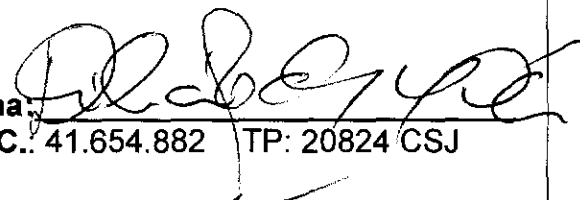


**FORMULARIO ÚNICO DE CORRECCIONES Y MODIFICACIONES  
2000-10**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                         |                                                                                                                                                                                                               |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 1) <b>SOLICITUD DE:</b>                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                         |                                                                                                                                                                                                               |  |
| <input type="checkbox"/> Corrección de error material                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                         | <input checked="" type="checkbox"/> Modificación a una solicitud                                                                                                                                              |  |
| 2) <b>SOLICITANTE</b>                                                                                                                                                                                                                                                                                                                                                                                                                           | Nombre: RESEARCH & TECHNOLOGY GMBH<br><br>Dirección: DR.-Albert-Frank-Strasse 32, 83308 Trostberg, Alemania<br>Nacionalidad o Domicilio: Alemania<br><br>Lugar de Constitución: Alemania<br><br>Teléfono: E. Mail:      | <b>CONSTRUCTION TECHNOLOGY</b><br><br>IDENTIFICACIÓN<br>C.C. <input type="checkbox"/> NIT: <input type="checkbox"/><br><br>C.E. <input type="checkbox"/> OTRO <input type="checkbox"/><br><br>NÚMERO          |  |
| 3) <b>REPRESENTANTE O APODERADO</b>                                                                                                                                                                                                                                                                                                                                                                                                             | Nombre: DILIA MARÍA RODRÍGUEZ D'ALEMAN<br><br>Dirección: Carrera 11 N°. 86-53 Piso 6 Bogotá D.C.<br><br>Teléfono: 6181088 Fax: 6350824<br>E. Mail: <a href="mailto:info@clarkemodet.com.co">info@clarkemodet.com.co</a> | <b>IDENTIFICACIÓN</b><br>C.C. <input checked="" type="checkbox"/> NIT: <input type="checkbox"/><br><br>C.E. <input type="checkbox"/> OTRO <input type="checkbox"/><br><br>NÚMERO: 41.654.882<br>TP: 20824 CSJ |  |
| 4) <b>NUMERO DE EXPEDIENTE:</b> 03027430                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                         |                                                                                                                                                                                                               |  |
| 5) <b>DESCRIPCIÓN DE LA CORRECCIÓN O MODIFICACIÓN SOLICITADA:</b><br><br>Se traspa la solicitud de patente de MBT HOLDING AG, a CONSTRUCTION RESEARCH & TECHNOLOGY GMBH, con domicilio de Trostberg, Alemania.<br><br>Se anexa poder de Abogado y documento que evidencia el traspaso correspondiente, debidamente legalizados por apostilla y su traducción oficial al español debidamente avalado por el Ministerio de Relaciones Exteriores. |                                                                                                                                                                                                                         |                                                                                                                                                                                                               |  |
| 6) <b>Comprobante de pago No. 06-50,787 Fecha: Julio 5 de 2006</b>                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                         |                                                                                                                                                                                                               |  |
| 7) <b>Anexos:</b><br><input checked="" type="checkbox"/> Comprobante de la tasa<br><input checked="" type="checkbox"/> Poderes, si fuere el caso<br><input checked="" type="checkbox"/> Certificado de Existencia y Representación legal, cuando el solicitante sea persona Jurídica                                                                                                                                                            |                                                                                                                                                                                                                         |                                                                                                                                                                                                               |  |
| 8)<br><br>Nombre: <u>DILIA RODRÍGUEZ D'ALEMAN</u> Firma: <br>C.C.: 41.654.882 TP: 20824 CSJ                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                         |                                                                                                                                                                                                               |  |

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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO  
Rad: 03-027430- -00005-0000  
Fec: 2006-07-25 16:47:59 Dep. 2020 NUECREACIONES  
Tra. 2 PATENTES  
Eva. 1 REGDEPOSITO  
Act 606 MODIFICASOLICIT Folios: 13

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 06 - 50,787  
FECHA : JULIO 5 DE 2006

\*\*\*\*\* CONSIGNACION \*\*\*\*\*

| DEPOSITANTE                 | TIPO PAGO    | BANCO         | CUENTA      | No. PAGO | FECHA PAGO | Vr. PAGO     |
|-----------------------------|--------------|---------------|-------------|----------|------------|--------------|
| CLARKE MODET Y OO. COLOMBIA | CONSIGNACION | BANCO POPULAR | 050-00110-6 | 49045933 | 05/07/2006 | 6,604,000.00 |

\*\*\*\*\* CONCEPTO \*\*\*\*\*

| CANT. | RENTISTICO  | CONCEPTO                       | TOTAL CONCEPTO |
|-------|-------------|--------------------------------|----------------|
| 1     | 50005-01-03 | CAMBIO DE MODALIDAD Y MODIFICA |                |
| 12    |             | MARCAS Y LEHAS COMERCIALES     | 95,000.00      |
|       |             | TOTAL :                        | \$ 95,000.00   |

SON: NOVENTA Y CINCO MIL PESOS

RESPONSABLE : \_\_\_\_\_

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. \_\_\_\_\_



Clarke, Modet & Co.  
Colombia

E-MAIL: [clarkemodet@clarkemodet.com.co](mailto:clarkemodet@clarkemodet.com.co)  
SANTAFÉ DE BOGOTÁ, A.A. 92397  
COLOMBIA

PY81  
249AA  
244

CESION

ASSIGNMENT

El (la) abajo firmante (En adelante EL CEDENTE)

The undersigned (Hereinafter THE ASSIGNOR)

**MBT Holding AG, renamed as Degussa Construction Chemicals (Europe) AG**  
en su carácter de representante legal de

legal representative of

con domicilio en:

domiciled at

**Vulkanstrasse 110, 8048 Zurich, Switzerland**

por el presente documento declara que cede todos y cada uno de los derechos que le corresponden o puedan corresponderle sobre la siguiente (patente, diseño Industrial, modelo de utilidad, marca)

do hereby declares that it assigns all and each of his rights and privileges on the following (patent, industrial design, utility model, trademark)

en Colombia:

in Colombia

**Patent 3027430 - MBH-0490**

a:

to

**Construction Research & Technology GmbH**

con domicilio en

with domicile in

**Dr.-Albert-Frank-Strasse 32, 83308 Trostberg, Germany**

(En adelante llamada LA CESIONARIA) quien acepta la cesión que aquí se le hace y autoriza a DILIA MARIA RODRIGUEZ D'ALEMAN, tp 20824 y CLAUDIA LUCIA CARO RAMIREZ, tp.36448, con domicilio en Santa Fé de Bogotá, Colombia, para que actuando en su orden, en nombre del (de los) otorgante (s) tramiten hasta su terminación la inscripción de la presente cesión.

(Hereinafter THE ASSIGNEE) who accepts the assignment hereby done and authorizes to DILIA MARIA RODRIGUEZ D'ALEMAN, tp. 20824 and CLAUDIA CARO RAMIREZ tp. 36448, residing in Santafé de Bogotá, Colombia, in the order of their appointment in behalf of grantors to process until its completion the registration of this assignment.

En prueba de la mutua aceptación de esta cesión ambas partes CEDENTE y CESIONARIO firman el presente documento.

As a proof of the mutual acceptance of this assignment, both parties ASSIGNOR and ASSIGNEE sign the present document.

Dado y firmado en

Granted and signed at **Trostberg**

on this **25th** day of **November** of **2005**

La suscrita Notaría Pública y Seis del Circuito de Bogotá, D.C., con quien se ha otorgado un documento que el original ha sido a la vista del 74 (Circuito 700 de 1700)

Días de

De

Dr. Bruno Schmid

Dr. Klaus Witt

Dr. Martin Ebner

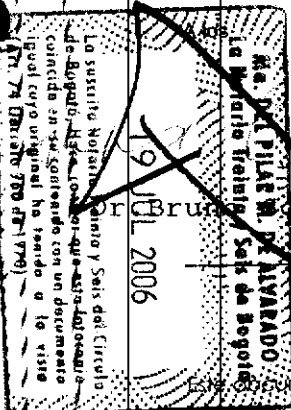
Helmut Lebert

El Cedente /The Assignor

El Cesionario/The Assignee

Este documento debe ser otorgado ante Notario público y legalizado por el Cónsul de Colombia o por Apostilla).

(This document must be signed before Notary Public and legalized before the colombian Consul or by Apostille).



File No: L 2217/2005

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I hereby certify, that the above are the true signatures, respectively subscribed in my presence of

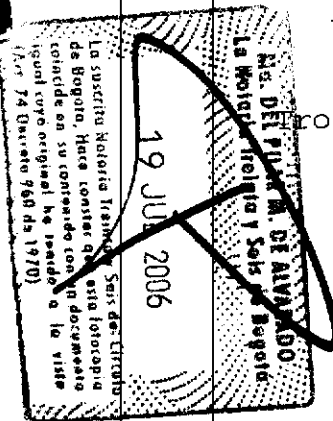
Mr. Dr. Bruno Schmid, born on January 26, 1951,  
Mr. Dr. Klaus Arlt, born on December 29, 1966,  
Mr. Helmut Lebert, born on July 22, 1945, and  
Mr. Dr. Martin Ebner, born on February 23, 1952,  
business-address: Dr.-Albert-Frank-Straße 32,  
D-83308 Trostberg,  
who are personally known to me.

I hereby certify

- a) by inspection of a certified copy of Register of Commerce of Kanton Zürich, that **Degussa Construction Chemicals (Europe) AG** is a Swiss Company, domiciled at CH-Zürich, and entered at Register of Commerce of Kanton Zürich under registration number CH-020.3.916. 892-5, and that **Mr. Dr. Bruno Schmid** and **Mr. Dr. Klaus Arlt** as General Managers (Prokuristen) are the legal representatives of the aforementioned Company, and
- b) by inspection of Register of Commerce of Traunstein, that **Construction Research & Technology GmbH** is a German Company, domiciled at Trostberg, Germany, and entered at Register of Commerce of Traunstein, Germany under registration number HRB 12785, and that **Mr. Helmut Lebert** and **Mr. Dr. Martin Ebner** as Managing Directors (Geschäftsführer) are the legal representatives of the aforementioned Company.

