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14



Industria y Comercio

SUPERINTENDENCIA

REGISTRO
PATENTE DE INVENCION

PCT

PCT

09-42268

EXPEDIENTE N°

TITULO: PERFECCIONAMIENTO EN LA BOMBA
VIBRATORIA

CLASIFICACION INTERNACIONAL: _____

SOLICITANTE: INDUSTRIA DE MOTORES ANAUGER S.A.

DOMICILIO: São Paulo, Brasil

APODERADO: DARIO CARDENAS NAVAS

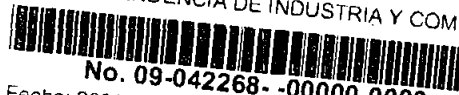
BOGOTÁ, D.C. _____

Rodr. Carrero
Fm. 27-05-2009

PETITORIO



SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



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Act. 411 PRESENTACION

Dep. 2020 NUECREACIONI

Eve: 378 FASENACIONALI

Folios: 49

FORMULARIO UNICO DE SOLICITUD
PCT
ENTRADA EN FASE NACIONAL

①

SOLICITUD DE:

☒

Patente de Invención

☐

Patente de Modelo de Utilidad

☒

Capítulo I

☐

Capítulo II

②

SOLICITANTE

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Nacionalidad o Domicilio: São Paulo, Brasil

Lugar de Constitución: São Paulo, Brasil

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IDENTIFICACION

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NIT

☐

NIT

☐

Otro

☒

Otro

Cuál
Número

③

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O APODERADO

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IDENTIFICACION

☒

CC

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NIT

☐

Otro

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Otro

Cual
Número 17066629 TP 1250
BTA C.S.J.

④

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(72)

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⑤

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Solicitud Internacional No. PCT/BR2007/000292

Fecha Agosto 26, 2007

Publicación Internacional No. WO 2008/049182 A2

Fecha Mayo 2, 2008

⑥

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⑦

Clasificación Internacional (51):

F04B 17/04

⑧

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Octubre 27, 2006

(31) N° de Solicitud

PI 0604898-6

⑨

Comprobante de Pago No.

09-31.327

Fecha

Abril 27, 2009

10 ANEXOS

- ☒ Comprobante de pago de la tasa de presentación de la solicitud.
- ☐ Documento que acredita la existencia y representación legal cuando el solicitante sea persona jurídica.
- ☐ Poderes, si fuere el caso.
- ☐ Documento de cesión del inventor al solicitante o a su causante.
- ☒ Traducción de la solicitud internacional al castellano (Resumen, Resumen, descripción, reivindicaciones, dibujos)
- ☐ Copia del examen preliminar internacional efectuado por la Autoridad Internacional de Examen Preliminar (IPEA)
- ☐ Traducción del examen preliminar internacional efectuado por la IPEA.
- ☐ De ser el caso, copia del contrato de acceso.
- ☐ De ser el caso, documento que acredite la licencia o autorización de uso de conocimientos tradicionales de las comunidades indígenas.
- ☐ De ser el caso, certificado de depósito del material biológico.
- ☒ Arte final 12x12.
- ☐ De ser el caso, información sobre otras solicitudes de patente o títulos obtenidos en el extranjero por el mismo titular o su causante, relacionadas parcial o totalmente con la invención de esta solicitud.
- ☐ De ser el caso, modificaciones efectuadas a la solicitud internacional.
- ☐ Otros

11 FIGURA CARACTERISTICA

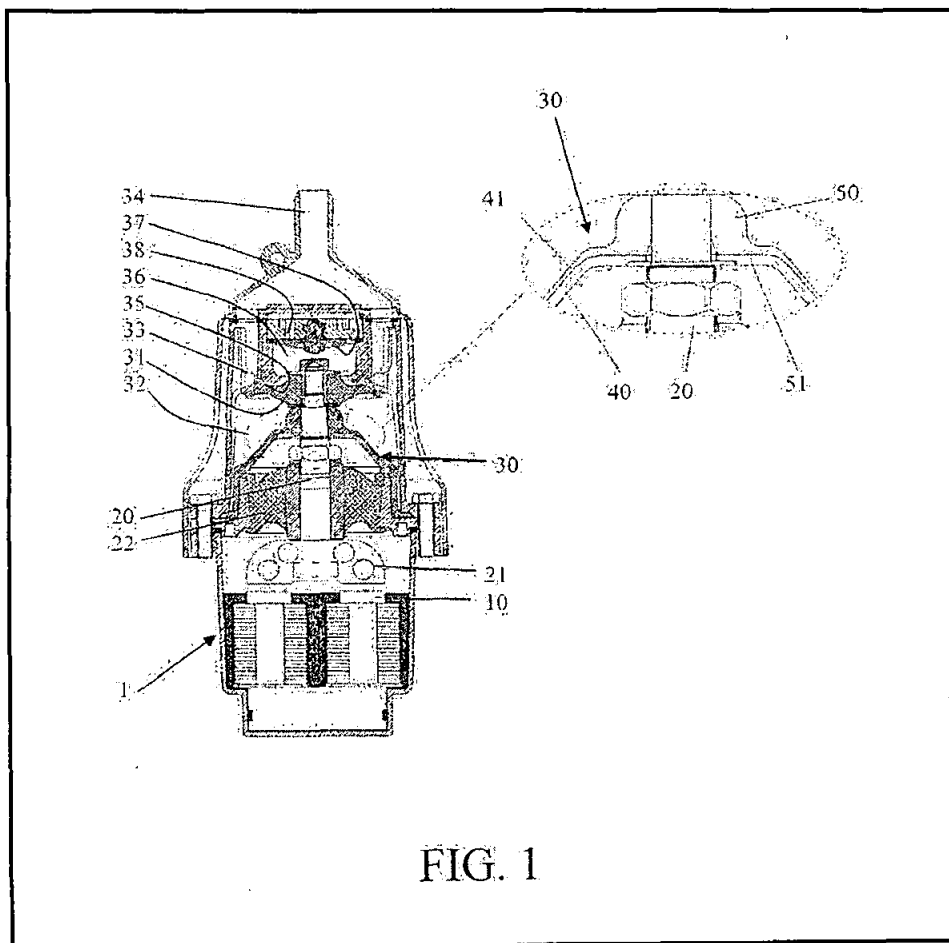


FIG. 1

12 Solicito la Concesión de la patente

NOMBRE: **DARIO CARDENAS NAVAS**

FIRMA:

C.C. 17066629 BTA TP. 1250 C.S.J.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

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DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
CARDENAS Y CARDENAS P.I. CONSIGNACION		BANCO DE BOGOTA	062754387	105592885	27/04/2009	4,651,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-01 SOLICITUDES	1 TRAMITES DE SOL. DE PATENTE DE IN	540,000.00
TOTAL :			\$ 540,000.00

SON: QUINIENTOS CUARENTA MIL PESOS

RESPONSABLE :

ABOGADOS

RECIBO DE CAJA APLICADO AL EXPEDIENTE No.

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(21) N° de solicitud:

(22) Fecha de solicitud:

(51) Clasificación Internacional :

(71) Solicitante(s) **INDUSTRIA DE MOTORES ANAUGER S.A.**

(72) Inventor(es) **AURELIO ANTONIO PASTORI**

(74) Apoderado **DARIO CARDENAS NAVAS**

(30) Prioridad	(31) <i>No. Prioridad</i>	32) <i>Fecha</i>	(33) <i>País</i>
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(54) Título **PERFECCIONAMIENTO EN LA BOMBA VIBRATORIA**



Industria y Comercio

SUPERINTENDENCIA

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

DIVISION DE NUEVAS CREACIONES

TARJETA ARCHIVO TEMATICO

PATENTE DE INVENCION ☐ PCT ☒ MODELO DE UTILIDAD ☐ DISEÑO INDUSTRIAL ☐

(21) N° de solicitud:		(22) Fecha de solicitud:	
(51) Clasificación Internacional:			
(71) Solicitante(s) INDUSTRIA DE MOTORES ANAUGER S.A.			
(72) Inventor(es) AURELIO ANTONIO PASTORI			
(74) Apoderado: DARIO CARDENAS NAVAS			
(30) Prioridad	(31) <i>No. Prioridad</i> PI 0604898-6	(32) <i>Fecha</i> 27.10.2006	(33) <i>País</i> BRASIL
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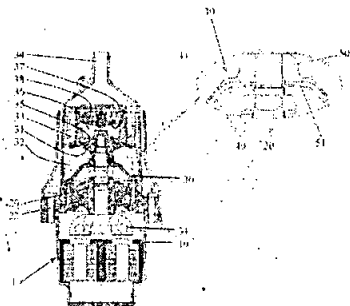


FIG. 1

(54) Título: **PERFECCIONAMIENTO EN LA BOMBA VIBRATORIA**

(57) Resumen:

El presente resumen se refiere a una patente de invención para bomba vibratoria, pertenece al campo de los equipos hidráulicos y cuya canopla (30) fue perfeccionada para evitar el choque del miembro axial de transmisión (macillo) (20) contra el núcleo del solenoide (10); dicho perfeccionamiento comprendido: por una masa de goma comprimible, formando un cojín (50), conformado en la base menor superior del recubrimiento de goma (41) de la canopla (30), entre ésta y la ventosa (31); y por un correspondiente batiente (51), conformado en la base menor superior de la estructura interna rígida (40) de la canopla (30) bajo el cojín (50).



Industria y Comercio
SUPERINTENDENCIA

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(30) Prioridad (31) No. Prioridad (32) Fecha (33) País PI 0604898-6 27.10.2006 BRASIL	(72) Inventor(es) AURELIO ANTONIO PASTORI (74) Apoderado: DARIO CARDENAS NAVAS
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(54) Título: PERFECCIONAMIENTO EN LA BOMBA VIBRATORIA	

Resumen:

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F04B 17/04 (2006.01) **F04B 43/00** (2006.01)

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CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG,
ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL,
IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK,
LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW,
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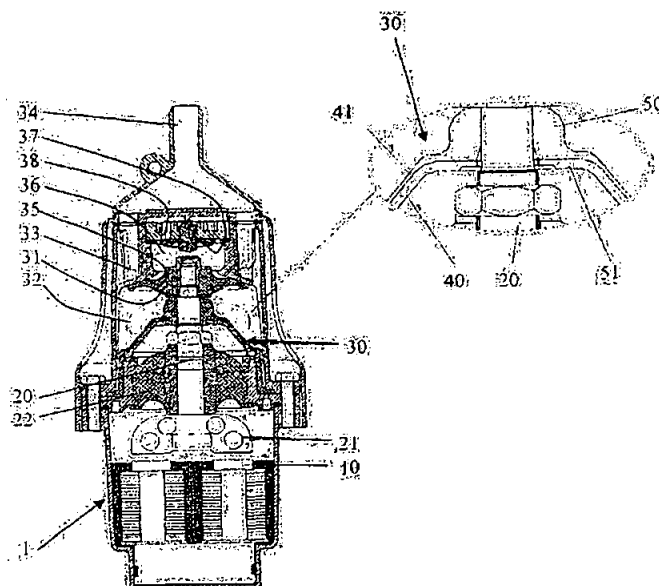
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(84) Designated States (unless otherwise indicated, for every
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FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL,
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diáí, São Paulo (BR).

