereof to clamp the locking means to
formed therein and extending.substantiaily, said first member.
parallel to said edge,
(B) a second member having, a We formed therein,. References Cited In the file of this patent,
said second member being positioned en. said first UNnM gThPg PATENTS

member wlthsÆldboles in. axial alignment, and.10 ha d 1 f ’ L-shaped, £O,J77 azrey ______.___------e June U. 1923
members.havingas elongated. body and aeg i W6169 Nowan.S, 1932 J, 1935 extending from one end of said body tt an ci f

about to axis

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FORM FOR PLASTIC STRUCTURAL WORK
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Patented Oct.15, 1935 S
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UNITED STATES PATENT OFFICE 21017,553 4
FORM FOR PLASTIC STRuCTURAl, WORK

Arthur E. Trolel, Berkeley, Calif.

Application November 9, 1931, Serial No. 573,739

9 Claims. (Cl. 25-131)

’This Invention relates to Improvements In

forms for plastic structural work and pertains more particularly to improvements in inter-
changeable and adjustable metallic forms de- 5 Signed fort use In connection with monolithic

concrete construction.

It Is the object of the present invention to Im-prove and simplify forms for plastic structural

work by the provision of a system of forms corn- 10 posed of parts that are simple In construction,
relatively inexpensive to manufacture and capa-

ble of being quickly assembled in any one of a plurality of combinations to provide true and

rigid support for plastic building material.
15 The invention comprises a plurality of steel panels having co-operating edges formed to per-mit Of the arrangement and securement of the panels into a continuous smooth flat wail. It also Includes novel means for securing.two of
20. said walls rigidly in spaced relation,’ thereby creating a. form into which concrete may. be poured and allowed to set. The Invention fur-ther consists In Improved means for providing

reinforcing for said wails, as well as means for 25 fabricating integrally poured corners, pillars,

floors and ceilings, floor and window frames also may be cast into the concrete through the provision of mechanical means associated with

30 the forms. Conduit or pipe may be secured In position to be surrounded by the concrete by novel brackets’designed for that purpose.
Many, other novel features are embodied In the Invention for the purpose of expediting the as-

sembling and dismantling of the forms simplify- 35 lug their construction and reducing the cost of

manufacture.
The invention Is more fully described In the following specification and shown by way of

40 illustration in the accompanying drawings. In these drawings
Fig. I Is a perspective view of a portion of a. wall form embodying my Invention;
Mg. 2 is a plan view of a similar form and also,
45 shows the construction of a wall coiwnu or pilaster form;
Pig. 3 Is a vertical section of a wail form such
as that shown in Figs. 1 and 2;
Fig. 4 Is a perspective view, of a wedge mom-
0 bar’ employed In connection with the wall fOrm; Fig.’ 5 Is a perspective view of a tie member;
Fig. 6 Is a. perspective view showing a pre-ferred form of lock used for joining abutting edges of the panel members employee In my ss invention;

Pig. 7 is a perspective view Of a clamp member employed for the purpose of clamping vertical aligning members against the panels of, which

the form Is made;  Fig. 8 is a perspective view of a clamp similar
to that shown In Fig. 7 and provided with
for supporting and clamping horizontal align-ing. members;
Mg. 9 Is a perspective view of a corner plate employed for corner construction In columns and 10 the like; ’ S
Mg. 10 Is a perspective view of a column form showing the application of the corner plate shown In Fig. 9;
Pig. 11 Is a perspective view showing a pro- 16

ferred form of means for supporting a window or door frame within the wail form in order that
concrete may be poured around it;

Mg. 12 Is a vertical section showing the man- ner In which eleptrlc conduit pipes, or the like, 20
may be held In place within the form dur.4 lug the pouring operation;
FIg. 13 Is a perspective view of a member used for holding the conduit or pipes lathe manner shown ln Pig. 12; 25 Fig. 14 Is modification of the member shown
ln Fig. 13; S

