

ALVARO CASTELLANOS M. & CIA.
ABOGADOS
AGENTES DE LA PROPIEDAD INTELECTUAL
Calle 84 A No. 7 A-88
Bogotá-Colombia

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
Rad: 06-006897- -00002-0000 Fece: 2006-04-05 15:14:18
Dep. 2020 NUECREACIONES
Tra: 2 PATENTES Eva 1 REGDEPOSITO
Act 444 RESPUESTAREQUE Folios: 38

Señora

Jefe de la División de Nuevas Creaciones

Superintendencia de Industria y Comercio

Ministerio de Comercio, Desarrollo Industria y Turismo

E. S. D.

Ref.: Expediente No. 06.006.697

Solicitud de Patente de invención para:

"METODO PARA LA EXTRACCION DE ACEITE A PARTIR DEL FRUTO DE LA PALMERA DE ACEITE Y DISPOSITIVO PARA LA ESTERILIZACION DEL FRUTO DE LA PALMERA DE ACEITE".

Solicitante: CHOONG HWA DOONG y YEO CHAI SENG.

RESPUESTA AL EXAMEN DE FORMA

MARGARITA CASTELLANOS ABONDANO, mayor de edad, identificada y domiciliada como aparece al pie de mi firma, en atención a su oficio No. 2110 notificado el 23 de Febrero de 2006 y estando dentro del término concedido, atentamente me permito dar repuesta al mismo de la siguiente manera:

Establece el funcionario examinador lo siguiente:

-“Debe allegar el poder otorgado al abogado que aparece en la solicitud como apoderado, con el lleno de los requisitos exigidos en el Código de Procedimiento Civil”.

-“Se recuerda al interesado que debe presentar, dentro de los dieciséis meses siguientes contados a partir de la fecha de presentación de la solicitud cuya prioridad se invoca, copia de la misma certificada por la autoridad que la expidió y, en los casos en que haya lugar, la traducción simple del capítulo reivindicatorio”.

Con el objeto de atender a las anteriores observaciones, me permito presentar:

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- Copia auténtica del documento de poder debidamente notariado y legalizado hasta por el Cónsul de Colombia, junto con su traducción oficial.
- Sustitución de poder a nombre de **MARGARITA CASTELLANOS**.
- Copia certificada del documento de prioridad No.PI 2005 0282 junto con la traducción simple de carátula y reivindicaciones.
- Así mismo se presenta copia de los dibujos formales.

Cumplido así con lo dispuesto, atentamente solicito a Ud. se continúe con el trámite correspondiente a esta solicitud de Patente de Invención.

Del Señor Jefe,

Margarita Castellanos Abondano
Margarita Castellanos Abondano

C.C. No. 39.779.654 de Usaquén

T.P.A. No. 70819 del C. Sup. de la Judicatura

Calle 94 A No. 7A - 09 - Santa Fe de Bogotá

Teléfonos: 610 74 80 y 610 74 60

Santa Fe de Bogotá, D.C., 05 ABR. 2006

PATENTEAM032/FORMAPAT

-2-

ALVARO CASTELLANOS M. & CIA.
A B O G A D O S
Calle 94 A No. 7 A-09
Apartado 8349
PBX: 6107420
Bogotá, D.C. - COLOMBIA

Señor

Jefe de la División de Nuevas Creaciones

Superintendencia de Industria y Comercio

Ministerio de Comercio, Desarrollo, Industria y Turismo

E. S. D.

Ref.: PODER conferido por CHOONG HWA DOONG y YEO CHAI SENG

Yo, XIMENA CASTELLANOS ABONDANO, mayor de edad, identificada y domiciliada como aparece al pie de mi firma, atentamente manifiesto a Uds. que sustituyo en la Dra. MARGARITA CASTELLANOS ABONDANO, el poder que me confirió CHOONG HWA DOONG y YEO CHAI SENG, con domicilio en 8, Lorong Seral Wangi Dua, Taman Cheras, 56100 Kuala Lumpur, Malasia y No. 7261, Jalan Casuarina, Desa Casuarina, Bandar Baru Nilai, 71800 Nilai, Negeri Sembilan, Malasia, debidamente legalizado por el Ministerio de Relaciones Exteriores bajo el No. 74916 el día 29 de Marzo de 2006, con las mismas facultades que me fueron conferidas, para tramitar la solicitud de Patente de Invención para: METODO PARA LA EXTRACCION DE ACEITE A PARTIR DEL FRUTO DE LA PALMERA DE ACEITE Y DISPOSITIVO PARA LA ESTERILIZACION DEL FRUTO DE LA PALMERA DE ACEITE, que se tramita bajo el Expediente No. 06 006697.-

Del Señor Jefe,

Acepto


Ximena Castellanos Abondano
C.C. No. 39.773.330 de Usaquén
T.P.A. No. 58.236 del C.S.J.
Calle 94 A No. 7 A-09 - Bogotá
PBX: 610 74 20

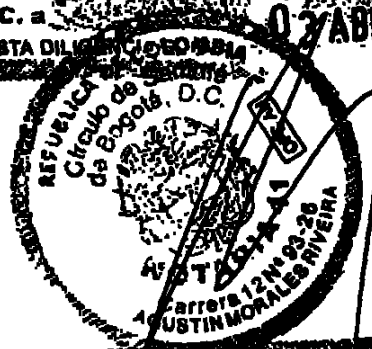

Margarita Castellanos Abondano
C.C. No. 39.779.654 de Usaquén
T.P.A. No. 70.819 del C.S.J.
Calle 94 A No. 7 A-09 - Bogotá
PBX: 610 74 20

Bogotá, D.C.
XCA/MCA/gcb/8032

G/USER/DEPTO PAT/PATENTES/60/8032/MEMORIAL SUSTITUCION PODER

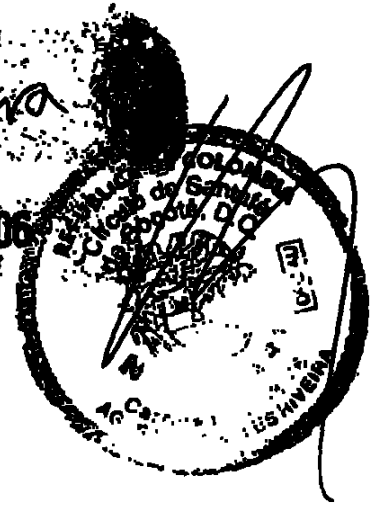
AUTENTICACION DE FIRMA
MEDIANTE COMPARECENCIA PERSONAL
 (Art. 84 C.R.C. mod. Decr. 2282 de 1989, art. 1 mod. 36)
 Ante el Notario Cuarenta y Uno (41) del círculo
 de esta ciudad compareció personalmente:
Ximena Castellano
 US9906756 y cédula profesio-
 nal 58-7356 del Consejo
 de la Abogacía
 documento de
Super ind. y comercio

[Firma]
 En Bogotá D.C. a **03 ABR 2006**
 AUTORIZO ESTA DILIGENCIA EL SUSCRIBIDO



AUTENTICACION DE FIRMA
MEDIANTE COMPARECENCIA PERSONAL
 (Art. 84 C.R.C. mod. Decr. 2282 de 1989, art. 1 mod. 36)
 Ante el Notario Cuarenta y Uno (41) del círculo
 de esta ciudad compareció personalmente:
Margarita Castellano
 US9906756 y cédula profesio-
 nal 70-819 del Consejo
 de la Abogacía
 documento de
Super ind. y comercio

[Firma]
 En Bogotá D.C. a **03 ABR 2006**
 AUTORIZO ESTA DILIGENCIA EL SUSCRIBIDO



PODER

El (los)

CHOONG HWA DOONG y YEO CHAI SENG

Domiciliados en

Kuala Lumpur, Malasia y

Nilai, Negeri Sembilan, Malasia

Nombran por el presente a **XIMENA CASTELLANOS A. y/o MARGARITA CASTELLANOS A.** abogadas con oficinas en la Calle 94A No. 7A-09, Bogotá-Colombia para

y para obtener la protección de mi (nuestra) propiedad industrial y con este fin autorizamos a dichos apoderados para que nos representen ante cualesquiera autoridades o personas de los órdenes administrativo, contencioso-administrativo y judicial en todo lo relacionado con los siguientes actos y gestiones:

- a) Obtención de patentes de invención, modelos y dibujos industriales; registro de marcas de fábrica, de servicio, colectivas o defensivas y de denominaciones de origen, depósito de nombres y enseñas comerciales; su renovación, prórroga, inscripción de traspaso y cambio de nombre o domicilio, cancelación voluntaria y el registro de licencias de uso de esos derechos;
- b) Para la obtención de registros sanitarios;
- c) Para la obtención de registros de derechos de autor.
- d) Acciones de oposición, observación, cancelación, nulidad, medidas cautelares y en general los juicios civiles, penales, administrativos o contencioso-administrativos que promovamos o se nos promuevan.

