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Industria y Comercio
SUPERINTENDENCIA

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
No. 05-058821- -00005-0000
Fecha: 2007-08-27 16:30:59 Dep: 2020 NUECREACIONE
Tra: 2 PATENTES Eve: 1 REGDEPOSITO
Act: 608 MODIFICASOLICIT Folios: 16

FORMULARIO UNICO DE CORRECCIONES Y MODIFICACIONES
2000-10

1 SOLICITUD DE:

☐ Corrección de Error Material ☒ Modificación a una solicitud

2 SOLICITANTE

Nombre: **APPLICA CONSUMER PRODUCTS, INC.**
sociedad constituida y existente bajo las *leyes del Estado de Florida, Estados Unidos* de América
Dirección: 3633 Flamingo Road, Miramar, Florida 33027, Estados Unidos de América

Teléfono: 546 09 70
E-mail: clientes@camyp.com
Fax: 249 40 70

Domicilio: *Miramar, Florida, Estados* Unidos de América

IDENTIFICACION
C.C. ☐ NIT ☐
C.E. ☐ Otro ☐
Número: _____

3 REPRESENTANTE O APODERADO

Nombre: Emilio FERRERO
Dirección: Carrera 4ª No. 72-35
Teléfono: 347 36 11
E-mail: cavelier@cavelier.com
Fax: 217 92 11
Domicilio: Bogotá, Colombia

IDENTIFICACION
C.C. ☒ NIT ☐
C.E. ☐ Otro ☐
Número: 438.019 TP 31.929

4 Número de expediente: 05.058.821 **Clase:** D06F 075/010

Título del Invento: PLANCHA DE VAPOR

5 Descripción de la corrección o modificación solicitada:

Informo a ese Despacho que la sociedad **HP INTELLECTUAL CORP.**, domiciliada en 2751 Centerville Road, Suite 352, Wilmington, Delaware 19803, Estados Unidos de América, se fusionó y fue absorbida por la sociedad **APPLICA CONSUMER PRODUCTS, INC.**, domiciliada en 3633 Flamingo Road, Miramar, Florida 33027, Estados Unidos de América.

Por lo tanto, solicito a ese Despacho que se tenga como titular de la solicitud que se tramita en el expediente de la referencia a **APPLICA CONSUMER PRODUCTS, INC.** y se expida el certificado de patente a favor de dicha sociedad.

6 Comprobante de pago No. 07 – 64.894 **Fecha:** 13 de agosto de 2007

7 Anexos:

☒ Comprobante de pago de la tasa por concepto de modificación de solicitud en trámite.
☒ Poderes, si fuere el caso
☒ Certificado de existencia y representación legal, cuando el solicitante sea persona jurídica
☒ Documento que acredita la fusión.

8 NOMBRE: EMILIO FERRERO

FIRMA:
C.C. 438.019 de Usaquén T.P. 31.929

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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 07 - 64,894
FECHA : AGOSTO 13 DE 2007

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
No. 05-058821--00005-0000
2020 NULCREACIONI
1 NEGDEPOSITO
Folios: 16

***** C O N S I G N A C I O N *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
CAVELIER ABOGADOS	CONSIGNACION	BANCO POPULAR	050-00110-6	63769917	13/08/2007	99,000.00

***** C O N C E P T O *****

No.	RENTISTICO	CONCEPTO		TOTAL CONCEPTO
1	50005-01-03 CAMBIO DE MODALIDAD Y MODIFICA	12	MARCAS Y LEMAS COMERCIALES	99,000.00
			TOTAL :	$ 99,000.00

SON: NOVENTA Y NUEVE MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

Cob 11428-803-001-7

2

165

2371

State of Florida

Department of State

APOSTILLE

(Convention de La Haye du 5 octobre 1961)

1. Country: United States of America

This public document

2. has been signed by CLARA LARA

3. acting in the capacity of Notary Public of Florida

4. bears the seal/stamp of Notary Public, State of Florida

Certified

5. at Tallahassee, Florida

6. the Thirty-First day of May, A.D., 2006

7. by Secretary of State, State of Florida

8. No. 2006-37686

9. Seal/Stamp:

This apostille is NULL and VOID if the date in Item 6 occurs before the execution date on the attached document.

10. Signature:

Sue M. Cobb

Secretary of State

COMO NOTARIO SEXTO (E) DEL CIRCULO DE BOGOTA, DOY CONSTANCIA QUE LA FOTOCOPIA COINCIDE CON EL ORIGINAL QUE LE FUE PUESTO A LA VISTA

07 JUN 2007

PABLO MENDEZ BARAJAS
NOTARIO (E)

DSDE 99 (3/03)

3

166

CAVELIER
ABOGADOS
EDIFICIO SISKI
CARRERA 4a N° 72-35
BOGOTA, D – COLOMBIA

181

Representación y Poder con autenticación notarial y Apostille para patentes, modelos de utilidad, diseños industriales, marcas de fábrica, nombres comerciales, enseñas, nombres de dominio, lemas comerciales, licencias.

Representation and Power-of-Attorney with notarial authentication and Apostille for patents, utility models, industrial designs, trademarks, commercial names, trade emblems, domain names, slogans, licenses.

REPRESENTACION Y PODER

REPRESENTATION AND POWER-OF-ATTORNEY

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

APPLICA CONSUMER PRODUCTS, INC.

domiciliado (s) en/of MIRAMAR, FL

por el presente nombramos a EMILIO FERRERO, tpa. 31929; GONZALO PERDOMO, tpa. 831; LUZ CLEMENCIA DE PAEZ, tpa. 23555 y DANIEL PEÑA, tpa. 65.620, domiciliados en la Carrera 4a N° 72-35, Bogotá, Colombia, en obedecimiento 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 competencia desleal, protección del

in due compliance with the terms of paragraph 1st. of article 543 of the Commercial Code, do hereby appoint EMILIO FERRERO, tpa. 31929; GONZALO PERDOMO, tpa. 831; 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 imply the cessation of the representation by the first, second or third alternate in their turn, as shall end at such time. In addition I/we grant a Power of Attorney in favor of the above-named attorneys-at-law to act for 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 litigious and judicial, as well as before Arbitration Courts, 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 the consumer,

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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.

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 30th May, 2006

en/in MIRAMAR FL

por/by LISA R. CARSTARPHEN, CORPORATE SECRETARY

Firma/Signature Lisa R. Carstarphen

CONSULTADO EN EL CIRCULO DE NOTARIA, HACE CONSTAR QUE LA FOTOCOPIA COINCIDE CON EL ORIGINAL QUE HE TENIDO A LA VISTA

07 JUN 2007

PABLO MENDEZ BARAJAS
NOTARIO (E)

5

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CERTIFICACIÓN NOTARIAL (INDIVIDUO)

A los _____ días del mes de _____

de 200 ___ ante mí, Notario Público o Funcionario 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

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.

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

CERTIFICACIÓN NOTARIAL (SOCIEDAD)

A los 30 días del mes de Mayo

de 200 6 compareció(eron) ante mí,

Lisa R Carstarphen

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

APPLICA CONSUMER PRODUCTS, INC.

Certifico:

1. Que he visto los siguientes documentos:*

Libro de Actas de la Sociedad

2.Que dichos documentos prueban lo siguiente:

2.1.Que **APPLICA CONSUMER PRODUCTS, INC.** es una Sociedad/Compañía legalmente constituida y existente de acuerdo con las leyes del Estado de

Florida

2.2.Que el domicilio de dicha Sociedad/Compañía es

MIRAMAR, FL

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.)

Lisa R. Carstarphen

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

Ciudad Miramar

Estado Florida

Hoy 30 Mayo de 2006

NOTARIAL CERTIFICATION (CORPORATION)

On this 30th day of May

200 6 appeared before me

Lisa R. Carstarphen

who(m) I know personally and who(m) signed this document as representative(s) of the Corporation/Company named

APPLICA CONSUMER PRODUCTS, INC.

I certify:

1.That I have seen the following documents:*

Corporate Minute Book

2. That the above documents duly prove the following:

2.1.That **APPLICA CONSUMER PRODUCTS, INC.** is a Corporation/Company legally constituted and in existence in accordance with the laws of the State of

FLORIDA

2.2.That the domicile of said Corporation/Company is

Miramar, FL

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.)

LISA R. CARSTARPHEN

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

City Miramar

State FLORIDA

This 30th day of May 200 6

COMO NOTARIO SEXTO (E) DEL CIRCULO DE BOGOTA, HAGO CONSTAR QUE LA FOTOCOPIA CONCUERDA CON EL ORIGINAL PRESENTADO A MI VISTA

07 JUN 200

NOTARIO

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

* Los documentos deben identificarse con fecha y origen

* Documents must be identified with date and origin

Clara Lara

CLARA LARA
Commission # DD0200717
Expires 7/12/2007
Bonded through
Florida Notary Assn., Inc.
(800-432-4254)

6

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25

TRADUCCIÓN OFICIAL No. 07.17/06b realizada por Diego Vargas, Traductor Oficial, Resolución No. 0001 de 1999 del Ministerio de Justicia y registrado ante el Ministerio de Relaciones Exteriores de Colombia.

A continuación se traducen los sellos y legalizaciones de un documento mediante el cual **APPLICA CONSUMER PRODUCTS, INC.**, una sociedad domiciliada en Miramar, Florida, otorga derechos de representación y poder a los Doctores EMILIO FERRERO, tpa. 31929; GONZALO PERDOMO, tpa. 861; LUZ CLEMENCIA DE PÁEZ, tpa. 23555 y DANIEL PEÑA, tpa. 65620, domiciliados en la Carrera 4 No. 72-35, Bogotá, Colombia.

Dado y firmado el 30 de Mayo de 2006 en Miramar, Florida por Lisa R. Carstarphen, Secretario Corporativo.

Firma *Firma Ilegible*

CERTIFICADO NOTARIAL (SOCIEDAD) por el cual se certifica la firma de la señora Lisa R. Carstarphen en el anterior documento en representación de APPLICA CONSUMER PRODUCTS, INC. y adicionalmente se certifica que la anterior es una sociedad legalmente constituida y existente de conformidad con las leyes del Estado de Florida, Estados Unidos de América, que su domicilio es Miramar, Florida y que la señora Lisa R. Carstarphen está autorizada para otorgar este Poder.

Dado y firmado en la ciudad de Miramar, Estado de Florida, hoy 30 de mayo de 2006.

Firma Ilegible

CLARA LARA
Comisión # DD0200717
Vence 7/12/2007
Afianzada por
Florida Notary Assn., Inc.

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Ninguna copia a blanco y negro de este documento es oficial

ESTADO DE LA FLORIDA

Escudo de Armas

DEPARTAMENTO DE ESTADO

APOSTILLA

(Convention de La Haye du octubre 5 de 1961)

1. País: Estados Unidos de América

   Este documento público

2. ha sido firmado por CLARA LARA

3. actuando en capacidad de Notario Público de Florida

4. lleva el sello/estampilla del Notario Público, Estado de Florida

CERTIFICADO

5. en Tallahassee, Florida

6. El Treinta y uno de Mayo de 2006

7. por el Secretario de Estado, Estado de la Florida.

8. No. **2006-37686**

9. Sello/estampilla

Esta Apostilla será NULA E INVALIDADA si la si la fecha en el Numeral 6 es anterior a la fecha de suscripción del documento anexo.

10. Firma:

GRAN SELLO DEL ESTADO DE LA FLORIDA "EN DIOS CREEMOS"

Firma Ilegible

Secretario de Estado

COMO NOTARIO PÚBLICO DE LA CIUDAD DE BOGOTÁ, HAGO CONSTAR QUE LA FOTOCOPIA COINCIDE CON EL ORIGINAL QUE ME FUE PRESENTADO A LA VISTA

07 JUN 2007

PABLO MENDEZ BARAJAS
NOTARIO (E)

El documento original lleva una línea reflectiva en el papel. Sostenga de soslayo cuando verifique. Lateralmente dice: La palabra "ANULADO" aparecerá si es fotocopiada o químicamente alterada. La Leyenda "Estado de Florida" aparece en letras pequeñas en la superficie de este documento de 81/2X11 pulgadas.

Es traducción fiel y completa de la cual se deja copia en esta oficina para su confrontación.

DVZ/ID-7952/WPCL002G/COLO 11428-704-001-7

DIEGO F. VARGAS

TRADUCTOR

8

COMO NOTARIO SEXTO DEL CIRCULO DE
BOGOTA, HAGO CONSTAR QUE LA(S)
Diego Felipe
Vargas Zabala
COINCIDE(N) CON LA FIRMA REGISTRADA POR
EL (LOS) EN ESTA NOTARIA
SANTAFE DE BOGOTA. 18 JUL 2006

NO SE ASUME
RESPONSABILIDAD DEL TEXTO

2006 JEFE DE LEGALIZACIONES
BOGOTA D.C.

Diego Vargas
94566

MINISTERIO DE
RELACIONES EXTERIORES

07 JUN 2007

PABLO MENDEZ BARAJAS
NOTARIO (E)

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2371

Apostille

(Convention de La Haye du 5 Octobre 1961)

1. Country: United States of America

   This public document:
2. has been signed by Harriet Smith Windsor

3. acting in the capacity of Secretary of State of Delaware

4. bears the seal/stamp of Office of Secretary of State

Certified

5. at Dover, Delaware

6. the nineteenth day of May, A.D. 2006

7. by Secretary of State, Delaware Department of State

8. No. 0284678

9. Seal/Stamp: 10. Signature:

Harriet Smith Windsor

Secretary of State

07 JUN 2007

NOTARIO(S)

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Delaware

The First State

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF MERGER, WHICH MERGES:

"HP INTELLECTUAL CORP.", A DELAWARE CORPORATION,

WITH AND INTO "APPLICA CONSUMER PRODUCTS, INC." UNDER THE NAME OF "APPLICA CONSUMER PRODUCTS, INC.", A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF THE STATE OF FLORIDA, AS RECEIVED AND FILED IN THIS OFFICE THE SEVENTEENTH DAY OF JANUARY, A.D. 2006, AT 1:40 O'CLOCK P.M.

07 JUN 2007

PABLO MENDEZ BARAJAS
NOTARIO (E)

Harriet Smith Windsor

Harriet Smith Windsor, Secretary of State

2905023 8100

060478703

AUTHENTICATION: 4759028

DATE: 05-19-06

10

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State of Delaware
Secretary of State
Division of Corporations
Delivered 01:52 PM 01/17/2006
FILED 01:40 PM 01/17/2006
SRV 060042747 - 2905023 FILE

STATE OF DELAWARE

CERTIFICATE OF MERGER
OF
HP INTELLECTUAL CORP, a Delaware corporation
INTO
APPLICA CONSUMER PRODUCTS, INC., a Florida corporation

Pursuant to Title 8, Section 252 of the Delaware General Corporation Law, the undersigned corporation executed the following Certificate of Merger:

FIRST: The name of each constituent corporation is HP Intellectual Corp., a Delaware corporation and Applica Consumer Products, Inc., a Florida corporation.

SECOND: The Agreement of Merger has been approved, adopted, certified, executed and acknowledged by each of the constituent corporations pursuant to Title 8, Section 252.

THIRD: The name of the surviving corporation is Applica Consumer Products, Inc., a Florida corporation.

FOURTH: The Articles of Incorporation of the surviving corporation shall be its Articles of Incorporation.

FIFTH: The merger is to become effective as of January 17, 2006.

SIXTH: The Agreement of Merger is on file at the offices of Applica Consumer Products, Inc. at 3633 Flamingo Road, Miramar, Florida 33027.