Trostberg, November 25, 2005

Lehnert, Notary



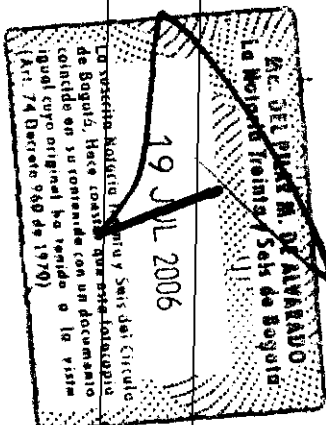
246  
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# Apostille

(Convention de La Haye du 5 octobre 1961)

1. Land Bundesrepublik Deutschland  
Diese öffentliche Urkunde
2. ist unterschrieben von Wolfgang Lehnert
3. in seiner Eigenschaft als Notar in Trostberg
4. sie ist versehen mit dem Siegel des Notars  
Wolfgang Lehnert in Trostberg
5. in Traunstein
6. Bestätigt  
am achten Dezember  
zweitausendfünf
7. durch den Präsidenten des Landgerichts Traunstein
8. unter Nr. 91/1 E 1207/2005
9. Siegel
10. Unterschrift  
In Vertretung

Wolfgang Giese  
Vizepräsident des Landgerichts



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~~247~~

TRADUCCION OFICIAL No. 11488

de un documento escrito en Alemán, efectuada por Luz Arriaga de Herber, resolución del Ministerio de Justicia 599 del 6 de marzo 1978.-

Traducción de los sellos y autenticaciones en Alemán que se encuentran a continuación de un documento de cesión por medio del cual MBT Holding AG – ahora – Degussa Construction Chemicals (Europe) AG (Cedente), domiciliada en Vulkanstrasse 110, 8048 Zurich, Suiza, declara que cede todos y cada uno de los derechos que le correspondan o le puedan corresponder sobre la siguiente patente No. 3027430 – MBH 0490 a la firma Construction Research & Technology GmbH, (Cesionaria) domiciliada en Dr.-Albert-Frank-Strasse 32, 83308 Trostberg, Alemania, la cual acepta la cesión y nombra a DILIA MARIA RODRIGUEZ D'ALEMAN, tpa 20824 y a CLAUDIA LUCIA CARO RAMIREZ, tpa 36448, como sus representantes. Hay cuatro firmas ilegibles; dos de los representantes legales de la Cedente y dos de los representantes legales de la Cesionaria.

Sigue certificación en inglés de las cuatro firmas antecedentes bajo el No. 2217 del 25 de noviembre de 2005 por el notario Lehnert, notario de Trostberg.- (hilo y oblea notarial)

APOSTILLE

(Convention de La Haye du 5 octobre 1961)

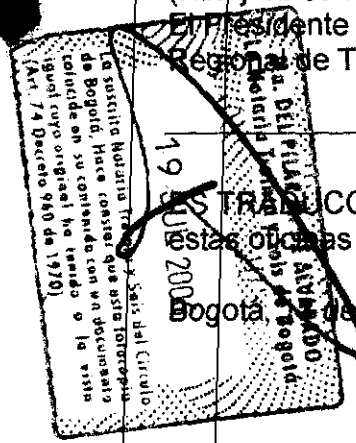
1. País: República Federal de Alemania  
Este documento público
2. Ha sido firmado por Wolfgang Lehnert
3. Actuando en calidad de notario de Trostberg
4. Lleva el sello del notario de Trostberg, Wolfgang Lehnert

Certificado

5. en Traunstein
6. el ocho de diciembre de 2005
7. por el Presidente del Tribunal Regional de Traunstein
8. bajo el No. 91/1 E 1207/2005
9. Sello  
(Hilo y oblea notarial en relieve)  
El Presidente del Tribunal  
Regional de Traunstein
10. Firma  
p.e.  
Fdo.: ilegible  
Wolfgang Giese  
Vicepresidente del Tribunal Regional

ES TRADUCCION FIEL Y COMPLETA, de la cual se deja copia en los archivos de estas oficinas para su confrontación.

Bogotá, 19 de julio 2005



Luz Arriaga de Herber  
TRADUCCION OFICIAL  
Fdo. Luz Arriaga de Herber  
Notaria de Bogotá

(24) P388.

2487  
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TRADUCCIÓN OFICIAL No. 05/585 de un documento escrito en inglés, el cual para su identificación se sella con el sello del traductor al tiempo con la presente. Esta traducción ha sido preparada por Juan Pablo Piedrahita Aguilera, Traductor e Intérprete Oficial debidamente reconocido de conformidad con el Certificado de Idoneidad Profesional No. 0045 expedido por la Universidad Nacional de Colombia, por el Ministerio de Relaciones Exteriores y autorizado por el Ministerio del Interior y de Justicia, por resolución número 718 de 2003.

(Se traduce un Poder, otorgado por la compañía CONSTRUCTION RESEARCH & TECHNOLOGY GMBH, firmado por el Dr. M. Ebner y el Dr. K. Arlt, con fecha 15 de Septiembre, 2005, certificado Notarial y Apostilla No. 91/1 E 966/2005, escritos en inglés.)

**Clarke, Modet & Co.**

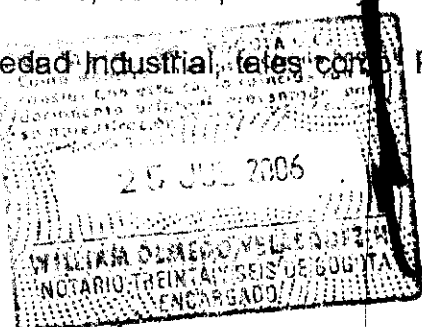
**COLOMBIA**

(Dirección en español)

**PODER**

Yo (nosotros) Dr. M Ebner y Dr. K Arlt, representantes legales de CONSTRUCTION RESEARCH & TECHNOLOGY GMBH, sociedad constituida y existente bajo las leyes de Alemania, Estado de Delaware y en actual cumplimiento de su objeto social, con domicilio en 83308 Trostberg, Alemania, por el presente por el presente confiero (conferimos) poder especial a favor de a DILIA MARÍA RODRÍGUEZ D'ALEMÁN, identificada con cédula de ciudadanía No. 41.654.882 de Bogotá y Tarjeta Profesional 20824 y CLAUDIA LUCIA CARO RAMIREZ, identificada con Tarjeta Profesional 36448 y cédula de ciudadanía No 40.017.374 de Tunja, con domicilio en Bogotá, Colombia, para que actuando en su orden en nombre de la otorgante la representen ante cualquier entidad, autoridad y/o persona, especialmente ante las del orden Administrativo, Contencioso Administrativo, Judicial, Tribunales de Arbitramento y/o cualquier otro en lo referente a la siguiente:

- 1) Solicitar, tramitar, obtener y/o registrar cualesquiera de las modalidades de Propiedad Industrial, tales como Patentes de Invención, Modelos de Utilidad;



TRADUCCIÓN OFICIAL No. 05/585  
JUAN PABLO PIEDRAHITA AGUILERA  
TRADUCTOR E INTERPRETE OFICIAL  
RES. 718 DE MAYO 2003  
DEL MIN. INTERIOR Y DE JUSTICIA

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Diseños Industriales, variedades vegetales, Marcas, Lemas, Nombres y Enseñas Comerciales y Denominaciones de Origen; así como sus renovaciones, prórrogas, traspasos, cambios de nombre y/o domicilio, contratos y licencias.

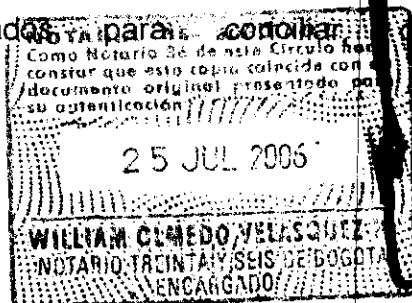
2) Solicitar, tramitar, obtener, y/o registrar derechos de autor, en cualquiera de sus presentaciones así como la protección de secretos industriales y know-how.

3) Solicitar, tramitar, obtener y/o registrar registros sanitarios, permisos y/o licencias de funcionamiento; así como sus renovaciones o prórrogas, cesiones, traspasos, cambios de nombre y/o domicilio, contratos y licencias.

4) Ejercer acciones de oposición, observación, reclamos, reivindicaciones, reconsideración, reposición, apelación, cancelación administrativa o judicial, nulidad, protección al consumidor, concesión de licencias, protección de secretos industriales y demás acciones y recursos relacionados con derechos derivados de los asuntos arriba indicados y en contra de la competencia desleal, acciones derivadas de la obtención o explotación de licencias, acciones de indemnización de perjuicios. También podrán intervenir en juicios civiles, comerciales, penales, contencioso-administrativos, tutelas y de policía; acciones o juicios promovidos por el mandante o contra él.

5) Registrar nombres de dominio ante la entidad competente.

6) En el ejercicio de este mandato los mandatarios arriba mencionados quedan facultados para ~~cancelar~~, transigir, aceptar cláusulas



TRADUCCION OFICIAL No. 05 / 585  
JUAN PABLO PIEDRAHITA AGUILERA  
TRADUCTOR E INTERPRETE OFICIAL  
RES. 718 DE MAYO 2003  
DEL MIN. INTERIOR Y DE JUSTICIA

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compromisorias, desistir, recibir y tomar posesión de la cosa objeto de litigio y renunciar o desistir derechos concedidos o en curso de concesión, admitir los hechos del proceso.

7) Ratificar o no la agencia oficiosa.

8) Así mismo facultamos a los mencionados apoderados para recibir notificaciones y designar apoderados judiciales o extrajudiciales, sustituir el presente poder y revocar las sustituciones que hicieren.

Dado y firmado en (en blanco), hoy día 15 de Septiembre, 2005.

(Firmas) Dr. Martín Ebner Dr. Klaus Arlt

Secretario

-----  
Archivo No: M 2054 / 2005

Por el presente certifico que las anteriores son las firmas auténticas respectivamente suscritas en mi presencia de

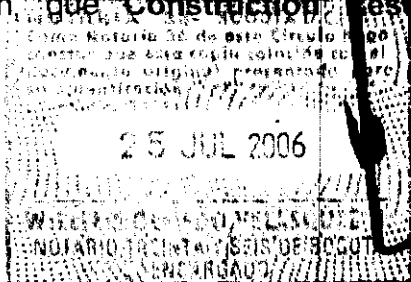
El Sr. Dr. Dr. Martín Ebner, nacido en Febrero 23, 1952, y el Sr Dr. Klaus Arlt, nacido el 29 de Diciembre, 1966

dirección comercial: Dr. -Albert-Frank-Straße 32

D -83308 Trotsberg,

a quienes conozco personalmente.

Por el presente certifico, mediante la inspección del Registro de Comercio de Traunstein, que ~~Construction Research & Technology~~ GMBH es una



TRADUCCION OFICIAL No. 88 / 585  
JUAN PABLO PIEDRAHITA AGUILERA  
TRADUCTOR E INTERPRETE OFICIAL  
RES. 718 DE MAYO 2003  
DEL MIN. INTERIOR Y DE JUSTICIA

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251

Compañía Alemana, con domicilio en D-83308 Trotsberg, Alemania, y registrada ante registro Mercantil de Traunstein, Alemania, bajo el número de registro HRB 12785, y que el Sr. Dr. Martín Ebner, en calidad de Director Gerente (*Geschäftsführer*) y el Sr. Dr. Klaus Arlt, en calidad de Klaus Arlt Gerente General (*Prokurist*) son los representantes legales de la compañía antes mencionada.

Trotsberg, Septiembre 15, 2005.

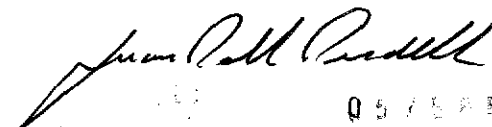
Sello de Oblea con cinta azul celeste y blanco

(Firmado) Mehler, Notario.

Apostilla No. 91/1 E 966/2005

ES TRADUCCIÓN FIEL Y COMPLETA de la cual se deja copia en los archivos de esta oficina para su confrontación y a la cual me remito.

Bogotá, Octubre 31, 2005.

