

PATENT COOPERATION TREATY

From the RECEIVING OFFICE

PCT

To:

ASHLEY D. JOHNSON
DOGWOOD PATENT AND TRADEMAK LAW
4801 GLENWOOD AVE., SUITE 200
RALEIGH, NORTH CAROLINA 28409

NOTIFICATION CONCERNING PAYMENT OF PRESCRIBED FEES

(PCT Rules 12bis.1(c), 14, 15 and 16
and Administrative Instructions,
Sections 304, 323(b) and 707)

Applicant's or agent's file reference 255/2		Date of mailing <i>(day/month/year)</i> 14 Jul 2020	
International application No. PCT/US2020/038920		International filing date/Date of receipt <i>(day/month/year)</i> 22 Jun 2020	
Priority date <i>(day/month/year)</i> 28 Aug 2019		PAYMENT DUE see item 3 for time limits	
Applicant SOLBELLO, INC.			

1. The applicant is hereby notified that this receiving Office has received:

- ☒ **the payment** of all the prescribed fees, and
 ☐ **an overpayment**, which will be refunded in due course.
- ☐ **no or insufficient payment** of the prescribed fees and the applicant is hereby **invited to pay the balance due**, as summarized under item 2, within the time limit(s) indicated under item 3.

2. Fees and payment calculation:

2,524.00	—	2,524.00	=	0.00
Total fees payable		Amount paid		Balance

- ☐ The details of the calculation are given in the Annex.

3. Time limit(s) for payment and amount(s) payable (Rules 14.1, 15.3 and 16.1(f)):

- ☐ within ONE MONTH from the date of receipt of the international application (for the transmittal fee (if any), the search fee and the international filing fee). The amount payable for each fee is the amount applicable on the date of receipt of the international application.
- ☐ within 16 MONTHS from the priority date (only for the fee for priority document). The applicant's attention is drawn to the fact that the request made by the applicant under Rule 17.1(b) will be considered not to have been made unless the fee is paid within that time limit.

4. Additional observations (if necessary):

- ☐ The search copy will not be transmitted to the International Searching Authority until the search fee is paid (therefore the start of the international search will be delayed) (Rule 23.1(a) and (b)).

Name and mailing address of the receiving Office Mail Stop PCT, Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450 Facsimile No. 571-273-8300	Authorized officer Arnessa Smith Telephone No. 571-272-3575
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**ANNEX TO FORM PCT/RO/102
CALCULATION OF THE PRESCRIBED FEES**

(If a reduced fee has been applied, the reduced amount is indicated.)

International application No.

PCT/US2020/038920

T Transmittal Fee

Prescribed amount: 60.00 **T**
 Amount paid: 60.00
 Balance: 0.00

☒ correct amount
☐ overpayment
☐ balance due

S Search Fee

Prescribed amount: 1,003.00 **S**
 Amount paid: 1,003.00
 Balance: 0.00

☒ correct amount
☐ overpayment
☐ balance due

I International Filing Fee

Prescribed amount:

Fixed amount for first 30 sheets: 1,236.00 **i1**

$\frac{15}{\text{Number of sheets in excess of 30}} \times \frac{15.00}{\text{Fee per sheet}} = 225.00$ **i2**

(excluding pages referred to in Section 707(a-bis))

Reduction where the international application is filed

(See PCT Fee tables <http://www.wipo.int/pct/en/fees.pdf>):

in electronic form, the request not being in character coded format 0.00 **r**

or

in electronic form, the request being in character coded format 0.00 **r**

or

in electronic form, the request, description, claims and abstract being in character coded format 0.00 **r**

Sub-total: 1,461.00 **i1+i2-r**

Applicants from certain States are entitled to a reduction of 90% of the international filing fee. Where the applicant is (or all applicants are) so entitled, the total to be entered at I is 10% of the sub-total entered at (i1+i2-r); (see Notes to the Fee Calculation Sheet as annexed to the Request Form, PCT/RO/101, for details):

. 1,461.00 **I**
 1,461.00
 0.00

Amount paid:
 Balance:

☒ correct amount
☐ overpayment
☐ balance due

P Fee for Priority Document

Prescribed amount: 0.00 **P**
 Amount paid: 0.00
 Balance: 0.00

☒ correct amount
☐ overpayment
☐ balance due

ES Fee for Earlier Search Documents

Prescribed amount: 0.00 **ES**
 Amount paid: 0.00
 Balance: 0.00

☐ correct amount
☐ overpayment
☐ balance due



United States Patent and Trademark Office

Office of the Chief Financial Officer

Document Code:WFEE

User :69078

Sale Accounting Date:07/13/2020

Sale Item Reference Number

PCT/US20/38920

Effective Date

06/22/2020

Document Number	Fee Code	Fee Code Description	Amount Paid	Payment Method
I20207A023160482	1701	INTL FILING FIRST 30PGS EFS WITHOUT ZIP	\$1,136.00	Salea
I20207A023160482	1701	INTL FILING FIRST 30PGS EFS WITHOUT ZIP	\$100.00	Salea



DOGWOOD PATENT AND TRADEMARK LAW

4801 GLENWOOD AVE., STE 200 RALEIGH, NC 27612

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. PCT/US2020/038920

Int'l Filing Date: June 22, 2020

Applicant: Solbello, Inc.

In response to the Notification Concerning Payment of Prescribed Fees in the above-referenced case mailed June 30, 2020, Applicant submits the balance of \$100.00.

With best regards,

Ashley D. Johnson
Dogwood Patent and Trademark Law, PLLC

Electronic Patent Application Fee Transmittal				
Application Number:		PCT/US20/38920		
Filing Date:		22-Jun-2020		
Title of Invention:		SELF-ADJUSTING SUN SHADE ASSEMBLY		
First Named Inventor/Applicant Name:		SOLBELLO, INC.		
Filer:		Ashley Darden Johnson		
Attorney Docket Number:		255/2		
Filed as Large Entity				
Filing Fees for International Application (PCT) for filing in the US receiving office				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
LATE PAYMENT FEE	1619	1	100	100
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				100

Electronic Acknowledgement Receipt	
EFS ID:	39929854
Application Number:	
International Application Number:	PCT/US20/38920
Confirmation Number:	2697
Title of Invention:	SELF-ADJUSTING SUN SHADE ASSEMBLY
First Named Inventor/Applicant Name:	SOLBELLO, INC.
Customer Number:	160172
Correspondence Address:	Dogwood Patent and Trademark Law - 4801 Glenwood Avenue Suite 200 Raleigh NC 27612 US 919-576-7612 ajohnson@dogwood-law.com
Filer:	Ashley Darden Johnson
Filer Authorized By:	
Attorney Docket Number:	255/2
Receipt Date:	07-JUL-2020
Filing Date:	22-JUN-2020
Time Stamp:	13:26:29
Application Type:	International Application (PCT) for filing in the US receiving office
Patent Number:	

Payment information:

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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

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

New International Application Filed with the USPTO as a Receiving Office

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

Electronic Acknowledgement Receipt	
EFS ID:	39930440
Application Number:	
International Application Number:	PCT/US20/38920
Confirmation Number:	2697
Title of Invention:	SELF-ADJUSTING SUN SHADE ASSEMBLY
First Named Inventor/Applicant Name:	SOLBELLO, INC.
Customer Number:	160172
Correspondence Address:	Dogwood Patent and Trademark Law - 4801 Glenwood Avenue Suite 200 Raleigh NC 27612 US 919-576-7612 ajohnson@dogwood-law.com
Filer:	Ashley Darden Johnson
Filer Authorized By:	
Attorney Docket Number:	255/2
Receipt Date:	07-JUL-2020
Filing Date:	22-JUN-2020
Time Stamp:	13:54:00
Application Type:	International Application (PCT) for filing in the US receiving office
Patent Number:	

Payment information:

Submitted with Payment		no			
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Substitute Sheets of Request (Form PCT/RO/101)	Solbello_replacement_shts.pdf	581217	no	4
			f916587717c3dc84590167d6de4e0d0bcab a38a5		
Warnings:					
Information:					
Total Files Size (in bytes):			581217		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

PCT**REQUEST**

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only

PCT/US20/38920

International Application No.

22 JUNE 2020 22-06-2020

International Filing Date

PCT INTERNATIONAL APPLICATION RO/US

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference (if desired) (25 characters maximum)
255/2

Box No. I TITLE OF INVENTION	
SELF-ADJUSTING SUN SHADE ASSEMBLY	
Box No. II APPLICANT	
☐ This person is also inventor	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's home (that is, country) of residence (if no home of residence is indicated below). Scibello, Inc. 206 Causeway Dr. #279 Wrightsville Beach, NC 28480 UNITED STATES	
Telephone No.	
Facsimile No.	
Applicant's registration No. with the Office	
E-mail authorization: Marking one of the check-boxes below authorizes the receiving Office, the International Searching Authority, the International Bureau and the International Preliminary Examining Authority to use the e-mail address indicated in this Box to send notifications issued in respect of this international application to that e-mail address if these offices are willing to do so. ☐ as advance copies followed by paper notifications; or ☒ exclusively in electronic form (no paper notifications will be sent). E-mail address: ajohnson@dogwood-law.com	
State (that is, country) of nationality: US	
State (that is, country) of residence: US	
This person is applicant for the purposes of: ☒ all designated States ☐ the States indicated in the Supplemental Box	
Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)	
☒ Further applicants and/or (further) inventors are indicated on a continuation sheet.	
Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE	
The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as: ☒ agent ☐ common representative	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) JOHNSON, Ashley D. Dogwood Patent and Trademark Law 4801 Glenwood Ave., Suite 200 Raleigh, NC 28409 UNITED STATES	
Telephone No. 9195767612	
Facsimile No.	
Agent's registration No. with the Office 58482	
E-mail authorization: Marking one of the check-boxes below authorizes the receiving Office, the International Searching Authority, the International Bureau and the International Preliminary Examining Authority to use the e-mail address indicated in this Box to send notifications issued in respect of this international application to that e-mail address if these offices are willing to do so. ☐ as advance copies followed by paper notifications; or ☒ exclusively in electronic form (no paper notifications will be sent). E-mail address: ajohnson@dogwood-law.com	
☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.	

Sheet No. 2

Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)	
If none of the following sub-boxes is used, this sheet should not be included in the request.	
Name and address: (Family name followed by given name, for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.) James, Paul T. PO Box 276 Wrightsville Beach, NC 28480 UNITED STATES	This person is: ☐ applicant only ☐ applicant and inventor ☒ inventor only (if this check-box is marked, do not fill in below.) Applicant's registration No. with the Office
State (that is, country) of nationality: US	State (that is, country) of residence: US
This person is applicant for the purposes of: ☒ all designated States ☐ the States indicated in the Supplemental Box	
Name and address: (Family name followed by given name, for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)	This person is: ☐ applicant only ☐ applicant and inventor ☐ inventor only (if this check-box is marked, do not fill in below.) Applicant's registration No. with the Office
State (that is, country) of nationality:	State (that is, country) of residence:
This person is applicant for the purposes of: ☐ all designated States ☐ the States indicated in the Supplemental Box	
Name and address: (Family name followed by given name, for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)	This person is: ☐ applicant only ☐ applicant and inventor ☐ inventor only (if this check-box is marked, do not fill in below.) Applicant's registration No. with the Office
State (that is, country) of nationality:	State (that is, country) of residence:
This person is applicant for the purposes of: ☐ all designated States ☐ the States indicated in the Supplemental Box	
Name and address: (Family name followed by given name, for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)	This person is: ☐ applicant only ☐ applicant and inventor ☐ inventor only (if this check-box is marked, do not fill in below.) Applicant's registration No. with the Office
State (that is, country) of nationality:	State (that is, country) of residence:
This person is applicant for the purposes of: ☐ all designated States ☐ the States indicated in the Supplemental Box	
Name and address: (Family name followed by given name, for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)	This person is: ☐ applicant only ☐ applicant and inventor ☐ inventor only (if this check-box is marked, do not fill in below.) Applicant's registration No. with the Office
State (that is, country) of nationality:	State (that is, country) of residence:
This person is applicant for the purposes of: ☐ all designated States ☐ the States indicated in the Supplemental Box	
☐ Further applicants and/or (further) inventors are indicated on another continuation sheet.	

Sheet No. 3

Box No. V DESIGNATIONS				
The filing of this request constitutes under Rule 4.9(a) the designation of all Contracting States bound by the PCT on the international filing date, for the grant of every kind of protection available and, where applicable, for the grant of both regional and national patents. However, ☐ DE Germany is not designated for any kind of national protection ☐ JP Japan is not designated for any kind of national protection ☐ KR Republic of Korea is not designated for any kind of national protection <i>(The check-boxes above may only be used to exclude (irrevocably) the designations concerned if, at the time of filing or subsequently under Rule 26bis.1, the international application contains in Box No. VI a priority claim to an earlier national application filed in the particular State concerned, in order to avoid the ceasing of the effect, under the national law, of this earlier national application.)</i>				
Box No. VI PRIORITY CLAIM AND DOCUMENT				
The priority of the following earlier application(s) is hereby claimed:				
Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:		
		national application: country or Member of WTO	regional application: regional Office	international application: receiving Office
item (1) 28/08/2019 28 AUG 2019	82/882700	US		
item (2)				
item (3)				
☐ Further priority claims are indicated in the Supplemental Box.				
Furnishing the priority document(s): ☒ The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application(s) was filed with the receiving Office which, for the purposes of this international application, is the receiving Office) identified above as: ☐ all items ☒ item (1) ☐ item (2) ☐ item (3) ☐ other, see Supplemental Box ☐ The International Bureau is requested to obtain from a digital library a certified copy of the earlier application(s) identified above, using, where applicable, the access code(s) indicated below (if the earlier application(s) is available to it from a digital library): ☐ item (1) access code _____ ☐ item (2) access code _____ ☐ item (3) access code _____ ☐ other, see Supplemental Box				
Restores the right of priority: the receiving Office is requested to restore the right of priority for the earlier application(s) identified above or in the Supplemental Box as item(s) _____. (See also the Notes to Box No. VI: further information must be provided to support a request to restore the right of priority.)				
Incorporation by reference: where an element of the international application referred to in Article 11(1)(ii)(d) or (e) or a part of the description, claims or drawings referred to in Rule 20.5(a), or an element or part of the description, claims or drawings referred to in Rule 20.5(b)(a) is not otherwise contained in this international application but is completely contained in an earlier application whose priority is claimed on the date on which one or more elements referred to in Article 11(1)(ii) were first received by the receiving Office, that element or part is, subject to confirmation under Rule 20.6, incorporated by reference in this international application for the purposes of Rule 20.6.				
Box No. VII INTERNATIONAL SEARCHING AUTHORITY				
Choice of International Searching Authority (ISA): (if more than one International Searching Authority is competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used). ISA/ KR				

Sheet No. 4

Box No. IX CHECK LIST for PAPER filings – this sheet is only to be used when filing an international application on PAPER			
This international application contains the following:	Number of sheets	This international application is accompanied by the following item(s) (mark the applicable check-boxes below and indicate in right column the number of each item):	Number of items
(a) request form PCT/RO/101 (including any declarations and supplemental sheets)	4	1. ☐ fee calculation sheet	
(b) description (excluding any sequence listing part of the description, see (f), below)	20	2. ☐ original separate power of attorney	
(c) claims	4	3. ☐ original general power of attorney	
(d) abstract	1	4. ☐ copy of general power of attorney; reference number:	
(e) drawings (if any)	17	5. ☐ priority document(s) identified in Box No. VI as item(s)	
(f) sequence listing part of the description (if any)	0	6. ☐ Translation of international application into (language):	
Total number of sheets	46	7. ☐ separate indications concerning deposited microorganism or other biological material	
		8. ☐ (only where item (f) is marked in the left column) copy in electronic form (Annex C/ST.25 text file) on physical data carrier(s) of the sequence listing, not forming part of the international application, which is furnished only for the purposes of international search under Rule 13ter (type and number of physical data carriers)	
		9. ☐ (only where item (f) in the left column and item 8 (above) are marked) a statement confirming that "the information recorded in electronic form submitted under Rule 13ter is identical to the sequence listing as contained in the international application" as filed on paper	
		10. ☐ copy of results of earlier search(es) (Rule 12bis.1(s))	
		11. ☐ other (specify):	
Figure of the drawings which should accompany the abstract:		Language of filing of the international application:	English
Box No. X SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE			
Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).			
/Ashley D. Johnson/ Ashley D. Johnson U.S. Reg. No. 58482			

For receiving Office use only			
1. Date of actual receipt of the purported international application:	07 July 2020 (07.07.2020)		2. Drawings: ☐ received: ☐ not received:
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:			
4. Date of timely receipt of the required corrections under PCT Article 11(2):			
5. International Searching Authority (if two or more are competent):	KR		
6. ☐ Transmittal of search copy delayed until search fee is paid			
For International Bureau use only			
Date of receipt of the revised copy by the International Bureau:			

Form PCT/RO/101 (last sheet – paper) (July 2020)

See Notes to the request form

PATENT COOPERATION TREATY

From the RECEIVING OFFICE

PCT

NOTIFICATION CONCERNING PAYMENT OF PRESCRIBED FEES

(PCT Rules 12bis.1(c), 14, 15 and 16
and Administrative Instructions,
Sections 304, 323(b) and 707)

To: ASHLEY D. JOHNSON DOGWOOD PATENT AND TRADEMAK LAW 4801 GLENWOOD AVE., SUITE 200 RALEIGH, NORTH CAROLINA 28409		Date of mailing (day/month/year) 30 Jun 2020 <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; border-right: 1px solid black; padding: 5px;"> Applicant's or agent's file reference 255/2 </td> <td style="width: 50%; padding: 5px;"> PAYMENT DUE see item 3 for time limits </td> </tr> </table>		Applicant's or agent's file reference 255/2	PAYMENT DUE see item 3 for time limits
Applicant's or agent's file reference 255/2	PAYMENT DUE see item 3 for time limits				
International application No. PCT/US2020/038920	International filing date/Date of receipt (day/month/year) 22 Jun 2020	Priority date (day/month/year) 28 Aug 2019			
Applicant SOLBELLO, INC.					