SEVENTH: A copy of the Agreement of Merger will be furnished by the surviving corporation on request, without cost, to any stockholder of the constituent corporations.

EIGHTH: The surviving corporation agrees that it may be served with process in the State of Delaware in any proceeding for enforcement of any obligation of the surviving corporation arising from this merger, including any suit or other proceeding to enforce the rights of any stockholders as determined in appraisal proceedings pursuant to the provisions of Section 262 of the Delaware General Corporation laws, and irrevocably appoints the Secretary of the State of Delaware as its agent to accept services of process in any such suit or proceeding. The Secretary of State shall mail any such process to the surviving corporation at 3633 Flamingo Road, Miramar, Florida 33027

PABLO

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IN WITNESS WHEREOF, said surviving corporation has caused this certificate to be signed by an authorized officer this 31st day of December, 2005.

APPLICA CONSUMER PRODUCTS, INC.

By: Lisa R. Carstarphen
Name: Lisa R. Carstarphen
Title: Corporate Secretary

07 JUN 2007

PABLO MENDEZ BARAJAS
NOTARIO (S)

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TRADUCCIÓN OFICIAL No. 07.17/05c realizada por Diego Vargas, Traductor Oficial, Resolución No. 0001 de 1999 del Ministerio de Justicia y registrado ante el Ministerio de Relaciones Exteriores de Colombia.

Delaware

El Primer Estado

YO, HARRIET SMITH WINDSOR, SECRETARIO DE ESTADO DEL ESTADO DE DELAWARE, POR EL PRESENTE CERTIFICO QUE LA ADJUNTA ES UNA COPIA FIEL Y EXACTA DEL CERTIFICADO DE FUSIÓN POR EL CUAL SE FUSIONAN:

"HP INTELLECTUAL CORP.", UNA SOCIEDAD DE DELAWARE,

CON Y EN "APPLICA CONSUMER PRODUCTS, INC." BAJO EL NOMBRE DE "APPLICA CONSUMER PRODUCTS, INC.", UNA SOCIEDAD ORGANIZADA Y EXISTENTE DE CONFORMIDAD CON LAS LEYES DEL ESTADO DE FLORIDA, TAL COMO FUE RECIBIDO Y PRESENTADO EN ESTA OFICINA EL DIECISIETE DE ENERO DE 2006 A LA 1:40 P.M.

07 JUN 2007

Firma ilegible

Harriet Smith Windsor, Secretario de Estado

2905023 8100M

060478703

OFICINA DEL SECRETARIO 1792 DELAWARE 1855

AUTENTICACIÓN: 4759028

FECHA: 05-19-06

Estado de Delaware
Secretario de Estado
División de Sociedades

B

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ESTADO DE DELAWARE

CERTIFICADO DE FUSIÓN

DE

HP INTELLCTUAL CORP, una sociedad de Delaware

EN

APPLICA CONSUMER PRODUCTS, INC., una sociedad de Florida

De conformidad con el artículo 252 del Título 8 de la Ley General de Sociedades de Delaware, la suscrita sociedad ha celebrado el siguiente Certificado de Fusión:

PRIMERO: El nombre de cada una de las constituyentes es HP Intellectual Corp., una Sociedad de Delaware y Applica Consumer Products, Inc., una sociedad de Florida.

SEGUNDO: El Acuerdo de Fusión ha sido aprobado, adoptado, certificado, suscrito y reconocido por cada una de las sociedades constituyentes de conformidad con el artículo 252 del Título 8.

TERCERO: El nombre de la sociedad superviviente es Applica Consumer Products, Inc., una sociedad de Florida.

CUARTO: Los Artículos de Constitución de la sociedad superviviente serán sus Artículos de Constitución.

QUINTO: La fusión entrará en vigencia le 17 de enero de 2006.

SEXTO: El Acuerdo de Fusión reposa en los archivos de las oficinas de Applica Consumer Products, Inc. ubicados en 3633 Flamingo Road, Miramar, Florida 33027.

SÉPTIMO: Copias del Acuerdo de Fusión serán proporcionadas por la Sociedad Superviviente a petición, sin costo, a cualquiera de los accionistas de las sociedades constituyentes.

OCTAVO: La sociedad superviviente acuerda que podrá ser notificada en el Estado de Delaware de cualquier proceso para el cumplimiento de cualquier obligación de la sociedad superviviente

determine en los procesos de avalúo de conformidad con las disposiciones del artículo 262 de la Ley General de Sociedades de Delaware y nombra irrevocablemente al Secretario del Estado de Delaware como su agente para aceptar las notificaciones de procesos en cualquier de dichas demandas. El Secretario de Estado podrá enviar por correo cualquiera de dichas notificaciones a la sociedad superviviente a la dirección 3633 Flamingo Road, Mirmar, Florida 33027.

EN TESTIMONIO DE LO CUAL, la mencionada sociedad superviviente ha ordenado que éste certificado sea firmado por un funcionario autorizado hoy 31 de diciembre de 2005.

APPLICA CONSUMER PRODUCTS, INC.

Por: *Firma Ilegible*
Nombre: Lisa R. Carstarphen
Cargo: Secretario Corporativo

Apostilla

(Convention de La Haye du 5 Octobre 1961)

COMO NOTARIO SUPLENTO (E) DEL CIRCUITO DE BOGOTA, HAGO CONSTAR QUE LA FOTOCOPIA COINCIDE CON EL ORIGINAL QUE FUE TENIDO A LA VISTA

01 JUN 2007

1. *País: Estados Unidos de América*

   Este documento público:

2. *ha sido firmado por Harriet Smith Windsor*
3. *actuando en calidad de*
4. *lleva el sello/estampilla de la Oficina del Secretario de Estado*

Certificado

5. *en Dover, Delaware*

178

191

7. *por el Secretario de Estado, Departamento de Estado de Delaware*

8. *No. 0284678*

9. *Sello/estampilla:*

10. *Firma:*

OFICINA DEL SECRETARIO 1789 DELAWARE 1865

Harriet Smith Windsor

Secretario de Estado

Es traducción fiel y completa de la cual se deja copia en esta oficina para su confrontación.

DVZ/ID-7953/WPCL002G/COLO 11428-704-001-7

DIEGO F. VARGAS V.
TRADUCTOR E INTERPRETE OFICIAL
ESPAÑOL INGLES – INGLES ESPAÑOL
RES. 0001 DE ENERO 4 DE 1979
MINISTERIO DE JUSTICIA

COMO NOTARIO SEXTO (E) DEL CIRCUITO DE BOGOTÁ, HAGO CONSTAR QUE LA FOTOCOPIA COINCIDE CON EL ORIGINAL QUE HE TENIDO A LA VISTA

07 JUN 2007

PABLO MENDEZ CARAJO
NOTARIO

16

COMO NOTARIO SEXTO DEL CIRCULO DE BOGOTA, HAGO CONSTAR QUE LA(S) FIRMA(S)

Diego Felipe Lobo Valbuena

CORRESPONDE(N) CON LA FIRMA REGISTRADA POR EL (ELLOS) EN ESTA NOTARIA

EN BOGOTA, 18 JUL 2006

NO SE ASUME RESPONSABILIDAD SOBRE EL TEXTO

2006 JUL 18 P 1:00

JEFE DE LEGALIZACIONES BOGOTA D.C.

4b5bb9

Diego Vargas

FUNCIONARIO DE LA OFICINA DE LEGALIZACIONES NACIONALES

COMO NOTARIO SEXTO (A) DEL CIRCULO DE BOGOTA, HAGO CONSTAR QUE LA FOTOCOPIA COINCIDE CON EL ORIGINAL QUE SE TUVO A LA VISTA

07 JUN 200

PAULO MENDOZA VARGAS
NOTARIO

179

Industria y Comercio
SUPERINTENDENCIA

DIVISIÓN DE NUEVAS CREACIONES

RADICACIÓN EXPEDIENTE No. 05-58821

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

FUE PUBLICADO EN LA GACETA DE PROPIEDAD INDUSTRIAL No **571** DE

FECHA **29 DE DICIEMBRE DE 2006** EL TÉRMINO HÁBIL SEÑALADO POR LA

LEY EXPIRA EL **28 DE MARZO DE 2007**

NOTA: Dentro del plazo de los seis (6) meses siguientes a partir de la fecha de publicación en la gaceta de Propiedad Industrial, deberá solicitar y cancelar el examen de patentabilidad so pena de que la solicitud caiga en abandono, de acuerdo con lo establecido en el Artículo 44 de la Decisión 486/2000.

SE PRESENTARON OPOSICIONES POR PARTE DE TERCEROS.

SI _____ NO ___X___

180

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIVISIÓN DE NUEVAS CREACIONES

2020
Bogotá, D.C.,

Abogado
Emilio Ferrero
(Apoderado)

ASUNTO	Radicación	05 – 58 821
	Trámite	002
	Evento	001
	Actuación	430 11789
	Oficio	
	Folios	035

Patente de Invención [✓] Patente de Modelo de Utilidad [ ]

Vía Nacional [ ]

Vía PCT (fase nacional) [ ] Cap. I [ ] Cap. II [ ]

Solicitud Internacional n.° _____
Fecha de Presentación Intrnl. _____

Como resultado del examen de fondo, realizado con fundamento en el artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le comunica:

1. **Documentos estudiados**

1.1 Descripción: Folios 17 a 38 como se radicó inicialmente

1.2 Reivindicaciones: Folios 39 a 44 como se radicó inicialmente

1.3 Dibujos: Folios 46 a 52 como se radicó inicialmente

1.4 Prioridad: Folios 53 a 80 y 90 a 133; 04-06-17, US, 60/580 409 y *05-05-10, US, 11/126 858*

2. Objeto de la invención

- Título de la solicitud: *Plancha de vapor,* folio 1.

- El objeto de la presente solicitud de patente de invención consiste en suministrar una plancha de vapor que tiene dos depósitos independientes para alojar diferentes fluidos -uno de los cuales es agua- de tal manera que se puede escoger, a voluntad, cuál de los dos se debe proyectar, en forma de vapor o pulverizado, desde la plancha.

Reivindicaciones 1 a 11: Una plancha eléctrica que comprende: Una carcasa; *una placa base de plancha, conectada a la carcasa; un calentador, para* calentar la placa base; un sistema de mantenimiento de fluido, conectado a la carcasa, que comprende, a su vez: un primer depósito; y, un segundo depósito -el cual almacena sólo agua- y está conectado a la placa base; y, un sistema de suministro de fluido, para suministrar el fluido desde el primer depósito y el agua desde el segundo depósito, que comprende: una boquilla de pulverizado *conectada a la carcasa; y, una bomba* que conecta al primer depósito con la boquilla de pulverizado; el cual está adaptado para suministrar el fluido únicamente a través de la boquilla, sin adición de agua del segundo depósito.

Reivindicaciones 12 a 19: Una plancha eléctrica que comprende: Una carcasa; una placa base de plancha, conectada a la carcasa; un calentador, para calentar la placa base; un sistema de mantenimiento de fluido, conectado a la carcasa, que comprende, a su vez: un tanque de mantenimiento de líquido multidepósito simple, que comprende, a su turno: un primer depósito; y, un segundo depósito adyacente y separado del primero por una pared común; y, un sistema de suministro de fluido, para suministrar el fluido desde el primer depósito y el agua desde el segundo depósito, que comprende: una boquilla de pulverizado conectada a la carcasa; y, una bomba que conecta al primer depósito con la boquilla de pulverizado; el cual está adaptado para suministrar el fluido únicamente a través de la boquilla, sin adición de agua del segundo depósito.

Reivindicación 20: Un método de fabricación de una plancha eléctrica, que comprende: Suministrar un tanque multidepósito, que tiene: un primer depósito para mantener un primer líquido, y, un segundo depósito para mantener un segundo líquido, separado del primero por una pared común; conectar el primer depósito a una boquilla de pulverizado mediante un primer sistema de conducción; y, conectar el segundo depósito a la placa base mediante un segundo sistema de conducción; en donde los dos líquidos se mantienen separados dentro de los depósitos y de los sistemas de conducción.

El problema planteado en esta solicitud es satisfacer la necesidad de suministrar dos fluidos distintos en una misma plancha eléctrica de vapor.

Para solucionar este problema técnico la solicitud en estudio proporciona una plancha que tiene dos depósitos separados de fluido, con salidas separadas *para cada uno de los fluidos.*

- Clasificación Internacional de Patentes (IPC) asignada: D06F 75/10, 75/14, 75/20

3. De la solicitud de Patente

3.1 Descripción *(artículo 28 D. 486)*

- Durante el análisis del texto de la descripción y de las ilustraciones anexadas, se observaron los siguientes defectos:

1) El título o nombre de la invención no concuerda del todo con lo reclamado en las reivindicaciones. Se deben hacer los ajustes pertinentes en uno o en otras.

2) Dentro del juego de dibujos se encuentran dos páginas -con la figura 3 y la figura 4- cuyos textos difieren (los textos de la página correspondiente al folio 48 están en inglés y los del folio 46, en español). Ver folios 46 y 48.
3) En la página 1, folio 17, aparece la expresión *El fluido (...) se puede mezclar (...9 y bombeado mediante un bombeo (...)* que carece de sentido.
4) En la misma página 1, encontramos, por primera vez, el término *zapata*, que, según el significado sancionado por el Diccionario de la Real Academia Española (DRAE), no corresponde al contexto. Se le sugiere al solicitante que lo sustituya por *placa base* u otra expresión que se ajuste mejor a lo que se divulga.
5) *En la misma página 1, se encuentra la expresión 6,625,910 en donde* está mal empleada la coma. En Colombia se emplea la coma decimal.
6) En la página 5, folio 21, aparece la expresión *que incorpora características de incorporación* que carece de sentido.
7) En la página 6, folio 22, aparece el término *Calrod* cuyo significado se desconoce.
8) En la misma página 6, aparece la expresión *cuerda eléctrica,* que, de acuerdo con el uso común, debería ser sustituida por *cable eléctrico* u otra expresión que se ajuste mejor al contexto.
9) En la página 9, folio 25, aparece la expresión *periodo de tiempo* que es redundante.
10) En la página 10, folio 26, aparece la expresión *agua/solución* en donde se emplea mal la barra.
11) En la misma página 10 aparece el término *subintrada* cuyo significado, según se deduce del DRAE, no concuerda con el contexto.
12) En la página 12, folio 28, aparece la expresión *sistema de mantenimiento de fluidos 68* pero, en ninguna de las figuras anexadas se encuentra señalado el número 68, por lo que se requiere realizar las correcciones pertinentes.
13) En la página 15, folio 31, se encuentra la expresión *y/o*.
Al respecto, el *Diccionario Panhispánico de Dudas* de la Real Academia Española y de la Asociación de Academias de la Lengua Española, primera edición, octubre de 2005, página 681, dice:

> *y/o: Hoy es frecuente el empleo conjunto de las conjunciones copulativa y disyuntiva separadas por una barra oblicua, calco del inglés «and/or», con la intención de hacer explícita la posibilidad de elegir entre la suma o la alternativa de dos opciones: «Se necesitan traductores de inglés y/o francés». Se olvida que la conjunción 'o' puede expresar en español ambos valores conjuntamente.*

14) En la página 16, folio 32, aparece el término *ebullidor*, que no se encuentra en el DRAE. Se desconoce el significado que le quiere dar el *solicitante.*
15) En la misma página 16, se encuentra la expresión *se puede suministrar para suministrar resultados* cuyo significado se desconoce.
16) En la página 18, folio 34, aparece la expresión *La boquilla de pulverizado comprende una boquilla de pulverizado delicada* cuyo significado se desconoce.
17) En la página 19, folio 35, aparece por primera vez la expresión *plato solo 114*, cuyo significado se desconoce.
18) En la página 20, folio 36, aparece por primera vez la expresión *lado lateral* que es redundante.