Pudiendo en todos los actos y gestiones arriba mencionados sustituir éste mandato, transigir, desistír, recibir, cancelar, renunciar, aceptar notificaciones y nombrar apoderados judiciales y extrajudiciales.

Dado y firmado hoy 10 de Febrero de 2006

en **Kuala Lumpur**

por **CHOONG HWA DOONG y YEO CHAI SENG**

(El notario debe suscribir el documento en la página siguiente)

(Se requiere legalización consular o mediante apostilla)

ALVARO CASTELLANOS M. & CIA.

ABOGADOS COLOMBIA

Calle 94A No. 7A-09 - P.O. Box 8349 - Bogotá, Colombia
Tels.: (571) 810 74 20 / 80 / 80 - Fax (571) 810 87 00 - e-mail: avc@alvarocastellanos.com

POWER OF ATTORNEY

I (we) the undersigned

We, Choong Hwa Doong, a Malaysian citizen of 8, Lorong Seral Wangi Dua, Taman Charas, 58100 Kuala Lumpur, Malaysia and Yeo Chai Seng, a Malaysian citizen of No. 7261, Jalan Casuarina, Desa Casuarina, Bandar Baru Nilai, 71800 Nilai, Negeri Sembilan

heraby grant(s) Power of Attorney to **XIMENA CASTELLANOS A. and for MARGARITA CASTELLANOS a.** attorneys residing at Calle 94A No. 7A-09, Bogotá-Colombia, to

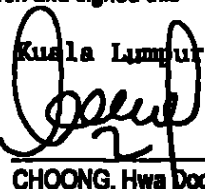
and to obtain the protection of my (our) Industrial Property, for which purpose we authorize the said attorneys to represent us before any authorities, or persons, specially those, administrative, contentious and judicial, in all matters concerning the following:

- a) Obtainment of patents, models and designs, registration of trademarks, service, collective and defensive marks, and of designations of origin; the deposit of trade names and ensigns; its renewal, extension, recordal of assignments, change of name or domicile, voluntary cancellation, and the registration of licenses of use of the above rights;
- b) For the obtainment of Sanitary registrations;
- c) For the obtainment of copyright registrations
- d) Actions of opposition, cancellation, nullity, infringement, granting of licenses; and in general the civil, criminal and administrative suits related to those rights; actions and suits instituted by us or against us;

In all the above matters they may substitute this power of attorney, compromise, desist, cancel, receive, renounce, accept notifications and appoint attorneys in fact, in or out of court.

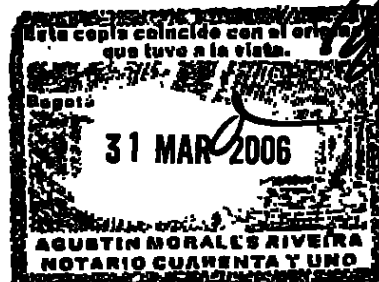
Given and signed this 10th of February, 2006

In **Kuala Lumpur**

by 
CHOONG, Hwa Doong


YEO, Chai Seng

(Notary shall execute on the other side)
(Consular legalization or apostille is required)



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CERTIFICAD NOTARIAL

Yo, Notario Público, CERTIFICO que el
10 de Febrero

de 2006

Compareció(eron) ante mí

CHOONG HWA DOONG
YEO CHAI SENG

a quien(es) conozco y de quien (es) me consta
que tiene (n) capacidad legal y reconoció(eron)
como suya (s) la (s) firma (s) que aparece (n)
en el documento anterior, cuyo contenido
ratificó(aron)

Doy fé,

Firmado en

NOTARIO PUBLICO

N TARIAL CERTIFICATI N

I, a Notary Public, CERTIFY that on 10th
of February

of the year 2006

before me personally appeared

Choong Hwa Doong

Yeo Chai Seng

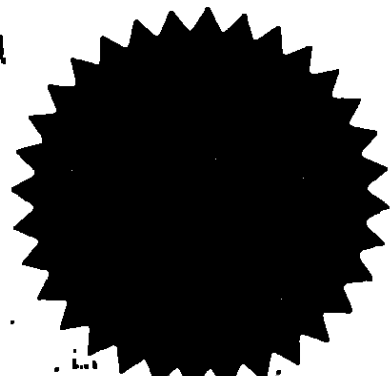
to me known and known to me to be of legal
capacity and acknowledged his (their) signature
(s) appearing on the foregoing instrument and
ratified the same.

I attest,

Signed in



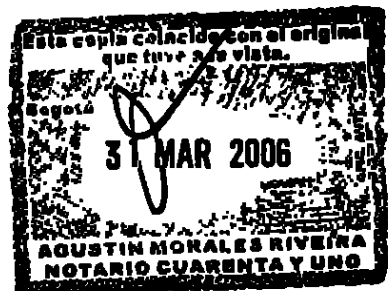
NOTARIO PUBLICO
TOO HING YEAP
NOTARY PUBLIC
KUALA LUMPUR
MALAYAN PERSEKUTUAN
MALAYSIA



ALVARO CASTELLANOS M. & CIA.

ABOGADOS COLOMBIA

Calle 94A No. 7A-08 P.O.Box 6340 - Bogotá, Colombia
Tels.: (571) 610 74 20 / 80 / 80 - Fax (571) 610 07 06 - e-mail: mail@alvarocastellanos.com



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MINISTERIO DE RELACIONES
EXTERIORES

74251
ESTADISTICA APARECE EN EL
DOCUMENTO DESEMPENA
LAS FUNCIONES INDICADAS

NO SE ASUME
RESPONSABILIDAD DEL TEXTO

2800 MAR 28 A 10 52

JEFE DE LEGALIZACIONES
SANTAFE DE BOGOTA D.C.

CONSULADO EN COLOMBIA
KUALA LUMPUR

No. 09

06 MAR 06

El suscrito Consol de Colombia CERTIFICA
que el señor Lukman Sayuti
que autoriza el presente documento, ejerce la
legalmente, en la fecha allí expresada, las
funciones de Oficial Ejecutivo del Cons.
Min. de Rel. Ex. de Malasia
y que la firma y sello que en el documento
aparecen como suyos son los que usa y
agostumbra en sus actos oficiales.

El Consol no asume responsabilidad alguna
por el contenido del documento

JOSÉ GOMEZ CADAVID
Consejero E.F.C.



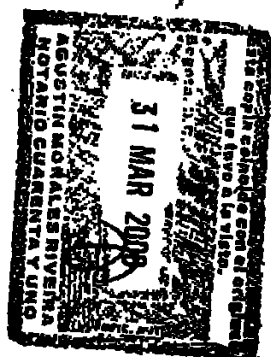
NO SE ASUME
RESPONSABILIDAD DEL TEXTO

2800 MAR 28 A 10 52

JEFE DE LEGALIZACIONES
SANTAFE DE BOGOTA D.C.

MINISTERIO DE RELACIONES
EXTERIORES

COYA FIRMA APARECE EN EL
DOCUMENTO DESEMPENA
LAS FUNCIONES INDICADAS



This is to certify the signature that
appears on this document/Certificate/Marriage
Certificate/Birth/Death Certificate is that of
Lukman Sayuti
is NOTARY PUBLIC who
The Ministry of Foreign Affairs, Malaysia is not
responsible of the accuracy of the information
contained therein.



