



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/752,667	09/01/2020	10763777	1000-00632	3794

145438 7590 08/12/2020
KW Law, LLP
6122 N. 7th Street
Suite D
Phoenix, AZ 85014

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Brian Cecil Stearns, Tucson, AZ;
Ecofasten Solar, LLC, Phoenix, AZ;
Douglas Timothy Lounsbury, Moretown, VT;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	16752667
Filing Date	2020-01-26
First Named Inventor	Brian Cecil Stearns
Art Unit	3633
Examiner Name	Stephan, Beth A
Attorney Docket Number	1000-00632

37	20110000526	2011-01-06	West
38	20040251707	2004-12-16	Garska
39	20120073220	2012-03-29	Kobayashi
40	20040065707	2004-04-08	Haagstad
41	20030070368	2003-04-17	Shingleton
42	20030150179	2003-08-14	Moreno
43	20080010915	2008-01-17	Liebendorfer
44	20120102853	2012-05-03	Rizzo
45	20150107168	2015-04-23	Kobayashi
46	20010028179	2010-11-11 10/2001	McPheters et al. Takemoto et al.
47	20110203637	2011-08-25	Patton et al.

Change(s) applied
to document,

/P.P./
7/24/2020

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	16752667
Filing Date	2020-01-26
First Named Inventor	Brian Cecil Stearns
Art Unit	3633
Examiner Name	Stephan, Beth A
Attorney Docket Number	1000-00632

108	8557070		2013-10-15	Stanley	
109	9422957		2016-08-23	Dinh	
110	8448407		2013-05-28	Wiener	
111	3394516		1965-07-06	Taylor et al.	
112	5370202		1994-12-06	Nichols	
113	5425209		1995-06-20	Funaki	
114	4977721		1990-12-18	Blosseville et al.	
115	3678979		1972-07-25	Bjorklumd	
116	8539719		2013-09-24	McPheeters et al.	
117	8250829		2012-08-28	McPheeters et al.	
118	5746029		4096-11-21 05/1998	Ulman	

Change(s) applied
to document,

P.P./
EFS Web 2.1.17
7/27/2020

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.A.S/

FILED VIA EFS WEB

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	: 16/752,667	Confirmation No.	: 3794
First Applicant	: Brian Cecil Stearns	Art Unit	: 3633
Filed	: January 26, 2020	Examiner	: Beth A Stephan
Docket No.	: 1000-00632	Customer No.	: 145438
Title	: ROOF MOUNTING SYSTEM		

STATEMENT ON REASONS FOR ALLOWANCE

Mail Stop Issue Fee
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Applicant acknowledges the Examiner's statements of reasons for allowance of the above referenced patent application and agrees that the claimed subject matter is patentably distinct over the references cited. However, Applicant takes no position regarding the reasons for allowance presented by the Examiner other than the positions Applicant may have previously taken during prosecution. Therefore, the Examiner's reasons for allowance should not be attributed to Applicant as an indication of the basis for Applicant's belief that the claims are patentably distinct. Furthermore, it is respectfully asserted that there may also be additional reasons for patentability of the claimed subject matter not explicitly stated in this record and Applicant does not waive its rights to such arguments by not further addressing such reasons herein.

Respectfully submitted,

Dated: July 22, 2020

By: /Mark Williams/
Mark Williams
Reg. No. 64,425

KW Law, LLP
6122 N. 7th Street, Suite D, Phoenix AZ 85014
Telephone: (602) 609-7328 | E-mail: mark@kwlaw.co

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

145438 7590 07/21/2020
KW Law, LLP
6122 N. 7th Street
Suite D
Phoenix, AZ 85014

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/752,667	01/26/2020	Brian Cecil Stearns	1000-00632	3794

TITLE OF INVENTION: ROOF MOUNTING SYSTEM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$500	\$0.00	\$0.00	\$500	10/21/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
STEPHAN, BETH A	3633	052-173300

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 KW Law, LLP

2

3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

Ecofasten Solar, LLC

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Phoenix, Arizona

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☒ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

☒ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. 602406

5. Change in Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Mark Williams/

Date 22 July 2020

Typed or printed name Mark Williams

Registration No. 64425

Electronic Patent Application Fee Transmittal				
Application Number:		16752667		
Filing Date:		26-Jan-2020		
Title of Invention:		ROOF MOUNTING SYSTEM		
First Named Inventor/Applicant Name:		Brian Cecil Stearns		
Filer:		Mark W. Williams/Sarah Flaaen		
Attorney Docket Number:		1000-00632		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	2501	1	500	500

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				500

Electronic Acknowledgement Receipt	
EFS ID:	40074809
Application Number:	16752667
International Application Number:	
Confirmation Number:	3794
Title of Invention:	ROOF MOUNTING SYSTEM
First Named Inventor/Applicant Name:	Brian Cecil Stearns
Customer Number:	145438
Filer:	Mark W. Williams/Sarah Flaaen
Filer Authorized By:	Mark W. Williams
Attorney Docket Number:	1000-00632
Receipt Date:	22-JUL-2020
Filing Date:	26-JAN-2020
Time Stamp:	14:38:45
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 500
RAM confirmation Number	E20207LE39100694
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	Miscellaneous Incoming Letter	1000-00632_SRA.pdf	75367	no	1
			5a9dec452e75341bb0109da222a4e6e62f39aba3		
Warnings:					
Information:					
2	Issue Fee Payment (PTO-85B)	1000-00632_IPT.pdf	85566	no	1
			7b618ff16cdf3276b009b66a2e9d264abc8f59ff		
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	29869	no	2
			fb22ab4e7b4359da95775c9889ef6a8d99f59296		
Warnings:					
Information:					
Total Files Size (in bytes):			190802		
<p>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.</p> <p><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.</p> <p><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.</p> <p><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.</p>					



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www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

145438 7590 07/21/2020
KW Law, LLP
6122 N. 7th Street
Suite D
Phoenix, AZ 85014

EXAMINER

STEPHAN, BETH A

ART UNIT

PAPER NUMBER

3633

DATE MAILED: 07/21/2020

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/752,667	01/26/2020	Brian Cecil Stearns	1000-00632	3794

TITLE OF INVENTION: ROOF MOUNTING SYSTEM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$500	\$0.00	\$0.00	\$500	10/21/2020

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

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CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

145438 7590 07/21/2020
KW Law, LLP
6122 N. 7th Street
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Phoenix, AZ 85014

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Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/752,667	01/26/2020	Brian Cecil Stearns	1000-00632	3794

TITLE OF INVENTION: ROOF MOUNTING SYSTEM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$500	\$0.00	\$0.00	\$500	10/21/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
STEPHAN, BETH A	3633	052-173300

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☐ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies _____

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

☐ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. Change in Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/752,667	01/26/2020	Brian Cecil Stearns	1000-00632	3794
145438	7590	07/21/2020	EXAMINER	
KW Law, LLP			STEPHAN, BETH A	
6122 N. 7th Street			ART UNIT	
Suite D			PAPER NUMBER	
Phoenix, AZ 85014			3633	

DATE MAILED: 07/21/2020

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 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, Virginia 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.** Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control 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 disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 16/752,667	Applicant(s) Stearns et al.	
	Examiner BETH A STEPHAN	Art Unit 3633	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the after final amendment and Terminal Disclaimer filed 6/17/2020.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are 2-25. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some *c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.


Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)


1. <input type="checkbox"/> Notice of References Cited (PTO-892)	5. <input type="checkbox"/> Examiner's Amendment/Comment
2. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.	6. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance
3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.	7. <input type="checkbox"/> Other _____.
4. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____.	

/BETH A STEPHAN/ Primary Examiner, Art Unit 3633	
---	--

<i>Index of Claims</i> 	Application/Control No. 16/752,667	Applicant(s)/Patent Under Reexamination Stearns et al.
	Examiner BETH A STEPHAN	Art Unit 3633

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS										
<input type="checkbox"/> Claims renumbered in the same order as presented by applicant <input type="checkbox"/> CPA <input checked="" type="checkbox"/> T.D. <input type="checkbox"/> R.1.47										
CLAIM		DATE								
Final	Original	03/05/2020	06/05/2020	07/10/2020						
	1	✓	-	-						
1	2		✓	=						
2	3		✓	=						
3	4		✓	=						
4	5		✓	=						
5	6		✓	=						
6	7		✓	=						
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20	21		✓	=						
21	22		✓	=						
22	23		✓	=						
23	24		✓	=						
24	25		✓	=						

<i>Search Notes</i> 	Application/Control No. 16/752,667	Applicant(s)/Patent Under Reexamination Stearns et al.
	Examiner BETH A STEPHAN	Art Unit 3633

CPC - Searched*		
Symbol	Date	Examiner
E04B 1/66	03/05/2020	BAS
E04D 13/04; 13/10; 13/14; 13/1407	03/05/2020	BAS


CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
52	58	03/05/2020	BAS

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.


Search Notes		
Search Notes	Date	Examiner
EAST text and CPC and USPC	03/05/2020	BAS
Inventor name and assignee check	03/05/2020	BAS
Considered related art(as stated in spec)	03/05/2020	BAS
Forward/back pertinent art	03/05/2020	BAS
updated search	06/05/2020	BAS
updated search	07/10/2020	BAS

/BETH A STEPHAN/ Primary Examiner, Art Unit 3633	
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<i>Search Notes</i> 	Application/Control No. 16/752,667	Applicant(s)/Patent Under Reexamination Stearns et al.
	Examiner BETH A STEPHAN	Art Unit 3633

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
	see attached	07/10/2020	BAS

/BETH A STEPHAN/ Primary Examiner, Art Unit 3633	
---	--

Issue Classification 	Application/Control No. 16/752,667	Applicant(s)/Patent Under Reexamination Stearns et al.
	Examiner BETH A STEPHAN	Art Unit 3633


CPC						
Symbol					Type	Version
H02S	/	20	/	23	F	2014-12-01
E04D	/	13	/	04	I	2013-01-01
F24S	/	25	/	61	I	2018-05-01
E04D	/	13	/	10	I	2013-01-01
E04D	/	13	/	1407	I	2013-01-01
F16B	/	43	/	001	I	2013-01-01
E04B	/	1	/	66	I	2013-01-01
E04D	/	13	/	147	I	2013-01-01
F16B	/	5	/	0258	I	2013-01-01
E04D	/	13	/	14	I	2013-01-01
F24S	/	2025	/	021	A	2018-05-01
Y02B	/	10	/	20	A	2013-01-01
Y02E	/	10	/	47	A	2013-01-01
Y02B	/	10	/	12	A	2013-01-01

CPC Combination Sets					
Symbol		Type	Set	Ranking	Version
/	/				

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	24	
/BETH A STEPHAN/ Primary Examiner, Art Unit 3633	10 July 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1 (prev 2)	8

U.S. Patent and Trademark Office

Part of Paper No.: 20200710

Issue Classification 	Application/Control No. 16/752,667	Applicant(s)/Patent Under Reexamination Stearns et al.
	Examiner BETH A STEPHAN	Art Unit 3633


INTERNATIONAL CLASSIFICATION			
CLAIMED			
E04D		13	04

NON-CLAIMED			

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	24	
/BETH A STEPHAN/ Primary Examiner, Art Unit 3633	10 July 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1 (prev 2)	8

Issue Classification 	Application/Control No. 16/752,667	Applicant(s)/Patent Under Reexamination Stearns et al.
	Examiner BETH A STEPHAN	Art Unit 3633

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant <input type="checkbox"/> CPA <input checked="" type="checkbox"/> T.D. <input type="checkbox"/> R.1.47															
CLAIMS															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
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1	2	10	11	19	20										
2	3	11	12	20	21										
3	4	12	13	21	22										
4	5	13	14	22	23										
5	6	14	15	23	24										
6	7	15	16	24	25										
7	8	16	17												
8	9	17	18												

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 24	
/BETH A STEPHAN/ Primary Examiner, Art Unit 3633 (Primary Examiner) _____ (Date) 10 July 2020		O.G. Print Claim(s) 1 (prev 2)	O.G. Print Figure 8

EAST Search History

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L4	145	E04D13/04.cpc.	US-PGPUB; USPAT	OR	OFF	2020/07/10 11:02
L5	38	4 and roof and seal and bracket	US-PGPUB; USPAT	OR	ON	2020/07/10 11:03
L10	2,473	H02S20/23.cpc.	US-PGPUB; USPAT	OR	ON	2020/07/10 11:07
L11	364	10 and roof and seal and bracket	US-PGPUB; USPAT	OR	ON	2020/07/10 11:07
L12	352	10 and roof and seal and bracket and mount\$3	US-PGPUB; USPAT	OR	ON	2020/07/10 11:07
L16	206	12 and rubber	US-PGPUB; USPAT	OR	ON	2020/07/10 11:12
L17	192	12 and compress\$3	US-PGPUB; USPAT	OR	ON	2020/07/10 11:12
L18	14	10 and roof and rubber adj seal and bracket and mount\$3	US-PGPUB; USPAT	OR	ON	2020/07/10 11:13
L19	148	17 and flashing	US-PGPUB; USPAT	OR	ON	2020/07/10 11:13
L22	75	19 and inhibit\$3	US-PGPUB; USPAT	OR	ON	2020/07/10 11:14

7/10/2020 11:34:41 AM

C:\Users\bstephan\Documents\EAST\Workspaces\16752667.wsp



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

BIB DATA SHEET

CONFIRMATION NO. 3794

SERIAL NUMBER	FILING or 371(c) DATE RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.		
16/752,667	01/26/2020	052	3633	1000-00632		
APPLICANTS Ecofasten Solar, LLC, Phoenix, AZ; INVENTORS Brian Cecil Stearns, Tucson, AZ; Douglas Timothy Lounsbury, Moretown, VT; ** CONTINUING DATA ***** This application is a CON of 16/051,479 07/31/2018 PAT 10594251 which is a CON of 15/942,265 03/30/2018 PAT 10218304 which is a CON of 15/711,745 09/21/2017 PAT 10090801 which is a CON of 15/461,166 03/16/2017 PAT 9793853 which is a CON of 15/229,974 08/05/2016 PAT 9774292 which is a CON of 15/003,472 01/21/2016 PAT 9422723 and is a CON of 14/813,199 07/30/2015 PAT 9422721 and said 15/003,472 01/21/2016 is a CON of 14/253,687 04/15/2014 PAT 9127464 which is a CON of 13/271,650 10/12/2011 PAT 8701354 which is a CON of 13/166,542 06/22/2011 PAT 8146299 which is a CON of 12/914,209 10/28/2010 PAT 8209914 which is a CIP of 12/727,726 03/19/2010 PAT 8153700 which claims benefit of 61/161,668 03/19/2009 and said 12/914,209 10/28/2010 claims benefit of 61/298,101 01/25/2010 and claims benefit of 61/345,885 05/18/2010 and said 15/003,472 01/21/2016 is a CON of 14/813,199 07/30/2015 PAT 9422721 which is a CON of 14/235,687 01/28/2014 PAT 9414793 and said 13/271,650 10/12/2011 is a CON of 12/914,209 10/28/2010 PAT 8209914 and said 14/813,199 07/30/2015 is a CON of 14/253,687 04/15/2014 PAT 9127464 and said 13/271,650 10/12/2011 is a CIP of 13/166,378 06/22/2011 PAT 8151522 which is a CON of 12/727,726 03/19/2010 PAT 8153700 and said 13/271,650 10/12/2011 is a CIP of 12/727,726 03/19/2010 PAT 8153700 ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED *** SMALL ENTITY ** 02/12/2020						
Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Verified and Acknowledged <u>/BETH A STEPHAN/</u> Examiner's Signature		<input type="checkbox"/> Met after Allowance Initials	STATE OR COUNTRY AZ	SHEETS DRAWINGS 57	TOTAL CLAIMS 1	INDEPENDENT CLAIMS 1

ADDRESS KW Law, LLP 6122 N. 7th Street Suite D Phoenix, AZ 85014 UNITED STATES		
TITLE ROOF MOUNTING SYSTEM		
FILING FEE RECEIVED 2150	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees
		<input type="checkbox"/> 1.16 Fees (Filing)
		<input type="checkbox"/> 1.17 Fees (Processing Ext. of time)
		<input type="checkbox"/> 1.18 Fees (Issue)
		<input type="checkbox"/> Other _____
		<input type="checkbox"/> Credit

OK TO ENTER: /B.A.S/

07/10/2020

FILED VIA EFS WEB

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

First Named			
Inventor:	Brian C. Stearns	Docket No.:	1000-00632
Serial No.:	16/752,667	Examiner:	Beth Stephan
Filed:	January 26, 2020	Group Art Unit:	3633
Title:	ROOF MOUNTING SYSTEM	Confirmation No.:	3794

AMENDMENT AND REPLY

Mail Stop AF
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Dear Commissioner:

Applicant replies to the final Office Action filed on June 10, 2020, so please amend the above-identified application as follows:

Amendments to the Claims begin on page 2.

Remarks/Arguments begin on page 6.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	17	"10594251"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/10 10:41
L2	1	("8151522").PN.	USPAT; USOCR	OR	OFF	2020/07/10 10:48
L3	625	E04D13/04.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/07/10 10:53
L6	49	3 and roof and seal and bracket	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/10 11:03
L8	10,703	H02S20/23.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/10 11:06
L9	400	8 and roof and seal and bracket	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/10 11:07
L13	383	9 and mount\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/10 11:07
L14	15	8 and roof and rubber adj seal and bracket	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/10 11:12
L15	208	9 and mount\$3 and compress\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/10 11:12
L20	159	15 and flashing	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/10 11:13
L21	79	20 and inhibit\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/07/10 11:13

7/10/2020 11:34:34 AM

C:\Users\bstephan\Documents\EAST\Workspaces\16752667.wsp

Doc Code: DIST.E.FILE Document Description: Electronic Terminal Disclaimer - Filed		PTO/SB/26 U.S. Patent and Trademark Office Department of Commerce
Electronic Petition Request	TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT	
Application Number	16752667	
Filing Date	26-Jan-2020	
First Named Inventor	Brian Stearns	
Attorney Docket Number	1000-00632	
Title of Invention	ROOF MOUNTING SYSTEM	
<input checked="" type="checkbox"/> Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action <input checked="" type="checkbox"/> This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.		
Owner	Percent Interest	
Ecofasten Solar, LLC	100%	
<p>The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)</p> <p>8151522</p> <p>as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.</p> <p>In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:</p> <ul style="list-style-type: none"> - expires for failure to pay a maintenance fee; - is held unenforceable; - is found invalid by a court of competent jurisdiction; - is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321; - has all claims canceled by a reexamination certificate; - is reissued; or - is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer. <p><input checked="" type="radio"/> Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.</p>		

<input type="radio"/> I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.	
Applicant claims the following fee status: <input checked="" type="radio"/> Small Entity <input type="radio"/> Micro Entity <input type="radio"/> Regular Undiscounted	
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.	
THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES I certify, in accordance with 37 CFR 1.4(d)(4) that I am: <input checked="" type="radio"/> An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application Registration Number <u>64425</u> <input type="radio"/> A sole inventor <input type="radio"/> A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application <input type="radio"/> A joint inventor; all of whom are signing this request	
Signature	/Mark Williams/
Name	Mark Williams

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
 Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Electronic Patent Application Fee Transmittal				
Application Number:		16752667		
Filing Date:		26-Jan-2020		
Title of Invention:		ROOF MOUNTING SYSTEM		
First Named Inventor/Applicant Name:		Brian Cecil Stearns		
Filer:		Mark W. Williams		
Attorney Docket Number:		1000-00632		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
STATUTORY OR TERMINAL DISCLAIMER	2814	1	160	160
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 (\$)				160

Doc Code: DISQ.E.FILE

Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 16752667

Filing Date: 26-Jan-2020

Applicant/Patent under Reexamination: Stearns

Electronic Terminal Disclaimer filed on June 17, 2020

☒ APPROVED

This patent is subject to a terminal disclaimer

☐ DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

Electronic Acknowledgement Receipt	
EFS ID:	39753020
Application Number:	16752667
International Application Number:	
Confirmation Number:	3794
Title of Invention:	ROOF MOUNTING SYSTEM
First Named Inventor/Applicant Name:	Brian Cecil Stearns
Customer Number:	145438
Filer:	Mark W. Williams
Filer Authorized By:	
Attorney Docket Number:	1000-00632
Receipt Date:	17-JUN-2020
Filing Date:	26-JAN-2020
Time Stamp:	20:27:12
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$160
RAM confirmation Number	E20206GK27096556
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	Terminal Disclaimer-Filed (Electronic)	eTerminal-Disclaimer.pdf	33443	no	2
			4cf1b165f88ba5ee9ccf9e93aa691bc7c5a68bd1		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30096	no	2
			0a1773c7898aaf936a30f99be09c3e670d8fae36		
Warnings:					
Information:					
Total Files Size (in bytes):			63539		
<p>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.</p> <p><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.</p> <p><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.</p> <p><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.</p>					

FILED VIA EFS WEB

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

First Named Inventor:	Brian C. Stearns	Docket No.:	1000-00632
Serial No.:	16/752,667	Examiner:	Beth Stephan
Filed:	January 26, 2020	Group Art Unit:	3633
Title:	ROOF MOUNTING SYSTEM	Confirmation No.:	3794

AMENDMENT AND REPLY

Mail Stop AF
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Dear Commissioner:

Applicant replies to the final Office Action filed on June 10, 2020, so please amend the above-identified application as follows:

Amendments to the Claims begin on page 2.

Remarks/Arguments begin on page 6.

Amendments to Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Cancelled)
2. (Currently Amended) A roof mount assembly comprising:
 - a flashing ~~supportable on a roof substrate, the flashing~~ including a top surface, a bottom surface ~~adjacent an upper surface of the roof substrate,~~ and an upwardly extending projection with the flashing defining a first aperture extending through the upwardly extending projection between the top surface and the bottom surface;
 - a preformed rubber seal including a first end portion forming a first circular disk having a first planar end surface, a second end portion forming a second circular disk having a second planar end surface, and a central portion between the first end portion and the second end portion, the preformed rubber seal defining a cylindrical second aperture centrally located in the preformed rubber seal and extending from the first planar end surface to the second planar end surface;
 - an L-shaped bracket supportable on the flashing, the L-shaped bracket including an elongate body portion defining a third aperture and a flange defining a fourth aperture sized to receive the preformed rubber seal and the upwardly extending projection, the fourth aperture including a first aperture portion having a first cylindrical shape and defining a first diameter and a second aperture portion having a second cylindrical shape and defining a second diameter that is less than the first diameter;
 - a washer including a polymeric compression portion and a rigid backing portion and defining a fifth aperture; and
 - a screw including a head and extending through the first aperture, the cylindrical second aperture, the fourth aperture, and the fifth aperture, ~~and into the roof substrate and a rafter~~ to secure the L-shaped bracket and the flashing ~~to the roof substrate~~ and inhibit fluid flow through the first aperture.
3. (Previously Presented) The roof mount assembly of claim 2, wherein the cylindrical second aperture is normal to the first planar end surface and the second planar end surface.
4. (Previously Presented) The roof mount assembly of claim 2, wherein the third aperture of the L-shaped bracket is sized to receive a second fastener to support a solar panel.

5. (Previously Presented) The roof mount assembly of claim 2, wherein the polymeric compression portion is compressed between the head of the screw and the flange.
6. (Previously Presented) The roof mount assembly of claim 2, wherein a portion of the preformed rubber seal is compressed between the flange of the L-shaped bracket and the upwardly extending projection of the flashing.
7. (Currently Amended) A roof mount assembly comprising:
- a flashing ~~supportable on a roof substrate, the flashing~~ including a top surface, a bottom surface ~~adjacent an upper surface of the roof substrate~~, and an upwardly extending projection defining a first aperture extending through the top surface and the bottom surface;
 - a preformed rubber seal including a first end portion forming a first circular disk having a first planar end surface, a second end portion forming a second circular disk having a second planar end surface, and a central portion between the first end portion and the second end portion, the preformed rubber seal defining a cylindrical second aperture centrally located in the preformed rubber seal and extending ~~[[and]]~~ from the first planar end surface to the second planar end surface;
 - a bracket supportable on the flashing, the bracket including a planar first end, a first arm, a second arm, and a planar second end, the planar first end defining a third aperture, the third aperture including a first aperture portion having a first cylindrical shape and defining a first diameter and a second aperture portion having a second cylindrical shape and defining a second diameter that is less than the first diameter, the bracket defining a bracket aperture bound by the planar first end, the first arm, the second arm, and the planar second end;
 - a washer including a polymeric compression portion and a rigid backing portion and defining a fourth aperture; and
 - a screw including a head and extending through the first aperture, the cylindrical second aperture, the third aperture, and the fourth aperture, ~~and into the roof substrate and a rafter~~ to secure the bracket and the flashing ~~to the roof substrate~~, and to couple the bracket, the preformed rubber seal and the flashing as an assembly, and to inhibit fluid flow through the first aperture.
8. (Previously Presented) The roof mount assembly of claim 7, wherein the planar second end is configured to support a second assembly and a solar panel.
9. (Previously Presented) The roof mount assembly of claim 7, wherein the polymeric compression portion is compressed between the head of the screw and the bracket.

10. (Previously Presented) The roof mount assembly of claim 7, wherein the cylindrical second aperture is normal to the first planar end surface and the second planar end surface.

