



No. 13-106872- -00000-0000

Fecha: 2013-04-26 17:17:13 Dep. 2020 DIR.NUEVASCR
Tra. 2 PATENTES Eve: 1 REGDEPOSITO
Act. 411 PRESENTACION Folios: 92 96



Industria y Comercio

SUPERINTENDENCIA

División de Nuevas Creaciones

SOLICITUD PATENTE DE INVENCION

21. EXPEDIENTE No. _____

54. TITULO APARATO PARA CONFECCIONAR RAMOS Y METODO

51. CLASIFICACION INTERNACIONAL _____

71. SOLICITANTE NF GLOBAL

DOMICILIO

220 Hampton Lane, Key Biscayne Florida 33149

Estados Unidos de America

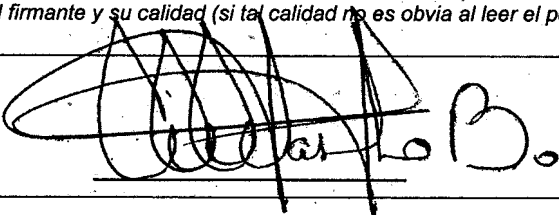
74. APODERADO JERONIMO CASTILLO BONILLA

22. BOGOTA D.C., _____

 Industria y Comercio SUPERINTENDENCIA	SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO  No. 13-106872- -00000-0000 Fecha: 2013-04-26 17:17:13 Dep. 2020 DIR.NUEVASCR Tra. 2 PATENTES Eve: 1 REGDEPOSITO Act. 411 PRESENTACION Folios: 98 96
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DIRECCIÓN DE NUEVAS CREACIONES
SOLICITUD DE PATENTE - NACIONAL

1	TIPO DE SOLICITUD	☐ Patente de invención		☐ Patente de Modelo de Utilidad	
2	TÍTULO DE LA INVENCIÓN (200 caracteres o espacios máximos)			3	CIP Clasificación Internacional de Patentes
APARATO PARA CONFECCIONAR RAMOS Y MÉTODO					
4	SOLICITANTE (S) ☐ Esta persona también es inventor. Para datos adicionales utilizar hoja de información complementaria				
APELLIDOS O RAZÓN SOCIAL		NOMBRE		IDENTIFICACIÓN	
1	NF GLOBAL				TIPO
5	DATOS DEL SOLICITANTE				
DIRECCIÓN		220 Hampton Lane		No. TELÉFONO	
CIUDAD		Key Biscayne		CORREO ELECTRÓNICO	
DEPARTAMENTO/ESTADO		Florida 33149		NACIONALIDAD O	
PAÍS DE RESIDENCIA		Estados Unidos de América		LUGAR DE CONSTITUCIÓN	
6	INVENTOR (ES) Para datos adicionales utilizar hoja de información complementaria				
APELLIDOS		NOMBRES		NACIONALIDAD	
1. Malavenda		George		Estadounidense	
DIRECCIÓN DE CORREO ELECTRÓNICO:					
7	DATOS INVENTOR (ES) Para datos adicionales utilizar hoja de información complementaria				
PAÍS RESIDENCIA		DEPARTAMENTO/ESTADO		CIUDAD	
1 Estados Unidos		Florida		Key Biscayne	
				DIRECCIÓN	
				255 Cranwood Drive	
OTRO(S) SOLICITANTE(S) Y/O (OTRO(S)) INVENTOR(ES)					
☐ Los demás solicitantes y/o (demás) inventores se indican en una hoja de información complementaria.					
8	☐ REPRESENTANTE LEGAL ☐ APODERADO				
APELLIDOS		NOMBRES		IDENTIFICACIÓN	
CASTILLO BONILLA		JERONIMO		C.C. 79.462.057 T.P. 104167	
DIRECCIÓN		Calle 93A No. 14 – 17 Oficina 311		No. TELÉFONO	
CIUDAD		Bogotá D.C.		236 34 93 / 236 34 09	
PAÍS		Colombia		CORREO ELECTRÓNICO	
				info@pcastillopineda.com	
				No. RADICACIÓN O PROTOCOLO DE PODER GENERAL	
9	DECLARACIONES DE PRIORIDAD ☒ SI ☐ NO				
(33) PAÍS DE ORIGEN		CÓDIGO PAÍS		(31) NÚMERO	
1. Estados Unidos		US		13/457.629	
				(32) FECHA (AAAA/MM/DD)	
				2012/04/27	

10	DECLARACIÓN SOBRE USO DE RECURSOS GENÉTICOS O BIOLÓGICOS		
<i>Declaro que el objeto de la presente solicitud de patente fue obtenido a partir de recursos genéticos o biológicos de los que cualquiera de los países miembros de la Comunidad Andina es país de origen.</i>			
☐ SI ☒ NO			
Nota: En caso afirmativo deberá anexar copia del contrato de acceso de recursos genéticos o productos derivados, o certificado o numero de registro, expedido por la Autoridad competente.			
11	DECLARACIÓN SOBRE USO DE CONOCIMIENTOS TRADICIONALES		
<i>Declaro que el objeto de la presente solicitud de patente fue obtenido a partir de conocimientos tradicionales de comunidades indígenas, afroamericanas o locales de países miembros de la Comunidad Andina.</i>			
☐ SI ☒ NO			
Nota: En caso afirmativo deberá anexar la licencia o autorización de uso de conocimiento tradicional, o certificado o numero de registro.			
12	REDUCCIÓN DE TASAS		
<i>Declaro que carezco de medios económicos para presentar la solicitud de patente.</i>			
☐ SI ☒ NO			
Nota: En caso de ser persona natural y carecer de medios económicos, y por lo tanto, aplique la reducción de tasas a que se refiere la resolución vigente en tarifas, debe firmar la presente solicitud bajo la gravedad de juramento.			
Micro, pequeñas y medianas empresas ☐			
Universidades públicas o privadas ☐			
Entidades sin ánimo de lucro ☐			
Debe aportar los documentos que se indican en el numeral 17 de anexos			
13	AUTORIZACIÓN DE NOTIFICACIÓN EN LÍNEA ☒ SI ☐ NO		
Manifiesto que he leído y entendido perfectamente los términos y condiciones de uso de medios electrónicos para las notificaciones en línea a través de Internet de los actos administrativos proferidos por la Superintendencia de Industria y Comercio que deben ser notificados personalmente y, en consecuencia, autorizo el servicio de notificación a través de internet.			
14	PARA PUBLICAR A PARTIR DE LA FECHA DE PRESENTACIÓN O DE LA PRIORIDAD INVOCADA:		15 COMPROBANTE DE PAGO O PAGO ELECTRÓNICO
☐ 6 meses ☒ 12 meses ☐ 18 meses ☐ Otro Cual:		☐ 6 meses ☐ 12 meses ☐ Otro Cual:	N° Fecha
16	FIRMA DEL SOLICITANTE, DEL APODERADO O DEL REPRESENTANTE LEGAL <i>Junto a cada firma, indicar el nombre del firmante y su calidad (si tal calidad no es obvia al leer el petitorio)</i>		
			
17	ANEXOS		
Documentación Técnica 1. ☒ Descripción N° de folios: 2. ☒ Reivindicaciones N° Reivindicaciones: 3. ☒ Dibujos y/o figuras N° folios: 4. ☒ Resumen. 5. ☐ Documento de Prioridad. 6. ☐ Traducción del documento de prioridad. 7. ☐ Certificado de depósito de material biológico si fuera el caso. 8. ☐ Listado de secuencias de nucleótidos y/o aminoácidos en forma digital si fuera el caso. 9. ☒ Arte final 12 x 12. 10. ☐ Anexo formato digital.		Documentación Jurídica 11. ☐ Poderes, si fuera el caso. 12. ☒ Documento que legalmente pruebe la cesión del inventor al solicitante o a su causante. 13. ☐ Copia del contrato de acceso de recursos genéticos o productos derivados, o certificado o numero de registro, si fuera el caso. 14. ☐ Copia de la licencia o autorización de conocimientos tradicionales, o certificado o numero de registro, si fuera el caso. 15. Reducción de tasas Micro, pequeñas o medianas empresas ☐ Copia simple de la declaración de renta del año inmediatamente anterior, o en su defecto prueba documental idónea. ☐ Documento de constancia de cumplimiento con lo establecido en la ley 905 de 2004. Universidades públicas o privadas ☐ Copia acto de reconocimiento institucional emitido por el Ministerio de Educación Entidades sin ánimo de lucro ☐ Copia de registro vigente en Cámara de comercio. ☐ Hoja de información complementaria. ☐ Otros, especificar 16. ☒ X Comprobante de pago de la tasa de presentación de la solicitud. 17. ☒ X Comprobante de pago por reivindicación de prioridad. 18. ☐ Comprobante de pago de la tasa por concepto de excedente de palabras en la publicación. 19. ☒ X Comprobante de pago por reivindicación adicional a 10.	

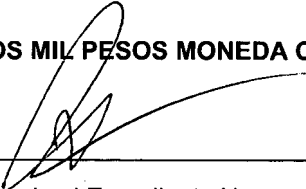
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
NIT : 800.176.089-2
- / -

 Industria y Comercio SUPERINTENDENCIA	RECIBO DE CAJA	No. 13 - 0039678
		Bogotá D.C., Abril 26 de 2013 - 16:20:58

RECIBIDO DE : CASTILLO PINEDA SAS					NI 860.046.502
*** Soporte del Pago ***					
TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PAGO	VR. PAGO
CONSIGNACION	BANCO DE BOGOTA	062754387	522530562	26/04/2013	8.400.000.00

*** Conceptos Pagados ***				
CANT.	RENTISTICO	CONCEPTO	Vr.UNDITARIO	Vr.CONCEPTO
1	50005-01-01 SOLICITUDES	1 TRAMITES DE SOL. DE PATENTE DE INVENCIÓN	500.000.00	500.000.00
				\$500.000.00
=====				

SON: **QUINIENTOS MIL PESOS MONEDA CORRIENTE**

Responsable: 

Recibo de Caja Aplicado al Expediente No. _____

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 13-106872- -00000-0000

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LAW OFFICES
PEDRO CASTILLO PINEDA & ASSOCIATES
P.O. BOX 48362
Bogotá, Colombia / South America

IMPORTANT NOTE
The lodging of this GENERAL POWER with the Patent Office obviates the necessity of presenting special powers with each individual trade mark application.

FOR PATENTS AND TRADE MARKS IN
COLOMBIA

Poder General

General Power of Attorney

- 1 Applicant's name
2 Applicant's address
3 Leave blank

(1)

(1) NF GLOBAL

domiciliado en (2)

domiciled in (2)

220 HAMPTON LANE,
KEYBISCAYNE, FL 33149

nombra al, Dr. JERONIMO CASTILLO BONILLA y/o Dra. XIMENA BONILLA PEREIRA, y/o Dr. ALVARO CASTILLO GRAU, Calle 93A N° 14-17 Oficina 311 en Bogotá, Colombia, como sus representantes con poder especial amplio y suficiente, para recabar de las oficinas y autoridades Colombianas, administrativas, judiciales o de policía, en primera o segunda instancia, la obtención de Patentes de Invención, Registro de Marcas, de Modelos y de Dibujos Industriales, de Nombres Comerciales y Enseñas, Lemas Comerciales y Denominación de Origen, lo mismo que trasposos, extensiones, renovaciones, cambios de nombre, registro de licencias de explotación y registro de licencias de uso referentes a tales actuaciones, cancelación de Registros de marca, a cuyo efecto les faculta para dar ante dichas autoridades todos los pasos necesarios al objeto indicado, elevar solicitudes, formular descripciones, enmiendas, protestas, declaraciones, apelaciones y reclamos, solicitar la aplicación de medidas cautelares; solicitar la nulidad de Patentes de Invención, modelos de utilidad, diseños Industriales, así como la de registros de marcas ante la autoridad nacional competente; aceptar en nuestro nombre y representación la Cesión de derechos de invención y de patente de invención que se nos haga por cualquier persona, abonar todos los impuestos, cuotas y pagos determinados por la ley, recibir todos los documentos y valores dando el descargo respectivo, llenar cualesquiera otros requisitos, desistir y tomar en fin todas las medidas que creyeren conducentes al resguardo de nuestros intereses y en caso de presentarse oposiciones para que intervengan como demandantes o como demandados, con todas las demás facultades necesarias, así como iniciar y tramitar procesos jurisdiccionales relativos a competencia desleal. Este poder comprende además las facultades de recibir, desistir, renunciar, transigir, comprometer, sustituir, revocar sustituciones, conciliar, recibir notificaciones y nombrar apoderados judiciales o extrajudiciales. Los mandatarios podrán ejercer el poder alternativa o indistintamente.

hereby appoint Dr. JERONIMO CASTILLO BONILLA and/or Dra. XIMENA BONILLA PEREIRA, and/or Dr. ALVARO CASTILLO GRAU, Calle 93A N° 14-17 Office 311 en Bogotá, Colombia, as our representatives with special, ample and sufficient power to obtain from the offices and Colombian authorities, administrative, judicial and police, in first or in second instance, Privileged Patents of invention, Registration of Trade Marks, of Models and Industrial Drawings, of Commercial Names and ensigns, Commercial Slogans and Origin Denominations as well as assignments, extensions, renewals, changes of name, registration of license of exploitation and of license of use referred to said actions, Cancellation Actions against trademark Registrations, who are empowered to take before said authorities all of the necessary steps for the purposes indicated, to file applications, to formulate descriptions, corrections, protests, declarations, appeals and claims, apply for precautionary measures; apply for the nullity of Patent Inventions, Utility Models, Industrial Designs, as well as for Trademark Registrations before the competent national authority; to accept on our behalf and representation the assignment of rights of inventions and titles of invention that may be done to us by any person, to pay all taxes, quotas and payments prescribed by law, to receive all the documents and proceeds giving the respective acquittance or receipt; to fulfill any other requisites to desist and take in fact any other measures that may be deemed conducive to the safeguard of our interests, and in case oppositions are presented to intervene as complainant and defendant, with all necessary legal faculties, as well as to file jurisdictional processes related to disloyal competition. This power of attorney includes the faculties to receive, desist, renounce, compromise, transact substitute it in all or in part, to revoke substitutions, to conciliate, to receive notifications and to appoint extra-judicial or judicial attorneys. The attorneys can exercise the power alternatively or indistinctly.

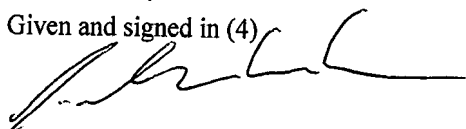
4 Date

Dado y firmado en (4)

Given and signed in (4)

5 Applicant's signature

5)

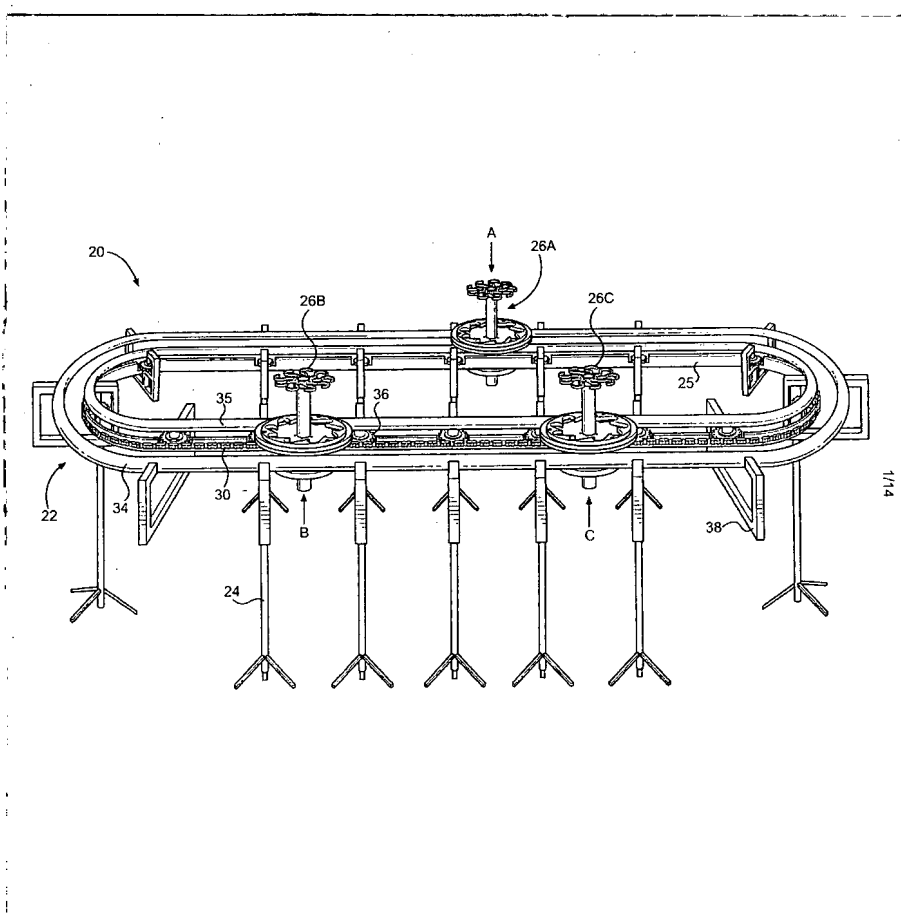


4-16-2013



YADIANA VALLE
Notary Public, State of Florida
Commission #DD889155
My Commission Expires May. 11, 2013





APARATO PARA CONFECCIONAR RAMOS Y MÉTODO

ANTECEDENTES DE LA INVENCION

[0001] Campo Técnico

La presente invención pertenece al arte de la confección de ramos de flores y, más particularmente, a un aparato y un método para confeccionar ramos florales mixtos entrelazados.

[0002] Arte Previo

Tradicionalmente los ramos florales mixtos se han confeccionado y amarrado a mano. Tal proceso es dispendioso y dificulta para uno o más individuos generar múltiples ramos que tengan un diseño o apariencia sustancialmente idénticos. Esto puede ser aún más difícil si se desea un ramo del tipo con tallos entrelazados. Un intento por ayudar a un usuario a arreglar flores puede verse en la Patente de los Estados Unidos No. 7,213,365. Más específicamente, la patente '365 describe una mesa estacionaria que cuenta con rejillas superiores e inferiores a través de las cuales se insertan los tallos. Las rejillas se hacen girar alrededor de un eje vertical una con otra, de manera que los tallos se desplazan en una posición similar a una gavilla de espigas de trigo entrelazada. Sin embargo, este dispositivo estacionario no puede utilizarse fácilmente por más de una persona a la vez, y el movimiento de entrelazado del dispositivo puede dañar o quebrar tallos florales delicados. Además, el dispositivo de '365 no permite la producción en serie o la creación de un alto volumen de arreglos de ramos, diseñados de manera idéntica para venta masiva. En consecuencia, se ve que existe una necesidad en el arte de un aparato que permita la confección simultánea de múltiples ramos, sustancialmente idénticos,

que tengan tallos intactos, entrelazados.

RESUMEN DE LA INVENCION

[0003] La presente invención se dirige a un aparato para confeccionar ramos, que comprende un transportador y una pluralidad de plantillas de ramos intercambiables, soportadas con posibilidad de movimiento por el transportador. En una primera modalidad, un transportador de bucle continuo incluye soportes de ruedas dentadas conectados a un riel de soporte en intervalos separados, que engranan con una correa impulsora para guiar la correa impulsora alrededor del riel de soporte. Adicionalmente, se proveen niveladores ajustables para soportar el transportador a una altura deseada. Ruedas dentadas en cada una de las plantillas de ramos engranan la correa impulsora, haciendo que las plantillas de ramos se deslicen a lo largo de pistas primera y segunda, a medida que la correa impulsora se mueve alrededor del transportador. De este modo, las plantillas de ramos se transportan entre estaciones de trabajo. Las plantillas de ramos incluyen soportes superiores e inferiores de tallos, configurados para soportar, con posibilidad de desmontarlos, una pluralidad de tallos de flores en un ángulo con respecto a la vertical. En modalidades alternativas, las plantillas de ramos se montan en un soporte giratorio, y el soporte gira para transportar los elementos de ramos entre estaciones de trabajo.

[0004] En uso, elementos de ramos, tales como rosas, follaje verde o similares, se disponen en cada una de una pluralidad de estaciones de trabajo, separadas a lo largo del transportador. En cada estación, un trabajador inserta un conjunto de tallos de elementos de ramos en uno de una pluralidad de brazos prensiles de tallos y en una de una pluralidad de porciones correspondientes inferiores, receptoras de tallos, de una plantilla de ramos. El sistema transportador se activa para transportar cada plantilla de ramos desde una estación de trabajo a

la siguiente. Trabajadores separados a lo largo del transportador en cada estación insertarán secuencialmente elementos de ramos en cada uno de los pares de brazos prensiles de tallos y las porciones inferiores, receptoras de tallos. Este proceso se repite hasta que se llenen el número deseado de brazos prensiles de tallos y las correspondientes porciones inferiores, receptoras de tallos, formando así un conjunto de ramo final en cada una de las plantillas de ramos. El conjunto de ramo final se extrae de la plantilla de ramos respectiva y se amarra con una cinta o similar, formando así una pluralidad de ramos del tipo de tallos entrelazados, los cuales tienen un diseño sustancialmente idéntico. Las plantillas de ramos y el arreglo de elementos de ramo pueden personalizarse, permitiendo una variedad ilimitada de diseños de ramos. Ventajosamente, los tallos del conjunto de ramo final no necesitan entrelazarse, mecánica o manualmente, en la posición correcta para un ramo del tipo entrelazado, ya que los tallos ya se han alineado correctamente por la plantilla de ramos. En consecuencia, el presente método y aparato permiten la personalización y producción en serie de ramos entrelazados, sustancialmente idénticos.

[0005] Objetos, características y ventajas adicionales de la presente invención se harán más fácilmente evidentes a partir de la siguiente descripción detallada de modalidades preferidas cuando se toman conjuntamente con los dibujos, en los cuales numerales de referencia similares se refieren a partes correspondientes en las vistas individuales.

BREVE DESCRIPCIÓN DE LOS DIBUJOS

[0006] Figura 1 es una vista en perspectiva de un aparato para confeccionar ramos de la presente invención, con el sistema de accionamiento desmontado para mayor claridad;

[0007] Figura 2 es una vista parcial en perspectiva del aparato para confeccionar ramos de Figura 1, que ilustra el sistema de accionamiento;

[0008] Figura 3 es un aparato alternativo para confeccionar ramos;

[0009] Figura 4 es una vista en perspectiva, explotada, de una plantilla de ramos de la presente invención;

[0010] Figura 5 es una vista en perspectiva de la plantilla de ramos ensamblados de Figura 4;

[0011] Figura 6 es una vista en perspectiva de la plantilla de ramos de Figura 5, en uso;

[0012] Figura 7 representa un ramo confeccionado por la presente invención;

[0013] Figura 8 es una vista parcial en corte transversal del sistema de accionamiento de la presente invención;

[0014] Figura 9 es un primer soporte alternativo superior de tallos de la presente invención;

[0015] Figura 10 es una placa superior alternativa de la presente invención;

[0016] Figura 11 es un segundo soporte alternativo superior de tallos de la presente invención;

[0017] Figura 12 es un tercer soporte alternativo superior de tallos de la presente invención;

[0018] Figura 13 es un transportador alternativo de la presente invención; y

[0019] Figura 14 es otro transportador alternativo de la presente invención.