1. The applicant is hereby notified that this receiving Office has received:

☐ **the payment** of all the prescribed fees, and
 ☐ **an overpayment**, which will be refunded in due course.

☒ **no or insufficient payment** of the prescribed fees and the applicant is hereby **invited to pay the balance due**, as summarized under item 2, within the time limit(s) indicated under item 3.

2. **Fees and payment calculation:**

2,524.00	—	2,424.00	=	100.00
Total fees payable		Amount paid		Balance

☒ The details of the calculation are given in the Annex.

3. **Time limit(s) for payment and amount(s) payable (Rules 14.1, 15.3 and 16.1(f)):**

☒ within ONE MONTH from the date of receipt of the international application (**for the transmittal fee** (if any), **the search fee** and **the international filing fee**). The amount payable for each fee is the amount applicable on the date of receipt of the international application.

☐ within 16 MONTHS from the priority date (only for the fee for priority document). The applicant's attention is drawn to the fact that the request made by the applicant under Rule 17.1(b) will be considered not to have been made unless the fee is paid within that time limit.

4. **Additional observations (if necessary):**

☒ The search copy will not be transmitted to the International Searching Authority until the search fee is paid (therefore the start of the international search will be delayed) (Rule 23.1(a) and (b)).

Name and mailing address of the receiving Office Mail Stop PCT, Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450 Facsimile No. 571-273-8300	Authorized officer Arnessa Smith Telephone No. 571-272-3575
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**ANNEX TO FORM PCT/RO/102
CALCULATION OF THE PRESCRIBED FEES**

(If a reduced fee has been applied, the reduced amount is indicated.)

International application No.

PCT/US2020/038920

T Transmittal Fee

Prescribed amount: 60.00 **T**
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 Balance: 0.00

☒ correct amount
☐ overpayment
☐ balance due

S Search Fee

Prescribed amount: 1,003.00 **S**
 Amount paid: 1,003.00
 Balance: 0.00

☒ correct amount
☐ overpayment
☐ balance due

I International Filing Fee

Prescribed amount:

Fixed amount for first 30 sheets: 1,236.00 **i1**

$\frac{15}{\text{Number of sheets in excess of 30}} \times \frac{15.00}{\text{Fee per sheet}} = 225.00$ **i2**

(excluding pages referred to in Section 707(a-bis))

Reduction where the international application is filed

(See PCT Fee tables <http://www.wipo.int/pct/en/fees.pdf>):

in electronic form, the request not being in character coded format 0.00 **r**

or

in electronic form, the request being in character coded format 0.00 **r**

or

in electronic form, the request, description, claims and abstract being in character coded format 0.00 **r**

Sub-total: 1,461.00 **i1+i2-r**

Applicants from certain States are entitled to a reduction of 90% of the international filing fee. Where the applicant is (or all applicants are) so entitled, the total to be entered at I is 10% of the sub-total entered at (i1+i2-r); (see Notes to the Fee Calculation Sheet as annexed to the Request Form, PCT/RO/101, for details):

. 1,461.00 **I**
 1,361.00
 100.00

Amount paid:
 Balance:

☐ correct amount
☐ overpayment
☒ balance due

P Fee for Priority Document

Prescribed amount: 0.00 **P**
 Amount paid: 0.00
 Balance: 0.00

☒ correct amount
☐ overpayment
☐ balance due

ES Fee for Earlier Search Documents

Prescribed amount: 0.00 **ES**
 Amount paid: 0.00
 Balance: 0.00

☐ correct amount
☐ overpayment
☐ balance due

PATENT COOPERATION TREATY

From the RECEIVING OFFICE

PCT

To:

ASHLEY D. JOHNSON
DOGWOOD PATENT AND TRADEMAK LAW
4801 GLENWOOD AVE., SUITE 200
RALEIGH, NORTH CAROLINA 28409

NOTIFICATION OF THE INTERNATIONAL
APPLICATION NUMBER AND OF THE
INTERNATIONAL FILING DATE

(PCT Rule 20.2(c))

Confirmation No: 2697

Date of mailing
(day/month/year)

30 Jun 2020

Applicant's or agent's file reference
255/2

IMPORTANT NOTIFICATION

International application No.

PCT/US2020/038920

International filing date (day/month/year)

22 Jun 2020

Priority date (day/month/year)

28 Aug 2019

Applicant

SOLBELLO, INC.

Title of the invention

SELF-ADJUSTING SUN SHADE ASSEMBLY

1. The applicant is hereby notified that the international application has been accorded the international application number and the international filing date indicated above.

2. The applicant is further notified that the record copy of the international application:



was transmitted to the International Bureau on 30 Jun 2020



has not yet been transmitted to the International Bureau for the reason indicated below and a copy of this notification has been sent to the International Bureau*:



because the necessary national security clearance has not yet been obtained.



because (reason to be specified):

* The International Bureau monitors the transmittal of the record copy by the receiving Office and will notify the applicant (with Form PCT/IB/301) of its receipt. Should the record copy not have been received by the expiration of 14 months from the priority date, the International Bureau will notify the applicant (Rule 22.1(c)).

3. FOREIGN TRANSMITTAL LICENSE INFORMATION

Completed by: AS



Additional license for foreign transmittal not required. This subject matter is covered by a license already granted or the equivalent U.S. national application. Refer to that license for information concerning its scope.



License for foreign transmittal not required. 37 CFR 5.11(e)(1) or 37 CFR 5.11(e)(2). However, a license may be required for additional subject matter. See 37 CFR 5.15(b).



Foreign transmittal license granted. 35 U.S.C. 184; 37 CFR 5.11 on 29 Jun 2020 :
(date)



37 CFR 5.15(a)



37 CFR 5.15(b)

Name and mailing address of the receiving Office

Mail Stop PCT, Commissioner for Patents
P.O. Box 1450, Alexandria, VA 22313-1450

Facsimile No. 571-273-8300

Authorized officer

Arnessa Smith

Telephone No. 571-272-3575

PATENT COOPERATION TREATY

From the RECEIVING OFFICE

PCT

COMMUNICATION IN CASES FOR WHICH
NO OTHER FORM IS APPLICABLE

To:

ASHLEY D. JOHNSON
DOGWOOD PATENT AND TRADEMAK LAW
4801 GLENWOOD AVE., SUITE 200
RALEIGH, NORTH CAROLINA 28409

Confirmation No: 2697

Date of mailing
(day/month/year)

30 Jun 2020

Applicant's or agent's file reference
255/2

REPLY DUE

See paragraph 1 below

International application No.
PCT/US2020/038920

International filing date
(day/month/year)

22 Jun 2020

Applicant
SOLBELLO, INC.

1. ☒ REPLY DUE within 1 months/days from the above date of mailing

☐ NO REPLY DUE, however, see below _____

☒ IMPORTANT COMMUNICATION

☐ INFORMATION ONLY

2. COMMUNICATION:

The international application identified above does not name the inventor(s) in Box No. II or Box No. III of the Request form. The inventor's name and address must be indicated in the Request form where the national law of at least one of the designated States requires that the name of the inventor be furnished at the time of filing. See PCT Rules 4.1(a)(iv) and (c)(i) and 4.6, and the PCT Applicant's Guide for details on requirements. See PCT Rule 92bis for procedures for requesting the recording of changes in the indications concerning the inventor(s).

Name and mailing address of the receiving Office
Mail Stop PCT, Commissioner for Patents
P.O. Box 1450, Alexandria, VA 22313-1450
Facsimile No. 571-273-8300

Authorized officer

Arnessa Smith

Telephone No. 571-272-3575

PATENT COOPERATION TREATY

From the RECEIVING OFFICE

PCT

INVITATION TO CORRECT DEFECTS IN THE INTERNATIONAL APPLICATION

(PCT Articles 3(4)(i) and 14(1) and Rule 26)

To: ASHLEY D. JOHNSON DOGWOOD PATENT AND TRADEMAK LAW 4801 GLENWOOD AVE., SUITE 200 RALEIGH, NORTH CAROLINA 28409	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Date of mailing (day/month/year)</td> <td style="width: 50%; text-align: right;">30 Jun 2020</td> </tr> <tr> <td style="width: 50%;">Applicant's or agent's file reference 255/2</td> <td style="width: 50%;"> REPLY DUE within TWO MONTHS from the above date of mailing </td> </tr> <tr> <td style="width: 50%;">International application No. PCT/US2020/038920</td> <td style="width: 50%;"> International filing date (day/month/year) 22 Jun 2020 </td> </tr> <tr> <td colspan="2" style="padding: 5px;"> Applicant SOLBELLO, INC. </td> </tr> </table>	Date of mailing (day/month/year)	30 Jun 2020	Applicant's or agent's file reference 255/2	REPLY DUE within TWO MONTHS from the above date of mailing	International application No. PCT/US2020/038920	International filing date (day/month/year) 22 Jun 2020	Applicant SOLBELLO, INC.	
Date of mailing (day/month/year)	30 Jun 2020								
Applicant's or agent's file reference 255/2	REPLY DUE within TWO MONTHS from the above date of mailing								
International application No. PCT/US2020/038920	International filing date (day/month/year) 22 Jun 2020								
Applicant SOLBELLO, INC.									

1. ☒ The applicant is hereby **invited**, within the time limit indicated above, to correct ~~in the international application as filed~~, the defects specified on the attached:
- ☒ Annex A
 - ☐ Annex B1 (*text matter of the international application as filed*)
 - ☐ Annex C1 (*drawings of the international application as filed*)
2. ☐ The applicant is hereby **invited**, within the time limit indicated above, to correct, **in the translation of the international application** furnished under Rule 12.3 or 12.4, the defects specified on the attached:
- ☐ Annex A
 - ☐ Annex B2 (*text matter of the translation of the international application*)
 - ☐ Annex C2 (*drawings of the translation of the international application*)

Additional observations (if necessary):

HOW TO CORRECT THE DEFECTS?

Except where the defect is in the request, any correction must be submitted by filing a replacement sheet embodying the correction and a letter accompanying the replacement sheet, which shall draw attention to the difference between the replaced sheet and the replacement sheet. For a defect in the request, a correction may simply be stated in a letter if it is of such a nature that the correction can be transferred clearly onto the request record copy (Rule 26.4).

ATTENTION

Failure to correct the defects will result in the international application being considered withdrawn by this receiving Office (see Rule 26.5 for further details).

A copy of this Invitation and any attachments has been sent to the International Bureau
☒ and the International Searching Authority.

Name and mailing address of the receiving Office Mail Stop PCT, Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450 Facsimile No. 571-273-8300	Authorized officer Arnessa Smith Telephone No. 571-272-3575
---	---

The receiving Office has found the following defects in the international application as filed:

1. As to the **signature** of the international application (Rules 4.15, 26.2bis(a) and 90.4), the request:
- a. ☐ is not signed by the applicant or, if there is more than one applicant, by at least one of them*.
 - b. ☐ is signed by what appears to be an agent/common representative, but the international application is not accompanied by a power of attorney signed by at least one of the applicants*.
 - c. ☐ other (*specify*):

* The applicant's attention is drawn to the fact that the national law applied by each designated Office may require, in connection with the processing of the international application in the national phase, that the applicant furnish the confirmation of the international application by the signature of any applicant for the designated State who has not signed the request (Rule 51bis.1(a)(vi)).

2. As to the indications concerning the **applicant*** who is entitled, according to Rule 19.1, to file the international application with the receiving Office, the request (Rules 4.4, 4.5 and 26.2bis(b)):
- a. ☐ does not properly indicate the applicant's name (*specify*):
 - b. ☐ does not indicate the applicant's address.
 - c. ☒ does not properly indicate the applicant's address (*specify*):

MISSING COUNTRY

- d. ☐ does not indicate the applicant's nationality.
- e. ☐ does not indicate the applicant's residence.

☐ Further observations about indications concerning other applicants (if applicable):

* Although Rules 4.4 and 4.5 require indications concerning the applicant, or if there are several applicants, of each of them for the purposes of Article 14(1)(a)(ii), if there is more than one applicant, it shall be sufficient that the indications required under Rule 4.5(a)(ii) and (iii) be provided in respect of one of them who is entitled according to Rule 19.1 to file the international application with the receiving Office (Rule 26.2bis(b)).

However, the applicant's attention is drawn to the fact that the national law applied by each designated Office may require, in connection with the processing of the international application in the national phase, that the applicant furnish any missing indication required under Rule 4.5(a)(ii) and (iii) in respect of any applicant for the designated State (Rule 51bis.1(a)(vii)).

3. As to the **language** of certain elements of the international application, other than the description and claims (Rules 12.1(c) and 26.3ter(a) and (c)):
- a. ☐ the **request** is not in a language of publication accepted by this receiving Office; (the) language(s) accepted by this receiving Office is/are:
 - b. ☐ the **text matter of the drawings** is not in the language in which the international application is to be published, which is:
 - c. ☐ the **abstract** is not in the language in which the international application is to be published, which is:

4. The **title** of the invention:
- a. ☐ is not indicated in Box No. 1 of the request (Rule 4.1(a)).
 - b. ☐ is not indicated at the top of the first sheet of the description (Rule 5.1(a)).
 - c. ☐ as appearing in Box No. 1 of the request is not identical with the title heading the description (Rule 5.1(a)).