11. (Previously Presented) A roof mount assembly comprising:

a flashing including a top surface, a bottom surface, and an upwardly extending projection defining a first aperture;

a rubber seal including a first end portion, a second end portion and a central portion between the first and second end portions, the rubber seal defining a cylindrical second aperture through the first end portion, the second end portion, and the central portion, the cylindrical second aperture being normal to a first outside surface of the first end portion and a second end surface of a second end portion;

a bracket including a body portion and a flange portion, the flange portion defining a third aperture sized to receive the rubber seal and the upwardly extending projection

a washer including a polymeric portion and a rigid backing portion and defining a fourth aperture; and

a fastener extending through the first aperture, the cylindrical second aperture, the third aperture, and the fourth aperture to couple the bracket, the rubber seal, and the flashing as an assembly,

wherein the assembly inhibits flow of fluid through the first aperture.

12. (Previously Presented) The roof mount assembly of claim 11, wherein the body portion of the bracket includes a fifth aperture sized to receive a second fastener to support a solar panel.

13. (Previously Presented) The roof mount assembly of claim 11, wherein the polymeric portion is compressed between the fastener and the bracket.

14. (Previously Presented) The roof mount assembly of claim 11, wherein the first end portion of the rubber seal forms a circular disc.

15. (Previously Presented) The roof mount assembly of claim 11, wherein the bracket is L-shaped.

16. (Previously Presented) The roof mount assembly of claim 11, wherein the rubber seal is factory-installed.

17. (Previously Presented) A roof mount assembly comprising:

a flashing including a top surface, a bottom surface, an upwardly extending projection, the upwardly extending projection defining a first aperture;

a rubber seal including a first end portion, a second end portion and a central portion between the first and second end portions, the rubber seal defining a cylindrical second aperture through the first end portion, the second end portion, and the central portion;

a bracket supportable on the flashing, the bracket including a first end, a first arm, a second arm, and a second end, the first end defining a third aperture, the third aperture including a first aperture portion and defining a first diameter and a second aperture portion defining a second diameter that is less than the first diameter, the bracket defining a bracket aperture bound by the first end, the first arm, the second arm, and the second end;

a washer including a polymeric portion and a rigid backing portion and defining a fourth aperture; and

a fastener extending through the first aperture, the cylindrical second aperture, the third aperture, and the fourth aperture to couple the bracket, the rubber seal, and the flashing to form an assembly,

wherein the assembly inhibits flow of fluid through the first aperture.

18. (Previously Presented) The roof mount assembly of claim 17, wherein the polymeric portion is compressed between the fastener and the bracket.

19. (Previously Presented) The roof mount assembly of claim 17, wherein a portion of the rubber seal is compressed between the bracket and the flashing.

20. (Previously Presented) The roof mount assembly of claim 17, wherein the rubber seal and the washer inhibit entry of water to a roof substrate.

21. (Previously Presented) The roof mount assembly of claim 17, wherein the second end is configured to support a second assembly and a solar panel.

22. (Previously Presented) The roof mount assembly of claim 17, wherein the cylindrical second aperture is sized to receive the fastener.

23. (Previously Presented) The roof mount assembly of claim 17, wherein the rubber seal is installable within the assembly without the fastener.

24. (Previously Presented) The roof mount assembly of claim 17, wherein the rubber seal is factory-installed within the assembly.

25. (Previously Presented) The roof mount assembly of claim 17, wherein the cylindrical second aperture has a smooth surface.

REMARKS

This Paper is considered fully responsive to the Office Action mailed on June 10, 2020. The Office rejects all pending claims 2-25. Applicant asserts that the application is in condition for allowance and reconsideration of the pending claims is requested.

Rejections Under 35 USC 112

The Office rejects claims 2-10 under 35 USC 112 as being indefinite. Applicant respectfully disagree; however, for the sake of compact prosecution, Applicant amends certain pending claims to clarify the patentable aspects.

Double Patenting

The Examiner rejects claims 2-25 based on nonstatutory double patenting as being upatentable over claims 22-33 of U.S. Patent No. 8,151,522. Applicant respectfully disagrees, but to expedite prosecution, Applicant files a Terminal Disclaimer.

Applicant respectfully request allowance of all pending claims 2-25.

The claims of the present application are different and possibly broader than the claims pursued in the parent or related applications. To the extent any amendments or characterizations of the scope of any claim or referenced art could be construed as a disclaimer of any subject matter supported by the present disclosure, Applicants hereby rescind and retract such disclaimer. Accordingly, the references construed in the parent or related applications may need to be revisited.

Applicants respectfully submit that the pending claims are in condition for allowance. If an extension of time is necessary, please accept this as a petition therefore. The Commissioner is hereby authorized to charge any fees which may be required or credit any overpayment to Deposit Account 602406. Applicants invite the Office to telephone the undersigned if the Examiner has any questions regarding this Reply or the present application in general.

Respectfully submitted,

Dated: June 17, 2020

By: /Mark Williams/
Mark Williams
Reg. No. 64,425

KW Law LLP
6122 N. 7th Street, Suite D, Phoenix AZ 85014
Phone: 602-300-7758 | Email: mark@kwlaw.co

Electronic Acknowledgement Receipt	
EFS ID:	39753011
Application Number:	16752667
International Application Number:	
Confirmation Number:	3794
Title of Invention:	ROOF MOUNTING SYSTEM
First Named Inventor/Applicant Name:	Brian Cecil Stearns
Customer Number:	145438
Filer:	Mark W. Williams
Filer Authorized By:	
Attorney Docket Number:	1000-00632
Receipt Date:	17-JUN-2020
Filing Date:	26-JAN-2020
Time Stamp:	20:24:19
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		1000-00632_RFOA_06102020.pdf	148288	yes	6
			5aa9b22e2355aefa8fc5511555b4da4707ea0e01		

Multipart Description/PDF files in .zip description			
Document Description		Start	End
Applicant Arguments/Remarks Made in an Amendment		1	1
Claims		2	5
Applicant Arguments/Remarks Made in an Amendment		6	6

Warnings:

Information:

Total Files Size (in bytes):	148288
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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.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 16/752,667		Filing Date 01/26/2020		<input type="checkbox"/> To be Mailed		
ENTITY: <input type="checkbox"/> LARGE <input checked="" type="checkbox"/> SMALL <input type="checkbox"/> MICRO										
APPLICATION AS FILED - PART I										
		(Column 1)	(Column 2)							
FOR		NUMBER FILED	NUMBER EXTRA	RATE (\$)		FEE (\$)				
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A	N/A	N/A						
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))		N/A	N/A	N/A						
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A	N/A	N/A						
TOTAL CLAIMS (37 CFR 1.16(j))		minus 20 =	*	x \$50 =						
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 =	*	x \$230 =						
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).								
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL						
APPLICATION AS AMENDED - PART II										
		(Column 1)	(Column 2)	(Column 3)						
AMENDMENT	06/17/2020	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)			
	Total (37 CFR 1.16(i))	* 24	Minus	** 24	= 0	x \$50 =		0		
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 4	= 0	x \$230 =		0		
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))									
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
					TOTAL ADD'L FEE		0			
AMENDMENT		(Column 1)	(Column 2)	(Column 3)						
		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)			
	Total (37 CFR 1.16(i))	*	Minus	**	=	x \$0 =				
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x \$0 =				
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))									
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
					TOTAL ADD'L FEE					
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.					LIE					
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".					/BURNELL L ROSS/					
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".										
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.										

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 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.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/752,667	01/26/2020	Brian Cecil Stearns	1000-00632	3794
145438	7590	06/10/2020	EXAMINER	
KW Law, LLP 6122 N. 7th Street Suite D Phoenix, AZ 85014			STEPHAN, BETH A	
			ART UNIT	PAPER NUMBER
			3633	
			NOTIFICATION DATE	DELIVERY MODE
			06/10/2020	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket@kwlaw.co
mark@kwlaw.co
uspto@dockettrak.com

Office Action Summary	Application No. 16/752,667	Applicant(s) Stearns et al.	
	Examiner BETH A STEPHAN	Art Unit 3633	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/1/2020.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 2-25 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 2-25 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some** c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date 4/1/2020.
- 3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 4) ☐ Other: ____.

Notice of Pre-AIA or AIA Status

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

This is a final office action in response to the amendment filed 4/1/2020.

Claim 1 is canceled and claims 2-25 added.

Claims 2-25 are pending and examined.

Information Disclosure Statement

The information disclosure statements (IDS) submitted on 4/1/2020 are being considered by the examiner. Any lined thru document is undated and not considered.

Claim Rejections - 35 USC § 112

The following is a quotation of 35 U.S.C. 112(b):

(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-10 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

In claims 2 and 7, lines 2-3, “a bottom surface adjacent an upper surface of the roof substrate” is not clear if the roof substrate is part of the claim invention to not.

In claims 2 and 7, lines 19-20, “a screw ... extending through ... and into the roof substrate and a rafter” is not clear if the roof substrate and rafter are part of the claim invention to not.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a

result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP §§ 706.02(I)(1) - 706.02(I)(3) for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

Claims 2-25 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 22-33 of U.S. Patent No. 8,151,522.

8,151,522 discloses a roof mount assembly having a flashing having a protrusion and aperture, a preformed seal having an aperture(see claims 22 and 30, the seal has first and second spaced surfaces with a circular shape, a central portion is inherently between the surfaces and is considered to meet the claim limitation), a bracket having an aperture with differing diameters, a washer, and a fastener/bolt extending thru apertures in the flashing, seal and bracket and roof substrate(see at least claim 22).

8,151,522 lacks the specific seal and washer material, and bracket and fasteners used.

Applicant's disclosure lends no criticality to the specific seal and washer material and fastener used(see paras. [0120], [0125], [0132], [0133], [0145], [0146], [0187] and [0217]).

The specific seal, fastener and washer used are considered features best determined by a skilled artisan.

The bracket of 8,151,522 defines a first surface and a spaced second surface. This orientation is considered an L shaped bracket. Also, the use of a bracket having an aperture enclosed by legs/arms of the bracket is considered well within the purview of a skilled artisan to further add support to the roof mount assembly given the intended use and structural requirements thereof.

Response to Amendment

Applicant's amendment has overcome the previous rejections.

Response to Arguments

Applicant's arguments have been considered.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BETH A. STEPHAN whose telephone number is (571)272-1851. The examiner can normally be reached on M-F 7a-1p.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Glessner can be reached on 571-272-6754. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <https://ppair-my.uspto.gov/pair/PrivatePair>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BETH A. STEPHAN
Primary Examiner
Art Unit 3633

/Beth A Stephan/

<i>Search Notes</i> 	Application/Control No. 16/752,667	Applicant(s)/Patent Under Reexamination Stearns et al.
	Examiner BETH A STEPHAN	Art Unit 3633

CPC - Searched*		
Symbol	Date	Examiner
E04B 1/66	03/05/2020	BAS
E04D 13/04; 13/10; 13/14; 13/1407	03/05/2020	BAS

CPC Combination Sets - Searched*		
Symbol	Date	Examiner


US Classification - Searched*			
Class	Subclass	Date	Examiner
52	58	03/05/2020	BAS

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
EAST text and CPC and USPC	03/05/2020	BAS
Inventor name and assignee check	03/05/2020	BAS
Considered related art(as stated in spec)	03/05/2020	BAS
Forward/back pertinent art	03/05/2020	BAS
updated search	06/05/2020	BAS

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

/B.A.S/ Primary Examiner, Art Unit 3633	
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<i>Index of Claims</i> 	Application/Control No. 16/752,667	Applicant(s)/Patent Under Reexamination Stearns et al.
	Examiner BETH A STEPHAN	Art Unit 3633

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS									
<input type="checkbox"/> Claims renumbered in the same order as presented by applicant <input type="checkbox"/> CPA <input type="checkbox"/> T.D. <input type="checkbox"/> R.1.47									
CLAIM		DATE							
Final	Original	03/05/2020	06/05/2020						
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	2		✓						
	3		✓						
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	24		✓						
	25		✓						

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)

Approved for use through 07/31/2012. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	16752667
	Filing Date	2020-01-26
	First Named Inventor	Brian Cecil Stearns
	Art Unit	3633
	Examiner Name	Stephan, Beth A
	Attorney Docket Number	1000-00632

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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.						T ⁵

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Examiner Name	Stephan, Beth A
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1	International Search Report and Written Opinion for Application No. PCT/US2012/033764 dated October 10, 2012 (8 pages)
2	MacDonald, "Inspecting the Scaffold" and Protective Roofing Products LTD. Advertisement (available at least as early as October 20, 2011), Roofing Contractor 6.00.
3	Non-Final Office Action, U.S. Patent Application No. 12/727,726, mailed September 16, 2011
4	Non-Final Office Action, U.S. Patent Application No. 12/914,209, mailed September 20, 2011
5	Non-Final Office Action, U.S. Patent Application No. 13/166,378, mailed September 19, 2011
6	Non-Final Office Action, U.S. Patent Application No. 13/166,542, mailed September 16, 2011
7	Office Action from the United States Patent and Trademark Office for Application 13/270,385 dated December 23, 2011 (7 pages)
8	Office Action from the United States Patent and Trademark Office for Application No. 12/727,726 dated January 4, 2012 (5 pages)
9	Office Action from the United States Patent and Trademark Office for Application No. 12/914,209 dated January 27, 2012 (5 pages)
10	Office Action from the United States Patent and Trademark Office for Application No. 13,271,650 dated July 25, 2012 (12 pages)
11	Office Action from the United States Patent and Trademark Office for Application No. 13/270,385 dated March 26, 2012 (7 pages)

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12	Office Action from the United States Patent and Trademark Office for Application No. 13/270,419 dated December 22, 2011 (7 pages)
13	Office Action from the United States Patent and Trademark Office for Application No. 13/270,792 dated April 16, 2012 (10 pages)
14	Office Action from the United States Patent and Trademark Office for Application No. 13/270,798 dated March 26, 2012 (9 pages)
15	Office Action from the United States Patent and Trademark Office for Application No. 13/271,633 dated December 5, 2011 (7 pages)
16	Office Action from the United States Patent and Trademark Office for Application No. 13/271,650 dated April 23, 2012 (13 pages)
17	Office Action from the United States Patent and Trademark Office for Application No. 13/272,005 dated November 14, 2012 (24 pages)
18	Office Action from the United States Patent and Trademark Office for Application No. 13/272,938 dated April 23, 2012 (11 pages)
19	Office Action from the United States Patent and Trademark Office for Application No. 13/272,938 dated December 22, 2011 (9 pages)
20	Office Action from the United States Patent and Trademark Office for Application No. 13/272,938 dated July 26, 2012 (8 pages)
21	Omco Solar Brochure (Available at least as early as October 20, 2011)
22	Product Advertisement - Sarna, Sarnafil Division (available at least as early as October 20, 2011)

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23	Product Advertisement, "Speedstand," Contractors Guide, June, 2000
24	Product Advertisement, "Alpine Snowguards/Setting the Industry Standard/Snow Guards for Every Roof Type," March 27, 2000
25	Product Description - "An Innovative Approach to Zero Roof Penetrations," Portable, Pipe Hangers, Inc., printed July, 2000
26	Product Description - "Flat Roof Safety System," POHL Roof and Safety Systems, Securant (available at least as early as October 20, 2011)
27	Product Description - "Gecko-An Introduction," Gecko Safety Systems, Fall Arrest Protection, printed July, 2000
28	Product Description - "Instruction and Specification Manual, Super Anchor: Fall Arrest Anchor. ARS-2.times.8 and ARS-2.times.12," 1993
29	Product Description - "Super Anchor: Instructions/Specification Manual: Stainless Steel Fall Arrest Anchors ARS 2.times.8, ARS 2.times.12, I-Joist, Moveable ARS, Vertical Wall Anchor, and Custom Anchor," March, 2000
30	Product Description - Anchor Guardrails, printed August, 2000
31	Product Description - FLUX-Boy (available at least as early as October 20, 2011)
32	Product Description - Gecko-An Introduction, Gecko Safety Systems, Ltd., printed March, 2000
33	Product Description - Portable Pipe Hangers, printed August, 2000

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34	Product Description - Portable Pipe Hanges, Inc., Inter517face, June, 2000
35	Professional Solar Products Inc., Fast Jack, available at least as early as January 9, 2009
36	Professional Solar Products Inc., FastJack Commercial Fast Jack, Commercial Leveling Kit, Comparison Chart for the FastJack, available at least as early as January 9, 2009
37	Professional Solar Products Inc., FastJack Installation Manual, modified September 10, 2007
38	Professional Solar Products Inc., FastJack Leveling Kits, available at least as early as January 9, 2009
39	Quickscrews International Corporation brochure (Available at least as early as June 29, 2011)
40	S-5! Dirimak Product Photographs (Available at least as early as July 18, 2011)
41	TileTrac Product Photograph (Available at least as early as June 8, 2011)
42	UFD (Universal Fastening Disc) Installation Instructions and Design Drawings (Available at least as early as July 14, 2011)
43	Office Action from the United States Patent and Trademark Office for Application No. 13/271,650 dated August 2, 2013 (10 pages)
44	Quick Rack Installation Manual, "Rail-Free Mounting System for Composition/Asphalt Shingle Roofs," May, 2014 (28 pages)

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45	S-5i Dirimak Brochure (Available at least as early as July 18, 2011)
46	Office Action from the United States Patent and Trademark Office for Application No. 13/271,650 dated April 19, 2013 (10 pages)
47	Office Action from the United States Patent and Trademark Office for Application No. 14/253,687 dated November 19, 2014 (11pages)
48	Office Action from the United States Patent and Trademark Office for Application No. 14/253,687 dated April 3, 2015 (6 pages)
49	Office Action from the United States Patent and Trademark Office for Application No. 14/823505 dated December 1, 2015 (9 pages)
50	Office Action from the United States Patent and Trademark Office for Application No. 14/257521 dated November 20, 2014 (9 pages)

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Examiner Signature	/BETH A STEPHAN/	Date Considered	06/05/2020
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

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See attached certification statement.

- ☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- ☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Mark Williams/	Date (YYYY-MM-DD)	2020-04-01
Name/Print	Mark Williams	Registration Number	64425

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour 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.**

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4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
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.

Doc code: IDS

PTO/SB/08a (02-18)

Doc description: Information Disclosure Statement (IDS) Filed

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1	Office Action from the United States Patent and Trademark Office for Application No. 15/248,942 dated October 31, 2017 (6 pages)
2	Office Action from the United States Patent and Trademark Office for Application No. 15/248,942 dated May 19, 2017 (5 pages)
3	Office Action from the United States Patent and Trademark Office for Application No. 15/384,293 dated March 9, 2018 (6 pages)
4	Office Action from the United States Patent and Trademark Office for Application No. 15/942,265 dated July 5, 2018 (6 pages)
5	Office Action from the United States Patent and Trademark Office for Application No. 16/000,797 dated January 18, 2019 (6 pages)
6	Office Action from the United States Patent and Trademark Office for Application No. 16/051,479 dated October 4, 2019 (7 pages)
7	Office Action from the United States Patent and Trademark Office for Application No. 16/051,479 dated May 2, 2019 (7 pages)
8	Office Action from the United States Patent and Trademark Office for Application No. 16/215,594 dated February 27, 2020 (7 pages)
9	Office Action from the United States Patent and Trademark Office for Application No. 16/215,594 dated June 24, 2019 (6 pages)
10	Notice of Allowance from the United States Patent and Trademark Office for Application No. 15/248,942 dated January 31, 2018 (7 pages)
11	Notice of Allowance from the United States Patent and Trademark Office for Application No. 15/248,942 dated May 21, 2018 (5 pages)

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13	Notice of Allowance from the United States Patent and Trademark Office for Application No. 15/942,265 dated October 11, 2018 (5 pages)
14	Notice of Allowance from the United States Patent and Trademark Office for Application No. 16/000,797 dated July 17, 2019 (7 pages)
15	Notice of Allowance from the United States Patent and Trademark Office for Application No. 16/051,479 dated December 20, 2019 (8 pages)
16	Report of Philip D. Dregger, PE, RPC, FRCI

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Examiner Signature	/BETH A STEPHAN/	Date Considered	06/05/2020
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Name/Print	Mark Williams	Registration Number	64425

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	Examiner Name	Stephan, Beth A
	Attorney Docket Number	1000-00632

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Application Number	16752667
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First Named Inventor	Brian Cecil Stearns
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Attorney Docket Number	1000-00632

1	Office Action from the United States Patent and Trademark Office for Application No. 13/272,005 dated June 14, 2013 (20 pages)
2	Office Action from the United States Patent and Trademark Office for Application No. 13/272,005 dated January 17, 2014 (20 pages)
3	Office Action from the United States Patent and Trademark Office for Application No. 14/813,199 dated November 30, 2015 (7 pages)
4	Office Action from the United States Patent and Trademark Office for Application No. 15/003,472 dated June 7, 2016 (14 pages)
5	Office Action from the United States Patent and Trademark Office for Application No. 15/229,905 dated March 8, 2017 (12 pages)
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**INFORMATION DISCLOSURE
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Filing Date	2020-01-26
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Art Unit	3633
Examiner Name	Stephan, Beth A
Attorney Docket Number	1000-00632

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14	Office Action from the United States Patent and Trademark Office for Application No. 15/711745 dated January 17, 2018 (8 pages)
15	Office Action from the United States Patent and Trademark Office for Application No. 15/066,920 dated November 2, 2017 (9 pages)
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17	Notice of Allowance from the United States Patent and Trademark Office for Application No. 12/727726 dated February 17, 2012 (5 pages)
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20	Notice of Allowance from the United States Patent and Trademark Office for Application No. 13/270385 dated May 23, 2012 (5 pages)
21	Notice of Allowance from the United States Patent and Trademark Office for Application No. 13/270419 dated March 23, 2012 (6 pages)
22	Notice of Allowance from the United States Patent and Trademark Office for Application No. 13/271633 dated March 2, 2012 (5 pages)

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Art Unit	3633
Examiner Name	Stephan, Beth A
Attorney Docket Number	1000-00632

23	Notice of Allowance from the United States Patent and Trademark Office for Application No. 13/271633 dated March 29, 2012 (2 pages)
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26	Notice of Allowance from the United States Patent and Trademark Office for Application No. 12/914209 dated April 27, 2012 (5 pages)
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**INFORMATION DISCLOSURE
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Art Unit	3633
Examiner Name	Stephan, Beth A
Attorney Docket Number	1000-00632

34	Notice of Allowance from the United States Patent and Trademark Office for Application No. 14/253687 dated May 5, 2015 (9 pages)
35	Notice of Allowance from the United States Patent and Trademark Office for Application No. 14/813199 dated April 15, 2016 (7 pages)
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**INFORMATION DISCLOSURE
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Art Unit	3633
Examiner Name	Stephan, Beth A
Attorney Docket Number	1000-00632

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CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

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See attached certification statement.

- ☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- ☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Mark Williams/	Date (YYYY-MM-DD)	2020-04-01
Name/Print	Mark Williams	Registration Number	64425

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Art Unit	3633
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Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

- ☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Mark Williams/	Date (YYYY-MM-DD)	2020-04-01
Name/Print	Mark Williams	Registration Number	64425

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	81	((("Stearns") near3 ("Brian") near3 ("Cecil"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/06/05 10:09
L2	41	((("Lounsbury") near3 ("Douglas") near3 ("Timothy"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/06/05 10:09
L3	54	(1 or 2) and flashing and roof same mount\$3 and seal and bracket and washer	US-PGPUB; USPAT; USOCR	OR	OFF	2020/06/05 10:09
L8	53	(1 or 2) and flashing and roof same mount\$3 and seal and bracket and washer and diameter	US-PGPUB; USPAT; USOCR	OR	OFF	2020/06/05 10:11
L9	53	(1 or 2) and flashing and roof same mount\$3 and seal and bracket and washer and diameter and projection and aperture and (less or small\$3)	US-PGPUB; USPAT; USOCR	OR	OFF	2020/06/05 10:12
L10	25	(1 or 2) and flashing and roof same mount\$3 and seal and bracket and washer and diameter and projection and aperture and (less or small\$3)	USPAT	OR	OFF	2020/06/05 10:13
L11	5	10 and screw	USPAT	OR	OFF	2020/06/05 10:19
L12	117	washer same polymeric same rigid	USPAT	OR	OFF	2020/06/05 10:23
L13	330	washer same polymeric same rigid	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/06/05 10:28
L14	150	("0473512" "0756884" "1646923" "1925263" "20020088196" "20020131842" "20030101662" "20030177706" "20040173373" "20070245636" "20070266672" "20070289233" "20080000173" "20080087275" "20080190047" "20080245404" "20080313976" "20090309388" "20100192505" "20100307074" "20110120047" "20110247295" "2079768" "2349467" "2890664" "2925976" "3141532"	US-PGPUB; USPAT; USOCR	OR	OFF	2020/06/05 10:53

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/752,667	01/26/2020	Brian Cecil Stearns	1000-00632

CONFIRMATION NO. 3794

145438
KW Law, LLP
6122 N. 7th Street
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Phoenix, AZ 85014

PUBLICATION NOTICE



OC000000117169147

Title:ROOF MOUNTING SYSTEM

Publication No.US-2020-0162013-A1

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Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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PATENT

First Named			
Inventor:	Brian C. Stearns	Docket No.:	1000-00632
Serial No.:	16/752,667	Examiner:	Beth Stephan
Filed:	January 26, 2020	Group Art Unit:	3633
Title:	ROOF MOUNTING SYSTEM	Confirmation No.:	3794

SUPPLEMENTAL AMENDMENT AND REPLY

Mail Stop AMENDMENT
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Dear Commissioner:

Applicant supplements its reply to the Office Action filed on March 31, 2020, so please amend the above-identified application as follows:

Amendments to the Claims begin on page 2.

Remarks/Arguments begin on page 6.