  
05/10/05  
TRADUCCIÓN OFICIAL No. \_\_\_\_\_  
JUAN PABLO RUIZ AHITA AGUILERA  
TRADUCTOR E INTERPRETE OFICIAL  
REG. 103 - MAYO 2003  
DEL MIN. INTERIOR Y DE JUSTICIA

NOTARIA 36- BOGOTÁ D.C.  
Como Notario 36 de esta Circulo he  
constar que esta copia coincide con el  
documento original presentado para  
su autenticación  
25 JUL 2006  
WILLIAM OSMEDO VELASQUEZ  
NOTARIO TREINTAYSEIS DE BOGOTÁ  
ENCARGADO

# Clarke, Modet & C<sup>o</sup>

## COLOMBIA

TRADUCCION OFICIAL No. \_\_\_\_\_  
JUAN PABLO RODRIGUEZ AGUILERA  
TRADUCTOR E INTERPRETE OFICIAL

Carrera 11 n° 86-53, Piso 6 Bogotá Colombia Tel: (57 1) 618 1088 Fax: (57 1) 6350824 Email: clarkemodet@clarkemodet.com.co

### PODER

Yo (nosotros), abajo firmante(s)

en mi (nuestro) carácter de representante(s) legales de

una sociedad organizada y existente de acuerdo con las leyes de

y en actual cumplimiento de su objeto social, con domicilio en

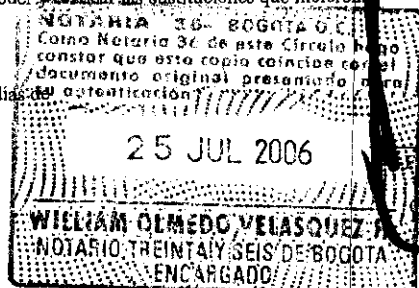
por el presente instrumento confiero (conferimos) poder especial a favor de DILIA MARIA RODRIGUEZ D'ALEMAN, con Cédula de Ciudadanía No. 41.654.882 de Bogotá, y tp. 20824 y CLAUDIA LUCIA CARO RAMIREZ, con Cédula de Ciudadanía No. 40.017.374 de Tunja, y tp. 36448, con domicilio en Bogotá, Colombia, para que actuando en su orden en nombre del (de la) otorgante le (la) representen ante cualquier entidad, autoridad y/o persona, especialmente ante las del orden Administrativo, Contencioso Administrativo, Judicial, Tribunales de Arbitramento y/o cualquier otro en lo referente a los siguientes asuntos:

- 1) Solicitar, tramitar, obtener y/o registrar cualquiera de las modalidades de Propiedad Industrial, tales como: patentes de invención, modelos de utilidad; diseños industriales, variedades vegetales; marcas, lemas, nombres y enseñanzas comerciales y denominaciones de origen; así como sus renovaciones, prórrogas, transferencias, cambios de nombre y/o domicilio, contratos y licencias.
- 2) Solicitar, tramitar, obtener y/o registrar derechos de autor, en cualquiera de sus presentaciones así como la protección de secretos industriales y know-how.
- 3) Solicitar, tramitar, obtener y/o registrar registros sanitarios, permisos y/o licencias de funcionamiento; así como sus renovaciones o prórrogas, transferencias, cambios de nombre y/o domicilio, contratos y licencias.
- 4) Ejercer acciones de oposición, observación, reclamos, reconsideración, reposición, apelación, cancelación administrativa o judicial, nulidad, protección al consumidor, concesión de licencias, protección de secretos industriales y demás acciones y recursos relacionados con derechos derivados de los asuntos arriba indicados y en contra de la competencia desleal, acciones derivadas de la obtención o explotación de licencias, acciones de indemnización de perjuicios. También podrá(n) intervenir en juicios civiles, comerciales, penales, contencioso-administrativos, tutelas y de policía; en acciones o juicios promovidos por el (la) mandante o en contra el (ella).
- 5) Registrar nombres de dominio ante la entidad competente.
- 6) En el ejercicio de este mandato los mandatarios arriba mencionados quedan facultados para: conciliar, cancelar, transigir, comprometer en árbitros, desistir, recibir y tomar posesión de la cosa objeto de litigio y renunciar o desistir a derechos concedidos o en curso de concesión, admitir los hechos del proceso.
- 7) Ratificar o no la agencia oficiosa.
- 8) Así mismo, faculto (facultamos) a los mencionados apoderados para recibir notificaciones y designar apoderados judiciales o extrajudiciales, sustituir el presente poder y revocar las sustituciones que hicieren.

Dado y firmado en

a los

días del mes de



### POWER OF ATTORNEY

I (we), the undersigned

Dr. M. Ebner and Dr. K. Arlt  
legal representative(s) of

CONSTRUCTION RESEARCH & TECHNOLOGY GMBH

an organization existing under the laws of

GERMANY

and in present execution of its business activity, domiciled at

Dr. -Albert-Frank-Str. 32

83308 Trostberg, Germany

do hereby grant POWER OF ATTORNEY to DILIA MARIA RODRIGUEZ D'ALEMAN, identification card No. 41.654.882 of Bogotá, and tp. 20824 and CLAUDIA LUCIA CARO RAMIREZ, tp. 36448, identification card No. 40.017.374 of Tunja, residing in Bogotá, Colombia, to act in the order of their appointment in behalf of grantor before any entity, authority and/or natural or juridical person, specially before those Administrative, Administrative-Contentious, Judicial, arbitration courts, and/or any other, in all matters concerning the following:

- 1) To apply, process, obtain and/or register any of the modalities of Industrial Property, such as: Patents of Invention, Utility Models; Designs, plant varieties; Marks, Slogans, Trade Names and emblems and appellations of Origin; as well as their renewals, extensions, assignments, changes of name and/or domicile, agreements and licenses.
- 2) To apply, process, obtain and/or register copyrights of any kind as well as protection of industrial secrets or know-how.
- 3) To apply, process, obtain and/or register sanitary registrations, operating authorizations and/or licenses; as well as their renewals or extensions, assignments, changes of name and/or domicile, agreements and licenses.
- 4) To bring actions of opposition, observations, claims, reconsideration, appeal or legal remedies, cancellations, nullity, protection to the consumer, granting of licenses, protection of trade secrets and other actions related with rights derived from the above-mentioned matters and against the unfair competition, actions resulting from the obtaining or exploitation of licenses, recovering damages actions. They can also intervene or participate in Civil, Commercial, Criminal or Contentious-Administrative Trials; the actions for writ mandamus, police actions; in actions, lawsuits or litigations instituted by the grantor or against him.
- 5) To register domain names before the competent entity.
- 6) To the effect of this mandate the above-named proxy are empowered to: conciliate, cancel, settle, submit to arbitration, withdraw and to receive and take possession of the litigation related object and waive or renounce the rights granted or in process of granting, admit the facts of the case.
- 7) To ratify or not the officious agency.
- 8) I (we) hereby appoint the afore mentioned attorneys with powers to receive notifications and to designate judicial and extra-judicial attorneys, substitute this Power of Attorney and to revoke such substitutions.

Granted and signed at

on this 15. day of September of 2005

Signature / signature

Construction Research & Technology GmbH

Dr. Martin Ebner

Dr. Klaus Arlt

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File No: M 2054/2005

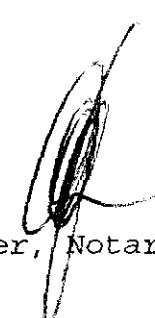
I hereby certify, that the above are the true signatures, respectively subscribed in my presence of

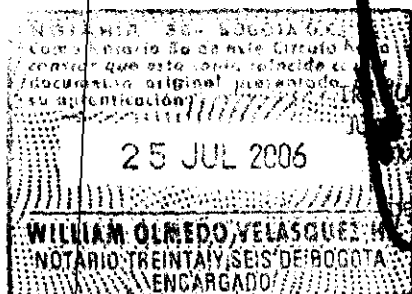
Mr. Dr. Martin Ebner, born February 23, 1952, and  
Mr. Dr. Klaus Arlt, born on December 29, 1966,

business-adress: Dr.-Albert-Frank-Straße 32,  
D-83308 Trostberg,  
who are personally known to me.

I hereby certify by inspection of Register of Commerce of Traunstein, that **Construction Research & Technology GmbH** is a German Company, domiciled at D-83308 Trostberg, Germany, and entered at Register of Commerce of Traunstein, Germany, under registration number HRB 12785, and that **Mr. Dr. Martin Ebner** as Managing Director (Geschäftsführer) and **Mr. Dr. Klaus Arlt** as General Manager (Prokurist) are the legal representatives of the aforementioned Company.

Trostberg, September 15, 2005

  
Mehler, Notary



COLOMBIA  
PABLO  
DUCTOR E INTERPRETE OFICIAL  
RES. 718 DE MARZO 2000  
MIN. INTERIOR Y DE JUSTICIA

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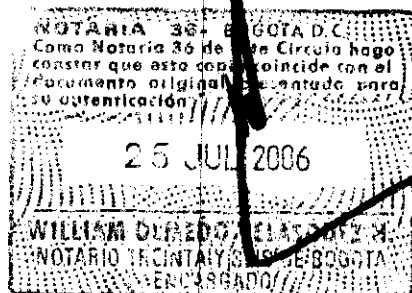
# Apostille