DESCRIPCIÓN DETALLADA DE LAS MODALIDADES PREFERIDAS

[0020] Con referencia inicial a una primera modalidad mostrada en Figuras 1 y 2, un aparato para confeccionar ramos **20** de la presente invención incluye un transportador en la forma de un transportador de bucle continuo **22** soportado por una pluralidad de niveladores **24** que se conectan a un riel de soporte **25**. Pluralidades de plantillas de ramos **26A-26C**, adaptadas para recibir materiales para confeccionar ramos, tales como flores y follaje verde, se soportan con posibilidad de movimiento por el transportador **22** y se transportan selectivamente a varias estaciones de trabajo **A-C** mediante un sistema de accionamiento generalmente indicado en **28** en Figura 2. Más específicamente, una correa impulsora **30** se transporta alrededor del riel de soporte **25** por un brazo de accionamiento **32** conectado a un motor **33**. En una modalidad ejemplar, la correa impulsora **30** está en la forma de una correa de cadena, que engrana cada una de los plantillas de ramos **26A-26C** y las transporta a lo largo de pistas de soporte primera y segunda **34** y **35** del transportador **22**, como se discutirá con mayor detalle más adelante. La correa impulsora **30** se soporta en localizaciones separadas encima del transportador **22** por ruedas dentadas **36**, conectadas a soportes de ruedas dentadas **38**. En la primera modalidad, el transportador **22** es un transportador de bucle circular u oblongo, continuo, sobre el cual se desplazan los plantillas de ramo **26A-26C**; no obstante, el transportador **22** puede adoptar cualquier configuración deseada. Aunque se ilustran tres plantillas de ramos **26A-C** y tres estaciones de trabajo **A-C**, debe entenderse que el aparato para confeccionar ramos **20** puede configurarse con cualquier número deseado de

plantillas de ramos y estaciones. Por ejemplo, Figura 3 ilustra un aparato alternativo **20'** que incluye once plantillas de ramos idénticas, indicadas generalmente en **26**, y once estaciones de trabajo correspondientes **A-K** dispuestas en localizaciones separadas a lo largo de las pistas de soporte primera y segunda **34'** y **35'**. Al igual que con la modalidad anterior **20**, los plantillas de ramos **26** se accionan a lo largo de las pistas **34'** y **35'** por un sistema de accionamiento **28**.

[0021] Como mejor se observa en Figura 2, cada soporte de rueda dentada **38** incluye miembros verticales separados primero y segundo **40** y **41**, conectados por un miembro de base **42**. Adicionalmente, miembros superiores primero y segundo **43** y **44** conectan miembros verticales **40**, **41** a las respectivas pistas de soporte primera y segunda, **34**, **35**. Un miembro central **45** se proyecta del miembro de base **42** entre los miembros verticales **40**, **41** y conecta el soporte de rueda dentada **38** al riel de soporte **25**. Además, un brazo de soporte **46** se extiende entre el segundo miembro vertical **41** y un miembro central **45** para ofrecer fuerza adicional y estabilización para la rueda dentada **36**. Específicamente, un eje de engranajes **48** se extiende entre y se estabiliza por el segundo miembro superior **44** y un brazo de soporte **46**, y soporta giratoriamente la rueda dentada **36** sobre el mismo. Debe entenderse que los dientes que se proyectan de cada una de las ruedas dentadas **36** engranan la correa impulsora **30**, de manera que las ruedas dentadas **36** giran soportando al mismo tiempo la correa impulsora **30**, a medida que se desplaza alrededor del transportador **22**. Como puede observarse mejor en Figura 2, cada nivelador **24** incorpora un soporte de rueda dentada modificado **38'** en el mismo. Específicamente, el soporte de rueda dentada **38'** se conecta con un brazo de soporte vertical **62** de un poste **64**, el cual se soporta por una pluralidad de patas **66**, que se proyectan de una porción de soporte inferior **68**. Preferiblemente, el poste **64** es extensible, permitiendo en esa forma a un usuario ajustar la altura del transportador **22**.

[0022] Se discutirán ahora en mayor detalle los plantillas de ramos del aparato, con referencia a una plantilla de ramos **26A** mostrada en Figuras 4 y 5. En general, cada plantilla de ramos **26A-26C** incluye un poste central **80** alrededor del cual se dispone un soporte superior de tallos **82**, un soporte inferior de tallos **84**, y una porción de acoplamiento del transportador **86**. El soporte superior de tallos **82** es preferiblemente en la forma de una placa **88**, que tiene un cuerpo central **90** con una boca **92** que aloja en ella un poste central, y una pluralidad de brazos prensiles de tallos o brazos en forma de gancho **94A-94I**, que se proyectan radialmente hacia afuera del cuerpo central **90**. Cada brazo en forma de gancho **94A-94I** incluye una porción curva o semicircular **96**, adaptada para recibir los tallos **98** de un conjunto de elementos de ramos **99A, 99B**. Preferiblemente, el poste central **80** se configura igualmente para recibir y sujetar los tallos **98** de un conjunto de elementos de ramos **99C**. En la modalidad preferida ilustrada, elementos de ramos **99A, 99B** son en la forma de flores; no obstante, debe entenderse que podrían utilizarse también otros elementos de ramo comunes, tales como follaje verde y otros elementos decorativos. En el contexto de esta invención, un conjunto puede ser una sola flor u otro elemento de ramos, pero es preferiblemente una pluralidad de elementos de ramos. Un collar **100** se fija sobre una pared exterior **102** del poste central **80**, de manera que una porción superior **104** del poste central **80** se extienda encima del collar **100** y se aloje en la boca **92**, que aloja el poste central, del soporte superior de tallos **82**. Los medios de sujeción indicados en **106** se extienden a través de los orificios **108** en el cuerpo central **90** y en el collar **100**, asegurando así el soporte superior de tallos **82** al poste central **80** en una manera fija.

[0023] El ensamble de soporte inferior de tallos **84** comprende una placa base **110**, un anillo central **112**, una pluralidad de separadores **114** y una placa superior **116** que tiene una cavidad **118**, para alojar tallos, formada allí. La cavidad

118, para alojar tallos, define una pluralidad de porciones curvas para alojar tallos o curvaturas internas **120A-120I** que definen un área hueca (*pocket*), adaptada para recibir una pluralidad de tallos de flores, o similares, como se muestra en Figura 5. La placa base **110** incluye una boca **122**, para alojar allí un poste, la cual se ajusta sobre la pared exterior **102** del poste central **80**. Los medios de sujeción **124** se extienden a través de los orificios de sujeción **126** en la placa superior **116**, a través de un orificio central **128** en el anillo central **112**, a través de orificios **130** en los separadores **114**, y en orificios **132** en la placa base **110** para asegurar el ensamble de soporte inferior de tallos **84** entre sí. Con esta configuración, una periferia exterior **134** de la placa superior **116** se alinea sustancialmente con una periferia interior **136** del anillo central **112**, con los separadores **114** soportando la placa superior **116**, de manera que una pared inferior **138** de la placa superior **116** se alinea sustancialmente con una pared superior **140** del anillo central **112**. Adicionalmente, medios de sujeción **142** se extienden preferiblemente hacia arriba a través de la placa base **110** en el anillo central **112** para asegurar aún más el anillo central **112**.

[0024] El ensamble de soporte inferior de tallos **84** se soporta por la porción de acoplamiento del transportador **86**. Más específicamente, las plataformas superior e inferior **150**, **151** intercalan un miembro de acoplamiento de pista **154** entre ellas. Las plataformas superior e inferior **150**, **151** y el miembro de acoplamiento de pista **154** pueden formarse integralmente con el poste central **80**, o pueden fijarse alrededor del poste central **80**. Una pared inferior **156** de la placa base **110** está en contacto con una pared superior **158** de la plataforma superior **150**. Medios de sujeción **160** (mostrados en Figura 5) pueden utilizarse para asegurar la placa base **110** a la plataforma superior **150**. Con esta configuración, el soporte inferior de tallos **84** y la porción de acoplamiento del transportador **86** se fijan rígidamente al poste central **80**.

[0025] Los brazos en forma de gancho **94A-94I** del soporte superior de tallos **82** se encuentran corridos (*are offset*) con respecto a curvaturas internas **120A-120I** del ensamble de soporte inferior de tallos **84**, de manera que los tallos **98** se mantienen, de forma que se puedan quitar y poner, en un ángulo con respecto a la vertical por la plantilla de ramos **26A**. En la modalidad preferida, el poste central **80** se alinea en forma sustancialmente vertical, de manera que los tallos **98** asidos por los soportes superior e inferior de tallos **82** y **84** se sostengan también en un ángulo con respecto al poste central **80**. Con esta configuración, el soporte superior de tallos **82** y el soporte inferior de tallos **84** proporcionan medios de sostén de un elemento de ramos para asir tallos del elemento de ramos **98** en un ángulo tal que los tallos **98** puedan insertarse y extraerse fácilmente de los medios de sostén de los elementos de ramos durante la confección de ramos. Ventajosamente, los tallos **98** pueden insertarse y sacarse de los medios de sostén de los elementos de ramos, sin tener que mover o cambiar varias partes de la plantilla de ramos **26A**. Como puede observarse en el ejemplo de Figura 5, un primer conjunto de elementos de ramos **99A** se sostiene en la porción curva **96** del brazo en forma de gancho **94C**, mientras que las porciones inferiores de los tallos **166** del primer conjunto de elementos de ramos **99A** se alojan en una correspondiente de las curvaturas internas **120C**. Un eje vertical **A**, que se proyecta a través del centro de la porción curva **96**, se muestra corrido con respecto a un eje vertical **B**, que se extiende a través de un centro de la curvatura interna **120C**. La distancia en que los ejes verticales **A** y **B** se encuentran corridos uno del otro puede variarse, dependiendo del arreglo de ramo deseado. En otras palabras, el ángulo de los tallos **98** con respecto a la vertical puede ajustarse cambiando las posiciones relativas de los soportes superior e inferior de tallos **82** y **84**. Figura 6 representa una plantilla de ramo llena **26A**, en donde cada brazo en forma de gancho **94A-94I** y la curvatura interna correspondiente **120A-120I** se llenan con un conjunto de elementos de ramos, formando así un conjunto de ramo final **168**, que está listo para retirarse. El arreglo en ángulo de las partes resulta en

un ramo con tallos **98** que se entrecruzan entre sí y se entrelazan, el cual se denomina a veces en la industria como un ramo holandés en espiral o un ramo en forma de gavilla de espigas de trigo. Un ejemplo de tal ramo entrelazado se representa en Figura 7.

[0026] Debe observarse que podría utilizarse una variedad de sistemas de accionamiento conocidos con el transportador de la presente invención para transportar plantillas de ramos **26A-26C**. Con referencia a Figura 8, la plantilla de ramos **26A** se muestra montada al transportador **22** mediante la porción de acoplamiento del transportador **86**. Más específicamente, la plantilla de ramos **26A** se ensambla de tal manera que las plataformas superior e inferior, **150** y **151**, emparedan las pistas de soporte primera y segunda **34** y **35**, y el miembro de acoplamiento **154**, que se extiende entre pistas de soporte primera y segunda, **34**, **35**. Una correa impulsora **170** del brazo de accionamiento **32** se conecta al motor **33** (ilustrado en Figura 2) en una manera convencional, y acopla un engranaje de accionamiento **172** para hacer girar el engranaje de accionamiento **172** sobre un eje vertical. El engranaje de accionamiento **172** incluye dientes **174**, que encastran con la correa impulsora **30**, de manera que la rotación del engranaje de accionamiento **172** mueva la correa impulsora **30** a lo largo del riel de soporte **25** del transportador **22**. Una rueda dentada **176** fijada encima de una porción inferior **178** del poste central **80** engrana con la correa impulsora **30**, de manera que la plantilla de ramos **26A** se mueva alrededor del transportador **22** por la correa impulsora **30**. Con esta configuración, la plantilla de ramos **26A** puede girar libremente alrededor de un eje vertical. En una modalidad preferida, áreas superficiales de una porción de acoplamiento del transportador **86**, que entran en contacto con el transportador **22**, se componen de materiales con bajo índice de fricción, tales como plástico, para permitir que la plantilla de ramos **26A** se deslice relativamente libre a lo largo de pistas de soporte primera y segunda **34** y **35**.

[0027] Se discutirá ahora un método de confeccionar ramos con referencia nuevamente a Figuras 1 y 5. Inicialmente, elementos de ramos (no mostrados) se disponen en cada una de una pluralidad de estaciones de trabajo **A-C**, separadas a lo largo de un transportador, tal como el transportador **22**. Por ejemplo, rosas rojas pueden disponerse en la estación **A**, follaje verde puede disponerse en la estación **B** y gipsófilas pueden disponerse en la estación **C**. En otro ejemplo, cada estación **A-C** puede tener una mezcla diferente de flores y/o follaje verde. El número y tipo de elementos de ramos dependerá del diseño deseado del ramo final. En una primera de la pluralidad de estaciones, v.g., la estación **A**, un trabajador inserta un primer conjunto de tallos de elementos de ramos (v.g., **99A**) en uno de la pluralidad de brazos prensiles de tallos **94A-94I** y en una de la pluralidad de las correspondientes porciones receptoras inferiores de tallos **120A-120I** de una primera plantilla de ramos (v.g., **26A**), de manera que el primer conjunto de tallos de elementos de ramos **99A** se sostiene en un ángulo con respecto a una vertical dentro de la plantilla de ramos **26A**. La primera plantilla de ramos **26A** se transporta entonces por el transportador **22** a la siguiente estación, v.g., la estación **B**. En la estación **B**, un trabajador gira la plantilla de ramos **26A**, de manera que un brazo prensil de tallos abierto **94A-94I** y la correspondiente porción receptora inferior de tallos **120A-120I** se orienten hacia el trabajador. Alternativamente, el transportador **22** puede proveerse con medios para catalogar automáticamente cada confeccionadora de ramos **26A-26C** en las estaciones de trabajo respectivas **A-C**, de manera que un brazo prensil de tallos abierto **94A-94I** y la correspondiente porción receptora inferior de tallos **120A-120I** se orienten hacia el trabajador que estará poniendo las flores en ellos. Otro trabajador inserta un segundo conjunto de elementos de ramos (v.g., **99B**) en uno de la pluralidad de brazos prensiles abiertos de tallos **94A-94I** y en una correspondiente porción receptora inferior de tallos **120A-120I** de la primera plantilla de ramo **26A**, de manera que el segundo conjunto de tallos de elementos de ramos **99B** se sostenga en un ángulo con respecto a la vertical en la plantilla de ramos **26A**.

Preferiblemente, los conjuntos primero y segundo de elementos de ramos se componen de diferentes flores. Por ejemplo, un conjunto de elementos de ramos pueden ser rosas y otro conjunto follaje verde. La pluralidad de brazos prensiles de tallos **94A-94I** y las correspondientes porciones receptoras inferiores de tallos **120A-120I** pueden codificarse por colores para facilitar la inserción de las flores en las localizaciones correctas.

[0028] Además, un trabajador pone un conjunto de elementos de ramos **99C** en el poste central **80** de la plantilla de ramos **26A**. Los pasos anteriores se repiten hasta que cada uno de la pluralidad de brazos prensiles de tallos **94A-94I** y las correspondientes porciones receptoras inferiores de tallos **120A-120I** de la primera plantilla de ramos **26A**, así como el poste central **80**, sostenga un conjunto de elementos de ramos, formando así un conjunto de ramo final, tal como el **168** mostrado en Figura 6. El conjunto de ramo final **168** se saca de la plantilla de ramos **26A** por un trabajador y se amarra con una anilla **180**, tal como una cinta, una banda de caucho o similares, para formar un ramo del tipo completamente entrelazado, que tiene tallos intercalados, tales como el ramo **182** en Figura 7. Ventajosamente, los tallos **98** del conjunto de ramo final **168** no necesitan entrelazarse, mecánicamente o a mano, en la posición correcta para un ramo del tipo entrelazado, puesto que ya están correctamente alineados por la plantilla de ramos **26A**. Suprimir el entrelazado manual o mecánico de los tallos **98** reduce la probabilidad de que los tallos **98** se quiebren o, de otro modo, se dañen en el proceso de confección de los ramos.

[0029] En un método preferido, el transportador incluye una plantilla de ramos en cada una de la pluralidad de estaciones de trabajo, y el proceso ya mencionado se repite para cada una de las plantillas de ramos **26A-26C** simultáneamente. El transportador hace girar cada una de las plantillas de ramos **26A-26C** de una estación a otra, de manera que se confeccionen una pluralidad

de ramos **182**, los cuales son sustancialmente idénticos en diseño. Por ejemplo, mientras la plantilla de ramos **26A** está en la estación de trabajo **A**, un trabajador en la estación de trabajo **B** insertará un conjunto de elementos de ramos en una segunda plantilla de ramos **26B**. El transportador **22** transporta entonces la plantilla de ramos **26A** a la estación **B**, y la plantilla de ramos **26B** a la estación **C**. Los trabajadores en las estaciones **B** y **C** llenan entonces en forma sustancialmente simultánea un brazo prensil de tallos y una correspondiente porción receptora inferior de tallos de las respectivas plantillas de ramos **26A**, **26B**, antes de transportar las plantillas de ramos **26A** y **26B** a la siguiente estación a lo largo del transportador **22**. El conjunto final de elementos de ramo **168** en cada plantilla de ramos **26A** y **26B** se sacan de la plantilla de ramos **26A** y **26B** y se amarra para formar ramos **182** sustancialmente idénticos. Los ramos **182** resultantes tendrán tallos entrelazados e intercalados **98**, debido al ángulo de los tallos **98** dentro de cada plantilla de ramos **26A-C**.

[0030] Ventajosamente, las plantillas de ramos **26A-26C** pueden reconfigurarse por un usuario, con el fin de permitir una variedad de diferentes arreglos de ramos. Por ejemplo, la relación de los ejes centrales **A** y **B** de las respectivas porciones curvas **96** y las curvaturas internas **120** puede variarse para permitir diferentes ángulos de tallos **98**. Adicionalmente, el soporte superior de tallos **82** y la placa superior **116** pueden adoptar diferentes formas para posibilitar un posicionamiento o agrupamiento floral diferente. Por ejemplo, Figura 9 representa un soporte alternativo superior de tallos **82'**, el cual incluye brazos en forma de gancho **94'**, que tienen porciones curvas interiores y exteriores o en forma de gancho **190** y **192**. Figura 10 describe una placa superior asociada **116'** de un soporte inferior de tallos **84'**, que incluye curvaturas internas y exteriores **194** y **195**. Con esta configuración, debe entenderse que conjuntos de tallos **98** pueden disponerse dentro de cada par de porciones curvas interiores **190** y las correspondientes curvaturas internas **194**, y cada par de porciones curvas

exteriores **192** y las correspondientes curvaturas exteriores **195**. Preferiblemente, las porciones curvas interiores y exteriores **190** y **192** se encuentran corridas con respecto a las curvaturas internas y exteriores correspondientes **194** y **195**, de manera que los tallos **98** se sostengan en un ángulo con respecto a la vertical.

[0031] Figura 11 representa otro soporte superior de tallos **82''**, que incluye brazos alternantes en forma de gancho interiores y exteriores **198** y **199**, en donde los brazos interiores en forma de gancho **198** tienen una longitud L_1 que es más corta que la longitud L_2 de los brazos exteriores en forma de gancho **199**. En uso, un conjunto de tallos **98** se inserta en cada brazo exterior en forma de gancho **199** y en una curvatura exterior correspondiente **195** de la placa superior **116'**, así como en cada brazo interior en forma de gancho **198** y la curvatura interior correspondiente **194** de la placa superior **116'**.

[0032] Figura 12 representa un tercer soporte alternativo superior de tallos **82'''**, que incluye la misma forma que el soporte superior de tallos **82**, con la adición de dedos de retención **210**, que se proyectan hacia atrás del orificio de cada uno de una pluralidad de brazos en forma de gancho **212A-212I**. Los dedos de retención **210** sobrepasan ligeramente un extremo delantero **214** de una porción en forma de gancho **216** del brazo posterior adyacente en forma de gancho. Con esta configuración, los elementos de ramos se sostienen en una cavidad superior **220** definida por cada una de las porciones en forma de gancho **216** y un respectivo dedo de retención adyacente **210**. Debe entenderse fácilmente que pueden crearse diferentes diseños de ramo disponiendo en forma distinta los elementos de las plantillas de ramos **26A-C**, así como variando el tipo y el número de elementos de ramos **99** insertados en cada uno de los soportes inferiores y superiores de tallos **82**, **82'**, **82''**, **82'''** y **84**, **84'**.

[0033] Aunque discutido más arriba con referencia a una modalidad de un

transportador tipo bucle continuo **22**, debe entenderse que pueden utilizarse diferentes tipos de transportadores o medios transportadores para transportar las plantillas de ramos **26A-26E** entre estaciones de trabajo de acuerdo con la presente invención. Por ejemplo, las plantillas de ramos **26A-26E** pueden montarse en la correa transportadora de un transportador estándar de cinta transportadora para transporte entre estaciones de trabajo. Alternativamente, pueden utilizarse superficies giratorias. Con el fin de ilustrar este punto, Figura 13 representa un segundo tipo de transportador indicado en **230**. En general, el transportador **230** incluye una pluralidad de brazos de soporte **232**, que se proyectan de, y se soportan con posibilidad de rotación alrededor de, un soporte central **234**. Cada uno de los brazos de soporte **232** soporta una respectiva plantilla de ramos **26A-26E** para movimiento alrededor del soporte central **234**. Un sistema de accionamiento estándar (no mostrado) se utiliza para girar los brazos de soporte **232** alrededor del soporte central **234**. Alternativamente, los trabajadores mismos pueden aportar la energía para hacer girar los brazos de soporte **232** alrededor del soporte central **234**. Con esta modalidad, se instalan estaciones de trabajo a lo largo de la periferia del transportador **230**, y los brazos de soporte **232** se hacen girar de una estación de trabajo a otra, permitiendo que un trabajador inserte en cada estación un conjunto de tallos de elementos de ramos en cada plantilla de ramos **26A-26E** de acuerdo con el método descrito más arriba.

[0034] En todavía otra modalidad, se representa en Figura 14 un tercer tipo del transportador indicado en **250**. En general, el transportador **250** incluye una mesa circular **252**, soportada con posibilidad de rotación sobre un soporte central **254**. Las plantillas de ramos **26A-26E** se montan en ubicaciones separadas a lo largo de una porción exterior de la mesa circular **252**. En uso, un sistema de accionamiento estándar (no mostrado) se utiliza para hacer girar la mesa circular **252** alrededor del soporte central **254** para mover las plantillas de ramos **26A-26E**

entre las estaciones de trabajo. Alternativamente, los trabajadores mismos pueden aportar la energía para hacer girar la mesa circular **252** alrededor del soporte central **254**. En consecuencia, debe entenderse que pueden utilizarse varios tipos de transportadores con las plantillas de ramos y el método de la presente invención para producir en masa ramos entrelazados, sustancialmente idénticos **182**.

[0035] Utilizar múltiples plantillas de ramos idénticas **26A-26E** en los dispositivos de confección de ramos de la presente invención resulta en la formación de múltiples ramos, sustancialmente idénticos, con poco o ningún daño a los tallos de las flores u otros elementos constitutivos del ramo. Ventajosamente, las plantillas de ramos y el arreglo de los elementos de ramos pueden personalizarse, permitiendo una variedad ilimitada de diseños de ramos. Por consiguiente, el aparato y método presentes permiten la personalización y la producción en masa de ramos entrelazados, sustancialmente idénticos. Aunque descritos con referencia a modalidades preferidas de la invención, debe entenderse fácilmente que pueden introducirse varios cambios y/o modificaciones a la invención, sin apartarse del espíritu de la misma. Por ejemplo, aunque representadas como compuestas por nueve brazos prensiles de tallos **94A-94I** y nueve correspondientes porciones receptoras inferiores de tallos **120A-120I**, las plantillas de ramo **26A-26C** podrían configurarse con cualquier número deseado de porciones sostenedoras. Además, aunque se muestran como elementos separados, los soportes superior e inferior de tallos podrían conectarse entre sí. Adicionalmente, debe entenderse que un solo trabajador podría utilizar una o más de las plantillas de ramos de la presente invención, con o sin un transportador. Por ejemplo, un solo trabajador podría utilizar una o más plantillas de ramos, montadas a una mesa giratoria, permitiéndole al individuo hacer girar la plantilla de ramo para insertar un conjunto de elementos de ramos de acuerdo con el diseño de ramo particular. En general, la invención pretende limitarse únicamente

por el ámbito de las siguientes reivindicaciones.

