

CAVELIER

ABOGADOS

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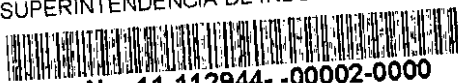
EDIFICIO SISKI
CARRERA 4 No. 72 - 35
BOGOTÁ 8, COLOMBIA

Teléfono: (57-1) 347 3611
Telefax: (57-1) 211 8650

14
13

Señor Director
DIRECCION DE NUEVAS CREACIONES
Superintendencia de Industria y Comercio
E. S. D.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 11-112944- -00002-0000

Fecha: 2011-12-16 16:27:39 Dep. 2020 DIR.NUEVASCR
Tra. 2 PATENTES Eve: 1 REGDEPOSITO
Act. 444 RESPUESTAREQUE Folios: 59

Trámite : 011
Evento : 378
Actuación : 444

Referencia : Expediente No. 11.112.944
Asunto : Solicitud de patente para **EJERCITADOR PARA ABDOMINALES MEJORADO CON ASIENTO GIRATORIO Y POLEAS EN TANDEM**
Solicitante : **E. MISHAN & SONS, INC.**
Clase : A63B 23/02
Fecha de solicitud : 02 de septiembre de 2011

CONTESTACION OFICIO No.16257

1. Yo, Luz Clemencia de PAEZ, en mi condición de apoderada de la sociedad solicitante, **E. MISHAN & SONS, INC.**, doy contestación al requerimiento efectuado por este Despacho mediante Oficio No. **16257** notificado por fijación en lista el 20 de octubre de 2011, para lo cual presento los siguientes documentos:

1.1. Poder otorgado por la sociedad **E. MISHAN & SONS, INC**, junto con el respectivo documento que acredita la existencia y representación legal de la compañía.

Se presenta este documento en fotocopia auténtica del original, el cual fue debidamente notariado y legalizado por Apostilla, junto con su correspondiente traducción oficial al español.

1.2. Un (1) documento en que consta la cesión del derecho a la patente efectuado por el los dos (2) inventores en favor de la sociedad **E. MISHAN & SONS, INC**

Se presenta este documento en original, el cual fue debidamente suscrito, notariado y legalizado por Apostille, junto con su correspondiente traducción oficial al español.

2. **Prioridad:** Presento así mismo copia certificada de la solicitud numero 12/877,321 cuya prioridad se reivindico en este asunto.

Este documento está siendo presentado dentro del término legal correspondiente, de conformidad con lo establecido en los artículos 10 y 11 de la Decisión 486 de la Comisión de la Comunidad Andina.

3. De acuerdo con lo anterior, comedidamente solicito a Usted proseguir con el trámite de este asunto y ordenar la publicación de la solicitud de la patente identificada en la referencia.

Señor Director,


LUZ CLEMENCIA DE PAEZ
C.C. 35.456.344 de Usaquén
T.P.A. No. 23.555


COLO-09040-801-001-6
LLM\SCT\ID-206824\WPCL9040
No. M-2011-206824\LLM

1680

9040
4513

Apostille

(Convention de La Haye du 5 Octobre 1961)

1. Country: **United States of America**

This public document

2. has been signed by **Paul Piperato**

3. acting in the capacity of **County Clerk**

4. bears the seal/stamp of the county of **Rockland**

Certified

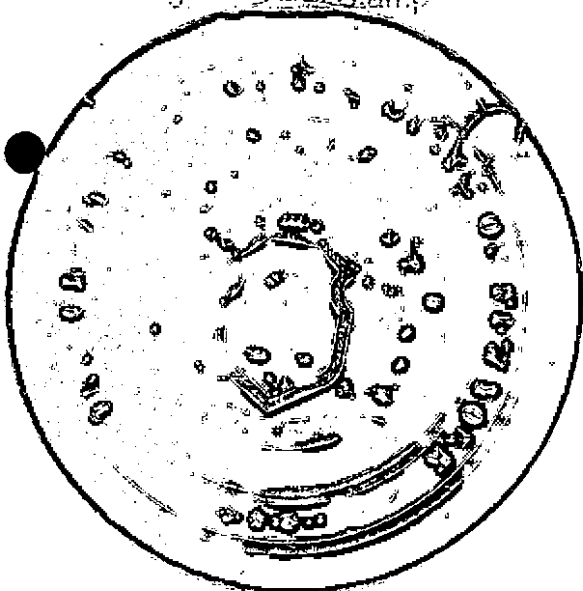
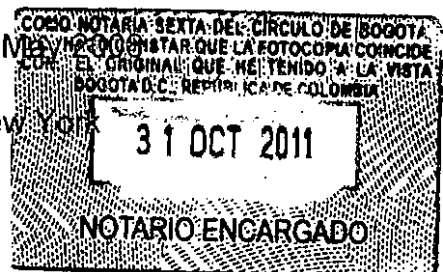
5. At New York, New York 6. the 08th day of May

7. by Special Deputy Secretary of State, State of New York

8. No. NYC-10317392B

9. Seal/Stamp

10. Signature



James Bizzarri
James Bizzarri
Special Deputy Secretary of State



REPRESENTACION Y PODER

REPRESENTATION AND POWER-OF-ATTORNEY

Yo (nosotros), abajo firmado (s)/I (we), the undersigned

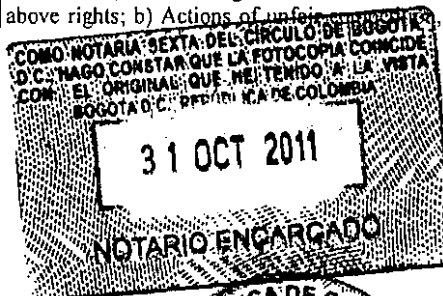
E. Mishan & Sons, Inc.domiciliado (s) en/of : 230 Fifth Avenue, New York, New York 10001, U.S.A.

por el presente nombramos a EMILIO FERRERO, tpa. 31929; LUZ CLEMENCIA DE PAEZ, tpa. 23555 y DANIEL PEÑA, tpa. 65.620, domiciliados en la Carrera 4a N° 72-35, Bogotá, Colombia, en obediencia a lo dispuesto en el parágrafo 1o del Artículo 543 del Código de Comercio, el primero como principal y los demás como suplentes, en su orden, como mis (nuestros) representantes en todos los asuntos de propiedad industrial con facultad para recibir notificaciones y nombrar apoderados judiciales o extrajudiciales. El primer representante suplente reemplazará al principal en caso de ausencia o impedimento temporal o definitivo de aquél. La misma regla se aplicará cuando el segundo representante suplente haya de reemplazar al primero, o el tercero al segundo. En tales casos, el representante principal, o el primero, o segundo suplente, en su caso, o ambos, declararán su intención de no ejercer la representación mediante declaración autenticada por Notario Público en Colombia, o por Notario u otro Funcionario Público, o Cónsul de Colombia, en el extranjero; y si se tratare de impedimento, con el certificado respectivo. Si alguno de los nombrados faltare definitivamente, el siguiente tomará su lugar. Cuando cesare la ausencia o impedimento del representante principal, o de su primero o segundo suplentes, en su caso, podrán ejercer la representación, en su orden, uno u otros según el caso, asumiéndola por el solo hecho de ejercerla, cesando en ese momento el ejercicio de la representación por el primero, segundo o tercer suplente en su caso.

Además, confiero (conferimos) poder a los abogados arriba nombrados, para obtener la protección de mi (nuestra) propiedad industrial y contra la competencia desleal, a cuyo efecto autorizo (amos) a los dichos apoderados para que me (nos) representen ante cualesquiera entidades o personas, ejerzan o no jurisdicción, especialmente ante las del orden administrativo, contencioso-administrativo y judicial, así como los tribunales de arbitramento, en todo lo concerniente a los siguientes asuntos: a) Obtención de patentes de invención, modelos de utilidad y diseños industriales; el registro de marcas de fábrica, colectivas, defensivas, de servicio, lemas comerciales, nombres comerciales, enseñas, nombres de dominio, variedades vegetales y denominaciones de origen; su renovación, traspaso, cambio de nombre o domicilio, cancelación voluntaria; y el registro de licencias de uso de esos derechos; b) Las acciones de

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WPPODE01-181

in due compliance with the terms of paragraph 1st. of article 543 of the Commercial Code, do hereby appoint EMILIO FERRERO, tpa. 31929; LUZ CLEMENCIA DE PAEZ, tpa. 23555 and DANIEL PEÑA, tpa. 65620, domiciled at Carrera 4a N° 72-35, Bogotá, Colombia, the first as principal and the others as alternates, in the order of their appointment, as our representatives for all industrial property matters with faculty to receive notifications and to appoint attorneys in and out of Court. The first alternate shall replace the principal in case of his absence or of temporal or definitive impediment. The same rule will apply when the second alternate representative is to replace the first one, or when the third is to replace the first or second alternates in their turn, or both of them, second. In such cases, the principal representative, or the first or second alternates in their turn, or both of them, shall state their intention not to act as representatives through a declaration given before a Notary Public in Colombia, or before a Notary or another Public Official or a Colombian Consul abroad; and in case of impediment, the appropriate certificate shall suffice. If any of the appointees were to be definitely absent, the following alternate shall take his place. When the absence or impediment of the principal representative, or of the first or second alternate in their turn ceases, the representation can be taken again in their sequence, by the principal, the first or second alternate depending on case, and the mere fact or its exercise will suffice. The exercise of the representation by the first, second or third alternates in their turn shall end at such time. In addition, we grant a Power of Attorney in favor of the above-named attorneys-at-law so that they may obtain the protection of my (our) industrial property and against the unfair competition, for which purpose I (we) authorize the said attorneys to represent me (us) before any authorities or persons, with or without jurisdiction, specially those administrative, administrative contentious and judicial, as well as before Arbitration Court, in all matters concerning the following: a) Obtainment of patents, utility models and industrial designs; the registration of trademarks, collective, defensive and service marks, slogans, commercial names, trade emblems, domain names, vegetal varieties and denominations of origin; its renewal, assignment, change of name or domicile, voluntary cancellation; and the registration of licenses of use of the above rights; b) Actions of unfair competition, protection to



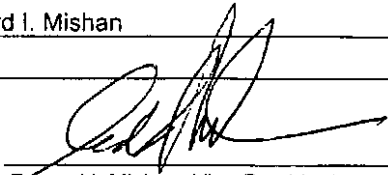
competencia descal, protección del consumidor, oposiciones u observaciones, cancelación administrativa y judicial, nulidad, medidas cautelares, concesión de licencias, la tutela, la protección de secretos industriales, y en general los juicios civiles, penales, administrativos o contencioso administrativos relacionados con estos derechos; acciones y procesos que promovamos o se nos promuevan. Y para que en todos los asuntos arriba determinados, puedan sustituir este mandato, transigir, conciliar, admitir los hechos del proceso, desistir, cancelar, recibir, renunciar, y ratificar los actos de agentes oficiosos.

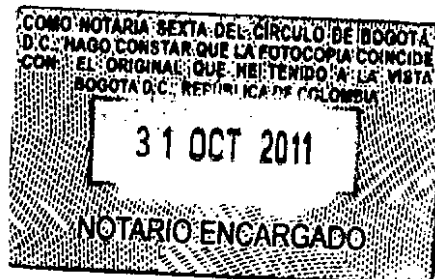
the consumer, oppositions or observations, administrative or Court cancellation, nullity, infringement, granting of licenses, the action for writ mandamus, the protection of trade secrets, and in general the civil, penal, and administrative suits relating to those rights; actions and suits instituted by me (us) or against me (us). And that in all the above matters they may substitute this Power of Attorney, compromise, conciliate, admit the facts of the case, desist, cancel, receive, resign, and ratify acts done by representatives without a power of attorney.

Dado y firmado hoy/Given and signed this May 2, 2008
en/in New York, New York

por/by Edward I. Mishan

Firma/Signature


Edward I. Mishan, Vice-President



CERTIFICACIÓN NOTARIAL (INDIVIDUO)

A los _____ días del mes _____
de _____ ante mí, Notario Público o Funcionario
200 _____ Autorizado de _____

compareció(eron)
personalmente _____

a quien(es) doy fe de conocer y me consta que es(son) la(s)
persona(s) firmante(s) del documento que precede, y
quien(es) tiene(n) capacidad legal para otorgarlo

--- NOTARIO PÚBLICO O FUNCIONARIO AUTORIZADO --- NOTARY PUBLIC OR ATTESTING OFFICIAL ---

CERTIFICACIÓN NOTARIAL (SOCIEDAD)

A los _____ días del mes _____
de _____
200 _____ compareció(eron) ante mí,

Quien(es) conozco personalmente y que firma(n) este
documento en representación de la Sociedad/compañía
denominada _____

Certifico:

1. Que he visto los siguientes documentos:*
2. Que dichos documentos prueban lo siguiente:
 - 2.1. Que _____ es una Sociedad/Compañía
e _____ legalmente constituida y existente de acuerdo con las leyes
del Estado de _____
 - 2.2. Que el domicilio de dicha Sociedad/Compañía es _____
 - 2.3. Que el objeto u objetos para los cuales se otorga el
presente poder están comprendidos dentro del objeto social
de la mencionada Sociedad/Compañía.
 - 2.4. Que _____ el(los)
Sr.(Sres.) _____

está(n) autorizado(s) para otorgar el presente Poder.

Ciudad _____

Estado _____

Hoy _____ de 200 _____

--- NOTARIO PÚBLICO O FUNCIONARIO AUTORIZADO --- NOTARY PUBLIC OR ATTESTING OFFICIAL ---

* Los documentos deben identificarse con fecha y origen

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WPPODE01-181

NOTARIAL CERTIFICATION (INDIVIDUAL)

On this _____ day of _____
200 _____ before me, a Notary Public or Attesting Official of _____

personally
appeared _____

to me known, and known to me to be the person(s) who
executed that foregoing document, and who has(have) legal
capacity to execute it.

NOTARIAL CERTIFICATION (CORPORATION)

On this 2nd day of May
2008 _____ appeared before me

Edward I. Mishan

who(m) I know personally and who(m) signed this
document as representative(s) of the Corporation/Company
named E. Mishan & Sons, Inc.