Amendments to Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Cancelled)

2. (Currently Amended) A roof mount assembly comprising:

a flashing supportable on a roof substrate, the flashing including a top surface, a bottom surface adjacent an upper surface of the roof substrate, and an upwardly extending projection with the flashing defining a first aperture extending through the upwardly extending projection between the top surface and the bottom surface;

a preformed rubber seal including a first end portion forming a first circular disk having a first planar end surface, a second end portion forming a second circular disk having a second planar end surface, and a central portion between the first end portion and the second end portion, the preformed rubber seal defining a cylindrical second aperture centrally located in the preformed rubber seal and extending from the first planar end surface to the second planar end surface;

an L-shaped bracket supportable on the flashing, the L-shaped bracket including an elongate body portion defining a third aperture and a flange defining a fourth aperture sized to receive the preformed rubber seal and the upwardly extending projection, the fourth aperture including a first aperture portion having a first cylindrical shape and defining a first diameter and a second aperture portion having a second cylindrical shape and defining a second diameter that is less than the first diameter;

a washer including a polymeric compression portion and a rigid backing portion and defining a fifth aperture; and

a screw including a head and extending through the first aperture, the cylindrical second aperture, the fourth aperture, and the fifth aperture, and into the roof substrate and a rafter to secure the L-shaped bracket and the flashing to the roof substrate and inhibit fluid flow through the first aperture.

3. (Previously Presented) The roof mount assembly of claim 2, wherein the cylindrical second aperture is normal to the first planar end surface and the second planar end surface.

4. (Previously Presented) The roof mount assembly of claim 2, wherein the third aperture of the L-shaped bracket is sized to receive a second fastener to support a solar panel.

5. (Previously Presented) The roof mount assembly of claim 2, wherein the polymeric compression portion is compressed between the head of the screw and the flange.
6. (Previously Presented) The roof mount assembly of claim 2, wherein a portion of the preformed rubber seal is compressed between the flange of the L-shaped bracket and the upwardly extending projection of the flashing.
7. (Previously Presented) A roof mount assembly comprising:
 - a flashing supportable on a roof substrate, the flashing including a top surface, a bottom surface adjacent an upper surface of the roof substrate, and an upwardly extending projection defining a first aperture extending through the top surface and the bottom surface;
 - a preformed rubber seal including a first end portion forming a first circular disk having a first planar end surface, a second end portion forming a second circular disk having a second planar end surface, and a central portion between the first end portion and the second end portion, the preformed rubber seal defining a cylindrical second aperture centrally located in the preformed rubber seal extending and from the first planar end surface to the second planar end surface;
 - a bracket supportable on the flashing, the bracket including a planar first end, a first arm, a second arm, and a planar second end, the planar first end defining a third aperture, the third aperture including a first aperture portion having a first cylindrical shape and defining a first diameter and a second aperture portion having a second cylindrical shape and defining a second diameter that is less than the first diameter, the bracket defining a bracket aperture bound by the planar first end, the first arm, the second arm, and the planar second end;
 - a washer including a polymeric compression portion and a rigid backing portion and defining a fourth aperture; and
 - a screw including a head and extending through the first aperture, the cylindrical second aperture, the third aperture, and the fourth aperture, and into the roof substrate and a rafter to secure the bracket and the flashing to the roof substrate, to couple the bracket, the preformed rubber seal and the flashing as an assembly, and to inhibit fluid flow through the first aperture.
8. (Previously Presented) The roof mount assembly of claim 7, wherein the planar second end is configured to support a second assembly and a solar panel.
9. (Previously Presented) The roof mount assembly of claim 7, wherein the polymeric compression portion is compressed between the head of the screw and the bracket.

10. (Previously Presented) The roof mount assembly of claim 7, wherein the cylindrical second aperture is normal to the first planar end surface and the second planar end surface.

11. (Previously Presented) A roof mount assembly comprising:

a flashing including a top surface, a bottom surface, and an upwardly extending projection defining a first aperture;

a rubber seal including a first end portion, a second end portion and a central portion between the first and second end portions, the rubber seal defining a cylindrical second aperture through the first end portion, the second end portion, and the central portion, the cylindrical second aperture being normal to a first outside surface of the first end portion and a second end surface of a second end portion;

a bracket including a body portion and a flange portion, the flange portion defining a third aperture sized to receive the rubber seal and the upwardly extending projection

a washer including a polymeric portion and a rigid backing portion and defining a fourth aperture; and

a fastener extending through the first aperture, the cylindrical second aperture, the third aperture, and the fourth aperture to couple the bracket, the rubber seal, and the flashing as an assembly,

wherein the assembly inhibits flow of fluid through the first aperture.

12. (Previously Presented) The roof mount assembly of claim 11, wherein the body portion of the bracket includes a fifth aperture sized to receive a second fastener to support a solar panel.

13. (Previously Presented) The roof mount assembly of claim 11, wherein the polymeric portion is compressed between the fastener and the bracket.

14. (Previously Presented) The roof mount assembly of claim 11, wherein the first end portion of the rubber seal forms a circular disc.

15. (Previously Presented) The roof mount assembly of claim 11, wherein the bracket is L-shaped.

16. (Previously Presented) The roof mount assembly of claim 11, wherein the rubber seal is factory-installed.

17. (Previously Presented) A roof mount assembly comprising:

a flashing including a top surface, a bottom surface, an upwardly extending projection, the upwardly extending projection defining a first aperture;

a rubber seal including a first end portion, a second end portion and a central portion between the first and second end portions, the rubber seal defining a cylindrical second aperture through the first end portion, the second end portion, and the central portion;

a bracket supportable on the flashing, the bracket including a first end, a first arm, a second arm, and a second end, the first end defining a third aperture, the third aperture including a first aperture portion and defining a first diameter and a second aperture portion defining a second diameter that is less than the first diameter, the bracket defining a bracket aperture bound by the first end, the first arm, the second arm, and the second end;

a washer including a polymeric portion and a rigid backing portion and defining a fourth aperture; and

a fastener extending through the first aperture, the cylindrical second aperture, the third aperture, and the fourth aperture to couple the bracket, the rubber seal, and the flashing to form an assembly,

wherein the assembly inhibits flow of fluid through the first aperture.

18. (Previously Presented) The roof mount assembly of claim 17, wherein the polymeric portion is compressed between the fastener and the bracket.

19. (Previously Presented) The roof mount assembly of claim 17, wherein a portion of the rubber seal is compressed between the bracket and the flashing.

20. (Previously Presented) The roof mount assembly of claim 17, wherein the rubber seal and the washer inhibit entry of water to a roof substrate.

21. (Previously Presented) The roof mount assembly of claim 17, wherein the second end is configured to support a second assembly and a solar panel.

22. (Previously Presented) The roof mount assembly of claim 17, wherein the cylindrical second aperture is sized to receive the fastener.

23. (Previously Presented) The roof mount assembly of claim 17, wherein the rubber seal is installable within the assembly without the fastener.

24. (Previously Presented) The roof mount assembly of claim 17, wherein the rubber seal is factory-installed within the assembly.

25. (Previously Presented) The roof mount assembly of claim 17, wherein the cylindrical second aperture has a smooth surface.

REMARKS

Applicant supplements its Reply to Office Action filed on March 31, 2020 as if the new claims are entered. Applicants assert that the application is in condition for allowance and reconsideration of the pending claims is requested.

The claims of the present application are different and possibly broader than the claims pursued in the parent or related applications. To the extent any amendments or characterizations of the scope of any claim or referenced art could be construed as a disclaimer of any subject matter supported by the present disclosure, Applicants hereby rescind and retract such disclaimer. Accordingly, the references construed in the parent or related applications may need to be revisited.

Applicants respectfully submit that the pending claims are in condition for allowance. If an extension of time is necessary, please accept this as a petition therefore. The Commissioner is hereby authorized to charge any fees which may be required or credit any overpayment to Deposit Account 602406. Applicants invite the Office to telephone the undersigned if the Examiner has any questions regarding this Reply or the present application in general.

Respectfully submitted,

Dated: April 1, 2020

By: /Mark Williams/
Mark Williams
Reg. No. 64,425

KW Law LLP
6122 N. 7th Street, Suite D
Phone: 602-300-7758 | Email: mark@kwlaw.co

Electronic Acknowledgement Receipt	
EFS ID:	39034461
Application Number:	16752667
International Application Number:	
Confirmation Number:	3794
Title of Invention:	ROOF MOUNTING SYSTEM
First Named Inventor/Applicant Name:	Brian Cecil Stearns
Customer Number:	145438
Filer:	Mark W. Williams/Sarah Flaaen
Filer Authorized By:	Mark W. Williams
Attorney Docket Number:	1000-00632
Receipt Date:	01-APR-2020
Filing Date:	26-JAN-2020
Time Stamp:	14:52:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		1000-00632_Supplemental_Reply_04012020.pdf	121360	yes	6
			069a25d3df6f39d257ba07eb6308978bdc8a4dc1		

Multipart Description/PDF files in .zip description			
Document Description		Start	End
Supplemental Response or Supplemental Amendment		1	1
Claims		2	5
Supplemental Response or Supplemental Amendment		6	6

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Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)

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	Filing Date	2020-01-26
	First Named Inventor	Brian Cecil Stearns
	Art Unit	3633
	Examiner Name	Stephan, Beth A
	Attorney Docket Number	1000-00632

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Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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Attorney Docket Number	1000-00632	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		16752667
	Filing Date		2020-01-26
	First Named Inventor	Brian Cecil Stearns	
	Art Unit	3633	
	Examiner Name	Stephan, Beth A	
	Attorney Docket Number	1000-00632	

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	Filing Date		2020-01-26
	First Named Inventor	Brian Cecil Stearns	
	Art Unit	3633	
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	Attorney Docket Number	1000-00632	

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	Filing Date		2020-01-26
	First Named Inventor	Brian Cecil Stearns	
	Art Unit	3633	
	Examiner Name	Stephan, Beth A	
	Attorney Docket Number	1000-00632	

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**INFORMATION DISCLOSURE
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(Not for submission under 37 CFR 1.99)

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Filing Date		2020-01-26
First Named Inventor	Brian Cecil Stearns	
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		16752667
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		16752667	
	Filing Date		2020-01-26	
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	Art Unit	3633		
	Examiner Name	Stephan, Beth A		
	Attorney Docket Number	1000-00632		

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(Not for submission under 37 CFR 1.99)

Application Number	16752667
Filing Date	2020-01-26
First Named Inventor	Brian Cecil Stearns
Art Unit	3633
Examiner Name	Stephan, Beth A
Attorney Docket Number	1000-00632

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	16752667
	Filing Date	2020-01-26
	First Named Inventor	Brian Cecil Stearns
	Art Unit	3633
	Examiner Name	Stephan, Beth A
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	Filing Date	2020-01-26
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	Art Unit	3633
	Examiner Name	Stephan, Beth A
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	Filing Date	2020-01-26
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	Art Unit	3633
	Examiner Name	Stephan, Beth A
	Attorney Docket Number	1000-00632

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	Attorney Docket Number	1000-00632

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That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

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A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Mark Williams/	Date (YYYY-MM-DD)	2020-04-01
Name/Print	Mark Williams	Registration Number	64425

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	16752667
	Filing Date	2020-01-26
	First Named Inventor	Brian Cecil Stearns
	Art Unit	3633
	Examiner Name	Stephan, Beth A
	Attorney Docket Number	1000-00632

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	16752667
	Filing Date	2020-01-26
	First Named Inventor	Brian Cecil Stearns
	Art Unit	3633
	Examiner Name	Stephan, Beth A
	Attorney Docket Number	1000-00632

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	16752667
	Filing Date	2020-01-26
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	Art Unit	3633
	Examiner Name	Stephan, Beth A
	Attorney Docket Number	1000-00632

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Application Number	16752667
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First Named Inventor	Brian Cecil Stearns
Art Unit	3633
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42	UFD (Universal Fastening Disc) Installation Instructions and Design Drawings (Available at least as early as July 14, 2011)
43	Office Action from the United States Patent and Trademark Office for Application No. 13/271,650 dated August 2, 2013 (10 pages)
44	Quick Rack Installation Manual, "Rail-Free Mounting System for Composition/Asphalt Shingle Roofs," May, 2014 (28 pages)

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		16752667
	Filing Date		2020-01-26
	First Named Inventor	Brian Cecil Stearns	
	Art Unit	3633	
	Examiner Name	Stephan, Beth A	
	Attorney Docket Number	1000-00632	

45	S-5i Dirimak Brochure (Available at least as early as July 18, 2011)
46	Office Action from the United States Patent and Trademark Office for Application No. 13/271,650 dated April 19, 2013 (10 pages)
47	Office Action from the United States Patent and Trademark Office for Application No. 14/253,687 dated November 19, 2014 (11pages)
48	Office Action from the United States Patent and Trademark Office for Application No. 14/253,687 dated April 3, 2015 (6 pages)
49	Office Action from the United States Patent and Trademark Office for Application No. 14/823505 dated December 1, 2015 (9 pages)
50	Office Action from the United States Patent and Trademark Office for Application No. 14/257521 dated November 20, 2014 (9 pages)

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¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

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	Examiner Name	Stephan, Beth A
	Attorney Docket Number	1000-00632

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Mark Williams/	Date (YYYY-MM-DD)	2020-04-01
Name/Print	Mark Williams	Registration Number	64425

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour 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.**

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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.

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	Examiner Name	Stephan, Beth A
	Attorney Docket Number	1000-00632

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1	Office Action from the United States Patent and Trademark Office for Application No. 13/272,005 dated June 14, 2013 (20 pages)
2	Office Action from the United States Patent and Trademark Office for Application No. 13/272,005 dated January 17, 2014 (20 pages)
3	Office Action from the United States Patent and Trademark Office for Application No. 14/813,199 dated November 30, 2015 (7 pages)
4	Office Action from the United States Patent and Trademark Office for Application No. 15/003,472 dated June 7, 2016 (14 pages)
5	Office Action from the United States Patent and Trademark Office for Application No. 15/229,905 dated March 8, 2017 (12 pages)
6	Office Action from the United States Patent and Trademark Office for Application No. 15/229,974 dated March 8, 2017 (7 pages)
7	ACPV Installation: Equipment Overview - Ingram's Water & Air Equipment YouTube video available at (https://www.youtube.com/watch?v=YxBPW2DDMWY)
8	ACPV Installation: Unirac Railing Installation - Ingram's Water & Air Equipment YouTube video available at (https://www.youtube.com/watch?v=iSjzFCfCpJg)
9	Office Action from the United States Patent and Trademark Office for Application No. 15/248,942 dated May 19, 2017 (5 pages)
10	Office Action from the United States Patent and Trademark Office for Application No. 15/248,942 dated October 31, 2017 (6 pages)
11	U.S. Provisional Patent Application Serial No. 61/195780 filed on October 11, 2008 (51 pages)

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12	U.S. Provisional Patent Application Serial No. 61/208323 filed on February 23, 2009 (77 pages)
13	U.S. Provisional Patent Application Serial No. 61/214857 filed on April 28, 2009 (101 pages)
14	Office Action from the United States Patent and Trademark Office for Application No. 15/711745 dated January 17, 2018 (8 pages)
15	Office Action from the United States Patent and Trademark Office for Application No. 15/066,920 dated November 2, 2017 (9 pages)
16	Office Action from the United States Patent and Trademark Office for Application No. 15/384293 dated March 9, 2018 (6 pages)
17	Notice of Allowance from the United States Patent and Trademark Office for Application No. 12/727726 dated February 17, 2012 (5 pages)
18	Notice of Allowance from the United States Patent and Trademark Office for Application No. 13/166378 dated January 13, 2012 (5 pages)
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20	Notice of Allowance from the United States Patent and Trademark Office for Application No. 13/270385 dated May 23, 2012 (5 pages)
21	Notice of Allowance from the United States Patent and Trademark Office for Application No. 13/270419 dated March 23, 2012 (6 pages)
22	Notice of Allowance from the United States Patent and Trademark Office for Application No. 13/271633 dated March 2, 2012 (5 pages)

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23	Notice of Allowance from the United States Patent and Trademark Office for Application No. 13/271633 dated March 29, 2012 (2 pages)
24	Notice of Allowance from the United States Patent and Trademark Office for Application No. 13/272938 dated December 10, 2012 (5 pages)
25	Notice of Allowance from the United States Patent and Trademark Office for Application No. 13/272938 dated January 4, 2013 (2 pages)
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34	Notice of Allowance from the United States Patent and Trademark Office for Application No. 14/253687 dated May 5, 2015 (9 pages)
35	Notice of Allowance from the United States Patent and Trademark Office for Application No. 14/813199 dated April 15, 2016 (7 pages)
36	Notice of Allowance from the United States Patent and Trademark Office for Application No. 15/003472 dated July 1, 2016 (8 pages)
37	Notice of Allowance from the United States Patent and Trademark Office for Application No. 15/229905 dated August 9, 2017 (10 pages)
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39	Notice of Allowance from the United States Patent and Trademark Office for Application No. 15/229974 dated August 14, 2017 (2 pages)
40	Notice of Allowance from the United States Patent and Trademark Office for Application No. 15/461166 dated August 29, 2017 (5 pages)
41	Notice of Allowance from the United States Patent and Trademark Office for Application No. 15/711745 dated June 1, 2018 (5 pages)
42	Notice of Allowance from the United States Patent and Trademark Office for Application No. 15/711745 dated February 15, 2018 (5 pages)
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48	Notice of Allowance from the United States Patent and Trademark Office for Application No. 15/248942 dated January 31, 2018 (7 pages)
49	Notice of Allowance from the United States Patent and Trademark Office for Application No. 15/248942 dated May 21, 2018 (5 pages)
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CERTIFICATION STATEMENT

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See attached certification statement.

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☒ A certification statement is not submitted herewith.

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Signature	/Mark Williams/	Date (YYYY-MM-DD)	2020-04-01
Name/Print	Mark Williams	Registration Number	64425

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1	Office Action from the United States Patent and Trademark Office for Application No. 15/248,942 dated October 31, 2017 (6 pages)
2	Office Action from the United States Patent and Trademark Office for Application No. 15/248,942 dated May 19, 2017 (5 pages)
3	Office Action from the United States Patent and Trademark Office for Application No. 15/384,293 dated March 9, 2018 (6 pages)
4	Office Action from the United States Patent and Trademark Office for Application No. 15/942,265 dated July 5, 2018 (6 pages)
5	Office Action from the United States Patent and Trademark Office for Application No. 16/000,797 dated January 18, 2019 (6 pages)
6	Office Action from the United States Patent and Trademark Office for Application No. 16/051,479 dated October 4, 2019 (7 pages)
7	Office Action from the United States Patent and Trademark Office for Application No. 16/051,479 dated May 2, 2019 (7 pages)
8	Office Action from the United States Patent and Trademark Office for Application No. 16/215,594 dated February 27, 2020 (7 pages)
9	Office Action from the United States Patent and Trademark Office for Application No. 16/215,594 dated June 24, 2019 (6 pages)
10	Notice of Allowance from the United States Patent and Trademark Office for Application No. 15/248,942 dated January 31, 2018 (7 pages)
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12	Notice of Allowance from the United States Patent and Trademark Office for Application No. 15/384,293 dated July 27, 2018 (8 pages)
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	First Named Inventor	Brian Cecil Stearns
	Art Unit	3633
	Examiner Name	Stephan, Beth A
	Attorney Docket Number	1000-00632

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Mark Williams/	Date (YYYY-MM-DD)	2020-04-01
Name/Print	Mark Williams	Registration Number	64425

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour 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.**

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 Patent Application Fee Transmittal				
Application Number:		16752667		
Filing Date:		26-Jan-2020		
Title of Invention:		ROOF MOUNTING SYSTEM		
First Named Inventor/Applicant Name:		Brian Cecil Stearns		
Filer:		Mark W. Williams/Sarah Flaaen		
Attorney Docket Number:		1000-00632		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	2806	1	120	120
Total in USD (\$)				120

Electronic Acknowledgement Receipt	
EFS ID:	39039066
Application Number:	16752667
International Application Number:	
Confirmation Number:	3794
Title of Invention:	ROOF MOUNTING SYSTEM
First Named Inventor/Applicant Name:	Brian Cecil Stearns
Customer Number:	145438
Filer:	Mark W. Williams/Sarah Flaaen
Filer Authorized By:	Mark W. Williams
Attorney Docket Number:	1000-00632
Receipt Date:	01-APR-2020
Filing Date:	26-JAN-2020
Time Stamp:	20:01:38
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$120
RAM confirmation Number	E202041K01585535
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	Transmittal Letter	1000-00632_IDS_TL.pdf	87365	no	1
			bf77fc61538f27d2f12ffdf5cd5481f90c454bde		
Warnings:					
Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	1000-00632_IDS_Part_1.pdf	619249	no	27
			443f84d7f31bef7d39eeab87649d883a5345a023		
Warnings:					
Information:					
3	Information Disclosure Statement (IDS) Form (SB08)	1000-00632_IDS_Part_2.pdf	614057	no	8
			d5100dcba6898b7653f3df2cbe002eae87453154		
Warnings:					
Information:					
A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.					
4	Information Disclosure Statement (IDS) Form (SB08)	1000-00632_IDS_Part_3.pdf	1036426	no	8
			7215c87591c79a5b32aff52d25ce4839e87fed3e		
Warnings:					
Information:					
A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.					
5	Information Disclosure Statement (IDS) Form (SB08)	1000-00632_IDS_Part_4.pdf	1034885	no	5
			9ebc69b0fea4e1bd3831cc121bc276d7d4a673a2		
Warnings:					

Information:					
A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.					
6	Non Patent Literature	15248942_FOA_10312017.pdf	161459 7b79ec1263589feb4348120a2de068c8f5f04c4e	no	6
Warnings:					
Information:					
7	Non Patent Literature	15248942_NFOA_05192017.pdf	163393 1ced590f19aef04369b7a3472d17116823b1a36a	no	5
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Information:					
8	Non Patent Literature	15248942_NOA_01312018.pdf	273220 a00a929b1f6bfa3cbc4b7d6eeb89bda2d28bde6f	no	7
Warnings:					
Information:					
9	Non Patent Literature	15248942_NOA_05212018.pdf	350943 68bad7c14867101dec1f916f3eba4018b483770f	no	5
Warnings:					
Information:					
10	Non Patent Literature	15384293_NFOA_03092018.pdf	156225 2dfc60f8041b890be5a0ac9d8be3929b1586cfc3	no	6
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Information:					
11	Non Patent Literature	15384293_NOA_07272018.pdf	431824 a1482db0b84fa2b2be353b8215f2eb10cfe802c69	no	8
Warnings:					
Information:					

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Information:					
14	Non Patent Literature	16000797_NOA_07172019.pdf	403259	no	7
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Warnings:					
Information:					
15	Non Patent Literature	16051479_FOA_10042019.pdf	258298	no	7
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Warnings:					
Information:					
16	Non Patent Literature	16051479_NFOA_05022019.pdf	252278	no	7
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Warnings:					
Information:					
17	Non Patent Literature	16051479_NOA_12202019.pdf	410485	no	8
			cc111b721b04af32a29a55a5910c1e4a6ba41755		
Warnings:					
Information:					
18	Non Patent Literature	16215594_FOA_02272020.pdf	257524	no	7
			2bd953ba29c2badfc17d06e78b944dfe881324af		
Warnings:					
Information:					

19	Non Patent Literature	16215594_NFOA_06242019.pdf	226729	no	6
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Warnings:					
Information:					
20	Non Patent Literature	16000797_NFOA_01182019.pdf	213390	no	6
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Warnings:					
Information:					
21	Non Patent Literature	Solarhooks_Report_hqp.pdf	10376629	no	262
			94f177847c048e1212ac735949af655b2d6b b1ee		
Warnings:					
Information:					
22	Fee Worksheet (SB06)	fee-info.pdf	30077	no	2
			6bfc3c7a9df82a6240173b032be632d751c 4b2cb		
Warnings:					
Information:					
Total Files Size (in bytes):			17911808		
<p>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.</p> <p><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.</p> <p><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.</p> <p><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.</p>					

FILED VIA EFS WEB

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

First Named Inventor:	Brian C. Stearns	Docket No.:	1000-00632
Serial No.:	16/752,667	Examiner:	Stephan, Beth A
Filed:	01/26/2020	Group Art Unit:	3633
Title:	ROOF MOUNTING SYSTEM	Confirmation No.:	3794

TRANSMITTAL LETTER

Mail Stop AMENDMENT
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

The Examiner's attention is directed to the references listed on the attached Form PTO/SB/08A. Pursuant to 37 C.F.R. §1.98(d), copies of the references are not being provided because the references were previously submitted to, or cited by, the Office in various prior filings, which this application claims priority to and relies upon for an earlier effective filing date under 35 U.S.C. §120.

Citation of these references is respectfully requested.

No concession is made that these documents are prior art, and Applicant expressly reserves the right to antedate the documents as may be appropriate.

Respectfully submitted,

Dated: April 1, 2020

By: /Mark Williams/
Mark Williams
Reg. No. 64,425

KW Law, LLP
6122 N 7th St, Ste D, Phoenix, AZ 85014
Phone: 602-300-7758 | Email: mark@kwlaw.co

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 16/752,667		Filing Date 01/26/2020		<input type="checkbox"/> To be Mailed		
ENTITY: <input type="checkbox"/> LARGE <input checked="" type="checkbox"/> SMALL <input type="checkbox"/> MICRO										
APPLICATION AS FILED - PART I										
		(Column 1)	(Column 2)							
FOR		NUMBER FILED	NUMBER EXTRA	RATE (\$)		FEE (\$)				
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A	N/A	N/A						
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))		N/A	N/A	N/A						
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A	N/A	N/A						
TOTAL CLAIMS (37 CFR 1.16(j))		minus 20 =	*	x \$50 =						
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 =	*	x \$230 =						
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).								
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL						
APPLICATION AS AMENDED - PART II										
		(Column 1)	(Column 2)	(Column 3)						
AMENDMENT	04/01/2020	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)			
	Total (37 CFR 1.16(i))	* 24	Minus	** 20	= 4	x \$50 =		200		
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 3	= 1	x \$230 =		230		
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))									
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
					TOTAL ADD'L FEE		430			
AMENDMENT		(Column 1)	(Column 2)	(Column 3)						
		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)			
	Total (37 CFR 1.16(i))	*	Minus	**	=	x \$0 =				
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x \$0 =				
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))									
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
					TOTAL ADD'L FEE					
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.					SLIE					
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".					/ADRIENE D. SELLMAN/					
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".										
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.										