[Continued on next page]

(54) Title: IMPROVEMENT IN VIBRATORY PUMP



(57) Abstract: The present abstract refers to a patent of invention for vibratory pump belonging to the field of hydraulic equipment and which topping (30) has been improved to avoid the shock of the axial transmission member (tilt) (20) against the solenoid nucleus (10); said of a compressible rubber mass forming a pad (50), located in the upper minor base of rubber covering (41) of the topping (30), between it and the sucker (31); and by a corresponding post (51), located in the upper minor disposed in the internal structure (40) of the topping (30) under the pad (50).

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Published:

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upon receipt of that report*

"Improvement in vibratory pump"

The present descriptive report refers to a patent of invention for a vibratory pump belonging to the field of hydraulic equipment and which topping has been improved in order to avoid the shock of the axial transmission member (tilt) against the solenoid nucleus.

Background of the invention

It is already known and it is object of a number of patents from the same applicant a vibratory pump essentially comprising: vertical case; solenoid located in the case lower region; by a transmission member axially extended in the case, having a lower metallic block subjected to the solenoid, the said member mounted in a flexible rubber support block held between the parts of the case; and a set of admission and suppression subjected to the axial member and essentially formed, among others, of a flexible topping formed by a rigid internal structure and by a flexible vulcanized rubber covering the structure, elongated beyond it and which holds the base between the case parts.

During the pump operation, the metallic block of the inferior edge of the member of axial transmission goes away and comes closer to the solenoid nucleus. Normally, due to the high pressure internal to the pump, the said metallic block tends to approximate and even to collide with the nucleus. It is not desirable, since it may cause damages to the pump.

Summary of the invention

Thus, the objective of the present invention, is to provide the improvement pump that overcomes the hereinabove problem.

Another objective is to provide an improvement that besides overcoming the problem it does not become a building or manufacturing thing, having levels of complexity that makes it not interesting.

Another objective is to provide an improvement of suitable cost and to obtain other advantages.

Aiming at, thus, the hereinabove said problem and aiming at overcoming it and attending the related objectives, it has developed the improvement in vibratory pump, object of the present patent of invention, which consists of substantially provide the pump from a topping formed and disposed in

a usual way, that is, comprising a conical body formed, essentially: by the internal rigid tubular conical body; and by the covering with vulcanized flexible rubber in the internal structure; said topping in the present improvement added: of a compressible rubber mass that forms a pad, located in the minor upper base of the
5 topping and disposed between it and a sucker from the suppression set; and of a corresponding post formed in the upper minor base of the internal rigid structure, around a transmission axial member and under the pad.

Thus, the pad of flexible covering and the post of the internal structure interact absorbing part of the energy that proportionate the
10 displacement of the axial transmission member in the sense of approximating to the solenoid nucleus, thus avoiding the lower block collision of the axial member to the nucleus.

This construction solves the problems observed with the usual vibrating pumps, hereinabove referred.

15 On the other side, the present solution also presents as advantage having a building that does not technically complicate the process of pump manufacturing.

Hence, the building and manufacturing of the pump with the present solution do not result in costs that may become uninteresting for
20 applying.

It was also observed that the inclusion of the pad and post as hereinabove described results in substantial improvement in the capacity of the suppression of the pump. It occurs due to the fact that the pad is compressed when operates in order to avoid the tilt to collide to the solenoid
25 nucleus, storing elastic energy, which when released helps in the oscillation of the axial transmission member, then improving the pumping effect.

The attached drawings refer to improvement in the vibratory pump, object of the present invention, in which:

Brief description of the drawings

- 30 - Fig. 1 shows the improved pump in cut;
- Fig. 2 shows a detailed from the topping, in which the improvement is more precisely performed, with partial cut; and figures 3 and 6 show several possibilities

of internal rigid construction of the topping according to the present invention.

Detailed description of the invention

In accordance with how the figures hereinabove illustrate, the vibratory pump, object of the present patent of invention, is addressed to the water suppression and essentially comprises of: vertical case 1; solenoid 10 in the lower region of the case; a set of transmission of movement, comprising: a member of oscillating transmission 20 axially extended in the case; a metallic block 21 mounted in the lower edge of the member and subjected to the solenoid; and by a flexible rubber support block 22, in which there is an intermediate part of an axial member 20 crossed and mounted; said pump is also formed by a set of admission and suppression subjected to an axial transmission member 20 and essentially formed: by a flexible conical topping 30 disposed on and around the flexible support block 22, which side is held between the parts of the case and the center of it has an opening, in which there is an intermediate axial member of transmission 20 crossed and held; by a sucker 31 mounted in the free upper edge of the axial transmission member 20; by a suppression chamber 32 defined between a topping 30 and the sucker 31 and in the upper edge of which, there are two side vertical outlet channels 33, that open in a terminal part in a substantially funnel shape 34, mounted in the upper edge of the case and that defines a suppression outlet; by a seat 35, located between the suppression outlet channels 33, that communicates the suppression chamber 32 with an admission chamber 36 and in which the sucker works; by a pallet-like valve 37 disposed in the admission chamber 36, above and aligned to the sucker 31 and that opens and closes water inlets 38 of admission chamber 36, located between the suppression outlet channels 33.

The topping 30 (fig. 2) is formed essentially: by a rigid internal conical structure 40, aluminum preferably; and by a flexible rubber vulcanized covering 41 in the internal structure 40, which has the lower largest base supported on the flexible support block 22 and the rubber recognition 41 elongates beyond the said largest base of the internal structure 40 and has its side held between the parts of the case 1 and the upper minor base of said internal structure 40 and rubber covering 41 have an opening crossed and fixed to the

axial member of transmission 20.

The present improvement consists of providing the rubber covering 41 of the topping 30 of a compressible rubber mass, forming a pad 50, located in the upper minor base of the topping 30 between it and the sucker 31 and provide the upper minor base of the internal structure 40 of a
5 corresponding post 51 disposed under the pad 50; said pad 50 being arranged in order to compress against the internal post 51 in the end of the movement of the member of axial transmission 20 towards the solenoid nucleus 10, in order to avoid the collision of the said member against the said solenoid.

10 The present pump works in a usual manner. Thus, the solenoid 10 and the flexible 20 proportionate vibration to the axial transmission member 20, which, in the lower position, displaces the topping 30 and the sucker 31 downwards, causing depression in the chamber of suppression 32, that flexes the sucker 31 for the position in which the seat 35 is open, making part of the
15 water of the admission chamber 36 passes to the suppression 32, simultaneously due to the admission chamber depression and the pressure difference between it and the outside, the pallet valve 37 flexes downwards, opens the water inlets 38 and new portion of water enters the admission chamber 36. In the upper position, the axial transmission member 20 displaces the topping 30 and the sucker 31
20 upwards, the latter closes the seat 35 and compresses the admission chamber 36, what makes the pallet valve 37 closes the water inlets 38 and concomitantly the topping 30 compresses the suppression chamber 32 and part of the water in it, displaces upwards and leaves the suppression outlet 33 and the new cycle internal structure 40 begins.

25 The differential in the operation consists of the pad 50 that is compressed against the post 51 in the movement of returning of the member of axial transmission 20 and absorbs part of energy that provides such movement, impeding that the lower metallic block 21 of the member collides against the solenoid nucleus 10. In the stage after the pump operation, the pad
30 releases the elastic energy accumulated that collaborates with the movement of the member 20, improving, thus, the bombing effect.

Among such basic construction hereinabove described,

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the pump, particularly its topping 30, object of the present invention, may present modifications referred to materials, dimensions, constructive details and/or functional and/or ornamental configuration without leaving the ambit of the required protection.

5 Inside of it, the topping 30 rigid internal structure 40 may have several configurations that incorporate the upper post 41. Thus, said structure may be conical (fig. 3) and contemplate an upper minor flat base comprising the post 41 and has a central opening that is crossed and holds the axial transmission member 20.

10 In another possibility, (fig. 4) said rigid internal structure 40 is conical with truncated superior edge wherein it is contemplated the opening crossed and held to the member 20 and around which there is a surface comprising the post 51.

 The rigid internal structure 40 (fig. 5) may be conical
15 having an upper minor flat base defining post 51, from which a tubular part extends upwards, that defines a passage that is crossed and held to the member 20 and there are also wings 51' incorporates around the tubular part and on the post 51.

 The rigid internal structure 40 (fig. 6) may be conical
20 having an upper minor base in the shape of a conical recess comprising the post 51 and wherein there is an opening crossed and held in the member 20 in the bottom.

Claims

1. "Improvement in vibratory pump", comprises: vertical case (1); solenoid (10) in the lower region of the case; a set of transmission of movement, comprising: a member of oscillating transmission axially (20); extended
5 by a metallic block (21) mounted in the lower edge of the member and subjected to the solenoid; and a flexible rubber support block (22), in which there is an intermediate part of an axial member (20) crossed and mounted; a set of admission and suppression essentially formed: by a flexible conical topping (30) disposed on and around the flexible support block (22), which side is held between
10 parts of the case and the center which has an opening, in which there is crossed and held to an intermediate axial member of transmission (20); by a sucker (31); mounted in the free upper edge of the axial transmission member (20); by a suppression chamber (32) defined between a topping (30) and the sucker (31); outlet suppression channels (33), originated from the suppression chamber (32);
15 by a seat (35) located between the suppression outlet channels (33), that communicates the suppression chamber (32) with an admission chamber (36) and in which the sucker works; by a pallet-like valve (37) disposed in the admission chamber (36), above and aligned to the sucker (31) and that opens and closes water inlets (38) of admission chamber (36), located between the suppression
20 outlet channels (33); said topping (30) is formed essentially: by a rigid internal conical structure (40); and by a flexible rubber vulcanized covering (41) in the internal structure (40), **characterized** by compressible rubber mass, forming a pad (50), located in the upper minor rubber covering (41) of the topping (30), between it and the sucker (31), and by a corresponding post (51), located in the upper
25 minor disposed in the internal structure (40) of the topping (30) under the pad (50); said pad (50) being arranged in order to compress against the internal post (51) in the end of the movement of the member of axial transmission (20) towards the solenoid nucleus (10) in order to avoid the collision of the said member against said solenoid.

30 2. "Improvement in vibratory pump", according to claimed in 1, **characterized** by internal rigid structure (40) of the topping (30) is conical and contemplates an upper minor flat base comprising the post (51) and

having a central opening that is crossed and holds the axial transmission member (20).

3. "Improvement in vibratory pump", according to claimed in 1, **characterized** by internal rigid structure (40) of the topping (30) is
5 conical with truncated superior edge wherein it is contemplated the opening crossed and held to the member (20) and around which there is a surface comprising the post (51).

4. "Improvement in vibratory pump", according to claimed in 1, **characterized** by internal rigid structure (40) of the topping (30) is
10 conical having an upper minor flat base defining post (51), from which a tubular part extends upwards, which defines a passage that is crossed and held to the member (20) and there are also wings (51') incorporates around the tubular part and on the post (51).

5. "Improvement in vibratory pump", according to
15 claimed in 1, **characterized** by internal rigid structure (40) of the topping (30) is conical having an upper minor base in the shape of a conical recess comprising the post (51) and wherein there is an opening crossed and held in the member (20) in the bottom.