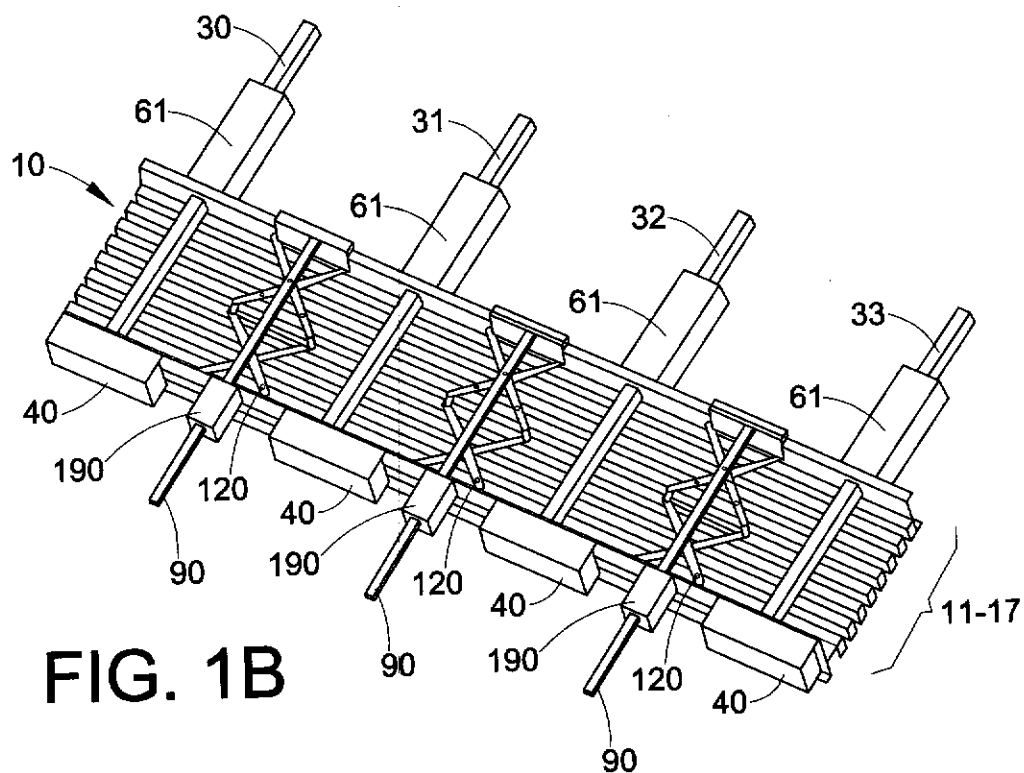
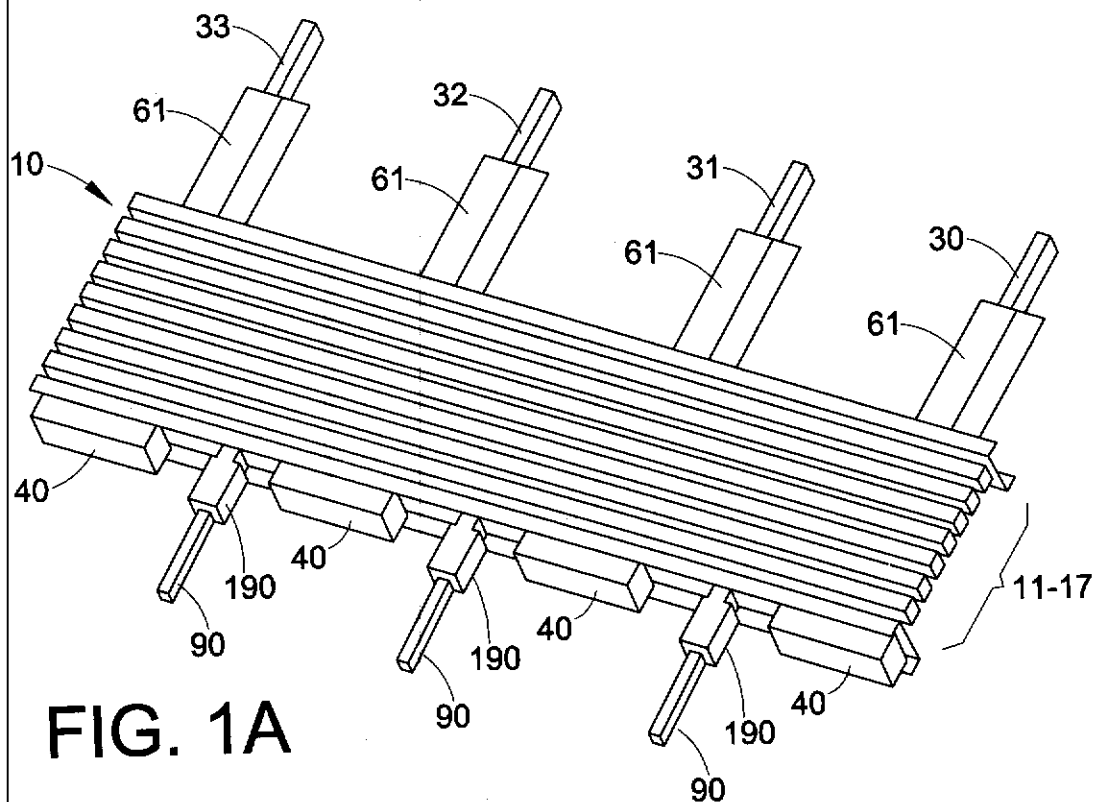
(Convention de La Haye du 5 octobre 1961)

1. Land Bundesrepublik Deutschland  
Diese öffentliche Urkunde
2. ist unterschrieben von Georg Mehler
3. in seiner Eigenschaft als Notar in Trostberg
4. sie ist versehen mit dem Siegel des Notars  
Georg Mehler in Trostberg
5. in Traunstein
6. Bestätigt  
am neunundzwanzigsten September  
zweitausendfünf
7. durch den Präsidenten des Landgerichts Traunstein
8. unter Nr. 91/1 E 966/2005
9. Siegel
10. Unterschrift