I certify:

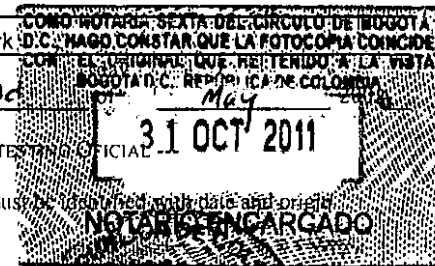
1. That I have seen the following documents: * New York
Certificate of Incorporation dated March 16, 1971, Certificate of
Amendment of Certificate of Incorporation dated December 30,
1994, and Corporate Resolution appointing Edward I. Mishan as
Vice President, dated November 11, 1995.
2. That the above documents duly prove the following:
 - 2.1. That _____ is a Corporation/Company legally
constituted and in existence in accordance with the laws of
the State of New York
 - 2.2. That the domicile of said Corporation/Company is
230 Fifth Avenue, New York, New York 10001
 - 2.3. That the purpose or purposes for which the present
Power of Attorney is granted are comprised within the
corporation purposes set forth in the charter of the
mentioned Corporation/Company.
 - 2.4. That _____
Mr.(Messrs.) Edward I. Mishan

is(are) authorized to grant the present Power of Attorney

City New York

State New York

This 2nd day of May, 2008



* Documents must be identified with date and origin

STATE OF NEW YORK
COUNTY OF ROCKLAND

ATTACHED DOCUMENT BEARS EMBOSSEMENT

I, PAUL PIPERATO, County Clerk and Clerk of the Supreme Court of the State of New York in and for Rockland County, the same being a Court of Records having by law a seal, DO HEREBY CERTIFY THAT:

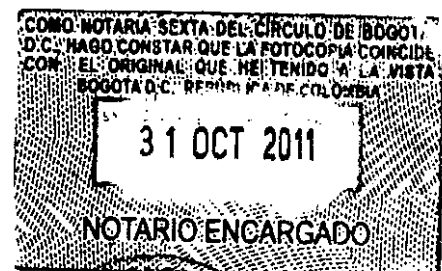
ANGELO NOTARO

whose name is subscribed to the deposition certificate of acknowledgement or proof of the annexed instrument was, at the time of taking same, a NOTARY PUBLIC in the State of New York; duly commissioned, sworn and qualified to act as such throughout the state of New York; that pursuant to a law, commission, or a certificate of his/her appointment and qualifications, and his/her signature have been filed in my office. As such NOTARY PUBLIC he/she was authorized by the laws of New York to administer oaths and affirmations, receive and certify the acknowledgement or proof of deeds, mortgages, powers of attorney and other written instruments for lands, tenements and hereditaments to be read in evidence or recorded in this state, to protest notes and to take and certify affidavits and depositions; and that I am well acquainted with the handwriting of such NOTARY PUBLIC, or have compared the signature on the annexed instrument with his signature deposited in my office, and believe that the signature is genuine IN WITNESS WHEREOF; I have hereunto set my hand and affixed my official seal to this 5TH day of MAY 2008

(Seal)



County Clerk and Clerk of the
Supreme Court of Rockland County

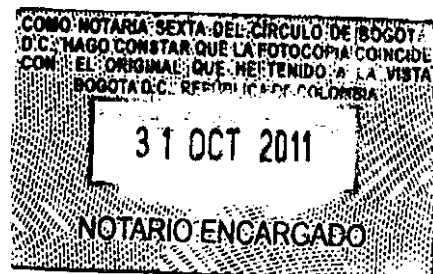


On the 2nd day of May in the year 2008 before me, the undersigned, personally appeared Edward I. Mishan, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

Angelo Notaro
Notary Public

ANGELO NOTARO
Notary Public, State of New York
No. 02N04942208
Qualified in Rockland County
Commission Expires Sept 12 2010

APOSTILLE	
(Convention de La Haye du 5 octobre 1961)	
1. Country:	
This public document	
has been signed by	
3. acting in the capacity of	
4. bears the seal/stamp of	
Certified	
5. at	6. the
7. by	
8. No.	
9. Seal/stamp	10. Signature



TRADUCCIÓN OFICIAL 135/2008 DE UN DOCUMENTO ESCRITO EN INGLÉS
Y EN ESPAÑOL DE ACUERDO CON EL CUAL E. MISHAN & SONS, INC.,
EMPRESA DOMICILIADA EN 230, FIFTH AVENUE, NEW YORK, NEW YORK,
ESTADOS UNIDOS DE AMÉRICA OTORGA PODER A EMILIO FERRERO, TPA
31929; LUZ CLEMENCIA DE PAEZ, TPA 23555 Y A DANIEL PEÑA, TPA
65620.

EXPEDIDO Y FIRMADO HOY 2 DE MAYO DE 2008 EN NEW YORK, NEW
YORK, ESTADOS UNIDOS DE AMÉRICA, POR EDWARD I. MISHAN

FIRMADO: EDWARD. I. MISHAN, VICEPRESIDENTE

CERTIFICACIÓN NOTARIAL, SOCIEDAD

A 2 de mayo de 2008, compareció ante mi EDWARD I. MISHAN, a
quien conozco personalmente y quien firma este documento en
representación de la sociedad denominada E. MISHAN & SONS
INC.

Certifico que he visto los siguientes documentos:

Certificado de constitución de fecha 16 de

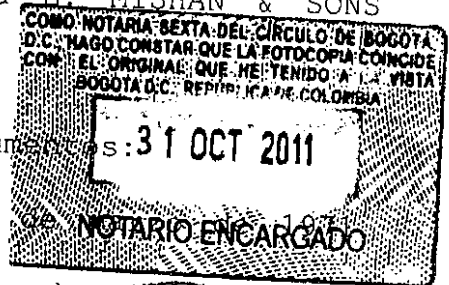
Reforma al certificado de constitución de 30 de
diciembre de 1994 y resolución societaria que nombra a Edward
I. Mishan en su calidad de vicepresidente, de 1995.
noviembre de 1995.

2. Que los documentos arriba nombrados prueban debidamente lo
siguiente:

2.1 esa es una sociedad/compañía legalmente constituida y
existente de acuerdo con las leyes el estado de Nueva York

2.2 Que el domicilio de dicha sociedad/compañía es 230 Fifth
Avenue, New York, New York, 10001

2.3 Que el objeto u objetos para los cuales se otorga el
presente poder están comprendidos dentro del objeto social de
la mencionada sociedad o compañía.



2.4. Que el señor EDWARD I. MISHAN está autorizado para otorgar el presente poder. Ciudad de Nueva York, estado de Nueva York. Hoy 2 de mayo de 2008.

ESTADO DE NUEVA YORK, CONDADO DE ROCKLAND

EL DOCUMENTO ADJUNTO LLEVA TEXTO EN RELIEVE

Yo, PAUL PIPERATO, oficial del condado y de la corte suprema del estado de Nueva York, para el condado de Rockland la cual es un tribunal de registro que por ley posee un sello, POR EL PRESENTE CERTIFICO QUE ANGELO NOTARO, cuyo nombre está escrito en la declaración, certificado de reconocimiento o prueba del documento adjunto era, al momento de tomar el mismo, un NOTARIO PÚBLICO para el estado de Nueva York, debidamente nombrado, juramentado y calificado para actuar como tal en todo el estado de Nueva York y que de acuerdo con la ley, un nombramiento o certificación de su nombramiento y aptitudes así como su firma se han radicado. Como NOTARIO SEXTA DEL CÍRCULO DE BOGOTÁ, DEBO CONSTAR QUE LA FOTOCOPIA COINCIDE CON EL ORIGINAL QUE HE TENIDO A LA VISTA BOGOTÁ D.C. REPÚBLICA DE COLOMBIA 31 OCT 2011 NOTARIO ENCARGADO. La calidad de notario público estaba autorizada por las leyes de Nueva York para administrar juramentos y afirmaciones, recibir y certificar el reconocimiento de la firma de escrituras, hipotecas y poderes así como los documentos escritos referentes a tierras y heredades que se van a presentar como evidencia o registrarse en este estado para protestar pagarés, tomar y certificar declaraciones juradas y que conozco bien la caligrafía de dicho notario público o que he comparado la firma en el documento adjunto con su firma depositada en mi oficina y sinceramente opino que la firma es genuina. EN TESTIMONIO DE LO CUAL, he firmado y fijado mi sello oficial hoy 5 de mayo de 2008.

Firma ilegible.

Oficial del condado y de la corte suprema del condado Rockland.

APOSTILLA

(CONVENCIÓN DE LA HAYA DEL 5 DE OCTUBRE DE 1961)

1. PAIS: ESTADOS UNIDOS DE AMÉRICA

Este documento público

2. ha sido firmado por PAUL PIPERATO

3. quien actúa en su calidad de OFICIAL DEL CONDADO

4. y lleva el sello/estampilla del condado de ROCKLAND

CERTIFICADO

5. en Nueva York, NY

6. el 8 de mayo de 2008

7. por el Secretario de estado suplente de Nueva York, estado de Nueva York.

8. NYC-10317392B

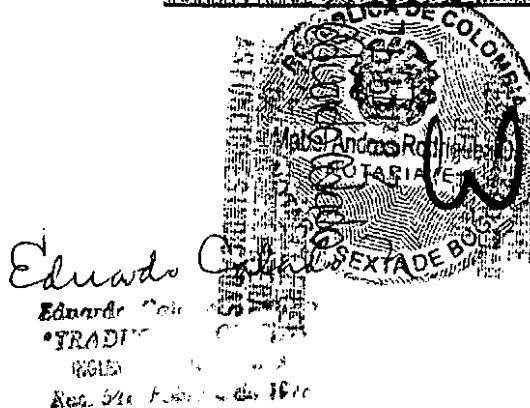
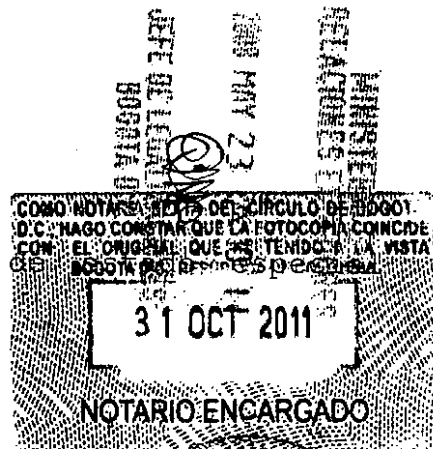
9. Sello: REALZADO, ESTADO DE NUEVA YORK

10. Firma: JAMES BIZZARRI, secretario suplente.

COLO-9040-701-003-2

ECN\ECN\ID-126664\WPCL002G

Bogotá, 22 de mayo de 2008.



CAVELIER

ABOGADOS

WEB SITE: www.cavelier.com
E-MAIL: cavelier@cavelier.com

EDIFICIO SISKI
CARRERA 4 No. 72 - 35
BOGOTA 8, COLOMBIA

TELEFONO: (57) (1) 347-3611
TELEFAX: (57) (1) 217-9211 (57) (1) 310-4995

Señores

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

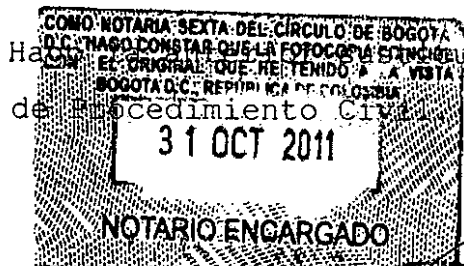
E. S. D.

Poderdante : E.MISHAN & SONS, INC.

Poder conferido el : 02/05/2008

Yo, EMILIO FERRERO, obrando como apoderado principal del poderdante arriba mencionado, mediante el presente escrito sustituyo el poder a mi otorgado a la doctora LUZ CLEMENCIA DE PAEZ, identificada con cédula de ciudadanía No. 35.456.344 y Tarjeta Profesional N°23.555, con todas las facultades que me fueron conferidas.

Yo, EMILIO FERRERO, obrando como apoderado principal del poderdante arriba mencionado, mediante el presente escrito sustituyo el poder a mi otorgado a la doctora LUZ CLEMENCIA DE PAEZ, identificada con cédula de ciudadanía No. 35.456.344 y Tarjeta Profesional N°23.555, con todas las facultades que me fueron conferidas.



EMILIO FERRERO

N° 31.929

N° 438.019 de Usaquén

Acepto:

Luz Clemencia de Paez
LUZ CLEMENCIA DE PAEZ

T.P.A. N° 23.555

C.C. No. 35.456.344 de Usaquén

NOTARIA SEXTA DE BOGOTA
RECONOCIMIENTO Y PRESENTACION PERSONAL

Bogotá, D.C.

Ante mí AMPARO QUINTERO A. U.S.O. **07 NOV 2009**

NOTARIA SEXTA DEL CÍRCULO DE

BOGOTÁ, D.C.

Comparando(en)

Emilio Fuen
Williamson - Luz
Clemencia Suárez de Paez

Quinto(a) exhibición(en) la(s) C.C.

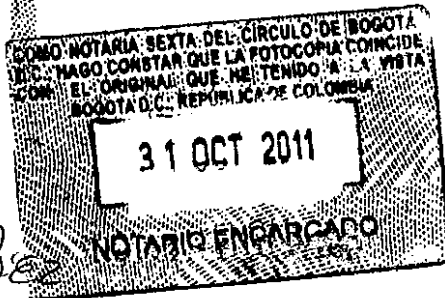
438 019 / P. 31929
35 456 344 / P. 23555

Y declaro(en) que la(s) firma(s) que a continuación

en el presente documento es(son) la(s) suya(s) y

que el contenido del mismo es cierto.

En constancia se firma esta diligencia.



Emilio Fuen
Luz Clemencia Suárez de Paez



e

Apostille

(Convention de La Haye du 5 Octobre 1961)

1. Country: **United States of America**

This public document

2. has been signed by **Paul Piperato**

3. acting in the capacity of **County Clerk**

4. bears the seal/stamp of the county of **Rockland**

Certified

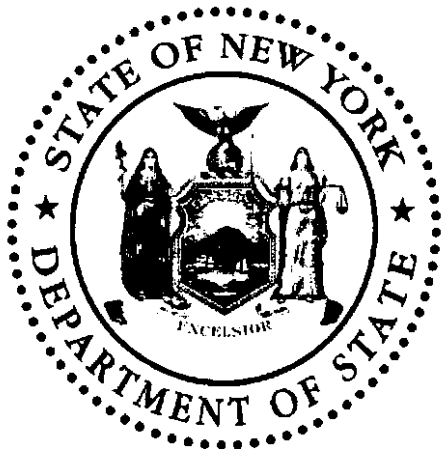
5. At New York, New York 6. the 20th day of September 2011

7. by Special Deputy Secretary of State, State of New York

8. No. NYC-1333B

9. Seal/Stamp

10. Signature



Sandra J. Tallman

Sandra J. Tallman
Special Deputy Secretary of State

CAVELIER**374**

ABOGADOS
EDIFICIO SISKI
CARRERA 4a N° 72-35
BOGOTÁ, 8 - COLOMBIA

CESION

Yo, (nosotros) abajo firmado (s)

domiciliado(s) en

declaro(amos) bajo juramento ser único(s) y verdadero(s) inventor(es)

declaro(amos) así mismo que cedo(emos) y transfiero(erimos), sin
limitación, a favor de la sociedad

constituida y existente de conformidad con las leyes de

domiciliada en

todos los derechos inherentes a dicha invención y que la citada
Compañía queda facultada para solicitar en su nombre la patente de
invención correspondiente en la República de Colombia.