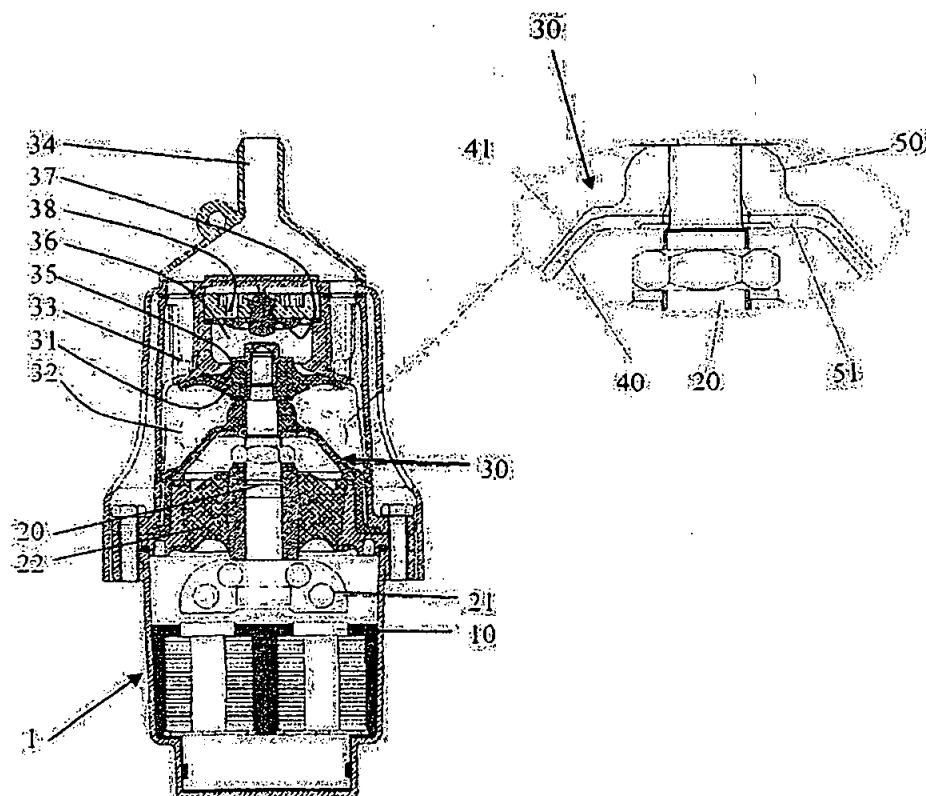


FIG. 1

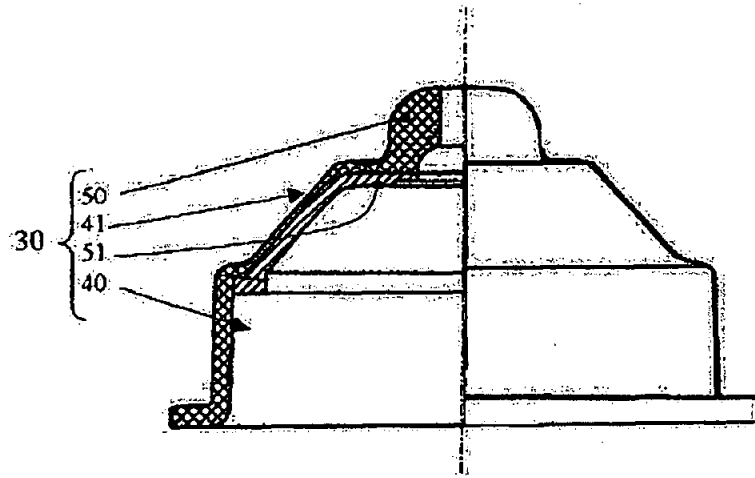


FIG. 2

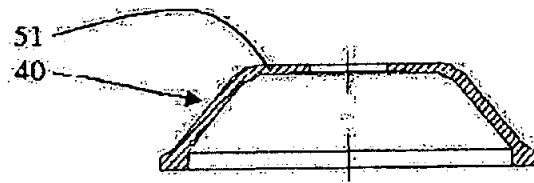


FIG. 3

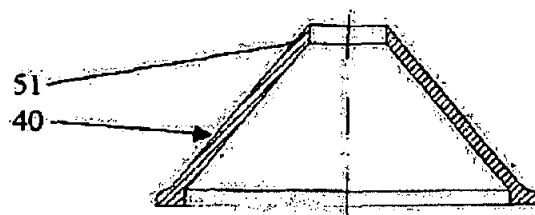


FIG. 4

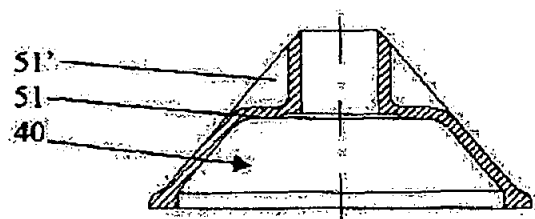


FIG. 5

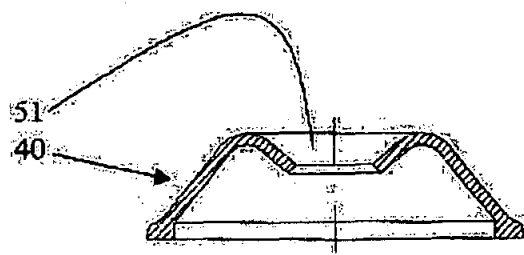


FIG. 6

From the INTERNATIONAL BUREAU

PCTNOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

To:

ADVOCACIA PIETRO ARIBONI S/C
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1. The following indications appeared on record concerning:

☒ the applicant ☐ the inventor ☐ the agent ☐ the common representative

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2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person ☒ the name ☐ the address ☐ the nationality ☐ the residence

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3. Further observations, if necessary:

4. A copy of this notification has been sent to:

☐ the receiving Office ☒ the designated Offices concerned
☐ the International Searching Authority ☐ the elected Offices concerned
☐ the International Preliminary Examining Authority ☐ other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Barrios Leslie e-mail pt09.pct@wipo.int Telephone No. +41 22 338 74 09
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"Improvement in vibratory pump"

The present descriptive report refers to a patent of invention for a vibratory pump belonging to the field of hydraulic equipment and which topping has been improved in order to avoid the shock of the axial transmission member (tilt) against the solenoid nucleus.

Background of the invention

It is already known and it is object of a number of patents from the same applicant a vibratory pump essentially comprising: vertical case; solenoid located in the case lower region; by a transmission member axially extended in the case, having a lower metallic block subjected to the solenoid, the said member mounted in a flexible rubber support block held between the parts of the case; and a set of admission and suppression subjected to the axial member and essentially formed, among others, of a flexible topping formed by a rigid internal structure and by a flexible vulcanized rubber covering the structure, elongated beyond it and which holds the base between the case parts.

During the pump operation, the metallic block of the inferior edge of the member of axial transmission goes away and comes closer to the solenoid nucleus. Normally, due to the high pressure internal to the pump, the said metallic block tends to approximate and even to collide with the nucleus. It is not desirable, since it may cause damages to the pump.

Summary of the invention

Thus, the objective of the present invention, is to provide the improvement pump that overcomes the hereinabove problem.

Another objective is to provide an improvement that besides overcoming the problem it does not become a building or manufacturing thing, having levels of complexity that makes it not interesting.

Another objective is to provide an improvement of suitable cost and to obtain other advantages.

Aiming at, thus, the hereinabove said problem and aiming at overcoming it and attending the related objectives, it has developed the improvement in vibratory pump, object of the present patent of invention, which consists of substantially provide the pump from a topping formed and disposed in a usual way, that is, comprising a conical body formed, essentially: by the internal rigid tubular conical body; and by the covering with vulcanized flexible rubber in the internal structure; said topping in the present improvement added: of a compressible rubber mass that forms a pad, located in the minor upper base of the topping and disposed between it and a sucker from the suppression set; and of a corresponding

post formed in the upper minor base of the internal rigid structure, around a transmission axial member and under the pad.

Thus, the pad of flexible covering and the post of the internal structure interact absorbing part of the energy that proportionate the displacement of the axial transmission member in the sense of approximating to the solenoid nucleus, thus avoiding the lower block collision of the axial member to the nucleus.

This construction solves the problems observed with the usual vibrating pumps, hereinabove referred.

On the other side, the present solution also presents as advantage having a building that does not technically complicate the process of pump manufacturing.

Hence, the building and manufacturing of the pump with the present solution do not result in costs that may become uninteresting for applying.

It was also observed that the inclusion of the pad and post as hereinabove described results in substantial improvement in the capacity of the suppression of the pump. It occurs due to the fact that the pad is compressed when operates in order to avoid the tilt to collide to the solenoid nucleus, storing elastic energy, which when released helps in the oscillation of the axial transmission member, then improving the pumping effect.

The attached drawings refer to improvement in the vibratory pump, object of the present invention, in which:

Brief description of the drawings

- Fig. 1 shows the improved pump in cut;
- Fig. 2 shows a detailed from the topping, in which the improvement is more precisely performed, with partial cut; and figures 3 and 6 show several possibilities of internal rigid construction of the topping according to the present invention.

Detailed description of the invention

In accordance with how the figures hereinabove illustrate, the vibratory pump, object of the present patent of invention, is addressed to the water suppression and essentially comprises of: vertical case 1; solenoid 10 in the lower region of the case; a set of transmission of movement, comprising: a member of oscillating transmission 20 axially extended in the case; a metallic block 21 mounted in the lower edge of the member and subjected to the solenoid; and by a flexible rubber support block 22, in which there is an intermediate part of an axial member 20 crossed and mounted; said pump is also formed by a set of admission and suppression subjected to an axial transmission member 20 and essentially formed: by

a flexible conical topping 30 disposed on and around the flexible support block 22, which side is held between the parts of the case and the center of it has an opening, in which there is an intermediate axial member of transmission 20 crossed and held; by a sucker 31 mounted in the free upper edge of the axial transmission member 20; 5 by a suppression chamber 32 defined between a topping 30 and the sucker 31 and in the upper edge of which, there are two side vertical outlet channels 33, that open in a terminal part in a substantially funnel shape 34, mounted in the upper edge of the case and that defines a suppression outlet; by a seat 35, located between the suppression outlet channels 33, that communicates the suppression chamber 32 with 0 an admission chamber 36 and in which the sucker works; by a pallet-like valve 37 disposed in the admission chamber 36, above and aligned to the sucker 31 and that opens and closes water inlets 38 of admission chamber 36, located between the suppression outlet channels 33.

The topping 30 (fig. 2) is formed essentially: by a rigid 5 internal conical structure 40, aluminum preferably; and by a flexible rubber vulcanized covering 41 in the internal structure 40, which has the lower largest base supported on the flexible support block 22 and the rubber recognition 41 elongates beyond the said largest base of the internal structure 40 and has its side held between the parts of the case 1 and the upper minor base of said internal structure 40 and rubber 10 covering 41 have an opening crossed and fixed to the axial member of transmission 20.

The present improvement consists of providing the rubber covering 41 of the topping 30 of a compressible rubber mass, forming a pad 50, located in the upper minor base of the topping 30 between it and the sucker 31 and 15 provide the upper minor base of the internal structure 40 of a corresponding post 51 disposed under the pad 50; said pad 50 being arranged in order to compress against the internal post 51 in the end of the movement of the member of axial transmission 20 towards the solenoid nucleus 10, in order to avoid the collision of the said member against the said solenoid.