LUKMAN SAYUTI
Executive Officer
Consular Division
Ministry of Foreign Affairs
Putrajaya Malaysia

23 FEB 2006

TELAH DI BAYAR RM
NO. RESIT

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TRADUCCION OFICIAL No. 075-06, DE UN DOCUMENTO ESCRITO EN INGLÉS, SELLADO CON EL SELLO DEL SUSCRITO TRADUCTOR OFICIAL, HOY MARZO 28 DEL 2006, EN LA CIUDAD DE BOGOTÁ D.C., REPUBLICA DE COLOMBIA.

(PODER.../ ... CERTIFICADO NOTARIAL ...)

Firma y del Notario Público
EN KUALA LUMPUR
MALASIA

EN LA ULTIMA HOJA SE ENCUENTRAN LO SIGUIENTES SELLOS:

Por medio del presente se certifica que la firma que aparece en el documento/ Certificado/ Certificado de Matrimonio/ Nacimiento/ Defunción es aquella de TOO HING YEAP, quien ejerce como NOTARIO PUBLICO.

El Ministerio de Relaciones Exteriores de Malasia no se responsabiliza de la veracidad de la información contenida en el presente.

Firmado
LUKMAN SAYUTI
Funcionario Ejecutivo
División Consular
Ministerio de relaciones Exteriores
Putrajaya, Malasia

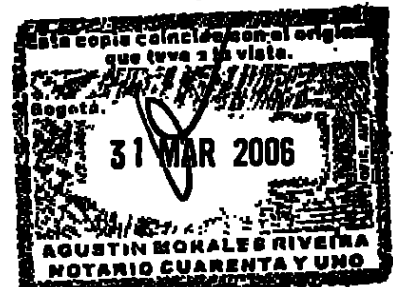
FEBRERO 23, 2006.
SELLO IMPRESO REDONDO DEL MINISTERIO DE RELACIONES EXTERIORES EN MALASIA

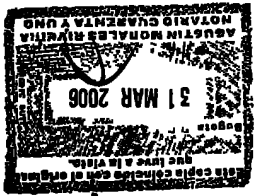
SELLO CONSULAR DE KUALA - LUMFUR MALASIA
No. 09 FECHA MARZO 8, 2006.

JORGE GOMEZ CADAVID
CONSEJERO E.F.C.

ESTE DOCUMENTO FUE LEGALIZADO ANTE EL MINISTERIO DE RELACIONES EXTERIORES BAJO EL NUMERO 74251- ESTE MARZO 28, 2006.

Sergio Eleuterio Latorre Mondora
Traductor e Interprete Oficial
Resol. No. 2839 Minjusticia 1991





MINISTERIO DE RELACIONES
EXTERIORES

74917:1
Sergio Latorre
CUYA FIRMA APARECE EN EL
DOCUMENTO DESEMPEÑA
LAS FUNCIONES INDICADAS

NO SE ASUME
RESPONSABILIDAD DEL TEXTO

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uas
JEFE DE LEGALIZACIONES
SANTAFE DE BOGOTA D C



Perbadanan Harta Intel k Malaysia
Intellectual Property Corporation of Malaysia
(Diperbadankan)

Araa 27, 30 dan 32, Menara Dayabumi, Jalan Sultan Hishamuddin, 50623 Kuala Lumpur
Tel : 603-2274 2100 Fax : 603-2274 1332 Webalta : www.myipo.gov.my

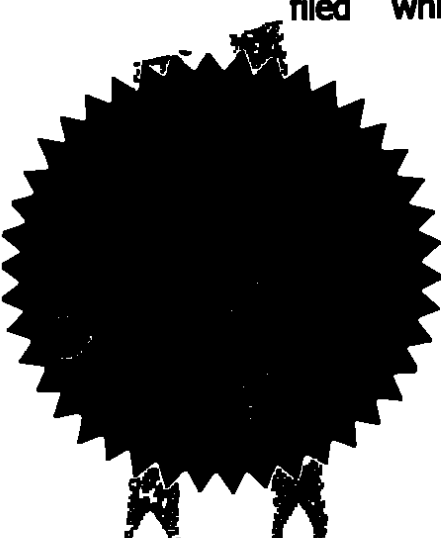


To:

SU SIEW LING
TAY & PARTNERS
Suite 6.01, 6 th FLOOR,
Plaza See How Chan,
Jalan Raja Chulan,
50200 KUALA LUMPUR'
MALAYSIA.

PATENT APPLICATION NO: PI 2005 0282

This is to certify that annexed hereto is a true copy from the records of the Registry of Trade Marks and Patents, Malaysia of the application as originally filed which is identified therein.



By authority of the
REGISTRAR OF PATENTS

ROZANAH MISKAN
(CERTIFYING OFFICER)
24-Jan-2006
rozanah@mipc.gov.my
Tel: 03-22748970

7



Perbadanan Harta Intelek Malaysia
Intellectual Property Corporation of Malaysia

Aras 27, 30 dan 32, Menara Deyabumi, Jalan Sultan Hishamuddin, 50623 Kuala Lumpur, Malaysia.
Tel: 603-2274 2100 Fax: 603-2274 1332 Website: www.mipc.gov.my

CERTIFICATE OF FILING

APPLICANT : 1) CHOONG HWA DOONG
2) YEO CHAI SENG
APPLICATION NO : PI 20050282
REQUEST RECEIVED ON : 26/01/2005
FILING DATE : 26/01/2005
AGENT'S/APPLICANT'S FILE REF. : 20401441/CES-S/SS/ALZ

Please find attached, a copy of the Request Form relating to the above application, with the filing date and application number marked thereon in accordance with Regulation 25(1).

Date : 22/03/2005


(NOOR MOHAMAD HAZMAN B. HAMID)
For Registrar of Patents
hazman@mipc.gov.my
03 - 2274 2741

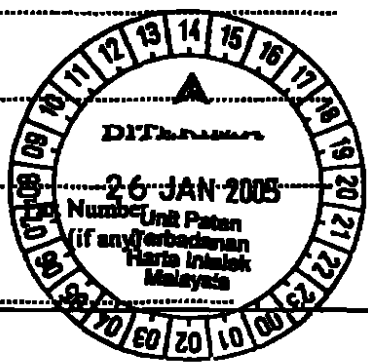
To : SU SIEW LING
C/O TAY & PARTNERS,
6TH FLOOR, PLAZA SEE HOY CHAN,
JALAN RAJA CHULAN,
50200 KUALA LUMPUR,
MALAYSIA

FF 09

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Patents Form No. 1 PATENTS ACT 1983 REQUEST FOR GRANT OF PATENT (Regulation 7(1))	For Official Use APPU 01100 NO: P1 20050282 APPLICATION RECEIVED ON: 26-1-2005 Fee received on: 26-1-2005 Amount: RM 210 *Cheque/Postal Order/Money Order/Draft/Cash No: AMS 429 655
☒ To: The Registrar of Patents Patent Registration Office Kuala Lumpur Malaysia	Please submit this Form in duplicate together with the prescribed fee.
Agent's file reference 20401441/CES-S/SSL/alz	
THE APPLICANT(S) REQUEST(S) THE GRANT OF A PATENT IN RESPECT OF THE FOLLOWING PARTICULAR: TITLE OF INVENTION : METHOD FOR EXTRACTING OIL FROM OIL PALM FRUIT AND APPARATUS FOR STERILIZING OIL PALM FRUIT	
II. APPLICANT(s) (the data concerning each applicant must appear in this box or, if the space is insufficient, in the space below: 1. Name : Choong Hwa Doong Address: 8, Lorong Serai Wangi Dua Taman Cheras 56100 Kuala Lumpur 2. Name : Yeu Chai Seng Address: No. 7261, Jalan Casuarina Desa Casuarina Bandar Baru Nilai 71800 Nilai Negeri Sembilan c/o TAY & PARTNERS of 6th Floor Address for service in Malaysia : Plaza See Hoy Chan, Jalan Raja Chulan, 50200 Kuala Lumpur Malaysian Nationality : *Permanent residence or principal place of business: Telephone Number (if any) 	
Additional Information (if any)	

20050282

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III. INVENTOR

Applicant is the inventor

Yes

☒

No

☐

If the applicant is not the inventor :

Name of inventor :

Address of inventor :

A statement justifying the applicant's right to the patent accompanies this Form :

Yes

☒

No

☐

Additional Information (if any)

IV. AGENT OR REPRESENTATIVE

Applicant has appointed a patent agent in accompanying

Form No. 17

Yes

☒

No

☐

PA/ 2004/0140

Agent's Registration No. :

Applicants have appointed
to be their common representative

V. DIVISIONAL APPLICATION

This application is a divisional application

☐

The benefit of the

filing date

☐

priority date

☐

of the initial application is claimed in as the subject-matter of the present application is contained in
the initial application identified below :

Initial Application No. :

Date of filing of initial application :

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230 40

VI. DISCLOSURES TO BE DISREGARD FOR PRIOR ART PURPOSES

Additional information is contained in supplemental box:

(a) Disclosure was due to acts of applicant or his predecessor in title ☐

Date of disclosure :

(b) Disclosure was due to abuse of rights of applicant or his predecessor in title ☐

Date of disclosure :

A statement specifying in more detail the facts concerning the disclosure

accompanies this Form

Yes ☐

No ☐

Additional Information (if any)

VII. PRIORITY CLAIM (if any)

The priority of an earlier application is claimed as follows :

Country (if the earlier application is a regional or international application, indicate the office with which it is filed):

.....