M. 15 Is a perspective view of a portion of a wail column form such as that shown In M. 2;
for securing small window frames- such as ven-tilators, or the like, in position within the form so that concrete may be poured about them; FIg. 17 is a vertical section of a porthm of a form showing means for providing a form for W. the reception of a floor or ceiling poured in-tegrally with the wall form;’

Fig. 19 Is a detailed perspective view of the

Fig. 20 shows a modified form of the tie morn-

Mg. 21 shows a further modification of the

the drawings, of a plurality of steel panels such as Indicated at 10, and which, when fastened to- ’ gether In the manner to be hereinafter described, serve to delineate the form which Is to be given
to the concrete after It Is. poured. These panels 10 are made of relatively thin sheet metal, pref- u

2 2O17,5b8

bly steel, and have their top and bottom edges
bent to assume an L-shaped flange so as to pro-
vide channels I I at said edges. The channels I I
are provided with perforations 12 at uniformly
spaced intervals throughout their entire length. Perforated angle Iron abutting members 13 are removably secured, preferably by means of bolts 14 to the ends of the panels and are adapted to be used In securing the panels together In end-10 wise relation. By removing one of the abutting members 13, Zrozn a panel ID, a siniller panel, slightly smaller In cross-sectional contour, may be slipped between the channels II of a panel ID; thereby providing an adjustable extension
5 member by means of which the effective length of the panel may be changed as little as 4’s Inch, If desired, depending upon the spacing of holes through which bolts, or the like, may be Inserted ’for securing the panel and the telescoping mem-25 her together. In this manner, it Is possible to build walls of any desired length, of stock-size panels varying as much as one foot in length, the telescoping members being employed to compen-sate for odd inches In the length of the.wsll.
25 Spreaders or tie members IS, a detailed view of which Is seen In Ing. 5,’ are employed to fix and maintain two sets of panels in spaced rela-tion-to one another so as to provide the desired thickness to the wall being formed.
$0 anchor wedges ’IS, one of which Is illustrated In PIg, 4, rigidly secure and properly space the panels with relation to the tie members IS. Form locks 17, such as shown in Mg. L cooperate with the angle iron abutting members It to lock 15 the ends of the panels together.
Braces IS, preferably made of wood, lend igid-
Ity to the individual panels and prevent bellying due to the weight of the wet concrete when It Is poured Into the forms and before it sets. The 40 braces IS are quickly and easily removed from the panels as they are maintained In place there-in by means of the channels II. They may also be adjusted or moved Sideways In the channels to line up with vertical aligning members, to be 4g hereinafter described, and any number of braces may be used in each panel according to the vari-ation In pressure caused by the concrete at different heights of the pour. The braces are placed In position on the panels by being first 50 laid flat against the panel at an angle to its edges and then twisted to assume a vertical posi-tion so that the opposite ends of the braces are disposed within and retained in position by the top and bottom channels II. For convenience In 45 lining up the braces, the outer edges of the panels may be provided with equally spaced Indenta-tions (not shown) which also serve to frictionally retain the braces at established centers. Each brace is provided with a metal pin 19 which passes So through it and extends outwardly beyond its edges.’ The pins ID serve as a means of engage-ment for a clamp 211, such as shown in Fig.!l, and which serves to clamp a brace or vertical aligning member 21 against the outer sides of Go the panels in order to maintain them in align-
ment.

Referring more specifically to the several mem-bers above mentioned, and first to the tie mem-bers 15. Itshould be understood that each of these 70 members consists of a strap shaped piece of metal perforated as at 22 to receive nails In instances where it is desired to secure the tie member to a wooden starting course, such as indicated at 23 in pIg, 3. Larger perforations 22a are positioned 75 for alignment with the perforations 12 In the

channels II of the panels, so that a bent nail or pin may be inserted to prevent movement of the tie members at right angles to the panels. The

scores being so spaced thereupon that after the concrete Is poured around the tie members, they will He slightly within the outer surface thereof. Accordingly, when the pouring Is finished and the forms removed, the protruding antis of each tie