30 The present pump works in a usual manner. Thus, the solenoid 10 and the flexible 20 proportionate vibration to the axial transmission member 20, which, in the lower position, displaces the topping 30 and the sucker 31 downwards, causing depression in the chamber of suppression 32, that flexes the sucker 31 for the position in which the seat 35 is open, making part of the water of the 35 admission chamber 36 passes to the suppression 32, simultaneously due to the admission chamber depression and the pressure difference between it and the outside, the pallet valve 37 flexes downwards, opens the water inlets 38 and new

portion of water enters the admission chamber 36. In the upper position, the axial transmission member 20 displaces the topping 30 and the sucker 31 upwards, the latter closes the seat 35 and compresses the admission chamber 36, what makes the pallet valve 37 closes the water inlets 38 and concomitantly the topping 30
 5 compresses the suppression chamber 32 and part of the water in it, displaces upwards and leaves the suppression outlet 33 and the new cycle internal structure 40 begins.

The differential in the operation consists of the pad 50 that is compressed against the post 51 in the movement of returning of the member of
 0 axial transmission 20 and absorbs part of energy that provides such movement, impeding that the lower metallic block 21 of the member collides against the solenoid nucleus 10. In the stage after the pump operation, the pad releases the elastic energy accumulated that collaborates with the movement of the member 20, improving, thus, the bombing effect.

5 Among such basic construction hereinabove described, the pump, particularly its topping 30, object of the present invention, may present modifications referred to materials, dimensions, constructive details and/or functional and/or ornamental configuration without leaving the ambit of the required protection.

Inside of it, the topping 30 rigid internal structure 40 may
 !0 have several configurations that incorporate the upper post 41. Thus, said structure may be conical (fig. 3) and contemplate an upper minor flat base comprising the post 41 and has a central opening that is crossed and holds the axial transmission member 20.

In another possibility, (fig. 4) said rigid internal structure 40
 !5 is conical with truncated superior edge wherein it is contemplated the opening crossed and held to the member 20 and around which there is a surface comprising the post 51.

The rigid internal structure 40 (fig. 5) may be conical having an upper minor flat base defining post 51, from which a tubular part extends
 30 upwards, that defines a passage that is crossed and held to the member 20 and there are also wings 51' incorporates around the tubular part and on the post 51.

The rigid internal structure 40 (fig. 6) may be conical having an upper minor base in the shape of a conical recess comprising the post 51 and wherein there is an opening crossed and held in the member 20 in the bottom.

Claims

1. "Improvement in vibratory pump", comprises: vertical case (1); solenoid (10) in the lower region of the case; a set of transmission of movement, comprising: a member of oscillating transmission axially (20); extended by
 5 a metallic block (21) mounted in the lower edge of the member and subjected to the solenoid; and a flexible rubber support block (22), in which there is an intermediate part of an axial member (20) crossed and mounted; a set of admission and suppression essentially formed: by a flexible conical topping (30) disposed on and around the flexible support block (22), which side is held between parts of the case
 0 and the center which has an opening, in which there is crossed and held to an intermediate axial member of transmission (20); by a sucker (31); mounted in the free upper edge of the axial transmission member (20); by a suppression chamber (32) defined between a topping (30) and the sucker (31); outlet suppression channels (33), originated from the suppression chamber (32); by a seat (35) located between the
 5 suppression outlet channels (33), that communicates the suppression chamber (32) with an admission chamber (36) and in which the sucker works; by a pallet-like valve (37) disposed in the admission chamber (36), above and aligned to the sucker (31) and that opens and closes water inlets (38) of admission chamber (36), located between the suppression outlet channels (33); said topping (30) is formed essentially:
 10 by a rigid internal conical structure (40); and by a flexible rubber vulcanized covering (41) in the internal structure (40), **characterized** by compressible rubber mass, forming a pad (50), located in the upper minor rubber covering (41) of the topping (30), between it and the sucker (31), and by a corresponding post (51), located in the upper minor disposed in the internal structure (40) of the topping (30) under the pad
 15 (50); said pad (50) being arranged in order to compress against the internal post (51) in the end of the movement of the member of axial transmission (20) towards the solenoid nucleus (10) in order to avoid the collision of the said member against said solenoid.

2. "Improvement in vibratory pump", according to claimed
 20 in 1, **characterized** by internal rigid structure (40) of the topping (30) is conical and contemplates an upper minor flat base comprising the post (51) and having a central opening that is crossed and holds the axial transmission member (20).

3. "Improvement in vibratory pump", according to claimed
 35 in 1, **characterized** by internal rigid structure (40) of the topping (30) is conical with truncated superior edge wherein it is contemplated the opening crossed and held to the member (20) and around which there is a surface comprising the post (51).

4. "Improvement in vibratory pump", according to claimed

in 1, **characterized** by internal rigid structure (40) of the topping (30) is conical having an upper minor flat base defining post (51), from which a tubular part extends upwards, which defines a passage that is crossed and held to the member (20) and there are also wings (51') incorporates around the tubular part and on the post (51).

5

5. "Improvement in vibratory pump", according to claimed in 1, **characterized** by internal rigid structure (40) of the topping (30) is conical having an upper minor base in the shape of a conical recess comprising the post (51) and wherein there is an opening crossed and held in the member (20) in the bottom.

Abstract

“Improvement in vibratory pump”. The present abstract refers to a patent of invention for vibratory pump belonging to the field of hydraulic equipment and which topping (30) has been improved to avoid the shock of the axial transmission member (tilt) (20) against the solenoid nucleus (10); said of a
5 compressible rubber mass forming a pad (50), located in the upper minor base of rubber covering (41) of the topping (30), between it and the sucker (31); and by a corresponding post (51), located in the upper minor disposed in the internal structure (40) of the topping (30) under the pad (50).

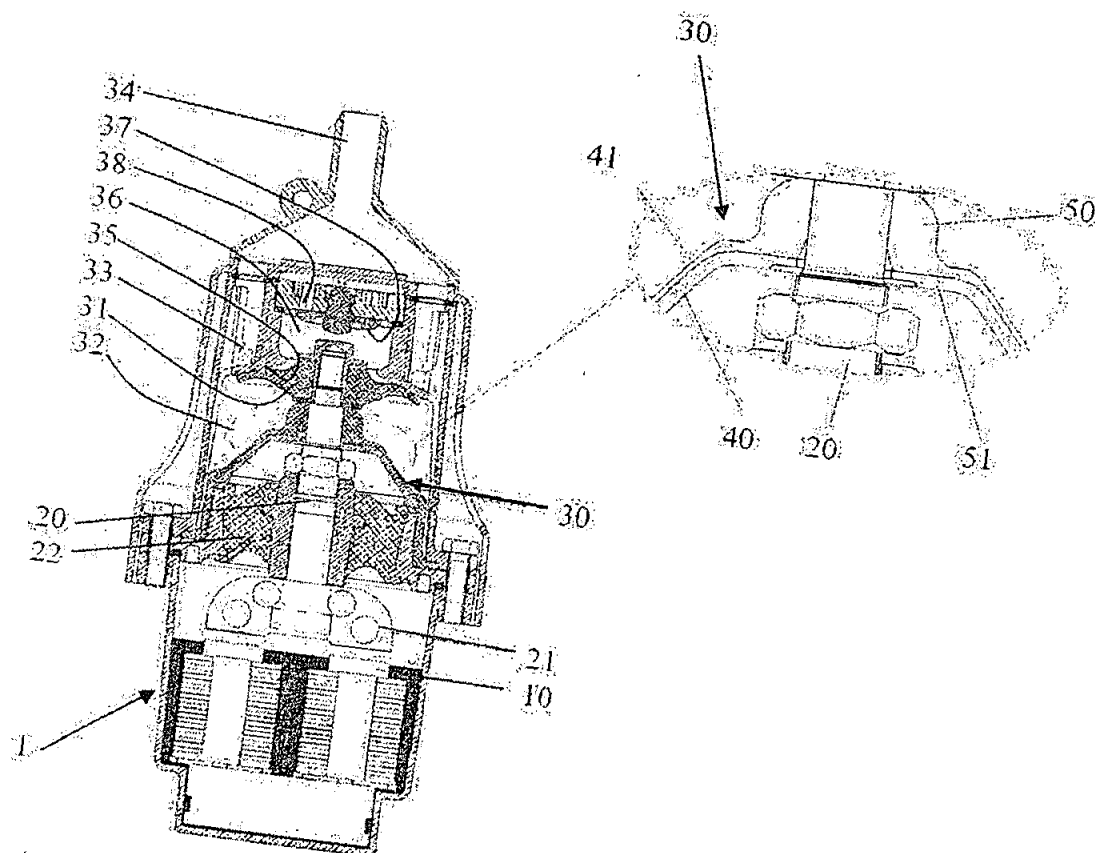


FIG. 1

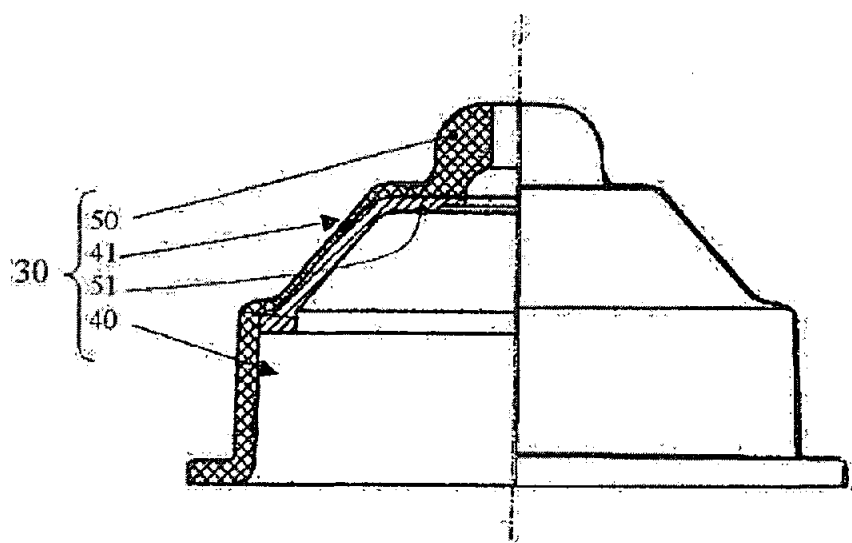


FIG. 2

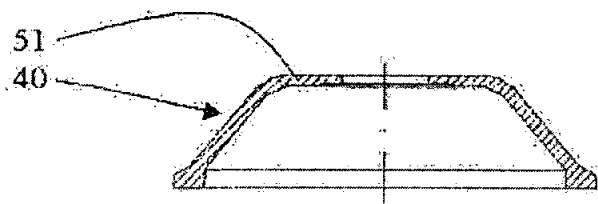


FIG. 3

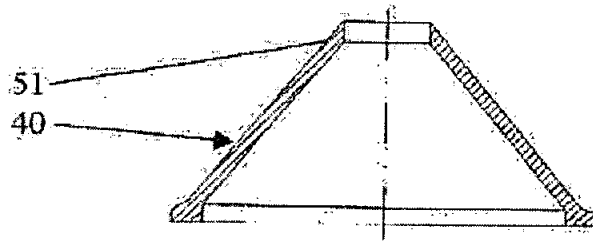


FIG. 4

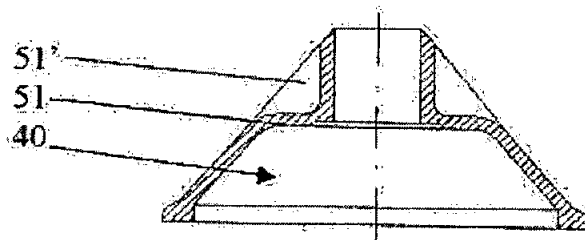


FIG. 5

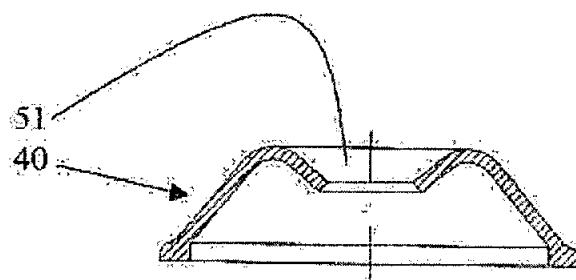


FIG. 6

“Perfeccionamiento en la bomba vibratoria”

El presente informe descriptivo se refiere a una patente de invención para bomba vibratoria perteneciente al campo de los equipos hidráulicos y cuya canopla fue perfeccionada para evitar el choque del miembro axial de transmisión (macillo) contra el núcleo de solenoide.