REIVINDICO/REIVINDICAMOS:

1. Un aparato para confeccionar ramos, que comprende:

un transportador; y

una plantilla de ramos soportada con posibilidad de movimiento por el transportador, plantilla de ramos que incluye un soporte superior de tallos y un soporte inferior de tallos separado del soporte superior de tallos, en donde los soportes de tallos superior e inferior de tallos se configuran para sostener con posibilidad de quitar y poner una pluralidad de tallos de flores en un ángulo con respecto a la vertical.

2. El aparato para confeccionar ramos de la reivindicación 1, en donde el transportador es una mesa giratoria configurada para transportar la plantilla de ramos entre estaciones de trabajo separadas alrededor de la mesa giratoria.

3. El aparato para confeccionar ramos de la reivindicación 1, en donde el transportador es un transportador de bucle continuo, que comprende además pistas de soporte primera y segunda; y

la plantilla de ramo comprende además una porción de acoplamiento del transportador que incluye una plataforma superior, una plataforma inferior, y un miembro de acoplamiento de pista que se extiende entre la plataforma superior e inferior, en donde las pistas de soporte primera y segunda se extienden entre las plataformas superior e inferior y el miembro de acoplamiento de pista se extiende entre las pistas de soporte primera y segunda, de manera que la plantilla de ramos se soporta con posibilidad de movimiento en las pistas de soporte primera y segunda.

4. El aparato para confeccionar ramos de la reivindicación 3, en donde el

transportador de bucle continuo comprende además:

un riel de soporte;

soportes de rueda dentada conectados al riel de soporte en intervalos separados; y

una pluralidad de ruedas dentadas de soporte portadas por soportes respectivos de ruedas dentadas, en donde la pluralidad de ruedas dentadas de soporte engranan con la citada cadena impulsora.

5. El aparato para confeccionar ramos de la reivindicación 1, que comprende además:

una plantilla de ramos alternativa, intercambiable con la plantilla de ramos, y que tiene una configuración que es diferente de la plantilla de ramos, en donde la plantilla de ramos se fija, con posibilidad de quitarla y ponerla, al transportador, de manera que la plantilla de ramos pueda reemplazarse fácilmente con la plantilla de ramos alternativa.

6. El aparato para confeccionar ramod de la reivindicación 1, en donde la plantilla de ramos comprende:

un poste central;

un soporte superior de tallos, asegurado al poste central, soporte superior de tallos que incluye una placa que tiene una pluralidad de brazos en forma de gancho, configurándose los brazos en forma de gancho para recibir una porción superior de tallos de flores a través de los mismos; y

un soporte inferior de tallos, asegurado al poste central y separado del soporte superior de tallos, incluyendo el soporte inferior de tallos una placa base que tiene una pluralidad de áreas huecas formadas allí, adaptadas para recibir una porción inferior de tallos de flores; en donde los brazos en forma de gancho se encuentran corridos verticalmente de las áreas huecas, de manera que los tallos de flores sostenidos por la plantilla de ramo se sostienen en un ángulo con respecto a la vertical.

7. El aparato para confeccionar ramos de la reivindicación 6, en donde la pluralidad de brazos en forma de gancho incluyen brazos primero y segundo en forma de gancho, teniendo el primer brazo en forma de gancho una primera longitud, y teniendo el segundo brazo en forma de gancho una segunda longitud, que es mayor que la primera longitud.

8. El aparato para confeccionar ramos de la reivindicación 6, en donde cada uno de la pluralidad de brazos en forma de gancho incluye porciones interiores y exteriores en forma de gancho que se proyectan de allí.

9. El aparato para confeccionar ramos de la reivindicación 8, en donde la plantilla de ramos comprende además a rueda dentada conectada alrededor de una porción inferior del poste central, engranando la rueda dentada una correa impulsora del transportador, de manera que el movimiento de la correa impulsora produce el movimiento de la plantilla de ramos alrededor del transportador.

10. Una plantilla de ramos que comprende:

un soporte superior de tallos y un soporte inferior de tallos separado del soporte superior de tallos, en donde los soportes superior e inferior de tallos se

configuran para soportar, con posibilidad de quitarlos y ponerlos, una pluralidad de tallos de flores en un ángulo con respecto a la vertical.

11. La plantilla de ramos de la reivindicación 10, en donde los soportes superior de tallos y los soportes inferiores de tallos se fijan con posibilidad de quitarlos y ponerlos a la plantilla de ramos.

12. La plantilla de ramos de la reivindicación 11, que comprende además:

un soporte superior de tallos, alternativo, que tiene una configuración diferente del soporte superior de tallos, en donde el soporte superior de tallos, alternativo, es intercambiable con el soporte superior de tallos; y

un soporte inferior de tallos, alternativo, que tiene una configuración diferente del soporte inferior de tallos, en donde el soporte inferior de tallos, alternativo, es intercambiable con el soporte inferior de tallos.

13. La plantilla de ramos de la reivindicación 10, que comprende además:

una porción de acoplamiento del transportador que incluye una plataforma superior, una plataforma inferior, y un miembro de acoplamiento de pista que se extiende entre las plataformas superior e inferior, en donde las plataformas superior e inferior se configuran para alojar pistas de soporte de un transportador entre ellas.

14. La plantilla de ramos de la reivindicación 10, que comprende además:

un poste central;

un soporte superior de tallos asegurado al poste central, incluyendo el soporte superior de tallos una placa que tiene una pluralidad de brazos en forma de gancho, configurándose los brazos en forma de gancho para recibir una porción superior de tallos de flores entre ellos; y

un soporte inferior de tallos asegurado al poste central y separado del soporte superior de tallos, incluyendo el soporte inferior de tallos una placa base, que tiene una pluralidad de áreas huecas formadas allí, adaptadas para recibir una porción inferior de los tallos de flores; en donde los brazos en forma de gancho se encuentran verticalmente corridos de las áreas huecas, de manera que los tallos de las flores soportados por la plantilla de ramos se sostengan en un ángulo con respecto a la vertical.

15. La plantilla de ramos de la reivindicación 13, en donde la pluralidad de brazos en forma de gancho incluye brazos en forma de gancho primero y segundo, teniendo el primer brazo en forma de gancho una primera longitud, y teniendo el segundo brazo en forma de gancho una segunda longitud, que es mayor que la primera longitud.

16. La plantilla de ramos de la reivindicación 13, en donde cada uno de la pluralidad de brazos en forma de gancho incluye porciones interiores y exteriores en forma de gancho que se proyectan de allí.

17. Un método para confeccionar ramos que comprende los pasos de:

(a) disponer elementos de ramos en cada una de una pluralidad de estaciones de trabajo separadas a lo largo de un transportador, en donde el transportador incluye una primera plantilla de ramos que tiene una pluralidad de brazos prensiles de tallos y una pluralidad de correspondientes porciones

receptoras inferiores de tallos;

(b) en una primera de la pluralidad de estaciones de trabajo, insertar un primer conjunto de tallos de elementos de ramos en uno de la pluralidad de brazos prensiles de tallos y en una de la pluralidad de las correspondientes porciones receptoras inferiores de tallos de una primera plantilla de ramos;

(c) transportar la primera plantilla de ramos a una segunda de la pluralidad de estaciones de trabajo;

(d) en la segunda de la pluralidad de estaciones de trabajo, insertar un segundo conjunto de tallos de elementos de ramos en uno de la pluralidad de brazos prensiles de tallos, abiertos, y en una correspondiente porción receptora inferior de tallos de la primera plantilla de ramos;

(e) repetir los pasos (b)-(d) hasta que un número deseado de la pluralidad de brazos prensiles de tallos y las correspondientes porciones receptoras inferiores de tallos de la primera plantilla de ramos contenga un conjunto de elementos de ramos, confeccionando así un primer conjunto de ramo final;

(f) retirar el primer conjunto de ramo final; y

(g) amarrar el primer conjunto de ramo final con una anilla para confeccionar un primer ramo.

18. El método de la reivindicación 17, en donde cada conjunto de tallos de elementos de ramos, sostenidos por la primera plantilla de ramos, se sostienen en un ángulo con respecto a la vertical, y el ramo confeccionado es un ramo de tallos entrelazados.

19. El método de la reivindicación 17, que comprende además:

(h) en una segunda de la pluralidad de estaciones de trabajo, insertar un primer conjunto de tallos de elementos de ramos en uno de la pluralidad de brazos prensiles de tallos y en una de la pluralidad de las correspondientes porciones receptoras inferiores de tallos de una segunda plantilla de ramos, en donde el paso (h) se conduce en forma sustancialmente simultánea con el paso (b), y en donde el paso (c) incluye adicionalmente transportar la segunda plantilla de ramos a una tercera de la pluralidad de estaciones de trabajo;

(i) en la tercera de la pluralidad de estaciones de trabajo, insertar un segundo conjunto de tallos de elementos de ramos en uno de la pluralidad de brazos prensiles de tallos, abiertos, y en una correspondiente porción receptora inferior de tallos de la segunda plantilla de ramos;

(j) repetir los pasos (h)-(i) hasta que cada uno de la pluralidad de brazos prensiles de tallos y las correspondientes porciones receptoras inferiores de tallos de la segunda plantilla de ramos contenga un conjunto de elementos de ramo, formando así un segundo conjunto de ramo final;

(k) retirar el segundo conjunto de ramo final; y

(l) amarrar el segundo conjunto de ramo final con una anilla para formar un segundo ramo.

20. El método de la reivindicación 19, en donde los ramos primero y segundo son sustancialmente idénticos en diseño.

EXTRACTO DE LA DIVULGACIÓN

Un aparato para confeccionar ramos comprende una pluralidad de plantillas de ramos que se soportan, con posibilidad de movimiento, en ubicaciones separadas a lo largo de un transportador. Cada plantilla de ramos incluye soportes superior e inferior de tallos, fijos, que sostienen elementos de ramos, tales como flores, en un ángulo con respecto a la vertical. A medida que cada confeccionador de ramos se desplaza a lo largo del transportador, trabajadores separados a lo largo del transportador insertan secuencialmente conjuntos de flores en soportes inferiores y superiores de tallos, hasta que cada confeccionador de ramo sostiene un conjunto de ramo final. Cada uno de los conjuntos de ramos finales se retira de las plantillas de ramos y se aseguran con una anilla, formando así una pluralidad de ramos del tipo de tallos entrelazados, que tienen una apariencia de diseño sustancialmente idéntico.