ASSIGNMENT

I (we), the undersigned

1- Edward I. MISHAN

2- Steven MISHAN

Of

c/o E. Mishan & Sons, Inc. 230 Fifth Avenue, New
York, New York 10001, United States of America

state(s) under oath to be sole and true inventor(s) of the invention:

**ABDOMINAL EXERCISER WITH ROTATABLE
SEAT AND TANDEM PULLEY FEATURES**

state as well, that assign, without reservations or limitations in favor
of

E. MISHAN & SONS, INC.

a corporation constituted and existing in conformity with the laws of
New York

domiciled in

230 Fifth Avenue, New York, New York 10001,
United States of America

all rights inherent to said invention and that the above mentioned
company hereby is enabled to apply, in its name, for the corresponding
patent invention, in the Republic of Colombia

Dado y firmado hoy/Given and signed this September 7, 2011
en/in New York, New York

por/by Edward I. MISHAN

Firma/Signature

Dado y firmado hoy/Given and signed this September 7, 2011
en/in New York, New York

por/by Steven MISHAN

Firma/Signature

**STATE OF NEW YORK
COUNTY OF ROCKLAND**

ATTACHED DOCUMENT BEARS EMBOSSMENT

I, PAUL PIPERATO, County Clerk and Clerk of the Supreme Court of the State of New York in and for Rockland County, the same being a Court of Records having by law a seal, DO HEREBY CERTIFY THAT:

ANGELO NOTARO

whose name is subscribed to the deposition certificate of acknowledgement or proof of the annexed instrument was, at the time of taking same, a NOTARY PUBLIC in the State of New York; duly commissioned, sworn and qualified to act as such throughout the state of New York; that pursuant to a law, commission, or a certificate of his/her appointment and qualifications, and his/her signature have been filed in my office. As such NOTARY PUBLIC he/she was authorized by the laws of New York to administer oaths and affirmations, receive and certify the acknowledgement or proof of deeds, mortgages, powers of attorney and other written instruments for lands, tenements and hereditaments to be read in evidence or recorded in this state, to protest notes and to take and certify affidavits and depositions; and that I am well acquainted with the handwriting of such NOTARY PUBLIC, or have compared the signature on the annexed instrument with his signature deposited in my office, and believe that the signature is genuine IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal to this 12 day of SEPTEMBER, 2011.

(Seal)



County Clerk and Clerk of the
Supreme Court of Rockland County

CERTIFICACIÓN NOTARIAL (INDIVIDUO)

A los _____ días del mes de _____
de 200 ____ Ante mí, Notario Público de _____

compareció(eron) personalmente _____

a quien(es) doy fe de conocer y me consta que es(son) la(s)
persona(s) firmante(s) del documento que precede, y quien(es)
tiene(n) capacidad legal para otorgarlo

NOTARIO PÚBLICO-NOTARY PUBLIC

NOTARIAL CERTIFICATION (INDIVIDUAL)

On this 7th day of September
2011 _____ before me, a Notary Public of _____

personally appeared Edward I. MISHAN
Steven MISHAN

To me known, and known to me to be the person(s) who executed
that foregoing document, and who has(have) legal capacity to
execute it.

Angelo Notaro
ANGELO NOTARO
Notary Public, State of New York
No. 02NO4942209
Qualified in Rockland County
Commission Expires Sept. 12, 2014

APOSTILLE

(Convention de La Haye du 5 octobre 1961)

1. Country:
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2. has been signed by
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1.	Pais:	Estados Unidos de América
2.	Este documento público	
3.	ha sido firmado por	Paul Piperato
4.	que actúa en calidad de	Secretario del Condado
	lleva el sello/timbre de	el condado de Rockland

5.	en Nueva York, Nueva York	6.	el 20 de septiembre, 2011
7.	por el Secretario de Estado Adjunto Especial, Estado de Nueva York		
8.	No. NYC- 1333B		
9.	Sello/Timbre	10.	Firma
	(Aparece sello:		<u>(Aparece firma)</u>
	DEPARTAMENTO DE ESTADO		Sandra J. Tallman
	ESTADO DE NUEVA YORK)		Secretaria de Estado Adjunta Especial

Aparece Documento de Cesión de 1- Edward I. MISHAN, 2- Steven MISHAN de c/o E. Mishan & Sons, Inc. 230 Fifth Avenue, New York, Nueva York 10001, Estados Unidos de América, de la invención EJERCITADOR PARA ABDOMINALES MEJORADO CON ASIENTO GIRATORIO Y POLEAS EN TÁNDEM, de E. MISHAN & SONS, INC., Nueva York, con domicilio en 230 Fifth Avenue, New York, Nueva York 10001, Estados Unidos de América; Dado y firmado el 7 de septiembre de 2011 en Nueva York, Nueva York, por Edward I. MISHAN (aparece firma); Dado y firmado el 7 de septiembre de 2011 en Nueva York, Nueva York, por Steven MISHAN (aparece firma)

EL DOCUMENTO ADJUNTO VA EN RELIEVE

Yo, **Paul Piperato**, Secretario del Condado y Secretario del Tribunal Supremo del Estado de Nueva York, en y para el Condado de Rockland, el mismo es un Tribunal de Registro que tiene por ley un sello, POR LA PRESENTE CERTIFICO QUE

Sergio Eleuterio Latourre Mendoza
Traductor e Interpretre Oficial
Resol. No. 2839 Minjusticia 1991

cuyo nombre se suscribe al certificado de declaración de reconocimiento o prueba del instrumento adjunto, era al momento de tomar la misma un NOTARIO PÚBLICO en el Estado de Nueva York; debidamente comisionado, juramentado y calificado para actuar como tal en todo el Estado de Nueva York; que conforme a una ley, comisión o un certificado de su nombramiento y títulos, y su firma se ha presentado en mi oficina. Como tal NOTARIO PÚBLICO él/ella está autorizado por las leyes de Nueva York para administrar juramentos y declaraciones, recibir y certificar el reconocimiento o prueba de escrituras, hipotecas, poderes de abogado y otros instrumentos escritos para tierras, viviendas y heredades para ser leídos en evidencia o registrados en este estado, protestar notas y tomar y certificar declaraciones juradas y declaraciones; y que estoy bien familiarizado con la escritura de tal NOTARIO PÚBLICO, o he comparado la firma en el instrumento adjunto con su firma depositada en mi oficina, y considero que tal firma es genuina. EN FE DE LO CUAL, He colocado mi firma y fijado mi sello oficial el día 12 de septiembre, 2011.

(Sello)

(Aparece firma)

Secretario del Condado y Secretario del
Tribunal Supremo, Condado de Nueva York

ESTADO DE NUEVA YORK :
CONDADO DE NUEVA YORK :

Aparece Documento de Certificación Notarial Individual del 7 de septiembre del 2011 de Edward I. MISHAN, Steven MISHAN (Aparece firma)

ANGELO NOTARIO
Notario Público, Estado de Nueva York
No. 02NO4942209
Calificado en el Condado de Rockland
Comisión expira Sep. 12, 2014

Sergio Eleuterio Latour Mendez
Traductor e Interpreté Oficial
Resol. No. 2839 Minjusticia 1991



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

August 30, 2011

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE UNDER 35 USC 111.

APPLICATION NUMBER: 12/877,321

FILING DATE: September 08, 2010

THE COUNTRY CODE AND NUMBER OF YOUR PRIORITY APPLICATION, TO BE USED FOR FILING ABROAD UNDER THE PARIS CONVENTION, IS US12/877,321

**By Authority of the
Under Secretary of Commerce for Intellectual Property
and Director of the United States Patent and Trademark Office**


N. WILLIAMS

Certifying Officer



Electronic Acknowledgement Receipt	
EFS ID:	8373658
Application Number:	12877321
International Application Number:	
Confirmation Number:	2984
Title of Invention:	IMPROVED ABDOMINAL EXERCISER WITH ROTATABLE SEAT AND TANDEM PULLEY FEATURES
First Named Inventor/Applicant Name:	EDWARD I. MISHAN
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Filer:	Peter C. Michalos
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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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1	Drawings-only black and white line drawings	J137-1555US-Drawings.pdf	4966297 d0b2775a60e1a037b6f1424e6ba15f4bc05b56e3	no	10
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Information:					
2	Oath or Declaration filed	J137-1555-DecEXE-Dated.pdf	233918 16f1e22078b999323fb15ea9268897bf85721180	no	3
Warnings:					
Information:					
3	Information Disclosure Statement (IDS) Filed (SB/08)	J137-1555-1449.pdf	46213 e6c5188f606dd1be2ab0c56d056e8ef0c236879e	no	2
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4		J137-1555US-Application.pdf	82527 efbcbdaa79a51a94a9b07fc2c089c131678593271	yes	19
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	Document Description		Start	End	
	Specification		1	11	
	Claims		12	18	
	Abstract		19	19	
Warnings:					
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Warnings:					
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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

**IMPROVED ABDOMINAL EXERCISER WITH
ROTATABLE SEAT AND TANDEM PULLEY FEATURES**

FIELD AND BACKGROUND OF THE INVENTION

- [0001]** The present invention relates generally to the field of exercise devices, and in particular, to a new and useful abdominal exerciser with a seat and a back supporting structure.
- [0002]** A wide variety of exercise devices and techniques are known for exercising the muscles of the stomach and back. Of these, the most common is the sit-up or crunch which, however is also known to place adverse pressure on the back and neck muscles.
- [0003]** U.S. Patents 7,381,171 and D581,471, which are both incorporated here by reference, disclose an abdominal exerciser co-invented by the inventors of the subject application. While effective for exercising the muscles of the stomach and back, the subject application discloses improvements that have been discovered as a result of use and understanding of the dynamics of the inventors' previous device.
- [0004]** A need thus still remains for further improvements in abdominal exercise devices which enhance the exercising of the stomach and back muscles while avoiding adverse pressure on the back and neck muscles.

SUMMARY OF THE INVENTION

[0005] An object of the invention is to provide an abdominal exerciser that has a base frame, a back frame pivotally mounted near a rear end of the base frame for movement between upright and recumbent positions, at least one back cushion connected to the back frame for supporting a user's back, a seat frame mounted for rotation on the base frame and a seat cushion fixed to the seat frame on which a user sits. A low friction journal bushing with a journal post rotatably mounted therein, is operatively connected between the base and seat frames for supporting the weight of the user. The bushing and post are about 30% to about 42% of the distance from a rear end of the seat cushion to the front end of the seat cushion so that the user's coccyx is substantially vertically aligned with the bushing and post when the user sits on the seat cushion and his or her back is resting against the back cushion. Arms at each side of the base frame have a pair of extensions connected to either the base or seat frame. Each arm has a U-shaped handhold lying in a plane extending at an acute angle of about 30 to about 80 degrees to the horizontal plane. A pair of pulleys is mounted for rotation near a rear end of the base frame and engages springs with resilient sleeves thereover, the springs being connected between the base and back frames for biasing the back frame toward the upright position.

[0006] A further object of the invention is to provide an abdominal exercise device that comprises: a base frame for lying in a horizontal plane on the floor, the base frame having a pair of side members and a cross member connected between the side members of the base frame; a back frame having a pair of side members pivotally mounted near respective rear ends of the respective side members of the base frame for movement between a forward upright position and a rearward recumbent position; a plurality of back cushions connected between and spaced along the side members of the back frame; an

H-shaped seat frame having front and rear members and a cross member connected between the front and rear members; a seat cushion fixed to the seat frame and resting on the front, rear and cross members of the seat frame, the seat cushion having a front end and a rear end; a low friction journal bushing having a vertically extending bore and being connected to the cross member of one of the base and seat frames; a journal post connected to the cross member of the other of the base and seat frames and received for rotation in the low friction journal bushing so that the seat cushion may rotate with respect to the base frame, a support area of the cross member around the journal post and to which the journal post is connected, being in weight-bearing contact with the low friction journal bushing for supporting the weight of a user sitting on the seat cushion, the location of the low friction journal bushing and the journal post received therein, being from about 30% to about 42% of the distance from the rear end of the seat cushion to the front end of the seat cushion so that when a user is sitting on the seat cushion with the users back against the back cushions, the coccyx of the user is substantially vertically aligned with the low friction journal bushing and journal post received therein; an arm at each side of the base frame, each arm having a pair of extensions connected to one of the base frame and the seat frame, each arm including a U-shaped handhold lying in a plane that extends at an acute angle of about 30 degrees to about 80 degrees to the horizontal plane, with the handholds of the arms on opposite sides of the base frame extending outwardly from each other for increasing available room for a user sitting on the seat cushion, and access to the handholds by the user; a pulley mounted for rotation at each side of the base frame near a rear end of the base frame; a tension spring connected between the base frame and the back frame side members for biasing the back frame toward the forward upright position; and a resilient sleeve covering each spring, each resilient sleeve being engaged with one of the pulleys.

[0007] The various features of novelty which characterize the invention are

pointed out with particularity in the claims annexed to and forming a part of this disclosure. For a better understanding of the invention, its operating advantages and specific objects attained by its uses, reference is made to the accompanying drawings and descriptive matter in which preferred embodiments of the invention are illustrated.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] In the drawings:

[0009] Fig. 1 is a side, front, top perspective view of an abdominal exercise device embodying the present invention, in an upright forward and ready position awaiting use by a user for exercising the user's abdominal and back muscles;

[0010] Fig. 2 is a view of the device similar to Fig. 1 but with the back frame and cushions moved from an upright forward position toward a rearward recumbent position for exercising the back muscles of a user (not shown) sitting on the device;

[0011] Fig. 3 is a view of the device similar to Fig. 2 with the back frame and cushions moved toward the recumbent position and with a seat frame and cushion of the device rotated to an extreme left position for further exercising the side muscles of the users abdomen;

[0012] Fig. 4 is a view of the device similar to Fig. 3 but with the seat frame and cushion rotated to an extreme right position for further exercising the side muscles of the users abdomen;

- [0013]** Fig. 5 is a front elevational and slightly perspective view of the device for illustrating the non-perpendicular, angled extension of U-shaped handholds of arms of the device, for improved room on the seat cushion and improved access to the handholds;
- [0014]** Fig. 6 is a side elevational and slightly perspective view of the device showing a user sitting on the seat cushion to illustrate the location of a low friction, weight-bearing journal of the device and its vertical alignment with the base of the user's spine;
- [0015]** Fig. 7 is a top plan view of the device that better illustrates the position of the journal with respect to front and rear ends of the seat cushion;
- [0016]** Fig. 8 is an exploded perspective view of the abdominal exercise device of the invention;
- [0017]** Fig. 9 is a top perspective view of an alternate embodiment of the device with the arms fixed to the seat frame rather than to the base frame;
- [0018]** Fig. 10 is an enlarged side elevational view of a locking pin for holding the seat frame in a non-rotatable position of the base frame;
- [0019]** Fig. 11 is an enlarged, exploded, sectional view of the journal area of the device; and
- [0020]** Fig. 12 is a partial, rear, perspective view of a further embodiment of the invention with tandem pulleys and resilient sleeve covered springs for each side of the base and back frames plus a safety band for covering the pulleys and springs.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0021] Referring now to the drawings, in which like reference numerals are used to refer to the same or similar elements, Figs. 1 and 8 illustrate an abdominal exercise device 10 that comprises a base frame 12 for lying in a horizontal plane on the floor, the base frame having a pair of side members 12a and 12b and a cross member 12c connected, e.g. by welding, between the side members of the base frame. Members 12a, 12b and 12c and preferably square of rectangular cross-sectioned metal tubes. A back frame 14 having a pair of side members 14a and 14b is pivotally mounted on a pair of ears 13 at the top of, and near respective rear ends of the side members 12a and 12b of the base frame for movement between a forward upright position shown in Fig. 1, and a rearward recumbent position shown in Fig. 2. A bolt 15 extends through aligned holes in the pair of ears 13 on each side of base frame 12, to hold back frame side members 14a, 14b to the base frame, and to form the axle for one or two pulleys 60 mounted for rotation to each side of the base frame 12. A plurality of back cushions 20, each in the form of a rotatable foam rubber roller, are connected between and spaced along the side members 14a and 14b of the back frame 14. The lowest roller cushion 20 is mounted for rotation on the same axis on which the opposite bolts 15 extend.