Ya es conocida e inclusive objeto de innumerables patentes del mismo solicitante una bomba vibratoria compuesta esencialmente: por carcasa verticalizada; por solenoide alojado en la región inferior de la carcasa; por miembro de transmisión extendido axialmente en la carcasa, dotado de bloque metálico inferior sujeto al solenoide, dicho miembro montado en un bloque de apoyo de goma flexible preso entre partes de la carcasa; y por un conjunto de admisión y recaladura sujeto al miembro axial y formado esencialmente, entre otros, por una canopla flexible troncocónica dispuesta sobre el bloque de apoyo flexible formada por una estructura interna rígida y por un recubrimiento de goma flexible vulcanizado en la estructura, prolongado para más allá de ésta y que queda como la base presa entre partes de la carcasa.

Durante el funcionamiento de la bomba, el bloque metálico de la extremidad inferior del miembro de transmisión axial se aleja y se aproxima del núcleo del solenoide. Normalmente, debido a la alta presión interna a la bomba, el mencionado bloque metálico propende a aproximarse mucho y hasta chocarse contra el núcleo. Eso es indeseable, ya que puede causar daños a la bomba.

Así, el objetivo de la presente patente de invención es proveer la bomba de perfeccionamiento que supere el problema antes mencionado.

Otro objetivo es proveer un perfeccionamiento que además de superar el problema no sea por eso algo de construcción o fabricación con niveles de complejidad que lo vuelva no interesante.

Otro objetivo es proveer un perfeccionamiento de costo adecuado y obtener otras ventajas.

Llevando en cuenta, por lo tanto, el problema antes mencionado y en el propósito de superarlo y pretendiendo atender a los objetivos relacionados, fue desarrollado el perfeccionamiento en la bomba vibratoria, objeto de la presente patente de invención, lo cual consiste sustancialmente en proveer la bomba de una canopla formada y dispuesta de manera usual, es decir, comprendiendo un cuerpo troncocónico formado, esencialmente: por la estructura interna tubular troncocónica rígida; y por el recubrimiento de goma flexible vulcanizado en la estructura interna; dicha canopla en el presente perfeccionamiento agregada: de una masa de goma comprimible, que forma un cojín, localizado en la base menor superior de la canopla y dispuesto entre ésta y una ventosa del conjunto de recaladura; y de un

correspondiente batiente formado en la base menor superior de la estructura rígida interna, en torno del miembro axial de transmisión y bajo el cojín.

Así, el cojín de recubrimiento flexible y el batiente de la estructura interna interactúan absorbiendo parte de la energía que proporciona la dislocación del miembro de transmisión axial en el sentido de aproximarse del núcleo del solenoide, evitando así el choque del bloque inferior del miembro axial en el núcleo.

Esa construcción soluciona el problema observado con las bombas vibratorias usuales, antes mencionado.

Por otra parte, la presente solución presenta aún como ventaja tener una construcción que no complica técnicamente el proceso de fabricación de la bomba.

Además, la construcción y fabricación de la bomba con la presente solución no resultan en costos que puedan tornarse no interesantes para la aplicación.

Se observó además, que la inclusión del cojín y batiente de la manera como descrito anteriormente resulta en sustancial mejora en la propia capacidad de recaladura de la bomba. Eso se debe al hecho de que el cojín es comprimido cuando actúa en el sentido de evitar el choque del macillo en el núcleo del solenoide, almacenando energía elástica, la cual cuando es liberada colabora en la oscilación del miembro de transmisión axial, mejorando así el efecto de bombeo.

Los diseños adjuntos se refieren al perfeccionamiento en la bomba vibratoria, objeto de la presente patente, en los cuales:

- la fig. 1 muestra la bomba perfeccionada en corte;
- la fig. 2 muestra un detalle de la canopla, en el cual es analizado más precisamente el perfeccionamiento, con corte parcial; y
- las figs. 3 a 6 muestran varias posibilidades de construcción de la estructura rígida interna de la canopla, según la presente invención.

De conformidad con lo que ilustran las figuras antes mencionadas, la bomba vibratoria, objeto de la presente patente de invención, se destina a la recaladura de agua y es comprendida, esencialmente: por carcasa verticalizada 1; por solenoide 10 alojado en la región inferior de la carcasa; por conjunto de transmisión de movimiento, comprendido: por un miembro de transmisión oscilante 20 extendido axialmente en la carcasa; por un bloque metálico 21 montado en la extremidad inferior del miembro y sujeto al solenoide; y por bloque de apoyo de goma flexible 22, en lo cual queda atravesado y montado un trecho intermediario del miembro axial 20; dicha bomba es formada además por un conjunto de admisión y recaladura sujeto al miembro de transmisión axial 20 y formado esencialmente: por una canopla flexible troncocónica 30 colocada sobre y en torno del bloque de apoyo flexible 22, cuya

periferia queda presa entre partes de la carcasa y el centro del cual es dotado de apertura, en la cual queda atravesado y preso un trecho intermediario del miembro de transmisión axial 20; por ventosa 31 montada en la extremidad superior libre del miembro de transmisión axial 20, por cámara de recalcadura 32 definida entre la canopla 30 y la ventosa 31 y en la extremidad superior de la cual son previstos dos conductos de salida laterales verticales 33, que abren en una pieza terminal en forma sustancial de embudo 34, montada en la extremidad superior de la carcasa y que define una salida de recalcadura central; por una sede 35, localizada entre los conductos de salida de recalcadura 33, que comunica la cámara de recalcadura 32 con una cámara de admisión 36 y en la cual trabaja la ventosa; por una válvula de tipo paleta 37 dispuesta en la cámara de admisión 36, arriba y alineada con la ventosa 31 y que abre y cierra entradas de agua 38 de la cámara de admisión 36, localizadas entre los conductos de salida de recalcadura 33.

La canopla 30 (fig. 2) es formada esencialmente: por una estructura interna rígida troncocónica 40, de preferencia de aluminio; y por un recubrimiento de goma flexible 41 vulcanizado en la estructura interna 40, ésta queda con la base mayor inferior apoyada sobre el bloque de apoyo flexible 22 y el recubrimiento de goma 41 se prolonga para más allá de dicha base mayor de la estructura interna 40 y queda con su periferia presa entre partes de carcasa 1 y las bases menores superiores de dicha estructura interna 40 y recubrimiento de goma 41 tiene apertura atravesada y presa en el miembro de transmisión axial 20.

El presente perfeccionamiento consiste en proveer el recubrimiento de goma 41 de la canopla 30 de una masa de goma comprimible, formando un cojín 50, localizado en la base menor superior de la canopla 30 entre ésta y la ventosa 31 y proveer la base menor superior de la estructura interna rígida 40 de un correspondiente batiente 51 dispuesto bajo el cojín 50; dicho cojín 50 siendo ordenado para comprimir contra el batiente interno 51 al final del movimiento del miembro de transmisión axial 20 en la dirección del núcleo de solenoide 10, con el fin de evitar el choque de dicho miembro contra éste.

La presente bomba funciona de manera usual. Así, el solenoide 10 y el apoyo flexible 20 proporcionan vibración al miembro de transmisión axial 20, el cual, en la posición inferior, desplaza la canopla 30 y la ventosa 31 hacia abajo, causando depresión en la cámara de recalcadura 32, que flexiona la ventosa 31 para la posición en que abre la sede 35, haciendo con que parte de la agua de la cámara de admisión 36 pase para la de recalque 32, simultáneamente por efecto de la depresión en la cámara de admisión y de la diferencia de presión entre ésta y el exterior, la válvula paleta 37 flexiona hacia abajo, abre las entradas de agua 38 y nueva porción de agua entra en la cámara de admisión 36. En la posición superior, el miembro

de transmisión axial 20 desplaza la canopla 30 y la ventosa 31 hacia arriba, esta última cierra la sede 35 y comprime la cámara de admisión 36, lo que hace la válvula paleta 37 cerrar las entradas de agua 38 concomitantemente la canopla 30 comprime la cámara de recalcadura 32 y parte del agua contenida en la misma se desplaza hacia arriba y sale por las salidas de recalcadura 33 y nuevo ciclo tiene inicio.

El diferencial en el funcionamiento consiste en la acción del cojín 50, que es comprimido contra el batiente 51 en el movimiento de retorno del miembro de transmisión axial 20 y absorbe parte de la energía que proporciona ese movimiento, impidiendo que el bloque metálico inferior 21 del miembro se choque con el núcleo del solenoide 10. En la etapa siguiente del funcionamiento de la bomba, el cojín libera la energía elástica acumulada que colabora en el movimiento del miembro 20, mejorando así el efecto de bombeo.

Dentro de la construcción básica, antes descrita, la bomba, particularmente su canopla 30, objeto de la presente patente, puede presentar modificaciones relativas y materiales, dimensiones, detalles constructivos y/o de configuración funcional y/o ornamental, sin que salga del ámbito de la protección solicitada.

Dentro de eso, la estructura interna rígida 40 de la canopla 30 puede tener varias configuraciones que incorporan el batiente superior 41. Así, la mencionada estructura puede ser troncocónica (fig. 3) y prevenir una base menor superior plana constitutiva del batiente 41 y dotada de apertura central que esta atravesada y prende el miembro de transmisión axial 20.

En otra posibilidad, (fig. 4) la mencionada estructura interna rígida 40 es cónica con extremidad superior truncada en donde es prevista la apertura atraviesa y presa en el miembro 20 y en torno de la cual se localiza la superficie que constituyo el batiente 51.

La estructura interna rígida 40 (fig. 5) puede ser troncocónica dotada de base menor superior plana que define el batiente 51, de la cual se extiende hacia arriba un trecho tubular, que define el paso que es atravesado y preso en el miembro 20 y son previstas aún aletas 51' incorporadas en torno del trecho tubular y sobre el batiente 51.

La estructura interna rígida 40 (fig. 6) puede ser troncocónica dotada de base menor superior en forma de un rebaje cónico que constituye el batiente 51 y en el fondo del cual hay una apertura atravesada y presa en el miembro 20.