19) En la página 21, folio 37, aparece la expresión *un metro de agua* cuyo significado no concuerda con el contexto.

- La descripción no cumple con los requisitos de claridad y divulgación completa, lo que dificulta o impide su comprensión y ejecución de acuerdo al art. 28 de la Decisión 486

3.2 Reivindicaciones *(artículo 30 D 486)*

- Durante el análisis del texto de las reivindicaciones se observaron los siguientes defectos:

1) En la reivindicación 1, folio 39, aparece tres (3) veces, *el término comprende*. Como se trata de una expresión comúnmente empleada en las reivindicaciones para distinguir la parte característica del preámbulo, su empleo repetitivo crea confusión. El solicitante debe aclarar cuál es la parte que él considera como característica propia en esta reivindicación. Además, en la reivindicación 12, folio 41, aparece cuatro (4) veces el término objetado.
2) En la misma reivindicación aparece por primera vez en el capítulo reivindicatorio el término *zapata* que fue objetado arriba.
3) En la reivindicación 11, folio 41, aparece el término *influido* cuyo significado, según se deduce del DRAE, no concuerda con el contexto.
4) En la reivindicación 12, folios 41 y 42, aparece la expresión *Un segundo reservorio de fluido (...) para suministrar agua desde el segundo reservorio* que es confusa.
5) En aras de la concisión, se debe incluir una sola reivindicación independiente, porque lo reclamado en la reivindicación 12 difiere muy poco de lo reclamado en la reivindicación 1, por lo que se podría redactar una única reivindicación independiente que incluya las características comunes.
6) En la reivindicación 13, folio 42, aparece la expresión *una pared integral que está integrablemente formada,* que es redundante, y por tanto afecta negativamente la concisión.
7) En la reivindicación 18, folio 43, aparece la expresión *lado lateral* que es redundante.
8) En la reivindicación 21, folio 44, se reclama un método que no fue explícitamente divulgado en la descripción y, por tanto, esta reivindicación carece de sustento.
9) En la misma reivindicación 21, se encuentra la expresión *el primer y segundo líquido son mantenidos separados uno del otro* en donde, en primer lugar, se observa la omisión del artículo que debe preceder a (el) *segundo;* en segundo lugar, se omite la *s* para *líquidos;* y, en tercer lugar sobran los términos *uno del otro.*

- Las reivindicaciones no cumplen con los requisitos de definición, claridad, concisión o sustento por la descripción de acuerdo al art. 30 de la Decisión *486. Debe entenderse que las reivindicaciones dependientes* de las reivindicaciones objetadas son, asimismo, objetadas, por razones análogas.

Se deben presentar, entonces, nuevos capítulos descriptivo y reivindicatorio, ambos completos, junto con un nuevo juego de dibujos, donde se hayan corregido todas las objeciones que se han hecho arriba. Esto con el fin de evitar -cuando solo se presentan algunas páginas sueltas *corregidas- que el lector tenga que desplazarse desde un sitio a otro de la*

solicitud y luego regresar a donde estaba antes sin perder la ilación de la lectura, porque esto produce confusión y afecta negativamente la claridad de dichos capítulos.

4. Determinación del Estado de la Técnica

- Las fechas que se han tenido en cuenta para determinar el Estado de la Técnica son las

  Fechas de presentación de las solicitudes prioritarias 04-06-17 y 05-05-10.

- Se realizó la búsqueda en el estado de la técnica de documentos relacionados con la solicitud teniendo en cuenta la fecha indicada; y durante la búsqueda de anterioridades se encontraron los siguientes documentos, que forman parte de la familia de patentes de la presente solicitud: Publicación US 2005/0278986 A1 del 05-12-22; Patente US 7 191 554 B2 del 07-03-20; y, publicación MX PA05006593 A del 05-12-21. Se anexa la copia de las primeras páginas de estos documentos junto con la copia del la Negación Preliminar de la USPTO y la copia del capítulo reivindicatorio admitido por la USPTO (en inglés). También se encontraron los siguientes documentos que forman parte del estado de la técnica más cercano al objeto de la solicitud:

n.°	Documento	Título	Fecha de publicación
D1	Patente US 2 817 169, cuyo inventor es Howard H. Schott	«Double tank spray iron»(Una plancha de rociado, con doble tanque)	1957-12-24
D2	*Patente US 2 883 778, cuyo inventor* es Merrill Miller Kistner	*«Steam iron»(Una plancha de* vapor)	1959-04-28
D3	Patente US 4 688 340, cuyo inventor es Michael J. Ostrelich, quien le cedió sus derechos a la Black & Decker Inc.	«Travel steam and dry iron»(Una plancha seca y de vapor, de viaje)	1987-08-25
D4	Patente US 5 638 622, cuyo inventor es Dieter Höhn, quien le cedió sus derechos a la Rowenta-Werke GmbH	«Steam iron with pump and *pressure reservoir»(Una* plancha de vapor con una bomba y un depósito de presión)	1997-06-17
D5	Patente US 6 425 197 B2, cuyos inventores son Boon Kihan Ching y Arun Sundaram, quienes le cedieron *sus derechos a la Koninklijke Philips* electronics, NV	«Electric iron»(Una plancha eléctrica)	2002-07-30
D6	Patente US 6 631 572 B1, cuya inventora es María E. García	«Refillable dispensing apparatus»(Un aparato dispensador rellenable)	2003-10-14

Se anexa la copia de las páginas pertinentes de estos documentos

NOTAS: No se realizaron las evaluaciones de los demás requisitos de patentabilidad, porque se hicieron algunas objeciones respecto a la definición, la claridad, la concisión y el sustento por la descripción de las reivindicaciones.

No obstante lo anterior, con base en la negación preliminar de la USPTO, se prevén objeciones respecto al nivel inventivo del objeto de la solicitud.

Teniendo en cuenta lo anterior, se le sugiere al solicitante que, si considera que el objeto de la solicitud reúne los requisitos para ello -en especial los determinados

por el artículo 81 de la Decisión 486-, cambie la modalidad de su solicitud a patente de modelo de utilidad.

De aceptar esta sugerencia, deberá expresarlo así y deberá realizar los ajustes que considere necesarios en el capítulo reivindicatorio para que no se encuentre ninguna objeción previsible -en el momento en que la Oficina examine su solicitud para verificar el cumplimiento de los requisitos, bajo esta nueva modalidad-. En especial, se le advierte al solicitante que los métodos no son susceptibles de protección mediante esta modalidad.

Esta sugerencia se hace teniendo en cuenta lo dispuesto en el artículo 35 de la mencionada Decisión.

5. Conclusión:

Los requisitos de patentabilidad de la presente solicitud se encuentran afectados negativamente por la falta de claridad de la descripción y las reivindicaciones y por la falta de definición, de sustento y de concisión de estas últimas.

En cumplimiento del artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le indica que debe dar respuesta dentro del término de sesenta días contados a partir de la fecha de notificación de la presente comunicación. En caso de no dar respuesta al presente requerimiento, o si a pesar de la respuesta subsistieran los impedimentos para la concesión, se denegará la patente.

Notifíquese el presente oficio conforme a lo dispuesto en el número 5.2, letra e), del capítulo quinto del título primero de la Circular Única n.° 10 de 2001.

ALIX CARMENZA CÉSPEDES DE VERGEL
Jefe de División de Nuevas Creaciones

El anterior requerimiento fue notificado por fijación en lista, de fecha 18 SET. 2008

CONCEPTO TÉCNICO n.° 2608

EXAMINADOR TÉCNICO
Código n.° 202009

US 20050278986A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2005/0278986 A1**

Almanzar et al. (43) **Pub. Date: Dec. 22, 2005**

(54) **STEAM IRON**

(75) Inventors: **Sergio A. Almanzar**, Miramar, FL (US); **Maria C. Duque**, Miami, FL (US); **Michael R. Fretwell**, Weston, FL (US)

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(73) Assignee: **HP Intellectual Property Corp.**

(21) Appl. No.: **11/126,858**

(22) Filed: **May 10, 2005**

Related U.S. Application Data

(60) Provisional application No. 60/580,409, filed on Jun. 17, 2004.

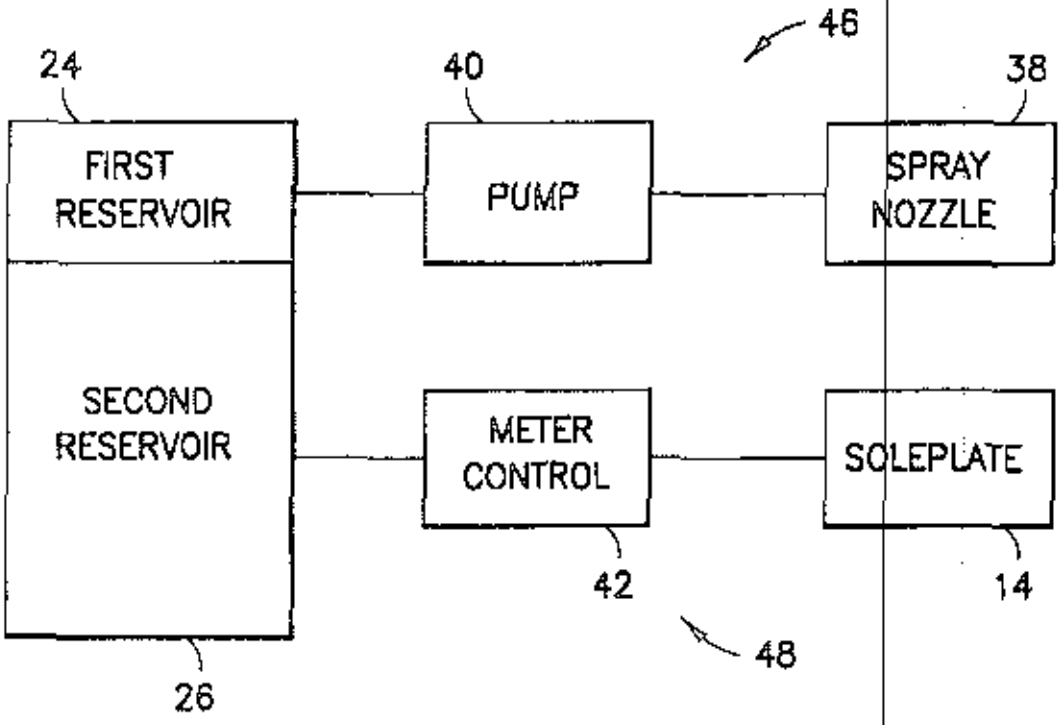
Publication Classification

(51) **Int. Cl.**[7] **D06F 75/06**; D06F 75/10; D06F 75/22

(52) **U.S. Cl.** **38/77.1**

(57) **ABSTRACT**

An electric iron including a housing; a soleplate connected to the housing; a heater for heating the soleplate; a fluid holding system connected to the housing, the fluid holding system including a first fluid reservoir; and a second water only reservoir connected to the soleplate; and a fluid dispensing system for dispensing fluid from the first reservoir and for dispensing water from the second reservoir. The fluid dispensing system includes a spray nozzle connected to the housing and a pump connecting the first reservoir to the spray nozzle. The fluid dispensing system is adapted to dispense fluid from the first reservoir only through the spray nozzle and only without addition of water from the second reservoir.



Claims 12-16,18 and 19 are rejected under 35 U.S.C. § 102(b) as being anticipated by Schott (2,817,169).

Schott teaches an electric iron having a housing 28, a soleplate 10 connected to the housing, which is heated by a heater 12. Schott teaches a fluid holding system where a first reservoir 32 is provided for providing a first fluid and a second reservoir 34 is provided for providing a separate second fluid. The first and second reservoirs are separated by a common wall 30 and a separate pump (figure 5) is provided for dispensing each separate fluid. Each reservoir includes a movable cap placed towards the middle lateral side of the tank and iron useful for filling each reservoir with the particular fluid.

Claim 21 is rejected under 35 U.S.C. § 102(b) as being anticipated by Ching et al. (6,425,197).

Ching et al. teach a steam iron having a housing 1, a soleplate 2 connected to the housing, which is heated by a heater 3. Ching et al. teach a fluid holding system including a multi-reservoir tank where a first reservoir 9 is provided for providing a first fluid and a second reservoir 7 is provided for providing a separate second fluid to the vaporization chamber of the iron. The first and second reservoirs are separated by a common wall 14,15,17,20. Thus the fluids are kept separate by the two reservoirs and their appropriate conduits while the spray function is not in use.

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1,2,5,6 and 8-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Garcia (6,631,572) in view of Ostrelich (4,688,340).

Garcia discloses the invention substantially as claimed. Garcia teaches a steam iron *including a housing and having a fluid dispenser attached to the housing of the iron* (figure 1). The fluid dispenser 12 is connected to the housing and includes a fluid dispensing system for dispensing a fluid, which has an actuating button 30, a pump (column 4, line 47) which is connected to a conduit that leads to a nozzle 24. The pressing iron includes a housing and a soleplate and a spray nozzle toward the front of the iron. However, Garcia does not specifically suggest further details of the iron such as a connection from a (second) internal reservoir to a vaporization chamber and out steam outlets for pressing an article.

Ostrelich teaches a steam iron 10 including a housing, which encloses a reservoir 50. The water in the reservoir is fed to a vaporization chamber 116 and is converted to steam for wetting the article via the steam outlets 18 (figure 9) in the soleplate12. The water reservoir 52 includes a filling port 98 and tether 110 for allowing the opening and closing of the port and refilling the tank.

It would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to construct the iron of Garcia as having such details as a

reservoir, a steam chamber and a soleplate. Providing such details of Ostrelich, which are missing in the iron of Garcia, would define the ordinary components comprised by an ordinary steam.

Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Garcia, as modified above by Ostrelich, and further in view of Kistner (2,883778).

Garcia, as modified by Ostrelich above, discloses the invention substantially as claimed. Garcia teaches a steam iron including a housing and having a fluid dispenser attached to the housing of the iron (figure 1), and where the pressing iron includes a housing and a soleplate and a spray nozzle toward the front of the iron. However, Garcia, as modified by Ostrelich above, does not specifically suggest a screw cap for the inlet of the reservoir.

Kistner teaches a steam iron including a housing 17, which encloses a reservoir 27, 28 from which the water in the reservoir is fed to a vaporization chamber and is converted to steam for wetting the article. The reservoir includes a fill spout 32, which is threaded for accommodating a screw on cap for opening and closing the inlet.

It would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to construct the iron of Garcia, as modified by Ostrelich above, as having such details as a reservoir with a screw on cap on the inlet. Providing such a cap would assure that a proper seal is present when the iron is put on its heel of on its side. Such a seal would assure that no water is spilled on the ironing board or article being ironed.

Claim 11 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Garcia, as modified above by Ostrelich, and further in view of Hohn (5,638,622).

Garcia, as modified by Ostrelich above, discloses the invention substantially as claimed. *Garcia teaches a steam iron including a housing and having a fluid dispenser* attached to the housing of the iron (figure 1), and where the pressing iron includes a housing and a soleplate and a spray nozzle toward the front of the iron. However, Garcia, as modified by Ostrelich above, does not specifically suggest an electric pump for pumping the water from an internal reservoir to a vaporization chamber.