Filing Date :

Application No. :

Symbol of the international Patent Classification :

If not yet allocate, please tick

☐

The priority of more than one earlier application is claimed :

Yes ☐

No ☐

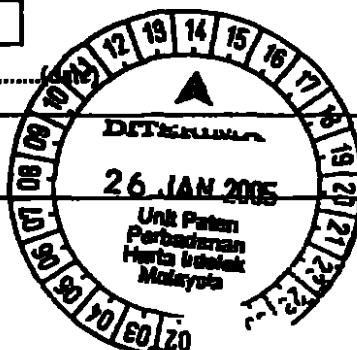
The certified copy of the earlier application(s) accompanies this Form :

Yes ☐

No ☐

If No, it will be furnished by upon request

Additional Information (if any)



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VIII. CHECK LIST

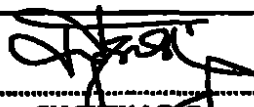
A. This application contains the following:

1. request	9	
2. description		sheets
	2	
3. claim		sheets
	1	
4. abstract		sheets
	2	
5. drawings		sheets
	14	
Total		sheets

A. This Form, as filed, is accompanied by the items checked below:

- (a) signed Form No. 17 ☒
- (b) declaration that inventor does not wish to be named in the patent ☐
- (c) statement justifying applicant's right to the patent ☒
- (d) statement that certain disclosures be disregarded ☐
- (e) priority document (certified copy of earlier application) ☐
- (f) cash, cheque, money order, banker's draft or postal order for the payment of application fee ☒
- (g) other documents (specify) ☐

IX. SIGNATURE


SU SIEW LING
** (Applicant/Agent)

26 January 2005

(Date)

PA/ 2004/0140

If Agent, indicate Agent's Registration No. :

For Official Use

1. Date application received:
2. Date of receipt of correction, later filed papers or drawings completing the application:

* Dates whichever does not apply.

** Type name under signature and delete whichever does not apply.

+2

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**METHOD FOR EXTRACTING OIL FROM OIL PALM FRUIT AND APPARATUS FOR
STERILIZING OIL PALM FRUIT**

Field of Invention

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This invention relates to a method for extracting oil from oil palm fruit and relates particularly, though not exclusively, to improvements in the method where the fruit is sterilized in a sterilizer with a mechanical discharging device which operates in the absence of air by means of water or liquid displacement. An apparatus for sterilizing oil palm fruit is also disclosed.

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Background to the Invention

The extraction of palm oil from bunches of fresh fruit in conventional oil palm mills includes the process of sterilization of fresh fruit bunches in horizontal multiple-cage sterilizer systems with the subsequent stripping of fruit from the bunch. The fruit is then digested, and thereafter oil is extracted from the fruit in a screw press.

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The production process from the stage bunches of fresh fruit are received from the field until the sterilized fruit are introduced to the stripper (or thresher) involves the use of a substantial quantity of heavy equipment, labour and a series of repeated operations.

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In earlier techniques of extraction, bunches of fresh fruit are first loaded onto cages, which are then introduced into horizontal sterilizer containers. The bunches of fresh fruit are then subjected to pressurized steam to arrest the production of free fatty acids and loosen fruit from bunches. The sterilization process is based on a multiple-peaks cycle and repeated blow off to remove the air trapped inside the sterilizer. This process involves the use of substantial quantities of steam, and thus a lot of heat is lost and energy consumed.

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After sterilization, the cages containing the steamed bunches of fresh fruit are removed using a capstan or hydraulic winch with wire rope. The cages containing the steamed FFB are then lifted using an overhead crane and emptied onto a stripper (thresher)

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where the fruit are separated from the bunches. The fruit are then introduced into a digester for subsequent processing.

In another process where overhead cranes are not used, bunches of fresh fruit and sterilized fruit cages are transferred by means of transfer carriages and a cantilever trolley assisted by an indexer or hydraulic winch/capstan. Here, a tipper is used to tip the sterilized fruit from the cage onto a hopper which is then conveyed to the stripper. Where a hydraulic winch/capstan is not used, a wheel loader or a skid loader is used to push the cages around the length and breadth of the sterilizer marshalling yard.

As sterilization and the transfer of sterilized fruit to the stripper is done in individual cages, there is a substantial outlay in capital for a plurality of cages, overhead cranes/tippers, rail tracks, transfer carriages, cantilever trolleys and winches/capstans or indexers. Operation and maintenance costs are relatively high as the cages are subjected to heavy wear and tear. Also, there is significant damage to the bunches of fresh fruit from the first stage of the cycle of receiving the bunches of fresh fruit, transferring to the sterilizer containers, sterilizing, transferring to stripper, returning from stripper to rail tracks and final return of empty cages to the loading bays. The presence of air trapped in pockets in the sterilizer during sterilization accelerates corrosion on the sterilizer and cages.

There are also substantial labour requirements at the various stages, in particular at the loading of bunches of fresh fruit onto the cages, transferring the cages onto the sterilizer, operating the sterilizer on a multiple-peaks cycle, removal of the cages from the sterilizer, transferring the cages onto the stripper and returning the cages to the loading bay. The nature of these various process stages and the existing methods of operation do not allow for the automation of such processes.

At the loading of bunches of fresh fruit to each cage and transferring of bunches of fresh fruit and sterilized fruit cages to stripper, there is loss of oil from the fruit that is spilt during transport, and oil dripping from cages. The sterilizer condensate oil is unrecoverable due to its low quality. Moreover, the process requires the utilization of large quantities of pressurized and high temperature steam. The utilization and

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condensation of large quantities of steam in the enclosed sterilization vessels also contributes to the substantial oil loss, and high unit cost of palm oil extraction.

Summary of Invention

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There is provided a method for extracting oil from oil palm fruit that may comprise: directly feeding bunches of fruit into a vertical sterilizer that sterilizes the fruit bearing bunches with steam and water, and directly discharging bunches of fruit from the vertical sterilizer onto a bunch conveyor for further processing. The introduction of water in the sterilizer may be for displacing air, washing the fruit, and damping the impact on the fruit during movement in the sterilizer. A systematic displacement of air, water and condensate using mechanical means and ingress of pressurized steam in the sterilizer sterilizes the fruit. Preferably, the mechanical means may be selected from either a vacuum pump or at least two steam inlet valves operating in sequence. It may be advantageous to use a fruit pusher mechanism to evacuate the sterilized fruit from the vertical sterilizer. Further processing after discharge from the sterilizer comprises the processes stripping, pressing, or kernel recovery.

There is also provided an apparatus for sterilizing bunches of fruit from oil palm, the apparatus may comprise a container with its height greater than its diameter. The container may comprise: at least one entry opening for loading bunches of fruit; at least one exit opening for discharging bunches of fruit; at least one blowdown valve for exit of steam and water from the container; at least two steam inlet valves for entry of steam into the container; at least one bleed-off valve for the egress of condensate from the container; at least one water valve for the control of water entry into the container; and at least one air vent valve for allowing venting of air from the container. Preferably, a systematic displacement of air, water and condensate using mechanical means and ingress of pressurized steam in the apparatus sterilizes the fruit. The mechanical means may be either a vacuum pump or at least two steam inlet valves operating in sequence. It is preferable that the container is either cylindrical or inverted conical in shape. Advantageously, the inverted conical shaped container allows the fruit to drop into the container and pulp will tend not to form bridges because of the shape. Advantageously, the apparatus may further include a perforated inclined plate that acts as a screen. It

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may be advantageous for the apparatus to further include an arch breaker. The apparatus may preferably further include a fruit pusher mechanism.