*E. Wavra*

Edgar Wavra  
Präsident des Landgerichts





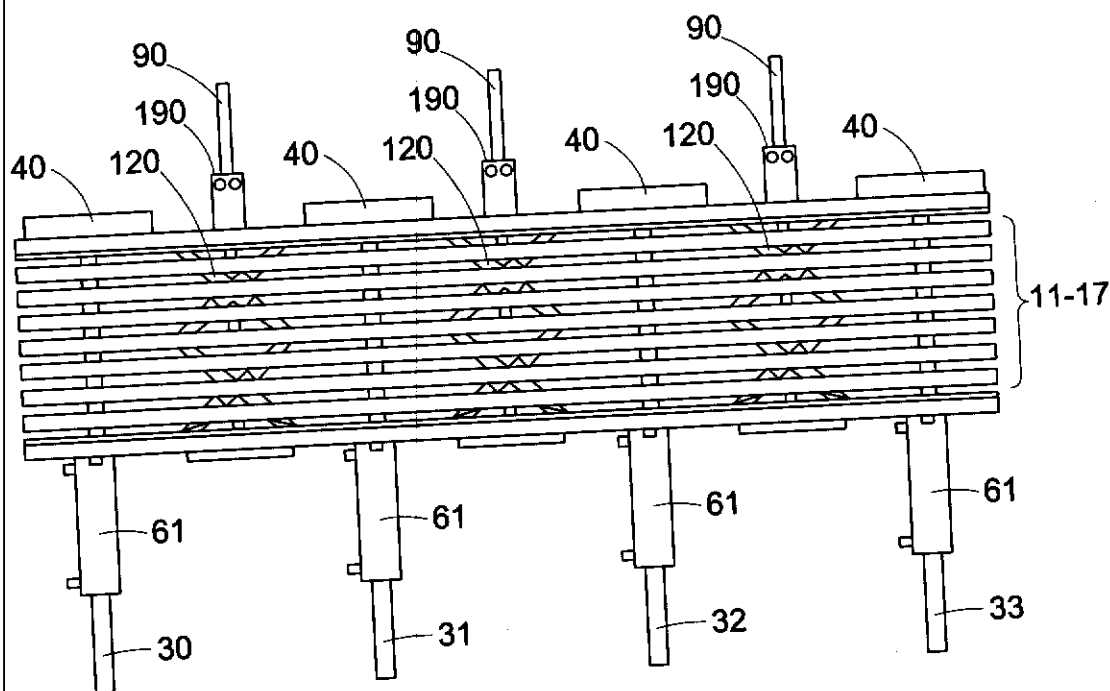


FIG. 1C

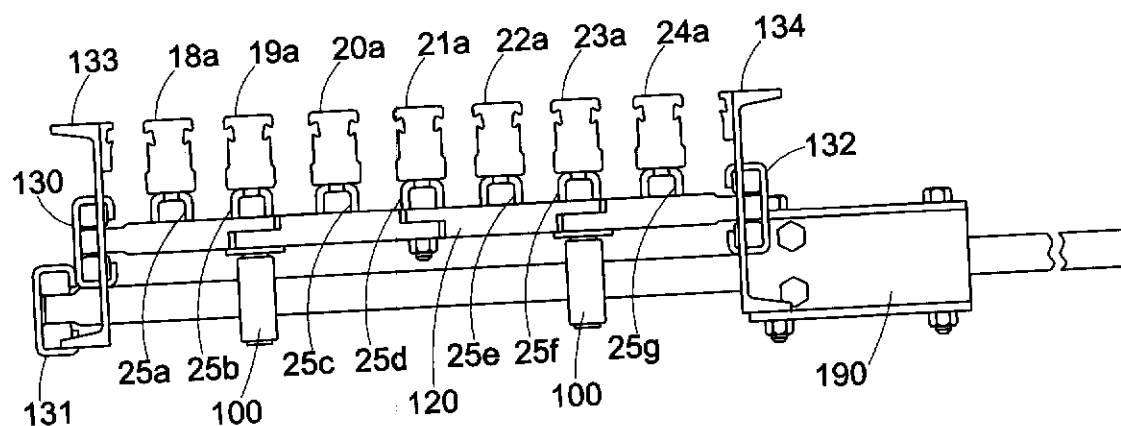


FIG. 2

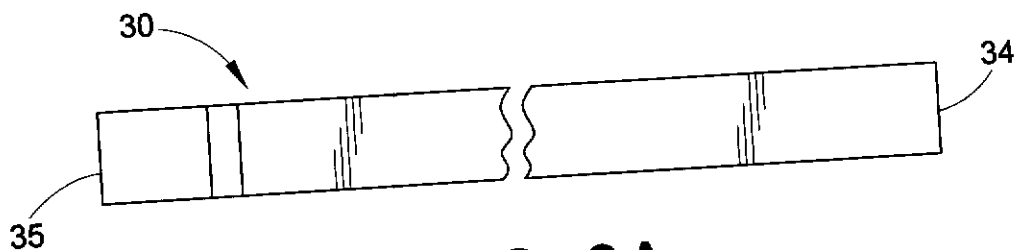


FIG. 3A

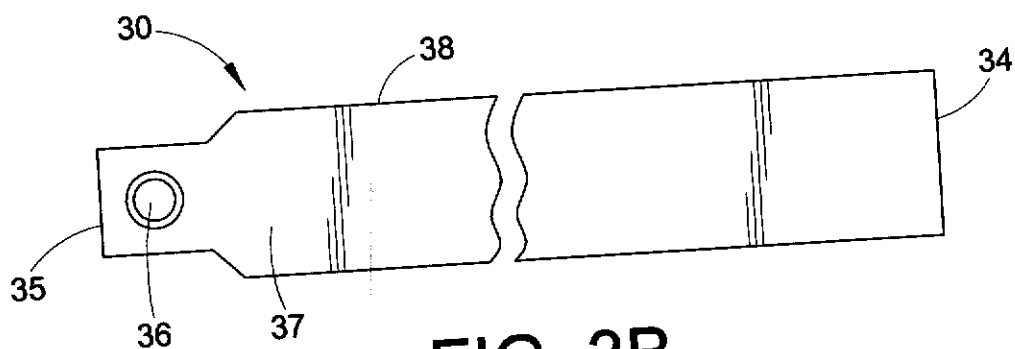


FIG. 3B

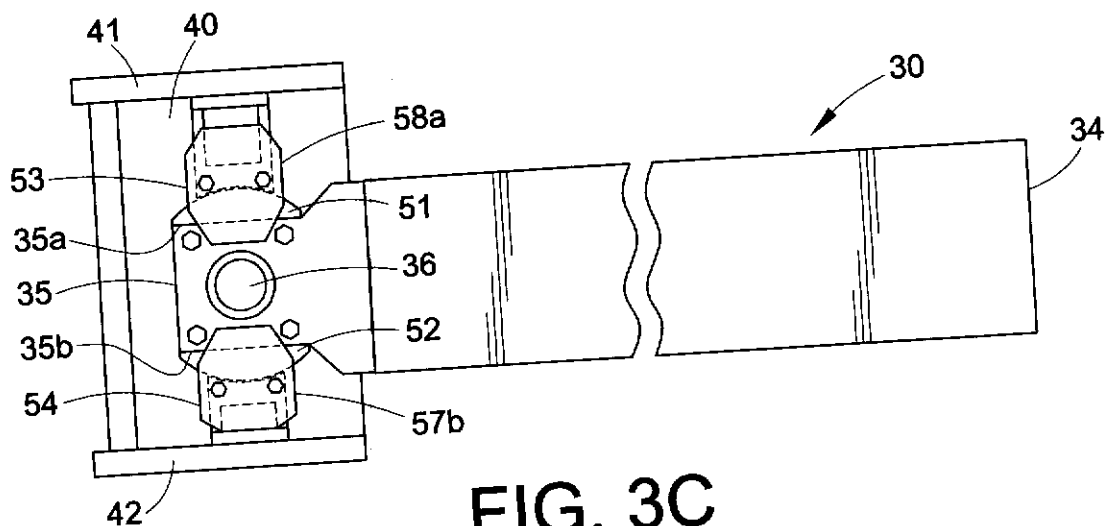


FIG. 3C

FIG. 4

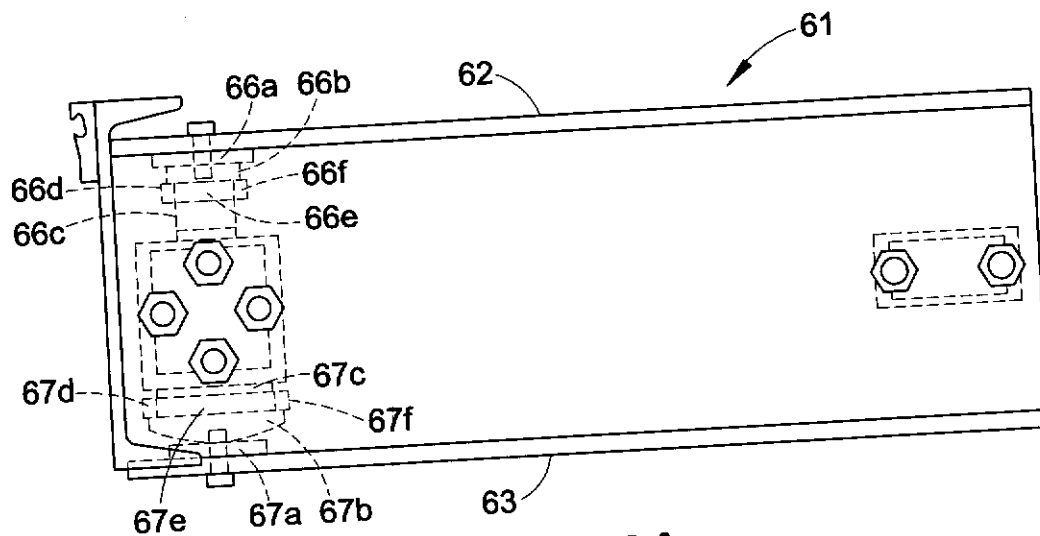
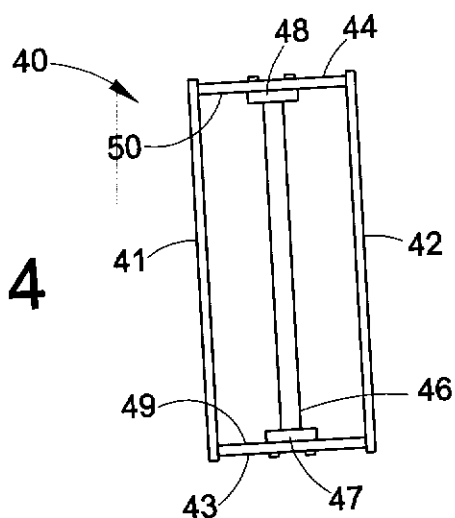


FIG. 5A

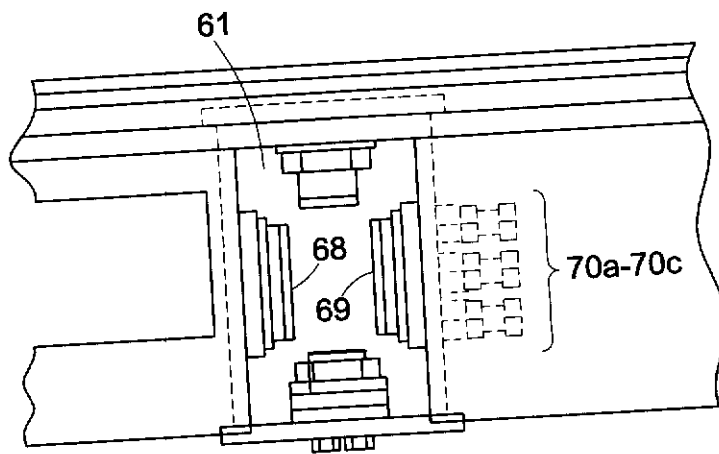
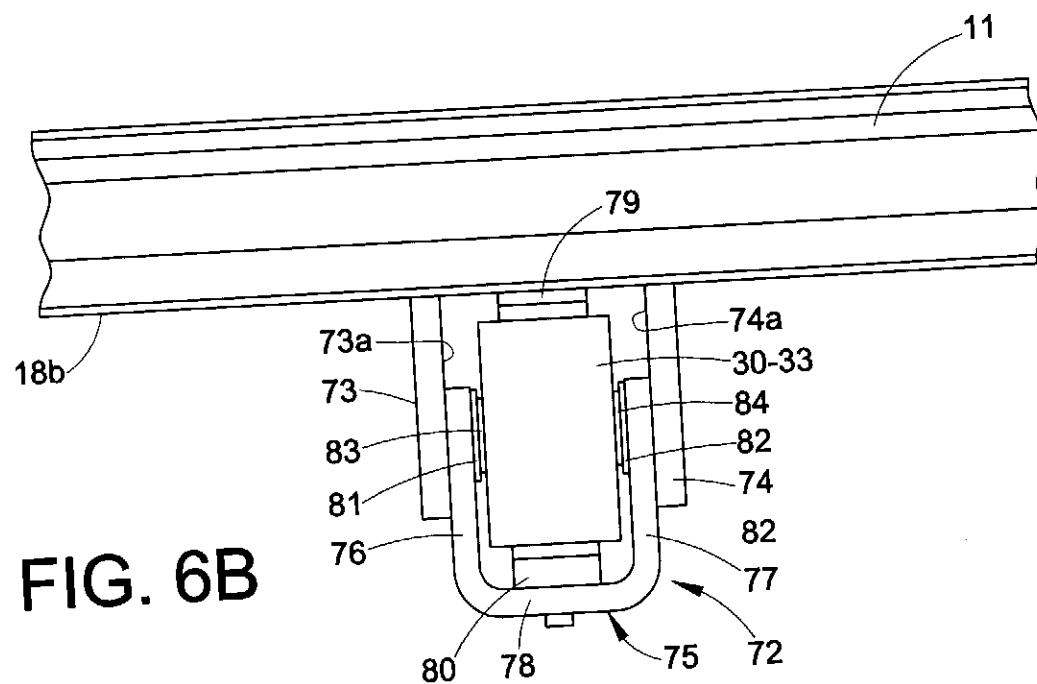
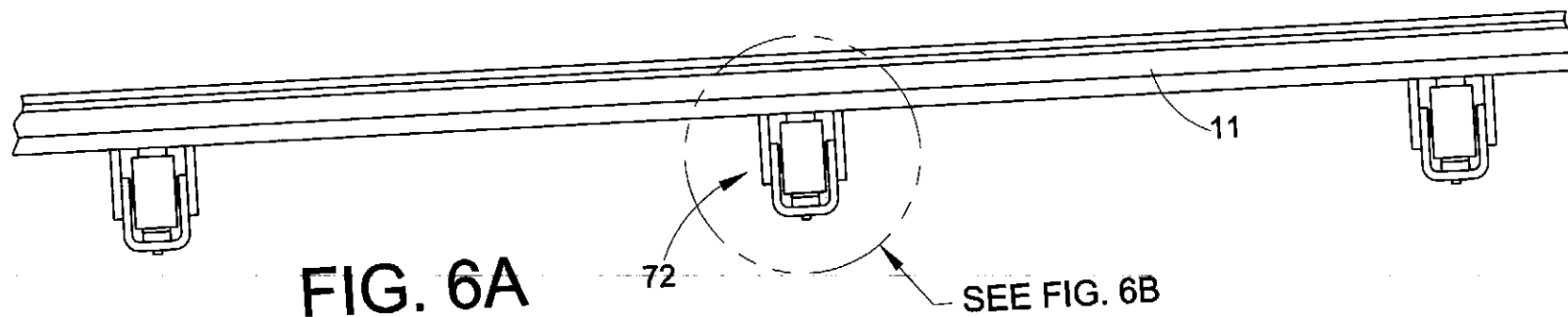


FIG. 5B



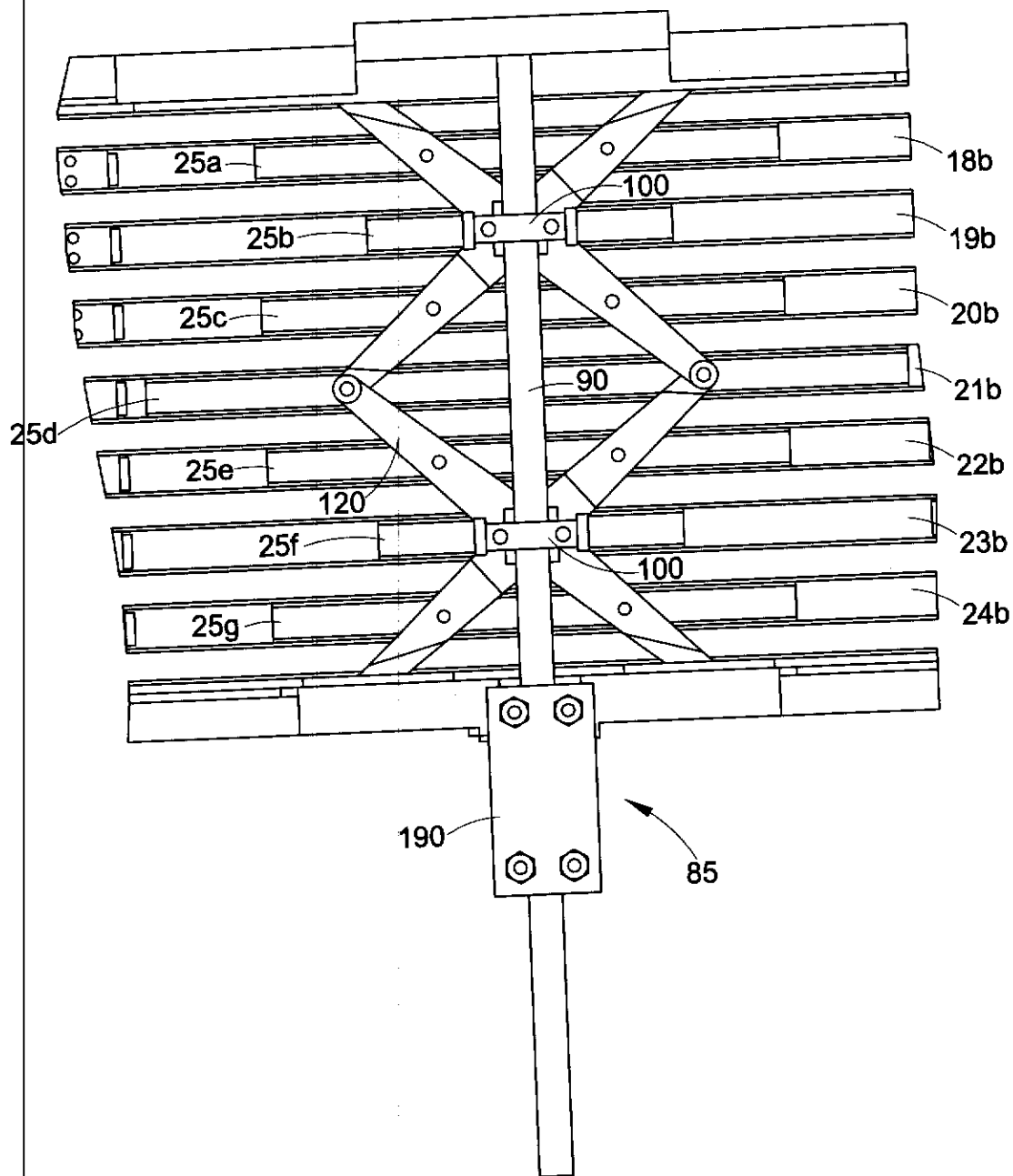


FIG. 7B

**DIVISION DE NUEVAS CREACIONES**

RADICACIÓN EXPEDIENTE No. 03-027430

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

FUE PUBLICADO EN LA GACETA DE PROPIEDAD INDUSTRIAL No **545** DE

FECHA **29 DE OCTUBRE 2004** EL TERMINO HABIL SEÑALADO POR LA LEY

**EXPIRA EL 27 DE ENERO DEL 2005**

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 \_\_\_

Bogotá D.C, AGOSTO DE 2007

## [54] EXPANSION JOINT FOR ROADWAY SECTIONS

[76] Inventor: Yves Gerald Leroux, 8790 Terrasse Forget, La Salle, Quebec, Canada