Reivindicaciones

1. "Perfeccionamiento en la bomba vibratoria", está comprendida: por carcasa verticalizada (1); por solenoide (10) alojado en la región inferior de la carcasa; por conjunto de transmisión de movimiento, comprendido: por un miembro de transmisión oscilante axial (20); por un bloque metálico (21) montado en la extremidad inferior del miembro y sujeto al solenoide; y por bloque de apoyo de goma flexible (22), en el cual queda atravesado y montado un trecho intermediario del miembro axial (20); por un conjunto de admisión y recalcadura formado esencialmente: por una canopla flexible troncocónica (30) dispuesta sobre y en torno del bloque de apoyo flexible (22), cuya periferia queda presa entre partes de la carcasa y el centro de la cual es dotado de apertura, en el cual queda atravesado y preso un trecho intermediario del miembro de transmisión axial (20); por ventosa (31) montada en la extremidad superior libre del miembro de transmisión axial (20); por cámara de recalcadura (32) definida entre la canopla (30) y la ventosa (31); por conductos de salida de recalcadura (33), derivados de la cámara de recalcadura (32); por una sede (35), localizada entre los conductos (33), que comunica la cámara de recalcadura (32) con una cámara de admisión (36) y en la cual trabaja la ventosa; por una válvula de tipo paleta (37) dispuesta en la cámara de admisión (36), arriba y alineada con la ventosa (31) y que abre y cierra entradas de agua (38) de la cámara de admisión (36), localizadas entre los conductos de salida de recalcadura (33); dicha canopla (30) formada esencialmente: por una estructura interna rígida troncocónica (40); y por un recubrimiento de goma flexible (41) vulcanizado en la estructura interna (40), **caracterizado** por una masa de goma comprimible, formando un cojín (50), conformado en la base menor superior del recubrimiento de goma (41) de la canopla (30), entre ésta y la ventosa (31); y por un correspondiente batiente (51), conformado en la base menor superior de la estructura interna rígida (40) de canopla (30) bajo el cojín (50); dicho cojín (50) siendo ordenado para comprimir contra el batiente interno (51) en el fin del curso del miembro de transmisión axial (20) en la dirección del núcleo del solenoide (10) y evitar el choque de dicho miembro contra éste.

2. "Perfeccionamiento en la bomba vibratoria", conforme reivindicado en el 1, **caracterizado** por la estructura interna rígida (40) de la canopla (30) es troncocónica y prevé base menor superior plana constitutiva del batiente (51) y dotada de apertura central que es atravesada y prende el miembro de transmisión axial (20).

3. "Perfeccionamiento en la bomba vibratoria", conforme reivindicado en el 1, **caracterizado** por la estructura interna rígida (40) de la canopla (30) es cónica con extremidad superior truncada en donde es prevista la apertura atravesada y presa en el miembro (20) y en torno de la cual se localiza la superficie que

constituye el batiente (51).

4. "Perfeccionamiento en la bomba vibratoria", conforme reivindicado en 1, **caracterizado** por la estructura interna rígida (40) de la canopla (30) es troncocónica dotada de base menor superior plana que define el batiente (51), de la cual se extiende hacia arriba un trecho tubular, que define pasaje que es atravesada y presa en el miembro (20) y son previstas aún aletas (51)' incorporadas en torno del trecho tubular y sobre el batiente (51).

5. "Perfeccionamiento en la bomba vibratoria", conforme reivindicado en 1, **caracterizado** por la estructura interna rígida (40) de la canopla (30) es troncocónica dotada de base menor superior en forma de un rebaje cónico que constituye el batiente (51) y en el fondo del cual hay la apertura atravesada y presa en el miembro (20).

Resumen

"Perfeccionamiento en la bomba vibratoria"

El presente resumen se refiere a una patente de invención para bomba vibratoria, pertenece al campo de los equipos hidráulicos y cuya canopla (30) fue perfeccionada para evitar el choque del miembro axial de transmisión (macillo) (20) contra el núcleo del solenoide (10); dicho perfeccionamiento comprendido: por una masa de goma comprimible, formando un cojín (50), conformado en la base menor superior del recubrimiento de goma (41) de la canopla (30), entre ésta y la ventosa (31); y por un correspondiente batiente (51), conformado en la base menor superior de la estructura interna rígida (40) de la canopla (30) bajo el cojín (50).

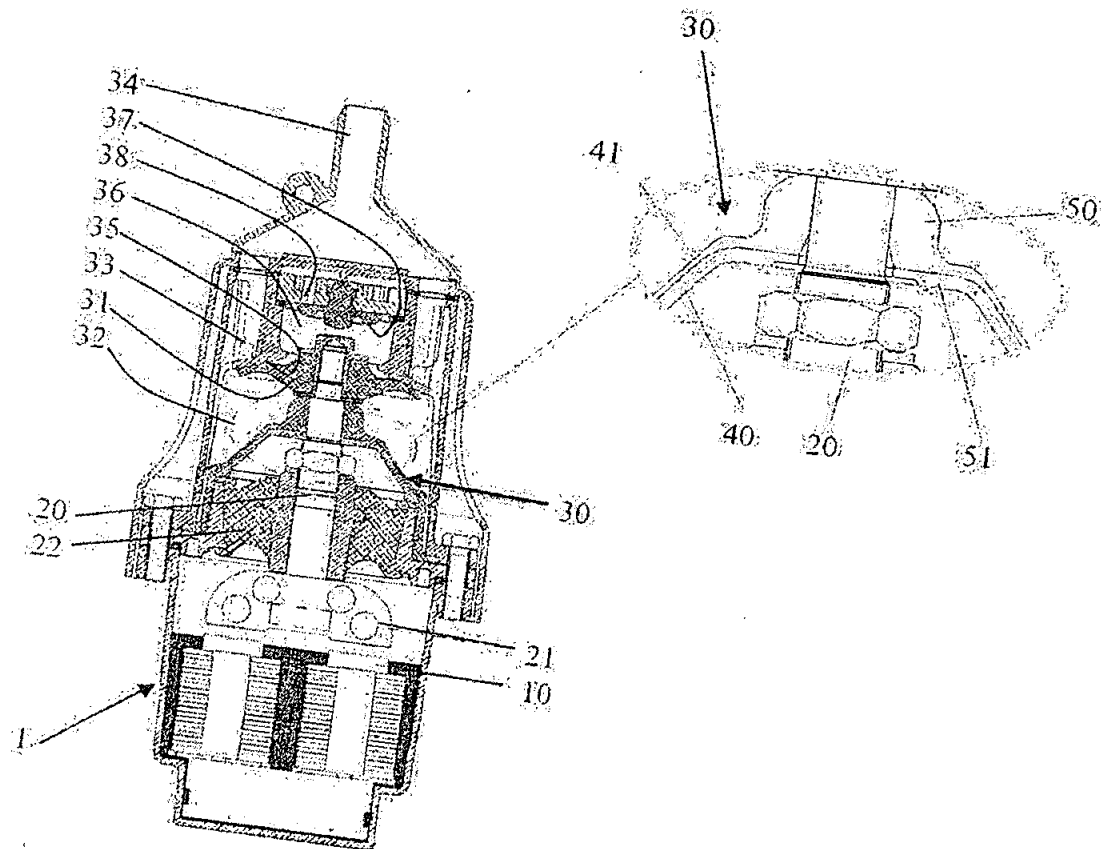


FIG. 1

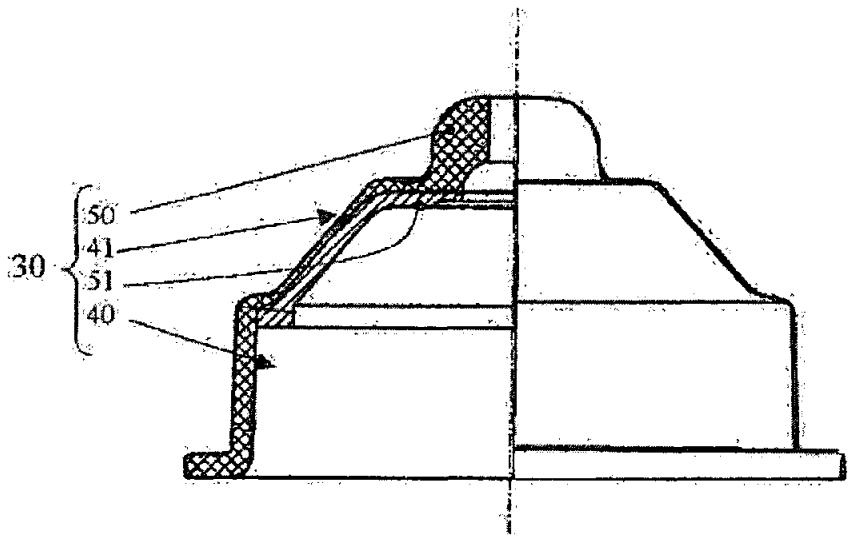


FIG. 2

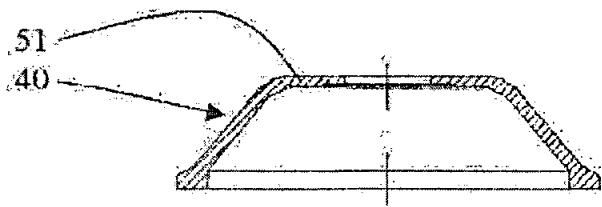


FIG. 3

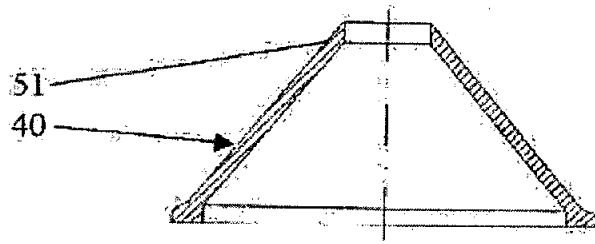


FIG. 4

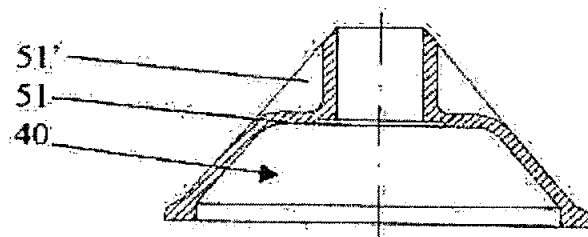


FIG. 5

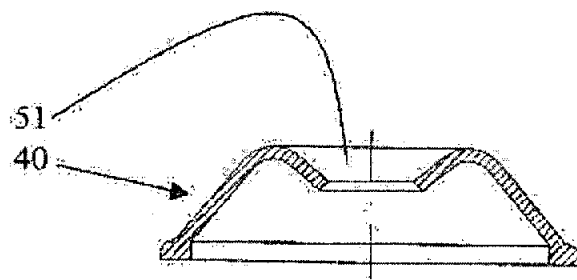


FIG. 6

PATENT COOPERATION TREATY

WO 2008/049182
PCT/BR2007/000292

From the INTERNATIONAL BUREAU

PCT

FIRST NOTICE INFORMING THE APPLICANT OF
THE COMMUNICATION OF THE INTERNATIONAL
APPLICATION (TO DESIGNATED OFFICES WHICH
DO NOT APPLY THE 30 MONTH TIME LIMIT
UNDER ARTICLE 22(1))

(PCT Rule 47.1(c))

To:

ADVOCACIA PIETRO ARISONI S/C
Rua Guararapes, 1909 - 7o Andar
Brooklin Novo
04561-004 São Paulo - SP
BRASIL

Date of mailing (<i>day/month/year</i>) 29 May 2008 (29.05.2008)		IMPORTANT NOTICE	
Applicant's or agent's file reference 59805			
International application No. PCT/BR2007/000292	International filing date (<i>day/month/year</i>) 26 August 2007 (26.08.2007)	Priority date (<i>day/month/year</i>) 27 October 2006 (27.10.2006)	
Applicant INDUSTRIA DE MOTORES ANAUGER S.A. (Incorporated Company) et al			

1. **ATTENTION:** For any designated Office(s), for which the time limit under Article 22(1), as in force from 1 April 2002 (30 months from the priority date), does apply, please see Form PCT/IB/3081 Second and Supplementary Notice) (to be issued promptly after the expiration of 28 months from the priority date).