Just behind the surface of the concrete so as not

A’ notch 25, or, If desiied, a plurality of such notches, may be formed centrally of the tie bar 15 for the purpose of receiving reinforcing rods 25. The outer edges of the notch 25 may be provided

reinforcing rods.’ The lags 21 are Intended to be bent toward each other after the rods 28 are 20 Put Into place, thus securing the rods against

tie member Is provided With a slot 28 adjacent eackA of Its ends for the reception of the anchor wedges IS to be more fully described hereinafter. 25 A modified form of tie member is shown In Mg. 20, wherein it Is Illustrated as being pro-vided with a plurality of notches 25 for the re-

tion appears In Mg. 21 In which an adjustable tie 80 member Is shown. This tie member Is provided with a plurality of equally spaced perforations 22 throughout substantially Its whole length, and has an additional scored portion Indicated at

adjustable ’tie member Is Intended for emergency use. to take the place of tie members of any de sired ’length when there Is a shortage and an urgent demand. If, for Instance, a 12" tie mem-
ber Is needed, the adjustable tie member which 40

Is considerably longer, is broken at the score 24a, and its ends riveted together through the
perforations 22; thus, by matching different sets

of the perforations 22, the length of the tie mem- ber so made may be as desired. The adjustable 45 tie member Is of further value In cases where an extremely long tie member Is needed: In such together with two or more strands of stout wire; a nail or other convenient twisting member may,so
twisted, thus shortening the distance between

length Is obtained.
The anchor wedges IC consist of a flat piece 65

29 to which Is joined a short prong 80 spaced

setting up the’. form, the lowermost panels are first placed In position. Tie members 15 are then 60

the tie members, the outer ends of which pro-ject outwardly so as to expose the slots 28. With the panels and tie members In this position, the 65 anchor wedges are put In place, the long prongs 29 thereof being Inserted through the slots 28

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member perforations 224, to Insure against side-
wise displacement of the tie members.

The vertical abutting edges of the panels, be- lug prodded as described with the perforated 5 angle Irofls 13, are secured together with, the

forn looks fl,, each of which consists of a flat
plate $2 provided with a pin 33 and having an ex-

tension U bent around parallel to the flat plate, and a further extension 36 bent outwardly to

20 serve as an operating handle. The form locks are placed In position with the pin $3 Inserted through aligning holes In the angle Irons 13 and then swung downwardly by means Of the handle

35, so that the two angle Irons are embraced be- 15 tween the plate 32 and the extension U.

In VU. 3 It may be seen that the angle Irons

13 are provided, In addition to the regular per- forations, with elongated slots, one adjacent their

upper end, and the other adjacent the lower end.
20. These slots are of great importance, as when a form lock Is used, If the pin thereof Is Inserted

through one of these slotsrather than the regular perforation, It Is possible to raise or lower the panel slightly for the purpose of aligning or ad- 25.

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2 justlug; thus theform locks maybe applied loose-

ly upon setting up the panels, and when proper vertical adjustments are made, may be clamped

Into place in the manner set forth above. The application of the form lock Is thus seen to be So simple and effective, arid It is quite as easily re-moved when the forms are taken down.
The vertical aligning members 21, which for ordinary jobs consist of rough 2 z 4 Umbers, are then placed In position alongside of the braces. 35 The clamps 20, consisting of a pair of hooks 88 Joined at their outer ends by means of a bar 31, are then placed In position with the hooks 36 engaging the pIns 19 In the braces and em-bracing the vertical aligning member. The bar 49, 31 t1readedly receive a bolt 38 swivefly engaging at Its end a plate 39, which Is slidably mounted on the straight portion of the hooks. Thus, by turning the bolt 38 with a suitable wrench, the

plate 39 Is forced against the outer edge of the. vertical aligning member, with the result that

the panels are drawn against It.
It Is also occasionally necessary to provide hori-zontal aligning members 21a for ca-operation with the vertical aligning member 21 In the man-$0 ner shown In Figs. 1 dud 3. Special clamps are provided for the reception of the horizontal aligning members, the construction of these clamps being shown In FIg. 8, In which a clamp Identical with that shown In FIg. 7 Is provided 55 with an extension 39a and a set screw 30a. The extension 39a serves as a support for the hori-zontal aligning member while the set screw Is operable to hiree It Into engagement with the vertical aligning member, thus Insuring a rigid
. and accurate connetlon.
The members as described so far are those employed to form straight and Out walls. Cor-ner members may be employed for joining such walls at angles to each other, and In their pro-

ner member 40 and an outside corner member

bers 40 and 41- Is formed of plates bent to a

70 bent flanges 4 and outwardly bent flanges 42, respectively. The flanges 42 and 43 are perfo-