[21] Appl. No.: 802,497

[22] Filed: Jun. 1, 1977

[51] Int. Cl.<sup>2</sup> ..... E01D 19/06

[52] U.S. Cl. .... 14/16.5; 404/69; 52/396

[58] Field of Search ..... 404/69, 68, 47; 14/16.5; 52/396

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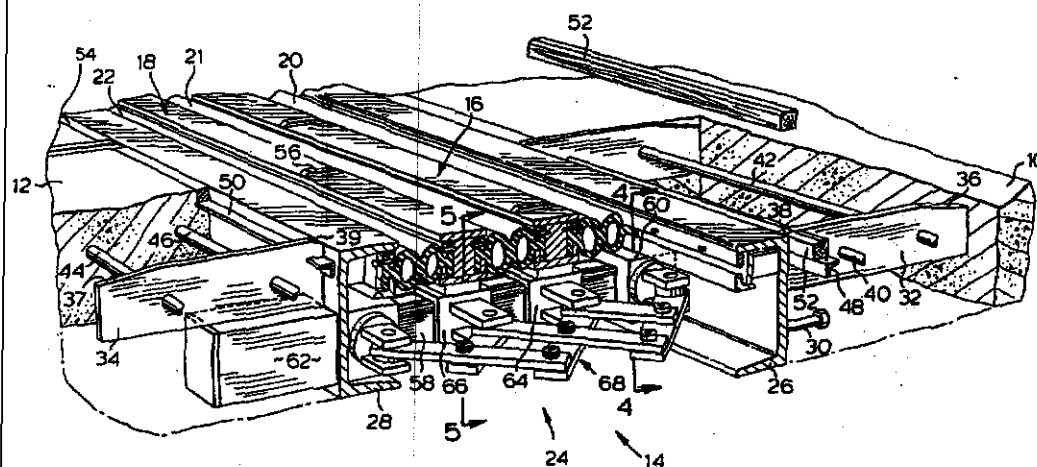
Primary Examiner—Nile C. Byers

Attorney, Agent, or Firm—Hirons &amp; Rogers

## [57] ABSTRACT

An expansion joint for mounting in the gap left between roadway sections, e.g. sections of a roadway bridge structure, to accommodate thermal expansion of the sections, is provided with at least one intermediate beam member extending in the gap across the width of the roadway and sealing strips of elastomeric material fitted between the roadway section edge structures and the intermediate beam. The joint has a plurality of units spaced apart across the width of the roadway, each unit comprising a lazy tong link arrangement pivotally mounted to the edge structures of the two roadway sections and to the intermediate beam members and extending across the gap, so as to ensure that any expansion or contraction of the gap between the roadway sections is equally distributed among the various parts of the gap on each side of and between the intermediate beam or beams. A spanning member is provided in each joint unit, which extends across the gap below the intermediate beam members and is slidable with respect to them and with respect to the roadway sections. The lazy tongs link arrangement and the spanning member are both pivotable to a small degree with respect to each of the roadway sections, so as to accommodate relative height changes between them without damage to the structural parts.

18 Claims, 9 Drawing Figures



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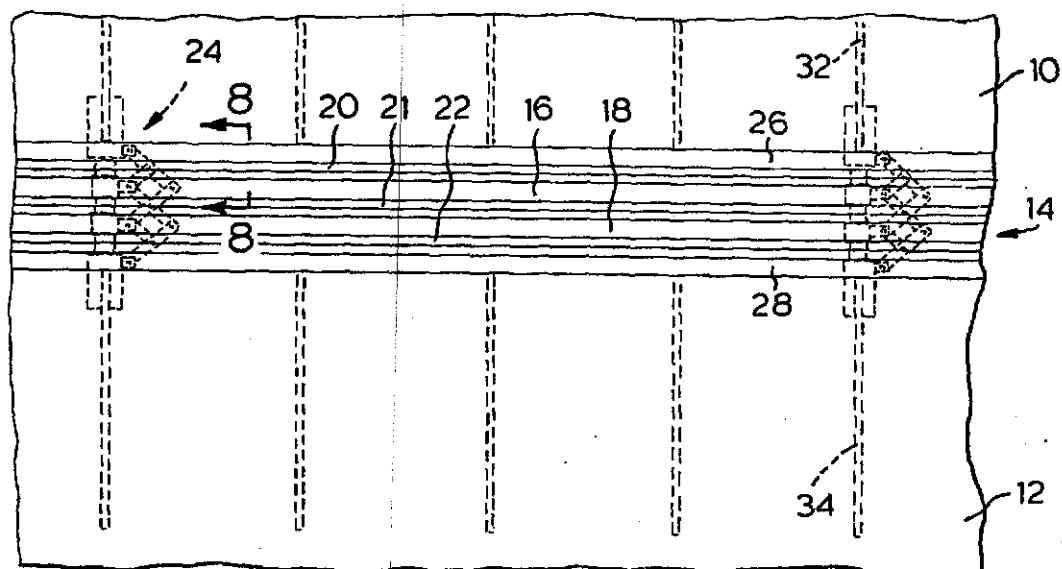