5. As to the **abstract** (Rules 8 and 26.1):
- ☐ the international application does not contain an abstract.

This receiving Office has found that, with regard to the presentation of the **text matter of the international application as filed**, the physical requirements are not complied with to the extent that compliance therewith is necessary for:

1. ☐ reasonably uniform international publication (Rules 11 and 26.3(a)(i)) (*defects to be specified*):

	Request	Description	Claims	Abstract
a. ☐ the sheets do not admit of direct reproduction	☐	☐	☐	☐
b. ☐ the element does not commence on a new sheet	☐	☐	☐	☐
c. ☐ sheets are not free from creases, cracks, folds	☐	☐	☐	☐
d. ☐ sheets are not used in the upright position	☐	☐	☐	☐
e. ☐ one side of the sheets is not left unused	☐	☐	☐	☐
f. ☐ the paper of the sheets is not flexible/strong/white/smooth/non-shiny/durable	☐	☐	☐	☐
g. ☐ the sheets are not connected as prescribed (Rule 11.4(b))	☐	☐	☐	☐
h. ☐ sheets are not A4 size (29.7cm x 21cm)	☐	☐	☐	☐
i. ☐ the minimum margins on the sheets are not as prescribed (top: 2cm; left side: 2.5cm; right side: 2cm; bottom: 2cm)		☐	☐	☐
j. ☐ the file reference number indicated on the sheets does not appear in the left-hand corner of the sheets, within 1.5 cm of the top of the sheets		☐	☐	☐
k. ☐ the file reference number exceeds the maximum of 12 characters	☐	☐	☐	☐
l. ☐ the sheets of the description, claims and abstract are not numbered in consecutive Arabic numerals		☐	☐	☐
m. ☐ the sheet numbers are not centered at the top or bottom of the sheets	☐	☐	☐	☐
n. ☐ the sheet numbers are in the margin (see i. above for the size of the margins)		☐	☐	☐
o. ☐ the text matter is not typed or printed	☐	☐	☐	☐
p. ☐ the typing on the sheets is not 1½-spaced		☐	☐	☐
q. ☐ the characters in the text matter on the sheets are less than 0.28 cm high in capital letters	☐	☐	☐	☐
r. ☐ the text matter on the sheets is not in dark, indelible color	☐	☐	☐	☐
s. ☐ the element contains drawings	☐	☐	☐	☐
t. ☐ the sheets contain alterations/overwritings/interlineations/too many erasures	☐	☐	☐	☐
u. ☐ the sheets contain photocopy marks	☐	☐	☐	☐

2. ☐ satisfactory reproduction (Rules 11 and 26.3(b)(i))

Further observations (*if necessary*):

This receiving Office has found that, with regard to the presentation of the **drawings of the international application as filed**, the physical requirements are not complied with to the extent that compliance therewith is necessary for:

1. ☐ reasonably uniform international publication (Rules 11 and 26.3(a)(i)) (*defects to be specified*):

Sheets containing drawings:

- a. ☐ the sheets do not admit of direct reproduction
- b. ☐ the sheets are not free from creases, cracks, folds
- c. ☐ one side of the sheets is not left unused
- d. ☐ the paper of the sheets is not flexible/strong/white/smooth/non-shiny/durable
- e. ☐ the drawings do not commence on a new sheet
- f. ☐ the sheets are not connected as prescribed (Rule 11.4(b))
- g. ☐ the sheets are not A4 size (29.7cm x 21cm)
- h. ☐ the minimum margins on the sheets are not as prescribed (top: 2.5cm; left side: 2.5cm; right side: 1.5cm; bottom: 1cm)
- i. ☐ the file reference number indicated on the sheets does not appear in the left-hand corner of the sheets, within 1.5m of the top of the sheets
- j. ☐ the file reference number exceeds the maximum of 12 characters
- k. ☐ the sheets are not free from frames around usable or used surfaces
- l. ☐ the sheets are not numbered in consecutive Arabic numerals (e.g. 1/3, 2/3, 3/3)
- m. ☐ the sheet numbers are not centered at the top or bottom of the sheets
- n. ☐ the sheet numbers are in the margin (see h. above for the size of the margins)
- o. ☐ the sheets contain alterations/overwritings/interlineations/too many erasures
- p. ☐ the sheets contain photocopy marks

Drawings (Rule 11.13):

- a. ☐ do not admit of direct reproduction
- b. ☐ contain unnecessary text matter
- c. ☐ contain words so placed as to prevent translation without interference with lines thereof
- d. ☐ are not executed in durable black color; the lines are not uniformly thick and well-defined
- e. ☐ contain cross-sections not properly hatched
- f. ☐ would not be properly distinguishable in reduced reproduction
- g. ☐ contain scales not represented graphically
- h. ☐ contain numbers, letters and reference lines lacking simplicity and clarity
- i. ☐ contain lines drafted without the aid of drafting instruments
- j. ☐ contain disproportionate elements of a figure not necessary for clarity
- k. ☐ contain numbers and letters of height less than 0.32 cm
- l. ☐ contain letters not conforming to the Latin, and where customary, Greek alphabets
- m. ☐ contain figures on two or more sheets which form a single complete figure but which are not able to be assembled without concealing parts thereof
- n. ☐ contain figures which are not properly arranged and clearly separated
- o. ☐ contain different figures not numbered in consecutive Arabic numerals
- p. ☐ contain different figures not numbered independently of the numbering of the sheets
- q. ☐ are not restricted to reference signs mentioned in the description
- r. ☐ do not contain reference signs that are mentioned in the description
- s. ☐ contain the same feature denoted by different reference signs
- t. ☐ are not arranged in an upright position, clearly separated from one another
- u. ☐ are not presented sideways with the top of the figures at the left side of the sheets

2. ☐ satisfactory reproduction (Rules 11 and 26.3(b)(i))

Further observations (*if necessary*):

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA/82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	PCT/US 20/38920
Filing Date	6/22/2020
First Named Inventor	James
Title	SELF-ADJUSTING SUN SHADE ASSEMBLY
Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	255/2 PCT

SIGNATURE of Applicant or Patent Practitioner

Signature	/Ashley D. Johnson/	Date (Optional)	
Name	Ashley D. Johnson	Registration Number	58482
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.



*Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. 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 3 minutes 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.**

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date
PCT/US 20/38920	

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☒ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above:

160172

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☒ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

☐ Firm or Individual Name

Address

City

State

Zip

Country

Telephone

Email

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

- ☐ Inventor or Joint Inventor (title not required below)
- ☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)
- ☒ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)
- ☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature

Paul T. James

Date (Optional)

Name

Paul T. James

Title

Owner

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☒ Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. 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 3 minutes 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.

POWER OF ATTORNEY BY APPLICANT

No more than ten (10) patent practitioners total may be appointed as set forth below by name and registration number. This page need not be submitted if appointing the Patent Practitioner(s) associated with a Customer Number (see form PTO/AIA/82B):

Name	Registration Number

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 the Freedom of Information Act requires disclosure of these records.
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 inspections 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.

Electronic Acknowledgement Receipt	
EFS ID:	39789386
Application Number:	
International Application Number:	PCT/US20/38920
Confirmation Number:	2697
Title of Invention:	SELF-ADJUSTING SUN SHADE ASSEMBLY
First Named Inventor/Applicant Name:	
Customer Number:	160172
Correspondence Address:	Dogwood Patent and Trademark Law - 4801 Glenwood Avenue Suite 200 Raleigh NC 27612 US 919-576-7612 ajohnson@dogwood-law.com
Filer:	Ashley Darden Johnson
Filer Authorized By:	
Attorney Docket Number:	255/2 PCT
Receipt Date:	22-JUN-2020
Filing Date:	22-JUN-2020
Time Stamp:	15:41:17
Application Type:	International Application (PCT) for filing in the US receiving office
Patent Number:	

Payment information:

Submitted with Payment		no			
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	Solbello_POA_2.pdf	1749882	no	4
			b2fa90d1777ea919108425e1067eb9e225c a627a		
Warnings:					
The PDF file has been signed with a digital signature and the legal effect of the document will be based on the contents of the file not the digital signature.					
Information:					
Total Files Size (in bytes):			1749882		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

CERTIFICATION OF MICRO ENTITY STATUS (GROSS INCOME BASIS)					
Application Number or Control Number (if applicable):			Patent Number (if applicable):		
First Named Inventor: James			Title of Invention: SELF-ADJUSTING SUN SHADE ASSEMBLY		
The applicant hereby certifies the following— (1) SMALL ENTITY REQUIREMENT – The applicant qualifies as a small entity as defined in 37 CFR 1.27. (2) APPLICATION FILING LIMIT – Neither the applicant nor the inventor nor a joint inventor has been named as the inventor or a joint inventor on more than four previously filed U.S. patent applications, excluding provisional applications and international applications under the Patent Cooperation Treaty (PCT) for which the basic national fee under 37 CFR 1.492(a) was not paid, and also excluding patent applications for which the applicant has assigned all ownership rights, or is obligated to assign all ownership rights, as a result of the applicant's previous employment. (3) GROSS INCOME LIMIT ON APPLICANTS AND INVENTORS – Neither the applicant nor the inventor nor a joint inventor, in the calendar year preceding the calendar year in which the applicable fee is being paid, had a gross income, as defined in section 61(a) of the Internal Revenue Code of 1986 (26 U.S.C. 61(a)), exceeding the "Maximum Qualifying Gross Income" reported on the USPTO Web site at http://www.uspto.gov/patents/law/micro_entity.jsp which is equal to three times the median household income for that preceding calendar year, as most recently reported by the Bureau of the Census. (4) GROSS INCOME LIMIT ON PARTIES WITH AN "OWNERSHIP INTEREST" – Neither the applicant nor the inventor nor a joint inventor has assigned, granted, or conveyed, nor is under an obligation by contract or law to assign, grant, or convey, a license or other ownership interest in the application concerned to an entity that, in the calendar year preceding the calendar year in which the applicable fee is being paid, had a gross income, as defined in section 61(a) of the Internal Revenue Code of 1986, exceeding the "Maximum Qualifying Gross Income" reported on the USPTO Web site at http://www.uspto.gov/patents/law/micro_entity.jsp which is equal to three times the median household income for that preceding calendar year, as most recently reported by the Bureau of the Census.					
SIGNATURE by an authorized party set forth in 37 CFR 1.33(b)					
Signature		/Ashley D. Johnson/			
Name		Ashley D. Johnson			
Date		6/22/2020		Telephone 9195767612	
				Registration No. 58482	
☐ There is more than one inventor and I am one of the inventors who are jointly identified as the applicant. The required additional certification form(s) signed by the other joint inventor(s) are included with this form.					

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:

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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.
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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.

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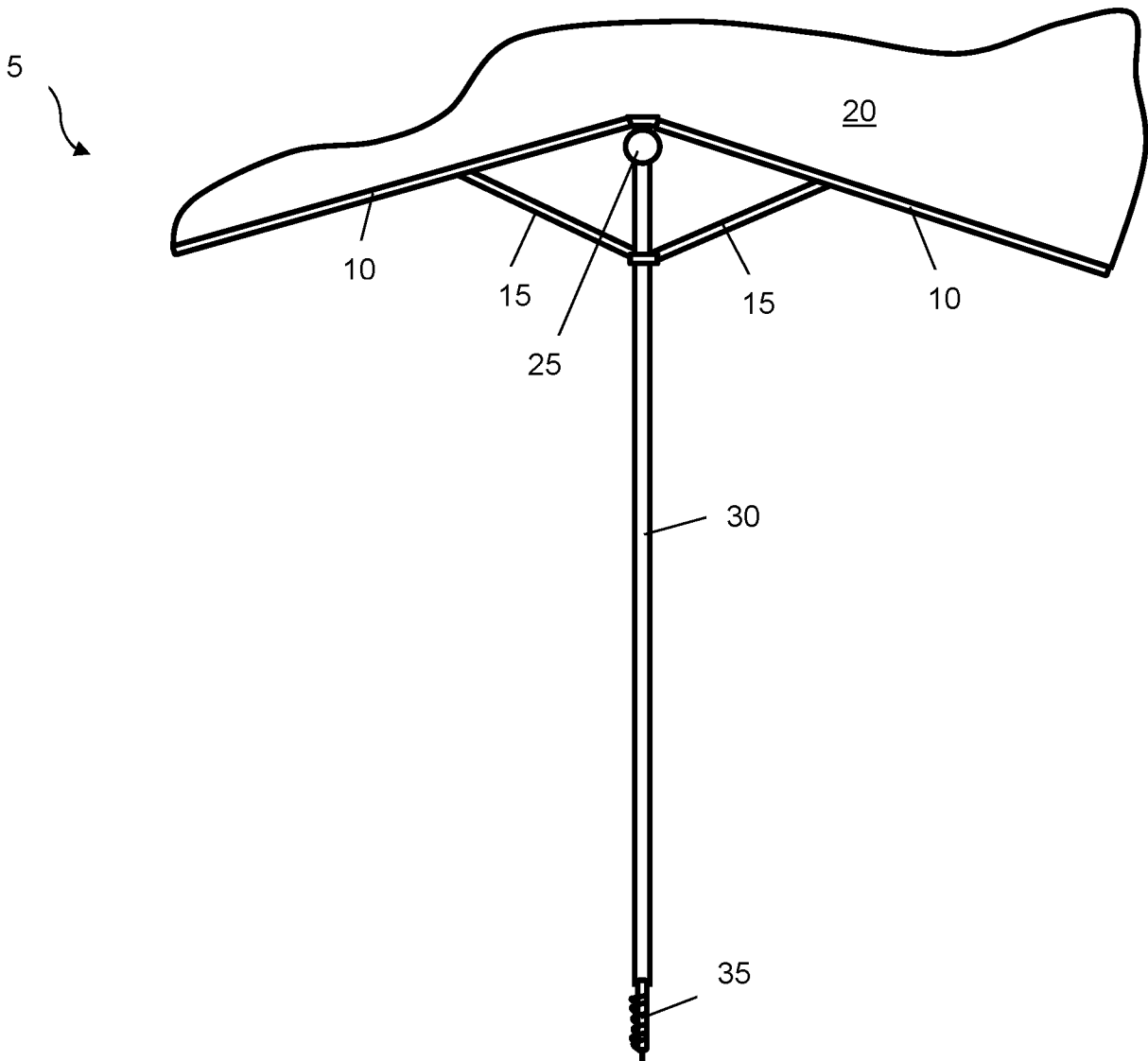


Fig. 1

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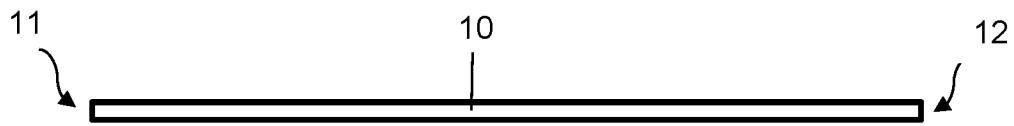


Fig. 2a

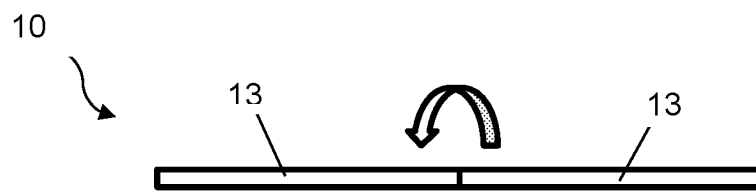


Fig. 2b



Fig. 2c

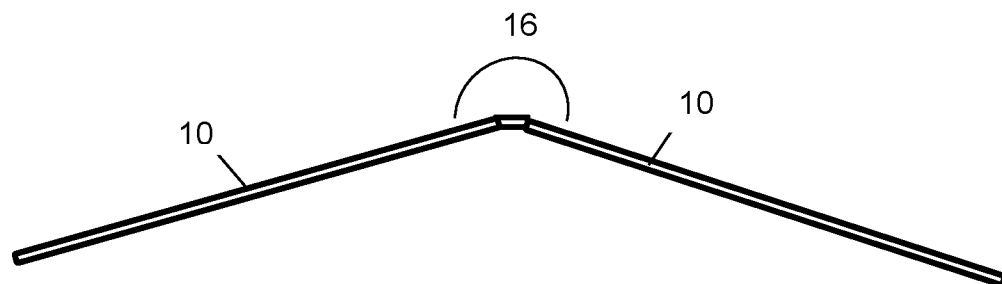


Fig. 2d

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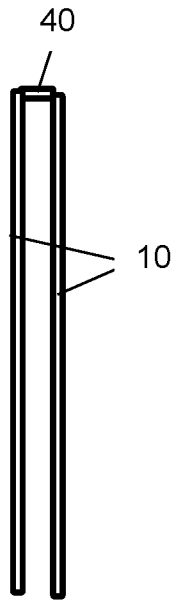