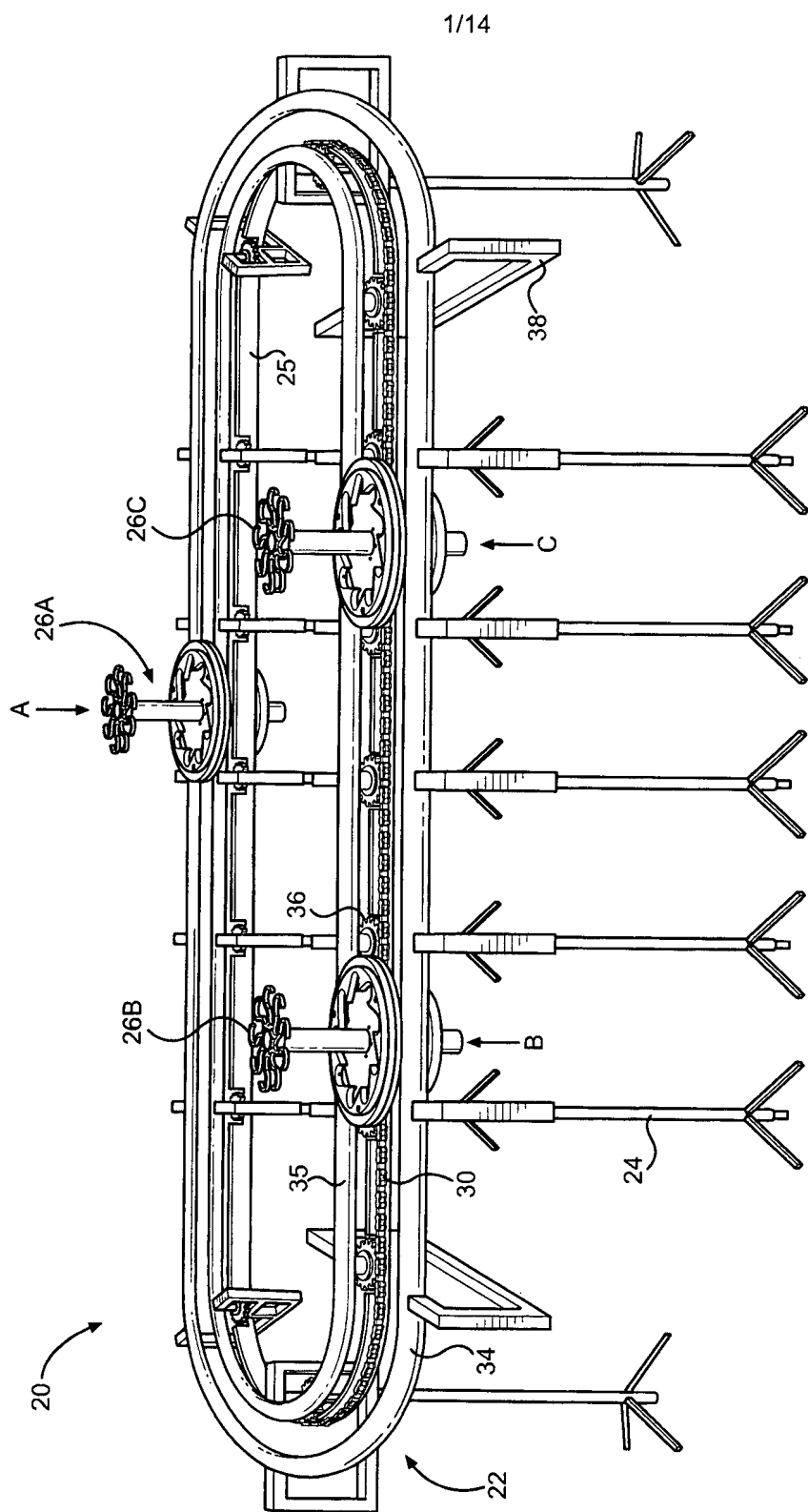


FIG. 1

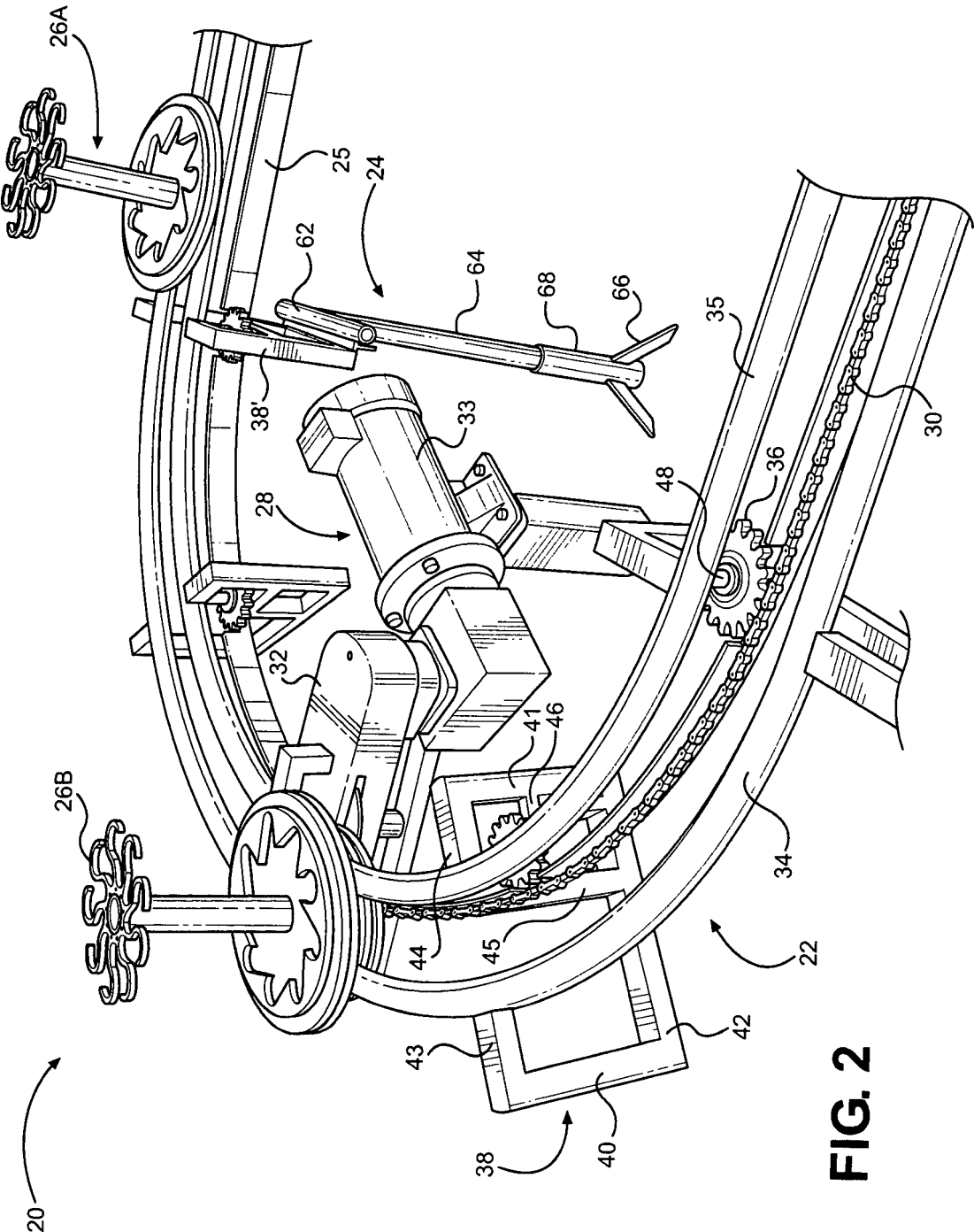


FIG. 2

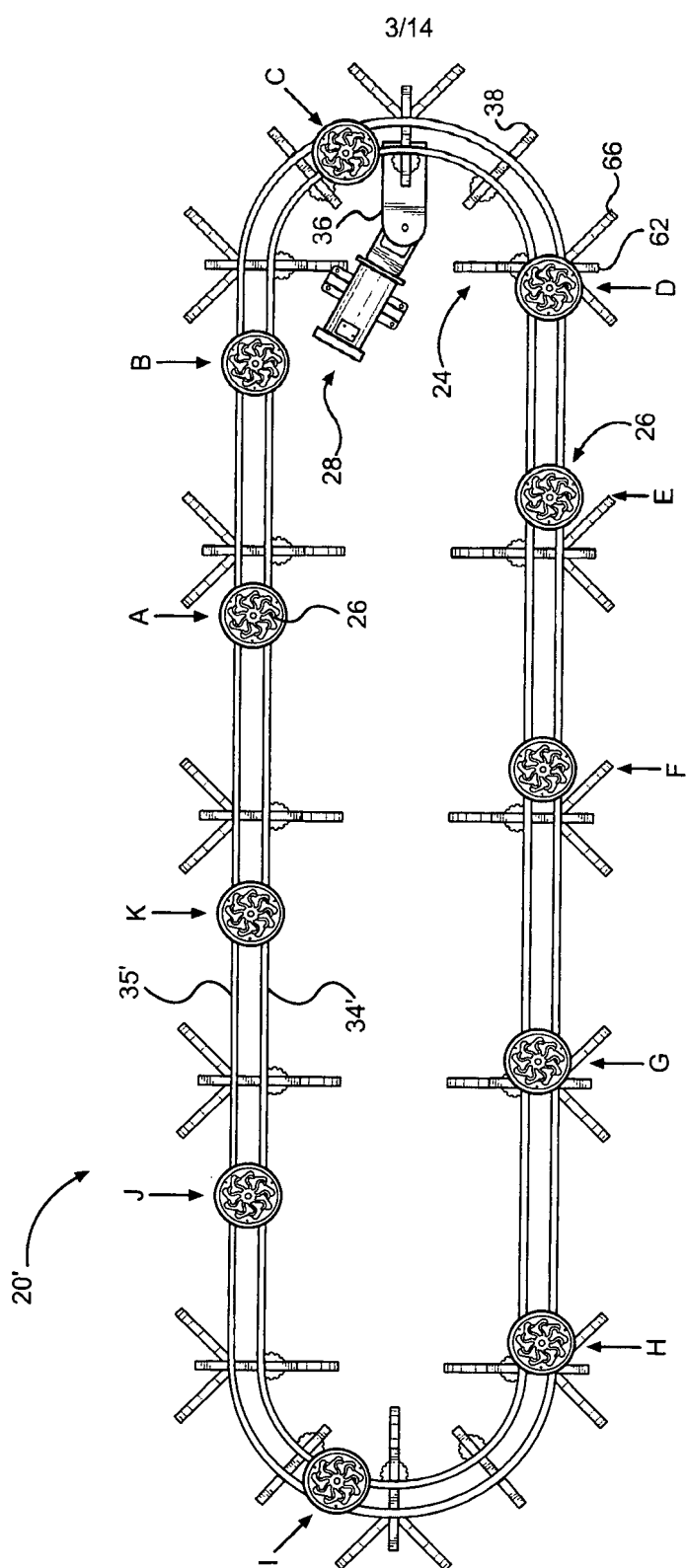


FIG. 3

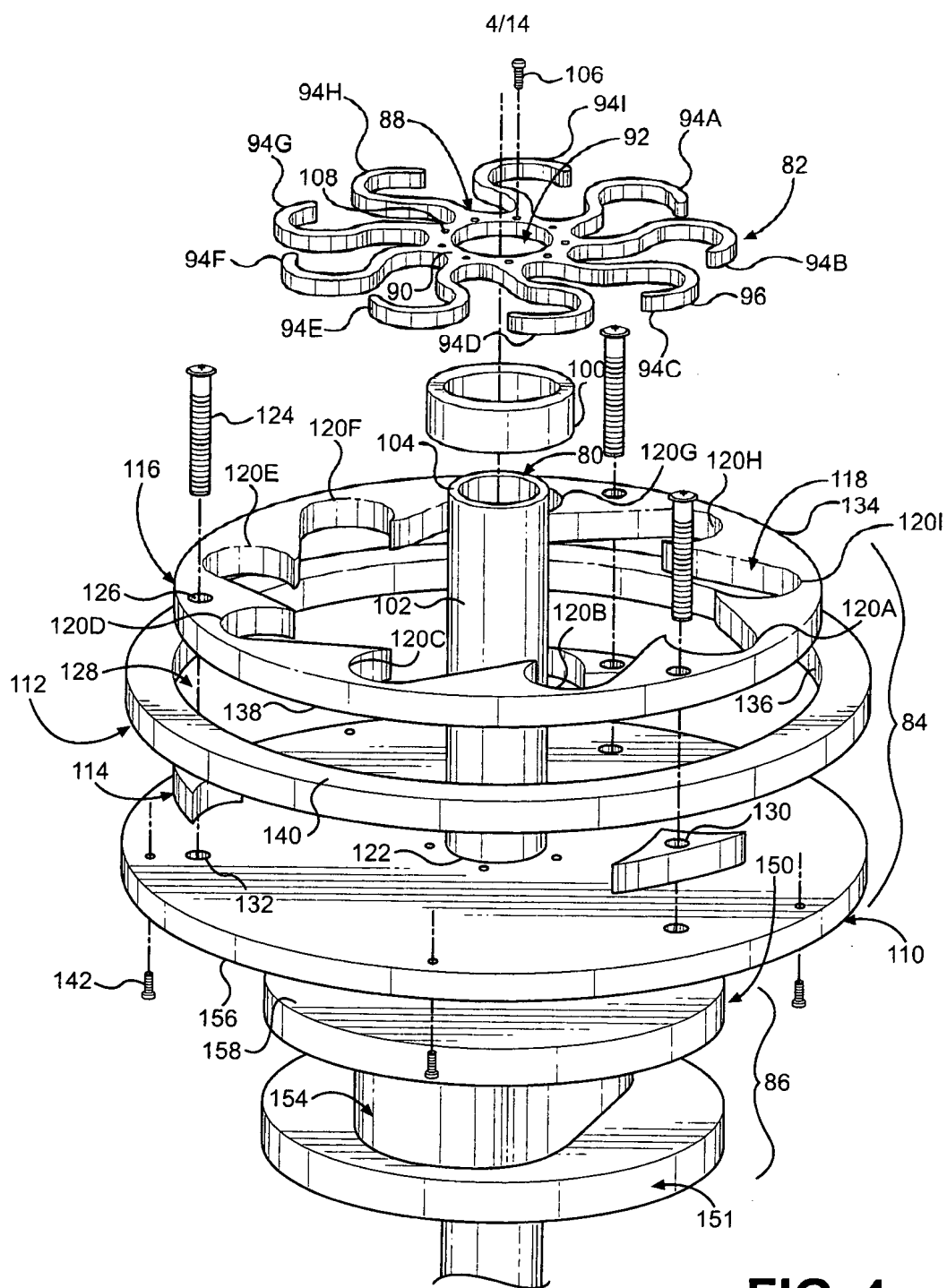
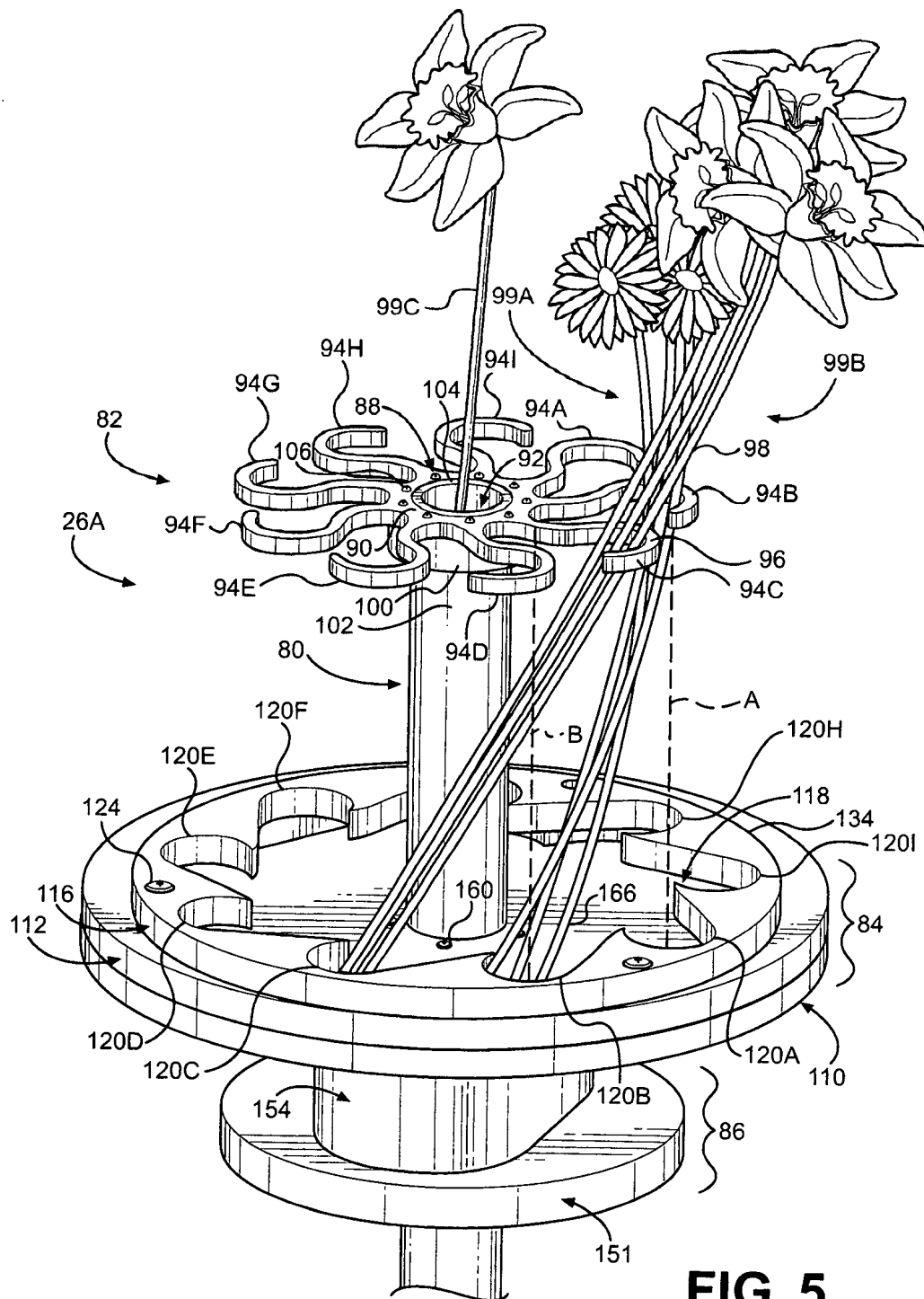


FIG. 4



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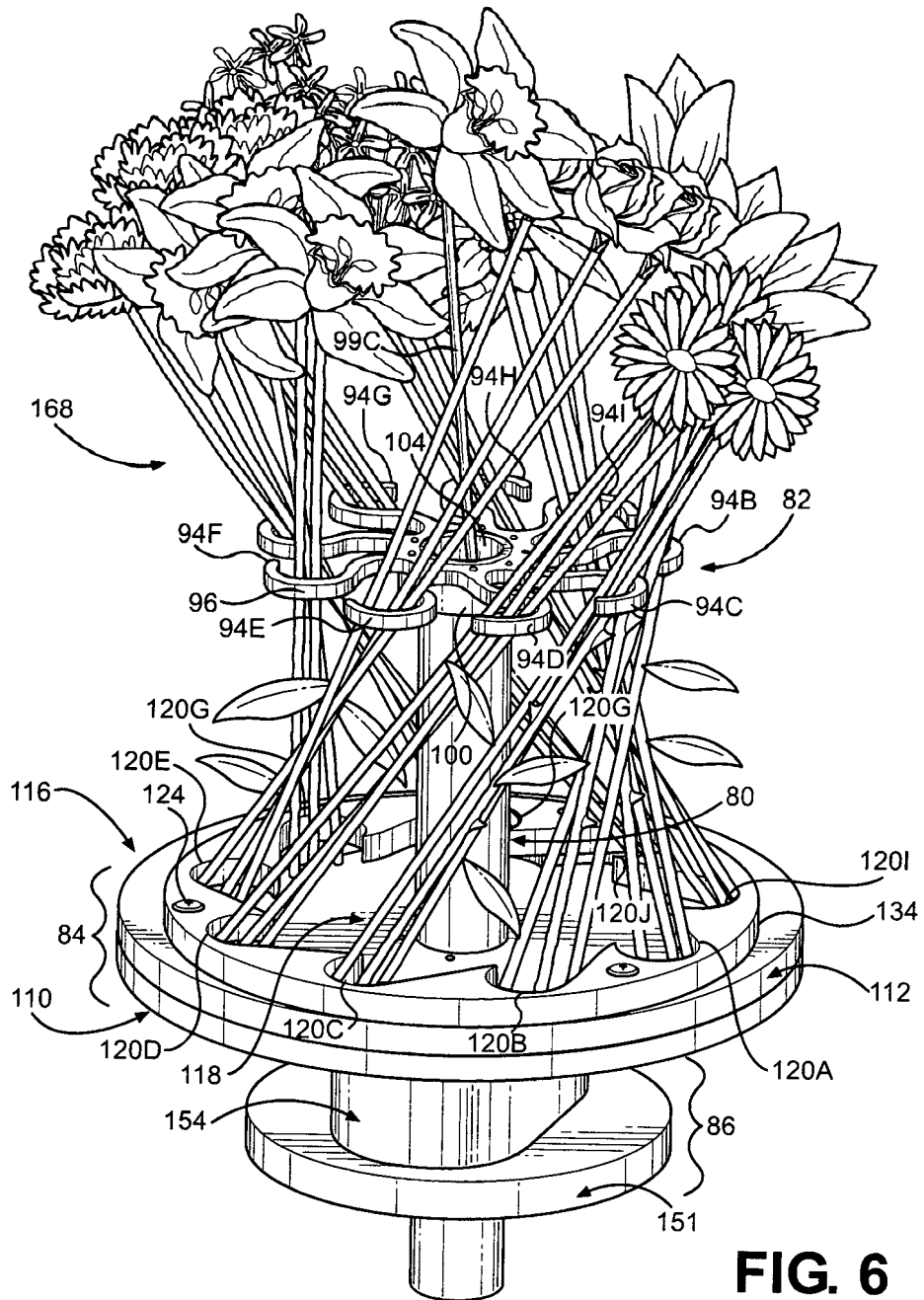


FIG. 6

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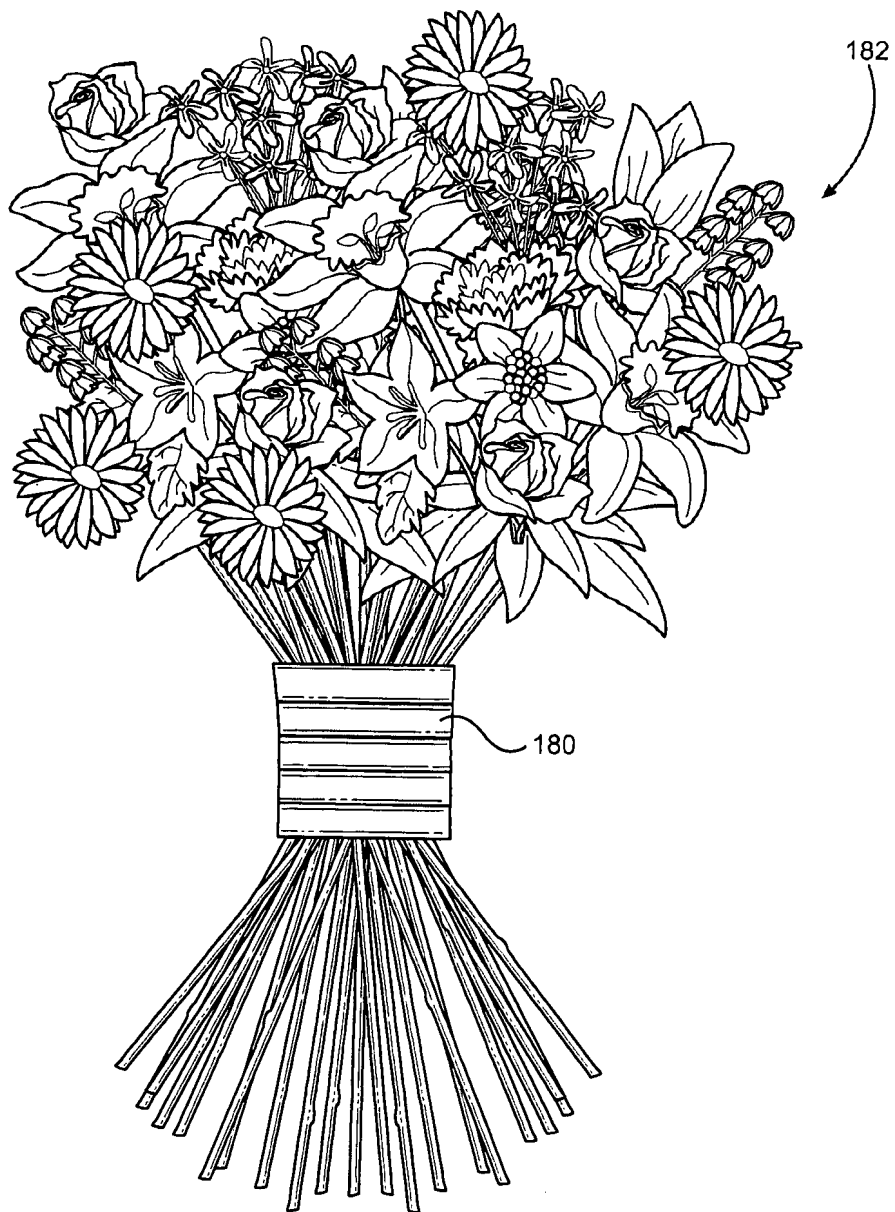