FIG. 1

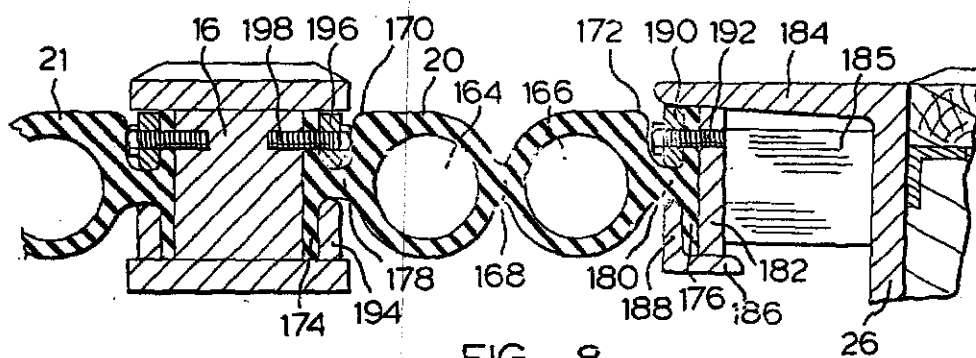


FIG. 8

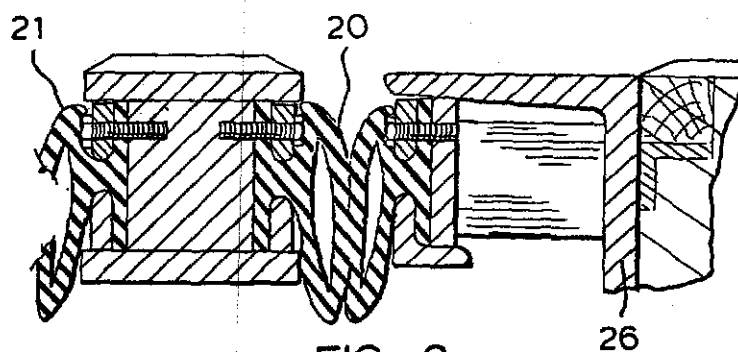


FIG. 9

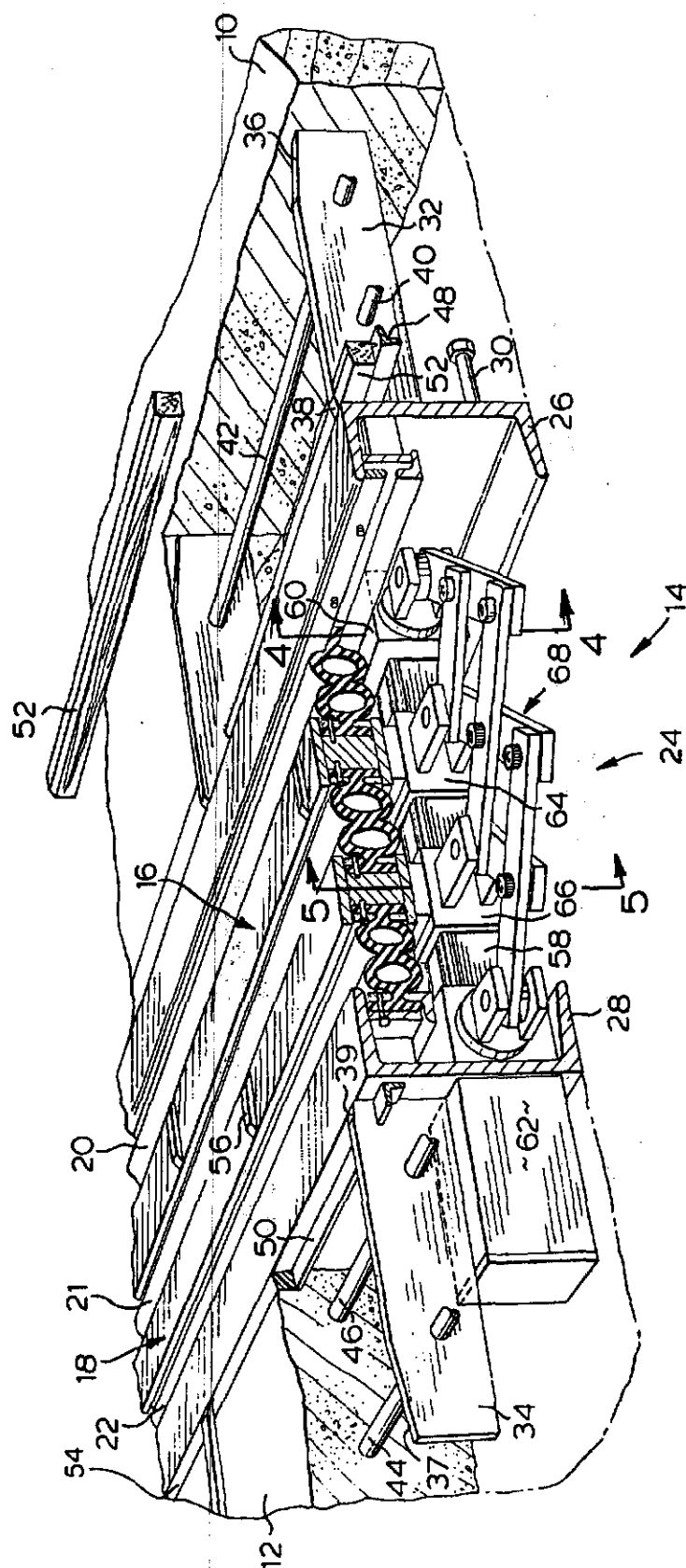


FIG. 2

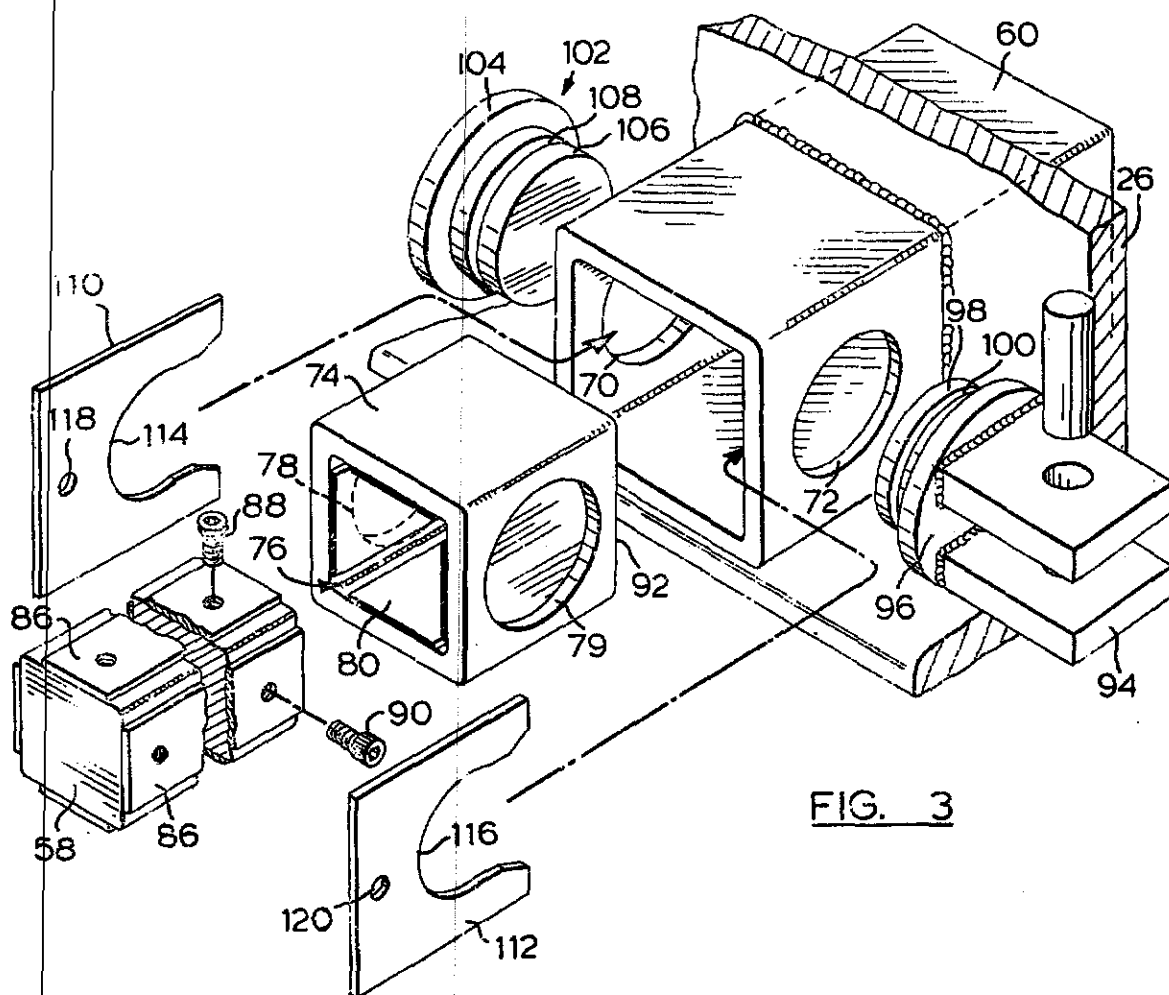


FIG. 3

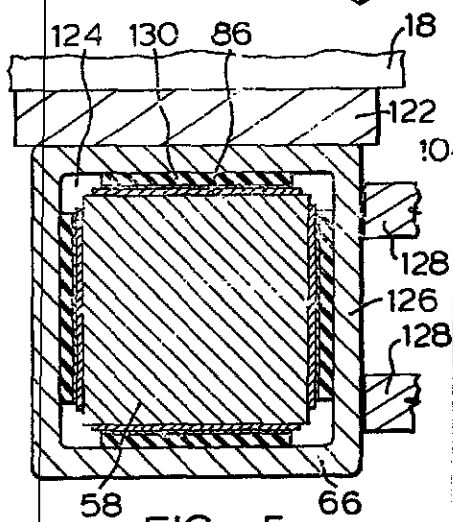


FIG. 5

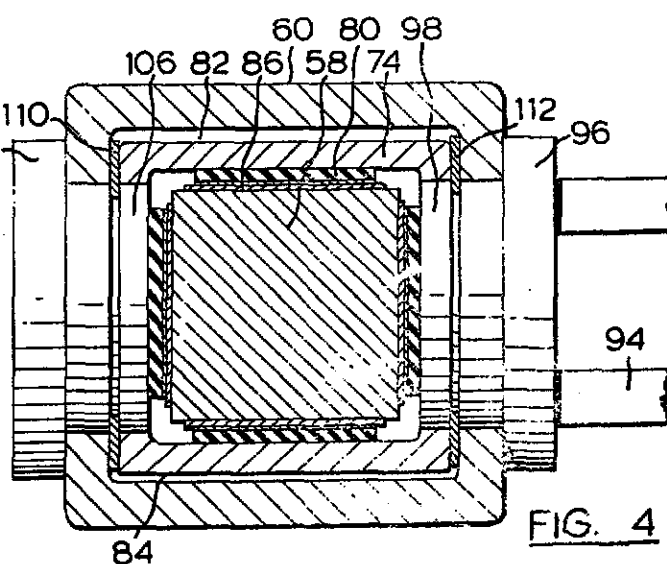


FIG. 4

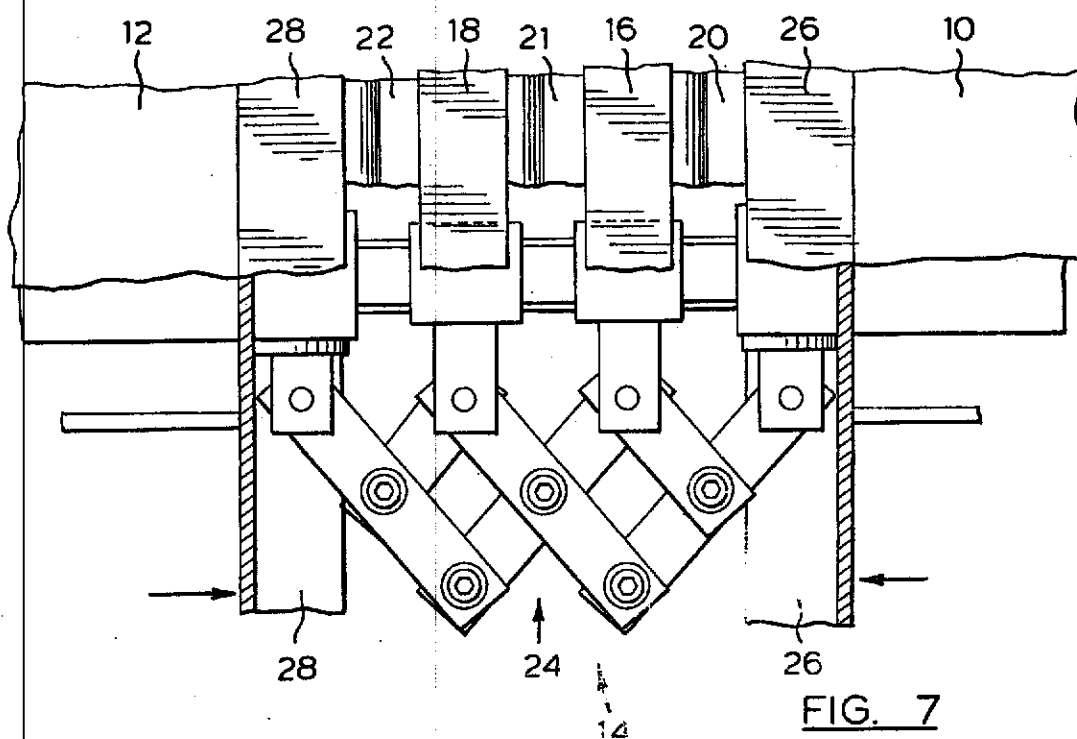
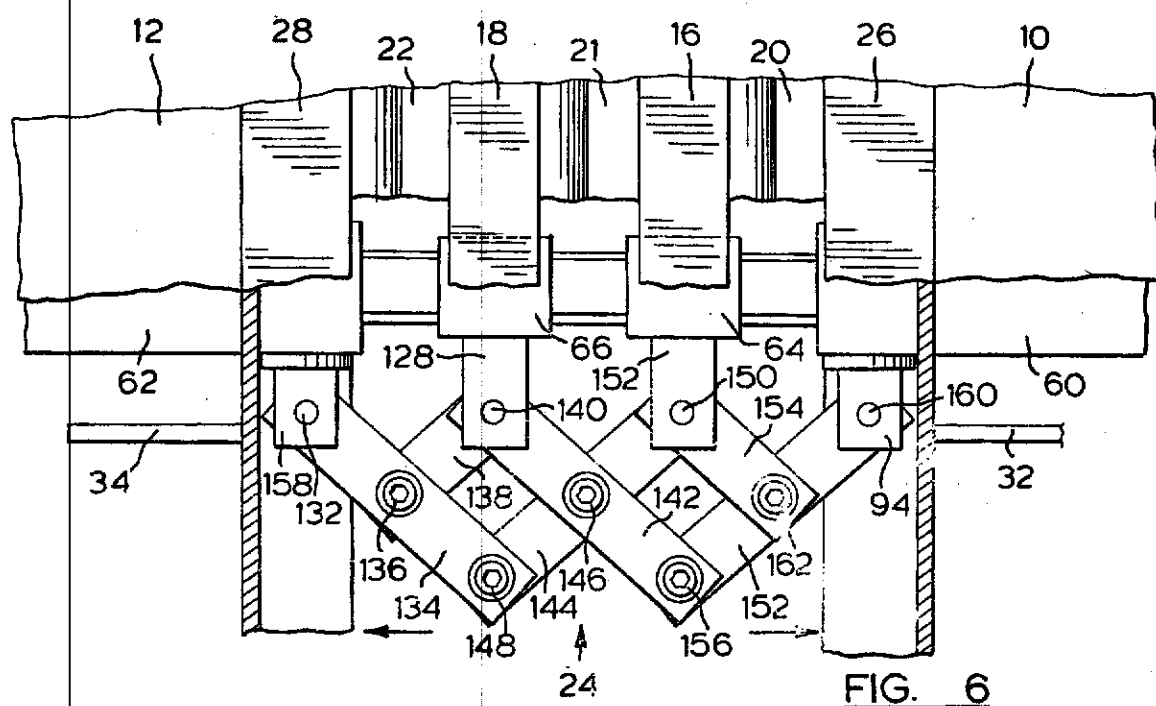


FIG. 7 is a view similar to that of FIG. 6, showing the joint unit in a contracted position;

FIG. 8 is a vertical section of a portion of the joint showing the sealing strip, in its expanded position;

FIG. 9 is a view similar to that of FIG. 8, showing the parts in the contracted position.

#### DETAILED DESCRIPTION OF THE SPECIFIC PREFERRED EMBODIMENT

In the drawings, like reference numerals indicate like parts.