[0022] An H-shaped seat frame 16 having front and rear members 16a and 16b, has a cross member 16c that is connected, e.g. by welding, between the front and rear members. A padded seat cushion 30 is fixed to the seat frame 16 and resting on the front, rear and cross members of the seat frame. The seat cushion has a front end 30a and a rear end 30b.

[0023] A low friction journal bushing 40, shown also in Fig. 11, is made for example from low friction nylon, has a vertically extending bore 40a and is fixed to the cross member 12c, e.g. by extending through a bore in the cross member

and by having a small lower flange ring 40a and a large upper flange ring 40b. The upper flange ring 40b has a broad flat upper annular bearing surface. A journal post 42 is connected, e.g. by welding, to the cross member 16c of the seat frame 16 and is received for rotation in the low friction journal bushing bore 40a so that the seat cushion 30 may rotate with respect to the base frame 12.

[0024] A support area of the seat frame cross member 16c that is immediately around the journal post 42, is in weight-bearing contact with the upper surface of the upper flange 14b of low friction journal bushing 40, for supporting all of the weight of a user 100 sitting on the seat cushion as shown in Fig. 6. As shown in Fig. 7, The location of the low friction journal bushing 40 and the journal post 42 received therein, is a distance C from the rear end 30b of the seat cushion 30, that is from about 30% to about 42% (preferable about 33 to 39%) of the total distance B from the rear end 30b of the seat cushion to the front end 30a of the seat cushion 30. Because of this important placement of the rotation journal for the seat frame 16 and its cushion 30, when a user 100 is sitting on the seat cushion 30 with the user's back against the back cushions 20, the user's coccyx at the lower end of his or her spine 102, is substantially vertically aligned with the low friction journal bushing 40 and journal post 42 received therein, as shown by the arrow X in Fig. 6. In this way virtually all the user's weight is centered on the upper surface of the bushing flange 40b so that no other weight bearing mechanism is needed for allowing free and easy rotation of the seat cushion 30 on the base frame 12. In the embodiment shown, for example, the dimension of distant C is about 4 inches for a total front to back dimension B of about 11 inches for seat cushion 30.

[0025] The same weight-bearing function would be achieved in the alternate embodiment of the invention where the bushing 40 is mounted to the cross member 16c of the seat frame 16 and the post 42 is mounted to the cross member 12c of the base frame 12.

[0026] An arm 50 is also provided at each side of the base frame 12, each arm having a pair of extensions 50a and 50b that are detachably connected to side tubes 12d and 12e extending from the side members 12a and 12b of base frame 12. As best shown in Figs. 5 and 8, the side tubes 12e are circular cross sectioned metal tubes welded to the outside surfaces of side member 12a and 12b, while side tubes 12d are actually the sideways opposite extensions of a front member, circular cross sectioned metal tube of base frame 12, welded to and across the front ends of the side members 12a and 12b.

[0027] Each arm 50 includes a U-shaped handhold 50c best shown in Fig. 5, to lie in a plane that extends at an acute angle A of about 30 degrees to about 80 degrees to the horizontal plane with the handholds 50c of the arms 50 on opposite sides of the base frame extending outwardly from each other for increasing available room for a user sitting on the seat cushion 30, and provided better access to the handholds by the user's hands. The even more preferred range of angle A is about 50 to 70 degrees. Detachable connection of the arms 50 to the base frame 12 is achieved by having the round cross sectioned tubes making arm extensions 50a and 50b, smaller in diameter than the round cross sectioned tubes making base frame extensions 12d and 12e, so that the arm tubes fit inside the base frame tubes. Locking of the arms 50 in position on opposite sides of base frame 12 is achieved by a pair of outwardly spring-loaded hemispheres 50d near the inside ends of front extensions 50a, that snap into opposite holes 12h near the end of the base frame extensions 12d. No separated locking is needed for the rear extensions 50b.

[0028] In this embodiment the arms 50 are fixed to the base frame 12 and the user can hold the arms at the handholds 50c to help rotate the user's waist and thus rotate the seat cushion 30 on the base frame while cycling the back frame

14 between the upright and recumbent positions to target the side muscles of the user's abdomen. In another embodiment of the invention shown in Fig. 9, arm extensions 50a and 50b are detachably connected to the opposite tubular ends of the front and rear members 16a, 16b of the seat frame 16, so that the arms 50 rotate with the seat cushion 30 for a different set of exercise dynamics.

[0029] In order to lock seat frame 16 and its cushion 30 in a centered and non-rotating position shown in Figs. 1 and 2, the rear seat frame member 16b has one tubular end 16d that projects beyond the seat cushion 30 and has a vertical locking hole that aligns with a vertical locking hole 12j that is in the rear arm extension 50b but may alternatively be in the rear base frame extension 12 in the embodiment of Fig. 8, but especially when the arms are connected to the seat frame in the embodiment of Fig. 9. A locking pin 70 having a shaft 70a and a ball handle 70b has its shaft 70a inserted into the aligned locking holes to lock the seat frame in place. As best shown in Fig. 10, an annular groove 70c near the top end of shaft 70a resists accidental withdrawal of the locking pin 70 as the user exercises by catching the sheet metal material of the hollow tubes making up the seat and base frames at the locking holes. By the action of gravity and with the help of the extra weight of ball handle 70a, the pin 70 is randomly cause to fall back into its locked position rather than being pushed out of the locking holes during an exercise session. With the locking pin pulled out of the locking holes as shown in Figs. 3 and 4, the seat cushion 30 can be rotated to the left and right as the user rotates his or her waist for enhancing the exercise routine.

[0030] One pulley 60 is mounted for rotation at each side of the base frame 12 near a rear end of the base frame about the bolts 15. A tension spring 80 has an eye 84 at one end engaged onto a spring post 14c extending from the back frame side member 14a, and an eye 85 on its opposite end engaged onto a spring post 12f extending from the base frame side member 12a, for biasing the

back frame 14 toward the forward upright position shown in Figs. 1 and 8. Threaded knobs 86 are screwed onto the threaded ends of spring posts 14c and 12f to secure the springs 80 on place. A resilient, e.g. foam rubber sleeve 82 covers each spring 80 and each resilient sleeve-covered spring is engaged with the groove of one of the pulleys 60.

[0031] Another embodiment of the invention is shown in Fig. 12 where a pair of tandem pulleys 60, 60 mounted for rotation on a longer bold 15 at each side of the base frame and tension springs 80 connected between the base frame and the back frame side members each with a resilient sleeve 82 covering each spring, is engaged with each pulley 60 for biasing the back frame toward the forward upright position with twice the strength. This adds more resistance to each back movement toward the recumbent position for a stronger workout. The tandem pulleys can be used with the prior abdominal exercisers of U.S. Patents 7,381,171 and D581,471, or with the improvements of Figs. 1-11. As also shown in Fig. 12 and also usable with the tandem pulleys and/or with the improvements of Figs. 1-11, is an elastic fabric band 90 that has a width that is wide enough to cover the single pulley 60 or the double pulleys 60, 60, and a circumference that is slightly less than the path around the pulleys 60, the spring posts and the springs 80 with covering sleeves 82. In use the band 90 is stretched over the pulleys and engaged sleeve-covered springs, and is held in place by one or a pair of hook-and-loop covered straps 92 that are threaded behind the one or two springs 80, at locations over and, if two straps are use, under the area of engagement between the sleeves 82 and the grooves of the pulleys 60, and then back over the band until the straps are engage to themselves at their bases, and held in place be the hook-and-loop action on there touching surfaces. The use of these elastic bands 90 serve two purposes. Firstly, they are a safety measure in case any part of the springs or their attachments break, to keep all parts confined inside the elastic band so nothing flies away for the device. Secondly the elastic bands reduce or muffle

any noise created by the springs and pulleys as the device is cycled between upright and recumbent positions during an exercise session.

[0032] While specific embodiments of the invention have been shown and described in detail to illustrate the application of the principles of the invention, it will be understood that the invention may be embodied otherwise without departing from such principles.

WHAT IS CLAIMED IS:

1. An abdominal exercise device (10) comprising:

a base frame (12) for lying in a horizontal plane on the floor, the base frame having a pair of side members (12a, 12b) and a cross member (12c) connected between the side members of the base frame;

a back frame (14) having a pair of side members (14a, 14b) pivotally mounted near respective rear ends of the respective side members (12a, 12b) of the base frame for movement between a forward upright position and a rearward recumbent position;

a plurality of back cushions (20) connected between and spaced along the side members (14a, 14b) of the back frame (14);

an H-shaped seat frame (16) having front and rear members (16a, 16b) and a cross member (16c) connected between the front and rear members;

a seat cushion (30) fixed to the seat frame (16) and resting on the front, rear and cross members of the seat frame, the seat cushion having a front end and a rear end;

a low friction journal bushing (40) having a vertically extending bore and being connected to the cross member (12c, 16c) of one of the base and seat frames (12, 16);

a journal post (42) connected to the cross member (12c, 16c) of the other of the base and seat frames (12, 16) and received for rotation in the low friction journal bushing (40) so that the seat cushion (30) may rotate with respect to the base frame (12), a support area of the cross member around the journal post and to which the journal post is connected, being in weight-bearing contact with the low friction journal bushing (40) for supporting the weight of a user sitting on the seat cushion, the location of the low friction journal bushing (40) and the journal post (42) received therein, being from about 30% to about 42% of the distance from the rear end of the seat cushion to the front end of the seat cushion so that when a user is sitting on the seat cushion (30) with the users back against the

back cushions (20), the coccyx of the user is substantially vertically aligned with the low friction journal bushing (40) and journal post (42) received therein;

an arm (50) at each side of the base frame, each arm having a pair of extensions (50a, 50b) connected to one of the base frame and the seat frame, each arm including a U-shaped handhold (50c) lying in a plane that extends at an acute angle of about 30 degrees to about 80 degrees to the horizontal plane with the handholds (50c) of the arms (50) on opposite sides of the base frame extending outwardly from each other for increasing available room for a user sitting on the seat cushion, and access to the handholds by the user;

a pulley mounted for rotation at each side of the base frame near a rear end of the base frame;

a tension spring connected between the base frame and the back frame side members for biasing the back frame toward the forward upright position; and

a resilient sleeve covering each spring, each resilient sleeve engaged with one of the pulleys.

2. The device of claim 1, wherein the side members (12a, 12b) of the base frame (12) each include a tubular side extension (12d, 12e), the extensions (50a, 50b) of each arm (50) being detachably attached to the tubular side extension on each respective side of the base frame (12) so that the arms are fixed to the base frame when the seat frame rotates.

3. The device of claim 1, wherein the extensions (50a, 50b) of each arm (50) are detachably attached to ends of the respective front and rear members (16a, 16b) of the seat frame (16) on each respective side of the seat frame so that the arms rotate with the rotation of the seat frame.

4. The device of claim 1, including a pair of tandem pulleys mounted for rotation at each side of the base frame and a tension spring connected between the base frame and the back frame side members each with a resilient

sleeve covering each spring, engaged with each pulleys for biasing the back frame toward the forward upright position.

5. The device of claim 1, wherein the handhold (50c) lying in a plane that extends at an acute angle of about 50 degrees to about 70 degrees to the horizontal plane.

6. The device of claim 1, wherein the location of the low friction journal bushing (40) and the journal post (42) received therein, is from about 33% to about 39% of the distance from the rear end of the seat cushion to the front end of the seat cushion.

7. The device of claim 1, wherein the rear member of the seat frame includes a seat frame extension (16d) that extends beyond the seat cushion (30), locking holes in the seat frame extension and in the base frame or in one arm extension, that are aligned when the seat cushion is rotation to a centered position, and a locking pin for insertion into the aligned locking holes for fixing the seat cushion in the center position.

8. The device of claim 1, wherein the rear member of the seat frame includes a seat frame extension (16d) that extends beyond the seat cushion (30), locking holes in the seat frame extension and in the base frame or in one arm extension, that are aligned when the seat cushion is rotation to a centered position, and a locking pin for insertion into the aligned locking holes for fixing the seat cushion in the center position, the locking pin including an upper handle that is larger in at least one dimension than the locking holes, and a shaft that is smaller in diameter than the locking holes so that the shaft can extend into the aligned locking hole, the shaft including an annular groove near the upper handle.

9. The device of claim 1, including an elastic band with at least one hook-and-loop covered strap extending from one edge of the band for engagement of the band onto the pulley and sleeve covered spring on each side of the base and back frames.

10. An abdominal exerciser comprising: a base frame; a back frame pivotally mounted near a rear end of the base frame for movement between upright and recumbent positions; at least one back cushion connected to the back frame for supporting a user's back; a seat frame mounted for rotation on the base frame; a seat cushion fixed to the seat frame on which a user sits; a low friction journal bushing connected the base frame, a journal post connected to the seat frame and rotatable mounted in the bushing for rotation of the seat frame and cushion on the base frame; the low friction bushing supporting the weight of a user sitting on the seat cushion and the journal post being located at about 30% to about 42% of a distance from a rear end of the seat cushion to the front end of the seat cushion so that the coccyx of a user sitting on the seat cushion is substantially vertically aligned, with the bushing and post; an arm connected at each side of the base frame, each arm having a pair of extensions connected to the base frame; each arm having a U-shaped handhold lying in a plane extending at an acute angle of about 30 to about 80 degrees to a horizontal plane on which the base rests, a pair of pulleys mounted for rotation near a rear end of the base frame and on opposite sides of the base frame; a springs with a resilient sleeve thereover engaged to each pulley, the springs being connected between the base and back frames for biasing the back frame toward the upright position.