FIG. 7

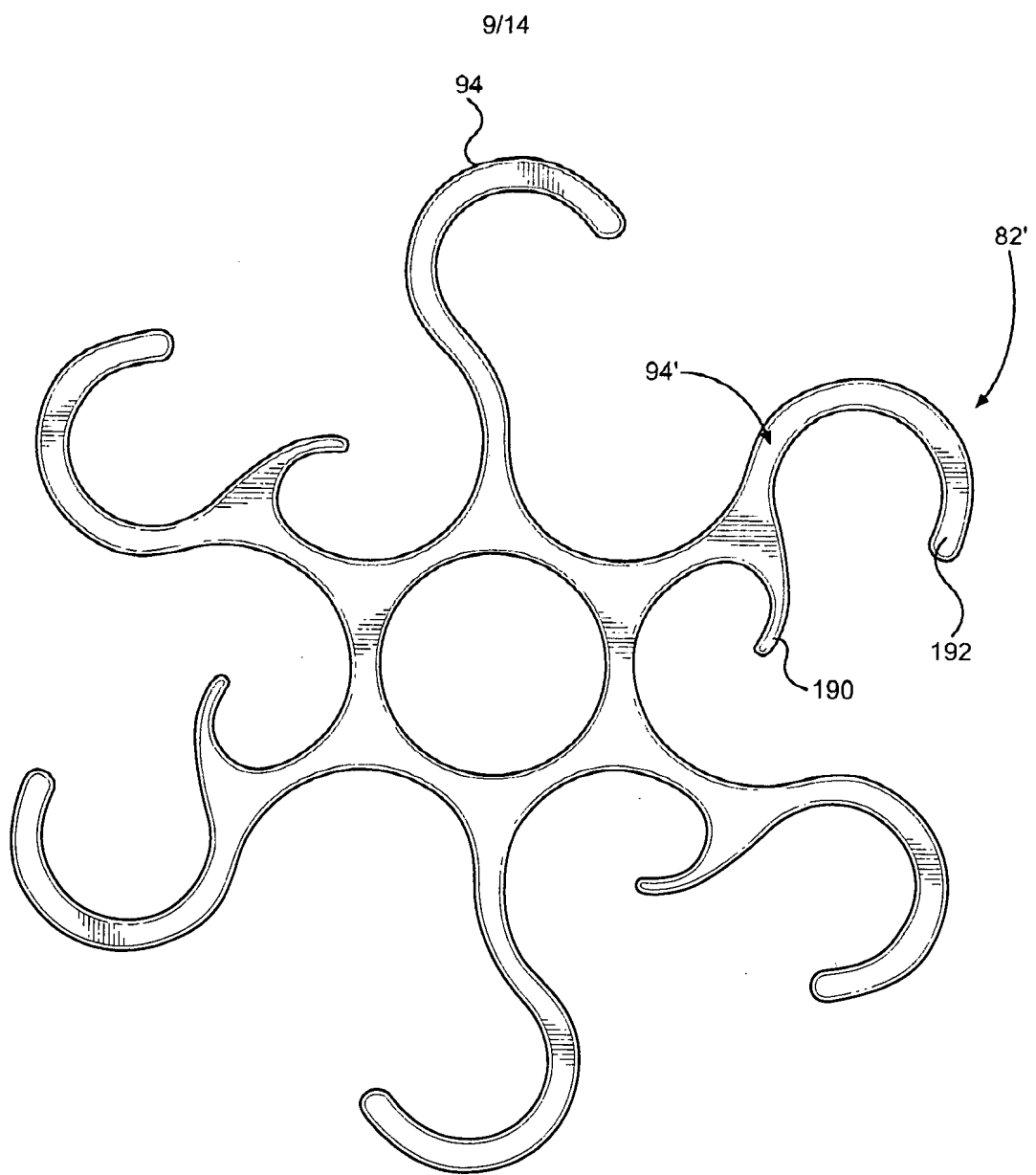


FIG. 9

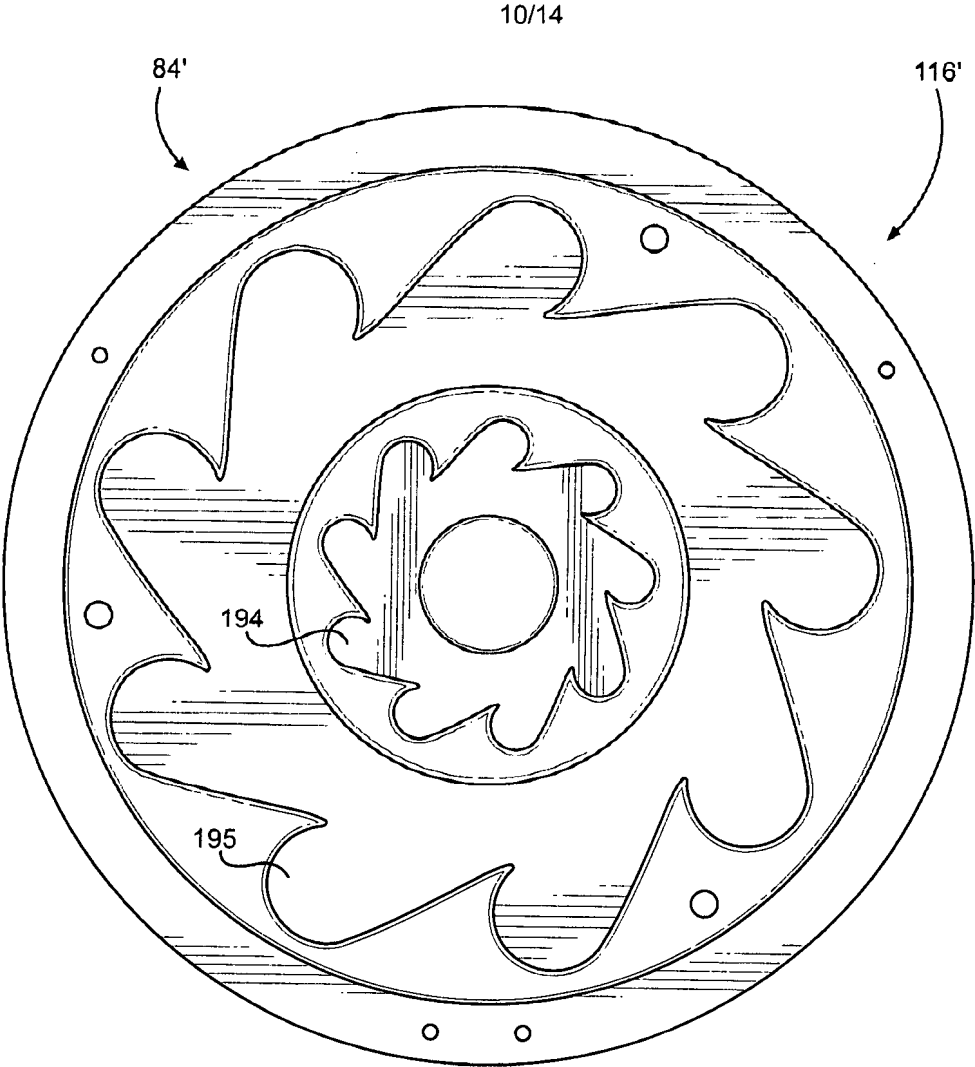


FIG. 10

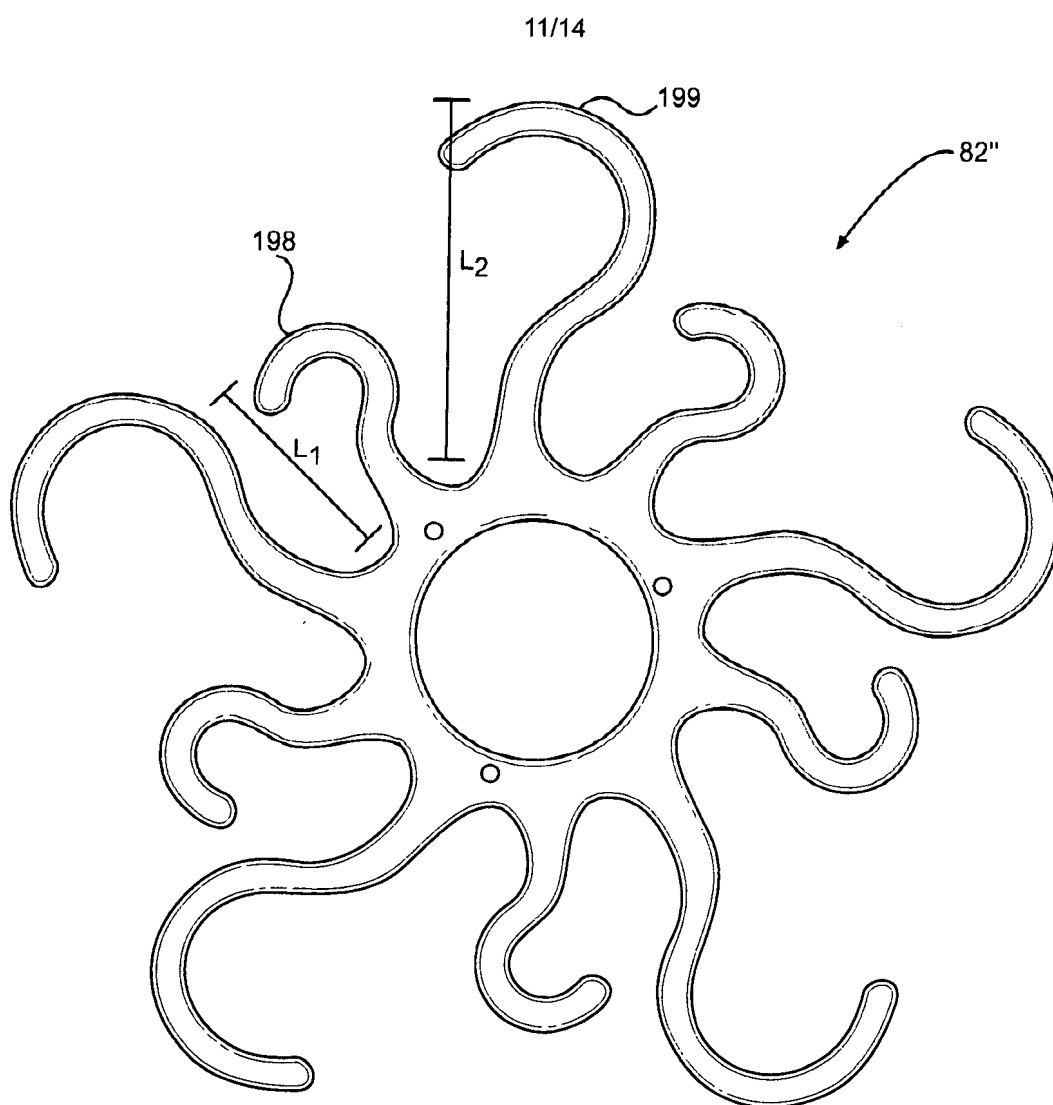


FIG. 11

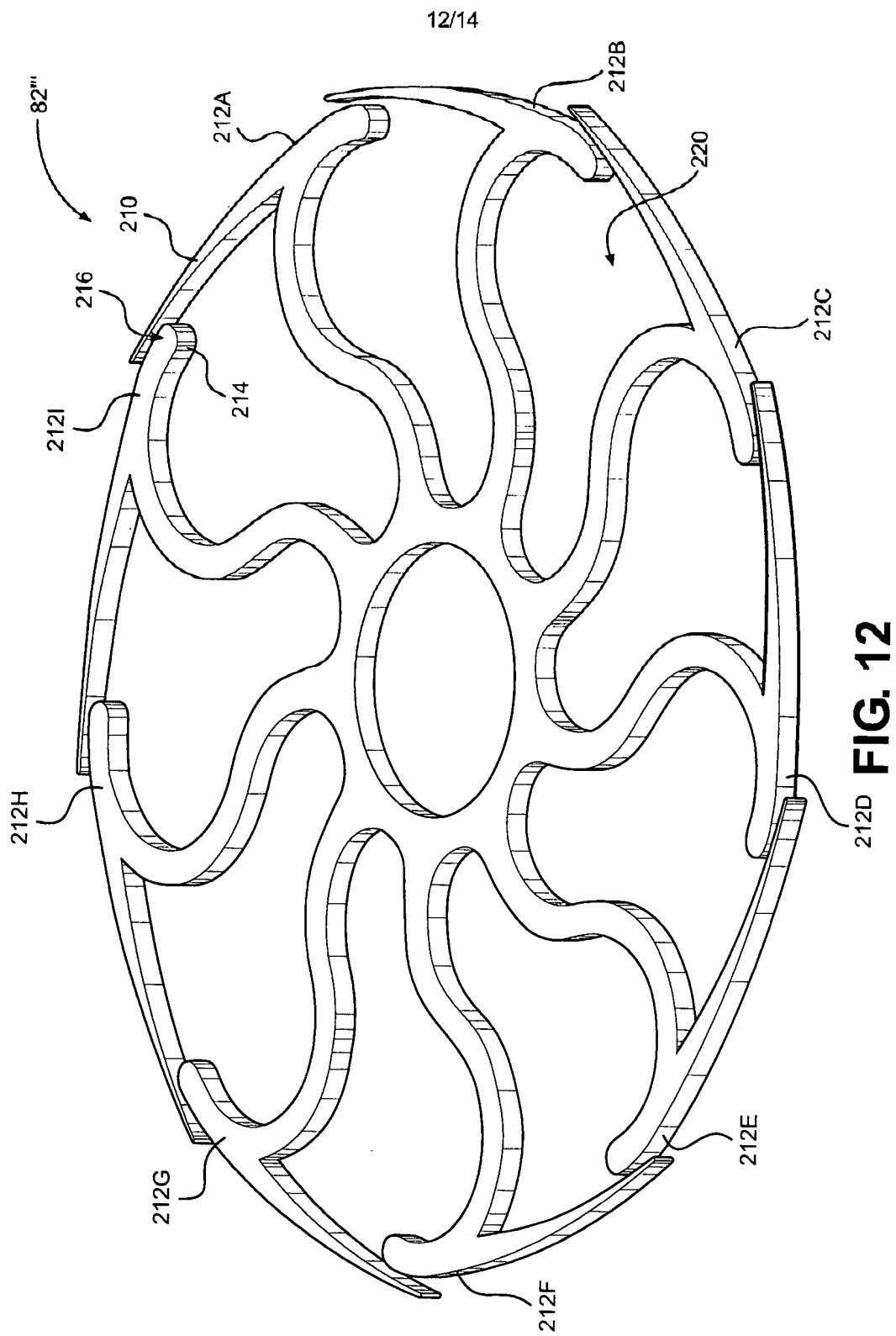


FIG. 12

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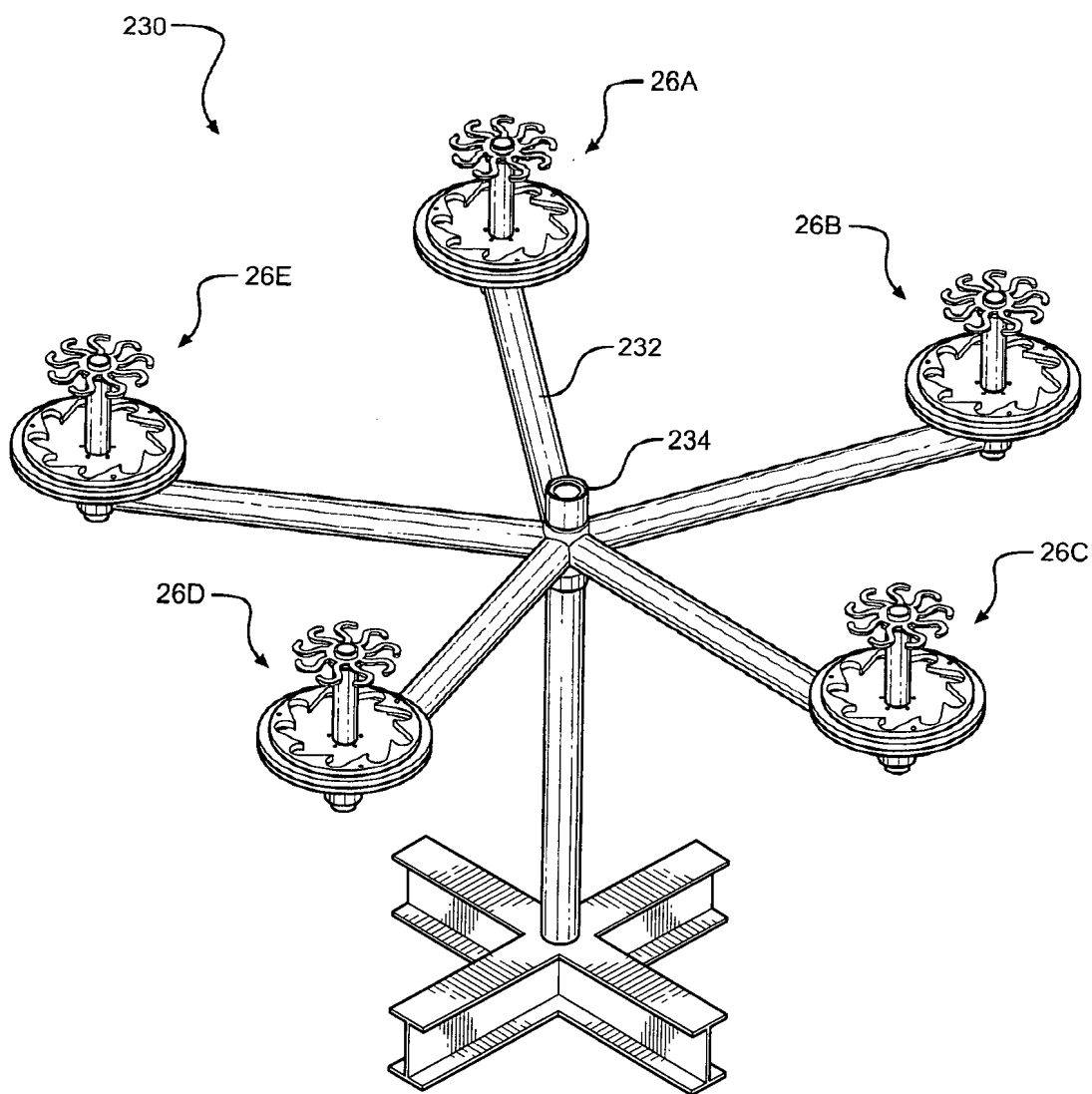


FIG. 13

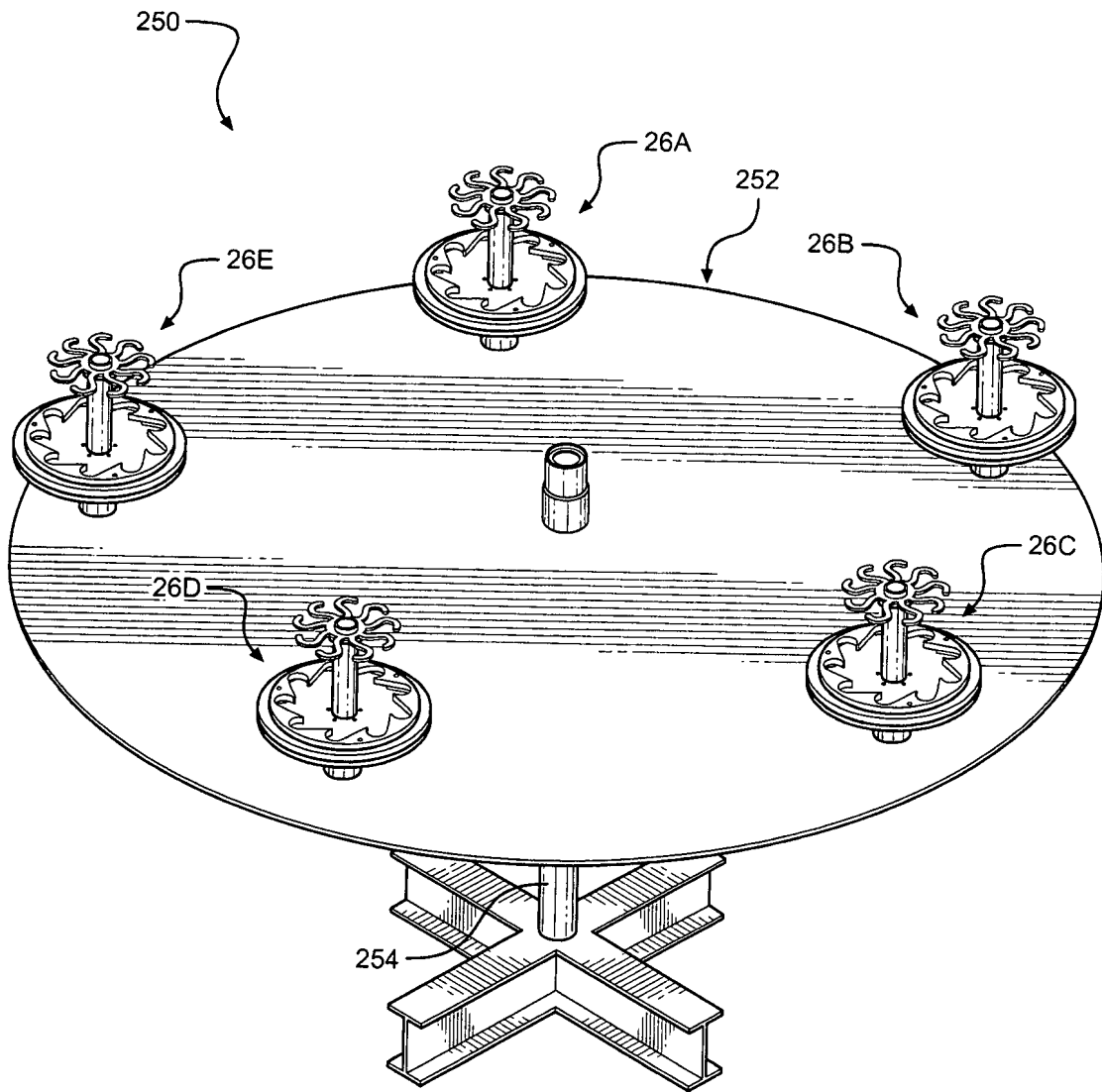
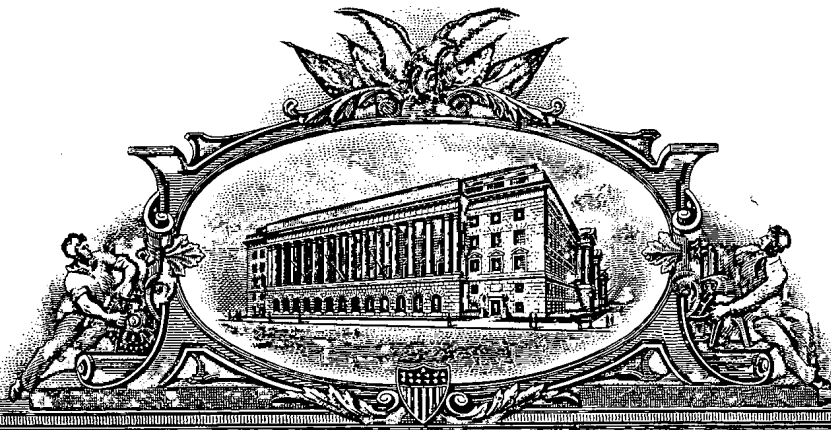


FIG. 14



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UNITED STATES DEPARTMENT OF COMMERCE

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April 18, 2013

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T. LAWRENCE
Certifying Officer



502300754 04/05/2013

PATENT ASSIGNMENT

Electronic Version v1.1
Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
George Malavenda	04/05/2013
RECEIVING PARTY DATA	
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State/Country:	FLORIDA
Postal Code:	33149
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	13457629
CORRESPONDENCE DATA	
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ATTORNEY DOCKET NUMBER:	17928
NAME OF SUBMITTER:	Jorie L. Stroup
Signature:	/Jorie L. Stroup/
Date:	04/05/2013
Total Attachments: 2 source=17298PatentAssignSigned#page1.tif source=17298PatentAssignSigned#page2.tif	

OP \$40.00 13457629

502300754

PATENT
REEL: 030161 FRAME: 0388

ASSIGNMENT

WHEREAS, I, George Malavenda, of 255 Cranwood Drive, Key Biscayne, Florida 33149 United States, hereafter the "Assignor", am the sole inventor of certain new and useful improvements in a BOUQUET MAKING APPARATUS AND METHOD, hereafter the "Invention", disclosed in the U.S. patent application no. 13/457,629 entitled BOUQUET MAKING APPARATUS AND METHOD filed April 27, 2012; and

WHEREAS, NF Global, 220 Hampton Lane, Key Biscayne, Florida 33149, United States, hereafter the "Assignee", is desirous of obtaining all right, title and interest in the Invention, any patent applications filed thereon, and any patents issuing thereon and/or claiming the benefit of such patent applications in the United States and all its territorial possessions.

NOW THEREFORE, in consideration of one dollar (\$1.00), and other good and valuable consideration, of which receipt is acknowledged, the Assignor does sell and assign to the Assignee, the entire right, title, and interest in and to the Invention, and any and all applications for patent and patents in any and all countries, including all divisions, continuations, reissues, and extensions thereof and all rights of priority resulting from the filing of any patent application thereon. I further authorize and request any official whose duty it is to issue patents to issue any patent on said invention or resulting there from to the Assignee, or its successors, assigns, or nominees, and I agree that on request and without further consideration, but at the expense of the Assignee, I will do all lawful and just acts, including communicating to the Assignee or its representatives or nominees any facts known to me respecting said Invention and testify in any legal proceedings, sign all lawful papers, execute all divisional, continuing, and reissue applications, make all rightful oaths, and generally aid the Assignee, its successors, assigns, and nominees, including in cases of interference proceedings, opposition proceedings and litigation, to obtain and enforce proper patent protection for said invention in all countries.

AND ASSIGNOR HEREBY represents and warrants that Assignor has a full and unencumbered title to the invention and the full right to convey all interest assigned by this Assignment, and I have not executed and will not execute any agreement in conflict with this Assignment.

 1/7/5/13
Signature/Date

George Malavenda

 1/9/5/13
Signature/Date

NF Global Representative

Name: Sebastian Malavenda

Title: Secretary

ASSIGNMENT (continued)

The above Assignment conveying rights in the BOUQUET MAKING APPARATUS AND METHOD is sealed and delivered in presence of the following Witnesses:

Rocio Espinosa
Signature/Date (Witness for Assignor)
Rocio Espinosa
Name
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Address
Miami, FL 33122
Address (continued)

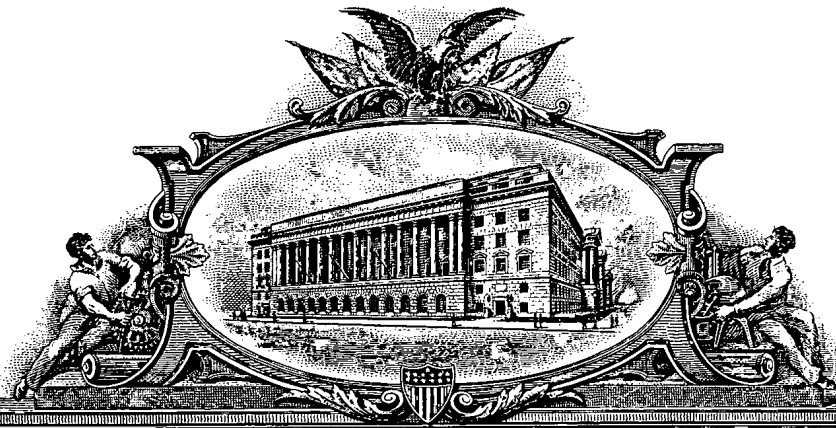
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Signature/Date (Witness for Assignor)
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Yadiana Valle 4/5/13
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YADIANA VALLE
Notary Public, State of Florida
Commission #DD888155
My Commission Expires May 11, 2013



THE UNITED STATES OF AMERICA

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UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

April 11, 2013

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

APPLICATION NUMBER: *13/457,629*

FILING DATE: *April 27, 2012*

THE COUNTRY CODE AND NUMBER OF YOUR PRIORITY APPLICATION, TO BE USED FOR FILING ABROAD UNDER THE PARIS CONVENTION, IS *US13/457,629*

By Authority of the
Under Secretary of Commerce for Intellectual Property
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I. Wallace
I. WALLACE
Certifying Officer

Electronic Acknowledgement Receipt

EFS ID:	12644702
Application Number:	13457629
International Application Number:	
Confirmation Number:	7680
Title of Invention:	BOUQUET MAKING APPARATUS AND METHOD
First Named Inventor/Applicant Name:	GEORGE MALAVENDA
Customer Number:	293
Filer:	Ralph A. Dowell/Jorie Wilson
Filer Authorized By:	Ralph A. Dowell
Attorney Docket Number:	17928
Receipt Date:	27-APR-2012
Filing Date:	
Time Stamp:	10:52:12
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$3360
RAM confirmation Number	11795
Deposit Account	041577
Authorized User	DOWELL,A. YATES

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	TrackOne Request	17928PriorityRequestSigned.pdf	1005192	no	2
			41717513856d9898ea4fcd3353df7f2bb87563e3		
Warnings:					
Information:					
2	Oath or Declaration filed	17928DecSigned.pdf	1089060	no	2
			c7687612729b472da3aef52b9b405d492428ecdb		
Warnings:					
Information:					
3	Application Data Sheet	17928ADS.pdf	1023107	no	4
			fae445652b1a0156580a39edeaba6a471fab7530c		
Warnings:					
Information:					
4	Transmittal Letter	17928Trans.pdf	349175	no	2
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5	Information Disclosure Statement (IDS) Form (SB08)	17928idsform08a.pdf	612895	no	5
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Information:					
6		17928UtilityApp2.pdf	143472	yes	21
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	Multipart Description/PDF files in .zip description				
	Document Description	Start	End		
	Specification	1	14		
	Claims	15	20		
	Abstract	21	21		
Warnings:					
Information:					
7	Drawings-only black and white line drawings	17928Drawings2.pdf	513560	no	14
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Information:					
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Warnings:					
Information:					
Total Files Size (in bytes):			4776943		
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**UTILITY
PATENT APPLICATION
TRANSMITTAL**

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.

17928

First Inventor

Malavenda, George

Title

BOUQUET MAKING APPARATUS AND ME

Express Mail Label No.

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. ☐ **Fee Transmittal Form** (e.g., PTO/SB/17)
2. ☒ **Applicant claims small entity status.**
See 37 CFR 1.27.
3. ☒ **Specification** [Total Pages _____]
Both the claims and abstract must start on a new page
(For information on the preferred arrangement, see MPEP 608.01(a))
4. ☒ **Drawing(s)** (35 U.S.C. 113) [Total Sheets _____]
5. **Oath or Declaration** [Total Sheets _____]
 - a. ☒ Newly executed (original or copy)
 - b. ☐ A copy from a prior application (37 CFR 1.63(d))
(for continuation/divisional with Box 18 completed)
 - i. ☐ **DELETION OF INVENTOR(S)**
Signed statement attached deleting inventor(s)
name in the prior application, see 37 CFR
1.63(d)(2) and 1.33(b).
6. ☒ **Application Data Sheet.** See 37 CFR 1.76
7. ☐ **CD-ROM or CD-R** in duplicate, large table or
Computer Program (Appendix)
☐ Landscape Table on CD
8. **Nucleotide and/or Amino Acid Sequence Submission**
(if applicable, items a. – c. are required)
 - a. ☐ Computer Readable Form (CRF)
 - b. ☐ Specification Sequence Listing on:
 - i. ☐ CD-ROM or CD-R (2 copies); or
 - ii. ☐ Paper
 - c. ☐ Statements verifying identity of above copies

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Name of Assignee _____
10. ☐ **37 CFR 3.73(b) Statement** ☒ **Power of Attorney**
(when there is an assignee)
11. ☐ **English Translation Document** (if applicable)
12. ☒ **Information Disclosure Statement** (PTO/SB/08 or PTO-1449)
☐ Copies of citations attached
13. ☐ **Preliminary Amendment**
14. ☐ **Return Receipt Postcard** (MPEP 503)
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15. ☐ **Certified Copy of Priority Document(s)**
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16. ☐ **Nonpublication Request** under 35 U.S.C. 122(b)(2)(B)(i).
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of prior application No.: _____

Prior application information:

Examiner _____

Art Unit: _____

19. CORRESPONDENCE ADDRESS☒ The address associated with Customer Number:

00293

OR

☐ Correspondence address below

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Dowell & Dowell, P.C.

Address

City

State

Zip Code

Country

Telephone

Email

Signature

/Jorie L Wilson/

Date

April 27, 2012

Name
(Print/Type)

Jorie L. Wilson

Registration No.
(Attorney/Agent)

57,532

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BOUQUET MAKING APPARATUS AND METHOD

BACKGROUND OF THE INVENTION

[0001] Technical Field

The present invention pertains to the art of flower bouquet making, and more particularly, to an apparatus and method for making twisted mixed floral bouquets.

[0002] 2. Background Art

Mixed floral bouquets have been traditionally arranged and secured by hand. Such a process is time consuming and makes it difficult for one or more individuals to generate multiple bouquets having a substantially identical design or appearance. This can be even more difficult when a twisted stem-type bouquet is desired. One attempt to aid a user in arranging flowers can be seen in U.S. Patent No. 7,213,365. More specifically, the '365 patent describes a stationary table having top and bottom gratings through which flower stems are inserted. The gratings are rotated about a vertical axis with respect to one another such that the stems are shifted into a twisted wheat sheaf-like position. However, this stationary device cannot be readily utilized by more than one person at a time, and the twisting motion of the device can damage or break delicate floral stems. Further, the '365 device does not enable the mass production or high-volume creation of identically designed bouquet arrangements for mass sale. Therefore, there is seen to be a need in the art for an apparatus that provides for the simultaneous manufacturing of multiple, substantially identical bouquets having twisted, undamaged stems.

SUMMARY OF THE INVENTION

[0003] The present invention is directed to a bouquet making apparatus comprising a conveying device and a plurality of interchangeable bouquet forms movably supported by the conveying device. In a first embodiment, a continuous loop conveyor includes sprocket supports connected to a support rail at spaced intervals engaging with a drive belt to guide the drive belt around the support rail. Additionally, adjustable supports are provided for supporting the conveyor at a desired height. Sprockets on each of the bouquet forms engage the drive belt, causing the bouquet forms to slide along first and second tracks as the drive belt moves about the conveyor. In this way, bouquet forms are transported between work stations. The bouquet forms include upper and lower stem supports configured to removably support a plurality of flower stems at an angle with respect to vertical. In alternative embodiments, bouquet forms are mounted on a rotatable support, and the support rotates to transport the bouquet elements between work stations.

[0004] In use, bouquet elements, such as roses, greenery or the like, are arranged at each of a plurality of work stations spaced along the conveying device. At each station, a worker inserts a set of bouquet element stems into one of a plurality of stem holding arms and into one of a plurality of corresponding lower stem receiving portions of a bouquet form. The conveying system is activated to transport each bouquet form from one work station to the next. Workers spaced along the conveying device at each station will sequentially insert bouquet elements into each of the pairs of stem holding arms and lower stem receiving portions. This process is repeated until the desired number of stem holding arms and corresponding lower stem receiving portions are filled, thereby forming a final bouquet set in each of the bouquet forms. The final bouquet set is removed from the respective bouquet form and secured together with a ribbon or the like, thereby forming a plurality of twisted stem-

type bouquets having a substantially identical design. The bouquet forms and arrangement of bouquet elements can be customized, allowing for a limitless variety of bouquet designs. Advantageously, stems of the final bouquet set do not need to be twisted, mechanically or by hand, into the correct position for a twisted-type bouquet, as the stems have already been correctly aligned by the bouquet form. Thus, the present apparatus and method allow for the customization and mass production of substantially identical twisted bouquets.