Fig. 2e

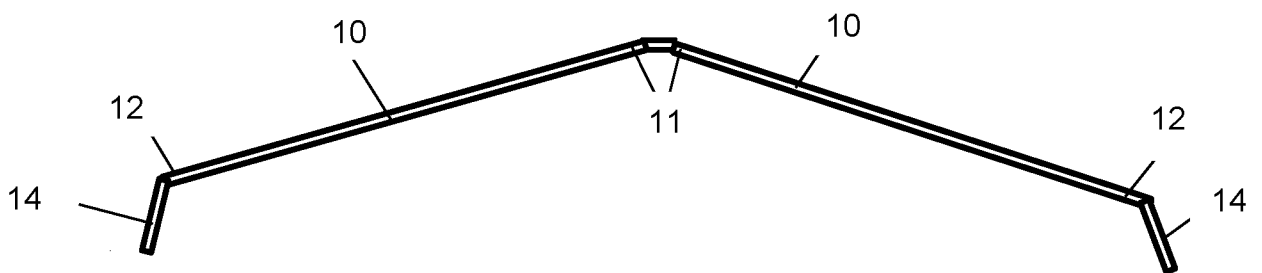


Fig. 2f

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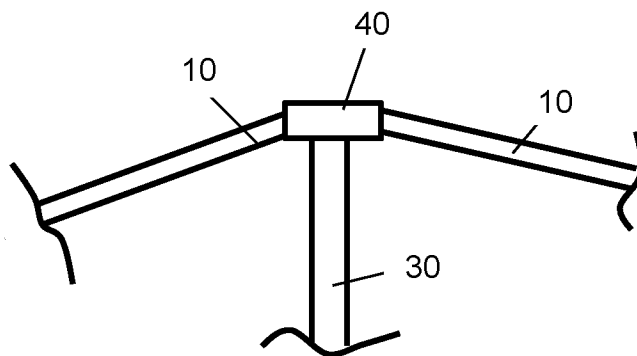


Fig. 3a

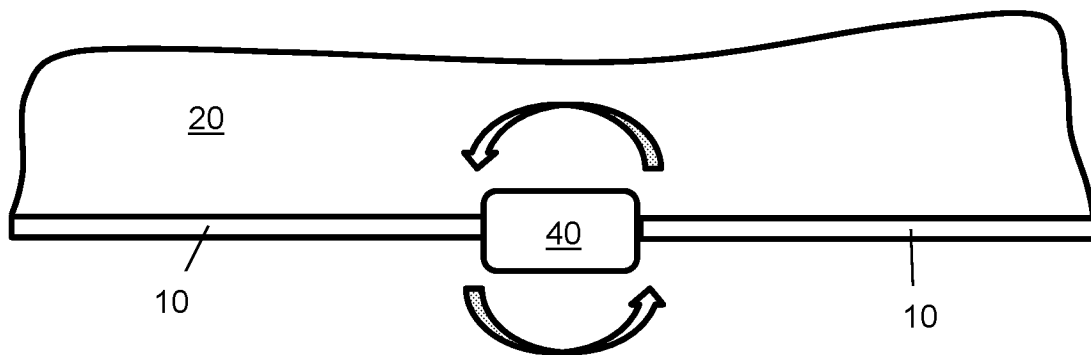


Fig. 3b

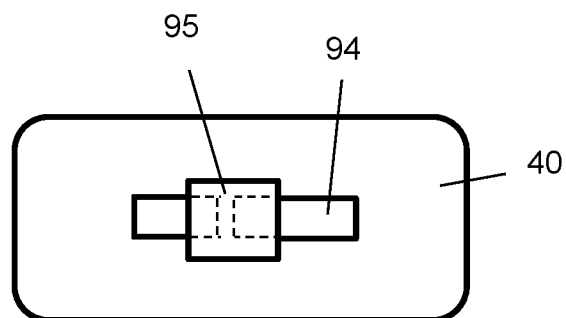


Fig. 3c

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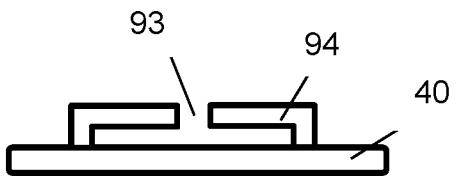


Fig. 3d

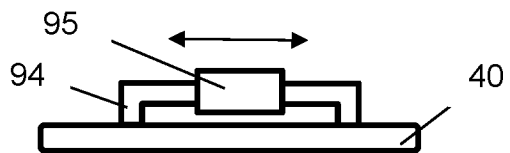


Fig. 3e

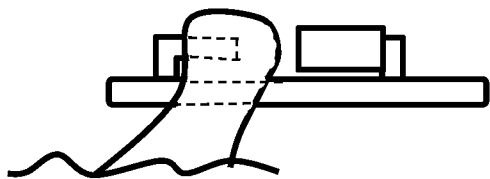


Fig. 3f

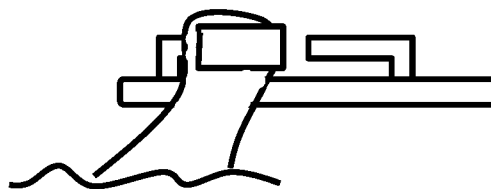


Fig. 3g

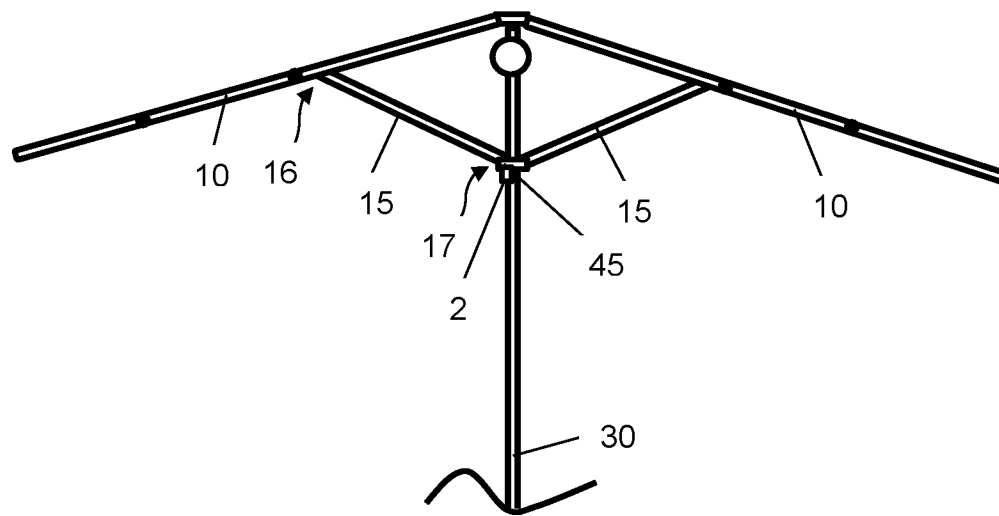


Fig. 4a

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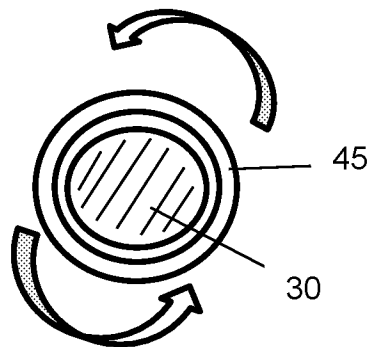


Fig. 4b

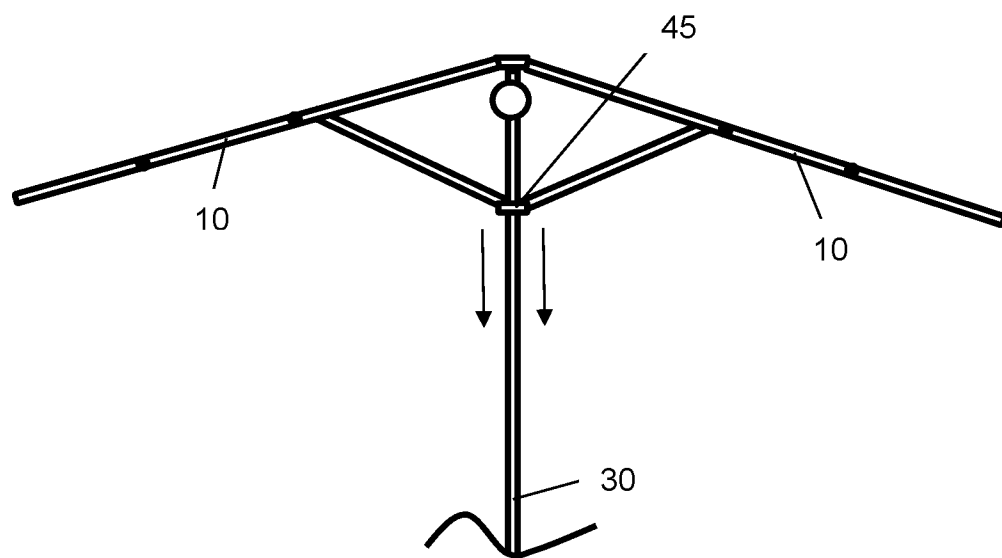


Fig. 4c

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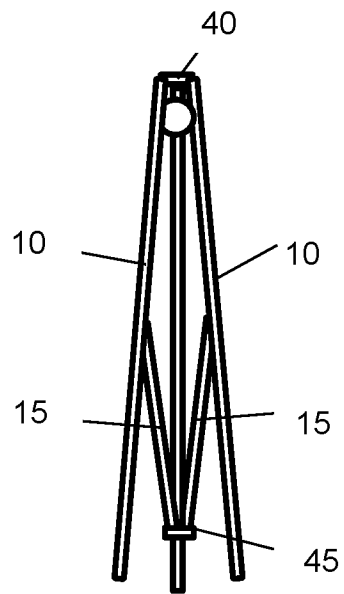


Fig. 4d

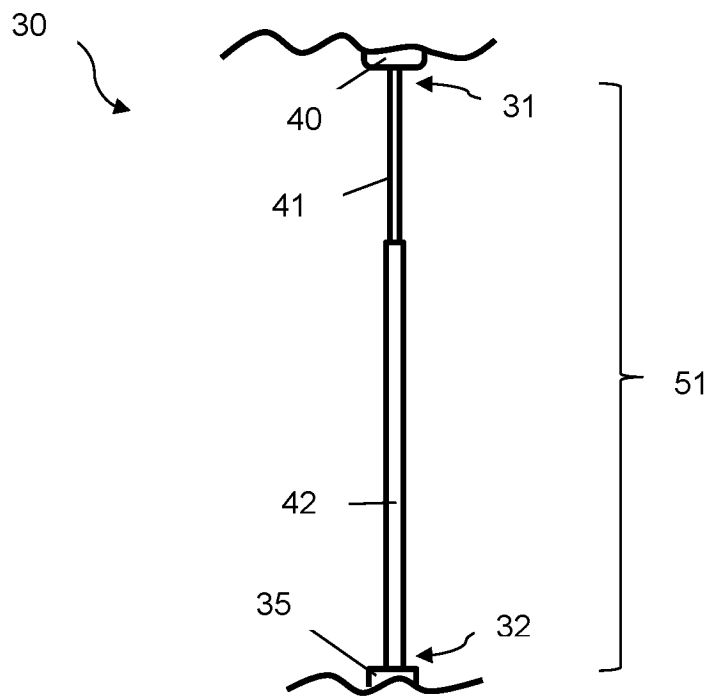


Fig. 5a

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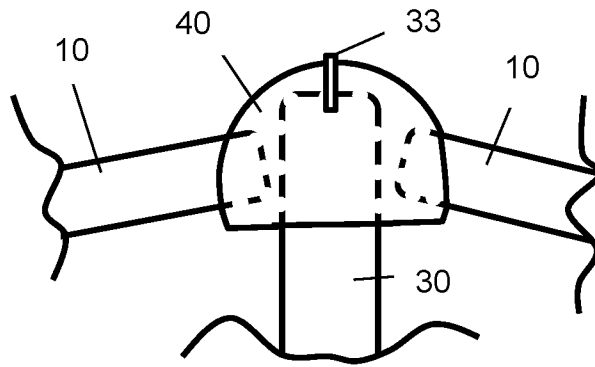


Fig. 5b

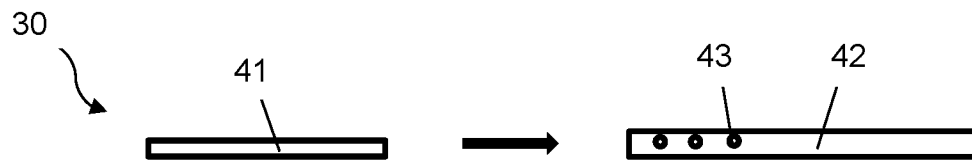


Fig. 5c



Fig. 5d

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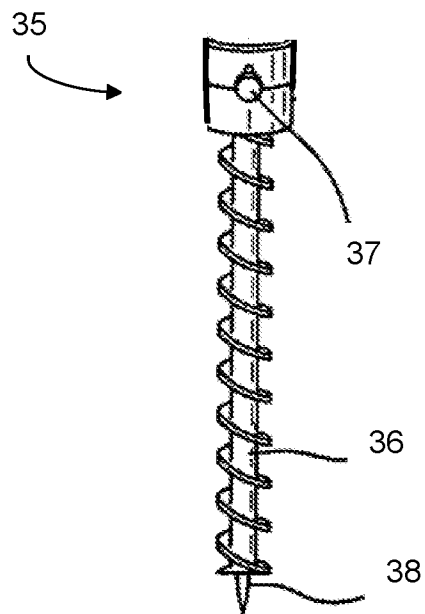


Fig. 6

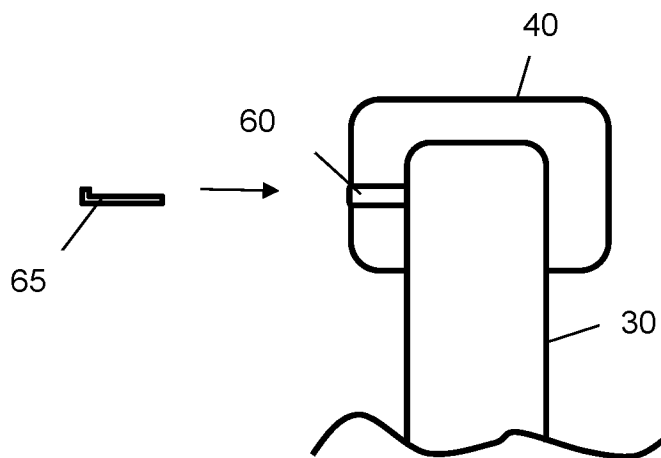


Fig. 7a

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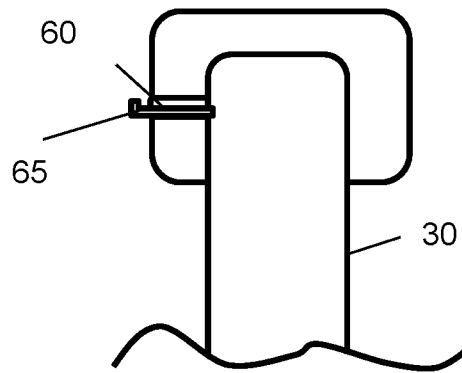