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 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.

FILED VIA EFS WEB

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

First Named Inventor:	Brian C. Stearns	Docket No.:	1000-00632
Serial No.:	16/752,667	Examiner:	Beth Stephan
Filed:	January 26, 2020	Group Art Unit:	3633
Title:	ROOF MOUNTING SYSTEM	Confirmation No.:	3794

AMENDMENT AND REPLY

Mail Stop AMENDMENT
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Dear Commissioner:

Applicant replies to the Office Action dated March 10, 2020, within three (3) months, so please amend the above-identified application as follows:

Amendments to the Specification begin on page 2.

Amendments to the Claims begin on page 5.

Remarks/Arguments begin on page 9.

Amendments to the Specification:

Please replace the following paragraphs of the Specification as filed:

[0001] The present application is a continuation of U.S. Patent Application No. 16/051,479 ~~16/051,4709~~, filed on July 31, 2018 and issued as U.S. Patent No. 10,594,251 ~~XX,XXX,XXX~~, which is a continuation of U.S. Patent Application No. 15/942,265, filed on March 30, 2018 issued as 10,218,304, which is a continuation of U.S. Patent Application No. 15/711,745, filed on September 21, 2017 issued as U.S. Patent No. 10,218,304, which is a continuation of U.S. Patent Application No. 15/461,166, filed on August 5, 2016 issued as U.S. Patent No. 9,793,853, which is a continuation of U.S. Patent Application No. 15/229,974, filed on August 5, 2016 issued as U.S. Patent No. 9,774,292, which is a continuation of U.S. Patent Application No. 15/003,472, filed on January 21, 2016 issued as U.S. Patent No. 9,422,723, which is a continuation of U.S. Patent Application No. 14/813,199 issued as U.S. Patent No. 9,422,721, filed July 30, 2015, which is a continuation of U.S. Patent Application No. 14/253,687, filed April 15, 2014 issued as U.S. Patent No. 9,127,464, which is a continuation of U.S. Patent Application No. 13/271,650, filed October 12, 2011 issued as U.S. Patent No. 8,701,354, which is a continuation of U.S. Patent Application No. 13/166,542, filed June 22, 2011 issued as U.S. Patent No. 8,146,299, which is a continuation of U.S. Patent Application No. 12/914,209, filed October 28, 2010 issued as U.S. Patent No. 8,209,914, which is a continuation-in-part of U.S. Patent Application No. 12/727,726, filed March 19, 2010 issued as U.S. Patent No. 8,153,700, which claims priority to U.S. Provisional Patent Application No. 61/161,668, filed March 19, 2009, the entire contents of all of which are herein incorporated by reference. U.S. Patent Application No. 12/914,209 issued as U.S. Patent No. 8,209,914 also claims priority to U.S. Provisional Patent Application Nos. 61/298,101, filed January 25, 2010, and 61/345,885, filed May 18, 2010, the entire contents of both of which are herein incorporated by reference.

[0002] The present application is a continuation of U.S. Patent Application No. 16/051,479 ~~16/051,4709~~, filed on July 31, 2018 and issued as U.S. Patent No. 10,594,251 ~~XX,XXX,XXX~~, which is a continuation of U.S. Patent Application No. 15/942,265, filed on March 30, 2018 issued as 10,218,304, which is a continuation of U.S. Patent Application No. 15/711,745, filed on September 21, 2017 issued as U.S. Patent No. 10,090,801, which is a continuation of U.S. Patent Application No. 15/461,166, filed on August 5, 2016 issued as U.S. Patent No. 9,793,853,

which is a continuation of U.S. Patent Application No. 15/229,974, filed on August 5, 2016 issued as U.S. Patent No. 9,774,292, which is a continuation of U.S. Patent Application No. 15/003,472, filed on January 21, 2016 issued as U.S. Patent No. 9,422,723, which is a continuation of U.S. Patent Application No. 14/813,199, filed July 30, 2015 issued as U.S. Patent No. 9,422,721, which is a continuation of U.S. Patent Application No. 14/253,687, filed April 15, 2014 issued as U.S. Patent No. 9,127,464, which is a continuation of U.S. Patent Application No. 13/271,650, filed October 12, 2011 issued as U.S. Patent No. 8,701,354, which is also a continuation of U.S. Patent Application No. 12/914,209, filed October 28, 2010 issued as U.S. Patent No. 8,209,914, which is a continuation-in-part of U.S. Patent Application No. 12/727,726 issued as U.S. Patent No. 8,153,700, filed March 19, 2010, which claims priority to U.S. Provisional Patent Application No. 61/161,668, filed March 19, 2009, the entire contents of all of which are herein incorporated by reference. U.S. Patent Application No. 12/914,209 issued as U.S. Patent No. 8,209,914 also claims priority to U.S. Provisional Patent Application Nos. 61/298,101, filed January 25, 2010, and 61/345,885, filed May 18, 2010, the entire contents of both of which are herein incorporated by reference.

[0003] The present application is a continuation of U.S. Patent Application No. 16/051,479 ~~16/051,4709~~, filed on July 31, 2018 and issued as U.S. Patent No. 10,594,251 ~~XX,XXX,XXX~~, which is a continuation of U.S. Patent Application No. 15/942,265, filed on March 30, 2018 issued as 10,218,304, which is a continuation of U.S. Patent Application No. 15/711,745, filed on September 21, 2017 issued as U.S. Patent No. 10,090,801, which is a continuation of U.S. Patent Application No. 15/461,166, filed on August 5, 2016 issued as U.S. Patent No. 9,793,853, which is a continuation of U.S. Patent Application No. 15/229,974, filed on August 5, 2016 issued as U.S. Patent No. 9,774,292, which is a continuation of U.S. Patent Application No. 15/003,472, filed on January 21, 2016 issued as U.S. Patent No. 9,422,723, which is a continuation of U.S. Patent Application No. 14/813,199, filed July 30, 2015 issued as U.S. Patent No. 9,422,721, which is a continuation of U.S. Patent Application No. 14/253,687, filed April 15, 2014 issued as U.S. Patent No. 9,127,464, which is a continuation of U.S. Patent Application No. 13/271,650, filed October 12, 2011 issued as U.S. Patent No. 8,701,354, which is also a continuation-in-part of U.S. Patent Application No. 13/166,378, filed June 22, 2011 issued as U.S. Patent No. 8,151,522, which is a continuation of U.S. Patent Application No. 12/727,726,

filed March 19, 2010 issued as U.S. Patent No. 8,153,700, which claims priority to U.S. Provisional Patent Application No. 61/161,668, filed March 19, 2009, the entire contents of all of which are herein incorporated by reference.

[0004] The present application is a continuation of U.S. Patent Application No. 16/051,479 ~~16/051,4709~~, filed on July 31, 2018 and issued as U.S. Patent No. 10,594,251 ~~XX,XXX,XXX~~, which is a continuation of U.S. Patent Application No. 15/942,265, filed on March 30, 2018 issued as 10,218,304, which is a continuation of U.S. Patent Application No. 15/711,745, filed on September 21, 2017 issued as U.S. Patent No. 10,090,801, which is a continuation of U.S. Patent Application No. 15/461,166, filed on August 5, 2016 issued as U.S. Patent No. 9,793,853, which is a continuation of U.S. Patent Application No. 15/229,974, filed on August 5, 2016 issued as U.S. Patent No. 9,774,292, which is a continuation of U.S. Patent Application No. 15/003,472, filed on January 21, 2016 issued as U.S. Patent No. 9,422,723, which is a continuation of U.S. Patent Application No. 14/813,199, filed July 30, 2015 issued as U.S. Patent No. 9,422,721, which is a continuation of U.S. Patent Application No. 14/253,687, filed April 15, 2014, which is a continuation of U.S. Patent Application No. 13/271,650, filed October 12, 2011 issued as U.S. Patent No. 8,701,354, which is also a continuation-in-part of U.S. Patent Application No. 12/727,726 issued as U.S. Patent No. 8,153,700, filed March 19, 2010, which claims priority to U.S. Provisional Patent Application No. 61/161,668, filed March 19, 2009, the entire contents of all of which are herein incorporated by reference.

Amendments to Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Cancelled)
2. (New) A roof mount assembly comprising:
 - a flashing supportable on a roof substrate, the flashing including a top surface, a bottom surface adjacent an upper surface of the roof substrate, and an upwardly extending projection with the flashing defining a first aperture extending through the upwardly extending projection between the top surface and the bottom surface;
 - a rubber seal including a first end portion forming a first circular disk having a first planar end surface, a second end portion forming a second circular disk having a second planar end surface, and a central portion between the first end portion and the second end portion, the rubber seal defining a cylindrical second aperture centrally located in the rubber seal and extending from the first planar end surface to the second planar end surface;
 - an L-shaped bracket supportable on the flashing, the L-shaped bracket including an elongate body portion defining a third aperture and a flange defining a fourth aperture sized to receive the rubber seal and the upwardly extending projection, the fourth aperture including a first aperture portion having a first cylindrical shape and defining a first diameter and a second aperture portion having a second cylindrical shape and defining a second diameter that is less than the first diameter;
 - a washer including a polymeric compression portion and a rigid backing portion and defining a fifth aperture; and
 - a screw including a head and extending through the first aperture, the cylindrical second aperture, the fourth aperture, and the fifth aperture, and into the roof substrate and a rafter to secure the L-shaped bracket and the flashing to the roof substrate and inhibit fluid flow through the first aperture.
3. (New) The roof mount assembly of claim 2, wherein the cylindrical second aperture is normal to the first planar end surface and the second planar end surface.
4. (New) The roof mount assembly of claim 2, wherein the third aperture of the L-shaped bracket is sized to receive a second fastener to support a solar panel.

5. (New) The roof mount assembly of claim 2, wherein the polymeric compression portion is compressed between the head of the screw and the flange.

6. (New) The roof mount assembly of claim 2, wherein a portion of the rubber seal is compressed between the flange of the L-shaped bracket and the upwardly extending projection of the flashing.

7. (New) A roof mount assembly comprising:

a flashing supportable on a roof substrate, the flashing including a top surface, a bottom surface adjacent an upper surface of the roof substrate, and an upwardly extending projection defining a first aperture extending through the top surface and the bottom surface;
a rubber seal including a first end portion forming a first circular disk having a first planar end surface, a second end portion forming a second circular disk having a second planar end surface, and a central portion between the first end portion and the second end portion, the rubber seal defining a cylindrical second aperture centrally located in the rubber seal extending and from the first planar end surface to the second planar end surface;

a bracket supportable on the flashing, the bracket including a planar first end, a first arm, a second arm, and a planar second end, the planar first end defining a third aperture, the third aperture including a first aperture portion having a first cylindrical shape and defining a first diameter and a second aperture portion having a second cylindrical shape and defining a second diameter that is less than the first diameter, the bracket defining a bracket aperture bound by the planar first end, the first arm, the second arm, and the planar second end;

a washer including a polymeric compression portion and a rigid backing portion and defining a fourth aperture; and

a screw including a head and extending through the first aperture, the cylindrical second aperture, the third aperture, and the fourth aperture, and into the roof substrate and a rafter to secure the bracket and the flashing to the roof substrate, to couple the bracket, the rubber seal and the flashing as an assembly, and to inhibit fluid flow through the first aperture.

8. (New) The roof mount assembly of claim 7, wherein the planar second end is configured to support a second assembly and a solar panel.

9. (New) The roof mount assembly of claim 7, wherein the polymeric compression portion is compressed between the head of the screw and the bracket.

10. (New) The roof mount assembly of claim 7, wherein the cylindrical second aperture is normal to the first planar end surface and the second planar end surface.
11. (New) A roof mount assembly comprising:
- a flashing including a top surface, a bottom surface, and an upwardly extending projection defining a first aperture;
 - a rubber seal including a first end portion, a second end portion and a central portion between the first and second end portions, the rubber seal defining a cylindrical second aperture through the first end portion, the second end portion, and the central portion, the cylindrical second aperture being normal to a first outside surface of the first end portion and a second end surface of a second end portion;
 - a bracket including a body portion and a flange portion, the flange portion defining a third aperture sized to receive the rubber seal and the upwardly extending projection
 - a washer including a polymeric portion and a rigid backing portion and defining a fourth aperture; and
 - a fastener extending through the first aperture, the cylindrical second aperture, the third aperture, and the fourth aperture to couple the bracket, the rubber seal, and the flashing as an assembly,
- wherein the assembly inhibits flow of fluid through the first aperture.
12. (New) The roof mount assembly of claim 11, wherein the body portion of the bracket includes a fifth aperture sized to receive a second fastener to support a solar panel.
13. (New) The roof mount assembly of claim 11, wherein the polymeric portion is compressed between the fastener and the bracket.
14. (New) The roof mount assembly of claim 11, wherein the first end portion of the rubber seal forms a circular disc.
15. (New) The roof mount assembly of claim 11, wherein the bracket is L-shaped.
16. (New) The roof mount assembly of claim 11, wherein the rubber seal is factory-installed.
17. (New) A roof mount assembly comprising:
- a flashing including a top surface, a bottom surface, an upwardly extending projection, the upwardly extending projection defining a first aperture;

a rubber seal including a first end portion, a second end portion and a central portion between the first and second end portions, the rubber seal defining a cylindrical second aperture through the first end portion, the second end portion, and the central portion;

a bracket supportable on the flashing, the bracket including a first end, a first arm, a second arm, and a second end, the first end defining a third aperture, the third aperture including a first aperture portion and defining a first diameter and a second aperture portion defining a second diameter that is less than the first diameter, the bracket defining a bracket aperture bound by the first end, the first arm, the second arm, and the second end;

a washer including a polymeric portion and a rigid backing portion and defining a fourth aperture; and

a fastener extending through the first aperture, the cylindrical second aperture, the third aperture, and the fourth aperture to couple the bracket, the rubber seal, and the flashing to form an assembly,

wherein the assembly inhibits flow of fluid through the first aperture.

18. (New) The roof mount assembly of claim 17, wherein the polymeric portion is compressed between the fastener and the bracket.

19. (New) The roof mount assembly of claim 17, wherein a portion of the rubber seal is compressed between the bracket and the flashing.

20. (New) The roof mount assembly of claim 17, wherein the rubber seal and the washer inhibit entry of water to a roof substrate.

21. (New) The roof mount assembly of claim 17, wherein the second end is configured to support a second assembly and a solar panel.

22. (New) The roof mount assembly of claim 17, wherein the cylindrical second aperture is sized to receive the fastener.

23. (New) The roof mount assembly of claim 17, wherein the rubber seal is installable within the assembly without the fastener.

24. (New) The roof mount assembly of claim 17, wherein the rubber seal is factory-installed within the assembly.

25. (New) The roof mount assembly of claim 17, wherein the cylindrical second aperture has a smooth surface.

REMARKS

This reply is considered fully responsive to the Office Action dated March 10, 2020. The Office rejects claims 1. Applicants cancel claim 1 without prejudice of disclaimer to filing similar claims in this or a related case. Applicant adds Previously Presented claims 2-25. Applicants assert that the application is in condition for allowance and reconsideration of the pending claims is requested.

Specification Objections

The Office objects to paragraphs [0001], [0002], [0003], and [0004] as containing informalities. Applicant amends the objected to paragraphs. As such, Applicant respectfully requests that the Office withdraw the objection.

Rejections Under 35 U.S.C. § 112

The Office rejects claim 1 under 35 U.S.C. § 112, second paragraph, as being indefinite. Applicants respectfully disagree with the Examiner; however, Applicants cancel claim 1 without prejudice or disclaimer rendering the rejection moot.

Double Patenting

The Examiner rejects claim 1 based on nonstatutory double patenting as being upatentable over claim 1 of U.S. Patent No. 8,272,174 and claim 1 of U.S. Patent No. 8,701,354. Applicants respectfully disagree. However, Applicants would be willing to terminally disclaim to the cited reference if doing so would result in the application being placed in condition for allowance. As such, when the Examiner agrees to allowable claims, Applicants respectfully request that the Examiner hold this rejection in abeyance and re-submit the request for a Terminal Disclaimer based on the pending claims at that time, if the Examiner still believes a Terminal Disclaimer is necessary.

The claims of the present application are different and possibly broader than the claims pursued in the parent or related applications. To the extent any amendments or characterizations of the scope of any claim or referenced art could be construed as a disclaimer of any subject matter supported by the present disclosure, Applicants hereby rescind and retract such

disclaimer. Accordingly, the references construed in the parent or related applications may need to be revisited.

Applicants respectfully submit that the pending claims are in condition for allowance. If an extension of time is necessary, please accept this as a petition therefore. The Commissioner is hereby authorized to charge any fees which may be required or credit any overpayment to Deposit Account 602406. Applicants invite the Office to telephone the undersigned if the Examiner has any questions regarding this Reply or the present application in general.

Respectfully submitted,

Dated: March 31, 2020

By: /Mark Williams/
Mark Williams
Reg. No. 64,425

KW Law LLP
6122 N. 7th Street, Suite D
Phone: 602-300-7758 | Email: mark@kwlaw.co

Electronic Patent Application Fee Transmittal				
Application Number:		16752667		
Filing Date:		26-Jan-2020		
Title of Invention:		ROOF MOUNTING SYSTEM		
First Named Inventor/Applicant Name:		Brian Cecil Stearns		
Filer:		Mark W. Williams/Sarah Flaaen		
Attorney Docket Number:		1000-00632		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	2202	4	50	200
INDEPENDENT CLAIMS IN EXCESS OF 3	2201	1	230	230
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				430

Electronic Acknowledgement Receipt	
EFS ID:	39026441
Application Number:	16752667
International Application Number:	
Confirmation Number:	3794
Title of Invention:	ROOF MOUNTING SYSTEM
First Named Inventor/Applicant Name:	Brian Cecil Stearns
Customer Number:	145438
Filer:	Mark W. Williams/Sarah Flaaen
Filer Authorized By:	Mark W. Williams
Attorney Docket Number:	1000-00632
Receipt Date:	31-MAR-2020
Filing Date:	26-JAN-2020
Time Stamp:	18:18:47
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$430
RAM confirmation Number	E20203UI19202309
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		1000-00632_ROA_03102020.pdf	7625456	yes	10
			60c13bfd0e0459582d87e26bb1a786911daabdaf		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Specification		2	4	
	Claims		5	8	
	Applicant Arguments/Remarks Made in an Amendment		9	10	
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	31639	no	2
			127ece0b7e7724ec45ccab5581ef60a3c8f2e96c		
Warnings:					
Information:					
Total Files Size (in bytes):			7657095		

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.



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY.DOCKET NO./TITLE	REQUEST ID
16/752,667	01/26/2020	Ecofasten Solar, LLC	1000-00632	108071

Acknowledgement of Change to Small Entity Status

The entity status change request below filed through Private PAIR on 03/20/2020 has been accepted.

CERTIFICATIONS:

Change of Entity Status:

× Applicant asserting small entity status. See 37 CFR 1.27.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

This portion must be completed by the signatory or signatories making the entity status change in accordance with 37 CFR 1.4(d)(4).

Signature:	/Mark Williams/
Name:	Mark Williams
Registration Number:	64425

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KW Law, LLP
6122 N. 7th Street
Suite D
Phoenix, AZ 85014



**Courtesy Reminder for
Application Serial No: 16/752,667**

Attorney Docket No: 1000-00632
Customer Number: 145438
Date of Electronic Notification: 03/10/2020

This is a courtesy reminder that new correspondence is available for this application. If you have not done so already, please review the correspondence. The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

An email notification regarding the correspondence was sent to the following email address(es) associated with your customer number:

docket@kwlaw.co
mark@kwlaw.co
jeremy@kwlaw.co

To view your correspondence online or update your email addresses, please visit us anytime at <https://ppair-my.uspto.gov/pair/PrivatePair>. If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov or call 1-866-217-9197.



UNITED STATES PATENT AND TRADEMARK OFFICE

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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/752,667	01/26/2020	Brian Cecil Stearns	1000-00632	3794
145438	7590	03/10/2020	EXAMINER	
KW Law, LLP			STEPHAN, BETH A	
6122 N. 7th Street			ART UNIT	PAPER NUMBER
Suite D			3633	
Phoenix, AZ 85014			NOTIFICATION DATE	DELIVERY MODE
			03/10/2020	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket@kwlaw.co
jeremy@kwlaw.co
mark@kwlaw.co

Office Action Summary	Application No. 16/752,667	Applicant(s) Stearns et al.	
	Examiner BETH A STEPHAN	Art Unit 3633	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/26/2020.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 1 is/are pending in the application.
 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 1/26/2020 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some** c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
 Paper No(s)/Mail Date ____.
- 3) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date ____.
- 4) ☐ Other: ____.

Notice of Pre-AIA or AIA Status

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

This is a non-final First Office Action on the Merits in application 16/752,667, filed 1/26/2020, which is a continuation as set forth in the specification.

Claim 1 is pending and examined.

Specification

The disclosure is objected to because of the following informalities: in paras. [0001], [0002], [0003] and [0004], "16/051,4709" should be changed to "16/051,479".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of 35 U.S.C. 112(b):

(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

In claim 1, line 11, “the flashing” is not clear which flashing is being referred to since a flashing was set forth in lines 5 and 11.

In claim 1, line 12, “the first surface” is not clear which first surface is being referred to since a flashing was set forth in lines 6 and 11-12.

In claim 1, line 14, “the aperture” is not clear which flashing is being referred to since an aperture was set forth in lines 6 and 12.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double patenting provided the reference application or patent either is shown to be

commonly owned with the examined application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP §§ 706.02(l)(1) - 706.02(l)(3) for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

Claim 1 is rejected on the ground of nonstatutory double patenting as being unpatentable over claim 1 of U.S. Patent No. 8,272,174. Although the claims at issue are not identical, they are not patentably distinct from each other because both sets of claims set forth a roof mounting system with a roof substrate, mounting assemblies with a flashing with an aperture, a bracket, and a fastener, and a track coupled to the brackets with fasteners for a solar panel.

Claim 1 is rejected on the ground of nonstatutory double patenting as being unpatentable over claim 1 of U.S. Patent No. 8,701,354. Although the claims at issue

are not identical, they are not patentably distinct from each other because both sets of claims set forth a roof mounting system with a roof substrate, mounting assemblies with a flashing with an aperture, a bracket, and a fastener, and a track coupled to the brackets with fasteners for a solar panel.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BETH A. STEPHAN whose telephone number is (571)272-1851. The examiner can normally be reached on M-F 7a-1p.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Glessner can be reached on 571-272-6754. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <https://ppair-my.uspto.gov/pair/PrivatePair>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access

Application/Control Number: 16/752,667
Art Unit: 3633

Page 6

to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-
272-1000.