[0005] Additional objects, features and advantages of the present invention will become more readily apparent from the following detailed description of preferred embodiments when taken in conjunction with the drawings wherein like reference numerals refer to corresponding parts in the several views.

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BRIEF DESCRIPTION OF THE DRAWINGS

[0006] Figure 1 is a perspective view of a bouquet making apparatus of the present invention with the drive system removed for clarity;

[0007] Figure 2 is a partial perspective view of the bouquet making apparatus of Figure 1 with the drive system shown;

[0008] Figure 3 is an alternative bouquet making apparatus;

[0009] Figure 4 is an exploded perspective view of a bouquet form of the present invention;

[0010] Figure 5 is a perspective view of the assembled bouquet form of Figure 4;

[0011] Figure 6 is a perspective view of the bouquet form of Figure 5 in use;

[0012] Figure 7 depicts a bouquet made by the present invention;

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[0013] Figure 8 is a partial cross-sectional view of the drive system of the present invention;

[0014] Figure 9 is a first alternative upper stem support of the present invention;

5 [0015] Figure 10 is an alternative top plate of the present invention;

[0016] Figure 11 is a second alternative upper stem support of the present invention;

[0017] Figure 12 is a third alternative upper stem support of the present invention;

10 [0018] Figure 13 is an alternative conveying device of the present invention; and

[0019] Figure 14 is another alternative conveying device of the present invention.

15

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0020] With initial reference to a first embodiment shown in Figures 1 and 2, a bouquet making apparatus 20 of the present invention includes a conveying
20 device in the form of a continuous loop conveyor 22 supported by a plurality of stands 24 connecting to a support rail 25. Pluralities of bouquet forms 26A-26C adapted to receive bouquet-making materials, such as flowers and greenery, are moveably supported by conveyor 22 and are selectively transported to various stations A-C via a drive system generally indicated at 28 in Figure 2. More
25 specifically, a drive belt 30 is transported around support rail 25 by a drive arm 32 connected to a motor 33. In an exemplary embodiment, drive belt 30 is in the form of a chain belt, which engages each of bouquet forms 26A-26C and transports them along first and second support tracks 34 and 35 of conveyor 22, as will be discussed in more detail below. Drive belt 30 is supported at spaced

locations about conveyor 22 by sprockets 36 connected to sprocket supports 38.

In the first embodiment, conveyor 22 is a continuous oblong or circular loop conveyor about which bouquet forms 26A-26C travel, however, conveyor 22 may take on any desired configuration. Although three bouquet forms 26A-C

5 and three stations A-C are shown, it should be understood that bouquet making apparatus 20 can be configured with any desired number of bouquet forms and stations. For example, Figure 3 depicts an alternative apparatus 20' including eleven identical bouquet forms generally indicated at 26 and eleven corresponding stations A-K arranged at spaced locations along first and second support tracks 34' and 35'. As with the previous embodiment 20, bouquet forms 10 26 are driven along tracks 34' and 35' by a drive system 28.

[0021] As best seen in Figure 2, each sprocket support 38 includes first and second spaced vertical members 40 and 41 connected by a bottom member 42. Additionally, first and second top members 43 and 44 connect vertical

15 members 40, 41 to respective first and second support tracks 34, 35. A central member 45 extends from bottom member 42 between vertical members 40 and 41 and connects sprocket support 38 to support rail 25. Further, a support arm 46 extends between second vertical member 41 and central member 45 to provide additional strength and stabilization for sprocket 36. Specifically, a

20 gear shaft 48 extends between and is stabilized by second top member 44 and support arm 46, and rotatably supports sprocket 36 thereon. It should be understood that teeth extending from each of sprockets 36 engage drive belt 30 such that sprockets 36 rotate while supporting drive belt 30 as it travels around conveyor 22. As can best be seen in Figure 2, each stand 24 incorporates a

25 modified sprocket support 38' therein. Specifically, sprocket support 38' connects to a vertical support arm 62 of a post 64, which is supported by a plurality of feet 66 extending from a lower support portion 68. Preferably, post 64 is extendable, thereby enabling a user to adjust the height of conveyor 22.

[0022] Bouquet forms of the apparatus will now be discussed in more detail with reference to bouquet form 26A shown in Figures 4 and 5. In general, each bouquet form 26A-26C includes a center post 80 about which is arranged an upper stem support 82, a lower stem support 84, and a conveyor engagement portion 86. Upper stem support 82 is preferably in the form of a plate 88 having a central body 90 with a center post receiving cutout 92 formed therein, and a plurality of stem holding arms or hook-shaped arms 94A-94I extending radially outward from central body 90. Each hook-shaped arm 94A-94I includes a curved or semi-circular portion 96 adapted to receive the stems 98 of a set of bouquet elements 99A, 99B. Preferably, center post 80 is also configured to receive and hold the stems 98 of a set of bouquet elements 99C. In the preferred embodiment shown, bouquet elements 99A, 99B are in the form of flowers, however, it should be understood that other common bouquet elements such as greenery and other decorative elements could also be utilized. In the context of this invention, a set can be a single flower or other bouquet element, but is preferably a plurality of bouquet elements. A collar 100 is fixed about an outer wall 102 of center post 80 such that an upper portion 104 of center post 80 extends above collar 100 and is received in center post receiving cutout 92 of upper stem support 82. Fasteners indicated at 106 extend through holes 108 in central body 90 and into collar 100, thereby securing upper stem support 82 to center post 80 in a fixed manner.

[0023] Lower stem support assembly 84 comprises a base plate 110, a central ring 112, a plurality of spacers 114 and a top plate 116 having a stem receiving cutout 118 formed therein. Stem receiving cutout 118 defines a plurality of curved stem receiving portions or lobes 120A-120I that define a pocket adapted to receive a plurality of floral stems, or the like, as shown in Figure 5. Base plate 110 includes a post receiving aperture 122 therein, which fits about outer wall 102 of center post 80. Fasteners 124 extend through apertures 126 in top plate 116, through a central opening 128 in central ring

112, through apertures 130 in spacers 114, and into apertures 132 in base plate 110 to secure lower stem support assembly 84 together. With this configuration, an outer rim portion 134 of top plate 116 substantially aligns with an inner rim portion 136 of central ring 112, with spacers 114 supporting top plate 116 such that a bottom wall 138 of top plate 116 is substantially aligned with a top wall 140 of central ring 112. Additionally, fasteners 142 preferably extend up through base plate 110 into central ring 112 to further secure central ring 112.

[0024] Lower stem support assembly 84 is supported by conveyor engagement portion 86. More specifically, upper and lower platforms 150, 151 sandwich a track engaging member 154 there between. Upper and lower platforms 150, 151 and track engagement member 154 may be integrally formed with center post 80, or may be fixed about center post 80. A bottom wall 156 of base plate 110 is in contact with a top wall 158 of top platform 150. Fasteners 160 (shown in Figure 5) may be utilized to secure base plate 110 to upper platform 150. With this configuration, lower stem support 84 and conveyor engagement portion 86 are rigidly fixed to center post 80.

[0025] Hook-shaped arms 94A-94I of upper stem support 82 are offset with respect to curved lobes 120A-120I of lower stem support assembly 84 such that stems 98 are removably held at an angle with respect to vertical by bouquet form 26A. In the preferred embodiment, center post 80 is substantially vertically aligned such that stems 98 held by upper and lower stem supports 82 and 84 are also held at an angle with respect to center post 80. With this configuration, upper stem support 82 and lower stem support 84 provide a bouquet element holding means for holding bouquet elements stems 98 at an angle such that stems 98 can be readily inserted and withdrawn from the bouquet element holding means during the manufacturing of a bouquet. Advantageously, stems 98 can be inserted and withdrawn from the bouquet element holding means without having to move or shift various parts of the

bouquet form 26A. As can be seen in the example of Figure 5, a first set of bouquet elements 99A is held within the curved portion 96 of hook-shaped arm 94C, while lower stem portions 166 of the first set of bouquet elements 99A are received within a corresponding one of the curved lobes 120C. A vertical axis A, which extends through the center of curved portion 96, is shown offset from a vertical axis B that extends through a center of curved lobe 120C. The distance the vertical axes A and B are offset from one another can be varied, depending on the desired bouquet arrangement. In other words, the angle of stems 98 with respect to vertical can be adjusted by changing the relative positions of upper and lower stem supports 82 and 84. Figure 6 depicts a filled bouquet form 26A, wherein each hook-shaped arm 94A-94I and corresponding curved lobe 120A-120I is filled with a set of bouquet elements, thereby forming a final bouquet set 168, which is ready for removal. The angled arrangement of parts results in a bouquet having stems 98 that cross one another and are intertwined, sometimes referred to in the industry as a Dutch spiral bouquet or a wheat sheaf-like bouquet. An example of such a twisted bouquet is depicted in Figure 7.

[0026] It should be appreciated that a variety of known drive systems could be utilized with the conveying device of present invention to transport bouquet forms 26A-26C. With reference to Figure 8, bouquet form 26A is shown mounted to conveyor 22 through conveyor engagement portion 86. More specifically, bouquet form 26A is assembled such that upper and lower platforms 150 and 151 sandwich first and second support tracks 34 and 35, and engaging member 154 extends between first and second support tracks 34 and 35. A drive chain 170 of drive arm 32 is connected to motor 33 (depicted in Figure 2) in a conventional manner, and engages a drive gear 172 to rotate drive gear 172 about a vertical axis. Drive gear 172 includes teeth 174, which engage with drive belt 30 such that the rotation of drive gear 172 moves drive belt 30 along support rail 25 of conveyor 22. A sprocket 176 attached about a lower

portion 178 of center post 80 engages with drive belt 30, such that bouquet form 26A is moved about conveyor 22 by drive belt 30. With this configuration, bouquet form 26A can rotate freely about a vertical axis. In a preferred embodiment, surface areas of conveyor engagement portion 86 that come into
5 contact with conveyor 22 are comprised of low friction materials, such as plastic, to enable bouquet form 26A to slide relatively freely along first and second support tracks 34 and 35.

[0027] A method of manufacturing bouquets will now be discussed with reference back to Figures 1 and 5. Initially, bouquet elements (not shown) are
10 arranging at each of a plurality of stations A-C spaced along a conveying device, such as conveyor 22. For example, red roses can be arranged at station A, greenery can be arranged at station B and Baby's breath can be arranged at station C. In another example, each station A-C can have a different mix of flowers and/or greenery. The number and type of bouquet elements will depend
15 on the desired design of the final bouquet. At a first of the plurality of stations, e.g. station A, a worker inserts a first set of bouquet element stems (e.g., 99A) into one of the plurality of stem holding arms 94A-94I and into one of the plurality of corresponding lower stem receiving portions 120A-120I of a first bouquet form (e.g., 26A) such that the first set of bouquet element stems 99A is
20 held at an angle with respect to vertical within bouquet form 26A. The first bouquet form 26A is then transported by conveyor 22 to the next station, e.g. station B. At station B, a worker rotates bouquet form 26A such that an open stem holding arm 94A-94I and corresponding lower stem receiving portion 120A-120I are oriented towards the worker. Alternatively, conveyor 22 can be
25 provided with means for automatically indexing each bouquet maker 26A-26C at respective stations A-C such that an open stem holding arm 94A-94I and corresponding lower stem receiving portion 120A-120I are oriented towards the worker who will be placing flowers therein. Another worker inserts a second set of bouquet element stems (e.g., 99B) into an open one of the plurality of

stem holding arms 94A-94I and into a corresponding lower stem receiving portion 120A-120I of the first bouquet form 26A such that the second set of bouquet element stems 99B is held at an angle with respect to vertical within bouquet form 26A. Preferably, the first and second sets of bouquet elements are comprised of different flowers. For example, one set of bouquet elements can be roses and another set greenery. The plurality of stem holding arms 94A-94I and corresponding lower stem receiving portions 120A-120I may be color coded to help facilitate the loading of flowers into the correct locations.

[0028] In addition, a worker places a set of bouquet elements 99C into center post 80 of bouquet form 26A. The above steps are repeated until each of the plurality of stem holding arms 94A-94I and corresponding lower stem receiving portions 120A-120I of the first bouquet form 26A, as well as the center post 80, holds a set of bouquet elements, thereby forming a final bouquet set, such as 168 shown in Figure 6. The final bouquet set 168 is lifted from the bouquet form 26A by a worker and secured with a fastener 180, such as a ribbon, rubber band or the like, to form a completed twisted-type bouquet having intertwined stems, such as bouquet 182 in Figure 7. Advantageously, stems 98 of final bouquet set 168 do not need to be twisted, mechanically or by hand, into the correct position for a twisted-type bouquet as they are already correctly aligned by bouquet form 26A. Eliminating manual or mechanical twisting of stems 98 reduces the likelihood of stems 98 being broken or otherwise damaged in the bouquet making process.

[0029] In a preferred method, the conveying device includes a bouquet form at each of the plurality of stations, and the above process is repeated for each of the bouquet forms 26A-26C simultaneously. The conveying device rotates each of the bouquet forms 26A-26C from station to station, such that a plurality of bouquets 182 are formed which are substantially identical in design. For example, while bouquet form 26A is at station A, a worker at station B will insert a set of bouquet elements into a second bouquet form 26B. Conveyor 22

then transports bouquet form 26A to station B, and bouquet form 26B to station C. The workers at stations B and C then substantially simultaneously fill a stem holding arm and corresponding lower stem receiving portion of respective bouquet forms 26A and 26B, before conveying bouquet forms 26A and 26B to the next station along conveyor 22. The final set of bouquet elements 168 in each bouquet form 26A and 26B are lifted away from the bouquet forms 26A and 26B and secured to form substantially identical bouquets 182. The resultant bouquets 182 will have twisted and intertwined stems 98 due to the angle of the stems 98 within each bouquet form 26A-C.

[0030] Advantageously, bouquet forms 26A-26C can be reconfigured by a user in order to provide for a variety of different bouquet arrangements. For example, the relationship of central axes A and B of respective curved portions 96 and curved lobes 120 may be varied to provide for different angles of stems 98. Additionally, upper stem support 82 and top plate 116 can take on different forms to allow for different floral positioning or grouping. For example, Figure 9 depicts an alternative upper stem support 82' including hook-shaped arms 94' having both inner and outer curved or hook-shaped portions 190 and 192. Figure 10 depicts an associated top plate 116' of a lower stem support 84', which includes both inner and outer curved lobes 194 and 195. With this configuration, it should be understood that sets of stems 98 can be arranged within each pair of inner curved portions 190 and corresponding inner curved lobes 194, and each pair of outer curved portions 192 and corresponding outer curved lobes 195. Preferably, the inner and outer curved portions 190 and 192 are offset with respect to the corresponding inner and outer curved lobes 194 and 195 such that stems 98 are held at an angle with respect to vertical.

[0031] Figure 11 depicts yet another upper stem support 82'', which includes alternating inner and outer hook-shaped arms 198 and 199, wherein the inner hook-shaped arms 198 have a length L_1 which is shorter than the length L_2 of the outer hook-shaped arms 199. In use, a set of stems 98 is inserted into

each outer hook-shaped arm 199 and into a corresponding outer curved lobe 195 of top plate 116', as well as into each inner hook-shaped arm 198 and corresponding inner curved lobe 194 of top plate 116'.

[0032] Figure 12 depicts a third alternative upper stem support 82''', which includes the same shape as upper stem support 82, with the addition of retention fingers 210, which extend back from the opening of each of a plurality of hook shaped arms 212A-212I. Retention fingers 210 extend slightly beyond a front end 214 of a hook-shaped portion 216 of the succeeding adjacent hook shaped arm. With this configuration, bouquet elements are held within an upper pocket 220 defined by each of the hook-shaped portions 216 and a respective adjacent retention finger 210. It should be readily understood that different bouquet designs can be created by rearranging the elements of bouquet forms 26A-C, as well as by varying the type and number of bouquet elements 99 inserted into each of upper and lower stem supports 82, 82', 82'', 82''' and 84, 84'.

[0033] Although discussed above with reference to a continuous loop-type conveyor embodiment 22, it should be understood that different types of conveying devices or conveying means for transporting bouquet forms 26A-26E between work stations can be utilized in accordance with the present invention. For example, bouquet forms 26A-26E can be mounted on the belt of a standard belt conveyor for transport between work stations. Alternatively, rotating surfaces can be utilized. In order to illustrate this point, Figure 13 depicts a second type of conveying device indicated at 230. In general, conveying device 230 includes a plurality of support arms 232 extending from and rotatably supported about a central support 234. Each of the support arms 232 supports a respective bouquet form 26A-26E for movement about central support 234. A standard drive system (not shown) is utilized to spin support arms 232 about central support 234. Alternatively, workers themselves can provide the power to spin support arms 232 about central support 234. With this embodiment, stations are set up along the periphery of conveying device

230, and support arms 232 are rotated from station to station, enabling a worker at each station to insert a set of bouquet element stems into each bouquet form 26A-26E in accordance with the method described above.

[0034] In yet another embodiment, a third type of conveying device indicated at 250 is depicted in Figure 14. In general, conveying device 250 include a circular table 252 rotatably supported about a central support 254. Bouquet forms 26A-26E are mounted at spaced locations along an outer portion of circular table 252. In use, a standard drive system (not shown) is utilized to spin circular table 252 about central support 254 to move bouquet forms 26A-26E between stations. Alternatively, workers themselves can provide the power to spin circular table 252 about central support 254. Thus, it should be understood that various types of conveying devices can be utilized with the bouquet forms and method of the present invention to mass produce substantially identical twisted bouquets 182.

[0035] Utilizing multiple identical bouquet forms 26A-26E on the bouquet making devices of the present invention results in the formation of multiple substantially identical bouquets with little or no damage to the stems of the flowers or other bouquet making elements. Advantageously, the bouquet forms and arrangement of bouquet elements can be customized, allowing for a limitless variety of bouquet designs. Thus, the present apparatus and method allow for the customization and mass production of substantially identical twisted bouquets. Although described with reference to preferred embodiments of the invention, it should be readily understood that various changes and/or modifications can be made to the invention without departing from the spirit thereof. For instance, although depicted as having nine stem holding arms 94A-94I and nine corresponding lower stem receiving portions 120A-120I, bouquet forms 26A-26C could be configured with any desired number of stem holding portions. Further, although shown as separate elements, the upper and lower stem supports could be connected to one another. Additionally, it should be

understood that a single worker could utilize one or more of the bouquet forms of the present invention, with or without a conveying device. For example, a single worker could utilize one or more bouquet forms mounted to a spinning table, enabling the individual to turn the bouquet form to insert sets of bouquet
5 elements according to the particular bouquet design. In general, the invention is only intended to be limited by the scope of the following claims.

I/WE CLAIM:

1. A bouquet making apparatus comprising:

a conveying device; and

5 a bouquet form movably supported by the conveying device, the bouquet form including an upper stem support and a lower stem support spaced from the upper stem support, wherein the upper and lower stems supports are configured to removably support a plurality of flower stems at an angle with respect to vertical.

10

2. The bouquet making apparatus of claim 1, wherein the conveying device is a rotating table configured to transport the bouquet form between work stations spaced about the rotating table.

15 3. The bouquet making apparatus of claim 1, wherein the conveying device is a continuous loop conveyor further comprising first and second support tracks; and

the bouquet form further comprises a conveying device engagement portion including an upper platform, a lower platform, and a track engagement member extending between the upper and lower platform, wherein the first and second support tracks extend between the upper and lower platforms and the track engagement member extends between the first and second support tracks such that the bouquet form is moveably supported on the first and second support tracks.

25

4. The bouquet making apparatus of claim 3, wherein the continuous loop conveyor further comprises:

a support rail;

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sprocket supports connected to the support rail at spaced intervals;
and

a plurality of support sprockets carried by respective sprocket
supports, wherein the plurality of support sprockets engage with said
5 drive belt.

5. The bouquet making apparatus of claim 1, further comprising:

an alternative bouquet form interchangeable with the bouquet form and
having a configuration which is different from the bouquet form, wherein the
10 bouquet form is removably attached to the conveying device such that the
bouquet form can be readily replaced with the alternative bouquet form.

6. The bouquet making apparatus of claim 1, wherein the bouquet form
comprises:

15 a center post;

an upper stem support secured to the center post, the upper stem
support including a plate having a plurality of hook-shaped arms, the
hook-shaped arms being configured to receive an upper portion of flower
stems there through; and

20 a lower stem support secured to the center post and spaced from the
upper stem support, the lower stem support including a base plate having
a plurality of pockets formed therein adapted to receive a lower portion of
flower stems; wherein the hook-shaped arms are vertically offset from the
pockets such that flower stems supported by the bouquet form are held at
25 an angle with respect to vertical.

7. The bouquet making apparatus of claim 6, wherein the plurality of hook-
shaped arms include first and second hook-shaped arms, the first hook-shaped

arm having a first length, and the second hook-shaped arm having a second length that is greater than the first length.

8. The bouquet making apparatus of claim 6, wherein each of the plurality of
5 hook-shaped arms includes inner and outer hook-shaped portions extending there from.

9. The bouquet making apparatus of claim 8, wherein the bouquet form further comprises a sprocket attached about a lower portion of the center post, the
10 sprocket engaging a drive belt of the conveying device such that movement of the drive belt causes movement of the bouquet form about the conveying device.

10. A bouquet form comprising:

15 an upper stem support and a lower stem support spaced from the upper stem support, wherein the upper and lower stems supports are configured to removably support a plurality of flower stems at an angle with respect to vertical.

20 11. The bouquet form of claim 10, wherein the upper stem support and lower stem supports are removably attached to the bouquet form.

12. The bouquet form of claim 11, further comprising:

25 an alternative upper stem support having a configuration different from the upper stem support, wherein the alternative upper stem support is interchangeable with the upper stem support; and

an alternative lower stem support having a configuration different from the lower stem support, wherein the alternative lower stem support is interchangeable with the lower stem support.

13. The bouquet form of claim 10, further comprising:

a conveying device engagement portion including an upper platform, a lower platform, and a track engagement member extending between the upper and lower platform, wherein the upper and lower platforms are configured to receive support tracks of a conveying device there between.

14. The bouquet form of claim 10, further comprising:

a center post;

an upper stem support secured to the center post, the upper stem support including a plate having a plurality of hook-shaped arms, the hook-shaped arms being configured to receive an upper portion of flower stems there through; and

a lower stem support secured to the center post and spaced from the upper stem support, the lower stem support including a base plate having a plurality of pockets formed therein adapted to receive a lower portion of flower stems; wherein the hook-shaped arms are vertically offset from the pockets such that flower stems supported by the bouquet form are held at an angle with respect to vertical.

15. The bouquet form of claim 13, wherein the plurality of hook-shaped arms include first and second hook-shaped arms, the first hook-shaped arm having a first length, and the second hook-shaped arm having a second length that is greater than the first length.

16. The bouquet form of claim 13, wherein each of the plurality of hook-shaped arms includes inner and outer hook-shaped portions extending there from.

17. A method for forming bouquets comprising the steps:

(a) arranging bouquet elements at each of a plurality of stations spaced along a conveying device, wherein the conveying device includes a first bouquet form having a plurality of stem holding arms and a plurality of corresponding lower stem receiving portions;

(b) at a first of the plurality of stations, inserting a first set of bouquet element stems into one of the plurality of stem holding arms and into one of the plurality of corresponding lower stem receiving portions of a first bouquet form;

(c) transporting the first bouquet form to a second of the plurality of stations;

(d) at the second of the plurality of stations, inserting a second set of bouquet element stems into an open one of the plurality of stem holding arms and into a corresponding lower stem receiving portion of the first bouquet form;

(e) repeating steps (b)-(d) until a desired number of the plurality of stem holding arms and corresponding lower stem receiving portions of the first bouquet form holds a set of bouquet elements, thereby forming a first final bouquet set;

(f) removing the first final bouquet set; and

(g) securing the first final bouquet set with a fastener to form a first bouquet.