With respect to FIG. 1, there is indicated a first concrete roadway section 10, e.g. of a bridge, and a second concrete roadway section 12 having a gap 14 between their adjacent edges, the gap extending the full width of the roadway. The gap 14 is provided to accommodate expansion and contraction of the roadway sections 10, 12 due to thermal factors, causing consequent contraction and expansion of the width of the gap 14. To permit such contraction and expansion of the gap 14 and at the same time maintain a substantially watertight seal of gap 14, as required by many highway authorities, an expansion joint according to the present invention is provided, comprising a number, e.g. 2 of intermediate beams generally indicated 16, 18, extending the full width of the roadway, parallel to one another and to the roadway section edges and dividing the gap 14 into substantially equal longitudinal portions. Compressible sealing strips 20, 21, 22 are provided to fill the gaps between the intermediate beams 16, 18. At intervals of about 3 feet along the length of the gap 14, individual joint units such as 24 are provided, secured to edge structures of the roadway sections 10, 12, and connected to the intermediate beams 16, 18 so as to retain the intermediate beams 16, 18 in position to keep the gaps 14 divided into substantially equal width longitudinally extending portions, and retain watertightness of the joint. The structure and operation of individual joint units 24 are illustrated in FIGS. 2-9.

The overall structure and arrangement of a joint unit 24 is illustrated in FIG. 2. The concrete roadway sections 10, 12 are each provided along their edges with a respective channel beam 26, 28, the channel of which faces into the gap 14. The channel beams are rigidly secured to the concrete by integral Nelson studs such as 30, in the conventional way. Each of the channel beams 26, 28 is provided with a series of vertical anchoring plates such as 32, 34 respectively, welded to the outer face of the channel beams 26, 28 and extending away from the gap 14. The top surfaces of the plates 32, 34, in the finished joint, form part of the roadway surface. At their rearward ends, away from the gap 14, they are provided with inclined top surfaces 36, 37 sloping upwardly in the direction towards gap 14, so as to accommodate the traverse of a snowplow or similar blade without dislodgement of the roadway section. Similar top surface inclinations 38, 39 are provided extending away from the gap 14, at the front of the plates, for the same purpose. Adjacent pairs of vertical plates 32, 34 are tied together for rigidity purposes by transverse bars 40, 42, 44, 46 welded to the plates.

Also extending between adjacent pairs of plates 32, 34 etc. are angle irons 48, 50, the vertical faces of which are welded to the external vertical face of the respective channel beams 26, 28 to present a horizontal surface a short distance below the top edge of channel beams 26, 28. The angle irons 48, 50 are welded at their ends to the plates 32, etc. When the joint is assembled ready for

installation and pouring of concrete, wooden struts 52 are ledged on the upper horizontal surface of the channel beams 26, 28, the wooden struts 52 being of a suitable length to extend tightly between pairs of plates 32, etc., and of a suitable thickness to register with the top surfaces of the plates 32. The concrete roadbed 10, 12 is poured, substantially to the level of the inclined surfaces 36, 37 on the plates 32, 34. After the concrete has set and hardened, the wooden struts 52 can be removed, leaving a short gap or recess in the poured concrete, extending between the plates 32, 34. This gap can subsequently be filled with epoxy resin as indicated at 54. Such an arrangement and procedure offers substantial advantages, since it is well known that concrete and steel will not properly bond together to give a watertight joint. However, epoxy resin will bond firmly both to steel and to concrete, so that in this manner, a watertight joint as between the channel beams 26, 28 and the plates 32, 34 welded thereto, on one hand, and the concrete of the roadbeds 10, 12, on the other, is obtained.

At intervals of about 3 feet along their lengths, the intermediate beams 16, 18 are provided on their top surfaces with skid bars 56, having upwardly and inwardly inclined side surfaces. The skid bars 56 are presented in staggered relationship with those on the adjacent intermediate bar. The provision of these skid bars serves to prevent damaging and digging out of the joint unit 24, by traverse of a snowplow, grader or other bladed vehicles across the expansion joint.

The joint unit itself, generally indicated 24, comprises a spanning member 58 extending across the width of the gap 14, the ends of the spanning member 58 being slidably received in respective end boxes 60, 62, protruding through apertures in the channel beams 26, 28. The spanning member also passes slidably through glide boxes 64, 66, respectively secured to intermediate beams 16, 18. The end boxes 60, 62 and glide boxes 64, 66 have a pivotal lazy tongs link arrangement 68 pivotally secured thereto and extending to one side of the boxes and spanning member 58. The spanning member 58 and lazy tong link arrangement 68 are hingedly mounted into the end boxes 60, 62 to accommodate relative vertical movement as between roadway sections 10, 12. The intermediate beams 16, 18 with sealing strips 20, 21, 22 mounted therebetween are located vertically above the spanning member 58.

With reference to FIG. 3, this illustrates in exploded perspective the manner in which the spanning member 58 and lazy tong link arrangement 68 are mounted in the concrete roadway section. The end box 60 extends through an aperture in and is welded to the channel beam 26, so that it is rigidly fixed thereto. The end box 60 is of generally square cross-section, with a square aperture therein, facing inwardly towards the gap between the roadway sections. In its forward side walls, located forwardly of the vertical web of channel beam 26, the end box is provided with a pair of aligned circular apertures 70, 72. An intermediate cubiform box 74 is provided, having a square aperture 76 extending right way through its center, from its front wall to its rear wall, and having a pair of aligned circular apertures 78, 79 in its side walls. All four of the interior side walls of the intermediate cubiform box 74 are provided with glide pads 80, these pads comprising a reinforced rubber body with a friction-reducing PTFE coating. The intermediate cubiform box 74 is a loose fit in the square aperture in the end box 60, in which it is placed so that its circular side wall apertures 78, 79 align with the

The operation of the joint units will be apparent from FIGS. 6 and 7, in conjunction with the above description. FIG. 6 generally shows a part of the joint unit, in plan view, in its expanded condition. The forks 94 extending from the end box 60 are pivotally connected by means of a pivot pin 160 to a first link arm 152 of the lazy tongs arrangement 24. Near its center, first link arm 152 is pivotally connected to a pivot pin 162 to the end of a second link arm 154 of the lazy tongs arrangement. The other end of this second link arm 154 is pivotally connected by means of a pivot pin 150 to the forks 152 fixed to the glide unit 64 which is secured to the intermediate beam member 16. The end of a third link arm 144 of the lazy tongs link arrangement 24 is also pivotally connected to pivot pin 150. A fourth link arm 142 is pivotally connected at its center, by means of pivot pin 146 to the center of third link arm 144, at one of its ends by means of pivot pin 156 to the end of first link arm 152 and at its other end by means of pivot pin 140 to the forks 128 welded to glide unit 66 which is fixed to the other intermediate beam member 18. A fifth link arm 134 and a sixth link arm 138 are provided to complete the lazy tongs link arrangement 24, the fifth link arm 134 being pivotally connected by pivot pin 148 to the end of third link arm 144 remote from its connection to the forks 152. The other end of the fifth link arm 134 is pivotally connected to the forks 158 extending from the other end box 62, by means of pivot pin 132. The sixth link arm is pivotally connected to pivot pin 140, associated with forks 128 of the glide unit 66, at one end, and is pivotally connected by means of pivot pin 136 to the middle of fifth link arm 134.

Now, in this arrangement, the ratio of the spacings between roadway section 10 and intermediate beam member 16, between intermediate beam members 16, 18, and between intermediate beam member 18 and roadway section 12, are maintained in a constant ratio, even when the overall size of the gap 14 between the roadway sections changes due to thermal factors. In FIG. 7, it will be seen that roadway section 10 has expanded, thereby pushing channel beam 26 to the left, narrowing the gap 14. The lazy tongs link arrangement responds to this movement, and contracts, by pivoting action, to move the intermediate beams 16, 18 to the right, a proportionate distance, to maintain the same ratio of spacing within the overall gap. This movement of intermediate beams 16, 18 and channel beam 26 is accommodated by sliding movement of the spanning member 58 within the glide units or boxes 64, 66, and within the end boxes 60, 62 as previously described. By this means, the change in overall width of the gap is accommodated equally by the various resilient sealing strips 20, 21, 22, located in the gaps, and there is no risk of one of these strips becoming over extended as a result of such gap movement, to spoil its efficiency.

Further, if either of the roadway sections 10, 12 should become vertically displaced with reference to the other, e.g. by the slight sinking of a bridge pillion supporting one of the roadway sections, this movement can be accommodated without damage to the lazy tongs link arrangement 24, by the arrangement of spanning member 58 within end boxes 60, 62 as previously described. If this vertical displacement occurs, spanning member 58 will assume a downward inclination across the gap, to accommodate it, hinging within the end boxes 60, 62. As it does so, it will bring the intermediate beam members 16, 18 down also, a proportionate amount, by engagement of the undersurface of the inter-

mediate beam member 58 with the bottom walls of the glide boxes 64, 66, thereby evening the height discrepancy across the roadway joint. The lazy tongs link arrangement 24 will also assume the same downward inclination across the gap, since rotation of the forks 94, 158 thereof relative to the end boxes 60, 62 is permitted as previously described with reference to FIGS. 3 and 4, so that the lazy tongs link arrangement can continue to operate to equalize the change in width of the gap without bending, jamming the pivot pins or otherwise damaging the lazy tongs arrangement.

FIGS. 8 and 9 illustrate a specific preferred embodiment of the form of sealing strip for use in the present invention, its means of anchoring in the spaces in the expansion joint units, and its action on expansion and contraction of the gap.

With reference to FIG. 8, the sealing strip 20 as viewed in cross-section comprises a pair of single circular apertures 164, 166 surrounded by a rubber web, the web having a narrow neck 168 between the two apertures 164, 166. The top wall of the strip 20 terminates at its sides in a pair of shoulders 170, 172. Side mounting flanges 174, 176 are provided outwardly of the shoulders 170, 172, the flanges 174, 176 being integrally connected to the rest of the sealing strip by means of side necks 178, 180. It will be noted that the side flanges 174, 176 extend upwardly beyond the level of the side necks 178, 180, approximately to the level of the shoulders 170, 172. This arrangement has significant practical advantages, in enhancing the sealing action of the sealing strip 20, since it is virtually impossible for water to seep around the seal at the edges, over shoulder 170, with this arrangement, the side flanges acting in the manner of a dam. It also enables the sealing strips to be removed from above the joint, the replacement purposes, in conjunction with the mounting arrangements described below.

For mounting the sealing strips 20, etc. the channel beam 26 is provided with a vertical flange member 182, welded to and depending from the underside of the top 184 of the channel member 26. The vertical flange member 182 depends a distance of about  $\frac{1}{2}$  of the vertical width of the channel of member 26, which approximately corresponds to the height of the side flange 176 of the sealing strip 20. The vertical flange member 182 extends the full length of the channel member 26, and is also anchored thereto by means of webs 185 provided at intervals along the length of the channel member 26 and welded to the internal vertical face of the channel member 26 and the rear vertical face of the flange 182. Fixed to the bottom edge of the vertical flange 182, and extending the full length thereof, is an angle bar 186 having an upstanding portion 188 extending upwardly from the bottom of the flange member 182 and spaced inwardly a short distance therefrom. A depending bar 190 extends downwardly from the end of the top 184 of channel member 26, in alignment with the upstanding part 188 of the angle bar 186, leaving a space therebetween sufficient to tightly accommodate the side neck 180 of the sealing strip 20. Aligned bolt holes for the accommodation of bolts 192 are provided at intervals, through the depending member 190 and the vertical flange member 182, the bolts being held rigidly in vertical flange member 182, to prevent rotation and facilitate the tightening of nuts thereon.

An essentially similar mounting arrangement is provided on the side face of the intermediate beam member 16, for receiving the other side mounting flange 174 of