Description of Drawings

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In order that the invention may be better understood and readily put into practical effect, there shall now be described by way of non-limitative example a preferred embodiment of the present invention, the description being in reference to the accompanying illustrative drawings in which:

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Figure 1 is a schematic flow diagram of a preferred embodiment; and
Figure 2 is a side view of a vertical sterilizer of the preferred embodiment.

Description of the Preferred Embodiments

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According to the preferred embodiment there is provided a method where bunches of fresh fruit of oil palms are directly fed into a vertical sterilizer by a fruit bunch conveyor. Referring to Figure 1, there is shown a schematic flow diagram of a method 20 of extracting oil from bunches of fresh fruit of oil palm. The bunches of fresh fruit from the field are unloaded from a mode of transportation 22 such as, for example, lorries (as shown), vans, pick-ups, ships and other vehicles. The bunches of fresh fruit are fed onto a storage cum unloading ramp 24. The ramp 24 may consist of a series of loading ramps with a capacity of for example, approximately ten tonnes per door. However, the capacity will depend on the extraction capacity of a particular palm oil mill. The bunches of fresh fruit may subsequently be discharged into a fruit bunch conveyor 26 through hydraulically/mechanically operated doors (not shown). The fruit bunch conveyor 26 may be operated by a chain drive system, a friction drive, or a system of gears. The fruit bunch conveyor 26 may be used to transfer the bunches of fresh fruit to various heights.

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Referring also to Figure 2, a first quick actuating door 50 at the top 52 of a vertical sterilizer 28 may be opened to allow bunches of fresh fruit from the fruit bunch conveyor 26 to be directly loaded into the vertical sterilizer 28. The vertical sterilizer 28 is may be cylindrical or inverted conical, with its height greater than its diameter. The inverted conical shape may facilitate the fruit to drop due to a bigger diameter at its base. The

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conical shape may also minimize the incidence of pulp/fruit forming a "bridge" in the sterilizer 28. At the same time, a second quick actuating door 54 at a lower portion 56 of the vertical sterilizer 28 will be at a closed position, and a blowdown valve 58 and a bleed-off valve 60 at the lower portion 58 of the vertical sterilizer 28 will also be closed.

- 5 The bunches of fresh fruit on the fruit bunch conveyor 28 may be discharged into the sterilizer 28 by gravitational action guided by connecting chute 30. A water valve 62 is opened to pass water into the sterilizer 28 for displacement of air/steam, for washing the fruit, and also to damp the impact of the bunches of fresh fruit when loading the sterilizer 28 as water provides a cushioning effect for the bunches dropping into the sterilizer 28.
- 10 Water or liquid may be introduced into the vertical sterilizer 28 at an optimal rate and volume to displace air pockets trapped in and between the fruit when filling. The displacement of air prior to sterilization is important as air is a bad conductor of heat. This process makes de-aeration unnecessary. Hence the process has a higher heat penetration efficiency. Moreover, immersing the fruit in hot water of temperature of, for
- 15 example, above fifty-five degrees Celsius, for a short time will inactivate the oil-splitting enzymes and check further enzymatic hydrolysis and degradation of the oil. This controls the free fatty acid formation in the oil. As heat penetration is more efficient in the absence of air, a shorter sterilization period of sixty minutes or less, and based on a single peak cycle, is possible. This may enhance oil and kernel quality as over-
- 20 sterilization is avoided.

As water is introduced to the vertical sterilizer 28 before the start of sterilization, the cleaning of bunches of fruit is facilitated whereby dirt and sand particles trapped within the bunches will be screened off at the bottom through a perforated inclined plate 78

25 installed inside the sterilizer. Water, together with sterilizer condensate oil, dirt and sand particles, is contained in a separate tank for a further settling process that recovers virgin oil of a predetermined quality (together with some water) and is pumped back as dilution water in the press station 33.

- 30 Upon filling the bunches of fresh fruit into the sterilizer 28 to optimal level, the fruit bunch conveyor 28 is stopped and a control door 64 at the top 52 of the sterilizer 28 is shut. The water valve 62 is closed when water reaches an air vent valve 66. This may be before or just after water flows into valve 66. At this juncture, the first quick actuating door 50 is closed and safely locked.

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- In the vertical sterilizer 28, a first stage of the sterilizing cycle commences with a first steam inlet valve 68 opening to allow steam from an operating engine room LP (Low Pressure) receiver to inject steam of pressure of, approximately forty-five psi into a sterilizer container 29. The pressure used may vary according to the sterilizer container 29 and/or the amount of fruit in the sterilizer 28. Subsequently (approximately five seconds), the blowdown valve 58 may be opened to drain off the water in the sterilizer container 29. When water in the sterilizer container 29 has drained to about mid-level, a second steam inlet valve 70 may be opened to inject more steam, particularly in the mid-section of the sterilizer container 29. Once the water and condensate have been drained, either completely or almost completely, the blowdown valve 58 is closed and the bleed-off valve 60 is opened to continuously remove any condensate generated throughout the cycle.
- At the end of a predetermined period depending on the composition of the fruit set (for example, sixty minutes), both the first steam inlet valve 68 and the second steam inlet valve 70 are closed and the blowdown valve 58 is opened to depressurize the sterilizer container 29. Subsequently, the air vent valve 66 is opened to release any residual steam inside the sterilizer container 29.
- Once the pressure gauge 72 is at '0' and no steam is passing through the air vent valve 66, the second quick actuating door 54 at a lower portion 56 of the vertical sterilizer 28 is opened.
- A fruit pusher mechanism 74 is activated for evacuating fruit from the sterilizer container 29. The fruit pusher mechanism 74 may be regulated by variable speed control on a drive that may be either electrically or hydraulically controlled. The fruit pusher mechanism 74 may also be a helical blade that rotates about an axis to push bunches of fruit out of the sterilizer 28.
- When the fruit pusher mechanism 74 activates a sprocket-on-link chain that will drive a top sprocket mounted approximately at the mid-section of the sterilizer 28. The top sprocket rotates and may serve as an arch breaking device 76 for arch breaking of a mash of sterilized fruit during evacuation of sterilized fruit from the sterilizer container 29.

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As the pusher mechanism rotates when emptying the sterilized fruit, the arch breaking sprocket installed at about central position of the container will rotate at the same time. Thus the central mash of sterilized fruit may be broken and arch formation may be prevented. It is important to prevent arch formation due to the enmeshment of the bunch fibre. Once the sterilizer container 29 is completely emptied, the sterilizing cycle repeats for the next batch of sterilization.

The discharged sterilized fruit is then conveyed through a bunch conveyor 32 to a stripper 34 for subsequent processing.

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During the sterilizing or cooking time in the sterilizer 28, virgin oil from the fruit and the condensate is drained to a blowdown tower. This oil and condensate are separated from dirt and sand particles in an oil settling tank 35. The recovered oil and sludge from the settling tank is pumped to the press station dilution tank 36 for subsequent processing.

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The sterilization cycle may be carried out in the absence of air which minimizes oxidation. As such, the quality of sterilizer condensate oil may be of better quality and may be almost the same as pressed oil quality. The process may allow waste oil to be recovered.

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Referring to Figure 2, there is provided a vertical sterilizer 28 that operates such that after the opening of the first steam inlet valve 68, a few seconds later the blowdown valve 58 opens. A while later (for example, approximately five minutes, depending on requirements), the second steam inlet valve 70 may open to inject steam at the mid-section of the sterilizer container 29. Consequently, water inside the sterilizer container 29 would have also dropped to the mid-section level. When the water inside the sterilizer container 29 is about to be emptied, the blowdown valve 58 closes and another smaller bleed-off valve 60 opens. The sequential operation of the steam inlet valves 68, 70 systematically displaces air, water and condensate through the blow down valve 58 and the bleed off valve 60. Besides steam inlet valves 68, 70, at least one vacuum pump may also be used in their place.