BETH A. STEPHAN
Primary Examiner
Art Unit 3633

/Beth A Stephan/

Notice of References Cited	Application/Control No. 16/752,667		Applicant(s)/Patent Under Reexamination Stearns et al.	
	Examiner BETH A STEPHAN		Art Unit 3633	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-8272174-B2	09-2012	Stearns; Brian Cecil	E04D13/10	52/58
*	B	US-20100236155-A1	09-2010	Lanza; Carlo John	E04D1/30	52/58
*	C	US-20100192505-A1	08-2010	Schaefer; Richard F.	A47B96/14	52/653.2
*	D	US-20080087275-A1	04-2008	Sade; Rovshan	H02S20/24	126/623
*	E	US-20080053008-A1	03-2008	Ohkoshi; Yasushi	H02S20/23	52/173.1
*	F	US-20080000173-A1	01-2008	Lenox; Carl J. S.	H01R4/64	52/173.1
*	G	US-20070245636-A1	10-2007	Ayer; Sydney L.	E04D13/10	52/24
*	H	US-20060260670-A1	11-2006	Terunuma; Miho	F24S25/70	136/244
*	I	US-8701354-B2	04-2014	Stearns; Brian Cecil	E04D13/10	52/24
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS


*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

U.S. Patent and Trademark Office
PTO-892 (Rev. 01-2001)

Notice of References Cited

Part of Paper No. 20200305

<i>Search Notes</i> 	Application/Control No. 16/752,667	Applicant(s)/Patent Under Reexamination Stearns et al.
	Examiner BETH A STEPHAN	Art Unit 3633

CPC - Searched*		
Symbol	Date	Examiner
E04B 1/66	03/05/2020	BAS
E04D 13/04; 13/10; 13/14; 13/1407	03/05/2020	BAS

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
52	58	03/05/2020	BAS

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
EAST text and CPC and USPC	03/05/2020	BAS
Inventor name and assignee check	03/05/2020	BAS
Considered related art(as stated in spec)	03/05/2020	BAS
Forward/back pertinent art	03/05/2020	BAS

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

/B.A.S/ Primary Examiner, Art Unit 3633	
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EAST Search History**EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	34	((("Stearns") near3 ("Brian") near3 ("Cecil"))).INV.	USPAT; USOCR	OR	OFF	2020/03/05 12:35
L2	1	("8245454").PN.	USPAT; USOCR	OR	OFF	2020/03/05 12:36
L3	1	("8701354").PN.	USPAT; USOCR	OR	OFF	2020/03/05 12:37
S1	3	((("ECOFASTEN") near3 ("SOLAR") near3 ("LLC"))).AS,AANM.	USPAT	OR	OFF	2020/03/05 09:48
S2	77	((("Stearns") near3 ("Brian") near3 ("Cecil"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/03/05 09:48
S3	39	((("Lounsbury") near3 ("Douglas") near3 ("Timothy"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/03/05 09:48
S6	43	(S1 or S2 or S3) and fastener and bracket and track\$3	US-PGPUB; USPAT; USOCR	OR	OFF	2020/03/05 09:49
S8	25	(S1 or S2 or S3) and fastener and bracket and track\$3	USPAT; USOCR	OR	OFF	2020/03/05 09:50
S10	579	roof\$3 and mount\$3 and fastener and bracket and fastener and substrate and solar and track\$3	US-PGPUB; USPAT; USOCR	OR	ON	2020/03/05 09:54
S11	42	S2 and S10	US-PGPUB; USPAT; USOCR	OR	ON	2020/03/05 09:54
S12	7	(roof\$3 and mount\$3 and fastener and bracket and fastener and substrate and solar and track\$3).clm.	US-PGPUB; USPAT; USOCR	OR	ON	2020/03/05 09:55
S13	171	("0473512" "0756884" "1646923" "1925263" "20020046506" "20020088196" "20020131842" "20030101662" "20030177706" "20040173373" "20060260670" "20070245636" "20070266672" "20070289233" "20080000173" "20080053008" "20080087275" "20080190047" "20080245404" "20080313976" "20090309388" "20100192505" "20100236155" "20100307074" "20110120047" "20110247279" "20110247295" "2079768" "2349467" "2890664" "2925976" "3141532" "3182762" "3633862" "3880405" "3998019" "4226058" "4269012" "4321745" "4325178" "4348846" "4367864" "4404962" "4554773" "4763456" "4796403" "4892429" "4903997" "4927305" "5082412" "5127205"	US-PGPUB; USPAT; USOCR	OR	OFF	2020/03/05 10:04

		"5207043" "5217191" "5228248" "5353473" "5431372" "5483772" "5491931" "5528872" "5547226" "5557903" "5609326" "5613328" "5685508" "5687936" "5692352" "5694721" "5715640" "5797232" "5813649" "5873201" "5882043" "5983588" "6164033" "6193455" "6354046" "6360491" "6414237" "6470629" "6514005" "6526701" "6536729" "6718718" "6868647" "6918724" "7013612" "7069698" "7100338" "7260918" "7434362" "7703256" "7758011" "7762027" "7789365" "7857269" "7866099" "7900413" "7935202" "7956280" "7987641" "8122648" "D139568" "D188221" "D293203" "D294904" "D368648" "D388136" "D409078" "D426453" "D428799" "D430005" "D617174").PN. OR ("8272174").URPN.				
S15	3036	E04B1/66.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/05 11:15
S16	605	E04D13/04.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/05 11:15
S17	1694	E04D13/10.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/05 11:16
S18	521	E04D13/14.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/05 11:16
S19	1061	E04D13/1407.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/05 11:16
S20	727	(52/58).CCLS.	USPAT; USOCR	OR	OFF	2020/03/05 11:17
S21	906	(52/58).CCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/03/05 11:18

3/5/2020 12:38:40 PM

C:\Users\bstephan\Documents\EAST\Workspaces\16752667.wsp



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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
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BIB DATA SHEET

CONFIRMATION NO. 3794

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.		
16/752,667	01/26/2020 RULE	052	3633	1000-00632		
APPLICANTS Ecofasten Solar, LLC, Phoenix, AZ; INVENTORS Brian Cecil Stearns, Tucson, AZ; Douglas Timothy Lounsbury, Moretown, VT; ** CONTINUING DATA ***** This application is a CON of 16/051,479 07/31/2018 PAT 10594251 which is a CON of 15/942,265 03/30/2018 PAT 10218304 which is a CON of 15/711,745 09/21/2017 PAT 10090801 which is a CON of 15/461,166 03/16/2017 PAT 9793853 which is a CON of 15/229,974 08/05/2016 PAT 9774292 which is a CON of 15/003,472 01/21/2016 PAT 9422723 and is a CON of 14/813,199 07/30/2015 PAT 9422721 and said 15/003,472 01/21/2016 is a CON of 14/253,687 04/15/2014 PAT 9127464 which is a CON of 13/271,650 10/12/2011 PAT 8701354 which is a CON of 13/166,542 06/22/2011 PAT 8146299 which is a CON of 12/914,209 10/28/2010 PAT 8209914 which is a CIP of 12/727,726 03/19/2010 PAT 8153700 which claims benefit of 61/161,668 03/19/2009 and said 12/914,209 10/28/2010 claims benefit of 61/298,101 01/25/2010 and claims benefit of 61/345,885 05/18/2010 and said 15/003,472 01/21/2016 is a CON of 14/813,199 07/30/2015 PAT 9422721 which is a CON of 14/235,687 01/28/2014 PAT 9414793 and said 13/271,650 10/12/2011 is a CON of 12/914,209 10/28/2010 PAT 8209914 and said 14/813,199 07/30/2015 is a CON of 14/253,687 04/15/2014 PAT 9127464 and said 13/271,650 10/12/2011 is a CIP of 13/166,378 06/22/2011 PAT 8151522 which is a CON of 12/727,726 03/19/2010 PAT 8153700 and said 13/271,650 10/12/2011 is a CIP of 12/727,726 03/19/2010 PAT 8153700 ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 02/12/2020						
Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Verified and Acknowledged <u>/BETH A STEPHAN/</u> Examiner's Signature		<input type="checkbox"/> Met after Allowance Initials	STATE OR COUNTRY AZ	SHEETS DRAWINGS 57	TOTAL CLAIMS 1	INDEPENDENT CLAIMS 1

ADDRESS KW Law, LLP 6122 N. 7th Street Suite D Phoenix, AZ 85014 UNITED STATES		
TITLE ROOF MOUNTING SYSTEM		
FILING FEE RECEIVED 1720	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees
		<input type="checkbox"/> 1.16 Fees (Filing)
		<input type="checkbox"/> 1.17 Fees (Processing Ext. of time)
		<input type="checkbox"/> 1.18 Fees (Issue)
		<input type="checkbox"/> Other _____
		<input type="checkbox"/> Credit



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/752,667	01/26/2020	Brian Cecil Stearns	1000-00632

CONFIRMATION NO. 3794

POA ACCEPTANCE LETTER

145438
KW Law, LLP
7000 N. 16th St. STE 120-505
Phoenix, AZ 85020



Date Mailed: 02/21/2020

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 02/14/2020.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/mbeyene/

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

☒ Practitioners associated with Customer Number: 145438

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number

Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

☒ The address associated with Customer Number: 145438

OR

<input type="checkbox"/>	Firm or individual name		
	Address		
	City	State	Zip
	Country		
	Telephone	Email	

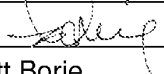
Assignee name and address:

Ecofasten Solar, LLC, 4141 W. Van Buren St, Ste 2, Phoenix, AZ 85009

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of the practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee.

Signature 	Date 11/5/2019
Name Matt Borie	Telephone 844-357-5645 x222
Title CFO	

This collection of information is required by 37 CFR 1.31, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public, which is to update (and by the USPTO to process) the file of a patent or reexamination proceeding. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 18 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.

Privacy Act Statement

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

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

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

Electronic Acknowledgement Receipt	
EFS ID:	38597535
Application Number:	16752667
International Application Number:	
Confirmation Number:	3794
Title of Invention:	ROOF MOUNTING SYSTEM
First Named Inventor/Applicant Name:	Brian Cecil Stearns
Customer Number:	145438
Filer:	Mark W. Williams/Meg Williams
Filer Authorized By:	Mark W. Williams
Attorney Docket Number:	1000-00632
Receipt Date:	14-FEB-2020
Filing Date:	26-JAN-2020
Time Stamp:	17:27:34
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Assignee showing of ownership per 37 CFR 3.73	1000-00632_373c.pdf	123551 80ed88ea5e45499a2b458de38444fd567d03dbed	no	3

Warnings:

Information:					
2	Power of Attorney	1000-00632_POA.pdf	587421	no	2
			3bccbed6246ccdf840494b4fa7a4467020e85159		
Warnings:					
Information:					
Total Files Size (in bytes):			710972		
<p>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.</p> <p><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.</p> <p><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.</p> <p><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.</p>					

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Ecofasten Solar, LLC
Application No./Patent No.: 16/752,667 Filed/Issue Date: 01/26/2020
Titled: ROOF MOUNTING SYSTEM
Ecofasten Solar, LLC, a limited liability company
(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☒ The assignee of the entire right, title, and interest.
2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):
- ☐ The extent (by percentage) of its ownership interest is ____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.
- ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (e.g., bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

- A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

- B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: INVENTORS To: ALPINE SNOWGUARDS

The document was recorded in the United States Patent and Trademark Office at
Reel 051682, Frame 0209, or for which a copy thereof is attached.

2. From: ALPINE SNOWGUARDS To: VERMONT SLATE & COPPER SERVICES, INC.

The document was recorded in the United States Patent and Trademark Office at
Reel 051682, Frame 0304, or for which a copy thereof is attached.

[Page 1 of 2]

This collection of information is required by 37 CFR 3.73(b). 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 12 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.**

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STATEMENT UNDER 37 CFR 3.73(c)

3. From: VERMONT SLATE & COPPER SERVICES, INC. To: RILLITO RIVER SOLAR, LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 051682, Frame 0417, or for which a copy thereof is attached.

4. From: Rillito River Solar, LLC To: Rillito River Solar, LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 051682, Frame 0494, or for which a copy thereof is attached.

5. From: Rillito River Solar, LLC To: Ecofasten Solar, LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 051766, Frame 0579, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☒ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Mark Williams/

02/11/2020

Signature

Date

Mark Williams

64425

Printed or Typed Name

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



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
16/752,667	01/26/2020	1731	1720	1000-00632	1	1

CONFIRMATION NO. 3794

FILING RECEIPT



0000000114689079

145438
KW Law, LLP
7000 N. 16th St. STE 120-505
Phoenix, AZ 85020

Date Mailed: 02/13/2020

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections provided that the request is grantable.

Inventor(s)

Brian Cecil Stearns, Tucson, AZ;
Douglas Timothy Lounsbury, Moretown, VT;

Applicant(s)

Ecofasten Solar, LLC, Phoenix, AZ;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 16/051,479 07/31/2018
which is a CON of 15/942,265 03/30/2018 PAT 10218304
which is a CON of 15/711,745 09/21/2017 PAT 10090801
which is a CON of 15/461,166 03/16/2017 PAT 9793853
which is a CON of 15/229,974 08/05/2016 PAT 9774292
which is a CON of 15/003,472 01/21/2016 PAT 9422723
and is a CON of 14/813,199 07/30/2015 PAT 9422721
and said 15/003,472 01/21/2016
is a CON of 14/253,687 04/15/2014 PAT 9127464
which is a CON of 13/271,650 10/12/2011 PAT 8701354
which is a CON of 13/166,542 06/22/2011 PAT 8146299
which is a CON of 12/914,209 10/28/2010 PAT 8209914
which is a CIP of 12/727,726 03/19/2010 PAT 8153700
which claims benefit of 61/161,668 03/19/2009
and said 12/914,209 10/28/2010

claims benefit of 61/298,101 01/25/2010
and claims benefit of 61/345,885 05/18/2010
and said 15/003,472 01/21/2016
is a CON of 14/813,199 07/30/2015 PAT 9422721
which is a CON of 14/235,687 01/28/2014 PAT 9414793
and said 13/271,650 10/12/2011
is a CON of 12/914,209 10/28/2010 PAT 8209914
and said 14/813,199 07/30/2015
is a CON of 14/253,687 04/15/2014 PAT 9127464
and said 13/271,650 10/12/2011
is a CIP of 13/166,378 06/22/2011 PAT 8151522
which is a CON of 12/727,726 03/19/2010 PAT 8153700
and said 13/271,650 10/12/2011
is a CIP of 12/727,726 03/19/2010 PAT 8153700

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 02/12/2020

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/752,667**

Projected Publication Date: 05/21/2020

Non-Publication Request: No

Early Publication Request: No

Title

ROOF MOUNTING SYSTEM

Preliminary Class

501

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international

page 2 of 4

patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and

Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 16/752,667				
APPLICATION AS FILED - PART I										
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY				
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)			
BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A			N/A	300			
SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A	N/A			N/A	660			
EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A			N/A	760			
TOTAL CLAIMS <small>(37 CFR 1.16(j))</small>	1	minus 20 = *				x 100 =	0.00			
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	1	minus 3 = *				x 460 =	0.00			
APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL		TOTAL	1720			
APPLICATION AS AMENDED - PART II										
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total <small>(37 CFR 1.16(i))</small>	*	Minus	**	=	x	=		x	=
	Independent <small>(37 CFR 1.16(h))</small>	*	Minus	***	=	x	=		x	=
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
TOTAL ADD'L FEE									TOTAL ADD'L FEE	
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total <small>(37 CFR 1.16(i))</small>	*	Minus	**	=	x	=		x	=
	Independent <small>(37 CFR 1.16(h))</small>	*	Minus	***	=	x	=		x	=
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
TOTAL ADD'L FEE									TOTAL ADD'L FEE	
<div style="font-size: x-small;"> * If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1. </div>										

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1000-00632
		Application Number	
Title of Invention	ROOF MOUNTING SYSTEM		
<p>The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.</p> <p>This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.</p>			

Secrecy Order 37 CFR 5.2:

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

Inventor Information:

Inventor 1					
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Brian	Cecil	Stearns		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Tucson	State/Province	AZ	Country of Residence ⁱ	US
Mailing Address of Inventor:					
Address 1		289 Harrel Street			
Address 2					
City	Morrisville	State/Province	VT		
Postal Code	05661	Country ⁱ	US		
Inventor 2					
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Douglas	Timothy	Lounsbury		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Moretown	State/Province	VT	Country of Residence ⁱ	US
Mailing Address of Inventor:					
Address 1		6356 Moretown Mountain Road			
Address 2					
City	Moretown	State/Province	VT		
Postal Code	05660-8929	Country ⁱ	US		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.					<input type="button" value="Add"/>

Correspondence Information:

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1000-00632
		Application Number	
Title of Invention	ROOF MOUNTING SYSTEM		

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence information of this application.**

Customer Number	145438		
Email Address	mark@kwlaw.co	<input type="button" value="Add Email"/>	<input type="button" value="Remove Email"/>

Application Information:

Title of the Invention	ROOF MOUNTING SYSTEM		
Attorney Docket Number	1000-00632	Small Entity Status Claimed	<input type="checkbox"/>
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	57	Suggested Figure for Publication (if any)	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

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

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	<input checked="" type="radio"/> Customer Number	<input type="radio"/> US Patent Practitioner	<input type="radio"/> Limited Recognition (37 CFR 11.9)
Customer Number	145438		

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

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1000-00632
		Application Number	
Title of Invention	ROOF MOUNTING SYSTEM		

Prefix	Given Name	Middle Name	Family Name	Suffix	Remove
Registration Number					
Prefix	Given Name	Middle Name	Family Name	Suffix	Remove
Registration Number					
Additional Representative Information blocks may be generated within this form by selecting the Add button.					

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status		Pending		Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
	Continuation of	16051479	2018-07-31		
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
16051479	Continuation of	15942265	2018-03-30	10218304	2019-02-26
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15942265	Continuation of	15711745	2017-09-21	10090801	2018-10-02
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15711745	Continuation of	15461166	2017-03-16	9793853	2017-10-17
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15461166	Continuation of	15229974	2016-08-05	9774292	2017-09-26

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1000-00632
		Application Number	
Title of Invention	ROOF MOUNTING SYSTEM		

Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15229974	Continuation of	15003472	2016-01-21	9422723	2016-08-23

Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15229974	Continuation of	14813199	2015-07-30	9422721	2016-08-23

Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15003472	Continuation of	14253687	2014-04-15	9127464	2015-09-08

Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14253687	Continuation of	13271650	2011-10-12	8701354	2014-04-22

Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13271650	Continuation of	13166542	2011-06-22	8146299	2012-04-03

Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13166542	Continuation of	12914209	2010-10-28	8209914	2012-07-03

Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
12914209	Continuation in part of	12727726	2010-03-19	8153700	2012-04-10

Prior Application Status		Pending		Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
12727726	Claims benefit of provisional	61161668	2009-03-19		

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1000-00632
		Application Number	
Title of Invention	ROOF MOUNTING SYSTEM		

Prior Application Status		Pending		Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
12914209	Claims benefit of provisional	61298101	2010-01-25		
Prior Application Status		Pending		Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
12914209	Claims benefit of provisional	61345885	2010-05-18		
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15003472	Continuation of	14813199	2015-07-30	9422721	2016-08-23
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14813199	Continuation of	14235687	2014-01-28	9414793	2016-08-16
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13271650	Continuation of	12914209	2010-10-28	8209914	2012-07-03
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14813199	Continuation of	14253687	2014-04-15	9127464	2015-09-08
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13271650	Continuation in part of	13166378	2011-06-22	8151522	2012-04-10
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13166378	Continuation of	12727726	2010-03-19	8153700	2012-04-10

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1000-00632
		Application Number	
Title of Invention	ROOF MOUNTING SYSTEM		

Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13271650	Continuation in part of	12727726	2010-03-19	8153700	2012-04-10
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.					

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Access Code ^j (if applicable)

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Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.

☐ NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1000-00632
		Application Number	
Title of Invention	ROOF MOUNTING SYSTEM		

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1000-00632
		Application Number	
Title of Invention	ROOF MOUNTING SYSTEM		

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

- ☒ Assignee
 ☐ Legal Representative under 35 U.S.C. 117
 ☐ Joint Inventor
- ☐ Person to whom the inventor is obligated to assign.
 ☐ Person who shows sufficient proprietary interest

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. ☒

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1000-00632
		Application Number	
Title of Invention	ROOF MOUNTING SYSTEM		

Assignee Information including Non-Applicant Assignee Information:

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Assignee 1				
Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.				
If the Assignee or Non-Applicant Assignee is an Organization check here. <input type="checkbox"/>				
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Mailing Address Information For Assignee including Non-Applicant Assignee:				
Address 1				
Address 2				
City		State/Province		
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1000-00632
		Application Number	
Title of Invention	ROOF MOUNTING SYSTEM		

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Mark Williams/			Date (YYYY-MM-DD)	
First Name	Mark	Last Name	Williams	Registration Number	64425
Additional Signature may be generated within this form by selecting the Add button.					

ROOF MOUNTIGN SYSTEM

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The present application is a continuation of U.S. Patent Application No. 16/051,4709, filed on July 31, 2018 and issued as U.S. Patent No. XX,XXX,XXX, which is a continuation of U.S. Patent Application No. 15/942,265, filed on March 30, 2018 issued as 10,218,304, which is a continuation of U.S. Patent Application No. 15/711,745, filed on September 21, 2017 issued as U.S. Patent No. 10,218,304, which is a continuation of U.S. Patent Application No. 15/461,166, filed on August 5, 2016 issued as U.S. Patent No. 9,793,853, which is a continuation of U.S. Patent Application No. 15/229,974, filed on August 5, 2016 issued as U.S. Patent No. 9,774,292, which is a continuation of U.S. Patent Application No. 15/003,472, filed on January 21, 2016 issued as U.S. Patent No. 9,422,723, which is a continuation of U.S. Patent Application No. 14/813,199 issued as U.S. Patent No. 9,422,721, filed July 30, 2015, which is a continuation of U.S. Patent Application No. 14/253,687, filed April 15, 2014 issued as U.S. Patent No. 9,127,464, which is a continuation of U.S. Patent Application No. 13/271,650, filed October 12, 2011 issued as U.S. Patent No. 8,701,354, which is a continuation of U.S. Patent Application No. 13/166,542, filed June 22, 2011 issued as U.S. Patent No. 8,146,299, which is a continuation of U.S. Patent Application No. 12/914,209, filed October 28, 2010 issued as U.S. Patent No. 8,209,914, which is a continuation-in-part of U.S. Patent Application No. 12/727,726, filed March 19, 2010 issued as U.S. Patent No. 8,153,700, which claims priority to U.S. Provisional Patent Application No. 61/161,668, filed March 19, 2009, the entire contents of all of which are herein incorporated by reference. U.S. Patent Application No. 12/914,209 issued as U.S. Patent No. 8,209,914 also claims priority to U.S. Provisional Patent Application Nos. 61/298,101, filed January 25, 2010, and 61/345,885, filed May 18, 2010, the entire contents of both of which are herein incorporated by reference.

[0002] The present application is a continuation of U.S. Patent Application No. 16/051,4709, filed on July 31, 2018 and issued as U.S. Patent No. XX,XXX,XXX, which is a continuation of U.S. Patent Application No. 15/942,265, filed on March 30, 2018 issued as 10,218,304, which is a continuation of U.S. Patent Application No. 15/711,745, filed on September 21, 2017 issued as

U.S. Patent No. 10,090,801, which is a continuation of U.S. Patent Application No. 15/461,166, filed on August 5, 2016 issued as U.S. Patent No. 9,793,853, which is a continuation of U.S. Patent Application No. 15/229,974, filed on August 5, 2016 issued as U.S. Patent No. 9,774,292, which is a continuation of U.S. Patent Application No. 15/003,472, filed on January 21, 2016 issued as U.S. Patent No. 9,422,723, which is a continuation of U.S. Patent Application No. 14/813,199, filed July 30, 2015 issued as U.S. Patent No. 9,422,721, which is a continuation of U.S. Patent Application No. 14/253,687, filed April 15, 2014 issued as U.S. Patent No. 9,127,464, which is a continuation of U.S. Patent Application No. 13/271,650, filed October 12, 2011 issued as U.S. Patent No. 8,701,354, which is also a continuation of U.S. Patent Application No. 12/914,209, filed October 28, 2010 issued as U.S. Patent No. 8,209,914, which is a continuation-in-part of U.S. Patent Application No. 12/727,726 issued as U.S. Patent No. 8,153,700, filed March 19, 2010, which claims priority to U.S. Provisional Patent Application No. 61/161,668, filed March 19, 2009, the entire contents of all of which are herein incorporated by reference. U.S. Patent Application No. 12/914,209 issued as U.S. Patent No. 8,209,914 also claims priority to U.S. Provisional Patent Application Nos. 61/298,101, filed January 25, 2010, and 61/345,885, filed May 18, 2010, the entire contents of both of which are herein incorporated by reference.

[0003] The present application is a continuation of U.S. Patent Application No. 16/051,4709, filed on July 31, 2018 and issued as U.S. Patent No. XX,XXX,XXX, which is a continuation of U.S. Patent Application No. 15/942,265, filed on March 30, 2018 issued as 10,218,304, which is a continuation of U.S. Patent Application No. 15/711,745, filed on September 21, 2017 issued as U.S. Patent No. 10,090,801, which is a continuation of U.S. Patent Application No. 15/461,166, filed on August 5, 2016 issued as U.S. Patent No. 9,793,853, which is a continuation of U.S. Patent Application No. 15/229,974, filed on August 5, 2016 issued as U.S. Patent No. 9,774,292, which is a continuation of U.S. Patent Application No. 15/003,472, filed on January 21, 2016 issued as U.S. Patent No. 9,422,723, which is a continuation of U.S. Patent Application No. 14/813,199, filed July 30, 2015 issued as U.S. Patent No. 9,422,721, which is a continuation of U.S. Patent Application No. 14/253,687, filed April 15, 2014 issued as U.S. Patent No. 9,127,464, which is a continuation of U.S. Patent Application No. 13/271,650, filed October 12, 2011 issued as U.S. Patent No. 8,701,354, which is also a continuation-in-part of U.S. Patent Application No. 13/166,378, filed June 22, 2011 issued as U.S. Patent No. 8,151,522, which is a

continuation of U.S. Patent Application No. 12/727,726, filed March 19, 2010 issued as U.S. Patent No. 8,153,700, which claims priority to U.S. Provisional Patent Application No. 61/161,668, filed March 19, 2009, the entire contents of all of which are herein incorporated by reference.

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FIELD OF THE INVENTION

[0005] The present invention relates to roofing systems and roof-mounted fixtures and methods for assembling and installing the same.

SUMMARY

[0006] In some embodiments, a roof mount assembly is provided for mounting a structure to a roof, the roof including at least one rafter and a substrate at least partially covering the at least one rafter. The roof mount assembly may generally include flashing positioned on the substrate, the flashing defining a first surface, a second surface opposite the first surface and an aperture

extending therethrough; a fastener extending through the aperture; a bracket connected to the flashing by the fastener, the bracket being configured to support at least one roof-mounted structure on the roof; and a seal including a first portion positionable between the first surface of the flashing and the bracket and a second portion positionable to extend through the aperture and between the flashing and the fastener, the seal forming a water-tight seal to inhibit flow of fluid through the aperture.

[0007] In some embodiments, a method is provided for mounting a roof mount assembly to a roof, the roof including at least one rafter and a substrate at least partially covering the at least one rafter. The method may generally include inserting a seal into an aperture defined in a flashing; positioning the flashing and the seal on the roof; positioning a bracket on the flashing; extending a fastener through the bracket, the flashing and the seal and into the at least one rafter; retaining the bracket, the flashing and the seal on the roof with the fastener; and inhibiting fluid flow through the aperture with the seal.