Hohn teaches a steam iron including a housing which encloses a reservoir 1 and from which the water in the reservoir is fed to a vaporization chamber by using a pump 2 and is converted to steam for wetting the article

It would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to construct the iron of Garcia, as modified by Ostrelich above, as having such details as a *pump for pumping water from the reservoir to the steam* generating chamber. Providing such a pump would assure the controlled feeding of water to the steam-forming chamber. Providing such would better control the steam being used to wet the article.

Claim 17 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Schott and further in view of Ostrelich and Kistner.

Schott discloses the invention substantially as claimed. Schott teaches a steam iron including a multiple reservoir with fluid dispensing from each reservoir. Each

reservoir further includes a filler cap for refilling the reservoirs with fluid. However, Schott does not specifically suggest a screw on filler cap or a cap provided with a tether.

Kistner teaches a steam iron including a reservoir and where a screw on filler cap is provided for opening and closing the reservoir inlet.

It would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to construct the iron of Schott as having a screw-on cap. Providing such a cap would assure that a proper seal is present when the iron is put on its heel of on its side. Such a seal would assure that no water is spilled on the ironing board or article being ironed.

Ostrelich teaches a steam iron including a reservoir and where a filler cap is provided with a tether.

It would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to construct the iron of Schott as having a filler cap with a tether. Providing such a cap would assure that after unscrewing the cap, it would not become misplaced or lost. The tether would assure that the cap is always at the ready for replacement of the cap onto the reservoir inlet.

ALLOWABLE SUBJECT MATTER

Claims 3,4 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

PERTINENT CITATIONS

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Debourg et al. Illustrate a steam iron including a multi-reservoir arrangement. Beach illustrates a steam iron including a multi-chambered tank. Bouleau et al. Illustrate a multi-chambered steam generation chamber.

INQUIRIES

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ismael Izaguirre whose telephone number is (571) 272-4987. The examiner can normally be reached on M-F (8:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Calvert can be reached on (571) 272-4983. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ismael Izaguirre
Primary Examiner
Art Unit 3765

12/7/05

CLAIM AMENDMENTS

IN THE CLAIMS

This listing of the claims will replace all prior versions, and listing, of claims in the application or previous response to office action:

1. **(Canceled)**

2. **(Currently amended)** An electric iron as in claim ~~[1]~~ 22 wherein the fluid dispensing system is adapted to dispense water from *the second reservoir only through the* soleplate.

3. **(Canceled)**

4. **(Currently amended)** An electric iron as in claim ~~[3]~~ 22 wherein the single container comprises a top member and a bottom member connected to each other to form the reservoirs.

5. **(Currently amended)** An electric iron as in claim ~~[1]~~ 22 wherein the housing comprises a movable lid on a top of the housing covering a water entry into the second reservoir.

6. (Original) An electric iron as in claim 5 wherein the housing comprises a movable cap at a middle section of the housing covering a fluid entry into the first reservoir.

7. *(Original) An electric iron as in claim 6 wherein the cap is screwed onto the* housing and is connected by a tether to the housing.

8. (Original) An electric iron as in claim 6 wherein the fluid entry into the first reservoir is located at a lateral side of the housing.

9. **(Currently amended)** An electric iron as in claim ~~[1]~~ 22 wherein the first reservoir is located at least partially in front of the second reservoir.

10. **(Currently amended)** An electric iron as in claim ~~[1]~~ 22 wherein the fluid dispensing system comprises an electric pump connecting the first reservoir to the spray nozzle.

11. **(Currently amended)** An electric iron as in claim ~~[1]~~ 22 wherein the fluid dispensing system comprises an electronic pump connecting the second reservoir to a steam chamber in the soleplate.

12. **(Canceled)**

13. **(Currently amended)** An electric iron as in claim ~~[12]~~ 20 wherein the common wall comprises an integral wall which is integrally formed with the first and second reservoirs.

14. **(Currently amended)** An electric iron as in claim ~~[12]~~ 20 wherein the single multi-reservoir liquid holding tank comprises a top member and a bottom member connected to each other to form the reservoirs.

15. **(Currently amended)** An electric iron as in claim ~~[12]~~ 20 wherein the housing comprises a movable lid on a top of the housing covering a water entry into the second reservoir.

16. (Original) An electric iron as in claim 15 wherein the housing comprises a movable cap at a middle section of the housing covering a fluid entry into the first reservoir.

17. (Original) An electric iron as in claim 16 wherein the cap is screwed onto the housing and is connected by a tether to the housing.

18. (Original) An electric iron as in claim 16 wherein the fluid entry into the first reservoir is located at a lateral side of the housing.

19. **(Currently amended)** An electric iron as in claim **~~12~~** 20 wherein the first reservoir is located at least partially in front of the second reservoir.

20. **(Currently amended)** ~~An electric iron as in claim 12~~ An electric iron comprising:

a housing;

a soleplate connected to the housing;

a heater for heating the soleplate;

a fluid holding system connected to the housing, the fluid holding system comprising a single multi-reservoir liquid holding tank comprising:

a first fluid reservoir; and

an adjacent second fluid reservoir separated from the first fluid reservoir by a common wall; and

a fluid dispensing system for dispensing fluid from the first reservoir and for dispensing water from the second reservoir, wherein the fluid dispensing system comprises a spray nozzle connected to the housing and a pump connecting the first reservoir to the spray nozzle, wherein the fluid dispensing system is adapted to dispense fluid from the first reservoir through the spray nozzle and without addition of water from the second reservoir;

wherein the fluid dispensing system comprises *a first conduiting path from the first* reservoir to the spray nozzle and a completely separate second conduiting path from the second reservoir to the soleplate.

21. **(Canceled)**

22. **(New)** An electric iron comprising:

a housing;

a soleplate connected to the housing;

a heater for heating the soleplate;

a fluid holding system connected to the housing, the fluid holding system comprising:

a first fluid reservoir; and

a second water only reservoir connected to the soleplate; and

a fluid dispensing system for dispensing fluid from the first reservoir and for dispensing water from the second reservoir, wherein the fluid dispensing system comprises a spray nozzle connected to the housing and a pump connecting the first reservoir to the spray nozzle, *wherein the fluid dispensing system is adapted to dispense fluid from* the first reservoir only through the spray nozzle and only without addition of water from the second reservoir;

wherein the first and second reservoirs are housed in a single container having a single integral wall separating holding chambers of the first and second reservoirs from each other.

US007191554B2

(12) **United States Patent**
Almanzar et al.

(10) **Patent No.: US 7,191,554 B2**
(45) **Date of Patent: Mar. 20, 2007**

(54) **STEAM IRON**

(75) Inventors: **Sergio A. Almanzar**, Miramar, FL (US); **Maria C. Duque**, Miami, FL (US); **Michael R. Fretwell**, Weston, FL (US)

(73) Assignee: **Applica Consumer Products, Inc.**, Miramar, FL (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 78 days.

(21) Appl. No.: **11/126,858**

(22) Filed: **May 10, 2005**

(65) **Prior Publication Data**

US 2005/0278986 A1 Dec. 22, 2005

Related U.S. Application Data

(60) Provisional application No. 60/580,409, filed on Jun. 17, 2004.

(51) **Int. Cl.**
D06F 75/22 (2006.01)
D06F 75/06 (2006.01)

(52) **U.S. Cl.** **38/77.5**

(58) **Field of Classification Search** 38/77.1, 38/77.3, 77.5, 77.6, 77.8, 77.83, 88, 77, 77.82; 219/245

See application file for complete search history.

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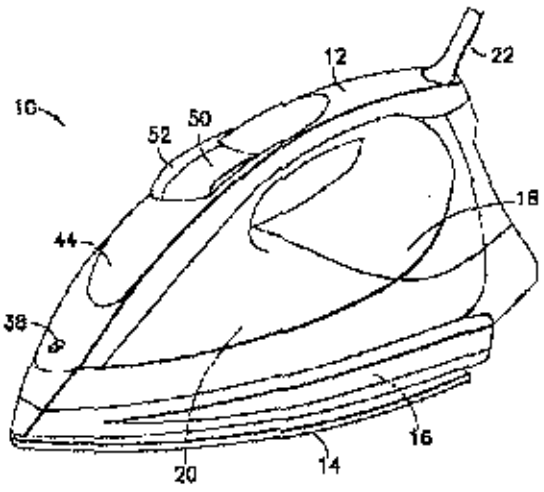
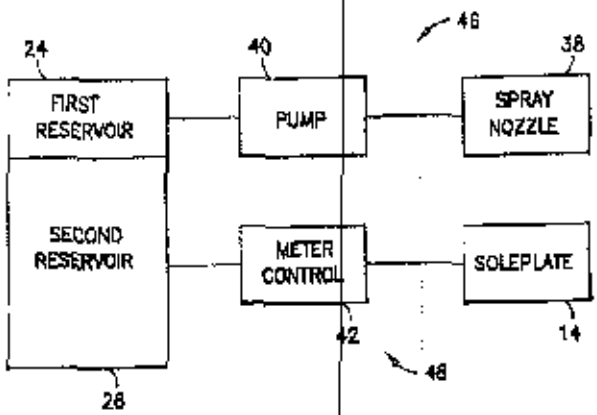
Primary Examiner—Ismael Izaguirre
(74) *Attorney, Agent, or Firm*—Baker Botts L.L.P.

(57) **ABSTRACT**

An electric iron including a housing; a soleplate connected to the housing; a heater for heating the soleplate; a fluid holding system connected to the housing, the fluid holding system including a first fluid reservoir; and a second water only reservoir connected to the soleplate; and a fluid dispensing system for dispensing fluid from the first reservoir and for dispensing water from the second reservoir. The fluid dispensing system includes a spray nozzle connected to the housing and a pump connecting the first reservoir to the spray nozzle. The fluid dispensing system is adapted to dispense fluid from the first reservoir only through the spray nozzle and only without addition of water from the second reservoir.

18 Claims, 6 Drawing Sheets





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10/05/2005 US 11/126,858

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(54) Título: **PLANCHA DE VAPOR.**
(54) Title: **STEAM IRON.**

(57) Resumen

Se proporciona una plancha electrica que incluye un alojamiento; una base metalica conectada al alojamiento; un calentador para calentar a la base metalica; un sistema de retencion de fluido conectado al alojamiento, el sistema de retencion de fluido incluye un primer deposito de fluido; y un segundo deposito unicamente de agua conectado a la base metalica; y el sistema de suministro de fluido para suministrar fluido desde el primer deposito y para suministrar agua desde el segundo deposito. El sistema de suministro de fluido incluye una boquilla de aspersion conectada al alojamiento y una bomba que conecta al primer deposito con la boquilla de aspersion. El sistema de suministro de fluido esta adaptado para suministrar fluido desde el primer deposito unicamente a traves de la boquilla de aspersion y unicamente sin la adicion de agua desde el segundo deposito.

(57) Abstract

An electric iron including a housing; a soleplate connected to the housing; a heater for heating the soleplate; a fluid holding system connected to the housing, the fluid holding system including a first fluid reservoir, and a second water only reservoir connected to the soleplate; and a fluid dispensing system for dispensing fluid from the first reservoir and for dispensing water from the second reservoir. The fluid dispensing system includes a spray nozzle connected to the housing and a pump connecting the first reservoir to the spray nozzle. The fluid dispensing system is adapted to dispense fluid from the first reservoir only through the spray nozzle and only without addition of water from the second reservoir.

Dec. 24, 1957 H. H. SCHOTT 2,817,169

DOUBLE TANK SPRAY IRON

Filed Sept. 3, 1954 3 Sheets-Sheet 1

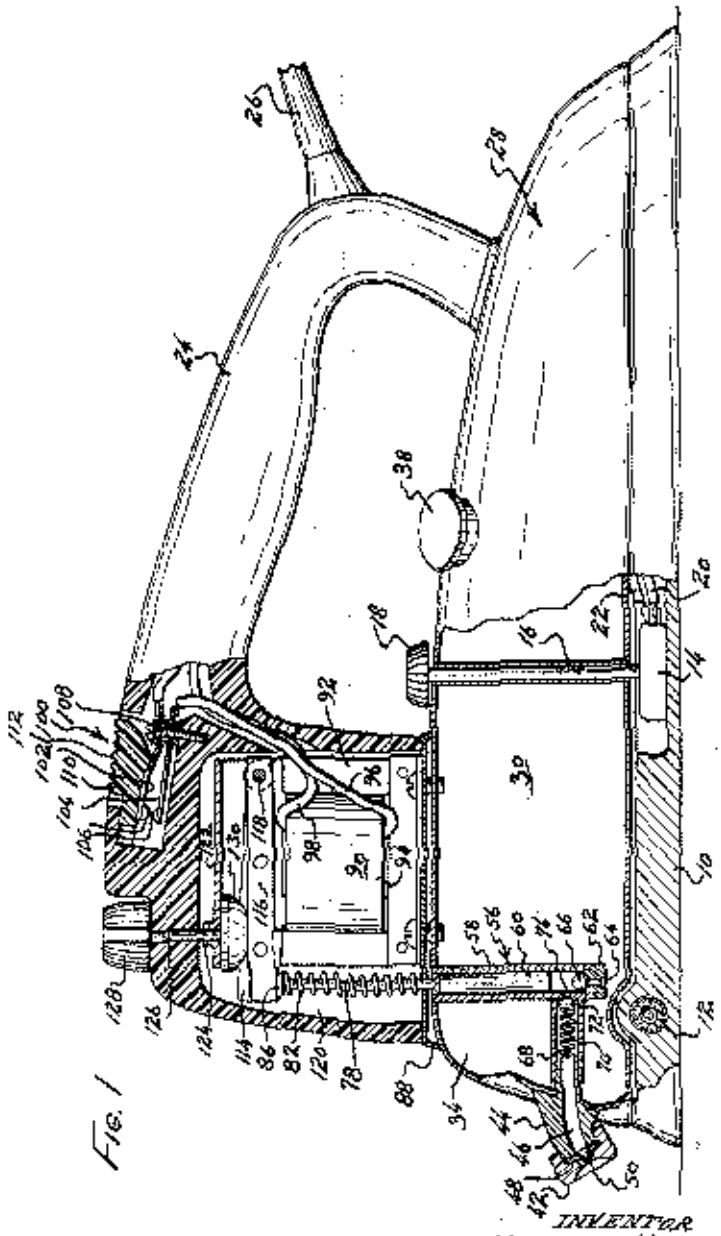

FIG. 1

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Dec. 24, 1957 H. H. SCHOTT 2,817,169