TB’ that the corner members may be secured with

than the wall itself, the Inside corner members

tie members are employed, as It is desirable

of pilaster plates 46 are connected to the corner 16

perforated edge 48: Each pilaster plate Is pro- 20

shape, as shown. These perforations consist of

circular hole 50 partially overlying the slot. They are so spaced with relation to each other 25

to a corner member, or other like member hav-

tance, one of the elongated slots Is disposed Just

manner shown; hence this slot serves for the reception of a tie member which may be Inserted crosswise of the wail column and bolted to tile’ flanges of the corner member, one of* these tie members being shown at SI in FIg. 2. 35

used and connected to the angles 48 of the pilas-ter plates by means of. specially designed Jock plates 82. These lock plates 52 are rectangular 4.0

to embrace the flanged edge 48 of the pilasters. The lock plates are positioned between the super-
position assumed by the tie members, and are 40 provided with ’a pair of elongated slots 54 which

nel shaped edges of the panels for the receptIon 50

of relatively- small dimensions out of panel mem-

the panel members. Aligning DIms 58 are also

tions 12, so that the plate may be placed on a 65

shown In Mg.. 10, with. the pins 56 Inserted

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her. and when bolted In place between two sets of panels, provide a very rigid structure, the chief advantage of which Is that it Is so constructed that a pillar of certain dimensions may be made

g of panels of any lengths. Referring to Pig. 11 of the drawings, there Is

illustrated one manner In which a door frame may be cast Into the concrete as It is being poured. In this figure the frame Is shown as 19 supported by bracket plates St adapted to be positioned between the edges of the panels and provided with slots 53 for the reception of wedge flflPJ 16 -and bent, nails. or pins in the same manner as the lock plates 32 illustrated In Pig. 2. I& The bracket plates 51 extend Inwardly from the tuner surface of the panels’and are provided with angles 39 welded or otherwise suitably secured thereto. The angles 59 serve as supports for the frame illustrated at 611, or as supports for wooden ZG blocks W which may be out to any desired length In order to maintain the frame at a proper height. The bracket plates may also be inverted to en-gage the lower portloii of the frame, as shown, to prevent floating of the frame when the con-
9 crete Is poured, and where the frame Is of con-siderable length, they may be positioned Interme-diate It sends to prevent the aides from bulging Inwardly due to the pressure of the wet concrete against them.

90. Another method of securing frames In position between the panels, and a method which Is best,

adapted for use In connection with very Email windows, basement ventilators, and the like, Is shown In Pig. 16, in which a sinfl frame 62 12 shown as nailed to long tie members 93. The tie members 53 are connected to the panels In the usual manner, as s1’wn, and bent downwardly against the inner side thereof. Where an espe-cially rigid suyport Is desirable,,the lower end of 40 the tie member may be bent under the lower end of the panel and again secured In the usual man-ner. this method of fastening also preventing floating of the window frame 62 when the con-

crete Is poured. 41 For the purpose of supporting water or gas

Pipes or electrical conduit within the forms, so that the concrete may be poured around them, special conduit hangers, such as shown in Pig. 13, are employed. These conduit hangers consist of a flat metal strap 34 perforated for the reception of the conduit or pipe at 65 scored for breaking as at 66 and slotted as at 61. The member $4.Is p]gced between the. edges of the panels In a po-sition corresponding to that of a standard tie member, as shown In Pig. 12. A wedge member 16 Is inserted through the slot 31, thereby main-