11. The device of claim 10, wherein side members of the base frame include tubular side extensions, the extensions of each arm being detachably attached to the tubular side extension on each respective side of the base frame so that the arms are fixed to the base frame when the seat frame rotates, the

handhold lying in a plane that extends at an acute angle of about 50 degrees to about 70 degrees to the horizontal plane, the location of the low friction journal bushing and the journal post received therein, being from about 33% to about 39% of the distance from the rear end of the seat cushion to the front end of the seat cushion, a rear member of the seat frame including a seat frame extension that extends beyond the seat cushion, locking holes in the seat frame extension and in the base frame or one of the arm extensions, that are aligned when the seat cushion is rotation to a centered position, and a locking pin for insertion into the aligned locking holes for fixing the seat cushion in the center position, the locking pin including an upper handle that is larger in at least one dimension than the locking holes, and a shaft that is smaller in diameter than the locking holes so that the shaft can extend into the aligned locking hole, the shaft including an annular groove near the upper handle.

12. An abdominal exercise device comprising:

a base frame for lying in a horizontal plane on the floor, the base frame having a pair of side members;

a back frame having a pair of side members pivotally mounted near respective rear ends of the side members of the base frame for movement between a forward upright position and a rearward recumbent position;

a plurality of back cushions connected between and spaced along the side members of the back frame;

a seat cushion mounted to the base frame;

an arm detachably connected to each side member of the base frame and on opposite sides of the seat cushion;

a pair of side-by-side tandem pulleys mounted for rotation at each side member of the base frame near a rear end of the base frame;

a pair of tension springs connected between the base frame and the back frame side members on each side of the base and back frames for biasing the back frame toward the forward upright position; and

a resilient sleeve covering each spring, each resilient sleeve engaged with one of the pulleys.

13. The device of claim 12, wherein the side members (12a, 12b) of the base frame (12) each include a tubular side extension (12d, 12e), the extensions (50a, 50b) of each arm (50) being detachably attached to the tubular side extension on each respective side of the base frame (12) so that the arms are fixed to the base frame when the seat frame rotates.

14. The device of claim 12, wherein the extensions (50a, 50b) of each arm (50) are detachably attached to ends of the respective front and rear members (16a, 16b) of the seat frame (16) on each respective side of the seat frame so that the arms rotate with the rotation of the seat frame.

15. The device of claim 12, including a pair of tandem pulleys mounted for rotation at each side of the base frame and a tension spring connected between the base frame and the back frame side members each with a resilient sleeve covering each spring, engaged with each pulleys for biasing the back frame toward the forward upright position.

16. The device of claim 12, wherein the handhold (50c) lying in a plane that extends at an acute angle of about 50 degrees to about 70 degrees to the horizontal plane.

17. The device of claim 12, wherein the location of the low friction journal bushing and the journal post received therein, is from about 33% to about 39% of the distance from the rear end of the seat cushion to the front end of the seat cushion.

18. The device of claim 12, wherein the rear member of the seat frame

includes a seat frame extension that extends beyond the seat cushion, locking holes in the seat frame extension and in the base frame or in one of the arm extension, that are aligned when the seat cushion is rotation to a centered position, and a locking pin for insertion into the aligned locking holes for fixing the seat cushion in the center position.

19. The device of claim 12, wherein the rear member of the seat frame includes a seat frame extension that extends beyond the seat cushion, locking holes in the seat frame extension and in the base frame or in one of the arm extensions, that are aligned when the seat cushion is rotation to a centered position, and a locking pin for insertion into the aligned locking holes for fixing the seat cushion in the center position, the locking pin including an upper handle that is larger in at least one dimension than the locking holes, and a shaft that is smaller in diameter than the locking holes so that the shaft can extend into the aligned locking hole, the shaft including an annular groove near the upper handle.

20. The device of claim 12, including an elastic band with at least one hook-and-loop covered strap extending from one edge of the band for engagement of the band onto the pulley and sleeve covered spring on each side of the base and back frames.

ABSTRACT

An abdominal exerciser has base and back frames pivotally mounted for movement between upright and recumbent positions, and a seat frame with cushion rotatable on the base frame. A low friction journal between the base and seat frames supports a user's weight. The journal is about 30 to 42% the distance from a rear end of the cushion to its front end so the user's coccyx is vertically aligned with the journal. Arms at each side of the base frame have a pair of extensions connected to either the base or seat frame, each with a U-shaped handhold lying in a plane at an acute angle of about 30 to 80 degrees to the horizontal. A pair of single pulleys or a pair of tandem pulleys are mounted near the rear of the base frame and are engaged by sleeve-covered springs for biasing the back frame toward the upright position.

Atty. Docket: J137-1555 US

**DECLARATION AND POWER OF ATTORNEY
FOR PATENT APPLICATION**

English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

Improved Abdominal Exerciser with Rotatable Seat and Tandem Pulley Features
the specification of which (check one):

☐ is attached hereto

☐ was filed on _____ as Application Serial No. _____, and
was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Applications

Priority Claimed

_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	YES ☐	NO ☐
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	YES ☐	NO ☐

I hereby claim the benefits under Title 35, United States Code, §119(e) of the following United States Provisional Application:

Priority Claimed

_____ (Number)	_____ (Day/Month/Year Filed)	YES ☐	NO ☐
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Atty. Docket: J137-1555 US

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below, and insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

This application is a _____ of U.S. / PCT Application

Serial No.	Filing Date	Status (Patented, Pending, Abandoned)
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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