DOUBLE TANK SPRAY IRON

Filed Sept. 3, 1954 3 Sheets-Sheet 2

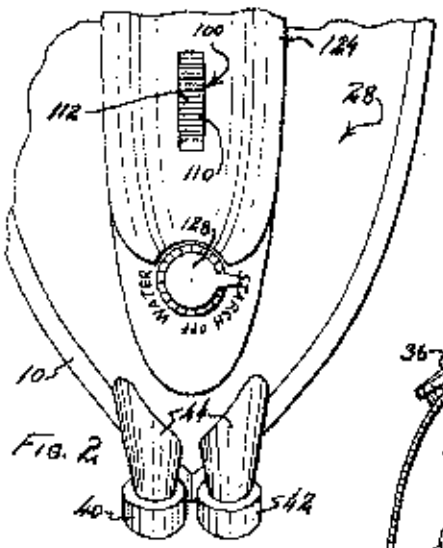

FIG. 2

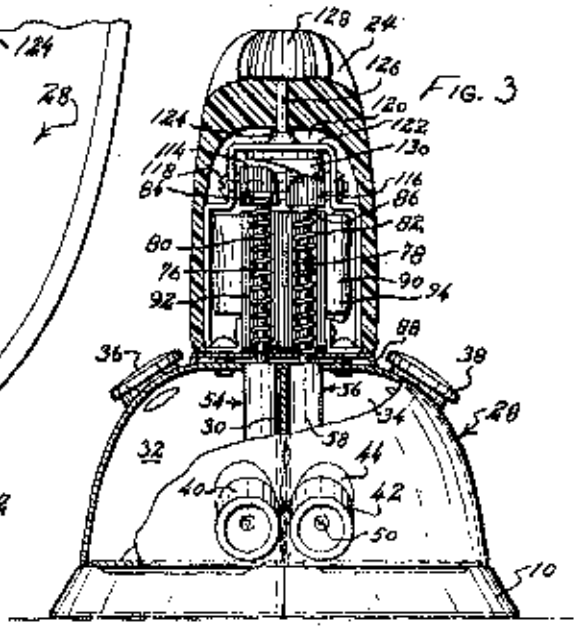

FIG. 3

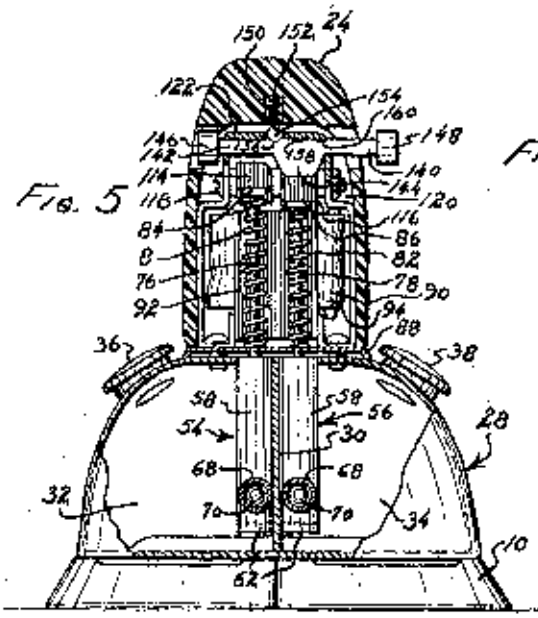

FIG. 5

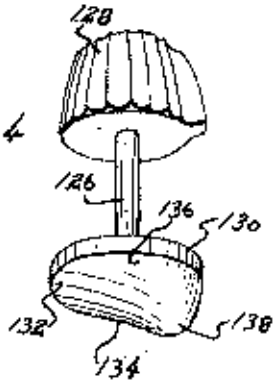

FIG 4

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BY Stuart R. Peterson
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tured in Fig. 4 is believed helpful to a facile understanding of the invention.

Passing now to a discussion of the second embodiment, the same reference numerals have been applied to identical parts, and the salient difference between the embodiment pictured in Fig. 5 from that in the earlier referred to figures resides in the use of a reciprocable cam means designated generally by the reference numeral 140. As will be seen from Fig. 5 this reciprocable cam means includes a bar 142 journalled for transverse sliding movement in the yoke 122. To enable the user of the iron to quickly bring into effective blocking operation a promontory 144 formed integral with the bar 142 is a pair of push buttons 146 and 148. As indicated in Fig. 5, the push button 146 has been pressed so as to move the promontory 144 into blocking relationship with the armature 116, thereby conditioning the iron for a starch applying operation. For the purpose of maintaining the cam means 140 in its shifted position, there is provided a recess 150 housing a coil spring 152, the lower end of the coil spring bearing against a ball 154. The ball 154 in turn is engageable in any one of three notches 156, 158, 160, the notch 156 currently being in use to maintain the cam means 140 in its pictured position. However, depression of the push button 148 will result in the promontory 144 being moved to the left and when the ball 154 rests in the notch 158, then the promontory will straddle both the armatures 114 and 116 to prevent the operation of either and of course when the button 148 is fully pressed to the left then the ball 154 rests in the notch 160 to hold the promontory 144 in superimposed relation with the armature 114, thereby blocking the vibratory movement of said armature 114.

From the preceding paragraph it will be discerned that the embodiment of Fig. 5 differs in its function by reason of the reciprocable cam means 140 in contradistinction to the rotary type of cam means 130 described in the earlier embodiment.

In some instances it will be desirable to utilize only a single pump mechanism 54 or 56 together with a single armature 114 or 116. Consequently the modification of Figs. 6–8 concerns the utilization of only a single pump mechanism which has been given the reference numeral 162 in order to distinguish it from the pump mechanisms 54 and 56 although, in general, as will presently be recognized, there is appreciable similarity between the pump mechanism 162 and the earlier referred to ones 54 and 56. The pump mechanism 162 comprises a vertically directed cylinder 164 in which a piston 166 is mounted for reciprocable movement. The lower end of the cylinder 164 is of a T-shaped configuration inasmuch as a horizontal cylinder 168 is employed, the horizontal cylinder 168 establishing communication between the compartment 32 and the compartment 34. Communication between the vertical cylinder 164 and the horizontal cylinder 168 is effected by means of a threaded boss 170 integral with the cylinder 168, which boss is received in the lower end of the cylinder 164. The boss 170 corresponds to the plug 62 having therein an aperture 172 at the upper end of which is disposed a ball check 174.

The cylinder 168, as already indicated, provides a means of conducting liquid from either of the compartments 32 or 34 and to control selective withdrawal of liquid from either of these two compartments it is envisaged that a reciprocable piston 176 be slidably disposed within the bore of the cylinder 168. As best seen from Fig. 7, the piston is equipped with a piston rod 178 extending in the direction of the compartment 34. To the free end of the piston rod 178 is pivotally attached a crank element 180 by means of a pin 182. The crank 180 is secured to the lower end of an upstanding shaft 184 having its lower end journalled in a cup bearing 186. The shaft 184 extends upwardly through a grommet 188 in the shell of the reservoir 28, continuing upwardly through a portion of a somewhat modified handle member 190 and terminating in a knob 192 by which the shaft 184 may be rotated to shift the piston 176 to either side of the aperture 172 and thereby determine from which compartment 32 or 34 liquid is to be withdrawn. When the shaft 184 is viewed from above, it will be recognized that the clockwise rotation of the shaft is instrumental in moving the piston 176 to the left in Fig. 7, thereby establishing communication with the compartment 34, and counterclockwise rotation moves the piston to the right to connect the compartment 32.

The upper end of the piston 166 has integral therewith a piston rod 194 corresponding to the piston rods 76 and 78 and encircling this piston rod is a coil spring 196 bearing against the under side of an enlarged head 198. Here again, the spring 196 has its lower end abutting a platform or floor 200 so that when the spring 196 is under a slight compression, the piston 166 is urged upwardly. An electromagnetic motor 202 provides the actuating force for causing the piston 166 to reciprocate rapidly within the cylinder 164, this motor 202 being generally similar to the earlier described motor 90. However, the salient difference between the two motors resides in the fact that the matter motor 202 is equipped with only a single armature 204 instead of the twin armatures 114 and 116. Returning to a more complete description of the pump mechanism 162, it will be seen from Fig. 6 that this pump mechanism is provided with a forwardly extending tubular portion 206 having contained therein a coil spring 208, one end of which bears against a ball check 210 for the purpose of sealing an aperture 212 formed in the vertical cylinder 164.

The opposite end of the tubular portion 206 has communication with a nozzle assembly designated in its entirety by the numeral 214. Inasmuch as this nozzle assembly is identical in construction with either of the nozzle assemblies 40 and 42, the duplication of parts contained therein has been denoted by the same specific reference numerals applied to Fig. 1. However, owing to the fact that a single mechanism 162 is employed in the currently described embodiment only a single nozzle assembly 214 is required for the shifting of the piston 176 determines from which tank the liquid is to be withdrawn, the nozzle assembly 214 serving to spray either the starch solution from the compartment 32 or the water from the compartment 34, these liquids having been suggested hereinbefore.

Reference to Fig. 8 will show that a longitudinally disposed partition 230 is utilized in forming the compartments 32 and 34, this partition 230 having been differentiated from the partition 30 inasmuch as it consists in the exemplified embodiment of several sections or panels to permit the pump mechanism 162 to be centrally located. Other than the particular construction mentioned, it will be appreciated that the partition 230 serves the same office as the one referred to earlier.

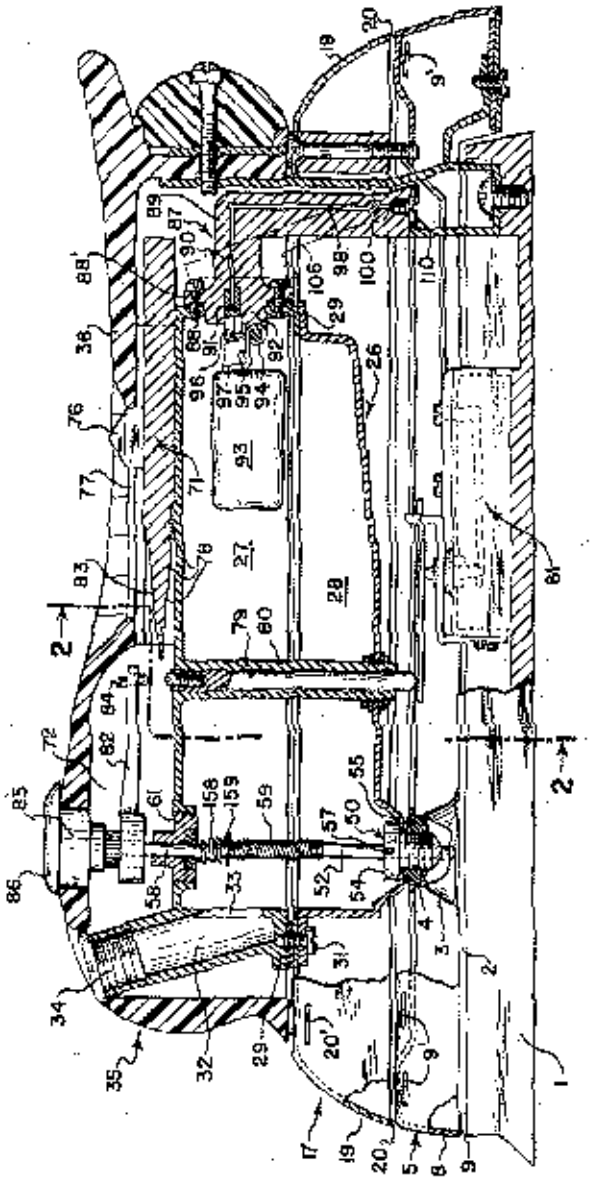
With the foregoing details in mind, it is believed that the operation of the several embodiments herein disclosed will be manifest. However, to assure a thorough understanding of the operation associated with each embodiment, a brief sequence will be given and in this connection reference should again be had to Figs. 1-4. It will be recalled that this embodiment utilizes a pair of nozzle assemblies 40 and 42, the selection of liquid from either the compartment 32 or 34 being made by rotation of the knob 128. For instance, when the knob 128 is moved counterclockwise to the position of Fig. 2, then the iron is conditioned for the spraying of the starch solution from the compartment 32 by way of the nozzle assembly 40 inasmuch as the promontory 132 then blocks the vibration of the armature 116. If a lesser amount of starch solution is desired then a reduced flow of starch solution may be brought about by rotating the knob 128 through a lesser angle than the 90° depicted in Fig. 2, for then

April 28, 1959 M. M. KISTNER 2,883,778

STEAM IRON

Original Filed March 23, 1954 2 Sheets-Sheet 1

FIG. 1



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203

April 28, 1959 M. M. KISTNER 2,883,778

STEAM IRON

Original Filed March 23, 1954 2 Sheets-Sheet 2

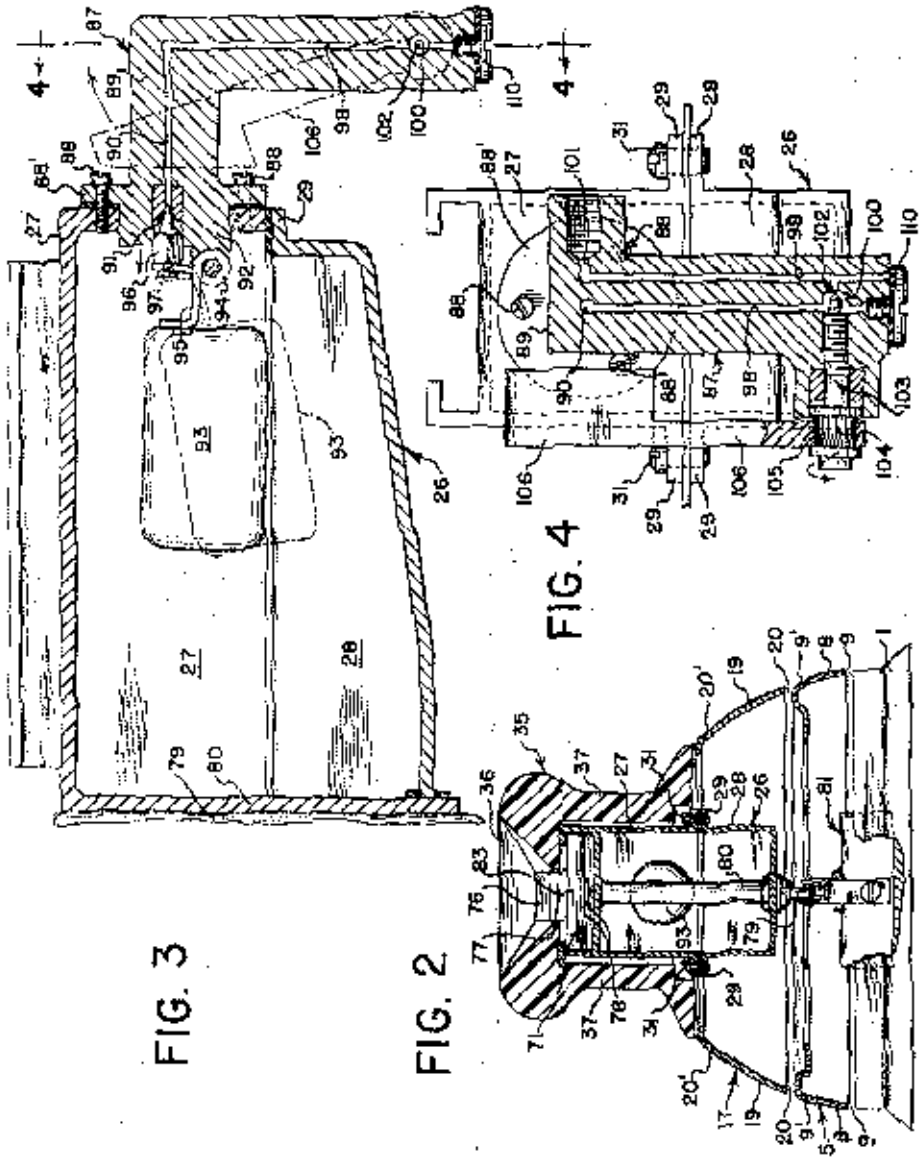

FIG. 4

FIG. 3

FIG. 2

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United States Patent Office

2,883,778

Patented Apr. 28, 1959

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2,883,778

STEAM IRON

Merrill Miller Kistner, St. Petersburg, Fla.