taining the conduit 68 which Is slipped through the perforation 55 in any desired position. The

slot SI will be noted to be of such a length that 60 a. pin inserted through perforations 12.6f the channels II will pass through It, preventing side-wise slipping of the conduit hangers. Conduit boxes 68 may be secured to the ends of: the con-

duit by lock nuts, etc. as Is customa*y practice. 65 A modified form of conduit hanger,Is illustrated
In ft. 14 in which the conduit rece11ng perfora-tion Is elongated, as shown at 10,,and has one side cut and bent upwardly to jorm a lug 11. With, this type of conduit hanger It Is not neces-

sary to thread the conduit through the perfora- tion prior to assembling the conduit and conduit
ration 10 through the space left by the lug It.

wardly to retain the conduit against dlslOdg-

A method provided by ’my Invention for pour-

ribbon 12, whIch may be a timber or board of any

struts IS of the panels, Temporat-y joists 73 are supported between pairs of ribbons It. and In 16-

shown In FIg. 19. The Inner plates 14 may be

relatively. thick, preferably about Va of an Inch, while the outer portion of the telescoping plate 75 is th.nner, being about of an Inch, so that it

while these plates are sufficiently strong to sup-

the concrete by the joints between the plates are not deep enough to be of any material conse-

quence. Owing to the mannerIn which the plates 20, telescope, they are adjustable as to length and
may be secured In their adjusted position by

spaced perforations 16. The telescoping plates

12

employed to secure It In its proper position, as $5.

Concrete Is shown as poured to the top level

the wall on upwardly above the floor, a new start-

such a Width as to provide a level starting course.

the starting course by arranging the panels In the

Referring to Fig. 18, a permanent joist SI Is

Is then employed In the manner shown, one tim-ber being placed on-top of the pilaster plate at 81,40

short metal plates or pieces of wood, whichmay he

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reilly of panels having U-shaped flanged edges presenting surfaces atright angles to the plape of

the panels for abutment when the. panels are placed edge to edge, tie members adapted to be In-

serted between abutting edges of adjacent panels, and wedge members engaging said tie members
and having portions interlocking with the free

edges of the flanges to securethe panels in posi- tion to form a continuous form Surface.
2. Per combination with a plastic wall form, consisting of a plurality of panel members co-

operating to, provide continuous form surfaces, Mid. panels having flanges on adjoining edges t1ereof, tie members extending between two of said surfaces and between the flanged edges of

Old panels, said tie members having slots formed

In their outer ends, and wedge membersInsertable through said slots and engageable with the free 29 edgss of the flanges to secure the* panels against movement with relation to the members.
3. Per combination with a wail form,, compels- lug panels having vertically. extending brace

membersthereon, pins in said brace members, and

vertical aligningmembers, clamps engageable with ’ said vertical aligning members and the pins In said braces to draw the panels toward the align- members. horizontal aligning members en-
gageable with the vertical aligning members and means carried by said clamps for connecting the vertical and horizontal aligning members.

& In a form for plastic wall construction, corn- prising a plurality of rectangular panel members

having U-shaped flanges on their top and bot-tom edges, angle-shaped members secured to the side edges of the panels, said angle-shaped mem-bers being removable to permit the insertion of

slightly smaller panels between said U-shaped flanger In telescoping relation to form a panel
40 that Is adjustable in length.
6. In combination with a form for plastic wall

construction, comprising panel members having flanged perforated edges, plates for connecting said panel members at an angle to each other, said
45 Plates having perforations therein for registry with the perforated flanged edges of the panels,

and pins Axed to the plates and positloned:there-on for Insertion through perforations In the flanged edges of two panels disposed at an angle to
each other.