Fig. 7b

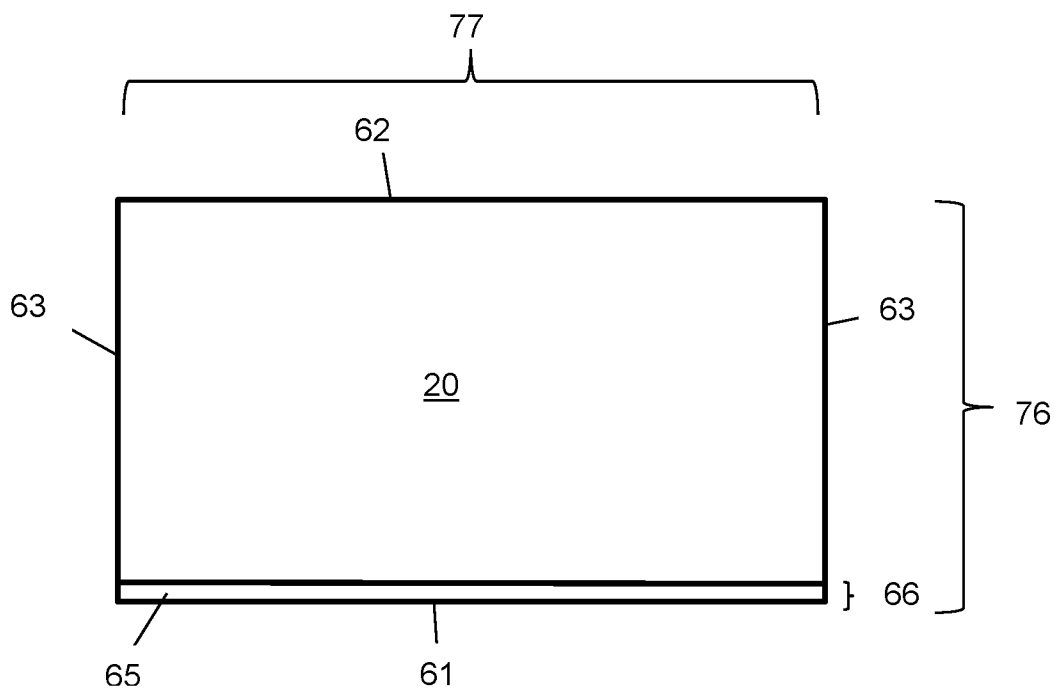


Fig. 8a

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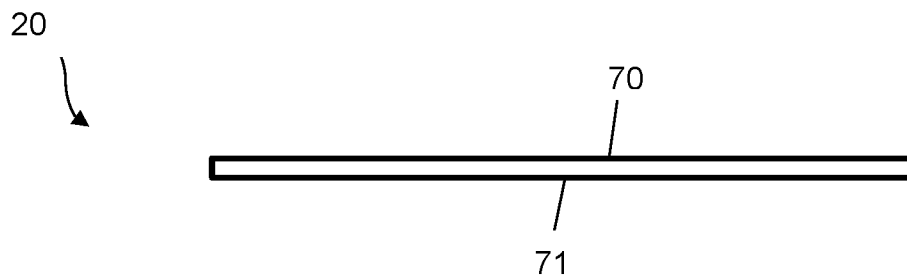


Fig. 8b

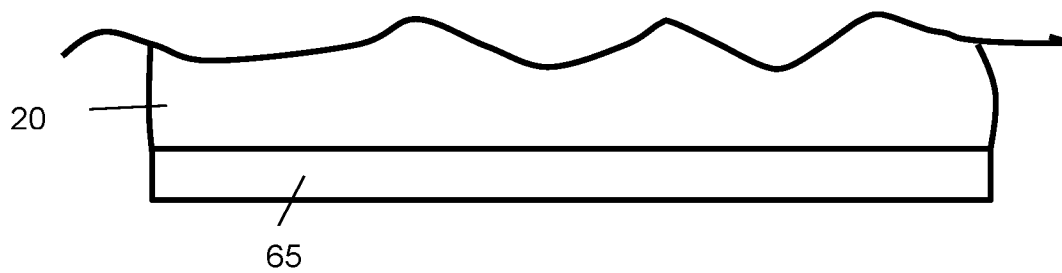


Fig. 8c

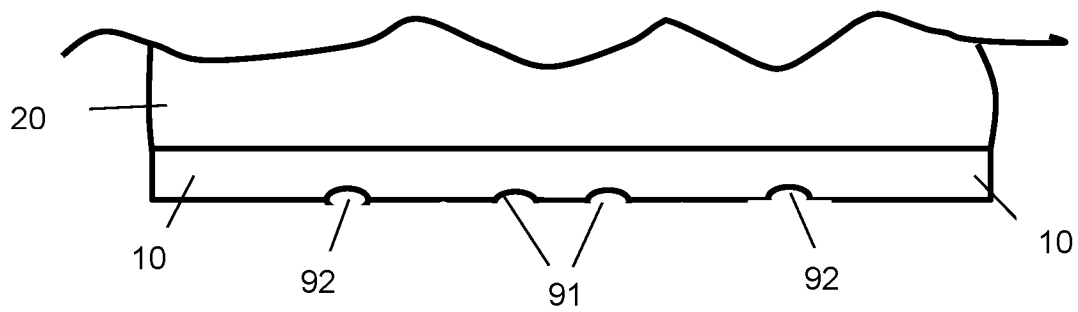


Fig. 8d

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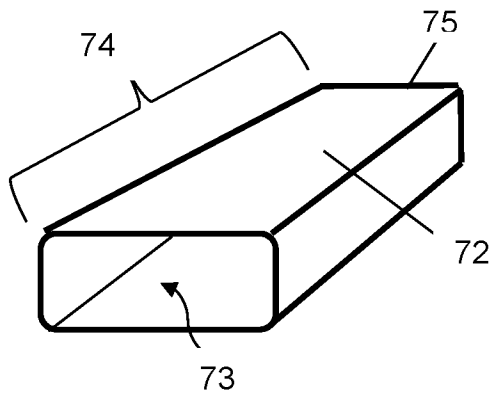


Fig. 8e

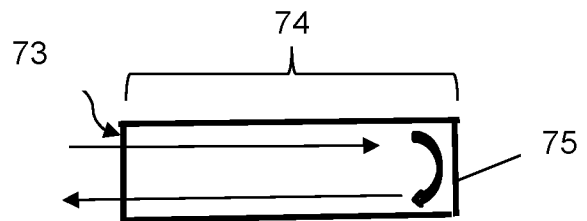


Fig. 8f

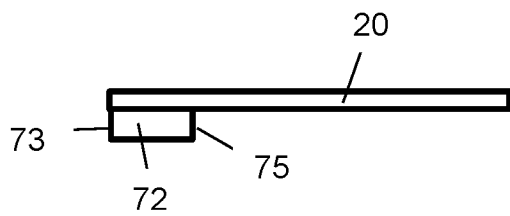


Fig. 8g

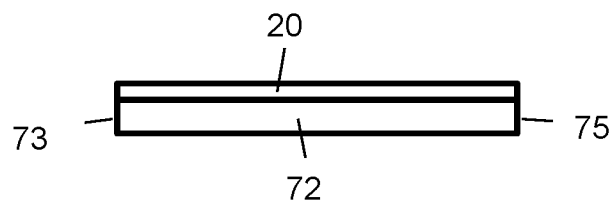


Fig. 8h

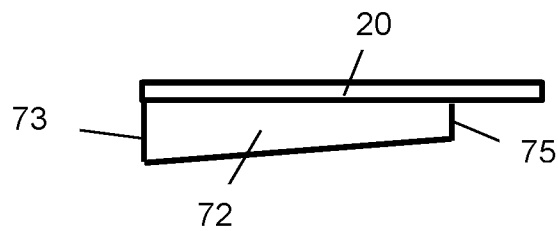


Fig. 8i

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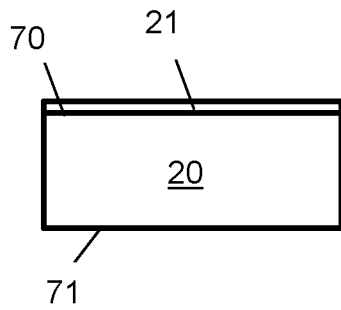


Fig. 9a

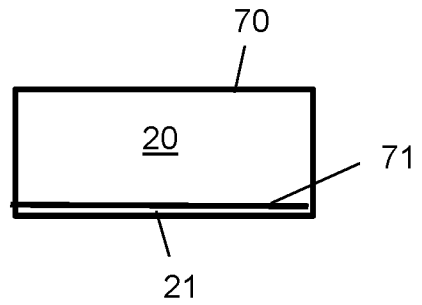


Fig. 9b

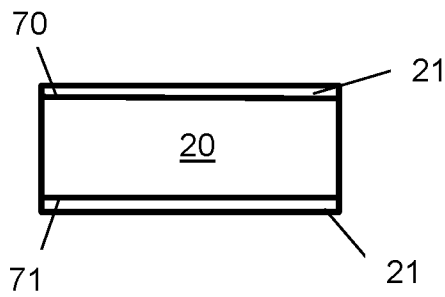


Fig. 9c

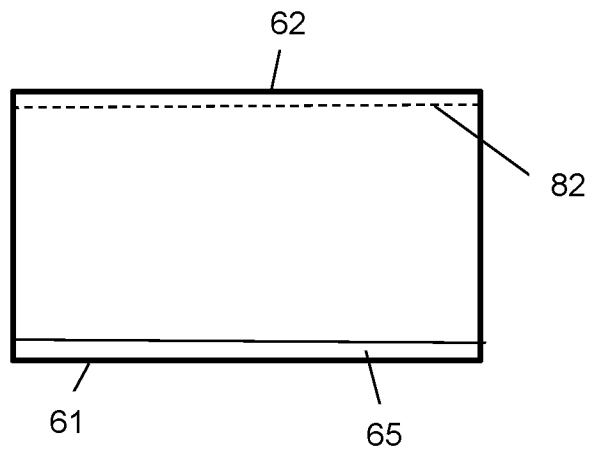


Fig. 9d

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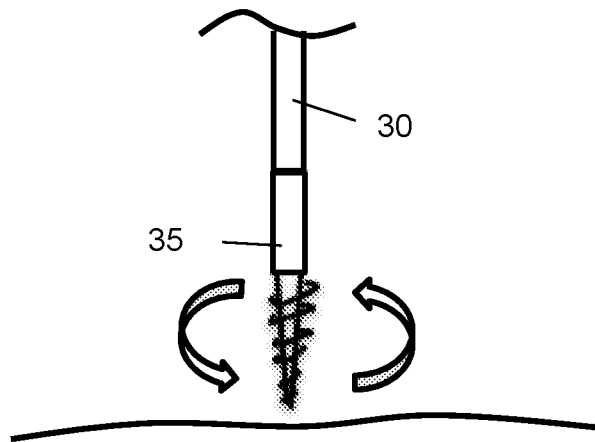


Fig. 10a

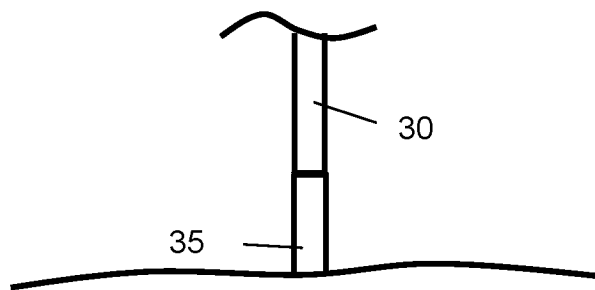


Fig. 10b

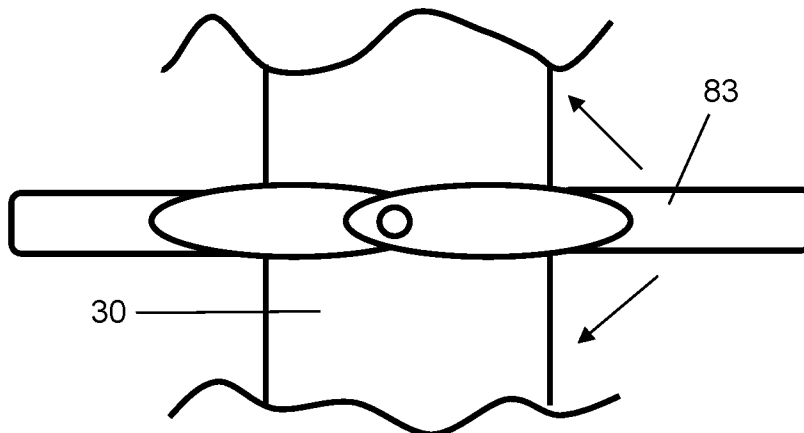


Fig. 10c

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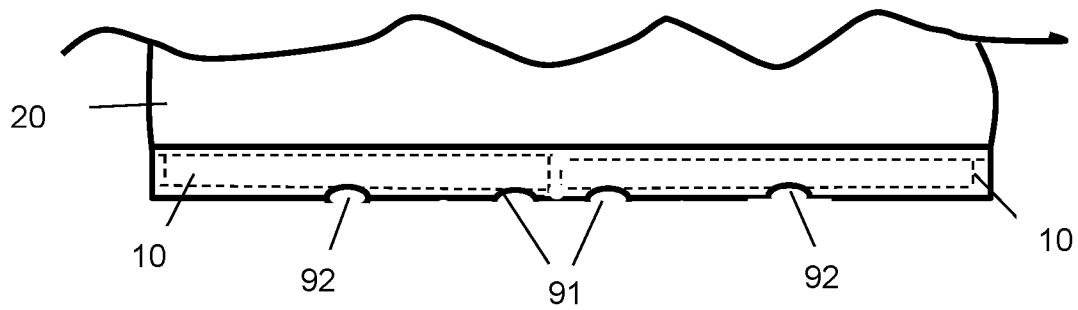


Fig. 10d

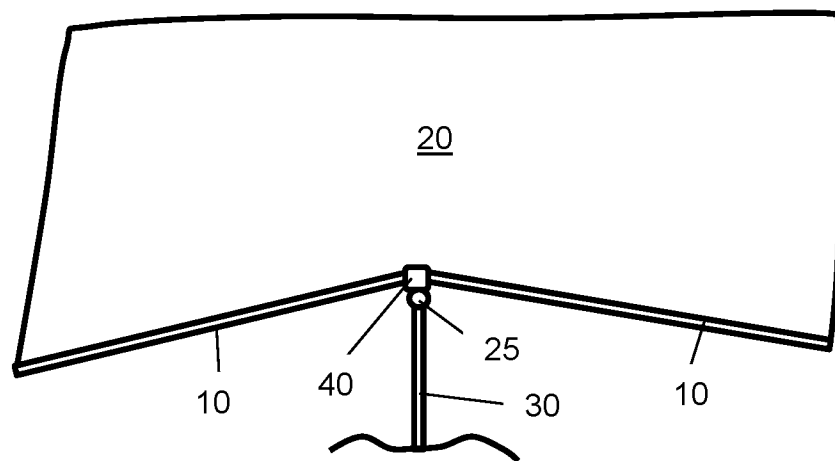


Fig. 10e

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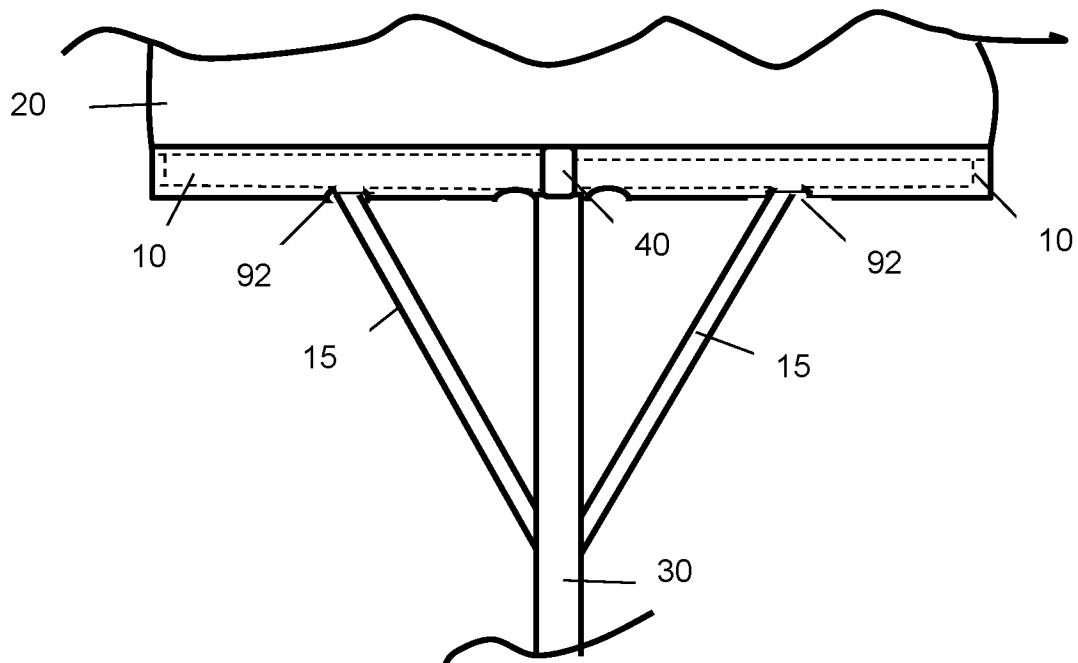