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The cooking period of bunches of fresh fruit actually begins with the opening of the two steam inlet valves 68, 70 and the bleed off valve 60. Upon completion of a single-peak sterilization cycle lasting, for example, approximately sixty minutes, the two steam inlet

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valves 68, 70 close and the blow down valve 58 and air vent valve 66 open to depressurize the sterilizer container 29. As such, there may be minimum utilization of steam, effective heat penetration, and a faster and simpler sterilizing cycle. The use of the sterilizer 28 may give rise to the production of palm oil and kernel of consistent and good quality.

The utilization of space inside the sterilizer container 29 may be optimized by filling bunches of fresh fruit to the shell of the container 29, unlike horizontal sterilizers where there are empty spaces between incorporated cages and the sterilizer shell, as well as voids in each cage. The typical vertical sterilizer 28 also utilizes steam that is used in a conventional horizontal sterilizer when operating on a triple or multiple peaks cycle. A typical vertical sterilizer 28 may utilize approximately one hundred and fifty kg of dry saturated steam per tonne FFB compared to horizontal sterilizers which may utilize more than three hundred kg of dry saturated steam per tonne FFB.

Directly feeding FFB into the vertical sterilizer 28 and emptying the sterilizer 28 of the sterilized fruit directly to bunch conveyor 32 may minimize the spillage of fruit. This may minimize unnecessary loss of oil and kernel such that overall yield of the extracted oil and kernel per unit weight of FFB may be higher. Consequently, the higher heat penetration efficiency in the sterilizer 28 may result in better control in the subsequent stages which include stripping, pressing and kernel recovery.

The preferred embodiment of the present invention eliminates the use of cages, rail tracks, transfer carriages, winch/capstan, overhead crane/tipper and cantilever trolley. This is aided because of the use of a cageless sterilization vessel 28 that avoids the need for auxiliary equipment, which is standard in the conventional process. This may lower the cost of extracting palm oil as the elimination of traditional sterilizing and crane/tipper stations in the oil mill reduces capital outlay. The overall footprint in these stations is also substantially reduced because the sterilizer marshalling yard is no longer needed. In addition the number of human operatives required at the two stations is significantly reduced to two, or even one, per shift. It may be automatable.

Whilst there has been described in the foregoing description preferred embodiments of the present invention, it will be understood by those skilled in the technology concerned

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that many variations or modifications may be made to details of design or construction without departing from the present invention.

The present invention extends to all features disclosed either individually, or in all
5 possible permutations and combinations.

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Claims

1. A method for extracting oil from oil palm fruit comprising:
 - directly feeding bunches of fruit into a vertical sterilizer that sterilizes the fruit bearing bunches with steam and water; and
 - directly discharging bunches of fruit from the vertical sterilizer onto a bunch conveyor for further processing,
 - wherein introduction of water in the sterilizer:
 - (a) displaces air;
 - (b) washes the fruit; and
 - (c) damps the impact on the fruit during movement in the sterilizer, and wherein a systematic displacement of air, water and condensate using mechanical means and ingress of pressurized steam in the sterilizer sterilizes the fruit.
2. A method as claimed in claim 1, wherein the mechanical means is selected from the group consisting of: a vacuum pump and at least two steam inlet valves operating in sequence.
3. A method as claimed in either claim 1 or 2, further comprising the use of a fruit pusher mechanism to evacuate the fruit from the vertical sterilizer.
4. A method as claimed in any one of claims 1 to 3, wherein further processing after discharging comprises the processes selected from the group consisting of: stripping, pressing, and kernel recovery.
5. An apparatus for sterilizing bunches of fruit from oil palm, the apparatus comprising a container with its height greater than its diameter, the container comprising:
 - at least one entry opening for loading bunches of fruit;
 - at least one exit opening for discharging bunches of fruit;
 - at least one blowdown valve for exit of water, condensate, and steam from the container;
 - at least two steam inlet valves for entry of steam into the container;
 - at least one bleed-off valve for the egress of condensate from the container;

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at least one water valve for the control of water entry into the container; and
at least one air vent valve for allowing venting of air from the container
wherein a systematic displacement of air, water and condensate using
mechanical means and ingress of pressurized steam in the apparatus sterilizes the fruit.

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6. An apparatus as claimed in claim 5, wherein the mechanical means is selected from the group consisting of: a vacuum pump and at least two steam inlet valves operating in sequence.

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7. An apparatus as claimed in either claim 5 or 6, wherein the container is selected from the shapes consisting of: cylindrical and inverted conical.

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8. An apparatus as claimed in claim 7, wherein the inverted conical shaped container allows the fruit to drop into the container and pulp will tend not to form bridges because of the inverted conical shape.

9. An apparatus as claimed in any one of claims 5 to 8, wherein the apparatus further includes a perforated inclined plate that acts as a screen.

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10. An apparatus as claimed in any one of claims 5 to 9, wherein the apparatus further includes an arch breaker.

11. An apparatus as claimed in any one of claims 5 to 10, wherein the apparatus further includes a fruit pusher mechanism.

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Abstract

METHOD FOR EXTRACTING OIL FROM OIL PALM FRUIT AND APPARATUS FOR STERILIZING OIL PALM FRUIT

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There is provided a method for extracting oil from oil palm fruit that may comprise: directly feeding bunches of fruit into a vertical sterilizer that sterilizes the fruit bearing bunches with steam and water, and directly discharging bunches of fruit from the vertical sterilizer onto a bunch conveyor for further processing. The introduction of water in the sterilizer may be for displacing air, washing the fruit, and damping the impact on the fruit during movement in the sterilizer. A systematic displacement of air, water and condensate using mechanical means and ingress of pressurized steam in the sterilizer sterilizes the fruit. Preferably, the mechanical means may be selected from either a vacuum pump or at least two steam inlet valves operating in sequence. It may be advantageous to use a fruit pusher mechanism to evacuate the sterilized fruit from the vertical sterilizer. Further processing after discharge from the sterilizer comprises the processes stripping, pressing, or kernel recovery. An apparatus for use in the method is also disclosed.

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Figure 1

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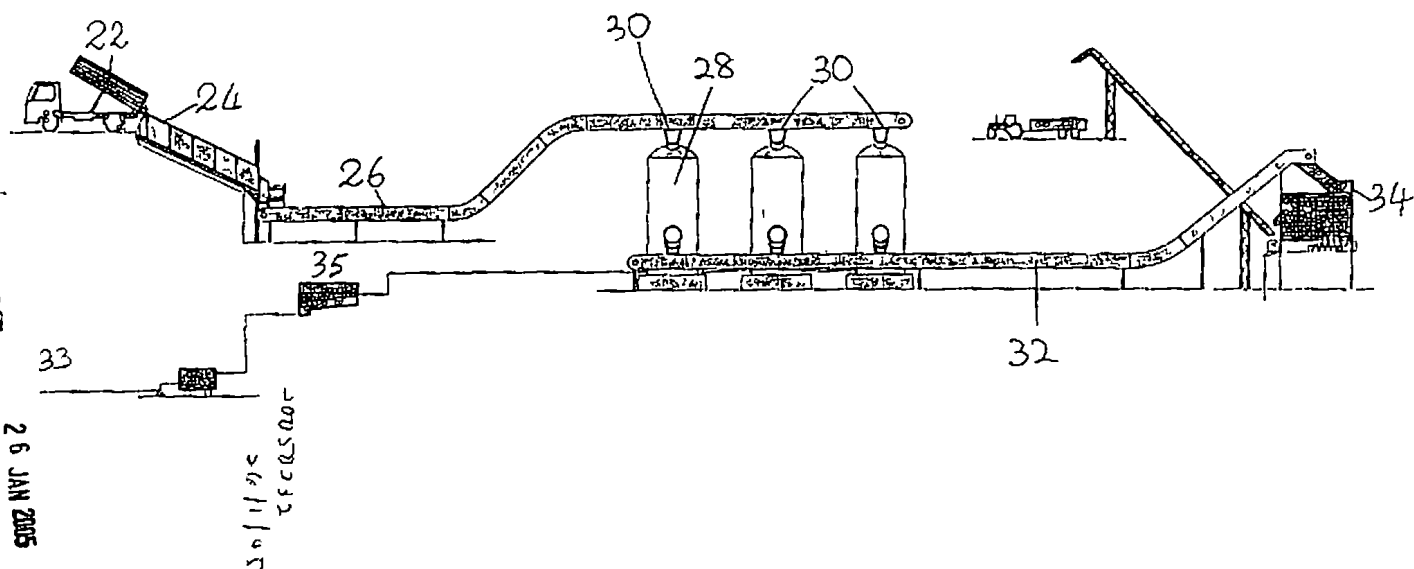
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FIGURE 1