[0008] Independent aspects of the invention will become apparent by consideration of the detailed description, claims and accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] Fig. 1 is a top view of a roofing system according to some embodiments of the present invention.

[0010] Fig. 1A is a cross-sectional view of the roofing system of Fig. 1, taken along line A--A of Fig. 1.

[0011] Fig. 2 is a top view of flashing from the roofing system shown in Fig. 1.

[0012] Fig. 3 is a perspective view of the flashing shown in Fig. 2.

[0013] Fig. 4 is a front view of the flashing shown in Fig. 2.

[0014] Fig. 5 is a side view of the flashing shown in Fig. 2.

[0015] Fig. 6 is a top view of a seal for use with the flashing shown in Fig. 2.

- [0016]** Fig. 6A is a front view of an alternate seal for use with the flashing shown in Fig. 1.
- [0017]** Fig. 7 is a cross-sectional view taken along line 7--7 shown in Fig. 6.
- [0018]** Fig. 7A is a bottom perspective view of the seal shown in Fig. 6A.
- [0019]** Fig. 8 is a perspective view of the seal shown in Fig. 6.
- [0020]** Fig. 8A is a top perspective view of the seal shown in Fig. 6A.
- [0021]** Fig. 9 is a top view of the flashing of Fig. 2 with the seal shown in Fig. 6 installed in the aperture.
- [0022]** Fig. 10 is a perspective view of the flashing and seal shown in Fig. 9.
- [0023]** Fig. 11 is a front view of the flashing and seal shown in Fig. 9.
- [0024]** Fig. 12 is a side view of the flashing and seal shown in Fig. 9.
- [0025]** Fig. 13 is a side view of a bracket for use with the flashing and seal.
- [0026]** Fig. 13A is a side view of an alternative embodiment of the bracket.
- [0027]** Fig. 14 is a bottom view of the bracket shown in Fig. 13.
- [0028]** Fig. 14A is a bottom view of the bracket shown in Fig. 13A.
- [0029]** Fig. 15 is a top view of an assembly including the flashing, the seal, the bracket and a fastener.
- [0030]** Fig. 16 is a perspective view of the assembly shown in Fig. 15.
- [0031]** Fig. 17 is a front view of the assembly shown in Fig. 15.
- [0032]** Fig. 18 is a side view of the assembly shown in Fig. 15.
- [0033]** Fig. 19 is an exploded view of the assembly shown in Fig. 15.

- [0034] Fig. 20 is a top view of a second embodiment of flashing according to the present invention.
- [0035] Fig. 21 is a perspective view of the flashing shown in Fig. 20.
- [0036] Fig. 22 is a front view of the flashing shown in Fig. 20.
- [0037] Fig. 23 is a side view of the flashing shown in Fig. 20.
- [0038] Fig. 24 is a top view of the flashing shown in Fig. 20 including seals installed in the flashing apertures.
- [0039] Fig. 25 is a perspective view of the flashing and seals shown in Fig. 24.
- [0040] Fig. 26 is a front view of the flashing and seals shown in Fig. 24.
- [0041] Fig. 27 is a side view of the flashing and seals shown in Fig. 24.
- [0042] Fig. 28 is a side view of a bracket for use with the flashing and seals shown in Fig. 24.
- [0043] Fig. 28A is a side view of an alternative embodiment of the bracket.
- [0044] Fig. 29 is a bottom view of the bracket shown in Fig. 28.
- [0045] Fig. 29A is a bottom view of the bracket shown in Fig. 28A.
- [0046] Fig. 30 is a top view of an assembly including the flashing, the seals, the bracket and two fasteners.
- [0047] Fig. 31 is a perspective view of the assembly shown in Fig. 30.
- [0048] Fig. 32 is a front view of the assembly shown in Fig. 30.
- [0049] Fig. 33 is a side view of the assembly shown in Fig. 30.
- [0050] Fig. 34 is an exploded view of the assembly shown in Fig. 30.

- [0051]** Fig. 35 is a top view of a third embodiment of flashing including one aperture.
- [0052]** Fig. 36 is a perspective view of the flashing shown in Fig. 35.
- [0053]** Fig. 37 is a front view of the flashing shown in Fig. 35.
- [0054]** Fig. 38 is a side view of the flashing shown in Fig. 35.
- [0055]** Fig. 39 is a perspective view of the flashing shown in Fig. 35 including the seal shown in Fig. 6.
- [0056]** Fig. 40 is a side view of a bracket for use with the flashing and seal shown in Fig. 35.
- [0057]** Fig. 41 is a bottom view of the bracket shown in Fig. 40.
- [0058]** Fig. 42 is a bottom perspective view of the bracket shown in Fig. 40.
- [0059]** Fig. 43 is a top view of a fourth embodiment of flashing including one aperture.
- [0060]** Fig. 44 is a perspective view of the flashing shown in Fig. 43.
- [0061]** Fig. 45 is a front view of the flashing shown in Fig. 43.
- [0062]** Fig. 46 is a side view of the flashing shown in Fig. 43.
- [0063]** Fig. 47 is a perspective view of an assembly including the flashing shown in Fig. 43 and a bracket.
- [0064]** Fig. 48 is a top perspective view of a bracket including a membrane exploded off of the bracket for clarity.
- [0065]** Fig. 49 is a bottom perspective of the bracket and membrane of Fig. 48.
- [0066]** Fig. 50 is an exploded view of another roofing system embodiment.
- [0067]** Fig. 51 is a cross-sectional view of Fig. 50, taken along line 51--51 of Fig. 50.
- [0068]** Fig. 52 is a partial cross-sectional view of another roofing system embodiment.

[0069] Fig. 53 is a partial cross-sectional view of the roofing system of Fig. 52 with an alternative flashing arrangement.

[0070] Fig. 54 is a top view of a flashing and seal according to some independent embodiments of the present invention.

[0071] Fig. 55 is a cross-sectional view taken generally along line 55--55 of Fig. 54 and illustrating the seal.

[0072] Fig. 56 is an exploded view of the flashing and the seal of Figs. 54 and 55.

[0073] Fig. 57 is an alternate construction of the flashing shown in Figs. 54-56.

[0074] Fig. 58 is a top view of a flashing and the seal according to some independent embodiments of the present invention.

[0075] Fig. 59 is a cross-sectional view taken generally along line 59--59 of Fig. 58 and illustrating the seal.

[0076] Fig. 60 is a perspective view of a panel mounted to a track system for mounting to a roof surface.

[0077] Fig. 61 is a close-up perspective view of Fig. 60 with the panel shown in phantom, to more clearly illustrate the connection between the panel and the track system.

[0078] Fig. 62 is a side view of the panel and snow fence of Figs. 60 and 61.

[0079] Fig. 63 is a perspective view of a panel and a snow fence mounted to a track system for mounting to a roof surface.

[0080] Fig. 64 is a cross-sectional view of the panel and snow fence taken along line 64-64 of Fig. 63.

[0081] Fig. 65 is a perspective view of a structure for mounting the panel and snow fence to the roof without the use of a track that can be utilized with any of the embodiments disclosed herein.

[0082] Fig. 66 is a side view of a first adjustable bracket shown in a first position in solid and a second position in phantom that can be utilized with any of the embodiments of the present invention.

[0083] Fig. 67 is a perspective view of the first adjustable bracket of Fig. 66.

[0084] Figs. 68-70 are various views of a second adjustable bracket that can be utilized with any of the embodiments of the present invention.

[0085] Fig. 71 is a top view of a roofing system according to some embodiments of the present invention.

[0086] Fig. 72 is a cross-sectional view of the roofing system of Fig. 71, taken along line 72-72 of Fig. 71.

[0087] Fig. 73 is a front view of a mounting assembly from the roofing system of Figs. 71 and 72.

[0088] Fig. 74 is an exploded view of the mounting assembly of Figs. 71-73.

[0089] Fig. 75 is a top view of a mounting assembly according to some embodiments of the present invention.

[0090] Fig. 76 is a cross-sectional view of the mounting assembly of Fig. 75, taken along line 76-76 of Fig. 75.

[0091] Fig. 77 is a front view of the mounting assembly of Fig. 75.

[0092] Fig. 78 is an exploded view of the mounting assembly of Fig. 75.

[0093] Fig. 79 is an end view of a bracket according to some embodiments of the present invention.

[0094] Fig. 80 is a top view of the bracket of Fig. 79.

[0095] Fig. 81 is a side view of the bracket of Fig. 79.

[0096] Fig. 82 is a bottom view of the bracket of Fig. 79.

[0097] Fig. 83 is a perspective view of the mounting assembly according to some embodiments of the present invention.

[0098] Fig. 84 is a perspective view of the mounting assembly of Fig. 83 and including an attachment bracket.

[0099] Fig. 85 is a perspective view of the mounting assembly of Figs. 83 and 84 in an alternate orientation.

[00100] Fig. 86 is a top view of a mounting assembly according to some embodiments of the present invention.

[00101] Fig. 87 is a cross-sectional view of the mounting assembly of Fig. 86, taken along line 87-87 of Fig. 86.

[00102] Fig. 88 is a front view of the mounting assembly of Fig. 86.

[00103] Fig. 89 is an exploded view of the mounting assembly of Fig. 86.

[00104] Fig. 90 is a top view of a mounting assembly according to some embodiments of the present invention.

[00105] Fig. 91 is a front view of the mounting assembly of Fig. 90.

[00106] Fig. 92 is a perspective view of the mounting assembly of Fig. 90.

[00107] Fig. 93 is a side view of the mounting assembly of Fig. 90.

[00108] Fig. 94 is an exploded view of the mounting assembly of Fig. 90.

DETAILED DESCRIPTION

[00109] Before any independent embodiments of the invention are explained in detail, it is to be understood that the invention is not limited in its application to the details of construction and the arrangement of components set forth in the following description or illustrated in the

following drawings. The invention is capable of other embodiments and of being practiced or of being carried out in various ways. Also, it is to be understood that the phraseology and terminology used herein is for the purpose of description and should not be regarded as limiting. The use of “including,” “comprising,” or “having” and variations thereof herein is meant to encompass the items listed thereafter and equivalents thereof as well as additional items.

[00110] Unless specified or limited otherwise, the terms “mounted,” “connected,” “supported,” and “coupled” and variations thereof are used broadly and encompass both direct and indirect mountings, connections, supports, and couplings. Further, “connected” and “coupled” are not restricted to physical or mechanical connections or couplings.

[00111] Also, it is to be understood that phraseology and terminology used herein with reference to device or element orientation (such as, for example, terms like “central,” “upper,” “lower,” “front,” “rear,” etc.) are only used to simplify description of embodiments of the present invention and do not alone indicate or imply that the device or element referred to must have a particular orientation. In addition, terms such as “first” and “second” are used herein for purposes of description and are not intended to indicate or imply relative importance or significance.

[00112] Figs. 1 and 1A illustrate a roofing system 10 including a number of rafters or beams 12, a roof substrate 14 (e.g., tarpaper, plywood or other decking material, insulation, and the like) supported on the rafters 12, flashing 16 extending across the substrate 14 (i.e., placed immediately adjacent an upper surface of the substrate 14 or supported on one or more intermediate layers of roofing or sealing material, which in turn are placed on the substrate 14), a seal 18, a mounting bracket 20 and at least one fastener 22 operable to connect the bracket 20 to the roof substrate 14 and the flashing 16. In the illustrated embodiment, the roofing system 10 includes a washer 21 positioned between the mounting bracket 20 and the fastener 22. In some embodiments, the washer 21 can be a spring washer, a compression lock washer, a sealing ring or the like. In some embodiments, the washer 21 is omitted. The roofing system 10 is operable to support any of a variety of roof-mounted fixtures, such as, for example, snow fences, solar panels, an antenna, signs, billboards, or any of a number of other roof-mountable assemblies. Depending on one or more of the geographic location, anticipated quantity and type of

precipitation, and anticipated roof and wind loading, the roofing system 10 can include any of a variety of flashing, seal and bracket arrangements, as will be discussed below.

[00113] The bracket 20 is operable to support any of a variety of roof-mounted fixtures, such as snow guards, snow fences, solar panels, an antenna, signs, billboards, or any other assembly mountable to a roof. Some roof-mounted fixtures are described in detail in commonly-assigned U.S. patents 5,609,326, filed June 16, 1995, and 6,526,701, filed December 6, 2000, the contents of both of which are herein incorporated by reference.

[00114] Prior to installation of the roofing system 10, apertures 24 are drilled or otherwise created in the rafters 12 and/or substrate 14. The illustrated embodiment shows apertures 24 in the substrate 14. The roofing system 10 inhibits leakage of fluids through the flashing 16, and, in some embodiments, may also or alternately inhibit leakage of fluids beyond the flashing to portions of the substrate 14 or areas below the substrate 14. The roofing system 10 can be utilized on any of a variety of roof types, such as slate roofs, membrane roofs, aluminum roofs, standing seam roofs, tile roofs, shingle roofs, and the like.

[00115] A first embodiment of flashing 16 for the roofing system 10 is illustrated in Figs. 2-5. The flashing 16 of the embodiment of Figs. 2-5 extends substantially along a plane but includes an upwardly extending protrusion, such as the illustrated projection 30 that tapers upward, out of the plane. The upwardly extending projection 30 has a first diameter d_1 in the plane, and a second diameter d_2 in a second plane that is substantially parallel to but spaced from the plane. The second diameter d_2 is less than the first diameter d_1 , to form a truncated cone or frustoconical shape. In other embodiments, the projections 30 can have other shapes and configurations, corresponding to the shape of an underside of an associated mounting bracket 20.

[00116] As best illustrated in Fig. 1A, the projection 30 defines a concave interior side 26, an exterior side 27 and a frustoconical end 28. As used herein, frustoconical includes cones with rounded, flat, non-flat or nearly flat upper portions and truncated cones with rounded, flat, non-flat or nearly flat upper portions. As mentioned above, the projections 30 can have a number of different shapes and configurations. Similarly, in some embodiments, the concave interior side 26 of the projection 30 may have a number of different shapes and configurations, including but

not limited to configurations in which the arch provided by the interior side 26 does not include a uniform radius.

[00117] The concave interior side 26 and the flashing 16 define a space therebetween. A seal can be positioned within the space to at least partially fill the space to further inhibit leakage through the aperture 24. The seal has been omitted from Fig. 1A for clarity, but is illustrated and described in other embodiments. Any of the seals shown or described herein can be utilized with the roofing system shown in Figs. 1 and 1A.

[00118] With continued reference to Figs. 2-5, the upwardly extending projection 30 defines an aperture 32 positioned substantially in the second plane. The illustrated upwardly extending projection 30 and aperture 32 are circular, but in other embodiments, can be square, D-shaped, triangular, pentagonal, hexagonal, ovular, or other regular or irregular shapes. The illustrated aperture 32 is substantially centered on the upwardly extending projection 30, but other, non-centered embodiments are possible. The flashing 16 has a first side 34 and a second side 36 opposite the first side 34. The first side 34 and the second side 36 are substantially planar, apart from the projection 30.

[00119] In some embodiments, the aperture 32 is sized to receive a seal 18 therethrough. The seal 18 can extend through the flashing 16, such that the seal 18 engages or contacts the first side 34 of the flashing 16 and the second side 36 of the flashing 16. The illustrated seal 18 includes a first end portion 40 that forms a substantially circular disk having a planar end surface 41 and a second end portion 42 that forms a substantially circular disk having a planar end surface 43 substantially parallel to the planar end surface 41. The illustrated seal 18 also defines a stem, such as the illustrated tapered central portion 44, extending between the first end portion 40 and the second end portion 42. The tapered central portion 44 has a first diameter d_3 adjacent the planar end surface 41 and a second diameter d_4 adjacent the planar end surface 43. The first diameter d_3 is less than the second diameter d_4 . The diameter of the tapered central portion 44 increases from the first diameter d_3 to the second diameter d_4 substantially linearly to form a taper along a substantially constant angle. The seal 18 has a substantially cylindrical overall shape, with a notch 45 cut out between the first end portion 40 and the second end portion 42 along the tapered central portion 44. The notch 45 is defined by a tapered surface 46 extending

between the first and second end portions 40, 42. In the illustrated embodiment, the second diameter d_4 is approximately equal to the diameter of the first end portion 40 and the diameter of the second end portion 42.

[00120] The illustrated seal 18 defines a substantially cylindrical aperture 48 that is substantially centrally located in the seal 18. The aperture 48 extends normal to the outside surfaces of the first and second end portions 40, 42 and parallel to the substantially cylindrical overall shape of the seal 18, in the illustrated embodiment. The aperture 48 has a smaller diameter than the seal first diameter d_3 , as shown in Fig. 7, so that the seal 18 has an adequate thickness between the first and second end portions 40, 42. The seal 18 can be made from any suitable resilient sealing or elastomeric material, such as polymers, rubbers, plastics, and the like.

[00121] The seal 18 is insertable into the aperture 32 to couple the seal 18 to the flashing 16, as illustrated in Figs. 9-12. The notch 45 is sized to receive the flashing 16 therein. The seal 18 is operable to form a compression seal by being held against the concave interior side 26 of the flashing 16. The seal 18 can be factory-installed in the flashing aperture 32 or can be inserted by on-site at a customer's building. A fixture for a punch press can be sized to install the seals 18 into the respective apertures 32. In some embodiments, the punch press can be utilized to form the projection 30 and the aperture 32 in flashing 16, at the same time. In some embodiments, the punch press can form the projection 30 and the aperture 32 in the flashing 16 and then insert the seal 18 into the aperture 32, either during the same operation or during a separate operation.

[00122] In some embodiments, a hand tool can be utilized to insert the seal 18 into the aperture 32. This tool can be operated by a single user to press or otherwise urge the first end portion 40 through the aperture 32, such that the projection 30 contacts the tapered surface 46 of the tapered central portion 44. The tool can include one or more fingers to engage the seal 18 and pull or push the seal 18 through the aperture 32. The fingers can be inserted through the aperture 32 from the flashing first side 34 toward the flashing second side 36. The fingers can then squeeze or pinch the first end portion 40 to temporarily reduce the diameter of the first end portion 40. In another embodiment, the fingers can grasp a portion of the first end portion 40. The first end portion 40 is then pulled through the aperture 32. The seal 18 is resilient, such that the seal 18 returns to its previous shape and size after being inserted into the aperture 32.

[00123] An alternate seal 18A is illustrated in Figs. 6A-8A. The seal 18A, like seal 18 can extend through the flashing 16 such that the seal 18A engages or contacts the first side 34 of the flashing 16 and the second side 36 of the flashing 16. The illustrated seal 18A includes a first end portion 40A and a second end portion 42A, spaced from the first end portion 40A. The first end portion 40A is tapered from a first diameter dA1 outward to a second diameter dA2, which is greater than the first diameter dA1. The first end portion 40A at the first diameter dA1 has a substantially planar end surface 41A. The illustrated first end portion 40A tapers along a constant slope, but in other embodiments, tapers of varying slope are possible. The second end portion 42A is tapered from a third diameter dA3 inward to a location having a diameter which is less than the third diameter dA3. The second end portion 42A at the third diameter dA3 has a substantially planar end surface 43A, which is substantially parallel to the planar end surface 41A, as shown in Fig. 6A. The illustrated second end portion 42A tapers along a constant slope, but in other embodiments, tapers of varying slope are possible. In the illustrated embodiment, the slope of the first end portion 40A is substantially identical to the slope of the second end portion 42A. In other embodiments, the slope of the first end portion 40A can be greater or less than the slope of the second end portion 42A.

[00124] The seal 18A includes a central portion 44A that is positioned between the first end portion 40A and the second end portion 42A. The central portion 44A is substantially disk-shaped and has a substantially constant diameter. In the illustrated embodiment, the central portion 44A has a diameter equal to the second diameter dA2. The central portion 44A extends between the first end portion 40A and the second end portion 42A and defines a notch 45A therebetween. The notch 45A permits the first end portion 40A to be compressed without compressing the second end portion 42A.

[00125] Although the illustrated seal 18A does not include an aperture, the seal 18A can define a substantially cylindrical aperture that is substantially centrally located in the seal 18A, similar to the aperture 48 shown in seal 18. The aperture extends normal to the planar end surfaces of the first and second end portions 40A, 42A, in the illustrated embodiment. The aperture can have a smaller diameter than the seal first diameter dA1, so that the seal 18A has an adequate thickness between the first and second end portions 40A, 42A. In some embodiments, the aperture can have a diameter equal to the dA1, such that the first end portion 40A tapers

upward toward the aperture. In some such embodiments, the aperture can be formed only when a fastener is inserted through the flashing 16 and the seal 18A during installation of the roofing system 10. In other embodiments, the aperture can be formed in the seal prior to assembly of the roofing system 10. The seal 18A, like seal 18, can be made from any suitable resilient sealing material, such as polymers, rubbers, and the like.

[00126] The seal 18A is insertable into the aperture 32 in the flashing 16 to couple the seal 18A to the flashing 16. When installed, the first end portion 40A extends through the aperture 32, such that the flashing 16 is positioned between the first end portion 40A and the second end portion 42A. The notch 45A is sized to receive the flashing 16 therein.

[00127] A bracket, such as the bracket 20 illustrated in Figs. 13 and 14, can be coupled to the seal 18 and flashing 16. The illustrated bracket 20 is generally z-shaped and includes an elongate body portion 52 having a first end 54 and a second end 56 spaced from the first end 54. A first flange 58 is coupled to the first end 54 and extends substantially perpendicular to the elongate body portion 52 in a first direction. A second flange 60 is coupled to the second end 56 and extends substantially perpendicular to the elongate body portion 52 in a second direction, opposite the first direction. The first flange 58 defines an aperture 62 extending substantially parallel to the elongate body portion 52. The illustrated aperture 62 is substantially ovular, but other shapes, such as circular, square, rectangular, hexagonal, and the like are possible. The aperture 62 is sized to receive a fastener, protrusion, or the like therethrough. The ovular shape of the aperture 62 permits flexibility and slight relative movement between the bracket 20 and the fastener, projection or the like, when installed.

[00128] The second flange 60 of the bracket 20 defines an aperture 64 that includes a first aperture portion 64a and a second aperture portion 64b. The first aperture portion 64a has a substantially cylindrical shape and defines a first diameter d_5 . The second aperture portion 64b has a substantially cylindrical shape and defines a second diameter d_6 that is less than the first diameter d_5 . The first aperture portion 64a is sized to receive the seal first end portion 40. The second aperture portion 64b is sized to be smaller than the seal first end portion 40 to permit pre-loading of the seal 18, to thereby seal the aperture 64 with the seal 18.

[00129] An alternate embodiment of the bracket 20A is shown in Figs. 13A and 14A. The bracket 20A differs from the bracket 20 in that the second flange 60A includes an aperture 66. The aperture 66 includes a first aperture portion 66a and a second aperture portion 66b. The first aperture portion 66a has a substantially constant diameter d_a . The second aperture portion 66b has a variable, tapering diameter starting at diameter d_b , which is less than d_a and tapering inward to diameter d_c . Diameter d_c is less than either d_a or d_b . The second aperture portion 66b has a substantially constant slope at which the diameter changes between d_b and d_c . In some embodiments, the aperture 66 is tapered along the entire distance between d_a and d_c . In other embodiments, diameters d_a and d_b are substantially equal. In still other embodiments, the slope of the tapered portion 66b is greater or less than the illustrated slope. In yet other embodiments, the relative heights of the first aperture portion 66a and the second aperture portion 66b are variable.

[00130] The projection 30 in the flashing 16 is sized to receive the second end portion 42A, as discussed above. The aperture 66 is sized to receive the seal 18A and at least partially pre-load the seal 18A to enhance the seal between the seal 18 and the bracket 20A. In some embodiments, a differently shaped seal can be utilized. One such seal 18A is illustrated in Figs. 6A and 7A. The seal 18A is sized to substantially mate with the aperture 66, such that the aperture 66 can slightly pre-load the seal 18A. The first aperture portion 66a is sized to receive the central portion 44A, such that d_a is substantially equal to or slightly less than d_{A2} . In some embodiments, the central portion 44A can be slightly tapered to permit insertion into the first aperture portion 66a when d_a is slightly less than d_{A2} . The aperture portion 66b is sized to receive the first end portion 40A, such that d_c is substantially equal to or slightly less than d_{A1} , and d_b is substantially equal to or slightly less than d_{A2} . In embodiments where d_c and d_b are slightly less than d_{A1} and d_{A2} , respectfully, slight pre-loading occurs when the seal 18A is pressed into the aperture 66. In embodiments where d_c and d_b are substantially equal to d_{A1} and d_{A2} , respectfully, the seal 18A can be preloaded by pressing the seal 18A into the bracket 20A by use of a fastener and the shape and size of the projection 30 in the flashing 16.

[00131] The seals 18 and 18A can be inserted into either or both apertures 64 or 66, and other configurations and arrangements of seals and apertures can be utilized to achieve the desired seal between the flashing 16 and the bracket 20 or 20A.

[00132] One or more fasteners can be used to couple the bracket 20 to the seal 18 and flashing 16 to form a roofing assembly. One such assembly 70 is illustrated in Figs. 15-19 and includes the flashing 16, the seal 18, the bracket 20, one fastener 22, and a washer 72. The washer 72 can be a polymeric compression washer to provide a substantially water-tight seal between the fastener 22 and the bracket aperture 64. In some embodiments, the washer 72 can be omitted or can be replaced by an o-ring or an applied sealant, such as caulk. Alternatively or in addition, the washer 72 can include a stiffening element, such as, for example, a rigid backing, to provide additional support.