Original application March 23, 1954, Serial No. 418,068, now Patent No. 2,835,157, dated March 4, 1958. Divided and this application August 13, 1957, Serial No. 677,990

4 Claims. (Cl. 38—77)

This invention relates to steam irons and is a division of my copending application, Serial No. 418,068, filed March 23, 1954.

In steam irons of the type described and claimed in my prior Patent 2,384,839, granted September 18, 1945, the water supply is contained in a reservoir from which it is delivered, drop by drop, to a steam generating chamber in the sole-plate when the iron is in use. Although such irons have many advantages over other known types of steam irons, the reservoir does require periodic filling and this is objectionable to some users. Utilization of steam irons to the fullest extent has thus been prevented by this objection to the necessity of refilling the reservoir.

In another type of steam iron, the device is connected to a source of water or steam by a flexible conduit. Where water is supplied, it is delivered directly to that portion of the iron in which it is vaporized. Such constructions are used principally in irons for tailor shops, pressing establishments and the like as distinguished from domestic irons. The necessity of opening or closing a valve every time the iron is put in use, or when ironing is discontinued, even temporarily, has kept such devices from becoming popular in the domestic field.

In the present invention the iron is provided with a reservoir from which water is fed to the steam generating chamber as in the iron of my prior patent. However, instead of periodically filling this reservoir, it is filled from a tap or other source by means of a flexible conduit. The iron thus has the advantages of the iron of my prior patent without the objection most frequently voiced by domestic users of steam irons.

Furthermore, the substantially constant supply of water in the reservoir assures more even flow of water from the reservoir to the steam generating chamber in the sole-plate. In an iron in which the reservoir is periodically filled, the amount of water contained in the reservoir varies while the iron is in use, and the water is being fed to the steam generating chamber to be converted into steam. This causes variation in the amount of water fed to the steam generating chamber. When the water supply is nearly depleted, the flow is less in quantity and has a tendency to be irregular. However, with water constantly supplied to the reservoir to maintain a substantially constant amount of water in the reservoir, the delivery of water to the steam generating chamber is constant and even in flow.

In the accompanying drawings I have shown one embodiment of the invention. In this showing:

Fig. 1 is a vertical, longitudinal, sectional view of a steam iron, embodying the invention;

Fig. 2 is a vertical, transverse, sectional view on line 2—2 of Fig. 1;

Fig. 3 is an enlarged, vertical, sectional view of the rear of the reservoir showing the float, and float controlled valve; and

Fig. 4 is a sectional view on line 4—4 of Fig. 3.

Referring to the drawings, the iron comprises a sole-plate 1, which may be of any suitable construction including a steam generating chamber (not shown), for vaporizing water fed to it, and means for delivering the steam thus formed through outlets (not shown) in the bottom of the sole-plate to the material being ironed. The sole-plate may advantageously be of the construction shown in my prior patent, referred to above. A cover plate 2 is arranged over that portion of the sole-plate in which the grooves are formed. This cover plate and grooves in the sole-plate form interconnected channels through which steam flows from the steam generating chamber to the steam outlets or discharge ports in the face of the sole-plate. The cover plate is provided with an opening which is positioned over the steam generating chamber of the sole-plate when the iron is assembled. A dome 3 surrounds this opening, the dome being cast with the cover plate, or secured to it by brazing, or in any other suitable manner. A nut 4 is secured to dome 3 by brazing or in any other suitable way.

Immediately over the sole-plate, I provide a spacer shell 5. This shell consists of a plate which is shaped to conform to the contour of the sole-plate. It is provided with a flange 8 extending downwardly toward the sole-plate. As shown, this flange terminates above the sole-plate providing a space 9 through which air enters the area between the sole-plate and the spacer plate. Adjacent the top of the flange 8, I provide a plurality of spaced slits 9'. Air entering the area over the sole-plate through the space 9 may escape through these slits, and thus dissipate heat which would otherwise flow from the sole-plate to the reservoir of the iron.

A second spacer shell 17 is arranged over spacer shell 5. The two shells are generally similar, the second shell consisting of a plate having a peripheral flange 19 which conforms to the contour of the assembled iron. The bottom of flange 19 is spaced from shell 5, as shown at 20, to permit entrance of air, and this shell is provided with openings or slits 20' near the top through which the air is exhausted.

A reservoir 26 is arranged partly within the shells and partially above them, the reservoir being substantially rectangular in transverse cross-section. As shown, the reservoir consists of an upper section 27 and a lower section 28. These sections are provided with flanges 29 having openings therein. Bolts or other suitable fastening elements 31 are passed through the aligned openings and secure the two halves of the reservoir to each other. Suitable gaskets may be placed between the flanges to prevent leakage of water from the reservoir. While I contemplate maintaining a substantially constant amount of water in reservoir 26 by means of a connection to a faucet or other source of supply as hereinafter described, I also provide means for manually filling the reservoir if the iron is used in a place where a faucet is not available. For this purpose an internally threaded sleeve 32 is arranged in one wall of the reservoir. As shown, it projects upwardly at an angle from the front wall 33. A cap 34 is received in this sleeve.

As shown, the upper section 27 of the reservoir is preferably rectangular in cross-section. It is received within the lower portion of a handle 35 of the eraser-type. By that I mean that the handle consists of a hand-engaging upper portion 36 and portions 37 which extend downwardly on each side and at the front and back of the reservoir to a point slightly above upper shell 17. The hand-engaging portion 36 is wider than the depending portions 37 forming indentations for the reception of the thumb on one side and the fingers on the other, with the palm of the hand in engagement with the upper surface.

An externally threaded valve member 50 is received in nut 4. A valve rod 52 extends through the reservoir and has a valve at its lower end which cooperates with

United States Patent [19]

Ostrelich

[11] **Patent Number: 4,688,340**

[45] **Date of Patent: Aug. 25, 1987**

[54] **TRAVEL STEAM AND DRY IRON**

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[58] Field of Search ..... 190/115, 117; 294/137, 294/167, 169; D32/68, 69, 70, 71, 72; 219/488, 249, 250, 255, 252; 220/94 R; 16/378, 112, 126; 38/92, 77.5, 77.4, 90, 77.8, 89, 85, 77.81, 77.7; 74/553, 548; 116/329

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[57] **ABSTRACT**

A travel iron has a hollow handle defining a liquid reservoir which is pivotally mounted for movement between operative and stored positions. The handle is releasably secured in the operative position by a sliding latch. A conduit supplies liquid from the reservoir to the soleplate. A manually operated valve and a gravity operated valve control fluid flow through the conduit.

56 Claims, 9 Drawing Figures

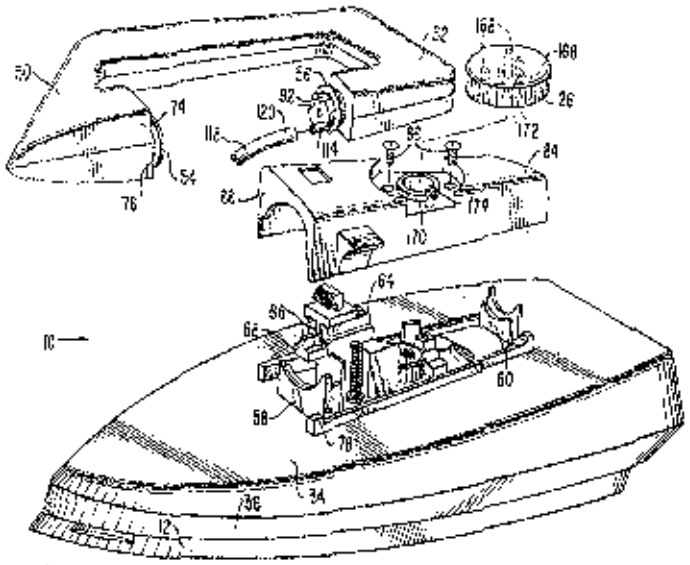
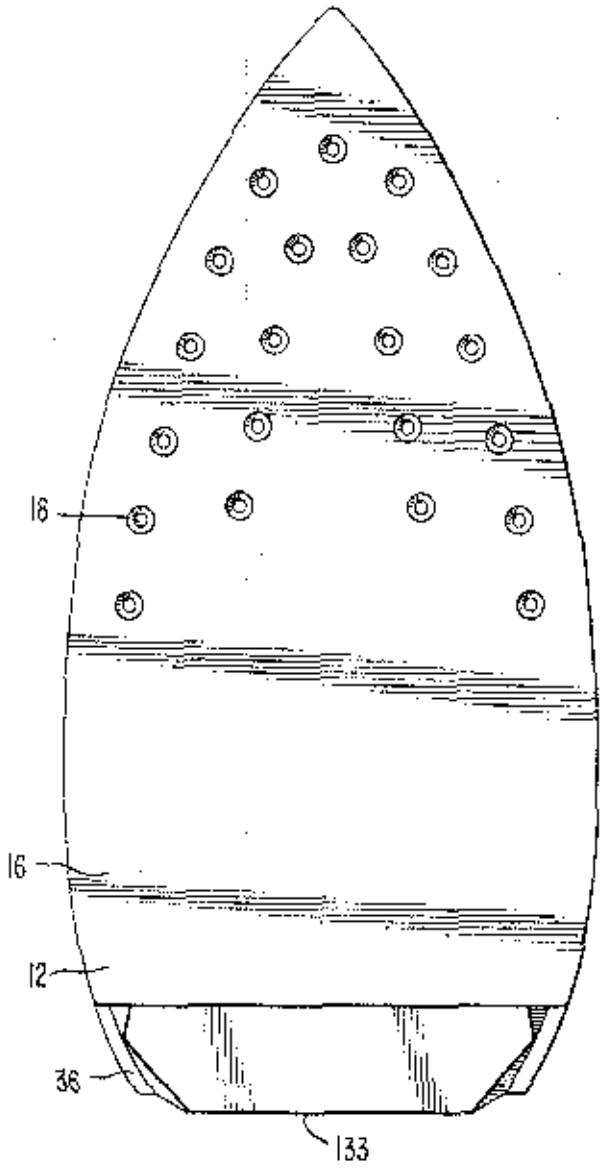


FIG. 9.



sensing means located near the central region of the soleplate and near the steam boiler surface.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings, which are incorporated in and constitute part of the specification, illustrate the preferred embodiment of the invention and, together with the general description of the invention given above and the detailed description of present invention given below, serve to explain the principles of the invention.

FIG. 1 is an exploded view of a travel iron incorporating the features of the present invention;

FIG. 2 is an end view of the travel iron;

FIG. 3 is a side elevation view in partial cross section of the travel iron;

FIG. 4 is a side elevation view in cross section taken from the line 4 - 4 of FIG. 3.

FIG. 5 is a perspective view in partial cross section of a portion of the apparatus shown in FIG. 4.

FIG. 6 is a partially exploded (bottom I) perspective view of a portion of the travel iron which engages one end of the handle.

FIG. 7 is a partially exploded perspective view of a second end of the handle and its relationship to the remainder of the travel iron;

FIG. 8 is an end view in cross section taken along lines 8—8 of FIG. 3; and

FIG. 9 is a bottom view of the travel iron.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Reference will now be made in detail to the present preferred embodiment of the invention as illustrated in the accompanying drawings.

In FIGS. 1 and 3 there is shown a travel iron 10 having a soleplate 12 with inner surface 14 and outer surface 16. An array of steam ports 18 communicating between inner surface 14 and outer surface 16 is shown in FIG. 9. A means for electrically heating the soleplate includes an electric cord for transmitting electrical current to a conventional heating element associated with soleplate 12. Also included are means for controlling the temperature of the soleplate which preferably includes a temperature sensing means such as bimetallic strip 22, a set of electric contacts 24 and a rotatable control knob 26 which is connected to a cam follower 28. Cam follower 28 rides along cam surface 30 causing rod end 32 to appropriately position contacts 24 corresponding to a temperature which is manually set by positioning control knob 26. Temperature sensing means such as bimetallic strip 22 adds an appropriate biasing force on contacts 24 depending on the temperatures which it senses. Accordingly, the means for controlling the temperature of the soleplate act in combination with bimetallic strip 22 so that contacts 24 remain closed until bimetallic strip 22 senses the temperature set on control knob 26. At that time, contacts 24 open to cut off current flow to the heating element in soleplate 12 thereby preventing soleplate 12 from exceeding the temperature set by control knob 26. When bimetallic strip 22 senses a temperature less than the temperature set by control knob 26, contacts 24 close to allow current flow to the heating element in soleplate 12 thereby allowing soleplate 12 to heat to the temperature set on control knob 26.

Travel iron 10 also includes housing means 34 and intermediate plate means 36 which are preferably made of heat-resistant plastic. Intermediate plate means 36 is directly attached to soleplate 12 through the use of fastening means such as screw 38 and metallic flange 40. Housing means 34 preferably includes integrally molded spacer posts 42 which are internally threaded to receive screws 44 which pass through pre-formed apertures in intermediate plate means 36. In this way, housing means 34 is attached to intermediate plate means 36 which in turn is connected to soleplate 12. By attaching housing means 34 to soleplate 12 through intermediate plate means 36 housing means 34 is spaced to soleplate 12. By attaching housing means 34 to soleplate 12 from intermediate plate means 36, which in turn is spaced from soleplate 12 for limiting heat transfer from soleplate 12 to housing means 34. Housing means 34 includes a dependent peripheral edge 46 extending toward but spaced from intermediate plate means 36. Intermediate plate means includes a depending peripheral edge 48 extending towards but spaced from soleplate 12.

Travel iron 10 is provided with a hollow handle 50 which defines a liquid reservoir 52 in its interior. Hollow handle 50 is pivotally mounted to the housing for movement between an operative position indicated by the solid lines in FIG. 2 and a stored position indicated by the broken lines in FIG. 2. Handle 50 includes a first pivot part 54 and a second pivot part 56 which are integrally molded surfaces that are axially aligned. Housing 34 includes trunions 58 and 60 which accommodate portions of first pivot part 54 and second pivot part 56, respectively.

Travel iron 10 is also provided with means for releasably securing handle 50 in the operative position. This means preferably includes a keyway 62 in first pivot part 54, a corresponding keyway 64 integrally molded in housing means 34, and a sliding latch 66 slidably mounted in a corresponding keyway 64. Latch 66 has a first sliding part 68, which is complementary to keyway 62 and corresponding keyway 64, and is used for selective engagement of keyway 62 when handle 50 is in the operative position. Latch 66 also includes a second sliding part 70 for selective engagement with handle 50. Second sliding part 70 is integral with, but spaced from, first sliding part 68. First pivot part 54 preferably includes a radially extending wall 72 such that selective engagement between second sliding part 70 and handle 50 occurs at a radially outer portion of wall 72. Wall 72 preferably includes first corner portion 74 and second corner portion 76 which are proximate to housing means 34 when handle 50 is in the operative position, such that first corner portion 74 is engageable with housing means 34 and second corner portion 76 is engageable with second sliding part 70. In the preferred embodiment, housing 34 includes in integral step 78 for engagement with first corner portion 74 and second corner portion 76 includes a notch 80 for accommodating second sliding part 70. This arrangement allows second sliding part 70 to wedge handle 50 against housing 34 when sliding latch 66 is selectively engaged with handle 50. Sliding latch 66 is preferably biased into engagement with handl 50 by latch biasing means such as spring 82 so that sliding latch 66 engages handle 50 when handle 50 is pivoted into the operative position. As can be seen from FIG. 6, radially extending wall 72 is arranged to extend a sufficient radial distance to block second sliding part 70 from pivotally securing handle 50 when handle 50 is in a position other than the operative position.