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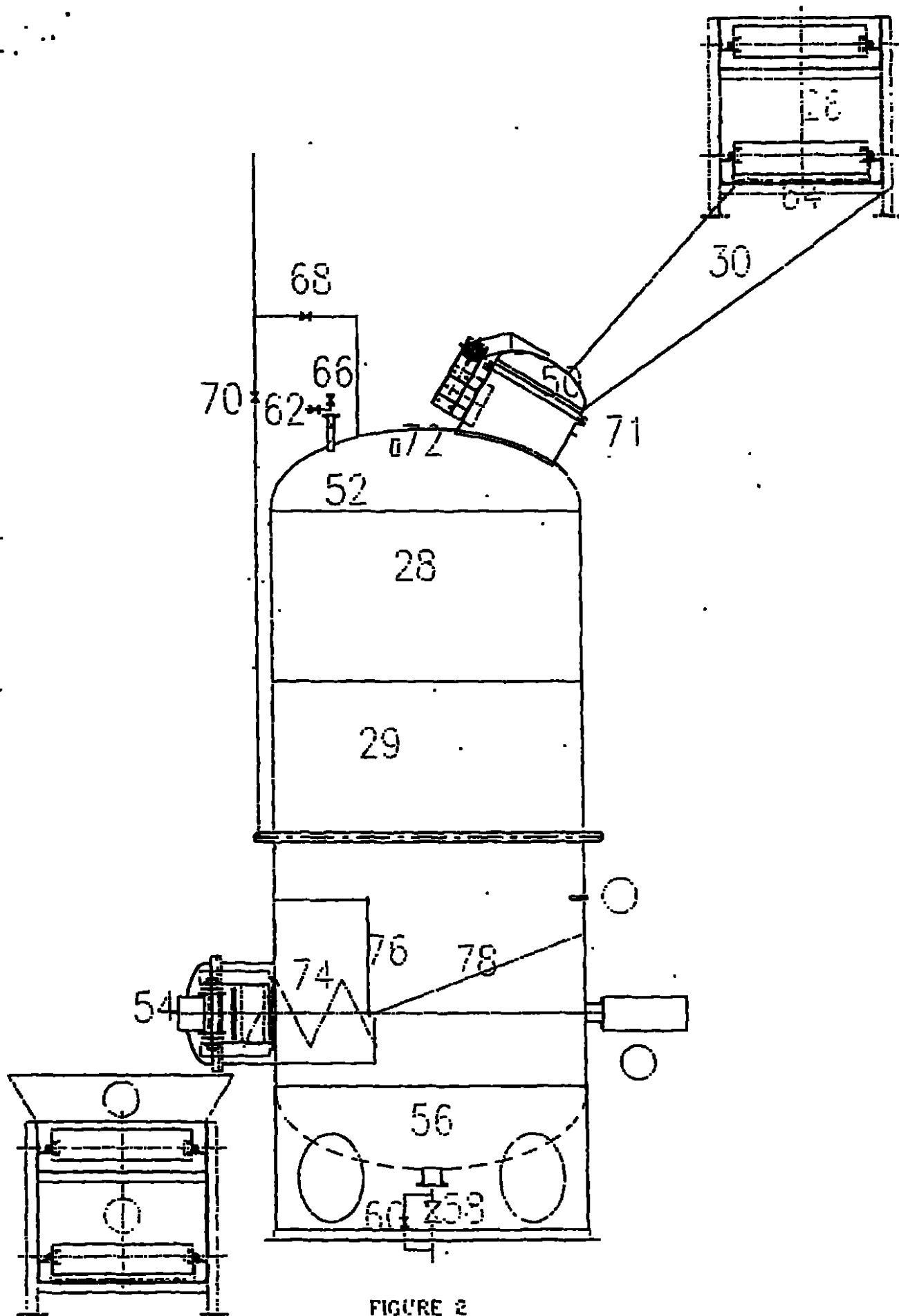


FIGURE 2

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SOLICITUD DE PATENTE No.: PI 2005 0282

Esta es una certificación de que el documento adjunto, es copia fiel del que se encuentra en los archivos del Registro de Marcas y Patentes de Malasia, de la solicitud original presentada la cual se identifica como sigue.

(Sello en oblea dorada)
**REGISTRO DE PATENTES
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Por la Autoridad del
REGISTRO DE PATENTES
(firmado ilegible)
ROZANAH MISKAN
(Oficina de Certificación)
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Teléfono: 03-22748970

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PHIM

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CERTIFICADO DE PRESENTACION

SOLICITANTE : 1) CHOONG HWA DOONG
2) YEO CHAI SENG
SOLICITUD No. : PI 20050282
SOLICITUD RECIBIDA EL : 26/01/2005
FECHA DE PRESENTACION : 26/01/2005
REFERENCIA DEL AGENTE/
SOLICITANTE(S) : 20401441/CES-S/SS/ALZ

Por favor encuentre adjunto, una copia de la forma de solicitud relacionada con la solicitud antes citada, con la fecha de presentación y el número de solicitud marcada de acuerdo con la Regla 25(1).

Fecha : 22/03/2005

(firmado ilegible)
(NOOR MOHAMAD HAZMAN B. HAMID)
Para Registro de Patentes
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03-2274 2741

Para : SU SEW LING
C/O TAY & PARTNERS
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MALASIA

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Formato de Patentes No. 1 Acta de Patentes 1983 Requisitos para Concesión de Patente (Regla 7(1)) Para: El Registro de Patentes Oficina de Registro de Patentes Kuala Lumpur Malasia	Para Uso Oficial APPU Cation No. PI 2005 0282 Solicitud recibida el: <u>26/01/2005</u> Pago recibido el: <u>26/01/2005</u> Valor: _____ *Cheque / Orden Postal / Orden de Cambio / Minuta / Caja No. <u>AMB 429 655</u>
Favor presentar esta forma en duplicado junto con la descripción del pago	Referencia del Agente <u>20401441/CES-S/SSL/atz</u>
EL SOLICITANTE REQUIERE LA CONCESION DE LA PATENTE CON RESPECTO DEL SIGUIENTE PARTICULAR: Título de la Invención: METODO PARA LA EXTRACCION DE ACEITE A PARTIR DEL FRUTO DE LA PALMERA DE ACEITE Y DISPOSITIVO PARA LA ESTERILIZACION DEL FRUTO DE LA PALMERA DE ACEITE	
II. SOLICITANTE (S): (los datos concernientes con cada solicitud deben aparecen en este cuadro o, en el espacio de abajo, si el espacio es insuficiente) 1. Nombre: Choong Hwa Doong Dirección: 8, Lorong Serai Wangi Dua Taman Cheras 56100 Kuala Lumpur 2. Nombre: Yeo Chal Seng Dirección: No. 7261, Jalan Casuarina Desa Casuarina Bandar Baru Nilai 71800 Niali Negeri Sembilan Dirección de servicio en Malasia: c/o TAY & PARTNERS 6th Floor, Plaza See Hoy Chan, Jalan Raja Chulan, 60200 Kuala Lumpur Nacionalidad: Malasios Dirección de residencia permanente u oficina principal: Teléfono No.	
Información adicional	

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III. INVENTOR El inventor es el solicitante	SI <u>X</u>	NO <u> </u>
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Declaración que justifique el derecho del solicitante a la patente que se presenta con este formato:	
SI <u>X</u>	NO <u> </u>
Información adicional	
IV. AGENTE O REPRESENTANTE	
El solicitante ha designado un agente de patente	
Forma No. 17	SI <u>X</u> NO <u> </u>
No. de Registro del Agente PA/2004/0140 ...	
V. SOLICITUD DIVISIONAL	
...	
VI. DECLARACION DE LA PRIORIDAD	
...	
INFORMACION ADICIONAL	
VII. PRIORIDAD REIVINDICADA	
...	
INFORMACION ADICIONAL	
VIII. LISTADO DE VERIFICACION	
A. La solicitud contiene lo siguiente:	
1. Solicitud	
2. Descripción <u> 9 </u> hojas	
3. Reivindicaciones <u> 2 </u> hojas	
4. Resumen <u> 1 </u> hojas	
5. Dibujos <u> 2 </u> hojas	
TOTAL <u> 14 </u> hojas	
B. Este formato, se presentó con lo que se relaciona a continuación:	
(a) Formato firmado No. 17	<u> X </u>
(b) ...	
(c) Declaración que justifica el derecho del solicitante sobre la patente	<u> X </u>
(d) ...	
(e) ...	
(f) Efectivo, cheque, orden de pago, autorización al banco, U orden postal para el pago de las tasas de la solicitud	<u> X </u>
(g) ...	