[00133] The assembly 70 can be installed on a roof. The fastener 22 can extend through the flashing 16, the seal 18, the bracket 20, into the substrate 14 and the rafters 12, as illustrated in Figs. 1 and 1A. The washer 72 and the seal 18 work together to prevent or inhibit entry of water or other fluid into the aperture 64 or to the rafters 12 and/or substrate 14. Even though the illustrated fasteners are bolts, other fasteners, such as screws, studs, nails, and other removable and non-removable fasteners, can be used.

[00134] A similar assembly can be formed with the seal 18A and the bracket 20A. This assembly can also include a fastener 22 and a washer 72, as described above. The seals 18, 18A can be used interchangeably with brackets 20, 20A, and other shapes and arrangements of seals and brackets are possible.

[00135] Figs. 20-34 illustrate another embodiment of a roofing system 110 according to the present invention. This embodiment employs much of the same structure and has many of the same properties as the embodiments of the roofing system 10 described above in connection with Figs. 1-19. Accordingly, the following description focuses primarily upon structure and features that are different than the embodiments described above in connection with Figs. 1-19. Reference should be made to the description above in connection with Figs. 1-19 for additional information regarding the structure and features, and possible alternatives to the structure and features of the roofing system 110 illustrated in Figs. 20-34 and described below. Features and elements in the embodiment of Figs. 20-34 corresponding to features and elements in the embodiments described above in connection with of Figs. 1-19 are numbered in the 100 series of reference numbers.

[00136] The second flashing 116 is substantially in the shape of a rectangular sheet having rounded corners. The flashing 116 extends substantially along a plane but includes a first upwardly extending projection 130 that tapers upwardly, out of the plane. The first upwardly extending projection 130 has a first diameter d7 in the plane, and a second diameter d8 in a second plane that is substantially parallel to but spaced from the plane. The second diameter d8 is less than the first diameter d7, to form a truncated cone or frustoconical shape. The diameters d7 and d8 can be the same as or different than the diameters d1 and d2 of the projection 30 described above.

[00137] The primary difference between the roofing system 110 embodiment illustrated in Figs. 20-34 and the roofing system embodiment 10 illustrated in Figs. 1-19 is that the roofing system 110 includes a second upwardly extending projection 131 in the flashing 116. The second upwardly extending projection 131 has a first diameter d9 in the plane, and a second diameter d10 in a second plane that is substantially parallel to but spaced from the plane. The second diameter d10 is less than the first diameter d9, to form a truncated cone or frustoconical shape. The diameters d9 and d10 can be the same as or different than the diameters d7 and d8 of the first projection 130 described above.

[00138] Each of the upwardly extending projections 130, 131 defines an aperture 132, 133 positioned substantially in the second plane. The illustrated projections 130, 131 are substantially the same size and shape as the projection 30, but can have different shapes and configurations. Alternatively, each of the projections 130, 131 can have a different shape or configuration so as to require the corresponding mounting bracket 120 to be installed in a specific desired orientation relative to the flashing 116. The illustrated upwardly extending projections 130, 131 and respective apertures 132, 133 are circular, but in other embodiments, can be square, triangular, pentagonal, hexagonal, ovular, or other regular or irregular shapes. The illustrated apertures 132, 133 are substantially centered on the respective upwardly extending projections 130, 131, but other, non-centered embodiments are possible. The second flashing 116 has a first side 134 and a second side 136 opposite the first side 134. The first side 134 and the second side 136 are substantially planar apart from the projections 130, 131.

[00139] First and second seals 118, 119 can be inserted into respective apertures 132, 133, as described above and as illustrated in Figs. 24-27. In other embodiments, a seal similar to seal 18A can be inserted into the flashing 116. Other aperture 132, 133 and seal configurations are possible and are considered to be within the scope of the present invention. The seals 118, 119 can be inserted into the respective apertures 132, 133 as discussed above, such as with a punch press, a hand tool, or the like.

[00140] A bracket, such as the bracket 120 illustrated in Figs. 28 and 29, can be coupled to the seals 118, 119 and flashing 116. The illustrated bracket 120 is generally z-shaped and includes an elongate body portion 152 having a first end 154 and a second end 156 spaced from the first end 154. A first flange 158 is coupled to the first end 154 and extends substantially perpendicular to the elongate body portion 152 in a first direction. A second flange 160 is coupled to the second end 156 and extends substantially perpendicular to the elongate body portion 152 in a second direction, opposite the first direction. The first flange 158 defines a pair of apertures 162, 163 extending substantially parallel to the elongate body portion 152. The illustrated apertures 162, 163 are substantially ovular, but other shapes, such as circular, square, rectangular, hexagonal, and the like are possible. The apertures 162, 163 are sized to receive a fastener, projection, or the like therethrough. The ovular shape of the apertures 162, 163 permits flexibility and slight relative movement between the bracket 120 and the fastener, projection or the like, when installed.

[00141] The second flange 160 of the bracket 120 defines a first aperture 164 that includes a first aperture portion 164a and a second aperture portion 164b. The second flange 160 of the bracket further defines a second aperture 165 that includes a first aperture portion 165a and a second aperture portion 165b. The first aperture portions 164a, 165a have a substantially cylindrical shape and define a first diameter d11. The second aperture portions 164b, 165b have a substantially cylindrical shape and define a second diameter d12 that is less than the first diameter d11. The first aperture portions 164a, 165a are sized to receive the seal 118. The second aperture portions 164b, 165b are sized to be smaller than the seal 118, to permit pre-loading of the seal 118, to thereby seal the aperture 164 with the seal 118.

[00142] The apertures 164, 165 can have the same shape and size as aperture 64, or can be larger than or smaller than the aperture 64. First aperture portions 164a, 165a can have different diameters to denote proper orientation of the bracket 120 on the flashing 116. Other configurations and arrangement of brackets and apertures are possible and are considered to be within the scope of the present invention.

[00143] An alternate embodiment of the bracket 120A is shown in Figs. 28A and 29A. The bracket 120A is similar to the bracket 120 shown in Figs. 28 and 29, such that items include the indicator “A” to denote the similarity. The bracket 120A differs from the bracket 120 in that the second flange 160A includes apertures 166 and 167. The apertures 166, 167 have a variable, tapering diameter starting at diameter dd, and tapering inward to diameter de. Diameter dc is less than da. The apertures 166, 167 have a substantially constant slope at which the diameter changes between da and dc. In some embodiments, the apertures 166, 167 are tapered along only a portion of the distance between da and dc. In still other embodiments, the slopes of the respective apertures 166, 167 are greater or less than the illustrated slope. The apertures 166, 167 can have the same diameters dd, de or can have different diameters and/or different slopes.

[00144] The apertures 166, 167 are sized to receive a seal similar to seal 18A, illustrated in Figs. 6A-8A, and at least partially pre-loading the seal 18A to enhance the seal between the seal 18 and the bracket 20A. In some embodiments, a differently shaped seal can be utilized. The seals 118, 119 or other similar seals can be inserted into either apertures 164, 165 or 166, 167. Other configurations and arrangements of seals and apertures can be utilized to achieve the desired seal between the flashing 116 and the bracket 120 or 120A.

[00145] One or more fasteners can be used to couple the bracket 120, 120A to the seals 118, 119 and flashing 116 to form a roofing assembly. One such assembly 170 is illustrated in Figs. 30-34 and includes the flashing 116, the seals 118, 119, the bracket 120, two fasteners 122, 123 and two washers 172, 173. The washers 172, 173 can be polymeric compression washers to provide a substantially water-tight seal between the fastener 122, 123 and the bracket apertures 164, 165. In some embodiments, the washers 172, 173 can be omitted or can be replaced by an o-ring or an applied sealant, such as caulk.

[00146] The assembly 170 can be installed on a roof. The fasteners 122, 123 can extend through the flashing 116, the respective seals 118, 119, the bracket 120, and into rafters or substrate similar to the embodiment illustrated in Figs. 1 and 1A. The washers 172, 173 and the seals 118, 119 work together to prevent or inhibit entry of water or other fluid into the apertures 164, 165 or the rafters 12 and/or substrate 14. Even though the illustrated fasteners are bolts, other fasteners, such as screws, studs, nails, and other acceptable removable and non-removable fasteners, can be used.

[00147] The bracket 120 is operable to support any of a variety of roof-mounted fixtures, such as snow guards, snow fences, solar panels, an antenna, signs, billboards, walkways, pipe lines, mechanical units, signage, screens, cabling or any other assembly mountable to a roof. The inclusion of two projections 130, 131 can be beneficial to inhibit rotation of a bracket 120 while mounted on a roof and/or to define a specific orientation of a bracket 120 relative to the roof. Other bracket configurations and arrangements are possible, and the illustrated bracket 120 is provided by way of example only. In some embodiments, bracket 20 can be coupled to only one projection 130, 131, such that the brackets 20 can have different orientations, and the unused projection can be sealed with other structure.

[00148] A similar assembly can be formed with the seal 118A, 119A and the bracket 120A. This assembly can also include a pair of fasteners 122, 123 and washers 172, 173, as described above. The seals 118, 118A, 119, 119A can be used interchangeably with brackets 120, 120A, and other shapes and arrangements of seals and brackets are possible.

[00149] Figs. 35-42 illustrate another embodiment of a roofing system 210 according to the present invention. This embodiment employs much of the same structure and has many of the same properties as the embodiments of the roofing systems 10, 110 described above in connection with Figs. 1-34. Accordingly, the following description focuses primarily upon structure and features that are different than the embodiments described above in connection with Figs. 1-34. Reference should be made to the description above in connection with Figs. 1-34 for additional information regarding the structure and features, and possible alternatives to the structure and features of the roofing system 210 illustrated in Figs. 35-42 and described below. Features and elements in the embodiment of Figs. 35-42 corresponding to features and elements

in the embodiments described above in connection with of Figs. 1-34 are numbered in the 200 series of reference numbers.

[00150] A third flashing 216 is illustrated in Figs. 35-39. The third flashing 216 is substantially in the shape of a rectangular sheet having square corners. The flashing 216 extends substantially along a plane but includes a first upwardly extending projection 230 that tapers upwardly, out of the plane. The first upwardly extending projection 230 has a first diameter d13 in the plane, and a second diameter d14 in a second plane that is substantially parallel to but spaced from the plane. The second diameter d14 is less than the first diameter d13, to form a truncated cone or frustoconical shape. The diameters d13 and d14 can be the same as or different than the diameters d1 and d2 of the projection 30 described above.

[00151] The first upwardly extending projection 230 defines an aperture 232 positioned substantially in the second plane. The illustrated upwardly extending projection 230 and aperture 232 are circular, but in other embodiments, can be square, triangular, pentagonal, hexagonal, ovular, or other regular or irregular shapes. The illustrated aperture 232 is substantially centered on the upwardly extending projection 230, but other, non-centered embodiments are possible. The third flashing 216 has a first side 234 and a second side 236 opposite the first side 234. The first side 234 and the second side 236 are substantially planar apart from the projection 230.

[00152] The third flashing 216 also includes a second upwardly extending projection 276 extending out of the first plane around a majority of the circumference of the first projection 230. The second upwardly extending projection 276 has a substantially curved shape and forms almost a complete ring around the first projection 230. The second projection 276 forms a channel, slit or other similar narrow aperture or path, such as the illustrated slit 278. The slit 278 can be oriented vertically below the upwardly extending projection 276 to provide a pathway for moisture to move away from the projection 230. Moisture can be moved or drawn away from the aperture 232 by at least one of wicking, capillary action, surface tension, gravity, and evaporation. In some embodiments, the slit 278 is positioned on a downhill side of the roof relative to the aperture 232 to utilize gravity to move fluid away from the projection 230. The projection 276 can further direct fluid away from the projection 230 to inhibit leakage of water

into the aperture 232. In some embodiments, the slit 278 includes a cutout or downwardly protruding extension to further move fluid away from the projection 230 and aperture 232.

[00153] In other embodiments, the first and second projections 230, 276 can be formed together on a second sheet of flashing or other similar material, and the second sheet can then be secured (i.e., welded, brazed, soldered, glued or fastened in another conventional manner) to the flashing 216.

[00154] Fig. 39 illustrates a seal 218 inserted into the aperture 232, similar to the embodiments described above for seals 18 and 118. The seal 218 can contact both the first side 234 and the second side 236 of the flashing 216. The seal 218 can be inserted into the apertures 232 in any of the methods described above. The projection 230, aperture 232, and projection 276 can be formed into the flashing 216 during the same operation or by the same machine as when the seal 218 is inserted into the aperture 232. In other embodiments, the projections 230, 276 and aperture 232 can be formed into the flashing 216 prior to inserting the seal 218 into the aperture 232.

[00155] The slit 278 and projection 276 are shown in Fig. 39 more clearly, so as to illustrate the height difference between the flashing plane, the projection 230 and the projection 276. In the instance that fluid would flow over the projection 276 and up the projection 230, seal 218 would inhibit the fluid from entering the aperture 232.

[00156] The brackets 20, 20A, 120, 120A can be utilized with the embodiment shown in Figs. 35-42. A bracket 220, as shown in Figs. 40-42, can be also or alternatively be utilized with the flashing 216. The bracket 220 is generally z-shaped and includes an elongate body portion 252 having a first end 254 and a second end 256 spaced from the first end 254. A first flange 258 is coupled to the first end 254 and extends substantially perpendicular to the elongate body portion 252 in a first direction. A second flange 260 is coupled to the second end 256 and extends substantially perpendicular to the elongate body portion 252 in a second direction, opposite the first direction. The first flange 258 defines an aperture 262 extending substantially parallel to the elongate body portion 252. The illustrated aperture 262 is substantially ovular, but other shapes, such as circular, square, rectangular, hexagonal, and the like are possible. The aperture 262 is sized to receive a fastener, projection, or the like therethrough. The ovular shape of the aperture

262 permits flexibility and slight relative movement between the bracket 220 and the fastener, projection or the like, when installed.

[00157] The second flange 260 of the bracket 220 defines an aperture 268 that includes a first aperture portion 268a, a second aperture portion 268b, and a third aperture portion 268c. The first aperture portion 268a has is substantially ring-shaped and defines a first diameter d15. The second aperture portion 268b has a substantially cylindrical shape and defines a second diameter d16 that is less than the first diameter d15. The third aperture portion 268c is substantially circular and has a third diameter d17 that is less than the first and second diameters d15 and d16.

[00158] A downwardly protruding annular flange 282 extends between the first aperture portion 268a and the second aperture portion 268b. The first aperture portion 268a is sized to receive the second projection 276. The downwardly protruding annular flange 282 is substantially planar with a distal surface of the second flange 260 of the bracket 220. The second projection 276 and the downwardly protruding annular flange 282 substantially mate, such that the downwardly protruding annular flange 282 contacts the flashing 216 between the first projection 230 and the second projection 276. The second aperture portion 268b is sized to be smaller than the seal 218 to permit pre-loading of the seal 218, to thereby seal the aperture 268 with the seal 218. The first aperture portion 268a, the downwardly protruding annular flange 282 and the second aperture portion 268b, projection 230 and seal 218 work together to form a labyrinth seal to inhibit entry of fluid into the aperture 232.

[00159] A notch, channel, recess, or the like, such as the illustrated notch 284, can be defined in the bracket second flange 260. The notch 284 is in fluid communication with the first aperture portion 268a. In the event that fluid flows between the bracket 220 and the flashing 216, the fluid is permitted to flow out through the slit 278 and/or the notch 284. In some embodiments, the slit 278 and notch 284 are substantially aligned and positioned on a downhill side of the roof relative to the projection 230. Gravity is then used to move fluid away from the aperture 232 via the slit 278 and/or notch 284 to further inhibit entry of fluid through aperture 232. Other sizes, shapes, quantities, and configurations of notches can be utilized in combination with the bracket 220.

[00160] The bracket 220 can be utilized in the above described embodiments in place of bracket 20 and 120. Alternatively, the brackets 20 and/or 120 can include a notch similar to the illustrated notch 284 to provide a path for fluid to flow away from the respective apertures 32, 132, 133. The bracket 220 can further include a tapered portion, similar to the tapered portions of brackets 20A and 120A. The bracket 220 with a tapered portion can be utilized in place of brackets 20A and 120A and can be shaped to mate with seal 18A. In some embodiments, the brackets 20A and/or 120A can include a notch similar to the illustrated notch 284 to provide a path for fluid flow away from the respective apertures 32, 132, 133.

[00161] Figs. 43-47 illustrate another embodiment of a roofing system 310 according to the present invention. This embodiment employs much of the same structure and has many of the same properties as the embodiments of the roofing systems 10, 110, 210 described above in connection with Figs. 1-42. Accordingly, the following description focuses primarily upon structure and features that are different than the embodiments described above in connection with Figs. 1-42. Reference should be made to the description above in connection with Figs. 1-42 for additional information regarding the structure and features, and possible alternatives to the structure and features of the roofing system 310 illustrated in Figs. 43-47 and described below. Features and elements in the embodiment of Figs. 43-47 corresponding to features and elements in the embodiments described above in connection with of Figs. 1-42 are numbered in the 300 series of reference numbers.

[00162] Figs. 43-47 illustrate a fourth flashing 316 associated with the present invention. The fourth flashing 316 is substantially in the shape of a rectangular sheet having square corners. The flashing 316 extends substantially along a plane but includes an upwardly extending projection 330 that tapers upward, out of the plane. The upwardly extending projection 330 has a first diameter d17 in the plane, and a second diameter d18 in a second plane that is substantially parallel to but spaced from the plane. The second diameter d18 is less than the first diameter d17, to form a truncated cone or frustoconical shape. The diameters d17 and d18 can be the same as or different than the diameters d1 and d2 of the projection 30 described above.

[00163] The projection 330, like the projections 30, 130, and 230, can define an aperture 332 positioned substantially in the second plane. The illustrated upwardly extending projection 330

and aperture 332 are circular, but in other embodiments, can be square, triangular, pentagonal, hexagonal, ovular, or other regular or irregular shapes. The illustrated aperture 332 is substantially centered on the upwardly extending projection 330, but other, non-centered embodiments are possible. The fourth flashing 316 has a first side 334 and a second side 336 opposite the first side 334. The first side 334 and the second side 336 are substantially planar apart from the projection 330.

[00164] The flashing 316 can further define other non-planar features, such as a trench 386 extending circumferentially around the projection 330 and a channel 388, extending between the trench 386 and an edge of the flashing 316. The trench 386 can provide a pathway for fluid around the projection 330 to inhibit fluid flow up the projection 330, similar to the function of the projection ridge 276 shown in Figs. 35-39. The channel 388 can provide a pathway for fluid to move away from the projection 330, similar to the function of the slit 278 shown in Figs. 35-39.

[00165] Moisture can be moved or drawn away from the aperture 232 by at least one of wicking, capillary action, surface tension, gravity, and evaporation. In some embodiments, the channel 388 is positioned on a downhill side of the roof relative to the aperture 332 to utilize gravity to move fluid away from the projection 330. The trench 386 can further direct fluid away from the projection 330 to inhibit leakage of water into the aperture 232. In some embodiments, the channel 388 includes a cutout, scoring or downwardly protruding extension that extends a portion of the way to the edge of the flashing to further move fluid away from the projection 330 and aperture 332.

[00166] Although not specifically illustrated, a seal, such as seal 18, 18A, 118 or 218 can be inserted into the aperture 332, similar to the embodiments described above for seals 18, 18A, 118, and 218. Reference should be made to the descriptions of the above-described and illustrated seals 18, 18A, 118, and 218 for specific details on seals that can be utilized with flashing 316. The seal can contact both the first side 334 and the second side 336 of the flashing 316. In the instance that fluid would flow past the trench 386 and up the projection 330, seal 318 would inhibit the fluid from entering the aperture 332.

[00167] The seal can be inserted into the apertures 332 using any of the methods described above. The projection 330, aperture 332, trench 386, and channel 388 can be formed into the flashing 316 during the same operation or by the same machine as when the seal is inserted into the aperture 332. In other embodiments, the projection 330, trench 386, channel 388, and aperture 432 can be formed into the flashing 316 prior to inserting the seal into the aperture 332.

[00168] As shown in Fig. 47, a bracket 320 can be coupled to the flashing 316. Although a bracket similar to bracket 20 is shown, any of the above-described brackets, such as 20, 20A, 120, 120A or 220, can be utilized with the flashing 316. The flashing 316 can define two projections and thereby two trenches and a channel joining the trenches and extending to an edge of the flashing 316. In another embodiment, the flashing 316 can define two projections and two trenches, such that each trench joins a separate channel and each channel separately extends to an edge of the flashing 316. Other combinations and configurations of projections, slits, trenches and channels can be utilized within the scope of the present invention.

[00169] Figs. 48 and 49 illustrate another embodiment of a bracket 420 according to the present invention. This embodiment employs much of the same structure and has many of the same properties as the embodiments of the brackets 20, 20A, 120, 120A, 220 or 320 described above in connection with Figs. 1-47. Accordingly, the following description focuses primarily upon structure and features that are different than the embodiments described above in connection with Figs. 1-47. Reference should be made to the description above in connection with Figs. 1-47 for additional information regarding the structure and features, and possible alternatives to the structure and features of the bracket 420 illustrated in Figs. 48 and 49 and described below. Features and elements in the embodiment of Figs. 48 and 49 corresponding to features and elements in the embodiments described above in connection with of Figs. 1-47 are numbered in the 400 series of reference numbers.

[00170] Figs. 48 and 49 illustrate a bracket 420 similar to the bracket 20A shown in Figs. 13A and 14A. The bracket 420 further includes a flexible membrane 490 coupled thereto adjacent aperture 466. The aperture 466 can be sized to receive the flexible membrane 490 in a first aperture portion 466a, that has a diameter substantially equal to a diameter of the flexible membrane 490. The aperture 466 can further include a second aperture portion 466b that is

substantially tapered or frustoconical and has first and second diameters, both of which are less than the membrane diameter.

[00171] The flexible membrane 490 can be permanently or removably coupled to the bracket 420. The flexible membrane 490 can be affixed to the bracket 420 by a suitable adhesive. In some embodiments, a protective sheet or “sticker” is affixed to the flexible membrane 490 to protect the membrane 490 during manufacturing and shipping. The sticker is then removed from the membrane 490 prior to installation. The flexible membrane 490 can comprise a polymer, rubber, plastic or other suitable elastomeric material.

[00172] The bracket 420 can be coupled to any of the above-described flashing 16, 116, 216 or 316 or any other suitable flashing. The aperture 466 is sized to receive at least one of a projection and a seal, such as any of the projections and seals described herein. The flexible membrane 490 can deform around a projection without rupturing or cracking. In some embodiments, the flexible membrane 490 is used in place of a seal because the flexible membrane 490 sufficiently seals the aperture 466. A fastener, such as any of the fasteners illustrated and described herein can be inserted into the flexible membrane 490 to form an aperture in the flexible membrane 490. The flexible membrane 490 is operable to substantially retain its shape and resist further tearing or ripping. The flexible membrane 490 can closely adhere to the fastener to substantially seal the aperture 466. In embodiments that utilize brackets like 120 or 120A, a flexible membrane can be coupled to the bracket adjacent each aperture, whereas in other embodiments, a single flexible membrane can be coupled to the bracket covering both apertures.

[00173] Figs. 50 and 51 illustrate another embodiment of a roofing system 510 according to the present invention. This embodiment employs much of the same structure and has many of the same properties as the embodiments of the roofing systems described above in connection with Figs. 1-49. Accordingly, the following description focuses primarily upon structure and features that are different than the embodiments described above in connection with Figs. 1-49. Reference should be made to the description above in connection with Figs. 1-49 for additional information regarding the structure and features, and possible alternatives to the structure and features of the roofing system 510 illustrated in Figs. 50 and 51 and described below. Features

and elements in the embodiment of Figs. 50 and 51 corresponding to features and elements in the embodiments described above in connection with of Figs. 1-49 are numbered in the 500 series of reference numbers.

[00174] Figs. 50 and 51 illustrate another roofing system 510 including flashing 516, a bracket 520, a fastener 522, and a compression washer 572. In some embodiments, such as the illustrated embodiment of Figs. 50 and 51, the flashing 516 is formed of a rigid or semi-rigid material and includes a first projection 530 similar to the previously-described projections 30, 130, 230, and 330. In other embodiments, the flashing 516 can be elastic or membranous, or alternatively, rigid or semi-rigid flashing can be supplemented with a flexible membrane. The flexible membrane can be similar to the flexible membrane 490 or can extend over substantially the entire surface area of the flashing 516. The flexible membrane can comprise a polymer, rubber, plastic or other similar material.

[00175] In embodiments in which the flexible membrane replaces the flashing 516, the projections 530 and 592 need not be formed into the flexible membrane. Rather, the flexible membrane can stretch and conform to the base 594 to include projections similar in shape and size to projections 530 and 592.

[00176] In the illustrated embodiments of Figs. 50 and 51, the flashing 516 further includes a second projection 592 that extends in substantially the same direction as the first projection 530. The second projection 592 can be substantially circular, as illustrated, or can be ovular, square, rectangular, triangular, or other regular or non-regular shape. The second projection 592 is sized to at least partially receive or engage a rigid base 594 between the flashing 516 and a roof substrate. In embodiments in which the flashing 516 can be elastic or membranous, the first and/or second projections 530, 592 can be formed when the flashing 516 is draped across the base 594.

[00177] The illustrated base 594 is substantially circular, but can be ovular, square, rectangular, triangular or other regular or non-regular shapes. The geometry of the base 594 can correspond with the geometry of the second projection 592, or as mentioned above, can cause the flashing 516 to be formed around the contours of the base 594 such that the flashing 516 matingly engages the base 594.