6. Per combination with a form for plastic wall

epnstructlon, comprising a plurality of panels connected at their edges to provide continuous

form surfaces, and aligning members engageable with the panels on the outside of the form, clamps embracing the aligning members and secured

with relation to the panels, means carried by the

clamps for urging the panels Into engagement with the aligning members and means carried by the clamps to support and clamp other aligning members against the first named. aligning mem- i

hers.
7. The combination with wail forms of the character described of a plate adapted to lie be-

tween abutting edges of adjacent form panels’ With one end within the form and having a per- 20 foration at its end within the form to receive a

conduit to brace the conduit while concrete Is poured around’It, and means for, securing the.

outer end of the plate with relation to the edges of the panels.. ’ 25

S. The combination with wall forms of the character described of a plate adapted to He be-

tween abutting edges of adjacent form panels with one and within the form and having a

perforation at Its end within the form to receive 30 a conduit to brace the conduit while concrete Is

poured around It, and means for securing the outer end.of the plate with relation to the edges of the panels, sald.plate having a bent away por-tion adjacent to the said perforation to provide 85 for the Insertion of a conduit and adapted to be bent to a position to retain the conduit aa1nst

S. An anchor wedge for securing together abut-ting panel edges and slatted tie members extend-40

a tie member, and a shorter prong spaced there-

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO DIRECCION DE NUEVAS CREACIONES

Radicación n.° 06 122 765 MU
Clasificación Internacional (IPC): E04G 17/04, 9/06
Concepto TØcnico n.° 1899

Como resultado del examen definitivo de la solicitud, realizado con fundamento en lo dispuesto por el artIculo 48, en concordancia con Ic dispuesto por el artIculo 85 de la Decision 486 de la Comi&On de la Comunidad Andina, se comunica Jo siguiente:

1. Documentos estudiados

DescripciOn: Folios 5 a 10 como se radicó inicialmente
Folios 51 a 59, modificaciôn.

Reivindicaciones: Folios 11 y 12 come se radicO inicialmente
Folios 60 y 61, modificación.

Dibujos: Folios 14 a 17 como se radicó inicialmente
Folios 63 a 65, modificaciOn.

Resouesta del solicitante Folios 46 a 50.

2. Objeto del modelo de utilidad

Titulo de la solicitud: Sistema de accesorios para ensamblaje de encofrado metÆlico,folio 47.

El objeto de la presente solicitud de patente de modelo de utilidad consiste en
suministrar un sistema o conjunto de accesorios para facilitar el armada o
. desarmado del encofrado metÆlico para vaciar concreto en obras civiles. BÆsicamente, la solicitud aporta un accesorio denominado IÆmina con ranura y
gancho pasador y otro accesorio denominado separador piano con tres orificios,
los cuales eventualmente colaboran con otro accesorio convencional en forma
de L, para armar y desarmar los encofrados metÆlicos.

El problema planteado en esta solicitud es volver mÆseficiente la labor de armado
y desarmado de los encofrados metÆHcos,disminuyendo el nümero de accesorios requeridos para ello.

Para solucionar este problema tØcnico Ia solicitud en estudlo proporciona un sistema compuesto por dos accesorios: el primero, estÆ constituido como un accesorio de anclaje y fijaciOn compuesto per una chapa metÆlica alongada y doblada que tiene una ranura intermedia que recorre la mitad de su longitud siendo la otra mitad recorrida per una varilla soidada que sobresale por ambos extremos de la chapa; la varilla tiene, en un extremo, dos dobleces en Ængulo obtuso y un doblez en Angulo recto. El extremo de la varilla que tiene el doblez en angulo recta sobresale par el lado de la ranura de la chapa y tiene un extremo aguzado. El segundo accesorio es el separador piano o distanciador, compuesto par una Iâmina plana alargada y perforada transversatmente en tres sitios. Estos

accesorios eventualmente se complementan con unos seguros convencionales en forma de L ubicados sobre cada módulo do encofrado y con una mordaza convencional con prolongaciones para facilitar el alineado de los mOdulos, ademÆs,claro, de los panØles de encofrado metÆticos, tambiØnconvencionales.

ClasificaciOn internacionat de Patentes (IPC): E04G 17/04, 9/06

3. De la solicitud de Patente de Modelo de UtHidad

Descjjpciôn (artIculo 28 D. 486)
El capItulo descriptivo, en general, cumple con los requisitos de claridad y divulgaciOn en la descripciOn. En otras palabras, en la descripción no aparecen incoherencias ni ambiguedades y es inteligible.