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Höhn

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[54] STEAM IRON WITH PUMP AND PRESSURE RESERVOIR

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[22] Filed: Jun. 26, 1996

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[52] U.S. Cl. 38/77.5; 38/77.81

[58] Field of Search 38/77.1, 77.7, 38/77.5, 77.81, 77.82; 219/250, 254

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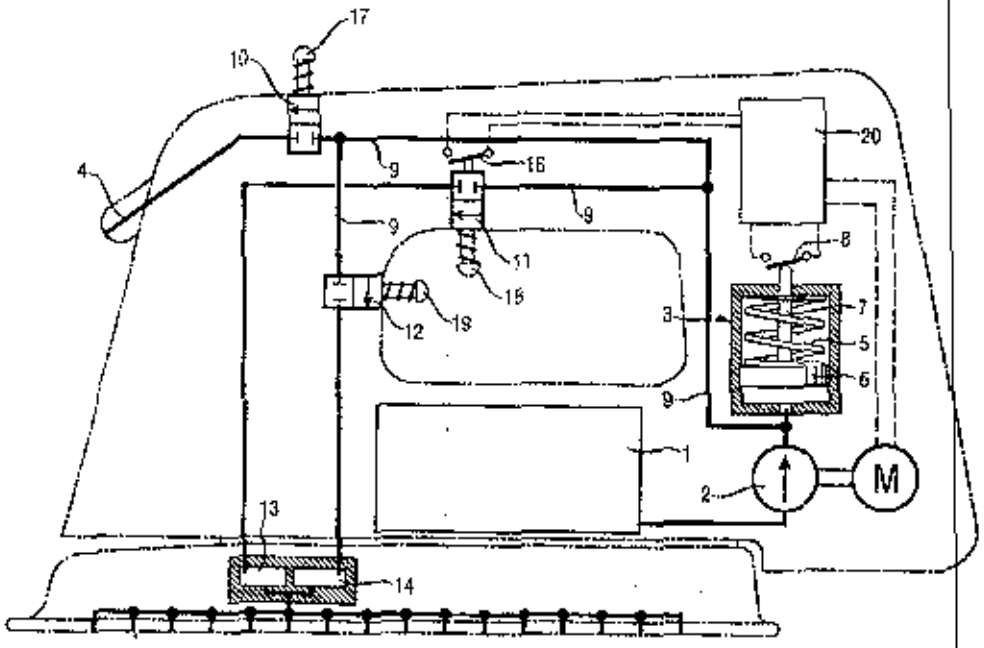
Attorney, Agent, or Firm—Cohen, Pontani, Lieberman, Pavane

[57] ABSTRACT

A steam iron with an electric pump for conveying water from a water tank to individual water consumers and control electronics, which control the pump as a function of actuated cut-off valves. The control electronics recognize and control the different operating modes associated with the respective water consumers as a function of pressure changes in the pressure control circuit. The operating duration of the pump is restricted to a maximum time in accordance with the respective operating mode.

5 Claims, 4 Drawing Sheets



STEAM IRON WITH PUMP AND PRESSURE RESERVOIR

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention relates to a generic-type steam iron.

2. Description of the Related Art

A steam iron is known from DE-PS 42 14 564 which comprises an electric pump, which conveys water from the water tank via a pressure reservoir to the individual consumers, such as the evaporation chamber, the auxiliary evaporation chamber and the spray device. In order to spray the material which is to be ironed in the region in front of the iron and for steam production, corresponding cut-off valves are actuated from outside the iron by way of manual actuating members. The valves are coupled for the production of steam to control electronics via electric switches.

This known steam iron has the disadvantage that an additional electric switch is required for the production of additional steam. This additional switch interrupts the electric circuit of the pump via the control electronics during actuation of the corresponding cut-off valve in order to prevent the auxiliary evaporation chamber from flooding. Consequently, this known steam iron is still too complicated with regard to its control technology.

SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide a steam iron which can be manufactured in a simpler fashion with respect to control technology and can therefore be produced in a more assembly-friendly, reliable and cost-effective manner.

Pursuant to this object, and others which will become apparent hereafter, one aspect of the present invention resides in a steam iron having a water tank, individual water consumers, an electric pump for conveying water from the water tank via supply lines to the individual water consumers, a pressure reservoir arranged between the pump and the water consumers, which pressure reservoir includes switch means for signaling a maximum water level in the pressure reservoir, a plurality of manually actuable cut-off valves, a switch associated with one of the cut-off valves, and control electronics operatively connected with the switch, the switch means and the pump for controlling different operating modes of the pump and permitting unlimited pump operation time as a function of actuation of the cut-off valves, the switch and the switch means. The control electronics are further operative to recognize and control different operating modes of the pump associated with the individual water consumers as a function of pressure changes in a pressure control circuit. The control electronics limit the operating time of the pump to a maximum time in accordance with the respective operating mode.

As a result of the different dimensioning—as regards flow resistance—of the outlet for the additional steam, comprising a cut-off valve, water hose and metal pipe on the one hand, and the outlet for the spray device, comprising a cut-off valve, water hose and spray nozzle on the other hand, the switch which is coupled to the pressure reservoir carries out different switching cycles, which can be differentiated by the control electronics as an additional steam operation or a spraying operation. The usual spraying operation and the capacity-restricted operation of the electric pump required for this process is actuated by a second switch coupled to the steam valve and the control electronics. In an advantageous manner, the fact that the pump is switched off after a predetermined response time during steam jet mode prevents the auxiliary evaporation chamber from being flooded and the electric pump is prevented from running dry—which would cause damage—when the water tank is empty.

As a result of the invention, there is no need for the additional electric switch which is required in the state of the art for generating additional steam and which interrupts the electric circuit via the control electronics upon actuation of the corresponding cut-off valve. Consequently, the invention offers a substantial simplification of the control technology and assembly whilst improving the reliability of the iron.

The various features of novelty which characterize the invention are pointed out with particularity in the claims annexed to and forming a part of the disclosure. For a better understanding of the invention, its operating advantages, and specific objects attained by its use, reference should be had to the drawing and descriptive matter in which there are illustrated and described preferred embodiments of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a schematic view of the steam iron according to the present invention;

FIG. 2 is a circuit diagram of a steam iron according to FIG. 1;

FIG. 3 is a circuit diagram of a steam iron according to the prior art;

FIG. 4 is a graph illustrating spraying operation; and

FIG. 5 is a graph illustrating steam jet operation.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The steam iron schematically illustrated in FIGS. 1 and 2 comprises a water tank 1, an electric pump 2, a pressure reservoir 3 and a spray device 4. The cylindrical pressure reservoir 3 is constructed as a pressure-loaded water reservoir. A piston 6 that is displaceable by the pressure of a spring 5 is arranged inside the pressure reservoir 3. The piston rod 7 of the piston 6 is in operative connection with an electric switch 8. The pump 2 and the pressure reservoir 3 are connected via supply lines 9 and cut-off valves 10, 11 and 12 to water consumers, namely an evaporation chamber 13, an auxiliary evaporation chamber 14 and the spray device 4. The actuation of the cut-off valves 10, 11 and 12 is effected manually via manual actuation members 17, 18 and 19. The valve 11 is in operative connection with control electronics 20 via an electric switch 16 connected to the valve 11. Once the maximum water level of the pressure reservoir 3 is reached, the switch 8 is actuated by the piston rod 7 and the pump 2 is switched off. In contrast, if the water level in the pressure reservoir 3 falls below a certain level, the pump 2 is switched on again via the switch 8. The pump 2 and the pressure reservoir 3 thus form a control circuit which ensures that there is always sufficient water at the outlet of the supply line 9 and that the water always has the required water pressure, since the water withdrawn from the pressure reservoir 3 is immediately replaced. The optimum operating pressure for the entire water storage system is adjustable in the pressure reservoir 3.

FIG. 3 illustrates the prior art in a schematic drawing similar to FIG. 2. It can be seen that a further switch 21 is required for generating additional steam, the further switch 21 switching off the pump 2 via the control electronics when

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Ching et al.

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(45) **Date of Patent: Jul. 30, 2002**

(54) **ELECTRIC IRON**

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(73) Assignee: **Koninklijke Philips Electronics, N.V.**, Eindhoven (NL)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/772,323**

(22) Filed: **Jan. 26, 2001**

(30) **Foreign Application Priority Data**

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(51) Int. Cl.[7] **D06F 75/14**
(52) U.S. Cl. **38/77.3**
(58) Field of Search 38/77.3, 77.82, 38/77.1, 77.5

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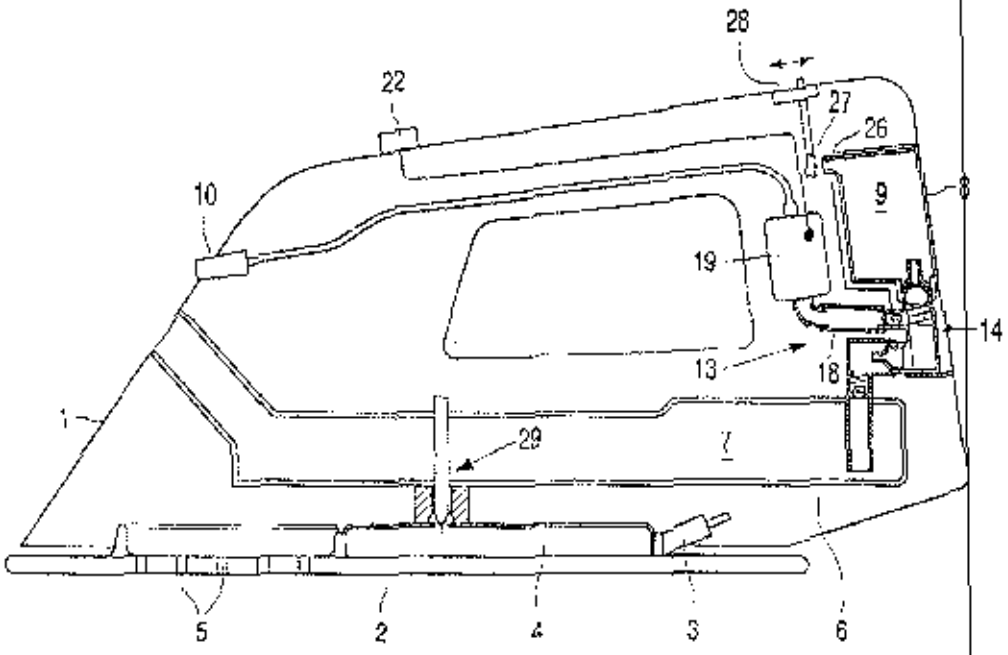
(57) **ABSTRACT**

An electric iron is provided which includes a housing (1), a sole plate (2), a first reservoir (6) having an outlet (12) for a first fluid (7), an exchangeable reservoir (8) having an outlet (11) for a second fluid (9), which has a viscosity, and having a coupling (14), a nozzle (10) comprising at least one aperture, a pump (19) for delivering a mixture of the first and second fluids to the nozzle (10), said coupling (14) comprising a first and a second inlet (15,16) and an outlet (17), said second inlet (16) of the coupling being fixedly connected to the outlet (11) of the exchangeable reservoir (8), the first inlet (15) of the coupling (14) and the outlet (17) of the coupling (14) being connected to the outlet (12) of the first reservoir (6) and to a supply tube (18) to the pump (19), respectively, if the exchangeable reservoir (8) is inserted into the iron, at least one of the inlets (15,16) of the coupling (14) and/or the outlet (11) of the exchangeable reservoir (8) being provided with a flow restriction (20,21) which is adapted to the viscosity of the second fluid (9) such that, given predetermined pumping characteristics of the pump (19), a predetermined desired flowrate of the mixture of fluids and/or a predetermined desired proportion of the first and second fluids (7,9) is obtained.

14 Claims, 2 Drawing Sheets



ELECTRIC IRON

FIELD OF THE INVENTION

The invention relates to an electric iron comprising a housing, a sole plate, a first reservoir having an outlet for a first fluid, an exchangeable reservoir having an outlet for a second fluid, which has a viscosity, a nozzle means comprising at least one aperture and a pump for delivering a mixture of the first and second fluids to the nozzle means.

Such an electric iron is known from WO 99/27176. With this iron it is possible to spray an additive fluid on the fabric before it is ironed. Additive fluids can be used e.g. for achieving a starching effect or wrinkling resistance, or for making cloth hydrophylic or hydrophobic. The additive fluid is contained in the exchangeable reservoir, whereas the first reservoir contains water. By starting the pump, water as well as additive fluid is sucked from the respective reservoirs via supply tubes, whereby the additive fluid is diluted with water, after which the mixture of fluids (diluted additive fluid) is pumped to the spraying nozzle. Parts of both supply tubes are shaped as capillary tubes in order to create an underpressure at the inlets of the pump. These capillary tubes have flow resistances which limit the maximum flowrate. To control the flowrate of the additive fluid to the pump, the supply tube for the additive fluid is provided with an adjustable valve. This means that it is up to the user himself to control the proportion of the fluids, and thus the degree of dilution. This could induce mistakes and could even be rather risky, because there is a reasonable chance that the user will use a wrong adjustment, e.g. a too high concentration of the additive fluid causing damage to the cloth. This risk is even greater if the user decides to use a different reservoir with a different additive fluid. A different fluid will usually have a different viscosity. This means that it is left to the user's competence how great the degree of dilution should be chosen. All this may lead to mistakes.

SUMMARY OF THE INVENTION

The object of the invention is to provide an electric iron in which exchangeable reservoirs containing additive fluids, possibly of different viscosity and in a concentrated form, can be used without the risk of the above problems arising.

According to the invention, the electric iron comprises a housing, a sole plate, a first reservoir having an outlet for a first fluid, an exchangeable reservoir having an outlet for a second fluid, which has a viscosity, and having coupling means, a nozzle means comprising at least one aperture, a pump for delivering a mixture of the first and second fluids to the nozzle means, said coupling means comprising a first and a second inlet and an outlet, said second inlet of the coupling being fixedly connected to the outlet of the exchangeable reservoir, the first inlet of the coupling and the outlet of the coupling being connected to the outlet of the first reservoir and to a supply tube to the pump, respectively, if the exchangeable reservoir is inserted into the iron, at least one of the inlets of the coupling and/or the outlet of the exchangeable reservoir being provided with a flow restriction which is adapted to the viscosity of the second fluid such that, given predetermined pumping characteristics of the pump, a predetermined desired flowrate of the mixture of fluids and/or a predetermined desired proportion of the first and second fluids is obtained. Every exchangeable reservoir which can be used in such an iron has its own flow restriction for the first or the second fluid or both. The flow restriction is so designed that the maximum flowrate through the inlet causes a predetermined, desired flowrate of the mixture of fluids to be delivered through the aperture of the nozzle means. It is the manufacturer of the exchangeable reservoir who determines the degree of concentration of the mixture of the fluids, not the user.

In a preferred embodiment of the iron, the second inlet of the coupling is provided with a non-return valve. This prevents liquid from flowing into or out of the exchangeable reservoir when the pump is not in operation.

In a further preferred embodiment, the outlet of the first reservoir is provided with a non-return valve. This also prevents liquid from flowing into or out of the exchangeable reservoir when the pump is not in operation. If the exchangeable reservoir is removed, it will prevent leakage.

Preferably, the exchangeable reservoir is provided with a vent and the iron is provided with a valve for opening or closing said vent. Closing the vent offers the possibility to deliver only the first fluid to the nozzle means, without the second fluid.