2. Notice is hereby given that the following designated Office(s), for which the time limit under Article 22(1), as in force from 1 April 2002, does not apply, has/have requested that the communication of the international application, as provided for in Article 20, be effected under Rule 93bis(1). The International Bureau has effected that communication on the date indicated below:
02 May 2008 (02.05.2008)

None

In accordance with Rule 47.1(c-bis)(ii), those Offices will accept the present notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

3. The following designated Offices, for which the time limit under Article 22(1), as in force from 1 April 2002, does not apply, have not requested, as at the time of mailing of the present notice, that the communication of the international application be effected under Rule 93bis(1):

CH, LU, TZ, UG

In accordance with Rule 47.1(c-bis)(ii), those Offices accept the present notice as conclusive evidence that the Contracting State for which that Office acts as a designated Office does not require the furnishing, under Article 22, by the applicant of a copy of the international application.

4. TIME LIMITS for entry into the national phase

For the designated Office(s) listed above, and unless a demand for international preliminary examination has been filed before the expiration of 19 months from the priority date (see Article 39(1)), the applicable time limit for entering the national phase will, subject to what is said in the following paragraph, be 20 MONTHS from the priority date.

In practice, time limits other than the 20-month time limit will continue to apply, for various periods of time, in respect of certain of the designated Offices listed above. For regular updates on the applicable time limits (20 or 21 months, or other time limit), Office by Office, refer to the *PCT Gazette*, the *PCT Newsletter* and the *PCT Applicant's Guide*, Volume II, National Chapters, all available from WIPO's Internet site, at <http://www.wipo.int/pct/en/index.html>.

It is the applicant's sole responsibility to monitor all these time limits.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Simin Baharlou
Facsimile No. +41 22 338 82 70	e-mail: pt@pct@wipo.int

Form PCT/IB/3081 (First Notice) (January 2004)

PATENT COOPERATION TREATY

WO 2008/049182
PCT/BR2007/000292

From the INTERNATIONAL BUREAU

PCT

FIRST NOTICE INFORMING THE APPLICANT OF
THE COMMUNICATION OF THE INTERNATIONAL
APPLICATION TO DESIGNATED OFFICES WHICH
DO NOT APPLY THE 30 MONTH TIME LIMIT
UNDER ARTICLE 22(1)

(PCT Rule 47.1(c))

To:

ADVOCACIA PIETRO ARIBONI S/C
Rua Guararapes, 1909 - 7o Andar
Brooklin Novo
04561-004 São Paulo - SP
BRÉSIL

Date of mailing (day/month/year)
29 May 2008 (29.05.2008)

Applicant's or agent's file reference
59805

IMPORTANT NOTICE

International application No.
PCT/BR2007/000292

International filing date (day/month/year)
26 August 2007 (26.08.2007)

Priority date (day/month/year)
27 October 2006 (27.10.2006)

Applicant

INDUSTRIA DE MOTORES ANAUGER S.A. (Incorporated Company) et al

1. **ATTENTION:** For any designated Office(s), for which the time limit under Article 22(1), as in force from 1 April 2002 (30 months from the priority date), **does apply**, please see Form PCT/IB/308 (Second and Supplementary Notice) to be issued promptly after the expiration of 28 months from the priority date.

2. Notice is hereby given that the following designated Office(s), for which the time limit under Article 22(1), as in force from 1 April 2002, **does not apply**, has/have requested that the communication of the international application, as provided for in Article 20, be effected under Rule 93bis.1: The international Bureau has effected that communication on the date indicated below:
02 May 2008 (02.05.2008)

None

In accordance with Rule 47.1(c-bis)(i), those Offices will accept the present notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

3. The following designated Offices, for which the time limit under Article 22(1), as in force from 1 April 2002, **does not apply**, have not requested, as at the time of mailing of the present notice, that the communication of the international application be effected under Rule 93bis.1:

CH, LU, TZ, UG

In accordance with Rule 47.1(c-bis)(ii), those Offices accept the present notice as conclusive evidence that the Contracting State for which that Office acts, as a designated Office, does not require the furnishing, under Article 22, by the applicant of a copy of the international application.

4. TIME LIMITS for entry into the national phase

For the designated Office(s) listed above, and unless a demand for international preliminary examination has been filed before the expiration of 19 months from the priority date (see Article 39(1)), the applicable time limit for entering the national phase will, subject to what is said in the following paragraph, be 20 MONTHS from the priority date.

In practice, time limits other than the 20-month time limit will continue to apply, for various periods of time, in respect of certain of the designated Offices listed above. For regular updates on the applicable time limits (20 or 21 months, or other time limit), Office by Office, refer to the *PCT Gazette*, the *PCT Newsletter*, and the *PCT Applicant's Guide*, Volume II, National Chapters, all available from WIPO's Internet site, at <http://www.wipo.int/pct/en/index.html>.

It is the applicant's sole responsibility to monitor all these time limits.

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Simin Bahariou

Facsimile No. +41 22 338 82 70

e-mail: pi09.pct@wipo.int

PATENT COOPERATION TREATY

WO 2008/049182
PCT/BR2007/000292

From the INTERNATIONAL BUREAU

PCTNOTIFICATION CONCERNING
AVAILABILITY OF THE PUBLICATION
OF THE INTERNATIONAL APPLICATION

To:

ADVOCACIA PIETRO ARIBONI S/C
Rua Guararapes, 1909 - 7o Andar
Brooklin Novo
04551-004 São Paulo - SP
BRÉSIL

Date of mailing (day/month/year) 02 May 2008 (02.05.2008)		IMPORTANT NOTICE	
Applicant's or agent's file reference 59805			
International application No. PCT/BR2007/000292	International filing date (day/month/year) 26 August 2007 (26.08.2007)	Priority date (day/month/year) 27 October 2006 (27.10.2006)	
Applicant INDÚSTRIA DE MOTORES ANAUGER LTDA. et al			
The applicant is hereby notified that the International Bureau: ☒ has published the above-indicated international application on 02 May 2008 (02.05.2008) under No. WO 2008/049182 ☐ has republished the above-indicated international application on under No. WO For an explanation as to the reasons for this republication of the international application, reference is made to (NIU) codes (15), (18) or (85) (as the case may be) on the front page of the published international application. A copy of the international application is available for viewing and downloading on WIPO's web site at the following address: www.wipo.int/pctdb/tunder/Query enter the PCT or WO number). The applicant may also obtain a paper copy of the published international application from the International Bureau in writing from patent.scope@wipo.int or the contact details provided below.			
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland		Authorized officer Simin Baharlou	
Facsimile No. +41 22 338 82 70		e-mail: p09.pct@wipo.int	

Form PCT/IB/311 (April 2008)

INFORMATION ON ENTERING THE NATIONAL PHASE

The applicant is reminded that the "national phase" must be entered before each of the designated Offices indicated on the cover sheet of this notification, by paying national fees and furnishing translations as prescribed by Articles 22 and 59 and the applicable national laws. In addition, the applicant may also have to comply with other special requirements applicable in certain Offices. It is the applicant's responsibility to ensure that the necessary steps to enter the national phase are taken in a timely fashion. Most Offices do not issue reminders to applicants in connection with the entry into the national phase.

The applicable time limit for entering the national phase will, subject to what is said in the following paragraph, be 30 MONTHS from the priority date, not only in respect of any elected Office if a demand for international preliminary examination is filed before the expiration of 19 months from the priority date (see Article 39(1)), but also in respect of any designated Office, in the absence of filing of such demand, where Article 22(1) as modified with effect from 1 April 2002 applies in respect of that designated Office. For further details, see *PCT Gazette* No. 44/2001 of 1 November 2001, pages 19926, 19932 and 19934, as well as the *PCT Newsletter*, October and November 2001 and February 2002 issues.

In practice, time limits other than the 30-month time limit will continue to apply, for various periods of time, in respect of certain designated or elected Offices. For regular updates on the applicable time limits (20, 21, 30 or 31 months, or other time limit), Office by Office, refer to the *PCT Gazette* ("Section IV" part published on a weekly basis), to the *PCT Newsletter* (on a monthly basis) and to the relevant National Chapters in Volume II of the *PCT Applicant's Guide* (the paper version of which is updated usually twice a year and the Internet version of which is updated usually on a weekly basis). Finally, a cumulative table of all applicable time limits for entering the national phase is available from WIPO's Internet site, via links from various pages of the site, including those of the *Gazette*, *Newsletter* and *Guide*, at <http://www.wipo.int/pct/en/index.html>.

Information about the requirements for filing a demand for international preliminary examination is set out in the *PCT Applicant's Guide*, Volume I/A, Chapter IX. Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination (at present, all PCT Contracting States are bound by Chapter II).

REQUIREMENTS REGARDING PRIORITY DOCUMENTS

For applicants who have not yet complied with the requirements regarding priority documents, the following is recalled.

Where the priority of an earlier national, regional or international application is claimed, the applicant must submit a copy of the said earlier application, certified by the authority with which it was filed ("the priority document") to the receiving Office (which will transmit it to the International Bureau) or directly to the International Bureau, before the expiration of 16 months from the priority date, provided that any such priority document may still be submitted to the International Bureau before the date of international publication of the international application, in which case that document will be considered to have been received by the International Bureau on the last day of the 16-month time limit (Rule 17.1(a)).

Where the priority document is issued by the receiving Office, the applicant may, instead of submitting the priority document, request the receiving Office to prepare and transmit the priority document to the International Bureau. Such request must be made before the expiration of the 16-month time limit and may be subjected by the receiving Office to the payment of a fee (Rule 17.1(b)).

If the priority document concerned is not submitted to the International Bureau and if the request to the receiving Office to prepare and transmit the priority document has not been made (and the corresponding fee, if any, paid) within the applicable time limit indicated under the preceding paragraphs, any designated State may disregard the priority claim, provided that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances (Rule 17.1(c)).

Where several priorities are claimed, the priority date to be considered for the purposes of computing the 16-month time limit (and all other PCT time limits) is the filing date of the earliest application whose priority is claimed (Article 26(1)(b)).