Fig. 10f

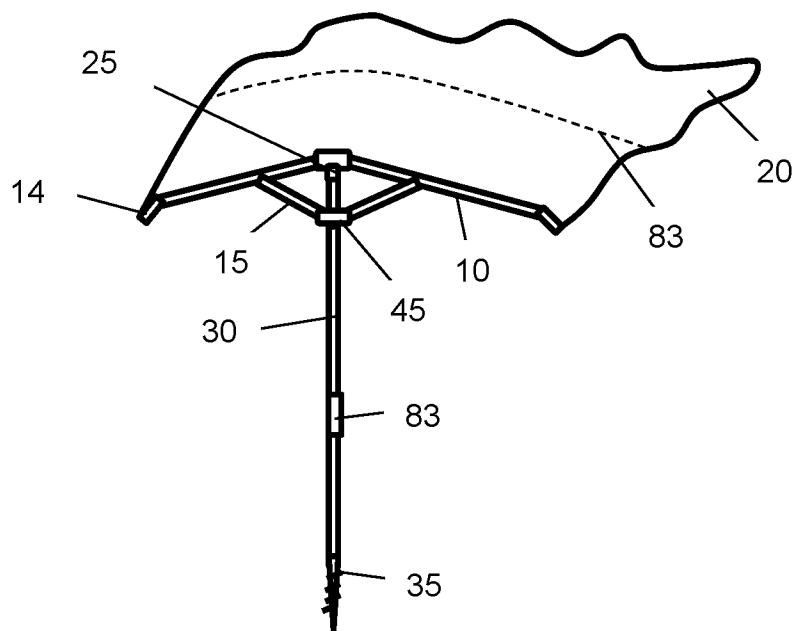


Fig. 10g

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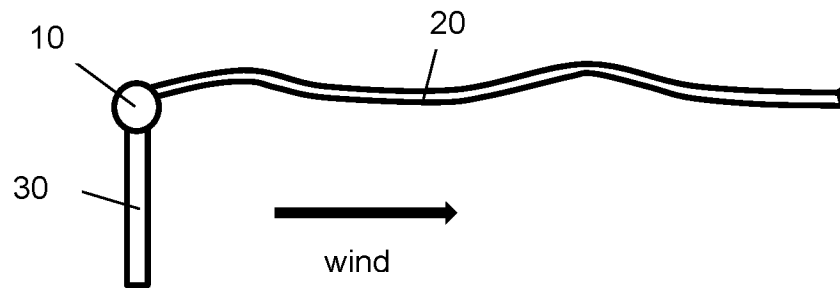


Fig. 10h

Electronic Patent Application Fee Transmittal

Application Number:				
Filing Date:				
Title of Invention:	SELF-ADJUSTING SUN SHADE ASSEMBLY			
First Named Inventor/Applicant Name:	Solbello, Inc.			
Filer:	Ashley Darden Johnson			
Attorney Docket Number:	255/2 PCT			
Filed as Micro Entity				
Filing Fees for International Application (PCT) for filing in the US receiving office				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
TRANSMITTAL FEE	3601	1	60	60
SUPPL. INTL FILING FEE (EACH PAGE > 30)	1703	15	15	225
INTERNATIONAL SEARCH (KIPO)	1709	1	1003	1003
INTL FILING FIRST 30PGS EFS W/ ZIP FILE	1710	1	1136	1136
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				2424

Electronic Acknowledgement Receipt	
EFS ID:	39787665
Application Number:	
International Application Number:	PCT/US20/38920
Confirmation Number:	2697
Title of Invention:	SELF-ADJUSTING SUN SHADE ASSEMBLY
First Named Inventor/Applicant Name:	Solbello, Inc.
Customer Number:	160172
Correspondence Address:	Ashley D. Johnson - 4801 Glenwood Ave., Suite 200 - Raleigh NC 27612 US - ajohnson@dogwood-law.com
Filer:	Ashley Darden Johnson
Filer Authorized By:	
Attorney Docket Number:	255/2 PCT
Receipt Date:	22-JUN-2020
Filing Date:	
Time Stamp:	14:33:33
Application Type:	International Application (PCT) for filing in the US receiving office
Patent Number:	

Payment information:

Submitted with Payment	yes				
Payment Type	CARD				
Payment was successfully received in RAM	\$2424				
RAM confirmation Number	E20206LE33517089				
Deposit Account					
Authorized User					
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:					
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Certification of Micro Entity (Gross Income Basis)	Paul_ME_Status.pdf	640155	no	2
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Warnings:					
Information:					
2	Specification	Solbello_final.pdf	312030	no	25
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Warnings:					
Information:					
3	Drawings-only black and white line drawings	Solbello_figs.pdf	432029	no	17
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Information:					
4	RO/101 - Request form for new IA - Conventional	PCT_REQ.pdf	2027845	no	3
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Information:					

5	Fee Worksheet (SB06)	fee-info.pdf	36478	no	2
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Warnings:					
Information:					
Total Files Size (in bytes):				3448537	
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

TITLE
SELF-ADJUSTING SUN SHADE ASSEMBLY

CROSS REFERENCE TO RELATED APPLICATIONS

5 The present application claims the benefit of U.S. Provisional Patent Application No. 62/892,700, filed August 28, 2019, the entire content of which is incorporated by reference herein.

TECHNICAL FIELD

10 The presently disclosed subject matter is directed to a self-adjusting sun shade assembly and to methods of making and the using the same.

BACKGROUND

15 Beach umbrellas are used to create an area shaded from the sunlight beneath the umbrella canopy. They are particularly useful at the beach where there is generally a lack of trees or roofed structures to provide shade. Because the skin of the beachgoer is largely exposed at the beach, there is a greater need to provide protection from harmful ultraviolet rays, which may cause sunburn or melanomas. Many beachgoers also require some form of shade to minimize heat discomfort. The shade and shelter provided by a beach umbrella is also useful in protecting the user's valuables and shielding perishable items from direct sunlight. Conventional beach umbrellas include a single central support pole with a pointed lower end that is inserted directly into the sand. Conventional umbrellas further include an overhead fabric covering attached to the support pole. However, the main problem with the canopy design of traditional umbrellas is that the position of the umbrella constantly shifts in response to wind gusts. As a result, the user must frequently readjust the umbrella to compensate for the shifts in movement. In addition, conventional umbrellas can easily tip over or be blown down the beach where they can cause hassle to the owner as well as injury to other beachgoers. Conventional umbrellas are also prone to wind breakage. It would therefore be beneficial to provide an umbrella with improved stability in response to the wind blowing. It would further be

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beneficial if the umbrella self-adjusted to the wind to prevent or reduce the likelihood of tipping over.

SUMMARY

In some embodiments, the presently disclosed subject matter is directed to a sun shade assembly (e.g., an assembly that provides shade from the sun). The assembly comprises a pair of ribs defined by a first end and a second end, wherein the first end of each rib is attached to a pivot cap. The assembly further includes a sail with a front edge comprising a channel sized and shaped to house each rib such that the ribs extend across the edge. The assembly includes a mast comprising a first end and a second end, wherein the first end is operably connected to the pivot cap, wherein the pivot cap can freely rotate about the mast. The assembly comprises at least one support arm with a first end and a second end, wherein the first end of the support arm is attached to a rib and the second end of the support arm is attached to a slider configured to move up and down the mast. The assembly comprises a tension adjuster that adjusts rotation of the pivot cap about the mast. The assembly comprises an anchor operably connected to the second end of the mast. The pivot cap, ribs, slider, and support arms are configured to rotate about the mast in response to blowing of the wind.

In some embodiments, the pivot cap rotates about the mast at an angle of about 0-360 degrees. In some embodiments, the pivot cap rotates about a top end of the mast (e.g., is configured to rotate about the top end of the mast).

In some embodiments, the ribs are configured at an angle of greater than 180 degrees relative to each other.

In some embodiments, one face of the pivot cap comprises a lock defined by a bridge comprising an opening and a slidable arm that moves to cover and expose the opening. A portion of sail material can be locked in between the bridge and slidable arm to lock it into position.

In some embodiments, the slider is configured as a collar that fits around the exterior circumference of the mast.

In some embodiments, the mast length is adjustable.

In some embodiments, the anchor is releasably attached to the second end of the mast.

In some embodiments, the anchor comprises an auger. The term “auger” refers to a member in which a spiral vane or multiple parallel vanes are provided about the perimeter of a shaft.

In some embodiments, the tension adjuster is configured to permit the pivot cap, slider, ribs, and support arms to freely rotate about the mast, not rotate about the mast, or any level of rotation therebetween. The pivot cap, slider, ribs, and support arms rotate as a single, attached unit.

In some embodiments, the sail channel comprises one or more apertures to facilitate insertion of the ribs into the channel.

In some embodiments, the sail channel comprises one or more apertures to allow direct contact between each rib and a corresponding support arm.

In some embodiments, the sail has a top face and a bottom face, and wherein the bottom face includes at least one conduit configured as a channel with an open mouth positioned adjacent to the channel, a closed back end, and a length parallel with the length of the sail.

In some embodiments, the sail has a top face and a bottom face and wherein at least one of the top or bottom faces comprises a coating.

In some embodiments, the sail has an opposed rear edge comprising an adjacent hem constructed from a durable material.

In some embodiments, the mast comprises at least one handle.

In some embodiments, the presently disclosed subject matter is directed to a method of using a sunshade. Particularly, the method comprises positioning the anchor of a sun shade assembly in a support surface. The sun shade assembly comprises: a pair of ribs defined by a first end and a second end, wherein the first end of each rib is attached to a pivot cap; a sail with a front edge comprising a channel sized and shaped to house each rib such that the ribs extend across the edge; a mast comprising a first end and a second end, wherein the first end is operably connected to the pivot cap, wherein the pivot cap can freely rotate about the mast; at least one support arm with a first end

and a second end, wherein the first end of the support arm is attached to a rib and the second end of the support arm is attached to a slider configured to move up and down the mast; a tension adjuster that adjusts rotation of the pivot cap about the mast; and an anchor operably connected to the second end of the mast. The method further includes adjusting the tension adjuster to achieve a desired amount of rotation of the pivot cap, ribs, support arms, slider, and sail relative to the non-movable mast. The sun shade assembly self-adjusts in response to the blowing of the wind.

In some embodiments, the tension adjuster can be adjusted to allow the pivot cap, slider, ribs, and support arms to freely rotate about the mast, not rotate about the mast, or any level of rotation therebetween.

In some embodiments, the sail has a top face and a bottom face, and wherein the bottom face includes at least one conduit configured as a channel with an open mouth positioned adjacent to the channel, a closed back end, and a length parallel with the length of the sail.

In some embodiments, one face of the pivot cap comprises a lock defined by a bridge comprising an opening and a slidable arm that moves to cover and expose the opening.

In some embodiments, the sail has an opposed rear edge comprising an adjacent hem constructed from a durable material.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a front plan view of an sun shade assembly in accordance with some embodiments of the presently disclosed subject matter.

5 Fig. 2a is a front plan view of an assembly rib in accordance with some embodiments of the presently disclosed subject matter.

Figs. 2b and 2c are front plan views illustrating the folding of a rib in accordance with some embodiments of the presently disclosed subject matter.

10 Fig. 2d is a front plan view illustrating the angle of separation of two ribs in accordance with some embodiments of the presently disclosed subject matter.

Fig. 2e is a front plan view of folded ribs separated by a pivot cap in accordance with some embodiments of the presently disclosed subject matter.

Fig. 2f is a front plan view illustrating ribs comprising extension in accordance with some embodiments of the presently disclosed subject matter.

5 Fig. 3a is a front plan view of a pivot cap in accordance with some embodiments of the presently disclosed subject matter.

Fig. 3b is a top plan view of a pivot cap in use in accordance with some embodiments of the presently disclosed subject matter.

10 Fig. 3c is a top plan view of a pivot cap comprising a bridge and sliding arm in accordance with some embodiments of the presently disclosed subject matter.

Figs. 3d-3g are side plan view of a pivot cap bridge and arm in use in accordance with some embodiments of the presently disclosed subject matter.

Fig. 4a is a top plan view of a slider configured around a mast in accordance with some embodiments of the presently disclosed subject matter.

15 Fig. 4b is a front plan view of a mast comprising a slider in accordance with some embodiments of the presently disclosed subject matter.

Figs. 4c-4d are front plan views illustrating use of a slider to adjust the position of one or more support arms in accordance with some embodiments of the presently disclosed subject matter.

20 Fig. 5a is a front plan view of a mast in accordance with some embodiments of the presently disclosed subject matter.

Fig. 5b is a front plan view of a pivot cap Fig. 6a is a front plan view of a mast in accordance with some embodiments of the presently disclosed subject matter.

25 Figs. 5c and 5d are side plan views illustrating a telescoping mast in accordance with some embodiments of the presently disclosed subject matter.

Fig. 6 is a perspective view of an anchor in accordance with some embodiments of the presently disclosed subject matter.

Figs. 7a and 7b are cross-sectional views of a tension adjuster in use in accordance with some embodiments of the presently disclosed subject matter.

Fig. 8a is a top plan view of a sail in accordance with some embodiments of the presently disclosed subject matter.

Fig. 8b is a front plan view of a sail in accordance with some embodiments of the presently disclosed subject matter.

5 Fig. 8c is a fragmentary top plan view of a sail channel in accordance with some embodiments of the presently disclosed subject matter.

Fig. 8d is a fragmentary top plan view of a sail channel comprising a plurality of apertures in accordance with some embodiments of the presently disclosed subject matter.

10 Fig. 8e is a perspective view illustrating a sail conduit in accordance with some embodiments of the presently disclosed subject matter.

Fig. 8f is a side plan view of a sail conduit in accordance with some embodiments of the presently disclosed subject matter.

15 Figs. 8g-8i are side plan views of sail conduits in accordance with some embodiments of the presently disclosed subject matter.

Figs. 9a-9c are cross-sectional views of sail coating arrangements in accordance with some embodiments of the presently disclosed subject matter.

20 Fig. 9d is a top plan view of a sail with a rear hem in accordance with some embodiments of the presently disclosed subject matter.