Angelo Notaro
Reg. No. 27,664

Peter C. Michalos
Reg. No. 28,643

John Zaccaria
Reg. No. 40,241

Milton Wolson
Reg. No. 22,620

Nader Abadir
Reg. No. 52,537

SEND CORRESPONDENCE TO: CUSTOMER NO. 21706

NOTARO, MICHALOS & ZACCARIA P.C.
100 Dutch Hill Road
Orangeburg, New York 10962

Direct Telephone Calls to: (845) 359-7700

Edward I. Mishan

Full Name of Sole or First Inventor

Inventor's signature

New York, New York

Residence

United States

Citizenship

Date

9-2-10

c/o E. Mishan & Sons, Inc., 230 Fifth Avenue, New York, New York 10001

Post Office Address

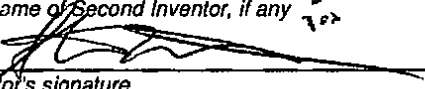


PLEASE CHECK BOX IF ADDITIONAL SHEET(S) ARE ATTACHED

Atty. Docket: J137-1555 US

Steven Mishan

Full Name of Second Inventor, if any 702



Date 9-2-10

Inventor's signature

New York, New York

Residence

United States

Citizenship

c/o E. Mishan & Sons, Inc., 230 Fifth Avenue, New York, New York 10001

Post Office Address

Full Name of Third Inventor, if any

Inventor's signature

Date

Residence

Citizenship

Post Office Address

Full Name of Fourth Inventor, if any

Inventor's signature

Date

Residence

Citizenship

Post Office Address

Full Name of Fifth Inventor, if any

Inventor's signature

Date

Residence

Citizenship

Post Office Address

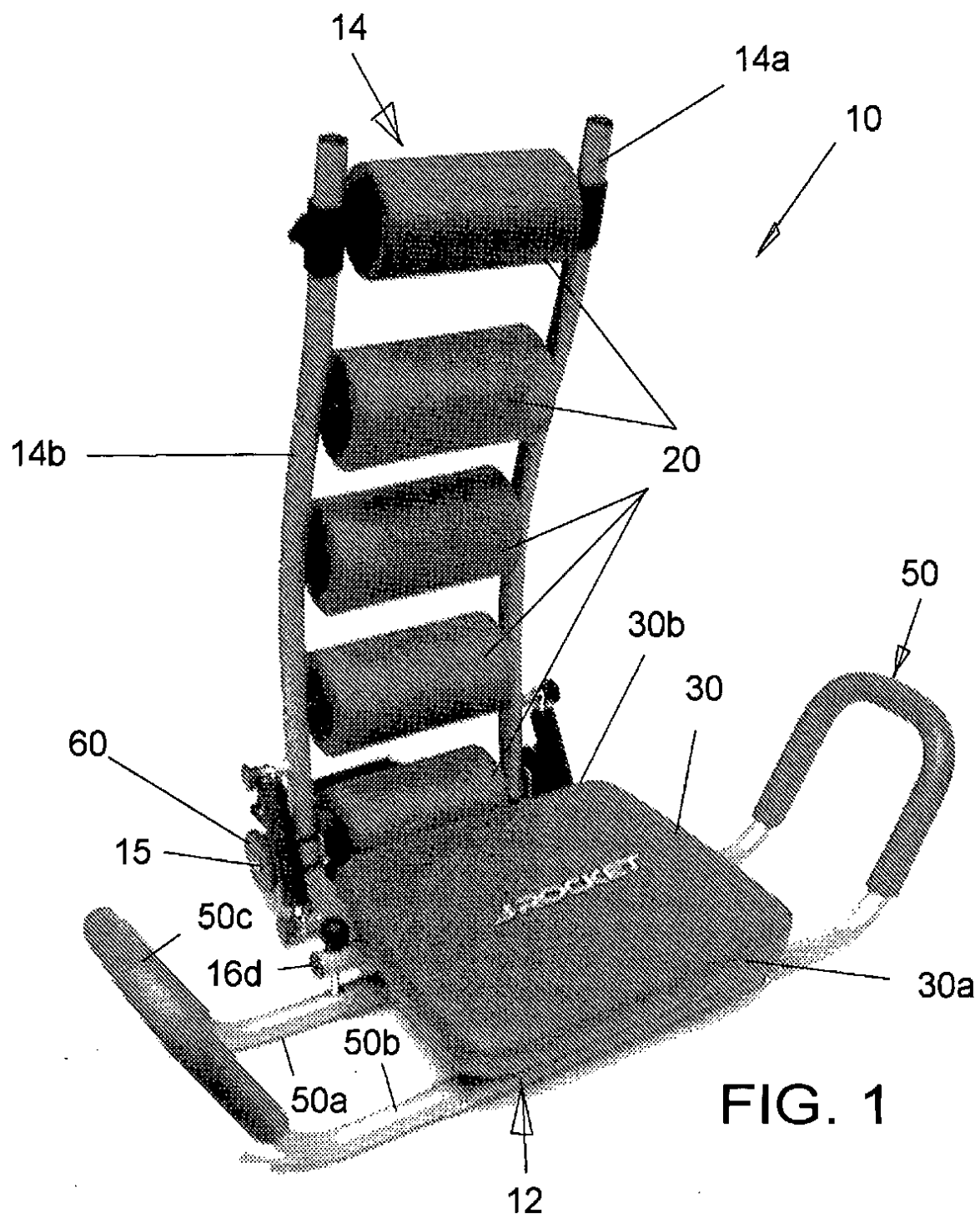


FIG. 1

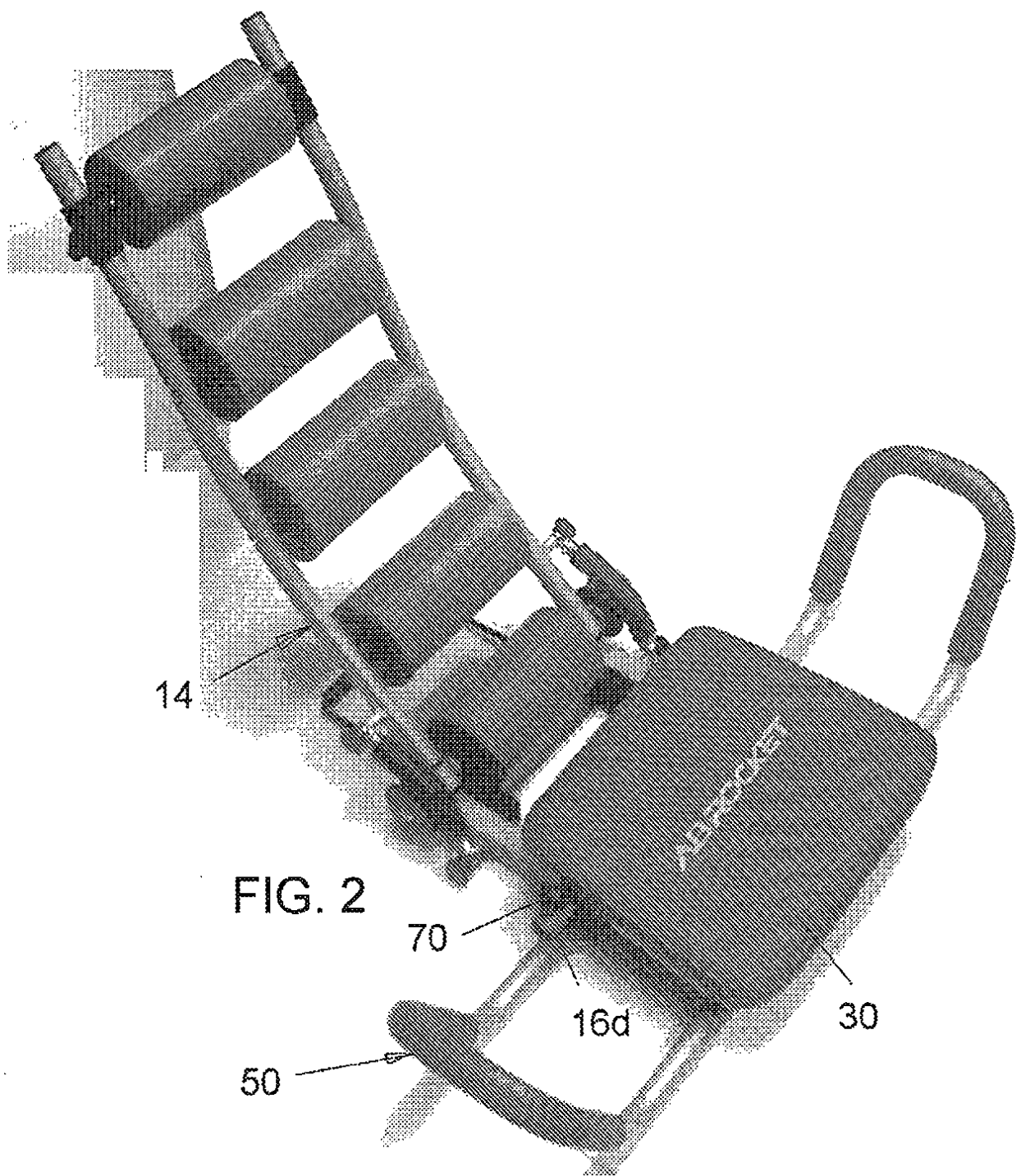


FIG. 2

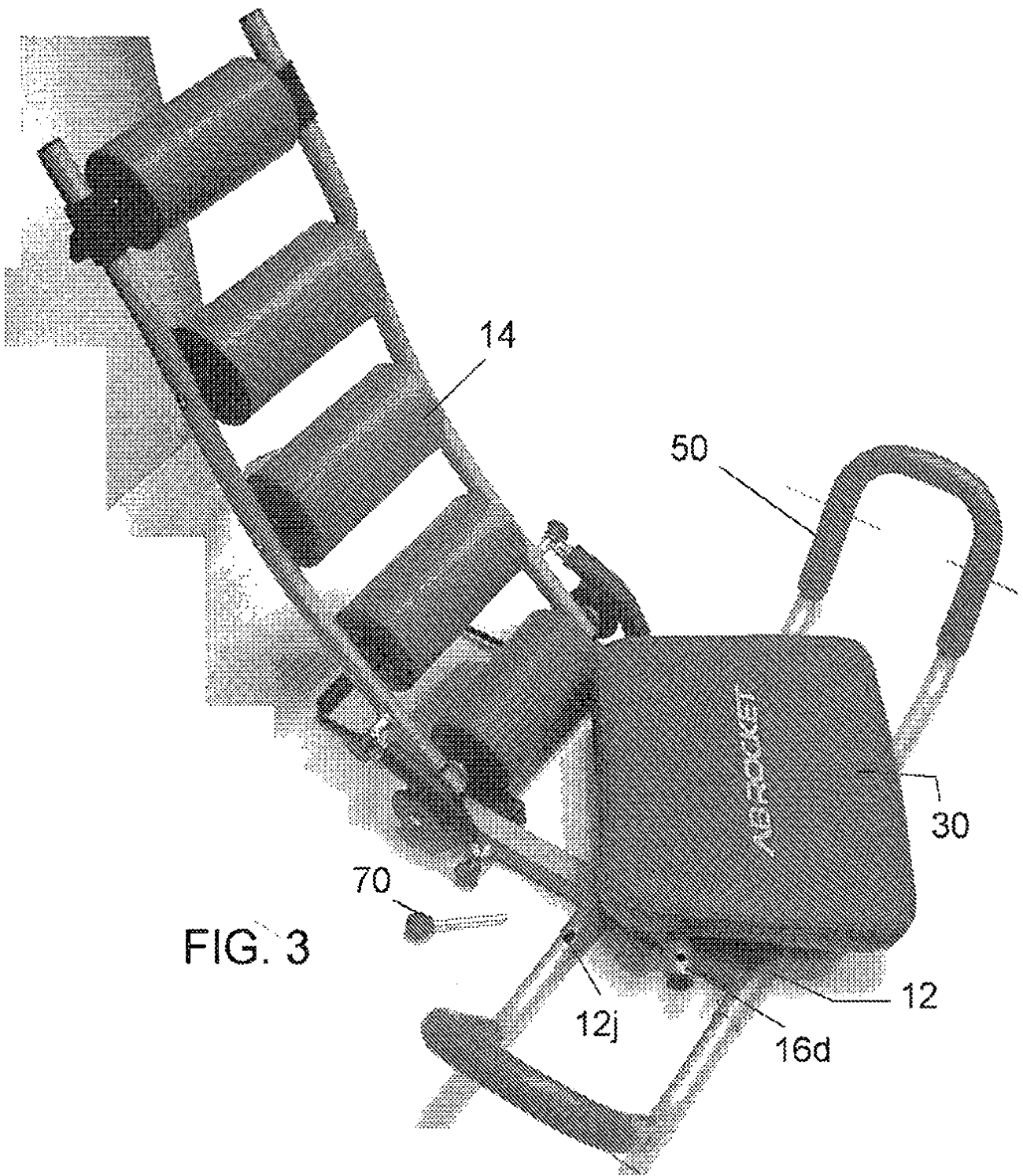


FIG. 3

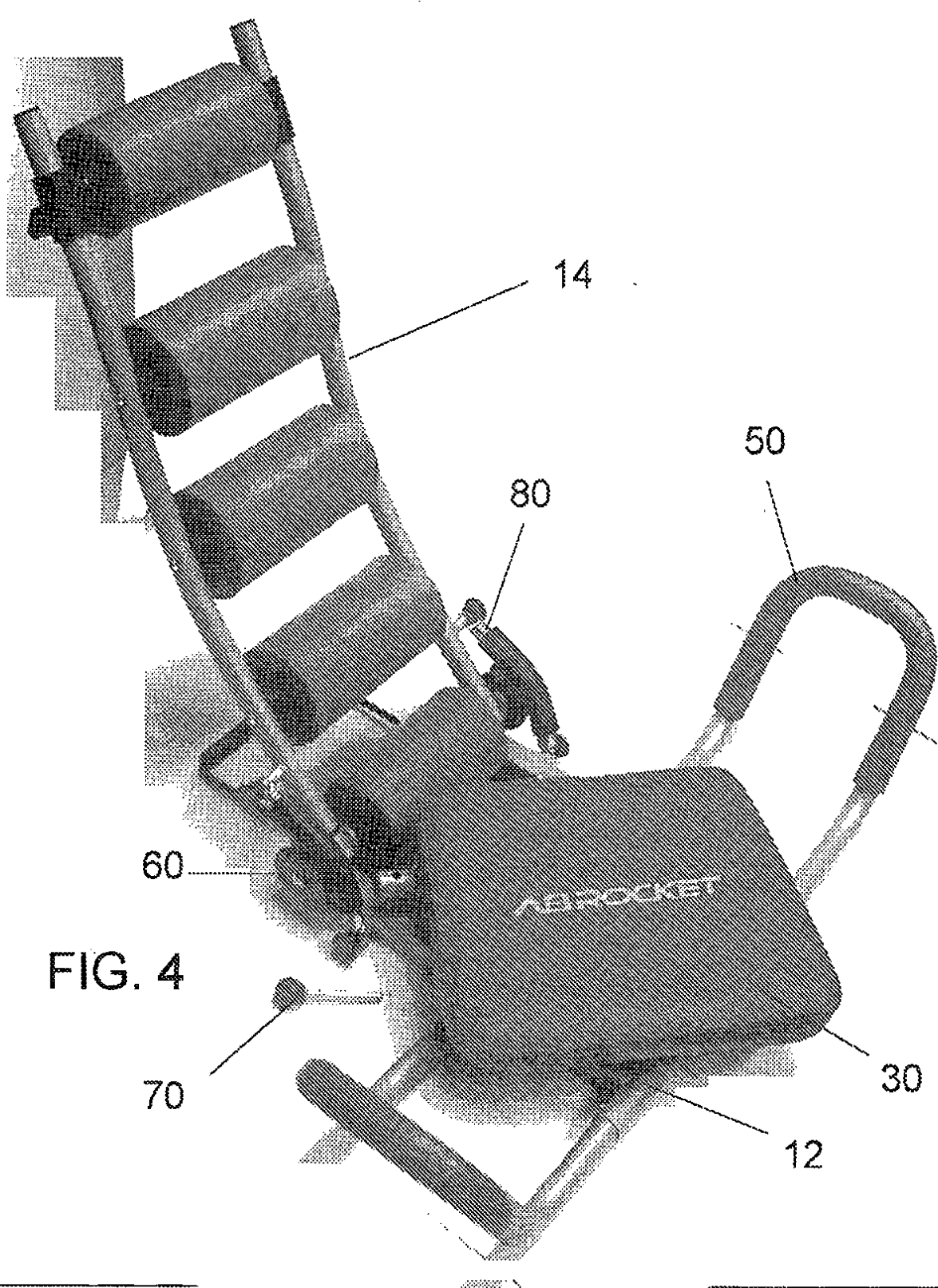
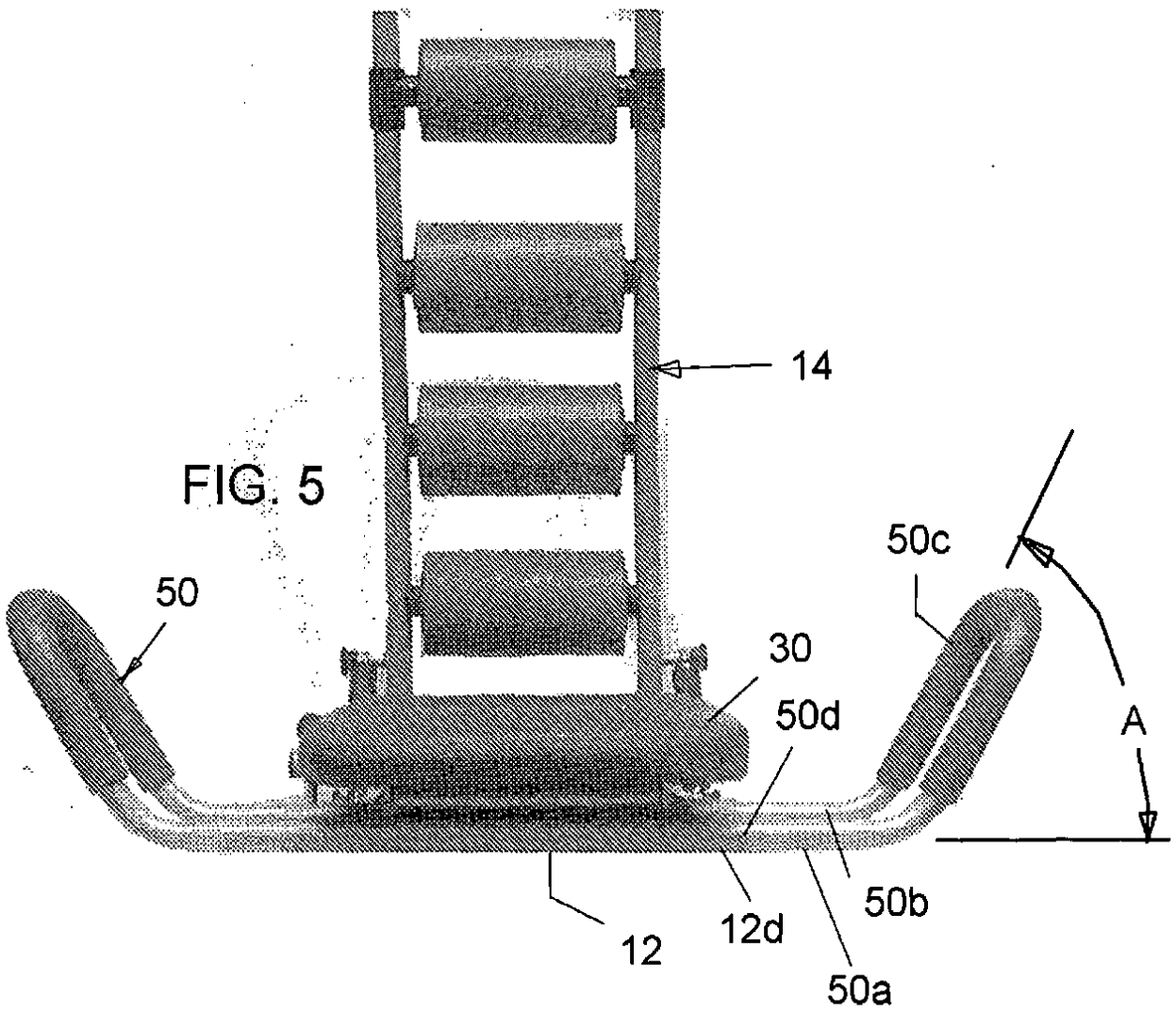
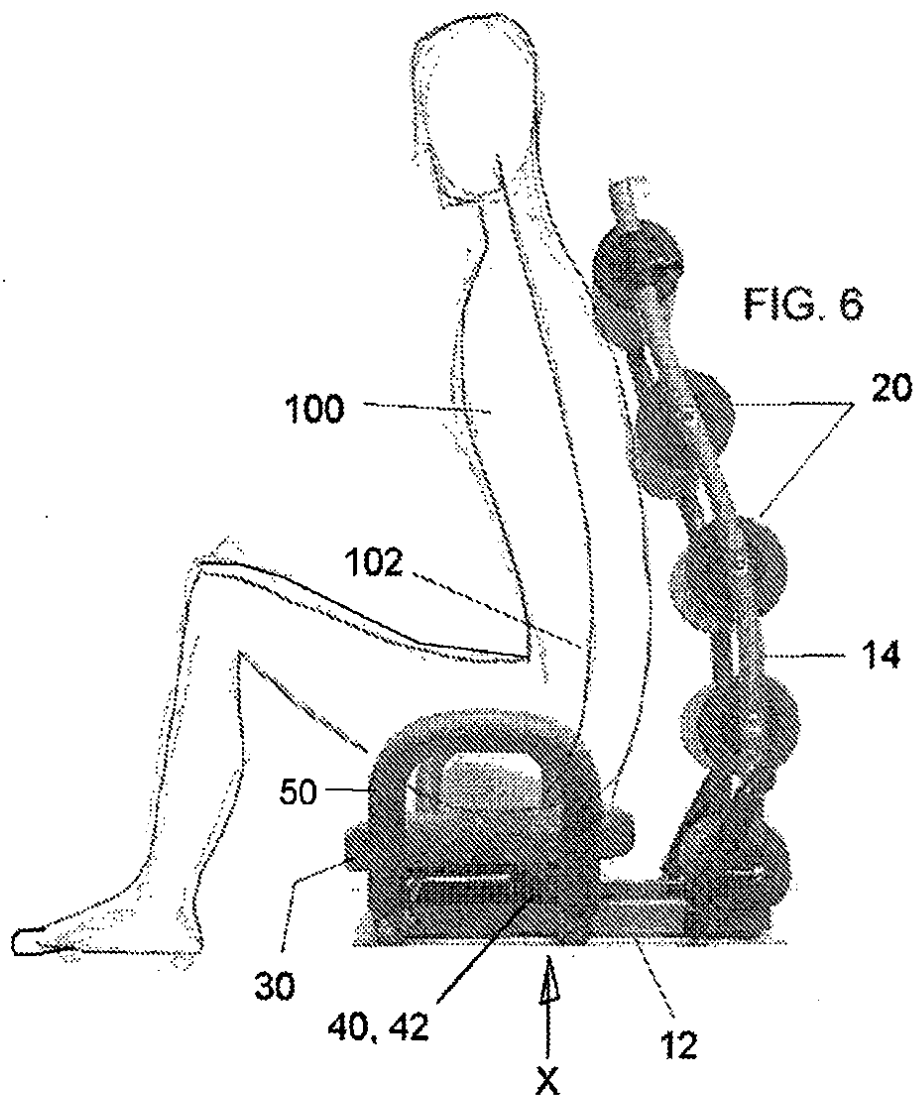
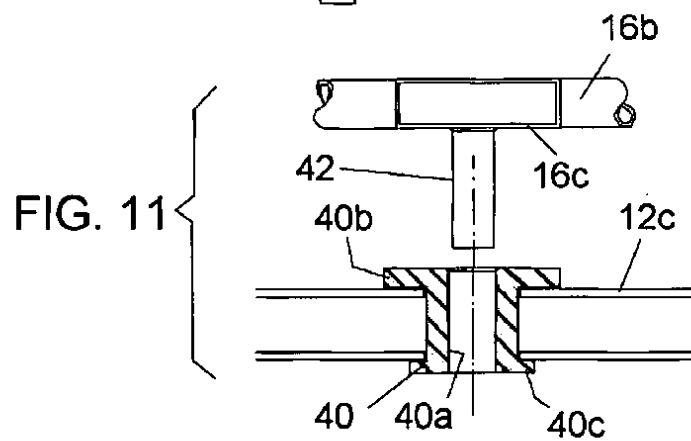
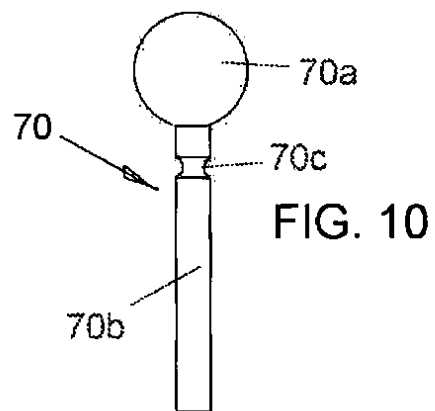
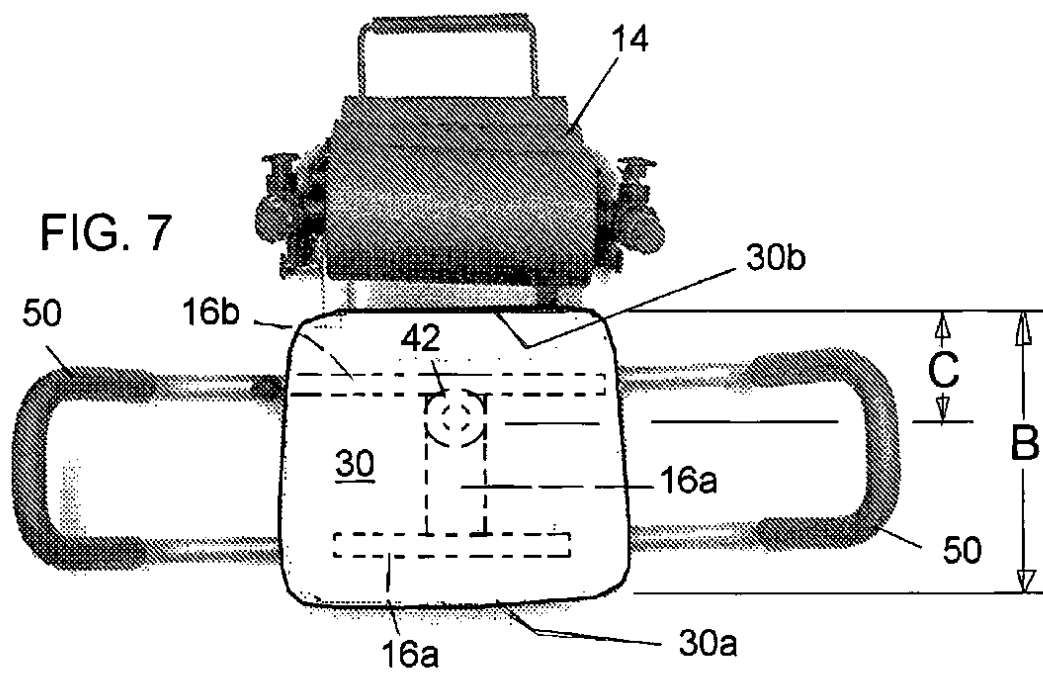