18. The method of claim 17, wherein each set of bouquet element stems held by the first bouquet form are held at an angle with respect to vertical, and the bouquet formed is a twisted stem bouquet.

19. The method of claim 17, further comprising:

(h) at a second of the plurality of stations, inserting a first set of bouquet element stems into one of the plurality of stem holding arms and into one of the plurality of corresponding lower stem receiving portions of a second bouquet form, wherein step (h) is conducted substantially simultaneously with step (b),
5 and wherein step (c) additionally includes transporting the second bouquet form to a third of the plurality of stations;

(i) at the third of the plurality of stations, inserting a second set of bouquet element stems into an open one of the plurality of stem holding arms
10 and into a corresponding lower stem receiving portion of the second bouquet form;

(j) repeating steps (h)-(i) until each of the plurality of stem holding arms and corresponding lower stem receiving portions of the second bouquet form holds a set of bouquet elements, thereby forming a second final bouquet set;

15 (k) removing the second final bouquet set; and

(l) securing the second final bouquet set with a fastener to form a second bouquet.

20. The method of claim 19, wherein the first and second bouquets are
20 substantially identical in design.

ABSTRACT OF THE DISCLOSURE

A bouquet making apparatus comprises a plurality of bouquet forms movably supported at spaced locations along a conveying device. Each bouquet
5 form includes fixed upper and lower stem supports that hold bouquet elements, such as flowers, at an angle with respect to vertical. As each bouquet maker travels along the conveying device, workers spaced along the conveying device sequentially insert sets of flowers into upper and lower stem supports until each bouquet maker hold a final bouquet set. Each of the final bouquet sets are
10 removed from the bouquet form and secured with a fastener, thereby forming a plurality of twisted stem-type bouquets having a substantially identical design appearance.

**DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN
APPLICATION DATA SHEET (37 CFR 1.76)**

Title of
Invention

BOUQUET MAKING APPARATUS AND METHOD

As the below named inventor(s), I/we declare that:

This declaration
is directed to:



The attached application, or



United States application or PCT international application number _____

filed on _____



As amended on _____ (if applicable);

I/we believe that I/we am/are the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought;

I/we have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above;

I/we acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me/us to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT International filing date of the continuation-in-part application.

WARNING:

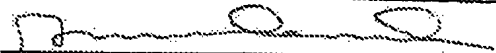
Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

All statements made herein of my/our own knowledge are true, all statements made herein on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and may jeopardize the validity of the application or any patent issuing thereon.

FULL NAME OF INVENTOR(S)

Inventor one: George Malavenda

Date: 4-26-12

Signature: 

Citizen of: US

Inventor two: _____

Date: _____

Signature: _____

Citizen of: _____



Additional inventors or a legal representative are being named on _____ additional form(s) attached hereto.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

26 175

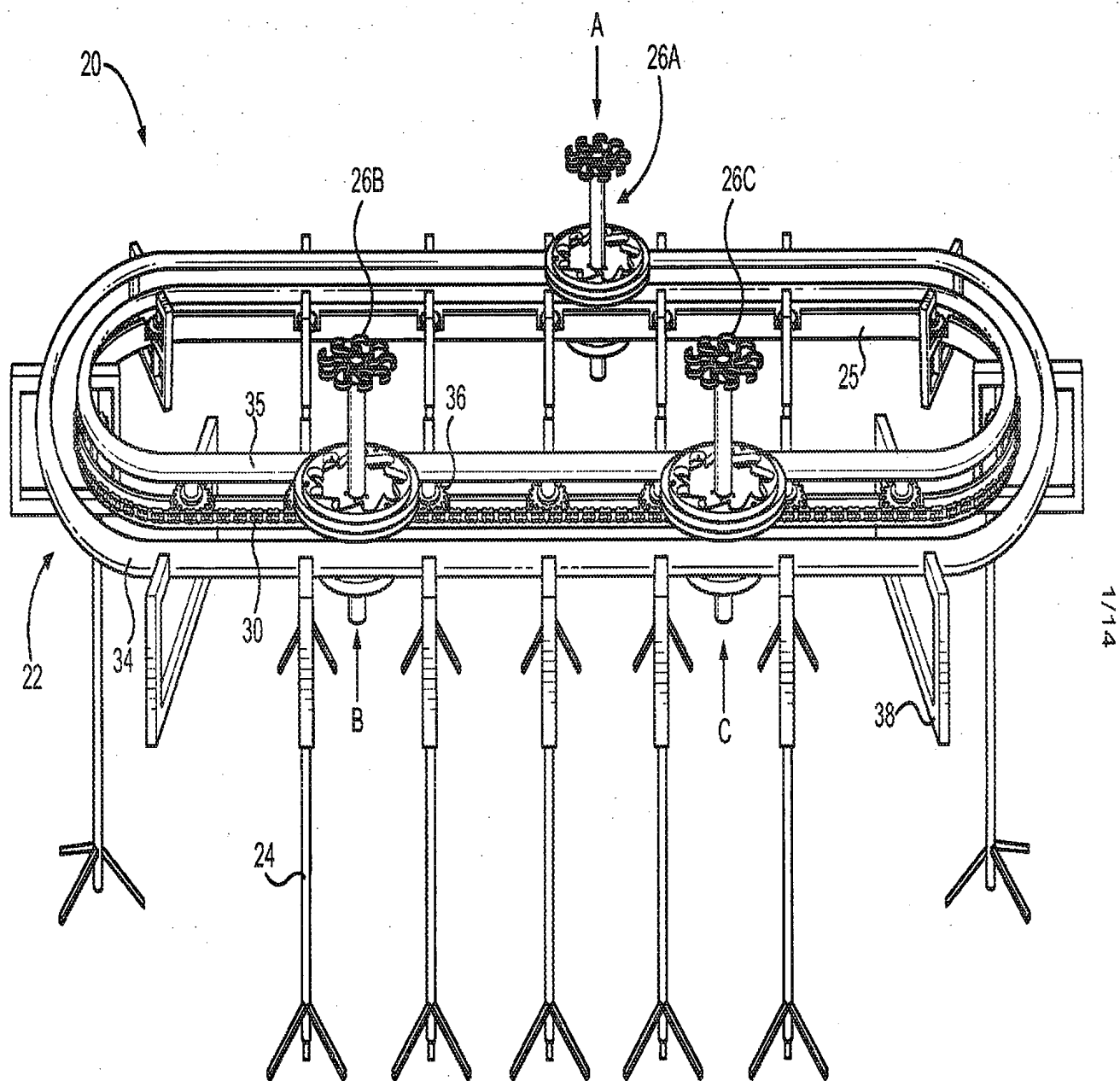


FIG. 1

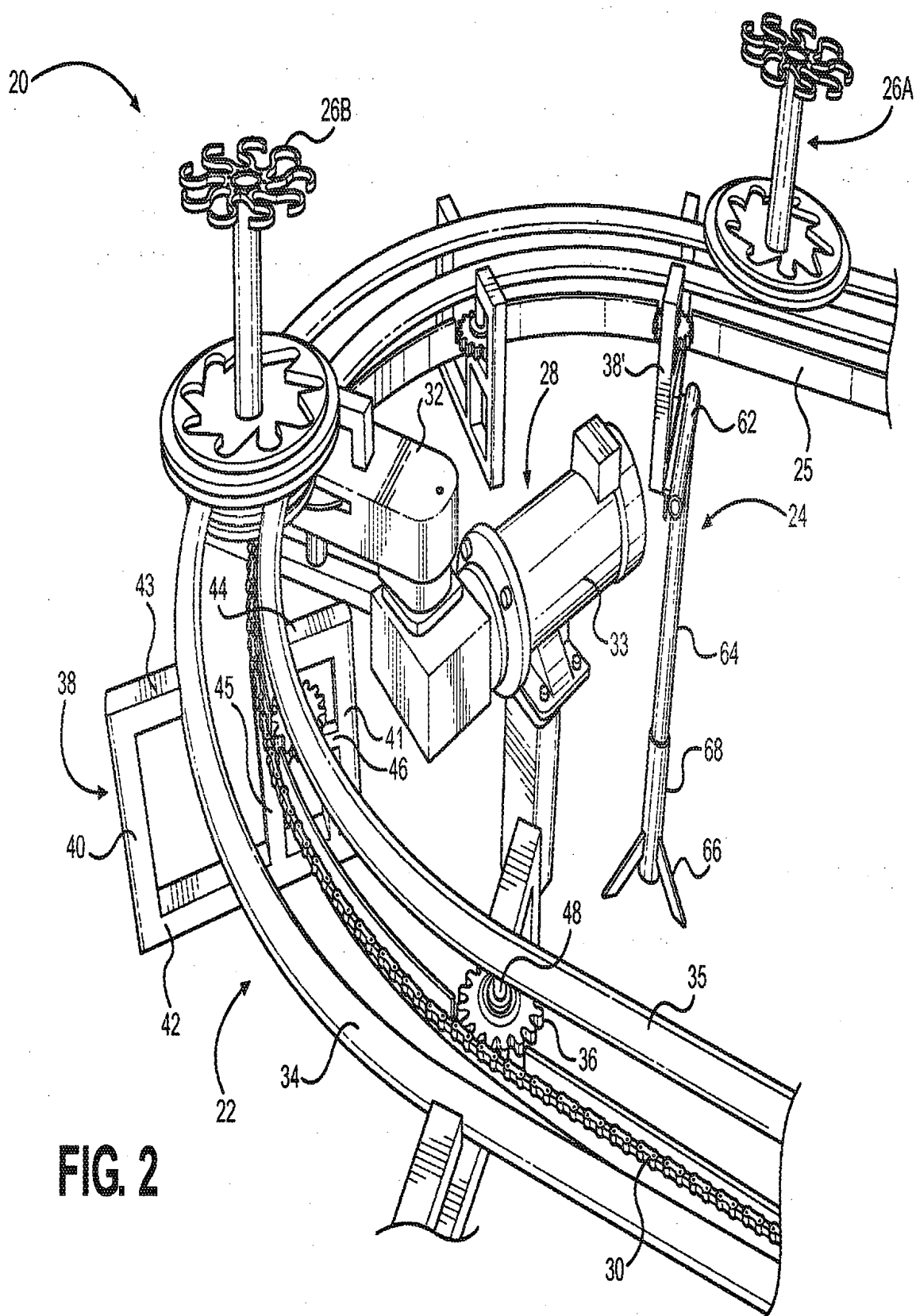


FIG. 2

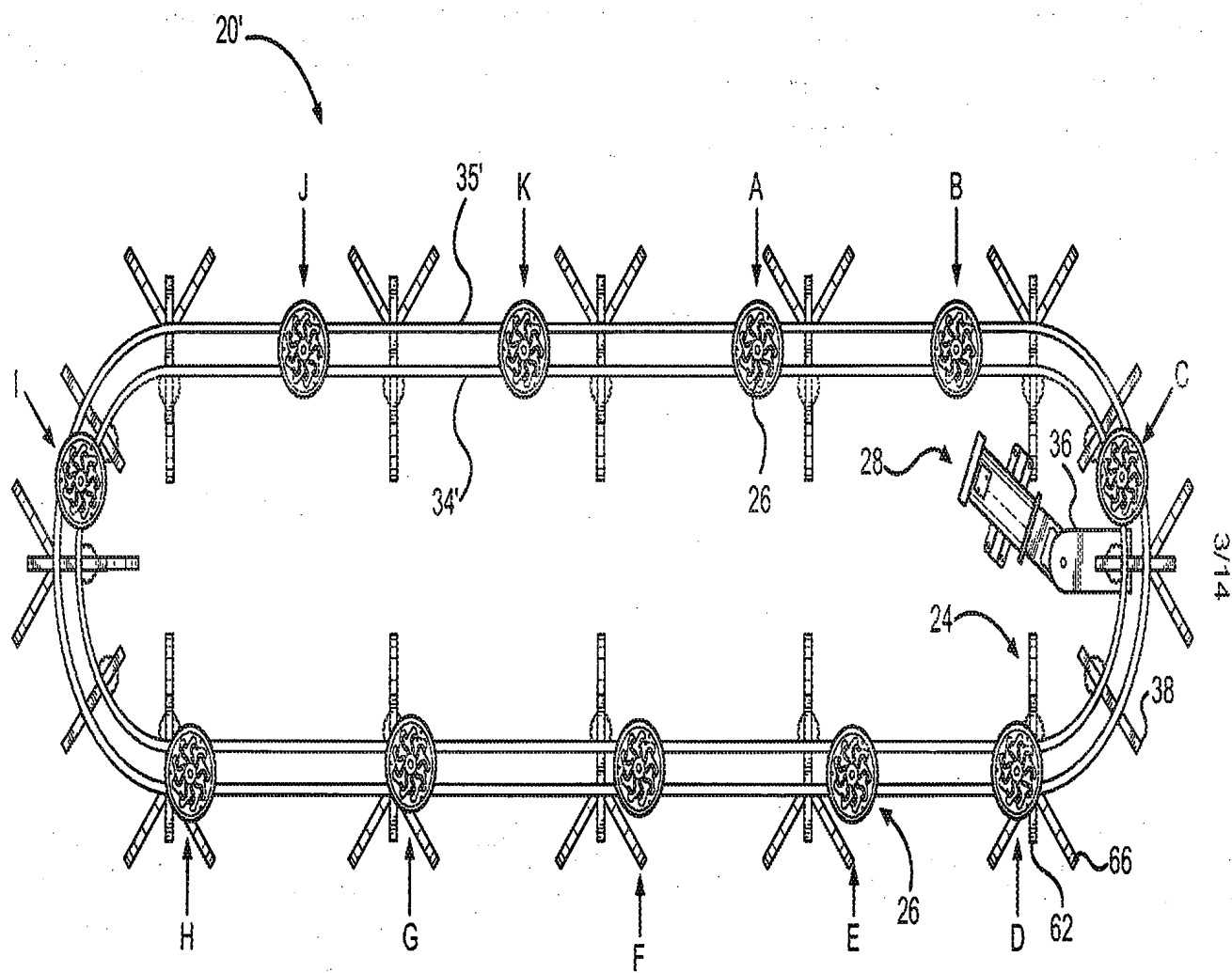


FIG. 3

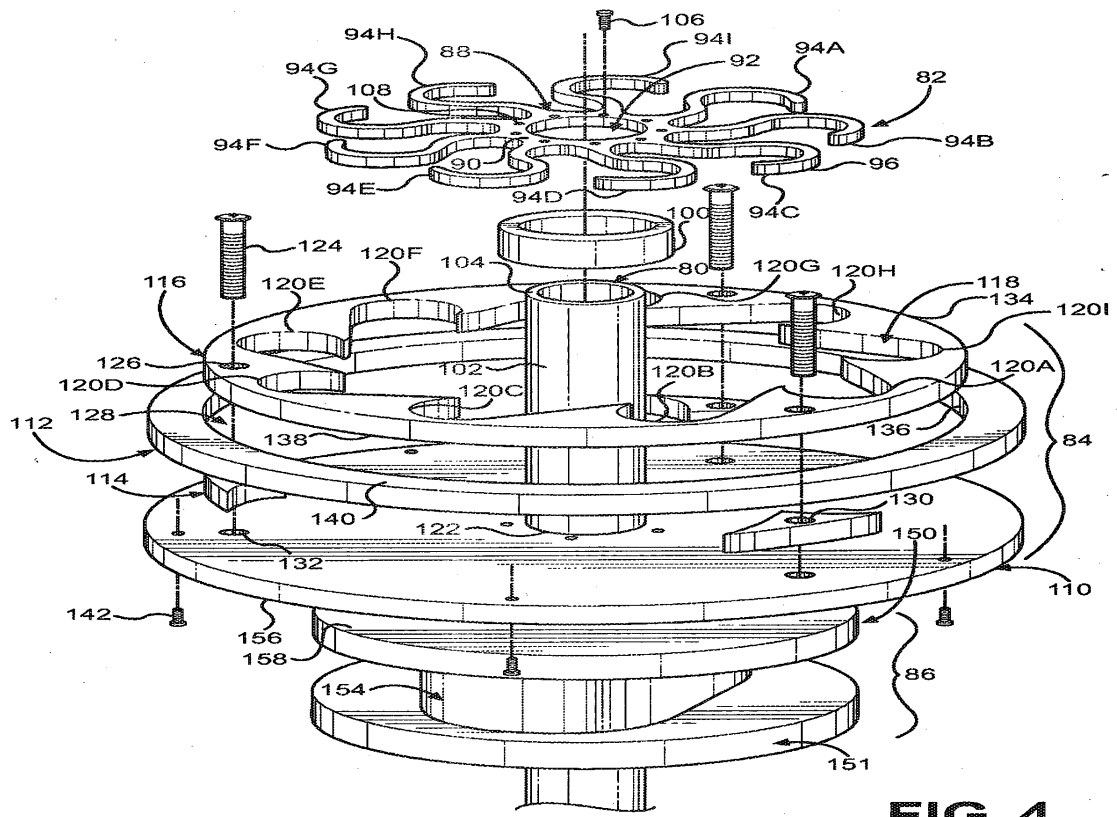


FIG. 4

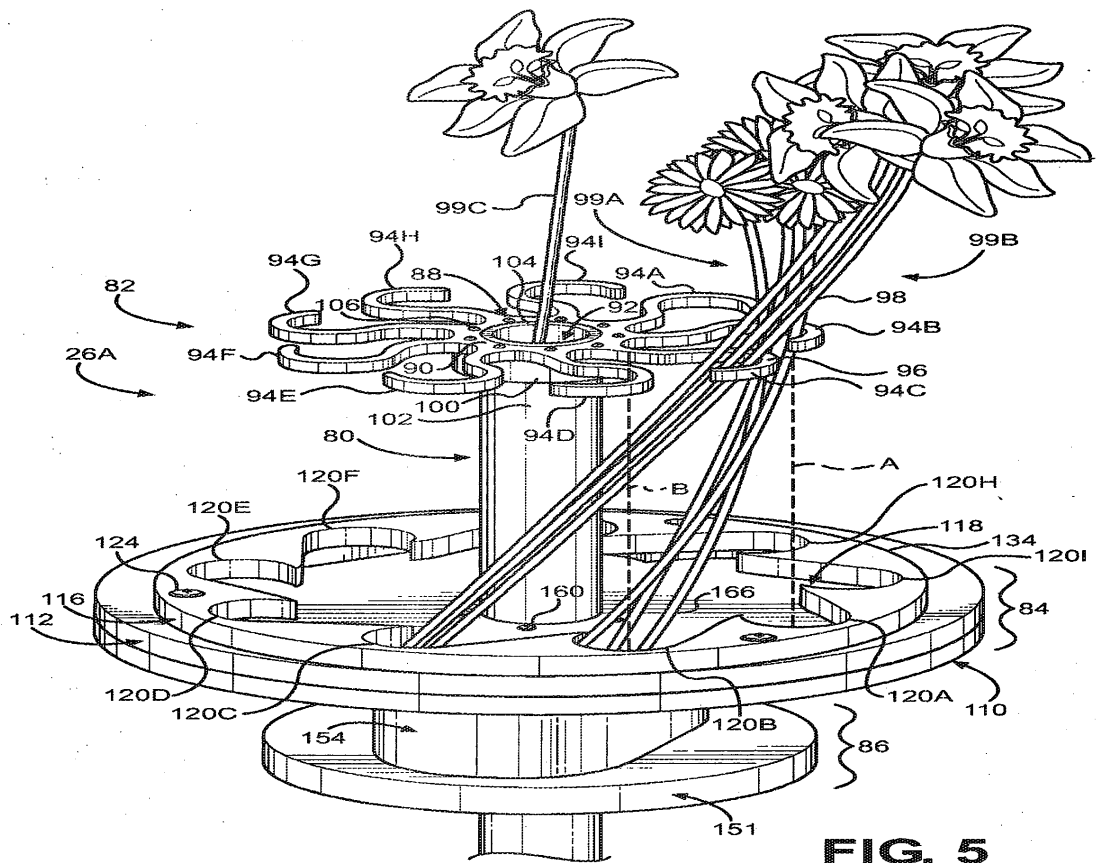


FIG. 5

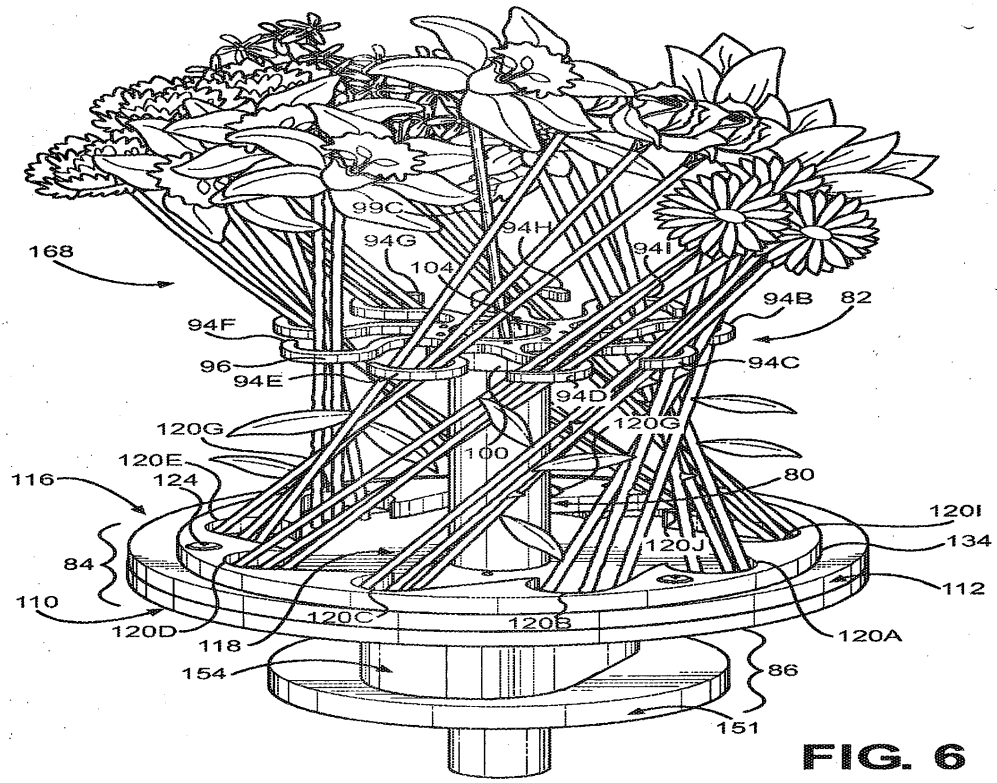
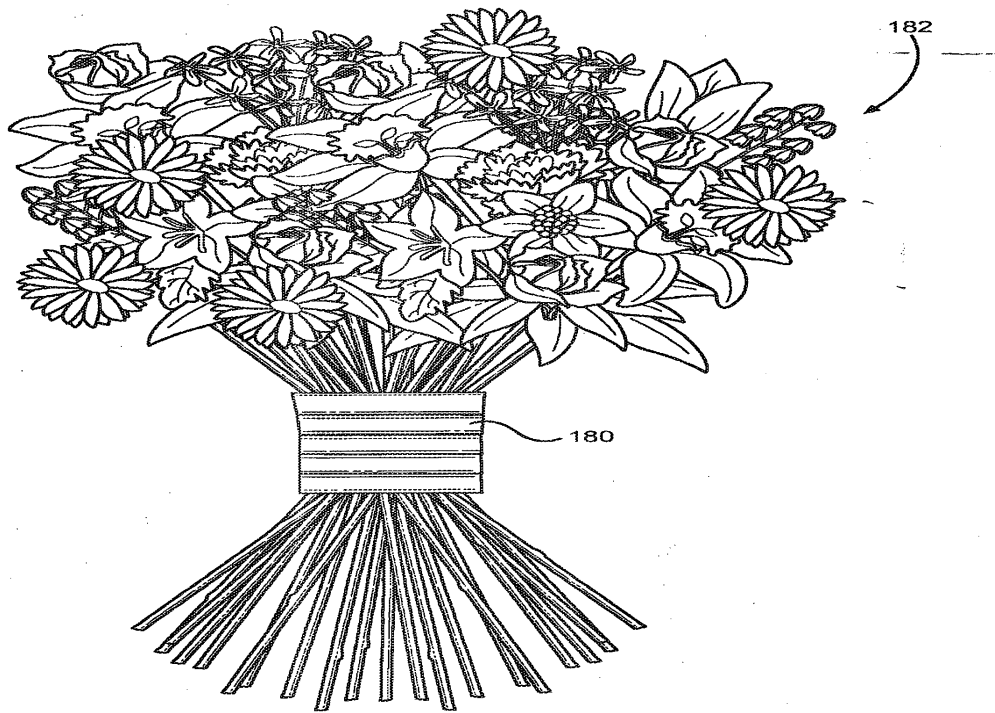