No obstante 10 anterior, se hicieron aigunas correcciones de oficlo, la ünica digna de menciOn es la quo se hizo en la pâgina 8, folio 58, que consistiO en sustituir la expresiôr En la figura 3 so puede observar a! separador (22) quo establece ía distancia... por la expresiOn En la figura 3 so puede obseivar el separador piano (22) quo establece la distancia... La razôn de esta corrección reside en el hecho de quo en la figura 3, folio 64, se ilustra un separador (22) que es piano; y, ademÆs, en que, en (as reivindicaciones I a 3, folios 60 y 61, se menciona un separador piano -entonces, para quo estas reivindicaciones tengan sustento descriptivo, la denominación corregida debe aparecer dentro de (a descripciOn-.

La descripciOn St cumple con los requisitos de claridad y comprensión de acuerdo al Art. 28 de la DecisiOn 486.

Reivindicaciones (articulo 30 D 486)
El capitulo reivindicatorio tiene claridad, concisiOn y estÆ sustentado por (a descripciOn, requisitos exigidos para las reivindicaciones.

No obstante to anterior, so hicieron algunas correcciones de oficio:

En la reivindicación I, folio 60, donde dice la IÆmina con ranuray gancho pasador
(30) tiene una iÆmina (2)... so sustituyO por la expresiOn la lamina con ranura y gancho pasador (30) as una lamina (2)... porque dentro de la descripciOn sOlo se menciona una lÆminay porque lo afirmado en (a pagina 7, folio 57, nos autoriza para hacer esta correcciOn.
En (a reivindicaciOn 3, folio 61, donde aparece la expresiOn a/ separador piano se puede retirar sin necesidad do desermar... se sustituyO por la expresiOn ai separador piano so retira sin necesidad do desarmar... con el fin de quitar (a ambiguedad, ya que cuando se dice so puede retirar, tÆcitamente soincluye (a otra posibitidad: so puede no retirar. Una corrección similar se realizO en (a reivindicaciOn 6, folio 61, en (a cual se sustituyO la expresiOn...la terminaciôn dol con ranura y gancho pasador (30) so puede asegurar con... por (a expresiOn... la terminaciôn del accosorio IÆmina conranura y gancho pasador (30) so asegura con... para dare mÆs precisiOn a lo que se estÆ definiendo en (a reivindicaciOn 6.

Las reivindicaciones si cumplen con los requisitos de claridad, concisiOn y sustento por (a descnipciOn de acuerdo al Art. 30 de la DecisiOn 486.

4. Unldad do concepto inventivo (art!culo 25 D 486)

Dada que el capitulo revinthcatorio cinicamente tiene una reivindicaciôn independiente que define satisfactoriamente los alcances de la protección que desea & solicitante, la solicitud Si cumplo con el requisito de unidad de concepto inventivo.

S. Determinación del Estado de la TØcnica

La fecha que se ha tenido en cuenta para determinar el Estado de la TØcnica es la

Fecha de presentaciOn de la solicitud nacional 2006-12-06

Durante la büsqueda de anterioridades so encontraron los siguientes documentos, que forman parte de la familia do patentes do la presente solicitud: Patente Co nümero do radicaciOn 03 100 558 del 2003-11-13, publicada en la pÆgina 276 do la Gaceta 546 del 2004-11-30, concedida & 2009-11-30 con vigencia entre el 2003-11-13 y el 2023-11-13. En los folios 3442 se anexO una hoja con los datos bibliogrÆficos dela solicitud junto con una copia de ciertas pÆginaspertinentes do la misma. TambiØn se encontraron los siguientes documentos que forman parte del estado do la tØcnica mÆscercano al objeto de la solicitud:

Fechade Documento Titulo publlcacôn
<<Fixing member stuck in

Patent Abstract tightening portion of reinforcing
Dl KR 1020000031725 A, cuyo inventor material>(Un miembro de fijaciôn
es Kato Akira pegado en la parte de 2000-06-05

endurecimiento de un material de
refuerzo)

(Perfeccionamientos en Is Publicación ES 2 151 377 Al, cuYo patente de invención n° inventor es Alberto Arozeria D2 9601 974)<Marco y cerrojo para 2000-12-16 Bergaretxe, quien le cedlO SUS panel de encofrado derechos a Is Ulma C. y E. S. Coop. manuportabIe

En los folios 43 a 45 se anexaron copias do algunas paginas pertinentes de estos documentos.