FIG. 4







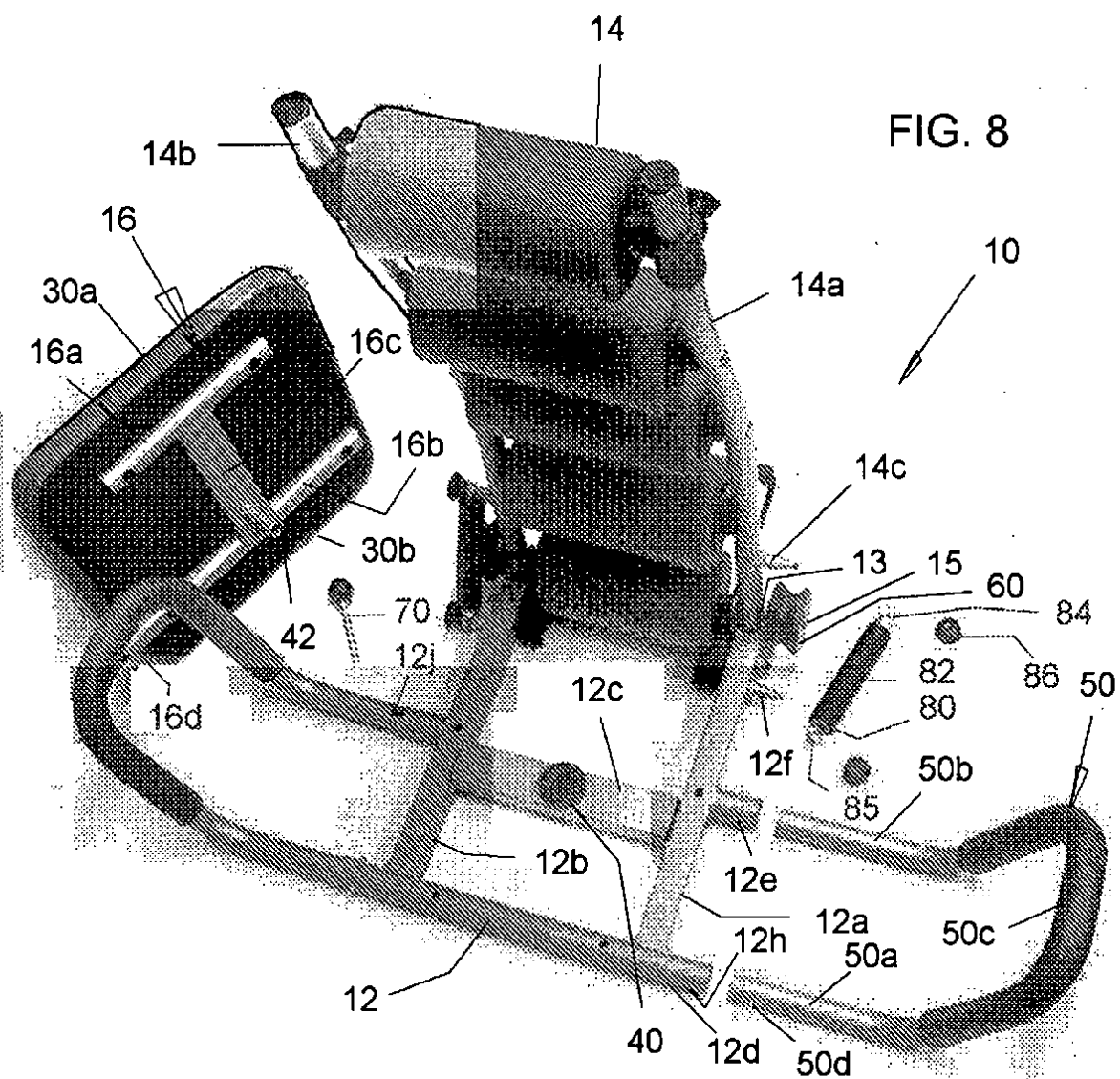


FIG. 9

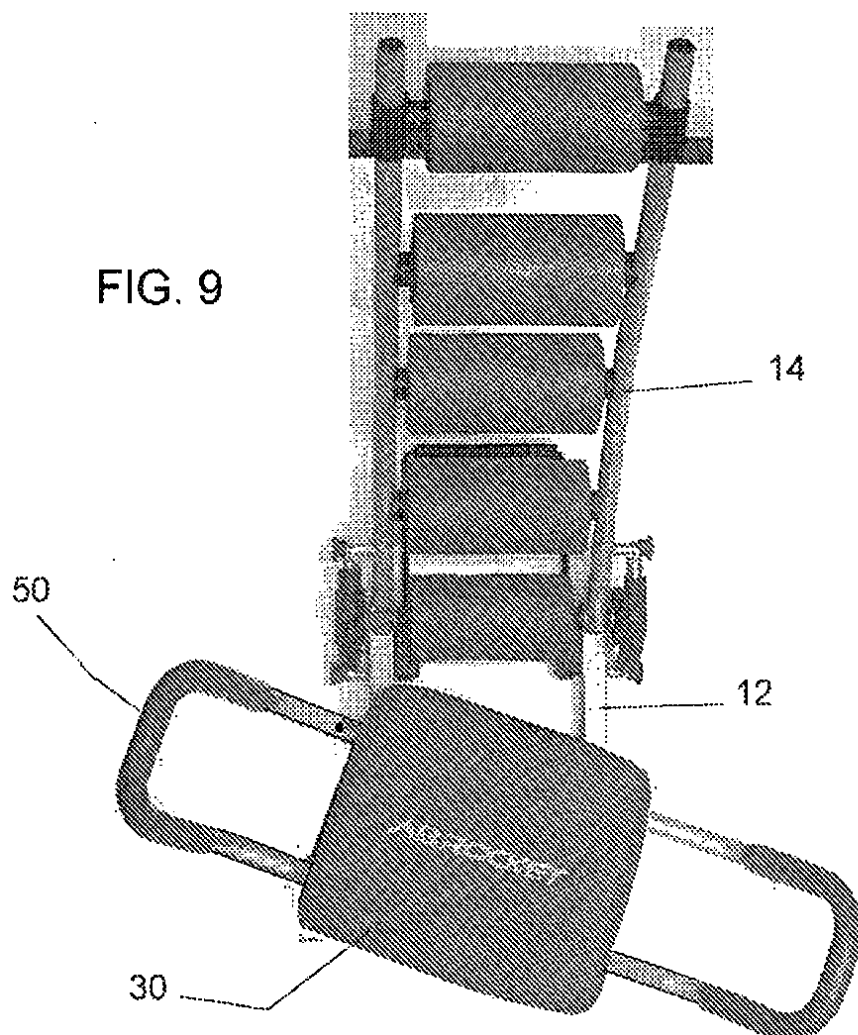
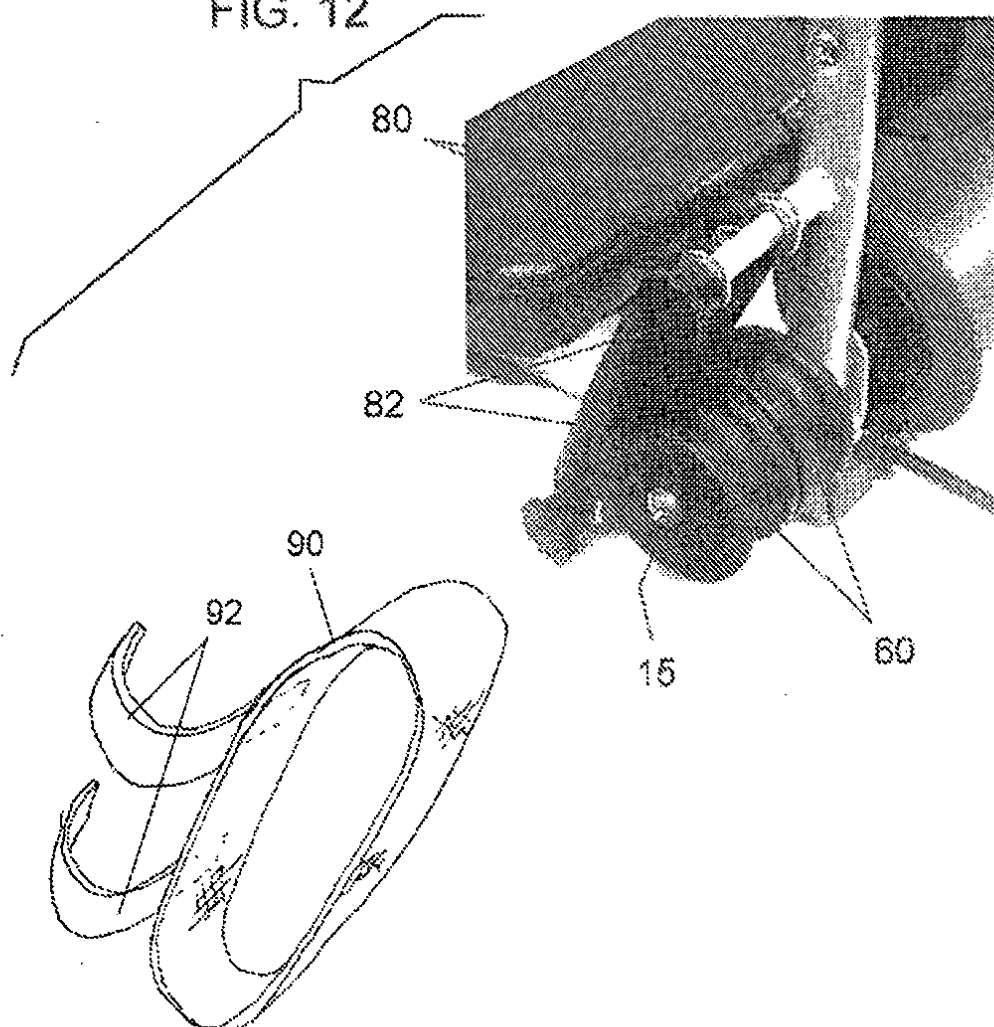


FIG. 12





LOS ESTADOS UNIDOS DE AMÉRICA

A TODO AQUEL A QUIEN CONCIERNA LO PRESENTE

DEPARTAMENTO DE COMERCIO DE LOS ESTADOS UNIDOS

Oficina de Patentes y Marcas de los Estados Unidos

Agosto 30, 2011

LA PRESENTE ES PARA CERTIFICAR QUE ADJUNTO HAY UNA COPIA FIEL DE LOS REGISTROS DE LA OFICINA DE MARCAS Y PATENTES DE LOS ESTADOS UNIDOS DE AQUELLOS DOCUMENTOS DE LA SOLICITUD DE PATENTE IDENTIFICADA ADELANTE QUE CUMPLEN LOS REQUISITOS PARA QUE SE LE OTORQUE UNA FECHA DE PRESENTACIÓN DE CONFORMIDAD CON LA 35 USC 11.