Figs. 10a and 10b illustrate one method of inserting an anchor into a support surface in accordance with some embodiments of the presently disclosed subject matter.

Fig. 10c is a front plan view of mast handles in accordance with some embodiments of the presently disclosed subject matter.

25 Fig. 10d is a fragmentary top plan view of a sail channel comprising ribs in accordance with some embodiments of the presently disclosed subject matter.

Fig. 10e is a front plan view of a sail positioned on ribs and a mast in accordance with some embodiments of the presently disclosed subject matter.

30 Fig. 10f is a front plan view of an assembly with side arms attached to the mast and ribs in accordance with some embodiments of the presently disclosed subject matter.

Fig. 10g is a front plan view of an assembly with a sail extended in the direction of the wind in accordance with some embodiments of the presently disclosed subject matter.

Fig. 10h is a side plan view of a sail extended in the direction of the wind in accordance with some embodiments of the presently disclosed subject matter.

5

DETAILED DESCRIPTION

The presently disclosed subject matter is introduced with sufficient details to provide an understanding of one or more particular embodiments of broader inventive subject matters. The descriptions expound upon and exemplify features of those
10 embodiments without limiting the inventive subject matters to the explicitly described embodiments and features. Considerations in view of these descriptions will likely give rise to additional and similar embodiments and features without departing from the scope of the presently disclosed subject matter.

Unless defined otherwise, all technical and scientific terms used herein have the
15 same meaning as commonly understood to one of ordinary skill in the art to which the presently disclosed subject matter pertains. Although any methods, devices, and materials similar or equivalent to those described herein can be used in the practice or testing of the presently disclosed subject matter, representative methods, devices, and materials are now described.

Following long-standing patent law convention, the terms "a", "an", and "the" refer
20 to "one or more" when used in the subject specification, including the claims. Thus, for example, reference to "a device" can include a plurality of such devices, and so forth. It will be further understood that the terms "comprises," "comprising," "includes," and/or "including" when used herein specify the presence of stated features, integers, steps,
25 operations, elements, and/or components, but do not preclude the presence or addition of one or more other features, integers, steps, operations, elements, components, and/or groups thereof.

Unless otherwise indicated, all numbers expressing quantities of components, conditions, and so forth used in the specification and claims are to be understood as being
30 modified in all instances by the term "about". Accordingly, unless indicated to the

contrary, the numerical parameters set forth in the instant specification and attached claims are approximations that can vary depending upon the desired properties sought to be obtained by the presently disclosed subject matter.

As used herein, the term "about", when referring to a value or to an amount of mass, weight, time, volume, concentration, and/or percentage can encompass variations of, in some embodiments +/-20%, in some embodiments +/-10%, in some embodiments +/-5%, in some embodiments +/-1%, in some embodiments +/-0.5%, and in some embodiments +/-0.1%, from the specified amount, as such variations are appropriate in the disclosed packages and methods.

As used herein, the term "and/or" includes any and all combinations of one or more of the associated listed items.

Relative terms such as "below" or "above" or "upper" or "lower" or "horizontal" or "vertical" may be used herein to describe a relationship of one element, layer, or region to another element, layer, or region as illustrated in the drawing figures. It will be understood that these terms and those discussed above are intended to encompass different orientations of the device in addition to the orientation depicted in the drawing figures.

The embodiments set forth below represent the necessary information to enable those skilled in the art to practice the embodiments and illustrate the best mode of practicing the embodiments. Upon reading the following description in light of the accompanying drawing figures, those skilled in the art will understand the concepts of the disclosure and will recognize applications of these concepts not particularly addressed herein. It should be understood that these concepts and applications fall within the scope of the disclosure and the accompanying claims.

Fig. 1 illustrates one embodiment of sun shade assembly **5**. Particularly, the assembly includes sail **20** that releasably attaches to a pair of ribs **10**, providing shade to the user. At least one support arm **15** can be used to reinforce ribs **10**. Mast **30** provides height to the assembly and includes anchor **35** that allows the assembly to be secured into a support surface (e.g., sand). The ribs and support arms rotate about the mast, thereby self-adjusting the direction of sail **20** in response to the wind blowing, as described

in more detail below. The assembly further includes tension adjuster **25** that can be tightened or loosed to control the rotation of the ribs and support arms in response to wind conditions.

Fig. 2a illustrates one embodiment of rib **10**. As shown, the rib includes first end **11** and second end **12**. In some embodiments, the ribs can each include one or more joints **13** that can be folded, allowing the ribs to be easily stored when not in use, as illustrated in Figs. 2b and 2c. Any mechanism can be used to fold the ribs, such as (but not limited to) hinges, joints, and the like. For example, a living hinge, a barrel hinge, spring hinge, butterfly hinge, flag hinge, H hinge, or any other pivotable member can be used.

The term “living hinge” refers to a hinge integrally formed with two opposite portions of the same material. The term “barrel hinge” refers to a sectional barrel secured by a pivot. The term “spring hinge” refers to a spring-loaded hinge that applies force to secure the hinge in an open or closed configuration. “Butterfly hinge” refers to dovetail or parliament hinges. The term “flag hinge” refers to hinges that can be taken apart with a fixed pin on one leaf, manufactured in a right-hand or left-hand configuration. An “H hinge” refers to a hinge shaped like an “H.”

However, in some embodiments, the ribs are non-foldable and remain in the fully extended state, even during storage.

The ribs can be slightly offset relative to each other (e.g., are not 180 degrees apart). The offset nature allows the ribs to compensate for stretching of the sail. For example, in some embodiments, the angle **16** between ribs **10** can be about 180-300 degrees, as shown in Fig. 2d. Thus, the angle between ribs **10** can be at least/no more than about 180, 185, 190, 195, 200, 205, 210, 215, 220, 225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 285, or 290 degrees. It should be appreciated that angle **16** is not limited and can be larger or smaller than the range set forth herein. The ribs can be fully folded, such as in a storage position, as shown in Fig. 2e.

In some embodiments, rib **10** can include extension **14** as shown in Fig. 2f. The extensions provide a decorative look the assembly when the sail is attached. Each extension can be attached to rib second end **12** using any desired method (e.g., adhesive,

welding, clips, clamps, hinges, screws, bolts, magnets, etc.). It should be appreciated that extension **14** is optional.

Ribs **10** can have any desired length. For example, suitable lengths can include (but are not limited to) about 3-10 feet. Thus, the ribs can have a length of at least about
5 (or no more than about) 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, or 10 feet. However, the presently disclosed subject matter is not limited the length of each rib can be larger or smaller than the range given herein.

The ribs are joined using pivot cap **40**, as illustrated in Fig. 3a. The pivot cap joins ribs **10** and enables rotation of the ribs about mast **30**. Thus, the pivot cap can freely
10 rotate about the mast in response to wind conditions, as discussed in more detail below and as shown in Fig. 3b. The ribs can rotate in a clockwise or counterclockwise direction, depending on the wind direction. It should be appreciated that the ribs can join to pivot cap **40** using any mechanism (e.g., screws, bolts, clips, hinges, welding, adhesive, magnets, and the like).

15 In some embodiments, one face of pivot cap **40** includes bridge **94** comprising opening **93** and slidable arm **95** that can be used to releasably lock the sail into proper position, as shown in Figs. 3c-3e. Particularly, a portion of the sail can be inserted into opening **94**. Arm **95** can then be slid to trap the portion of the sail over the bridge, as shown in Figs. 3f and 3g. Thus, a portion of the sail is trapped between the bridge and
20 the arm. To release the sail, the arm can be slid to expose opening **93**, thereby allowing the sail to be removed. The term “bridge” refers to any device that has a raised portion with an opening configured therein. In some embodiments, the arm can fully surround at least a segment of the raised bridge portion.

As shown in Fig. 4a, the assembly can include one or more support arms **15** that
25 provide stability to the ribs, allowing the assembly to support the sail even in high wind conditions. Each support arm includes first end **16** attached to rib **10** and second end **17** attached to slider **45**. The support arms can be attached to the rib and slider using any known mechanism, such as the use of adhesives, welding, magnets, mechanical elements (screws, bolts, clips), and the like. In some embodiments, the support arms are

hingedly attached to the ribs and/or slider to allow for easy transitioning between positions.

Slider **45** can move along mast **30** to fold or unfold the ribs and support arms. In some embodiments, the slider can be configured as a collar that fits about the outer
5 circumference of mast **30**, as shown in Fig. 4b. The inner circumference of slider **45** is therefore at least slightly larger than the outer circumference of mast **30**. In this way, the slider and support arms can rotate freely about the mast. Particularly, the mast remains in a stationary position, while the slider (and attached support arms and ribs) rotate in response to the wind blowing. The slider can rotate in any direction (e.g., clockwise and
10 counterclockwise).

The slider can include retention element **2** to keep it from sliding down the length of the mast. The retention element can include any device that retains the slider in a desired position on the mast, such as (but not limited to) a removable ledge with an outer circumference larger than the inner circumference of the slider, clips, pins, clasps, and
15 the like. The retention element therefore locks the slider at a desired location along the mast. In this way, the ribs and support arms can be maintained in the open configuration without the slider slipping to a lower position. Likewise, the slider can also be locked in a lower “storage” configuration along the mast (or any location therebetween).

The slider can also be used to fold the ribs and support arms, such as when the
20 assembly is transitioned to a storage configuration (e.g., not in use). When the slider is in an upper position on the mast, the support arms and ribs are unfolded outward and thus sail **20** is unfolded, as shown in Fig. 4a. When the slider moves to a lower position on the mast, the support arms and ribs are folded to the storage position, as shown in Figs 4c and 4d. Therefore, the slider can travel on the mast in an upward direction to
25 extend the ribs and support arms to a fully open configuration. The slider can also move downward along the mast to transition the ribs and support arms into a folded position.

Ribs **10** and support arms **15** can have any desired cross-sectional shape. For example, the ribs and support arms can be configured with a circular, oval, square, rectangular, triangular, pentagonal, hexagonal, octagonal, heart, diamond, or abstract
30 cross-sectional shape.

As set forth above, assembly **5** comprises mast **30** that reinforces ribs **10** and support arms **15**, as well as provides height to the assembly, as shown in Fig. 5a. The mast further provides a base about which the ribs can rotate via pivot cap **40**. The mast includes first end **31** operatively attached to pivot cap **40** and second end **32** attached to anchor **35**. The mast can be permanently or releasably attached to the pivot cap and/or anchor.

The pivot cap is attached to mast first end **31** using any known method. For example, a screw, bolt, or other element **33** can be threaded through the pivot cap, extending into the mast as shown in Fig. 5b. In this way, the pivot cap attaches to the mast and still can rotate freely in a clockwise or counterclockwise direction. The pivot cap can have any desired shape and is not limited to the embodiment shown in Fig. 5b. Attachment of the pivot cap to the mast is further not limited.

Mast **30** includes length **51** that in some embodiments can be adjusted as desired by the user. For example, the mast can include telescoping inner and outer tubes **41**, **42**. The term “telescoping” refers to a mechanical action of at least two longitudinal bodies of congruent cross-sections sliding relative to each other along a common longitudinal axis. As shown in Figs. 5c-5d, inner tube **41** can be at least partially slidably disposed into the interior of outer tube **42**. Specifically, the diameter of the outer tube is larger than the diameter of the inner tube such that the inner tube can be housed within the interior of the outer tube. The mast can include any number of telescoping tubes. A locking pin can pass through one or more holes **43** configured in the outer tube to hold the mast at the desired length. Alternatively, the inner and outer tubes can cooperate with a locking screw to secure the mast height. It should be appreciated that the length of the mast can be locked using any known element, such as friction fit, screw fit, snap-fit, screws, bolts, and the like.

It should further be appreciated that the length of the mast can be adjusted using any known mechanism and is not limited to a telescoping arrangement. For example, the mast can include a plurality of segments that can be added or removed as desired to achieve a suitable height. In other embodiments, the length of mast **30** is not adjustable.

Mast **30** can have any desired cross-sectional shape. For example, the mast can be configured with a circular, oval, square, rectangular, triangular, pentagonal, hexagonal, octagonal, heart, diamond, or abstract cross-sectional shape.

5 Second end **32** of the mast is operatively connected to anchor **35**. The term “anchor” broadly refers to any element that provides weight and/or a mechanism by which to secure assembly **5** into a support surface (e.g., sand). The anchor can be permanently attached to mast **30** using adhesives, welding, and the like. Alternatively, the anchor can be releasably attached to the mast using any of a wide variety of mechanical elements (e.g., screw knob **37**). A releasably attached anchor allows for the replacement of the
10 anchor depending on use conditions (e.g., beach sand versus grass or rock).

Fig. 6 illustrates one embodiment of anchor **35** comprising auger **36** that can be configured as any type of spike, helical corkscrew, or shaft optionally having a threaded portion capable of being turned and embedding itself into a support surface (e.g., sand at a beach). Lower end **38** of the auger can be configured as a spike or pointed end to
15 initiate insertion of the anchor into the support surface. Because auger **36** is inserted into a support surface, it does not rotate and remains in the inserted position until the user desires to remove it. Likewise, the mast does not rotate in response to wind conditions due to its attachment to the anchor.

The disclosed assembly further includes tension adjuster **25** that allows a user to
20 adjust the tension on the pivot cap relative to the mast easily and safely. In this way, a user can alter the amount of rotation ribs **10**, support arms **15** and slider **45** have about mast **30** in response to wind conditions. The tension adjuster can be generally located adjacent to the pivot cap. The tension adjuster is also attached to mast **30** using any known mechanism (e.g., screws, bolts, clips, etc.).

25 As described above, the pivot cap (and attached ribs, slider, and support arms) can freely rotate about the mast in response to the wind blowing. The tension adjuster can be tightened as desired by the user (e.g., when the wind is shifting back and forth) to stop or limit rotation of the pivot cap (and ribs, support arm, and slider) about the mast to maintain a more balanced assembly. For example, in some embodiments, the tension
30 adjuster can be loosened to allow the pivot cap, ribs, support arms, and slider to freely

rotate (e.g., 360 degrees) about the mast. In other embodiments, the pivot cap, ribs, slider, and support arms have a more limited freedom to rotate (e.g., it takes a stronger gust of wind to rotate). In some embodiments, the tension adjuster can be fully tightened such that the ribs, slider, and support arms cannot rotate relative to the mast.

5 Tension adjuster **25** can have any desired configuration that allows a user to control the level of movement of the tension cap relative to the mast. For example, in some embodiments, the tension adjuster can include passageway **60** with actuator **65** (e.g., lever or screw) capable of contacting pivot cap **40**, as shown in Figs. 7a and 7b. Adjusting the actuator through the passageway will increase or decrease the tension on
10 the pivot cap. Specifically, if the actuator is tightened to fully contact the pivot cap, the pivot cap will be incapable of moving relative to the mast. Alternatively, if the actuator is loosened such that it does not fully contact or press against the mast, the pivot cap is free to rotate. Any degree of actuator tightening can therefore adjust the level of pivot cap rotation.

15 The tension adjuster can have any known configuration and is not limited to the embodiment described above. For example, the tension adjuster can apply a force parallel, at an angle, or perpendicular to the tension it creates. The force can be generated by any known method, such as fixed displacement, stretching/compression of a spring, changing the volume of a gas, hydraulic pressure, or gravity. Tension adjuster
20 **25** can therefore include any device that applies a force to create or maintain tension.

 Further, actuator **65** can have any known configuration, such as (but not limited to) a lever, wrench, key, screw, handle, knob, bolt, and the like.

 The ribs, mast, support arms, pivot cap, tension adjuster, and anchor can be constructed from any desired material, such as (but not limited to) metal (e.g., aluminum,
25 steel, brass, stainless steel, copper), plastic, wood, stone, or combinations thereof. In some embodiments, each element is constructed from the same material. In other embodiments, one element can be constructed from a material that differs from at least one other element.