FIG. 6

**FIG. 7**

52

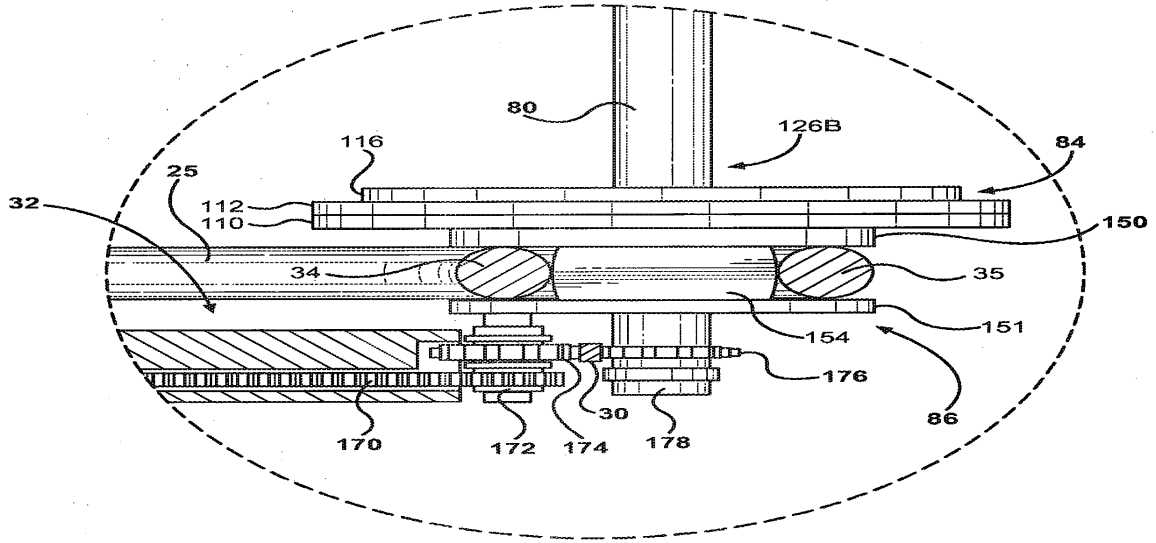


FIG. 8

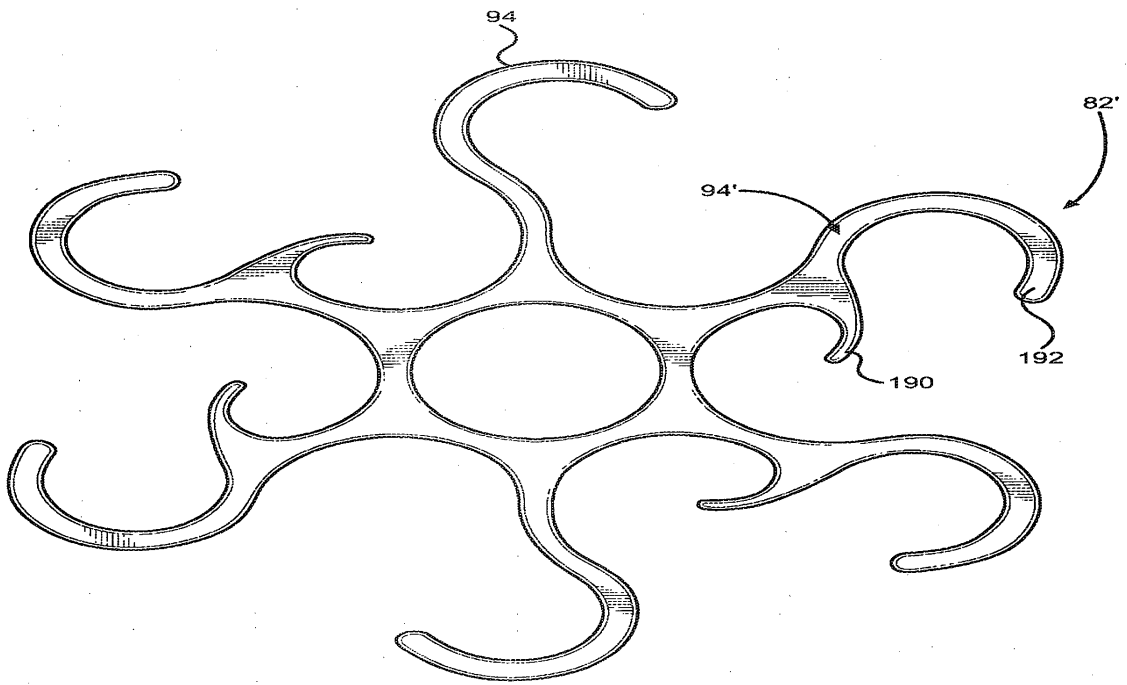


FIG. 9

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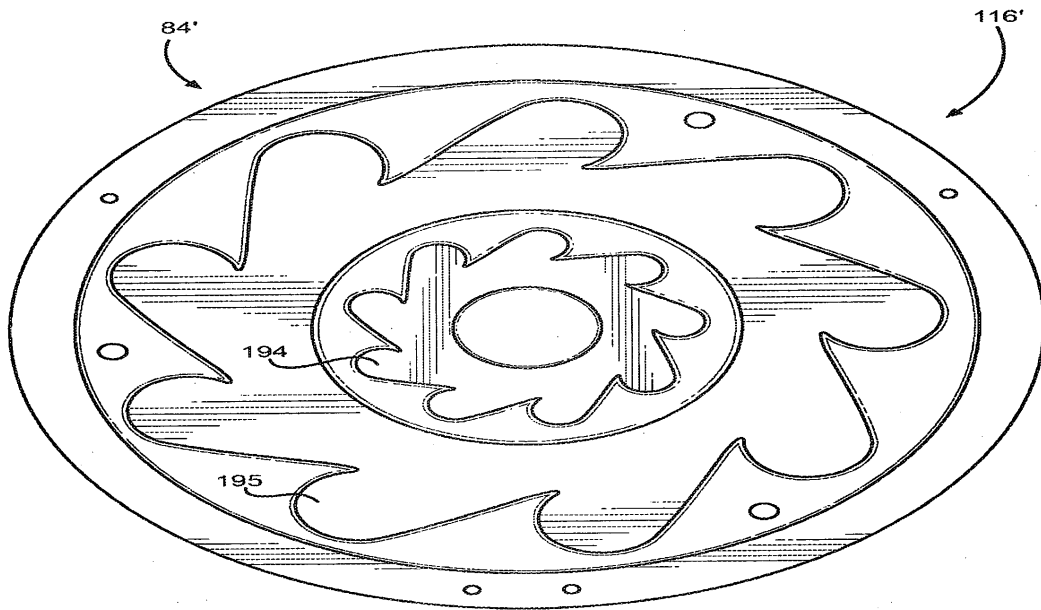


FIG. 10

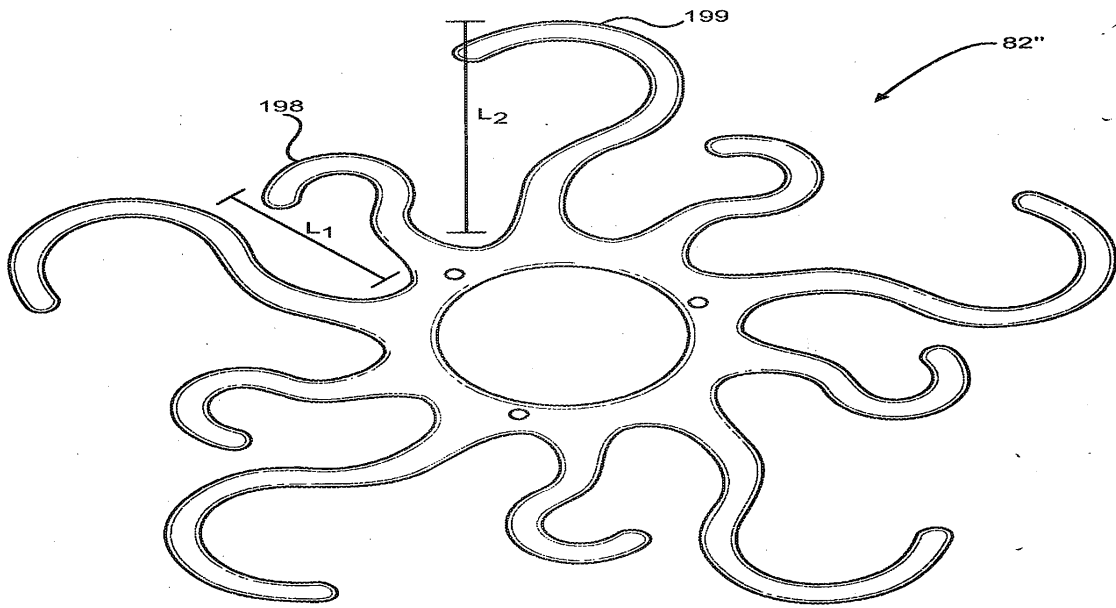


FIG. 11

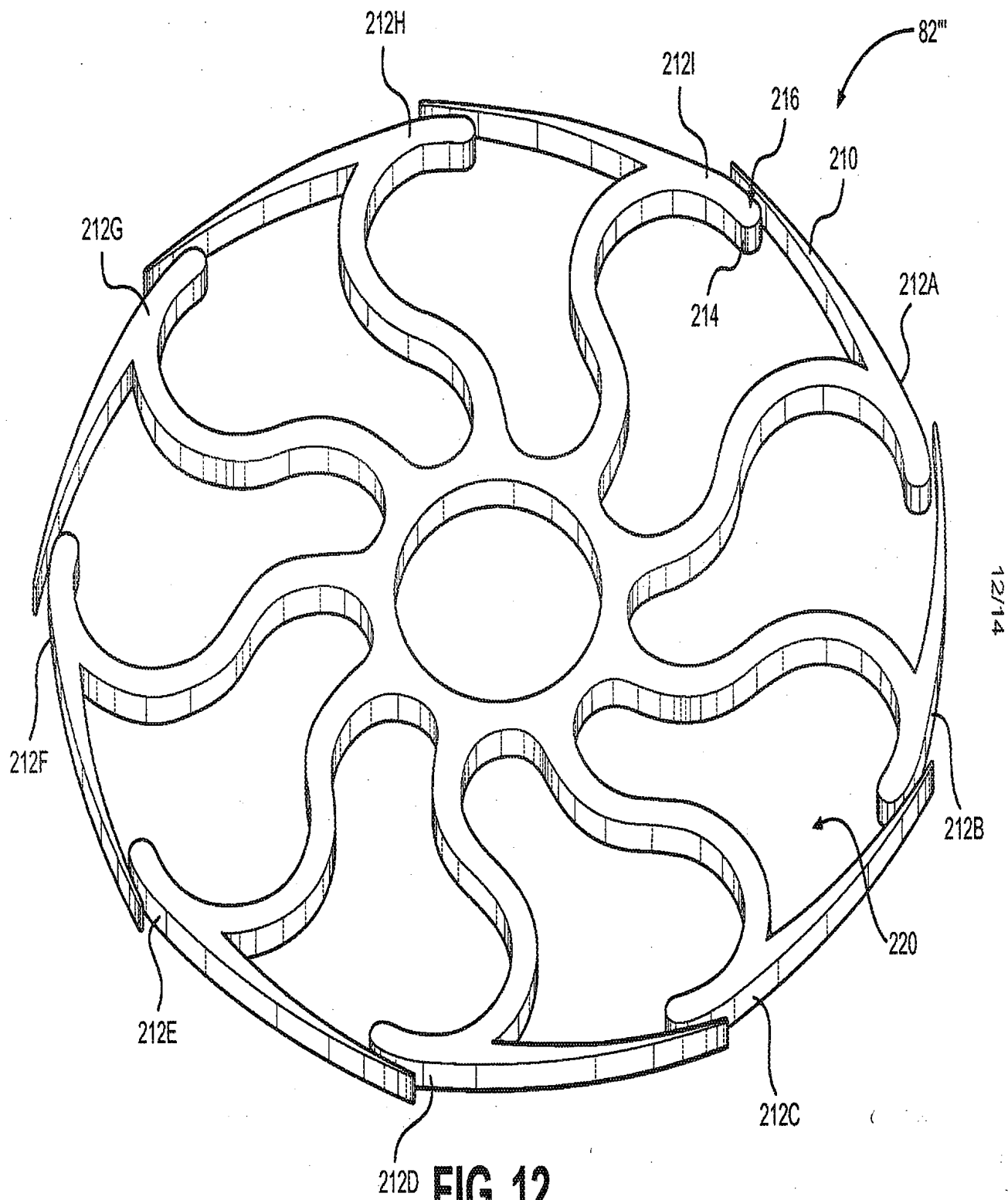


FIG. 12

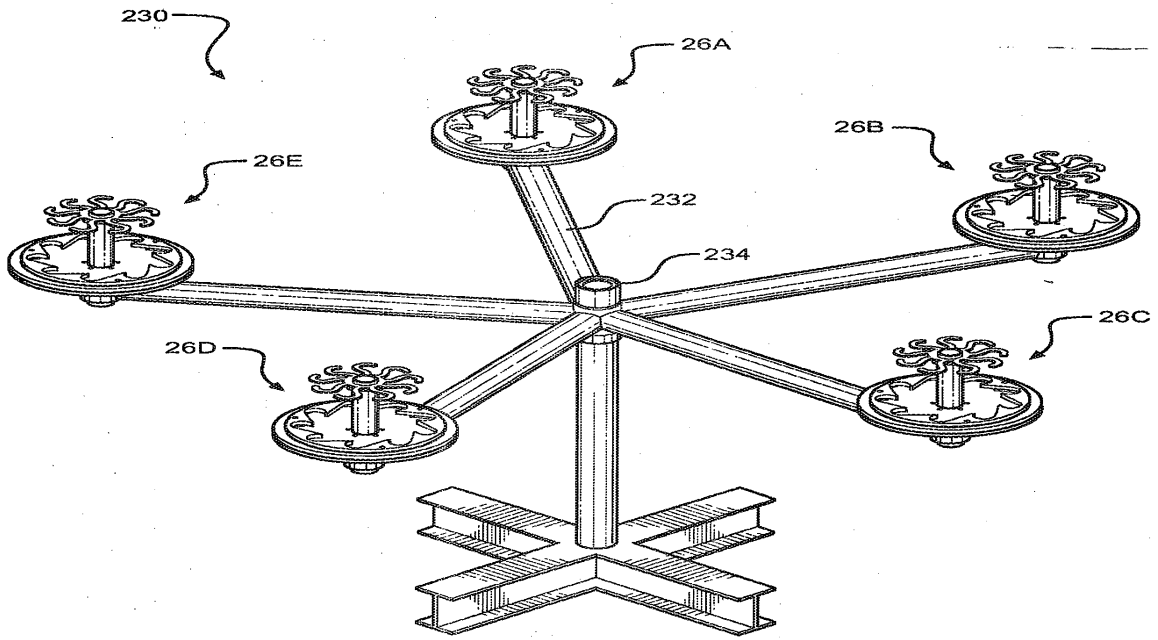


FIG. 13

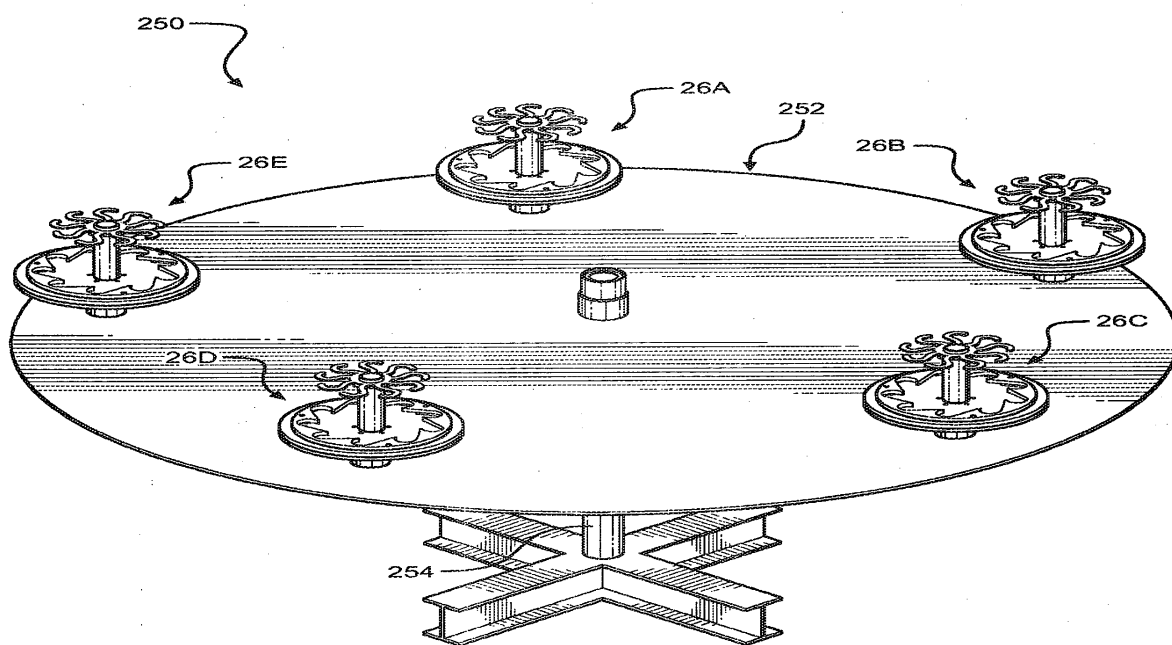


FIG. 14

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	17928
		Application Number	
Title of Invention	BOUQUET MAKING APPARATUS AND METHOD		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2

☐	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
--------------------------	---

Applicant Information:

Applicant 1					Remove
Applicant Authority		☒ Inventor		☐ Legal Representative under 35 U.S.C. 117	☐ Party of Interest under 35 U.S.C. 118
Prefix	Given Name	Middle Name	Family Name	Suffix	
	George		Malavenda		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					
City	Key Biscayne	State/Province	FL	Country of Residence i	US
Citizenship under 37 CFR 1.41(b) i					
Mailing Address of Applicant:					
Address 1		255 Cranwood Drive			
Address 2					
City	Key Biscayne	State/Province	FL		
Postal Code	33149	Country i	US		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.					Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).		
☐ An Address is being provided for the correspondence Information of this application.		
Customer Number	00293	
Email Address	Dowell@Dowellpc.com	Add Email Remove Email

Application Information:

Title of the Invention	BOUQUET MAKING APPARATUS AND METHOD		
Attorney Docket Number	17928	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	11	Suggested Figure for Publication (if any)	1

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	17928
		Application Number	
Title of Invention	BOUQUET MAKING APPARATUS AND METHOD		

Publication Information:

☐	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐	Request Not to Publish. I hereby request that the attached application not be published under 35 U.S. C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.			
Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)
Customer Number	00293		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.			
Prior Application Status		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			Add

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).			
			Remove
Application Number	Country ⁱ	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			☒ Yes ☐ No
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			Add

Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.	
Assignee 1	Remove

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	17928
		Application Number	
Title of Invention	BOUQUET MAKING APPARATUS AND METHOD		

If the Assignee is an Organization check here. ☐				
Prefix	Given Name	Middle Name	Family Name	Suffix
Mailing Address Information:				
Address 1				
Address 2				
City		State/Province		
Country		Postal Code		
Phone Number		Fax Number		
Email Address				
Additional Assignee Data may be generated within this form by selecting the Add button. Add				

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.				
Signature	/Jorie L. Wilson/		Date (YYYY-MM-DD)	2012-04-27
First Name	Jorie	Last Name	Wilson	Registration Number 57532

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
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3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
NIT : 800.176.089-2
- / -

 Industria y Comercio SUPERINTENDENCIA	RECIBO DE CAJA	No. 13 - 0039680
		Bogotá D.C., Abril 26 de 2013 - 16:20:58

RECIBIDO DE : CASTILLO PINEDA SAS					NI 860.046.502	
*** Soporte del Pago ***						
TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PAGO	VR. PAGO	
CONSIGNACION	BANCO DE BOGOTA	062754387	522530562	26/04/2013	8.400.000.00	

*** Conceptos Pagados ***				
CANT.	RENTISTICO	CONCEPTO	Vr.UNDITARIO	Vr.CONCEPTO
1	50005-01-01 SOLICITUDES	82 INVOCACION DE UNA PRIORIDAD EN NUEVAS CREACIONES	175.000.00	175.000.00
				\$175.000.00

SON: **CIENTO SETENTA Y CINCO MIL PESOS MONEDA CORRIENTE**

Responsable: _____
*****_
Recibo de Caja Aplicado al Expediente No. _____

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

No. 13-106872- -00000-0000
Fecha: 2013-04-26 17:17:13 Dep. 2020 DIR.NUEVASCR
Tra. 2 PATENTES Eve: 1 REGDEPOSITO
Act. 411 PRESENTACION Folios: 96 96

92

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
NIT : 800.176.089-2
- / -

 Industria y Comercio SUPERINTENDENCIA	RECIBO DE CAJA	No. 13 - 0039681
		Bogotá D.C., Abril 26 de 2013 - 16:20:58

RECIBIDO DE : CASTILLO PINEDA SAS					NI 860.046.502
*** Soporte del Pago ***					
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CONSIGNACION	BANCO DE BOGOTA	062754387	522530562	26/04/2013	8.400.000.00

*** Conceptos Pagados ***				
CANT.	RENTISTICO	CONCEPTO	Vr. UNDITARIO	Vr. CONCEPTO
10	50005-01-01	SOLICITUDES	1607 REIVINDICACION PATENTE UNITARIA ADICIONAL A LAS 10 INIC	30.000.00
				300.000.00
				\$300.000.00

SON: **TRESCIENTOS MIL PESOS MONEDA CORRIENTE**

Responsable: 
Recibo de Caja Aplicado al Expediente No. _____

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 13-106872- -00000-0000

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93



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Tra. 2 PATENTES Eve: 1 REGDEPOSITO
Act. 411 PRESENTACION Folios: 96 96

PATENTE DE INVENCION ☐

MODELO C

☐	Indicación que se solicita una patente.
☐	Datos de identificación del solicitante o de la persona que presenta la solicitud
☐	Descripción de la invención
☐	Dibujos de ser estos pertinentes
☐	Comprobante de pago de las tasas establecidas (De ser el caso formato de descuento)
Completa ☐ Incompleta ☐	

PATENTE DE INVENCION PCT ☒ MODELO DE UTILIDAD PCT ☐ Art.33 Decisión 486/00, Circular Única

☒	Indicación que se solicita una PCT
☒	Copia de la solicitud en español, tal como fue presentada inicialmente (capítulo descriptivo, reivindicatorio, resumen)
☒	Dibujos de ser estos pertinentes
☒	Comprobante de pago de las tasas establecidas (de ser el caso formato de descuento)
Completa ☒ Incompleta ☐	

DISEÑO INDUSTRIAL ☐

(Art. 119 Decisión 486/00)

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

ESQUEMA DE TRAZADO ☐

(Art. 92 Decisión 486/00)

☐	Indicación que se solicita un esquema de trazado
☐	Datos de identificación del solicitante o de la persona que presenta la solicitud
☐	Representación gráfica de un esquema de trazado
☐	Comprobante de pago de las tasas establecidas
Completa ☐ Incompleta ☐	