NÚMERO DE SOLICITUD: 12/877,321

FECHA DE PRESENTACIÓN: 08 de septiembre, 2010

EL CÓDIGO DEL PAÍS Y NÚMERO DE SU SOLICITUD DE PRIORIDAD, QUE SE VA A UTILIZAR PARA PRESENTAR EN EL EXTRANJERO DE CONFORMIDAD CON LA CONVENCIÓN DE PARÍS, ES *US12/877,321*



Por la Autoridad del
De conformidad con la Secretaría de Comercio
para la Propiedad Intelectual y el Director de la
Oficina de Marcas y Patentes de los Estados
Unidos

(Aparece firma ilegible)

N. WILLIAMS

Funcionario Certificador

REIVINDICACIONES:

1. Un dispositivo para ejercicio abdominal (10) que comprende:

una estructura base (12) que yace en un plano horizontal en el piso, la estructura base tiene un par de miembros laterales (12a, 12b) y un miembro transversal (12c) conectado entre los miembros laterales de la estructura base;

una estructura posterior (14) que tiene un par de miembros laterales (14a, 14b) montados en forma giratoria cerca de los respectivos extremos traseros de los respectivos miembros laterales (12a, 12b) de la estructura base para el movimiento entre una posición vertical hacia adelante y a una posición reclinada hacia atrás;

una pluralidad de cojines de respaldo (20) conectados entre y separados a lo largo de los miembros laterales (14a, 14b) de la estructura posterior (14);

una estructura de asiento con forma de H (16) que tiene miembros frontales y posteriores (16a, 16b) y un miembro transversal (16c) conectado entre los miembros delantero y posterior;

un cojín para asiento (30) fijado a la estructura de asiento (16) y que descansa en los miembros delanteros, posteriores y transversales de la estructura de asiento, el cojín para asiento tiene un extremo delantero y un extremo posterior;

un buje de cojinete de baja fricción (40) que tiene un agujero que se extiende verticalmente y que se conecta al miembro transversal (12c, 16c) de una de la estructuras de base y de asiento (12, 16);

un paral para cojinete (42) conectado al miembro transversal (12c, 16c) de la otra estructuras de base y de asiento (12, 16) y recibida para rotación en el buje de cojinete de baja fricción (40) de tal manera que pueda rotar el cojín para asiento (30) con respecto a la estructura base (12), un área de soporte del miembro transversal alrededor del paral para cojinete y al cual se conecta el paral para cojinete, que está en con el cojinete de peso con el buje de cojinete de baja fricción (40) para soportar el peso de un usuario sentado sobre el cojín para asiento, la ubicación del buje de cojinete de baja fricción (40) y el paral para

cojinete (42) recibido allí, que es de aproximadamente 30% a aproximadamente 42% de la distancia del extremo posterior del cojín para asiento al extremo frontal del cojín para asiento de tal manera que cuando un usuario se sienta sobre el cojín para asiento (30) con la parte posterior de los usuarios contra los cojines de respaldo (20), el coxis del usuario está sustancialmente alienado de manera vertical con el buje de cojinete de baja fricción (40) y el paral para cojinete (42) recibido allí;

un brazo (50) en cada lado de la estructura base, cada brazo tiene un par de extensiones (50a, 50b) conectadas a una de la estructura base y la estructura de asiento, cada brazo incluye una agarradera en forma de U (50c) que yace en un plano que se extiende en un ángulo agudo de aproximadamente 30 grados a aproximadamente 80 grados con respecto al plano horizontal con las agarraderas (50c) de los brazos (50) lados opuestos de la estructura base se extienden hacia afuera unos de otros para aumentar el espacio disponible para que se siente un usuario sobre el cojín para asiento, y tenga acceso a las agarraderas por parte del usuario;

una polea montada para rotación en cada lado de la estructura base cerca a un extremo posterior de la estructura base;

un resorte de tensión conectado entre los miembros laterales de la estructura base y la estructura posterior para desviar la estructura posterior hacia la posición en forma vertical delantera; y

un manguito elástico que cubre cada resorte, cada manguito elástico enganchado con una de las poleas

2. El aparato de la reivindicación 1, donde los miembros laterales (12a, 12b) de la estructura de base (12) tiene una extensión lateral tubular (12d, 12e), y las extensiones (50a, 50b) de cada brazo (50) se agregan, de manera desmontable, a la extensión lateral tubular a cada lado de la estructura de base (12) respectivamente, de modo que los brazos están fijos a la estructura de base cuando gira la estructura del asiento.

3. El aparato de la reivindicación 1, donde las extensiones (50a, 50b) de cada brazo (50) se acoplan, de manera removible, a los extremos de los respectivos miembros delantero y trasero (16a, 16b) de la estructura de asiento (16) a cada lado de la estructura de asiento, respectivamente, de manera que los brazos giren con la rotación de la estructura de asiento.

4. El aparato de la reivindicación 1, que incluye un par de poleas en tándem emplazadas para girar a cada lado de la estructura de base y un resorte tensor conectado entre los miembros laterales de la estructura de base y de la dorsal, cada uno con un revestimiento flexible que recubre a cada resorte, enganchados con las poleas para direccionar la estructura dorsal hacia la posición vertical hacia adelante.

5. El aparato de la reivindicación 1, donde la agarradera (50c) permanece en un plano que se extiende en ángulo agudo de unos 50 a 70 grados respecto del plano horizontal.

6. El aparato de la reivindicación 1, donde la ubicación del manguito del muñón de baja fricción (40) y el perno del muñón (42) ubicado en su interior, es de un 33% a un 39% de la distancia que existe desde el extremo trasero del cojín del asiento hasta el extremo delantero del cojín del asiento.

7. El aparato de la reivindicación 1, donde el miembro trasero de la estructura del asiento incluye una extensión de la estructura del asiento (16d) que se prolonga más allá del cojín del asiento (30), orificios de fijación en la extensión de la estructura del asiento y en la estructura de base o en una extensión del brazo, que están alineados cuando el cojín del asiento se hace girar a una posición centrada, y un pasador para insertar dentro de los agujeros de fijación alineados

para trabar el cojín del asiento en posición centrada.

8. El aparato de la reivindicación 1, donde el miembro trasero de la estructura del asiento incluye una extensión de la estructura del asiento (16d) se prolonga más allá del cojín del asiento (30), los agujeros de fijación en la extensión de la estructura del asiento y en la estructura de la base o en una extensión del brazo, que están alineados cuando el cojín del asiento se hace girar a una posición centrada, y un pasador para insertar dentro de los agujeros de fijación alineados para trabar el cojín del asiento en posición centrada, donde el pasador incluye una manija superior que, por lo menos, es de mayor tamaño que los agujeros de fijación, y un eje que tiene un diámetro más chico que los agujeros de fijación de modo que el eje pueda extenderse dentro del agujero de fijación alineado, y el eje incluye una ranura anular cerca de la manija superior.

9. El aparato de la reivindicación 1, que incluye una banda elástica con, al menos, una tira cubierta con cierre de gancho y espiral (tipo Velcro) que se extiende desde un borde de la banda para enganchar la banda sobre la polea y el resorte recubierto a cada lado de las estructuras de base y dorsal.

10. Un ejercitador para abdominales que consta de: una estructura de base; una estructura dorsal montada centralmente cerca de un extremo trasero de la estructura de base para permitir el movimiento entre las posiciones vertical y recostada; por lo menos, un cojín dorsal conectado a la estructura dorsal para soportar la espalda de un usuario; una estructura de asiento para girar sobre la estructura de base; un cojín del asiento donde se sienta el usuario; un manguito del muñón de baja fricción conectado a la estructura de base, un perno del muñón conectado a la estructura del asiento y montado de manera giratoria en el manguito para la rotación de la estructura y cojín del asiento sobre la estructura de base; el manguito de baja fricción soporta el peso de un usuario sentado en el

cojín del asiento y el perno del muñón que está ubicado a aproximadamente un 30% a un 42% de la distancia que existe desde el extremo trasero del cojín del asiento al extremo delantero del cojín del asiento de modo que el coxis de un usuario que está sentado en el cojín del asiento esté mayormente alineado de manera vertical con el manguito y el perno; un brazo conectado a cada lado de la estructura de base, donde cada brazo tiene un par de extensiones conectadas a la estructura de base; donde cada brazo tiene una agarradera en forma de U que se encuentra en un plano que se extiende en ángulo agudo de unos 30 a 80 grados respecto del plano horizontal donde se apoya la base, un par de poleas emplazadas para girar cerca de un extremo trasero de la estructura de base y en lados opuestos de la estructura de base; un resorte con recubrimiento flexible enganchado a cada polea, donde los resortes están conectados entre las estructuras de base y dorsal para direccionar la estructura dorsal hacia la posición vertical.

11. El aparato de la reivindicación 10, donde los miembros laterales de la estructura de base incluyen extensiones laterales tubulares, donde las extensiones de cada brazo se acoplan, de manera removible, a la extensión lateral tubular sobre cada respectivo lateral de la estructura de base de modo que los brazos estén fijos a la estructura de base cuando gira la estructura del asiento, la agarradera permanece en un plano que se extiende en ángulo agudo de unos 50 a unos 70 grados respecto del plano horizontal, donde la ubicación del manguito del muñón de baja fricción y el perno del muñón emplazado en su interior, es de un 33% a un 39% de la distancia que hay desde el extremo trasero del cojín del asiento hasta el extremo delantero del cojín del asiento, donde el miembro trasero de la estructura del asiento incluye una extensión de la estructura del asiento que se prolonga más allá del cojín del asiento, donde los agujeros de fijación en la extensión de la estructura del asiento que se prolonga más allá del cojín del asiento, los agujeros de fijación en la extensión de la estructura de asiento y en la

estructura de base o una de las extensiones del brazo, que están alineados cuando el cojín del asiento, se hace girar hasta alcanzar una posición centrada, y un pasador para insertarse en los agujeros de fijación alineados para fijar el cojín del asiento en posición centrada, donde el pasador que tiene una manija superior, es de un tamaño, como mínimo, mayor al de los agujeros de fijación, y un eje que tiene un diámetro más pequeño que el de los agujeros de fijación de modo que el eje pueda extenderse dentro del agujero de fijación alineado, donde el eje incluye una ranura anular cerca de la manija superior.

12. Un aparato para realizar ejercicios abdominales que consta de:

Una estructura de base para permanecer en un plano horizontal sobre el piso, donde la estructura de base tiene un par de miembros laterales;

Una estructura dorsal que tiene un par de miembros laterales emplazados centralmente cerca de los respectivos extremos traseros de los miembros laterales de la estructura de base para permitir el movimiento entre una posición vertical hacia adelante y una posición recostada hacia atrás;

Una pluralidad de cojines dorsales conectados entre y espaciados a lo largo de los miembros laterales de la estructura dorsal;

Un cojín de asiento montado a la estructura de base;

Un brazo conectado, de manera removible, a cada miembro lateral de la estructura de base y a cada lado opuesto del cojín del asiento;

Un par de poleas en tándem emplazadas para girar a cada miembro lateral de la estructura de base cerca de un extremo trasero de la estructura de base;

Un par de resortes tensores conectados entre los miembros laterales de la estructura de base y la dorsal, a cada lado de las estructuras de base y dorsal para direccionar la estructura dorsal hacia la posición vertical hacia adelante; y

Un recubrimiento flexible que recubre a cada resorte, donde cada recubrimiento flexible se engancha con una de las poleas.

13. El aparato de la reivindicación 12, donde los miembros laterales (12a, 12b) de la estructura de base (12) tienen una extensión lateral tubular (12d, 12e), y las extensiones (50a, 50b) de cada brazo (50) se acoplan, de manera removible, a la extensión lateral tubular a cada lado, respectivamente, de la estructura de base (12) de modo que los brazos queden fijos a la estructura de base cuando gira la estructura del asiento.

14. El aparato de la reivindicación 12, donde las extensiones (50a, 50b) de cada brazo (50) se acoplan, de manera removible, a los extremos de los respectivos miembros delantero y trasero (16a, 16b) de la estructura de asiento (16) a cada lado respectivamente de la estructura de asiento de modo que los brazos giren con la rotación de la estructura de asiento.

15. El aparato de la reivindicación 12, que incluye un par de poleas en tándem emplazadas para girar a cada lado de la estructura de base y un resorte tensor conectado entre los miembros laterales de la estructura de base y la dorsal, cada uno de ellos con un recubrimiento flexible que cubre a cada uno de los resortes, enganchado con cada una de las poleas para direccionar la estructura dorsal hacia la posición vertical hacia adelante.

16. El aparato de la reivindicación 12, donde la agarradera (50c) permanece en un plano que se extiende en ángulo agudo de unos 50 a 70 grados respecto del plano horizontal.

17. El aparato de la reivindicación 12, donde la ubicación del manguito del muñón de baja fricción y el perno del muñón ubicado en su interior, es de un 33% a un 39% de la distancia que existe desde el extremo trasero del cojín del asiento hasta el extremo delantero del cojín del asiento.

18. El dispositivo de la reivindicación 12, en donde el miembro posterior de la estructura de silla incluye una extensión de estructura de asiento que se extiende más allá del cojín para asiento, orificios de bloqueo en la extensión de estructura de asiento y en la estructura base o en una extensión del brazo, que se alinean cuando el cojín para asiento está en rotación con respecto a un eje centrado, y un pasador de bloqueo para inserción en los huecos de bloqueo alineados para fijar el cojín para asiento en la posición central.

19. El aparato de la reivindicación 12, donde el miembro trasero de la estructura del asiento incluye una extensión de la estructura del asiento que se prolonga más allá del cojín del asiento, los agujeros de fijación en la extensión de la estructura del asiento y en la estructura de la base o en una extensión del brazo, que están alineados cuando el cojín del asiento se hace girar hasta alcanzar una posición centrada, y un pasador para insertarse dentro de los agujeros de fijación alineados para trabar el cojín del asiento en posición centrada, donde el pasador incluye una manija superior que es, al menos, de mayor tamaño que los agujeros de fijación, y un eje que tiene un diámetro menor que el de los agujeros de fijación de modo que el eje pueda extenderse dentro del agujero de fijación alineado, y el eje incluye una ranura anular cerca de la manija superior.

20. El aparato de la reivindicación 12, que incluye una banda elástica con, al menos, una tira cubierta con cierre de gancho y espiral (tipo Velcro) que se extiende desde un borde de la banda para enganchar la banda sobre la polea y el resorte recubierto a cada lado de las estructuras de base y dorsal.

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