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IX. FIRMA <u>(firmado ilegible)</u> SU SUEW LING (Agente)	<u>Enero 26 de 2005</u> Fecha
Si es Agente, indique el No. de Registro del Agente	<u>PA/2004/0140</u>
Para uso oficial 	

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REIVINDICACIONES

1. Un método para la extracción de aceite a partir del fruto de la palmera de aceite, que comprende:

la alimentación directa de racimos de frutos en un esterilizador vertical que esteriliza los frutos que llevan los racimos con vapor y agua; y

la descarga directa de racimos de frutos del esterilizador vertical sobre un transportador de racimos para el procesamiento adicional,

en donde la introducción del agua en el esterilizador:

- (a) desplaza el aire;
- (b) lava el fruto; y
- (c) amortigua el impacto sobre el fruto durante el movimiento en el esterilizador, y en donde un desplazamiento sistemático del aire, agua y condensado usando medios mecánicos y el acceso de vapor presurizado en el esterilizador esteriliza el fruto.

2. Un método como se reivindica en la reivindicación 1, en donde el medio mecánico es seleccionado del grupo que consiste de: una bomba de vacío y por lo menos dos válvulas de entrada de vapor que operan en secuencia.

3. Un método como se reivindica en la reivindicación 1 ó 2, que además comprende el empleo de un mecanismo de empuje de frutos para evacuar el fruto desde el esterilizador vertical.

4. Un método como se reivindica en cualquiera de las reivindicaciones 1 a 3, en donde el procesamiento adicional después de la descarga comprende el proceso seleccionado del grupo que consiste de: pelado, prensado y recuperación de semilla.

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5. Un dispositivo para la esterilización de racimos de frutos de la palmera de aceite, el dispositivo que comprende un contenedor con su altura más grande que su diámetro, el contenedor comprende:

al menos una abertura de entrada para cargar los racimos de frutos;

al menos una abertura de salida para descargar los racimos de frutos;

al menos una válvula de purga para la salida del agua, condensado, y vapor desde el contenedor;

al menos dos válvulas de entrada de vapor para la entrada de vapor en el contenedor;

al menos una válvula de exudado para la salida del condensado desde el contenedor;

al menos una válvula de agua para el control de la entrada de agua en el contenedor; y

al menos una válvula de desahogo de aire que permite desahogar el aire del contenedor

en donde un desplazamiento sistemático del aire, agua y condensado usando medios mecánicos y el ingreso de vapor presurizado en el dispositivo esteriliza los frutos.

6. Un dispositivo como se reivindica en la reivindicación 5, en donde el medio mecánico es seleccionado del grupo que consiste de. una bomba de vacío y al menos dos válvulas de entrada de vapor que operan en secuencia.

7. Un dispositivo como se reivindica en la reivindicación 5 ó 6, en donde el contenedor es seleccionado de las las formas que consisten de: cilíndrica y cónica invertida.

8. Un dispositivo como se reivindica en la reivindicación 7, en donde el contenedor de forma cónica invertida permite que los frutos caigan dentro del contenedor y la pulpa no tienda a formar puentes debido a la forma cónica invertida.

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9. Un dispositivo como se reivindica en cualquiera de las reivindicaciones 5 a 8, en donde el dispositivo además incluye una placa inclinada perforada que actúa como una criba.

10. Un dispositivo como se reivindica en cualquiera de las reivindicaciones 5 a 9, en donde el dispositivo además incluye un rompiente en arco.

11. Un dispositivo como se reivindica en cualquiera de las reivindicaciones 5 a 10, en donde el dispositivo además incluye un mecanismo de empuje de frutos.

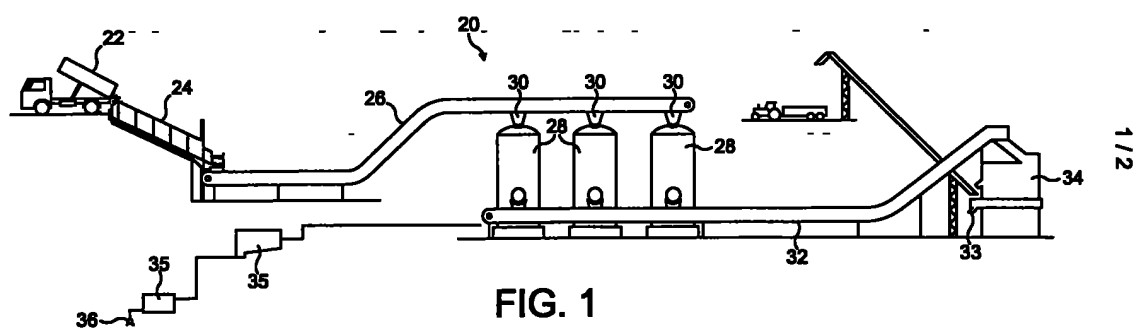


FIG. 1

1/2

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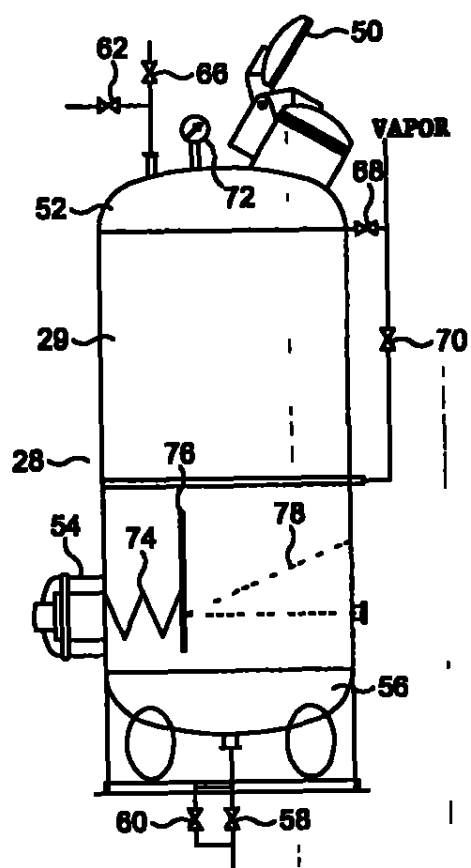


FIG. 2

36

64

REPUBLICA DE COLOMBIA
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Folio 66

2020
Bogotá D.C.,

Doctor(a)
CASTELLANOS ABONDANO MARGARITA
Apoderado(a) y/o Representante de
CHOONG HWA DOONG
YEO CHAI SENG

REFERENCIA	Radicación No. 06 6697
	Trámite 2
	Evento 1
	Actuación 416
	Oficio No. 3037
	Folios 1

Teniendo en cuenta que la solicitud de privilegio de patente que se tramita bajo el expediente indicado en la referencia, reúne los requisitos de forma establecidos en los artículos 26 y 27 de la Decisión 486 de la Comisión de la Comunidad Andina, y en las demás disposiciones vigentes sobre la materia, se envía el extracto de la solicitud a la Oficina de Comunicaciones para efecto de su publicación en la Gaceta de Propiedad Industrial.

De acuerdo con lo previsto por el artículo 40 de la Decisión 486/00, la publicación en este caso se hará a partir del día 25 del mes de Julio de 2007.

Cúmplase
Dado en Bogotá DC,

14 MAYO 2007

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

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