Assembly **5** further includes sail **20** that cooperates with ribs **10**. As shown in Figs. 8a and 8b, the sail can include front edge **61**, rear edge **62**, and a pair of side edges **63**. The sail further includes top face **70** and bottom face **71**.

Front edge **61** comprises channel **65** sized and shaped to house each rib **10**, as shown in Figs. 8c. The front edge can be a straight edge, a curved edge, or have any known configuration. The ribs can be removed from channels **65** if desired by the user (e.g., to repair the sail or replace with a new sail). Channels **65** can be formed in the sail using any known method. For example, in some embodiments, the channel can be formed through sewing, welding, and the like. Such methods are well known in the art.

In some embodiments, each channel includes one or more apertures. For example, each channel can include apertures **91** sized and shaped to allow each rib to be inserted into channel **65**. The channel can further include one or more apertures **92** sized and shaped to allow each support arm to connect with the appropriate rib, as shown in Fig. 8d. Apertures **91**, **92** can have any desired size and/or shape so long as they allow for insertion of a rib and/or connection of a support arm with a rib (e.g., through one or more screws, clips, and/or the like). Further, apertures **91**, **92** can be positioned at any suitable position in the channel.

Optionally, bottom face **71** of the sail can include at least one closed conduit **72** that provides a passageway for the flow of the wind during use. Fig. 8e illustrates one embodiment of conduit **72** comprising open mouth **73** positioned adjacent to the sail front edge, length **74** and closed end **75**. Fig 8f illustrates the flow of wind (represented by the arrows) as it enters open mouth **73**, hits closed end **75** and then exits the open mouth. Conduit **72** provides added support for the sail, preventing or reducing excess flapping in the wind.

In some embodiments, the length of the conduit is the same as the length of the sail (i.e., the conduit extends the full length of the sail). In other embodiments, the conduit is configured to be shorter than the length of the sail, as shown in Figs. 8g and 8h. In some embodiments, the thickness of the conduit can taper as it reaches closed end **75**, as shown in Fig. 8i.

The conduit can have any cross-sectional shape, such as (but not limited to) square, rectangular, circular, oval, triangular, and the like.

In some embodiments, the sail can be formed as a single portion of material. In other embodiments, the sail can be constructed from two or more pieces of material joined
5 together, such as by welding or sewing.

The sail can be configured in any desired shape, such as square, rectangular, rounded, oval, triangular, pentagonal, abstract, and the like. In some embodiments, the sail can include at least one straight edge to accommodate the channel.

The sail can further have any desired dimensions, such as length **77** and/or width
10 **76** of about 3-20 feet (e.g., at least/no more than about 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, or 20 feet). In some embodiments, the sail can have an area of about 10-100 ft² (e.g., at least/no more than about 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, or 100 ft²). However, the sail can be configured with dimensions outside the range given above. The term “length” refers to the distance in the
15 longitudinal direction. The term “width” refers to the dimension perpendicular to the length.

Sail **20** can have any desired thickness, such as about 1 inch or less. Thus, the sail can have a thickness of about 1, 0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1, 0.01, 0.001 inches or less. However, the presently disclosed subject matter is not limited and the sail
20 can have thickness of greater or less than the range given above.

Sail **20** can be constructed from any desired lightweight material. The term “lightweight material” refers to any material that is able to be lifted and carried by the wind (e.g., a wind speed of at least about 2-3 mph). Suitable materials can therefore include (but are not limited to) nylon, polyester, vinyl, rayon, canvas, acrylic fabric, cotton, or
25 combinations thereof.

In some embodiments, the material(s) used to construct the sail can have a UPF (ultraviolet protection coefficient) rating of about 30 or more in accordance with ASTM D6544, incorporated by reference herein.

As shown in the cross-sectional views of Figs. 9a-9c, sail **20** can include coating
30 **21** to reduce the noise level when the sail is moving in the wind. The coating can be

positioned on the sail top and/or bottom surfaces. The coating can span the entire top and/or bottom surface or only a portion thereof.

In addition to coating **21**, the sail can optionally be calendared and/or treated with the application of heat/pressure to aid in the reduction of noise. The term “calendaring” refers to a method of passing the sail between calendar rolls at high temperature and/or pressure.

Coating **21** can comprise any material that would serve to reduce the amount of noise and/or movement of sail **20**. Suitable materials can therefore include (but are not limited to) urethane polyurethane, plastic (e.g., polyethylene), or combinations thereof.

Coating **21** can have any thickness, such as about 0.0001 inches to about 0.1 inches. In some embodiments, the coating can impart a waterproof or water-resistant quality to sail **20**. The term “waterproof” refers to a material that is impervious to water. The term “water-resistant” refers to the ability of a material to resist the entry of water to some degree but not entirely.

In some embodiments, sail **20** can include hem **82** sewn or otherwise applied at or adjacent to rear edge **62**, as shown in Fig. 9d. Hem **82** can be sewn with a durable material (e.g., monofilament nylon thread) to reduce the pliability of the sail, which aids in noise reduction and in the reduction of excess flapping in the wind. In some embodiments, hem **82** is in addition to any rear edge hem used to construct the sail (e.g., the rear edge can include an additional hem). It should be appreciated that hem **82** can be configured at any desired location.

In use, the disclosed umbrella assembly can be used to provide shade to one or more users. Anchor **35** is positioned in a support surface, such as sand at the beach. The anchor can be inserted into the ground using a twisting motion, which allows the auger to be easily buried, as shown in Figs. 10a and 10b. In some embodiments, the mast can be manually rotated to insert the auger into the ground. In other embodiments, mast **30** can include one or more handles **83** that fold out to aid in screwing the auger into the ground, as illustrated in Fig. 10c. In some embodiments, handles **83** can rotate up and down, flush with the mast as shown by the arrows. Thus, the handles fold into the mast when not in use and can be easily folded out when desired to insert the auger into

a support surface. It should be appreciated that the handles can have any desired configuration.

5 Mast **30** can then be extended to a desired length to accommodate one or more users and their belongings. For example, inner and outer tubes **41** and **42** can be adjusted as needed to a desired length. In other embodiments, the mast is of a single length and need only be positioned and attached to the anchor.

10 Ribs **10** can then be inserted into channel **65** of the sail. In some embodiments, each rib is inserted into channel aperture **91** for proper placement in the channel. It should be appreciated that aperture **91** can be positioned at any location in channel **65**. For example, in some embodiments, each aperture **91** is positioned adjacent to the center of the channel (e.g., about 1-10 inches from the center point of the channel). Once the ribs are inserted into channel **65**, apertures **92** are properly positioned to allow support arms **15** to be attached to the ribs, as shown in Fig 10d. Particularly, the apertures provide an opening in the sail to allow the support arms to directly attach to the ribs. In this way, the support arms can be easily attached to the ribs.

20 The sail can then be secured into position via bridge **94** and arm **95** on the pivot cap, as shown in Fig 10e. For example, in some embodiments, the portion of the sail positioned between apertures **91** can be inserted into the bridge opening, and the arm then slid over to trap the sail material in position. In this way, the sail does not significantly shift out of proper position during use.

The support arms can then be attached to the ribs through channel apertures **92**, as shown in Fig. 10f. Any known mechanism to secure the support arms to the ribs can be used. It should be appreciated that the opposing side of the support arms are secured to mast **30**.

25 It should be appreciated that the steps included above can be performed in any order.

If desired by the user, the tension adjuster can be set to lock the position of the ribs (e.g., no movement relative to the mast) or to limit movement. As the wind blows, the sail will move in response, blowing and extending outward providing shade to the

user, as shown in Figs. 10g and 10h. In some embodiments, the sail requires a wind speed of at least 2-3 miles per hour to flap or extend into the wind.

Because the support can rotate and adjust in response to the wind, the assembly has a reduced likelihood of falling over as a result heavy winds and/or when the wind shifts directions. Specifically, when the wind shifts direction, the sail will self-adjust (e.g. the pivot cap, ribs, sail, support arm, and slider rotate about the non-movable mast in response to the wind blowing and changing direction). In addition, because the sail rotates relative to the mast it prevents loosening the auger position and thereby causing failure of the assembly.

The disclosed assembly therefore offers many advantages over prior art systems. For example, because the sail consistently blows in response to the wind, the user's views are not blocked as is common with prior art umbrellas. As a result, users can keep an eye on children and the water at all times.

Further, the disclosed assembly allows the wind to self-adjust the direction of ribs **10** and sail **20**, saving the user the time and hassle of manually adjusting the assembly.

In addition, the assembly frame is designed to not fall over if the wind stops or changes direction by more than 90 degrees.

The frame of the assembly (e.g. mast) does not catch the wind. If the mast falls over, it typically falls straight to the ground and does not tumble down the beach.

The disclosed assembly is capable of being quickly assembled. Users can easily set up the umbrella assembly in about 40 seconds or less. Likewise, the assembly can be quickly and easily disassembled in about 40 seconds or less.

Current assemblies commonly make use of sandbags, requiring users to fill the bags with sand to weigh down the umbrella, which is messy, time consuming, and can be hazardous if no shovel is available. Further, if wet sand is used, it is even more difficult to fill the bags.

Assembly **5** comprises a single mast, so it is universally permitted on beaches where tents are not.

The mast is typically not in the middle of the umbrella sitting area, thereby providing adding convenience to the user.

The disclosed assembly is quiet compared to other umbrellas and sun shades. Specifically, sail **20** does not loudly flap in the wind. Rather the sail stays extended by consistently floating in the direction of the wind.

5 Further, the disclosed system acts as an effective seagull deterrent. Because the sail is constantly changing directions in response to the wind, birds are deterred and tend to keep their distance.

As described above, although several embodiments of the present invention have been described for illustrative purposes, those skilled in the art will appreciate that various modifications, additions, and substitutions are possible without departing from the scope
10 and spirit of the invention as disclosed in the accompanying claims.

CLAIMS

What is claimed is:

1. A sun shade assembly comprising:
 - a pair of ribs defined by a first end and a second end, wherein the first end of each rib is attached to a pivot cap;
 - a sail with a front edge comprising a channel sized and shaped to house each rib such that the ribs extend across the edge;
 - a mast comprising a first end and a second end, wherein the first end is operably connected to the pivot cap, wherein the pivot cap can freely rotate about the mast;
 - at least one support arm with a first end and a second end, wherein the first end of the support arm is attached to a rib and the second end of the support arm is attached to a slider configured to move up and down the mast;
 - a tension adjuster that adjusts rotation of the pivot cap about the mast; and
 - an anchor operably connected to the second end of the mast;
 - wherein the pivot cap, ribs, slider, and support arms are configured to rotate about the mast in response to blowing of the wind.
2. The assembly of claim 1, wherein the pivot cap rotates about the mast at an angle of about 0-360 degrees.
3. The assembly of claim 1, wherein the ribs are configured at an angle of greater than 180 degrees relative to each other.
4. The assembly of claim 1, wherein one face of the pivot cap comprises a lock defined by a bridge comprising an opening and a slidable arm that moves to cover and expose the opening.
5. The assembly of claim 1, wherein the slider is configured as a collar that fits around the exterior circumference of the mast.

6. The assembly of claim 1, wherein the mast length is adjustable.
7. The assembly of claim 1, wherein the anchor is releasably attached to the second end of the mast.
8. The assembly of claim 1, wherein the anchor comprises an auger.
9. The assembly of claim 1, wherein the tension adjuster is configured to permit the pivot cap, slider, ribs, and support arms to freely rotate about the mast, not rotate about the mast, or any level of rotation therebetween.
10. The assembly of claim 1, wherein the sail channel comprises one or more apertures to facilitate insertion of the ribs into the channel.
11. The assembly of claim 1, wherein the sail channel comprises one or more apertures to allow direct contact between each rib and a corresponding support arm.
12. The assembly of claim 1, wherein the sail has a top face and a bottom face, and wherein the bottom face includes at least one conduit configured as a channel with an open mouth positioned adjacent to the channel, a closed back end, and a length parallel with the length of the sail.
13. The assembly of claim 1, wherein the sail has a top face and a bottom face and wherein at least one of the top or bottom faces comprises a coating.
14. The assembly of claim 1, wherein the sail has an opposed rear edge comprising an adjacent hem constructed from a durable material.
15. The assembly of claim 1, wherein the mast comprises at least one handle for gripping the mast.
16. A method of using a sunshade, the method comprising:

positioning the anchor of a sun shade assembly in a support surface, wherein the sun shade assembly comprises:

a pair of ribs defined by a first end and a second end, wherein the first end of each rib is attached to a pivot cap;

a sail with a front edge comprising a channel sized and shaped to house each rib such that the ribs extend across the edge;

a mast comprising a first end and a second end, wherein the first end is operably connected to the pivot cap, wherein the pivot cap can freely rotate about the mast;

at least one support arm with a first end and a second end, wherein the first end of the support arm is attached to a rib and the second end of the support arm is attached to a slider configured to move up and down the mast;

a tension adjuster that adjusts rotation of the pivot cap about the mast; and

an anchor operably connected to the second end of the mast;

adjusting the tension adjuster to achieve a desired amount of rotation of the pivot cap, ribs, support arms, slider, and sail relative to the non-movable mast;

wherein the sun shade assembly self-adjusts in response to the blowing of the wind.

17. The method of claim 16, wherein the tension adjuster can be adjusted to allow the pivot cap, slider, ribs, and support arms to freely rotate about the mast, not rotate about the mast, or any level of rotation therebetween.

18. The method of claim 16, wherein the sail has a top face and a bottom face, and wherein the bottom face includes at least one conduit configured as a channel with an open mouth positioned adjacent to the channel, a closed back end, and a length parallel with the length of the sail.

19. The method of claim 16, wherein one face of the pivot cap comprises a lock defined by a bridge comprising an opening and a slidable arm that moves to cover and expose the opening.
20. The method of claim 16, wherein the sail has an opposed rear edge comprising an adjacent hem constructed from a durable material.

ABSTRACT

The presently disclosed subject matter is directed to a sun shade assembly. Particularly, the assembly includes a sail that releasably attaches to a pair of ribs, providing shade to the user. At least one support arm can be used to reinforce the ribs. A mast provides height to the assembly and includes an anchor that allows the assembly to be secured into a support surface (e.g., sand). The ribs and support arms rotate about the mast, thereby self-adjusting the direction of sail in response to the wind blowing. The assembly further includes a tension adjuster that can be tightened or loosed to control the rotation of the ribs and support arms in response to wind conditions.

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Document Date: 06/22/2020

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REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only

PCT/US20/38920

International Application No.

22 June 2020 (22.06.2020)

International Filing Date

PCT INTERNATIONAL APPLICATION RO/US

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference (if desired) (25 characters maximum)
255/2

Box No. I TITLE OF INVENTION	
SELF-ADJUSTING SUN SHADE ASSEMBLY	
Box No. II APPLICANT ☐ This person is also inventor	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)	Telephone No.
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The priority of the following earlier application(s) is hereby claimed:

Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:		
		national application: country or Member of WTO	regional application: regional Office	international application: receiving Office
item (1) 28/08/2019 28 AUG 2019	62/892700	US		
item (2)				
item (3)				

- ☐ Further priority claims are indicated in the Supplemental Box.

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(a) request form: PCT/RO/101 (including any declarations and supplemental sheets)	3	1. ☐ fee calculation sheet	1
(b) description (excluding any sequence listing part of the description, see (f), below)	20	2. ☐ original separate power of attorney	1
(c) claims	4	3. ☐ original general power of attorney	1
(d) abstract	1	4. ☐ copy of general power of attorney; reference number:	1
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Figure of the drawings which should accompany the abstract:	1	Language of filing of the international application:	English

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Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).

/Ashley D. Johnson/
 Ashley D. Johnson
 U.S. Reg. No. 58482

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1. Date of actual receipt of the purported international application: 22 June 2020 (22.06.2020)	2. Drawings: ☐ received	3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:	☐ not received
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