In a further embodiment, the outlet of the coupling is provided with a filter. The filter prevents impurities from entering the pump, which impurities could cause damage to the pump or clogging of the nozzle means.

In yet another embodiment, the aperture(s) of the nozzle means is (are) located in the sole plate.

The invention also relates to an exchangeable reservoir intended for use in the iron and having characteristics as described in the claims.

These and other aspects of the invention will be apparent from and elucidated with reference to the embodiments described hereinafter.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. 1 is a diagrammatic view of an iron, in which an exchangeable reservoir is arranged,

FIG. 2 is a detailed view of the exchangeable reservoir according to a first embodiment and

FIG. 3 is a detailed view of the exchangeable reservoir according to a second embodiment.

DETAILED DESCRIPTION OF THE INVENTION

An iron according to the invention as shown in FIGS. 1 and 2 comprises a housing **1**, a sole plate **2**, a heating element **3**, a steam chamber **4**, steam outlet ports **5**, a first reservoir **6** for containing a fluid **7**, preferably water, an exchangeable reservoir **8** for a second fluid **9** and a spraying nozzle **10**. The exchangeable reservoir may be a kind of cassette with a hard synthetic resin housing, or a kind of flexible bag. The fluid **9** in the exchangeable reservoir is a so-called additive fluid in a concentrated form with a certain viscosity. The exchangeable reservoir **8** is provided with an outlet **11** for the fluid **9**. The reservoir **6** is provided with an outlet **12** for the fluid **7**. The iron comprises a delivery system **13** for delivering a mixture of the first and second fluids to the nozzle **10** in order to be sprayed on the cloth to be ironed. The delivery system comprises a coupling **14**, which is a fixed part of the exchangeable reservoir **8**. The coupling has a first inlet **15** which in operation is connected to the outlet **12** of the first reservoir **6**, a second inlet **16** which in operation is connected to the outlet **11** of the exchangeable reservoir **8**, and an outlet **17** which in operation is connected to an inlet tube **18** to a pump **19**. The first inlet **15** of the coupling **14** is provided with a flow restriction **20** and the second inlet **16** of the coupling is provided with a flow restriction **21**. If a user wants to spray liquid on the

cloth, the pump 19 can be started by a push button 22. Liquids from both reservoirs 6 and 8 are sucked into the coupling 14 and a mixture of these fluids is conveyed through the outlet 17 of the coupling and then through the tube 18 to the pump 19 and from there to the nozzle 10.

The total flowrate of the mixture of fluids is determined by a number of factors. One factor is the characteristic of the pump. Another factor is the restriction at the nozzle 10. Other important factors are the flow restrictions of the inlets of the coupling 14. It is important that during spraying the proportion of the two fluids, i.e. the concentration of the additive in the mixture of fluids (degree of dilution of additive fluid) should remain constant. This proportion is prescribed by the manufacturer. The flowrate of the first fluid 7 from the first reservoir 6 is determined by the flow restriction 20 located in the inlet 15 of the coupling 14, and the flowrate of the second fluid 9 from the exchangeable reservoir 8 is determined by the flow restriction 21 located in the inlet 16 of the coupling 14. Each exchangeable reservoir 8 has its own flow restriction which is adapted to the viscosity of the fluid 9. This means that the proportion of the two fluids (degree of dilution) is determined by the flow restrictions 20 and 21. The flowrate of the mixture is also determined by these flow restrictions. In this way the concentration and the flowrate of the mixture of fluids are at the predetermined desired values.

The table below gives an example of the use of flow restrictions 20 and 21 to achieve the desired mixing proportions for three different second (additive) fluids A, B and C.

	Additive (concentrate)		
	A	B	C
Viscosity of additive concentrate (cSt)	50	50	150
Desired mixing ratio (water to additive concentrate)	6:1	12:1	32:1
Flow restriction 21	Ø: 1.5 mm; L: 3 mm	Ø: 2.5 mm; L: 3 mm	Ø: 1.0 mm; L: 3 mm
Flow restriction 20	Ø: 2.5 mm; L: 3 mm	Ø: 1.0 mm; L: 3 mm	Ø: 4.0 mm; L: 3 mm

FIG. 3 shows a further embodiment of FIG. 2. The second inlet 16 of the coupling 14 is provided with a non-return valve 23. This prevents liquid from flowing into or out of the exchangeable reservoir when the pump is not in operation. The outlet 12 of the first reservoir 6 can also be provided with a non-return valve 24. This also prevents liquid from flowing into or out of the reservoir when the pump is not in operation. Moreover, if the exchangeable reservoir is removed, it prevents a leakage.

The outlet 17 of the coupling 14 may be provided with a filter 25. The filter prevents impurities from entering the pump which could cause damage to the pump or clogging of the nozzle means.

The exchangeable reservoir 8 may be provided with a vent 26 (see FIG. 6). With the aid of valve means 27, the vent 26 can be opened or closed, e.g. by means of a knob 28 located on the housing 1 of the iron. By closing the vent the user can spray only the first fluid, e.g. water on the cloth.

The iron can be used as a steam iron. Water from the first reservoir 6 enters the steam chamber 4 through a dosing system 29 for generating steam which is conveyed to the steam outlet ports 5.

It is also possible to locate the apertures of the nozzle means in the sole plate.

What is claimed is:

1. An electric iron comprising a housing, a sole plate, a first reservoir having an outlet for a first fluid, an exchangeable reservoir having an outlet for a second fluid, which has a viscosity, and having coupling means, a nozzle means comprising at least one aperture, a pump for delivering a mixture of the first and second fluids to the nozzle means, said coupling means comprising a first and a second inlet and an outlet, said second inlet of the coupling being fixedly connected to the outlet of the exchangeable reservoir, the first inlet of the coupling and the outlet of the coupling being connected to the outlet of the first reservoir and to a supply tube to the pump, respectively, if the exchangeable reservoir is inserted into the iron, at least one of the inlets of the coupling and/or the outlet of the exchangeable reservoir being provided with a flow restriction that includes a portion having a lessened dimension when compared to the dimension of said inlet or said outlet, which flow restriction is adapted to the viscosity of the second fluid such that, given predetermined pumping characteristics of the pump, a predetermined desired flowrate of the mixture of fluids and/or a predetermined desired proportion of the first and second fluids is obtained.

2. An iron as claimed in claim 1, wherein the second inlet of the coupling is provided with a non-return valve.

3. An iron as claimed in claim 1, wherein the outlet of the first reservoir is provided with a non-return valve.

4. An iron as claimed in claim 1, wherein the exchangeable reservoir is provided with a vent and the iron is provided with a valve for opening or closing the vent.

5. An iron as claimed in claim 1, wherein the outlet of the coupling is provided with a filter.

6. An iron as claimed in claim 1, wherein the coupling is integrated with the exchangeable reservoir.

7. An iron as claimed in claim 1, wherein the aperture(s) of the nozzle means are located in the sole plate.

8. An iron as claimed in claim 1, wherein the second fluid is an additive fluid in concentrated form.

9. An exchangeable reservoir for use with an iron as claimed in claim 1, said exchangeable reservoir comprising a fluid, wherein the reservoir is provided with a coupling which comprises a first inlet for coupling to the outlet of a first reservoir, a second inlet fixedly connected to the outlet of the exchangeable reservoir, and an outlet for coupling to a pump, and wherein at least one of the inlets of the coupling is provided with a flow restriction.

10. An exchangeable reservoir as claimed in claim 9, wherein the second inlet of the coupling is provided with a non-return valve.

11. An exchangeable reservoir as claimed in claim 9, wherein the exchangeable reservoir is provided with a vent having an overfill valve.

12. An exchangeable reservoir as claimed in claim 9, wherein the outlet of the coupling is provided with a filter.

13. An exchangeable reservoir as claimed in claim 9, wherein the coupling is integrated with the exchangeable reservoir.

14. An exchangeable reservoir as claimed in claim 9, wherein the exchangeable reservoir contains an additive fluid in concentrated form.

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(54) REFILLABLE DISPENSING APPARATUS

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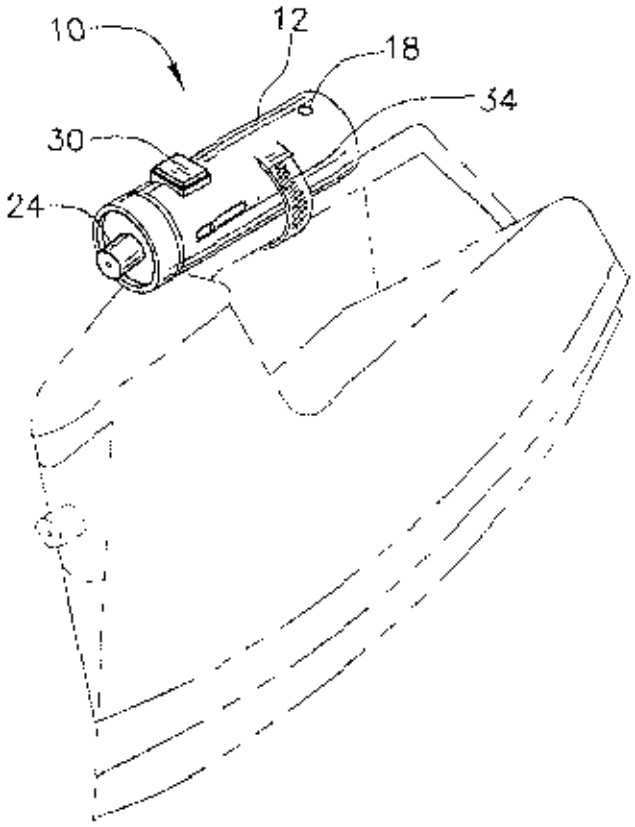
(57) **ABSTRACT**

A refillable dispensing apparatus for mounting on a handle of a clothes iron and dispensing a fluid onto a surface of a piece of fabric. The refillable dispensing apparatus includes a housing that has an interior for holding a fluid and an access opening for accessing the interior of the housing. A plug is removably positioned in the access opening for selectively plugging the access opening. A nozzle is mounted on and extends away from a first end wall of the housing for emitting the fluid positioned in the interior of the housing. An actuating member is mounted on the housing and fluidly coupled to the nozzle for selectively receiving a finger of a user. A securing member is mounted to the housing for removably securing the housing to the handle of the clothes iron.

20 Claims, 1 Drawing Sheet



Still another object of the present invention is to provide a new refillable dispensing apparatus for mounting on a handle of a clothes iron and dispensing a fluid onto a surface of a piece of fabric.

Yet another object of the present invention is to provide a new refillable dispensing apparatus which includes a housing that has an interior for holding a fluid and an access opening for accessing the interior of the housing. A plug is removably positioned in the access opening for selectively plugging the access opening. A nozzle is mounted on and extends away from a first end wall of the housing for emitting the fluid positioned in the interior of the housing. An actuating member is mounted on the housing and is fluidly coupled to the nozzle for selectively receiving a finger of a user. A securing member is mounted to the housing for removably securing the housing to the handle of the clothes iron.

Still yet another object of the present invention is to provide a new refillable dispensing apparatus that reduces the repetitive motion of reaching for and grabbing a starch bottle to spray on fabrics that are being ironed.

Even still another object of the present invention is to provide a new refillable dispensing apparatus that is refillable and portable. The present invention is ideal for travels with limited luggage space. Instead of carrying a large can of starch, a traveler may take the present invention and removably couple it to a complementary clothes iron in a hotel. Once the present invention is emptied, a user may refill time and again.

These together with other objects of the invention, along with 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 the specific objects attained by its uses, reference should be made to the accompanying drawings and descriptive matter in which there are illustrated preferred embodiments of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be better understood and objects other than those set forth above will become apparent when consideration is given to the following detailed description thereof. Such description makes reference to the annexed drawings wherein:

FIG. 1 is a schematic perspective view of a new refillable dispensing apparatus according to the present invention.

FIG. 2 is a schematic perspective view of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference now to the drawings, and in particular to FIGS. 1 through 2 thereof, a new refillable dispensing apparatus embodying the principles and concepts of the present invention and generally designated by the reference numeral 10 will be described.

As best illustrated in FIGS. 1 through 2 the refillable dispensing apparatus 10 generally comprises a housing 12 that has first 13 and second 14 opposed end walls. A peripheral wall 15 extending between the first 13 and second 14 end walls defines an interior 16 of the housing 12. A longitudinal axis extends between the first 13 and second 14 end walls of the housing 12.

The housing 12 may be generally cylindrical such that the housing 12 includes a generally circular transverse cross section taken substantially perpendicular to the longitudinal axis of the housing 12. The housing 12 may employ a variety of shapes.

The peripheral wall 15 of the housing 12 includes an access opening 18 for accessing the interior 16 of the housing 12. The access opening 18 may be positioned generally nearer the second end wall 14 of the housing 12 than the first end wall 13 of the housing 12. In one embodiment of the present invention, a user pours a fluid such as, for example, starch or water through the access opening 18 into the interior 16 of the housing 12.

As illustrated in FIG. 2, a plug 20 is removably positioned in the access opening 18 for selectively plugging the access opening 18 and preventing the fluid from escaping. The plug 20 may include a base member 21 and a protruding member 22 that is mounted to and extends away from the base member 21. In one embodiment of the present invention, the protruding member 22 is removably positioned in and blocks the access opening 18. The plug 20 may comprise a generally flexible material such as, for example, a rubber or plastic material.

As illustrated in FIGS. 1 and 2, a nozzle 24 is mounted on and extends away from the first end wall 13 of the housing 12 for emitting the fluid positioned in the interior 16 of the housing 12 onto a surface of a fabric. The nozzle 24 has a first end 25 and a second end 26. The nozzle 24 has a channel 27 extending through the first 25 and second 26 ends of the nozzle 24. The channel 27 is in fluid communication with the interior 16 of the housing 12. The nozzle 24 may include a longitudinal axis extending between the first 25 and second 26 ends of the nozzle 24.

In one embodiment of the present invention, the first end 25 of the nozzle 24 may be pointed in a direction of the surface of the fabric such that the longitudinal axis of the nozzle 24 intersects the surface of the fabric and the longitudinal axis of the housing 12.

An actuating member 30 is provided for selectively receiving a finger of a user. The actuating member 30 may be depressibly mounted on the peripheral wall 15 of the housing 12. The actuating member 30 is fluidly coupled to the nozzle 24. The actuating member 30 may be fluidly coupled to the nozzle 24 by means of a conduit. In one embodiment of the present invention, the fluid in the interior 16 of the housing 12 is emitted from the nozzle 24 when the actuating member is depressed. The actuating member 30 may comprise a pump.

As illustrated in FIGS. 1 and 2, a window 32 is mounted on the peripheral wall 15 of the housing 12 for viewing the amount of the fluid in the interior 16 of the housing 12. The window 32 may include a longitudinal axis extending along the longitudinal axis of the housing 12. The window 32 may comprise a substantially transparent material such as, for example, a plastic or glass material.

A securing member 34 is provided for removably securing the housing 12 to the handle of the clothes iron. The securing member 34 may include a first securing portion 35 and a second securing portion 36. The first securing portion 35 may be mounted to and may extend away from the peripheral wall 15 of the housing 12. The second securing portion 36 may be mounted to and may extend away from the peripheral wall 15 of the housing 12. The first 35 and second 36 securing portions may be diametrically opposed on the peripheral wall 15 of the housing 12.

The first 35 and second 36 securing portions may be extendable about the handle of the clothes iron and may be releasably secured together. In one embodiment of the