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59805

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PCT REQUEST

0	For receiving Office use only	
0-1	International Application No.	PCT / BR 2007 / 000292
0-2	International Filing Date	26 OUT 2007 26 10 07
0-3	Name of receiving Office and "PCT International Application"	INPI/BRAZIL-PCT INTERNATIONAL APPLICATION
0-4	Form PCT/RO/101 PCT Request	
0-4-1	Prepared Using	PCT-SAFE [EASY model] Version 3.51.022.197 MT/FOP 20070701/0.20.5.10
0-5	Petition The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty	
0-6	Receiving Office (specified by the applicant)	National Institute of Industrial Property (Brazil) (RO/BR)
0-7	Applicant's or agent's file reference	59805
I	Title of invention	IMPROVEMENT IN VIBRATORY PUMP
II	Applicant	
II-1	This person is	applicant only
II-2	Applicant for	all designated States except US
II-4	Name	INDÚSTRIA DE MOTORES ANAUGER LTDA.
II-5	Address	Rua Prefeito José Carlos, 2555 Itupeva, São Paulo Brazil
II-6	State of nationality	BR
II-7	State of residence	BR
III-1	Applicant and/or inventor	
III-1-1	This person is	applicant and inventor
III-1-2	Applicant for	US only
III-1-4	Name (LAST, First)	PASTORI, Aurélio Antonio
III-1-5	Address	Rua do Retiro, n° 1371 13209-001 Jundiaí, São Paulo Brazil
III-1-6	State of nationality	BR
III-1-7	State of residence	BR

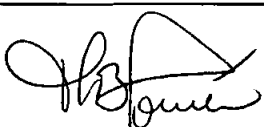
PCT REQUEST

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IV-1	Agent or common representative; or address for correspondence The person identified below is hereby/ has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:	agent
IV-1-1	Name	ADVOCACIA PIETRO ARIBONI S/C
IV-1-2	Address	Rua Guararapes, 1909 - 7o Andar Brooklin Novo 04561-004 São Paulo - SP Brazil
IV-1-3	Telephone No.	55 11 5502 1222
IV-1-4	Facsimile No.	55 11 5505 3306
IV-1-5	e-mail	aribonifabbri@ariboni.com.br
V	DESIGNATIONS	
V-1	The filing of this request constitutes under Rule 4.9(a), the designation of all Contracting States bound by the PCT on the international filing date, for the grant of every kind of protection available and, where applicable, for the grant of both regional and national patents.	
VI-1	Priority claim of earlier national application	
VI-1-1	Filing date	27 October 2006 (27.10.2006)
VI-1-2	Number	PI 0604898-6
VI-1-3	Country	BR
VI-2	Priority document request The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) identified above as item(s):	VI-1
VI-3	Incorporation by reference : where an element of the international application referred to in Article 11(1)(iii)(d) or (e) or a part of the description, claims or drawings referred to in Rule 20.5(a) is not otherwise contained in this international application but is completely contained in an earlier application whose priority is claimed on the date on which one or more elements referred to in Article 11(1)(iii) were first received by the receiving Office, that element or part is, subject to confirmation under Rule 20.6, incorporated by reference in this international application for the purposes of Rule 20.6.	
VII-1	International Searching Authority Chosen	Austrian Patent Office (ISA/AT)

PCT REQUEST

Duplicate of Original

VIII	Declarations	Number of declarations	
VIII-1	Declaration as to the identity of the inventor	-	
VIII-2	Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent	-	
VIII-3	Declaration as to the applicant's entitlement, as at the international filing date, to claim the priority of the earlier application	-	
VIII-4	Declaration of inventorship (only for the purposes of the designation of the United States of America)	-	
VIII-5	Declaration as to non-prejudicial disclosures or exceptions to lack of novelty	-	
IX	Check list	number of sheets	electronic file(s) attached
IX-1	Request (including declaration sheets)	4	✓
IX-2	Description	5	-
IX-3	Claims	2	-
IX-4	Abstract	1	✓
IX-5	Drawings	3	-
IX-7	TOTAL	15	
	Accompanying items	paper document(s) attached	electronic file(s) attached
IX-8	Fee calculation sheet	✓	-
IX-17	PCT-SAFE physical media	-	✓
IX-19	Figure of the drawings which should accompany the abstract	1	
IX-20	Language of filing of the international application	English	
X-1	Signature of applicant, agent or common representative		
X-1-1	Name	ADVOCACIA PIETRO ARIBONI S/C	
X-1-2	Name of signatory	VERA LÚCIA BIONDO MESQUITA CARVALHO	
X-1-3	Capacity	Patent Division Manager	

59805

PCT/BR2007/000292

4/4

PCT REQUEST

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FOR RECEIVING OFFICE USE ONLY

10-1	Date of actual receipt of the purported international application	26 OUT 2007 26 10 07
10-2	Drawings:	
10-2-1	Received	
10-2-2	Not received	
10-3	Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application	
10-4	Date of timely receipt of the required corrections under PCT Article 11(2)	
10-5	International Searching Authority	ISA/AT
10-6	Transmittal of search copy delayed until search fee is paid	

FOR INTERNATIONAL BUREAU USE ONLY

11-1	Date of receipt of the record copy by the International Bureau	
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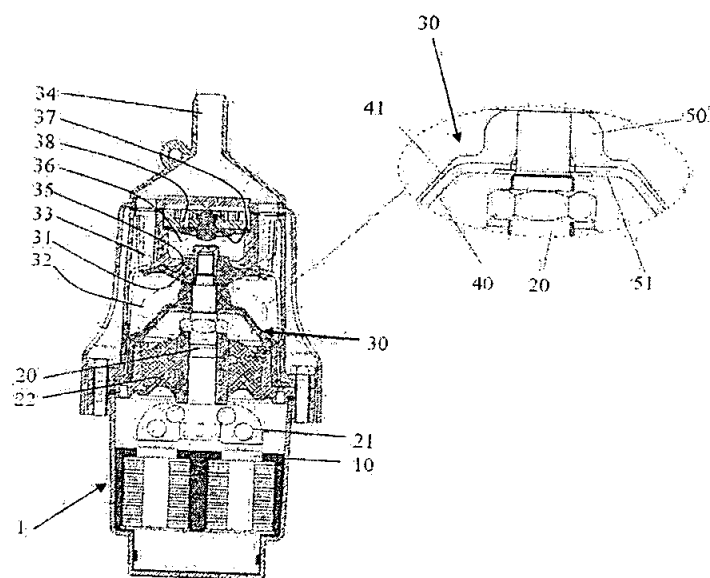


FIG. 1

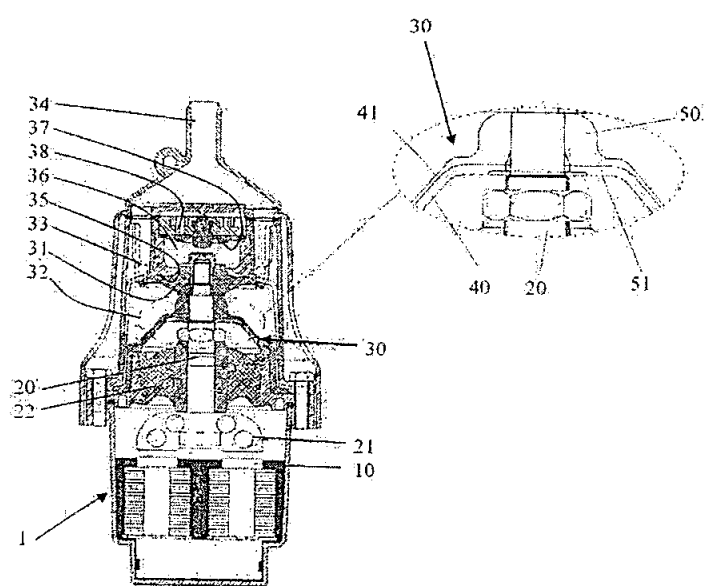


FIG. 1



SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 09-042268- -00000-0000

Fecha: 2009-04-27 15:55:41

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Tra. 11 PATENTEIYII

Eve: 378 FASENACIONALI

Act. 411 PRESENTACION

Folios: 49

REQUISITOS MÍNIMOS PARA PCT

PATENTE DE INVENCION

☒

MODELO DE UTILIDAD ☐

- ◆ Indicación de que se solicita la concesión de una patente ☒
- ◆ Datos de identificación del solicitante o de la persona que presenta la solicitud ☒
- ◆ Descripción de la invención ☒
- ◆ Dibujos de ser estos pertinentes ☒
- ◆ Comprobante de pago de las tasas establecidas ☒

COMPLETA ☐

INCOMPLETA ☐

DISEÑO INDUSTRIAL ☐

- ◆ Indicación de que se solicita el registro de Diseño Industrial ☐
- ◆ Datos de identificación del solicitante o de la persona que presenta la solicitud ☐
- ◆ Representación gráfica y fotográfica del Diseño Industrial o muestra del material que incorpora el diseño ☐
- ◆ Comprobante de pago de las tasas establecidas ☐

COMPLETA ☐

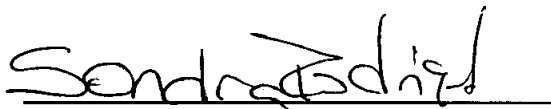
INCOMPLETA ☐

ESQUEMA DE TRAZADO ☐

- ◆ Indicación de que se solicita el registro de un Esquema de Trazado ☐
- ◆ Datos de identificación del solicitante o de la persona que presenta la solicitud ☐
- ◆ Representación gráfica del esquema trazado ☐
- ◆ Comprobante de pago de las tasas establecidas ☐

COMPLETA ☐

INCOMPLETA ☐


Firma Responsable

Fecha 27-04-09

Carrera 13 No. 27-00 Piso 5, 7y10
Conmutador: 3 82 0840
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E-mail: info@sic.gov.co
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Bogotá D.C. - Colombia

REPUBLICA DE COLOMBIA
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Bogotá,
2020

Doctor(a)
JARDENAS NAVAS DARIO

REFERENCIA	Radicación No.	9 42268
	Solicitud internacional	PCT/BR2007/000292
	Fecha inicio fase nacional	27/05/2009
	Trámite	11
	Evento	378
	Actuación	430
	Oficio No.	6758

Como resultado del examen de forma, realizado con fundamento en el artículo 38 de la Decisión 486 de la Comisión de la Comunidad Andina, artículo 27 del Tratado de Cooperación en Materia de Patentes (PCT), regla 51 bis del Reglamento y Circular Única de la Superintendencia de Industria y Comercio, se le comunica que:

La solicitud no contiene el poder debidamente otorgado, con el lleno de los requisitos exigidos por los artículos 63 y subsiguientes del Código de Procedimiento Civil. Adicionalmente, deberá presentar el documento que acredite la existencia y representación legal de la sociedad solicitante, cuando ésta fuere persona jurídica.

La solicitud no contiene la copia del documento en que consta la cesión del derecho a la patente del inventor al solicitante o a su causante, conforme a lo establecido por el artículo 26 literal k) de la Decisión 486 de la Comisión de la Comunidad Andina. Cuando se trate de documentos otorgados en el extranjero, estos deberán legalizarse de conformidad con lo dispuesto por los artículos 259 y 260 del Código de Procedimiento Civil. Cuando se trate de las declaraciones a que hace referencia la Regla 4.17 ii) del Tratado de Cooperación en Materia de Patentes (PCT), el alcance de las tales declaraciones se determinará según indiquen claramente una cesión de derechos del inventor al solicitante o su causante, de conformidad con lo dispuesto en el numeral 5.2.15 del Capítulo Quinto, Título X de la Circular Única de Superintendencia de Industria y Comercio.

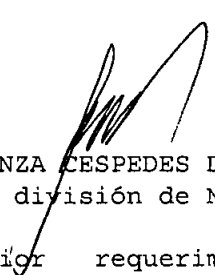
En cumplimiento de lo dispuesto por el artículo 39 de la Decisión 486, se le requiere para que dentro del término de dos meses siguientes a la fecha de notificación del presente oficio, complete los requisitos anteriormente enunciados. En caso de no dar cumplimiento al presente requerimiento, la solicitud se considerará abandonada y perderá su prelación.

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2, literal b), del capítulo quinto del título primero de la Circular Única No.10 de 2001.

Continúa en la página siguiente...

REPUBLICA DE COLOMBIA
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Radicación No.: 9 42268



ALIX CARMENZA CESPEDES DE VERGEL
Jefe de la división de Nuevas Creaciones

El anterior requerimiento fue notificado por fijación en lista de
fecha 12 JUN. 2009
adpall