Se hizo la büsqueda do documentos relevantes en el Estado de la TØcnica y no se encontraron anterioridades que afecten negativamente la patentabilidad del objeto de la presente solicitud.

6. AnÆlisis dola respuesta del solicitante

El solicitante subsanô satisfactoriamente las objeciones formuladas en el Concepto TØcnico n.°0097 de los folios 28 a 45. Se admiten, en general, las argumentaciones del solicitante respecto a la patentabilidad del objeto de la solicitud. Se observa, sin embargo, que hubo necesidad de realizar unas pocas correcciones de oficio, coma so especificó arriba, en su oportunidad.

7. Anlisis de la patentabilidad (articulo 14 D486)

Las reivindicaciones que so analizaron son las numeradas 1 a 6, que, on resumen, reclaman: Un sistema do accesorios para ensamble de encofrados metÆlicos,

caracterizado porque comprende: un accesorlo denominado lâmina con ranura y gancho pasador cual consta de una lÆminarectangular doblada por la mitad en un Ængulo obtuso,que tiene una ranura longitudinal que arranca de un extremo de la lÆminay ilØga hasta el centro de la lÆmina, en la parte que no tiene ranura se encuentra unida longitudinalmente una vanilla metÆhca con unextremo libre que se prolonga fuera de la lÆminay el otro extremo tiene tres dobieces: dos en angulo obtuso y el tercero en Ængulo recto-; un separador piano, que tiene tres orificios que lo atraviesan transversalmente; y, unos paneles metÆlicos de encofrado convencionales con series de perforaciones en las superlicies laterales.

Novedad (artIculo 16 D486)

De acuerdo con to estabiecido en el numeral 5, arniba, no se encontró dentro del estado de la tØcnica ningün documento que evidenciara la existencia previa del modelo de utilidad. Concretamente, ninguno de los documentos mencionados enseæa un accesorio como el denominado por el solicitante IÆmina con ranura y gancho pasador que tenga dicho gancho formado a partir de una varilla dobiada en tres partes: dos en Ænguloobtuso y una en Ængulo recto, como sereclama en la reivindicaciOn I de la presente solicitud.
AdemÆs, ninguno de los documentos citados exhibe un separador piano que tenga tres orificios transversales distribuidos como enseæa lapresente solicitud. Lo reclamado en las reivindicaciones I a 6 es novedoso de acuerdo a to estipulado en el Art. 16 de la Decision 486 de la ComisiOn de la Comunidad Andina.

Sobre el meior o diferente funcionamiento. la utitización o fabricaciOn del
obieto, o sobre la utilidad, ventaja o efecto tØcnico (Articulo 81 D486)

Lo reclamado en las reivindicaciones I a 6, resumidas arriba, no tiene ninguna objeciOn respecto a este requisito, porque, claramente, al ser novedoso, necesariamente es diferente de Jo conocido.

Sobre la aDlicaciOn industrial (artIculol 8 D 486)

El modelo de utilidad si tiene aplicaciOn Industrial porque los accesorios que constituyen el sistema reivindicado se puede fabricar en cantidades industriales y porque el sistema puede ser empleado en la industria de la construcción de edificios y viviendas.

& Conclusion:

En consecuencia y por todo to expuesto anteriormente, se recomienda Conceder el modelo de utilidad reclamado en las reivindicaciones I a 6, folios 60 y61.

Bogota, D.C., 28 de mayo de 2010

CONCEPTO TECNICO n.° 1899 EXAMINADOR TECNICO

Codigo No. 202009