[00178] The base 594 can include at least one tooth 596 depending downwardly therefrom. The illustrated base 594 includes three teeth 596 extending away from the flashing 516. The teeth 596 can bear against or grip a roof substrate to inhibit movement of the flashing 516 with respect to the roof substrate. In some embodiments, a user can press, push or pound the base 594 against the roof substrate, such as with a hammer. The base 594 retains the flashing 516 against the roof substrate to limit or eliminate gaps created by movement of the flashing 516 relative to the roof, roof substrate, and the like. The base 594 further permits the fastener 522 to be tightened against the flashing 516 and the bracket 520 without denting, deforming or damaging the flashing 516.

[00179] The illustrated base 594 further includes an aperture 598 and a projection 500 through which the aperture 598 extends. The illustrated aperture 598 and projection 500 are substantially centered on the base 594. The aperture 598 is sized to receive the fastener 522 and can be the same size or a similar size as aperture 532. The illustrated projection 500 extends into the space provided by the projection 530, and substantially mates with the projection 530, such that projections 530 and 500 extend together. The projections 530 and 500 work together to inhibit relative movement of the flashing 516 with respect to the roof.

[00180] The illustrated bracket 520 is substantially L-shaped and includes an elongate body portion 552 and a first flange 558. The illustrated elongate body portion 552 includes an aperture 569 that is sized to receive a fastener to support at least one of a snow guard, a snow fence, a solar panel, an antenna, a sign, and a billboard, or related components. The illustrated first flange 558 includes a tapered aperture 566 that is sized to at least partially receive the first projection 530 and the washer projection 500. The tapered aperture 566 is also sized to receive the fastener 522 therethrough.

[00181] In the illustrated embodiment, the compression washer 572 includes a washer and a seal, such as an o-ring. The fastener 522 has a head that bear against the washer and the washer bears against the o-ring to provide a resilient seal between the fastener head and the bracket 520.

[00182] The embodiments described above and illustrated in the figures are presented by way of example only and are not intended as a limitation upon the concepts and principles of the present invention. As such, it will be appreciated by one having ordinary skill in the art that

various changes in the elements and their configuration and arrangement are possible without departing from the spirit and scope of the present invention.

[00183] Figs. 52 and 53 illustrate another embodiment of a roofing system 610 according to the present invention. This embodiment employs much of the same structure and has many of the same properties as the embodiments of the roofing systems described above in connection with Figs. 1-51. Accordingly, the following description focuses primarily upon structure and features that are different than the embodiments described above in connection with Figs. 1-51. Reference should be made to the description above in connection with Figs. 1-51 for additional information regarding the structure and features, and possible alternatives to the structure and features of the roofing system 610 illustrated in Figs. 52 and 53 and described below. Features and elements in the embodiment of Figs. 52 and 53 corresponding to features and elements in the embodiments described above in connection with of Figs. 1-51 are numbered in the 600 series of reference numbers.

[00184] Figs. 52 and 53 illustrate a roofing system 610 that includes a piece of flashing 616 defining an aperture 632 therethrough. The flashing aperture 632 defines a diameter d19 in Fig. 52 and diameter d20 in Fig. 53. The diameter d19 of Fig. 52 is greater than the diameter d20 of Fig. 53. In some embodiments, the flashing 616 can include a projection defining a substantially frustoconical shape, similar to the projections described above. The roofing system 610 further includes a roof bracket 620, which can include any of the previously-illustrated and described brackets. The illustrated bracket 620 is only partially shown, to more clearly illustrate the details of the engagement between the bracket 620 and the flashing 616. The illustrated bracket 620 includes an aperture 671 extending through the bracket 620 and having a substantially frustoconical shape.

[00185] The roofing system 610 also includes a seal 618 having a generally frustoconical shape and defining an aperture 648 extending therethrough. The seal 618 has a first narrow end 641 that defines a narrow seal diameter d21 and a second wide end 643 that defines a wide seal diameter d22. The narrow seal diameter d21 is less than the wide seal diameter d22. The first narrow end is spaced from the roof surface and the second wide end is proximate to or adjacent to the roof surface.

[00186] The roofing system 610 further includes at least one fastener, such as the illustrated fastener 622. The fastener 622 can be any threaded or unthreaded fastener suitable to retain the roofing system 610 on a roof. The fastener 622 extends through the flashing aperture 632, the seal aperture 648, and the bracket aperture 671. The fastener 622 has a fastener diameter d23, that is less than the flashing diameter d19 of Fig. 52 and is less than or substantially equal to the flashing diameter d20 of Fig. 53. The diameter of the fastener 622 is less than or substantially equal to the narrow seal diameter d21 and is less than the wide seal diameter d22. The seal aperture 648 can be sized to receive the fastener 622 and to optionally form a substantially water-tight seal with the fastener 622.

[00187] The roofing system 610 can further include a washer 672, as illustrated in Fig. 53. The washer 672 can be included in the embodiment of Fig. 52, or could be omitted from the embodiment illustrated in Fig. 53. The washer 672 can be a polymeric compression washer to provide a substantially water-tight seal between the fastener 622 and the bracket aperture 671. In some embodiments, the washer 672 can be omitted or can be replaced by an o-ring or an applied sealant, such as caulk. Alternatively or in addition, the washer 672 can include a stiffening element, such as, for example, a rigid backing, to provide additional support. The washer 672 can have an aperture that defines a diameter that is larger than or substantially equal to the diameter of the fastener 622.

[00188] Fig. 53 illustrates possible leak points of the roofing system 610. A first possible leak point A is between the head of the fastener 622 and the washer 672. A second possible leak point B is between the washer 672 and the bracket 620. A third possible leak point C is between the bracket 620 and the flashing 616. The washer 672, the fastener 622, the bracket 620 and the seal 618 work together to substantially inhibit or prevent flow of fluid through first and second leak points A, B. The bracket 620, the seal 618 and the flashing 616 work together to substantially inhibit or prevent flow of fluid through the third leak point C.

[00189] Figs. 54-56 illustrate an alternative seal arrangement that can be used with any of the above-described applications. Figs. 54-56 illustrate flashing 716 having a protrusion 730 defining an aperture 732 and a seal 718 extending therethrough. The flashing 716 includes a first surface 734 and a second surface 736 opposite the first surface 734. As shown in Figs. 55-56,

the seal 718 includes a first seal member 718A and a second seal member 718B. The first seal member 718A substantially mates with the second seal member 718B to have substantially the same shape as the seal 18 shown in Figs. 6-7.

[00190] The illustrated first seal member 718A has a substantially T-shaped cross section and includes a first end portion 740A, a second end portion 742A and a middle portion 744A. The first seal member 718A defines a seal aperture 748 extending therethrough between the first end portion 740A and the second end portion 742A. The first end portion 740A of the illustrated embodiment has a first planar end surface 741 and a first outer diameter d24. The illustrated second end portion 742A defines an outwardly protruding flange 747A and has a second planar end surface 743A. The illustrated outwardly protruding flange 747A defines a second outer diameter d25 less than the first outer diameter d24.

[00191] The outwardly protruding flange 747A is deformable, such that the first seal member 718A is insertable into the aperture 732. In the illustrated embodiment, the outwardly protruding flange 747A retains the first seal member 718A in the aperture 732. As shown by arrow A in Fig. 56, the first seal member 718A is inserted into the aperture 732 from the flashing first surface 734 toward the flashing second surface 736. In the illustrated embodiment, the outwardly protruding flange 747A defines at least one cutout configured to decrease a force necessary to deform the outwardly protruding flange 747A. The outwardly protruding flange 747A is shown by way of example only and can take on many other sizes, shapes and configurations. In some embodiments, the outwardly protruding flange 747A may be omitted completely.

[00192] The illustrated second seal member 718B has a substantially frustoconical shape and includes a first end portion 744B and a second end portion 742B. The first end portion 744B is in substantial engagement with the middle portion 744A of the first seal member 718A, and the second end portion 742B is in substantial engagement with the second end portion 742A. The first and second seal members 718A and 718B are sized and shaped to form a water-tight seal therebetween. The second end portion 742B of the second seal member 718B defines a cutout 747B shaped to receive the outwardly protruding flange 747A. The illustrated flange 747A and cutout 747B are provided by way of example only, and other mating, inter-engaging

configurations and arrangements of parts can be used in place of the illustrated flange 747A and cutout 747B. In the illustrated embodiment, the surface 743A is substantially co-planar with a second planar end surface 743B of the second end portion 742B. In other embodiments, the surface 743A is not co-planar with the second planar end surface 743B.

[00193] The second seal member 718B includes an inner surface 749 and an outer surface 751. The inner surface 749 includes the cutout 747B and substantially abuts against the middle portion 744A and the second end portion 742A of the first seal member 718A. The outer surface 751 has a substantially frustoconical shape and substantially abuts against the second surface 736 of the flashing 716. As shown by arrow B, the second seal member 718B is inserted into the protrusion 730 from the flashing second surface 736 into abutting engagement with the flashing second surface 736. The first and second seal members 718A and 718B can be pressed into mating engagement and retained on the flashing 716 by the inter-engagement of the outwardly protruding flange 747A and the cutout 747B.

[00194] A user can install the seal 718 on the flashing 716 on site by hand, without the use of special tools or equipment. The assembled flashing 716 and seal 718 may be positioned on the roof. A bracket may then be positioned on the seal 718 and the flashing 716, and a fastener may be installed to fix the assembly to the roof. The portion 740 of the seal 718 is between the flashing 716 and the bracket, and the portion 744A of the seal 718 is between the flashing 716 and the fastener, thus forming a water-tight seal to inhibit flow of fluid through the aperture 732.

[00195] Fig. 57 illustrates an alternative arrangement to provide a seal in the protrusion 730 with only the first seal member 718A. The illustrated first seal member 718A is the same as the first seal member 718A of Figs. 54-56 but can have a different shape or configuration. A void 753 is defined between the middle portion 744A, the second end portion 742A and the protrusion 730. The void 753 is substantially the same size and shape of the second seal member 718B shown in Figs. 54-56. The void 753 is substantially sealed from the outside environment by the first seal member 718A.

[00196] Figs. 58-59 illustrate an alternate seal arrangement that can be used with any of the above-described applications. Figs. 58-59 illustrate flashing 816 having a protrusion 830 defining an aperture 832 and a seal 818 extending therethrough. The flashing 816 includes a first

surface 834 and a second surface 836 opposite the first surface 834. As shown in Fig. 59, the seal 818 includes a first seal member 818A and a second seal member 818B. The first seal member 818A substantially mates with the second seal member 818B to have shape similar to the seal 18 shown in Figs. 6-7.

[00197] The first seal member 818A includes a ring 840 having a first surface 841A. The second seal member 818B includes a first end portion 840B, a second end portion 842 and a middle portion 844. The second seal member 818B has a first surface 841B and a second surface 843. The second seal member 818B defines an aperture 848 extending therethrough. The first surface 841A of the first seal member 818A and the first surface 841B of the second seal member 818B are not illustrated as co-planar but can be substantially co-planar in other embodiments (not shown).

[00198] The first end portion 840B includes an outwardly protruding flange 847 sized and shaped to retain the first seal member 818A in engagement with the second seal member 818B. The outwardly protruding flange 847 is flexible and deformable, thereby permitting the first seal member 818A to be pressed onto the second seal member 818B over the outwardly protruding flange 847. The flange 847 deforms and subsequently, returns to the original shape and thereby retains the first seal member 818A in engagement with the second seal member 818B. The first and second seal members 818A and 818B cooperate to form a substantially water-tight seal in the aperture 832. Like the seal arrangements illustrated in Figs. 56-59, the seal 818 can be installed on the flashing 816 by hand on site, without the use of special tools or equipment.

[00199] Any of the illustrated seal embodiments can include a single monolithic piece or two or more pieces that combine to form the illustrated seal shapes and configurations.

[00200] Figs. 60-62 illustrate another embodiment of a roofing system 1110 according to the present invention. This embodiment employs much of the same structure and has many of the same properties as the embodiments of the roofing system described above in connection with Figs. 1-59. Accordingly, the following description focuses primarily upon structure and features that are different than the embodiments described above in connection with Figs. 1-59. Reference should be made to the description above in connection with Figs. 1-59 for additional information regarding the structure and features, and possible alternatives to the structure and

features of the roofing system 1110 illustrated in Figs. 60-62 and described below. Features and elements in the embodiment of Figs. 60-62 corresponding to features and elements in the embodiments described above in connection with of Figs. 1-59 are numbered in the 1100 series of reference numbers.

[00201] Figs. 60-62 disclose a roofing system 1110 including a solar panel 1112 mounted to a track 1114 that is mountable to a roof in a substantially vertical orientation (i.e. extending substantially normal to a roof apex). A plurality of sections of flashing 1116 are provided where the solar panel 1112 and/or track 1114 are coupled to the roof. A plurality of brackets 1118 are positioned between the respective sections of flashing 1116 and the solar panel 1112. A plurality of fasteners 1120 extend through the respective bracket 1118, flashing 1116 and into the roof. Further fasteners 1122 couple the respective bracket 1118 to the track 1114. A second plurality of brackets 1126 are coupled to the solar panel 1112 and engage the roof in some embodiments, and are spaced above the roof in other embodiments. The second plurality of brackets 1126 are coupled to the solar panel 1112 with a plurality of fasteners 1128. The illustrated brackets 1118, 1126 are shown by way of example only. Any suitable brackets can be utilized, such as any of the brackets shown and described herein.

[00202] Figs. 63 and 64 disclose a roof system 1210 including a solar panel 1212 mounted to a track 1214 that is mountable to a roof in a substantially horizontal orientation (i.e. extending substantially parallel to a roof apex). The roof system 1210 also includes a snow fence 1230 including a snow guard 1232 extending substantially perpendicular to a roof surface and a plurality of extensions 1234a, 1234b, etc. extending substantially parallel to the roof surface.

[00203] The illustrated snow fence 1230 is modular, such that any suitable number of extensions 1234a, 1234b, etc. can be utilized to achieve a desired length L of the snow fence 1230. The extensions 1234a, 1234b, etc. include a locking structure 1240 to releasably couple the extensions 1234a, 1234b, etc. to an adjacent extension.

[00204] The snow guard 1232 extends away from the extension 1234a along a height of H. The snow guard 1232 is positioned a distance D away from the nearest edge of the solar panel 1212. In some embodiments H is less than or equal to two times D ($H < 2*D$ or $H = 2*D$). The height H and distance D can vary for different angles of roofs and global locations. Preferably

the height H and distance D are selected to limit or avoid shadows from the snow guard 1232 to partially or substantially cover the solar panel 1212.

[00205] The solar panel 1212 is spaced from the snow fence 1230 a desired distance d, in which $d = D - L$, to permit rain, snow or other precipitation from the solar panel 1212 to flow under the snow fence 1230. The precipitation can flow between the tracks 1214, optionally into a gutter, and off the roof. The snow guard 1232 can be positioned an angle that is non parallel to the roof apex to permit precipitation to flow off of one side of the snow guard 1232. The snow fence can be orientated at a non-parallel angle with respect to the roof to permit precipitation to flow off of one side of the snow fence 1230.

[00206] In some embodiments, a top surface of the extensions 1234a, 1234b, etc. can have a greater coefficient of friction than a top surface of the solar panel 1212. As precipitation slides along the solar panel 1212 the precipitation can gain speed and “fly” off the roof if not slowed or stopped. In some climates, this scenario can pose problems, depending upon the quantity and type(s) of precipitation experienced. The snow fence 1230 can slow or stop snow and ice from flying off the roof, but can permit rain to fall off of the roof. As the snow and/or ice melt, the water can run off of the extensions 1234a, 1234b by changing the angle of the snow guard 1232 and the extensions 1234a, 1234b, etc. with respect to the roof.

[00207] In some embodiments, one or more portions of the snow fence 1230 and track 1214 can function as a rain diverter by directing rain or snow melt away from doorways or walkways.

[00208] Fig. 65 illustrates a bracket and fastener arrangement 1300 that can be utilized with any of the embodiments disclosed herein.

[00209] Figs. 66 and 67 illustrate an adjustable height bracket 1400 that can be utilized with any of the embodiments disclosed herein. The illustrated bracket 1400 permits an end user to select the distance between the roof and the solar panel and/or the distance between the roof and snow fence. Figs. 66 and 67 illustrate the bracket 1400 in a first position that extends the height of the bracket to H1 (shown in phantom in Fig. 66). Figs. 66 and 67 illustrates the bracket 1400 in a second position that retracts the height of the bracket to H2 (shown in solid in Figs. 66 and 67). Fig. 66 illustrates the bracket in the second position in solid and in the first position in

phantom. The illustrated bracket 1400 includes four possible heights, but brackets with other quantities and ranges of heights can be utilized.

[00210] Figs. 68-70 illustrate an adjustable height bracket 1500 that can be utilized with any of the embodiments disclosed herein. The illustrated bracket 1500 permits an end user to select the distance between the roof and the solar panel and/or the distance between the roof and snow fence. The illustrated bracket 1500 is coupled to the snow fence 1230 and a portion of flashing. The illustrated bracket 1500 can be adjusted to any of a number of positions within a range. The illustrated bracket 1500 includes a first, generally L-shaped portion 1502 and a second, generally L-shaped portion 1504. The first, generally L-shaped portion 1502 includes a first pair of slots 1506, 1508 and the second, generally L-shaped portion includes a second pair of slots 1510, 1512. The first pair of slots 1506, 1508 are substantially aligned with the second pair of slots 1510, 1512 and a pair of fasteners 1514, 1516 are inserted into the respective slots 1506 and 1510, 1508 and 1512.

[00211] The first and second portions 1502, 1504 each include at least one rough surface that is formed, machined, molded, sanded or otherwise manufactured to have a high coefficient of friction. Two rough surfaces are illustrated, however, both a front and a back of the L-shaped portions 1502, 1504 can form rough surfaces. In such an embodiment, the rough surfaces face one another to engage and substantially “lock” together when the fasteners 1514 and 1516 are tightened. The height of the adjustable height bracket 1500 can be adjusted to any height in a range of heights. The range is at least partially dependent upon the length and location of the slots 1506, 1508, 1510, 1512. Other quantities, locations and orientations of slots and brackets can be utilized in combination with the present invention.

[00212] Figs. 71-74 illustrate another embodiment of roofing assemblies 2026, 2046 according to the present invention. This embodiment employs much of the same structure and has many of the same properties as the embodiments of the roofing assemblies described above in connection with the embodiments of Figs. 1-70. Accordingly, the following description focuses primarily upon structure and features that are different than the embodiments described above in connection with Figs. 1-70. Reference should be made to the description above in connection with Figs. 1-70 for additional information regarding the structure and features, and

possible alternatives to the structure and features of the roofing assemblies 2026, 2046 illustrated in Figs. 71-74 and described below. Features and elements in the embodiment of Figs. 71-74 corresponding to features and elements in the embodiments described above in connection with of Figs. 1-70 are numbered in the 2000 series of reference numbers.

[00213] Figs. 71 and 72 show a roofing system 2010 including a number of rafters or beams 2012 (one such rafter 2012 is illustrated), a roof substrate 2014 (e.g., tarpaper, plywood or other decking material, insulation, and the like) supported on the rafters 2012, flashing 2016 extending across the substrate 2014 (i.e., placed immediately adjacent an upper surface of the substrate 2014 or supported on one or more intermediate layers of roofing or sealing material, which in turn are placed on the substrate 2014), a seal 2018, a first mounting bracket 2020 and at least one fastener 2022 operable to connect the first bracket 2020 to the roof substrate 2014 and the flashing 2016. In the illustrated embodiment, the roofing system 2010 includes a washer 2021 positioned between the first mounting bracket 2020 and the fastener 2022. In some embodiments, the washer 2021 can be a spring washer, a compression lock washer, a sealing ring or the like. In some embodiments, the washer 2021 is omitted. The roofing system 2010 is operable to support any of a variety of roof-mounted fixtures, such as, for example, snow fences, solar panels, an antenna, signs, billboards, or any of a number of other roof-mountable assemblies. Depending on one or more of the geographic location, anticipated quantity and type of precipitation, and anticipated roof and wind loading, the roofing system 10 can include any of a variety of flashing, seal and bracket arrangements, as will be discussed below.

[00214] The first bracket 2020 is operable to support any of a variety of roof-mounted fixtures, such as snow guards, snow fences, solar panels, an antenna, signs, billboards, or any other assembly mountable to a roof. Some roof-mounted fixtures are described in detail in commonly-assigned U.S. patents 5,609,326, filed June 16, 1995, and 6,526,701, filed December 6, 2000.

[00215] Prior to installation of the roofing system 2010, apertures 2024 are drilled or otherwise created in the rafters 2012 and/or substrate 2014. The illustrated embodiment shows an aperture 2024 in the rafter 2012 and the substrate 2014. The roofing system 2010 inhibits leakage of fluids through the flashing 2016, and, in some embodiments, may also or alternately

inhibit leakage of fluids beyond the flashing to portions of the substrate 2014 or areas below the substrate 2014. The roofing system 2010 can be utilized on any of a variety of roof types, such as slate roofs, membrane roofs, aluminum roofs, standing seam roofs, tile roofs, shingle roofs, and the like.

[00216] One or more fasteners can be used to couple the first bracket 2020 to the seal 2018 and flashing 2016 to form a mounting assembly. One such assembly 2026 is illustrated in Figs. 71-74 and includes the flashing 2016, the seal 2018, the first bracket 2020, one fastener 2022, and a washer 2028. The washer 2028 can be a spring washer, a sealing ring, a compression washer, or the like, to provide a substantially water-tight seal between the fastener 2022 and the first bracket 2020. In some embodiments, the washer 2028 can be omitted or can be supplemented by an o-ring or an applied sealant, such as caulk. Alternatively or in addition, the washer 2021 can include a stiffening element, such as, for example, a rigid backing, to provide additional support.

[00217] The assembly 2026 can be installed on a roof. The fastener 2022 can extend through the flashing 2016, the seal 2018, the first bracket 2020, into the substrate 2014 and the rafters 2012, as illustrated in Figs. 71 and 72. The washer 2028 and the seal 2018 work together to prevent or inhibit entry of water or other fluid between the flashing 2016 and the first bracket 2020 or under the flashing 2016 to the rafters 2012 and/or substrate 2014. Even though the illustrated fasteners are bolts, other fasteners, such as screws, studs, nails, and other removable and non-removable fasteners, can be used.

[00218] The illustrated first bracket 2020 includes a substantially planar first end 2030, first and second arms 2032, 2034 and a substantially planar second end 2036. The first end 2030 defines an aperture 2038 extending therethrough, through which the seal 2018 and fastener 2022 extend. The seal 2018 illustrated in Fig. 72 is substantially frustoconical in shape, but other shapes, configurations and arrangements can be utilized to provide a seal between the flashing 2016 and the first bracket 2020. The first bracket 2020 can have a suitably sized and shaped aperture to receive the seal 2018. The illustrated aperture 2038 includes a vertical portion and a tapered portion. The vertical portion is positioned near the washer 2028 and the tapered portion is positioned near the seal 2018. The tapered portion substantially mates with the seal 2018 to

substantially inhibit flow of fluid through the aperture 2038. The flashing 2016 can also include a substantially frustoconical projection extending at least partially into the bracket aperture. Multiple suitable seals and receiving apertures are illustrated and described herein.

[00219] The illustrated first bracket 2020 defines an aperture 2040 bound by the first end 2030, the first and second arms 2032, 2034 and the second end 2036. The illustrated aperture 2040 is substantially rectangular in cross-section. Other aperture shapes, sizes and locations can be formed by the first bracket 2020. The first bracket 2020 can be cast, extruded, molded, or otherwise formed. In some embodiments, the first bracket 2020 is formed from steel, but in other embodiments, other metals or non-metallic materials can be utilized to form the first bracket 2020.

[00220] The illustrated second end 2036 defines an aperture 2042 sized to receive a second fastener 2044 therethrough. The second fastener 2044 is part of a second roofing assembly 2046 that further includes a plate 2048, a first nut 2050, a second nut 2052 and a second bracket 2054. The second roofing assembly 2046 is coupled to the assembly 2026 by the engagement of the fastener 2044 in the aperture 2042 in the second end 2036 of the first bracket 2020. The first nut 2050 can be positioned along the second fastener 2044 to adjust the relative length of the second fastener 2044 extending above the aperture 2042.

[00221] The illustrated second bracket 2054 is substantially U-shaped and includes a first flange 2056 and a second flange 2058. Other sizes, shapes and configurations can be utilized in place of the illustrated second bracket 2054. The first and second nuts 2050, 2052 permit adjustment of the length of the second fastener 2044 above the first bracket 2020. Specifically, a length L between the plate 2048 and the first and second flanges 2056, 2058 is variable due to the engagement of the first and second nuts 2050, 2052 and the second fastener 2044. The length L is adjustable to retain any of a variety of roof-mounted structures between the plate 2048 and the flanges 2056, 2058.

[00222] The first fastener 2022 defines a first axis A1 and the second fastener 2044 defines a second axis A2. A distance d between the first axis A1 and the second axis A2 is shown in Fig. 72. The second fastener 2044 is offset from the first fastener 2022 by the distance d. The first fastener 2022 extends into one of the beams 2012 and supports the second roofing assembly

2046 spaced from the beam 2012. This provides much greater flexibility for installation of the roofing system 2010, such that the second roofing assembly 2046 can be offset from the beams 2012 and still be supported by the beams 2012.

[00223] Figs. 75-78 illustrate another embodiment of roofing assemblies 2126, 2146 according to the present invention. This embodiment employs much of the same structure and has many of the same properties as the embodiments of the roofing assemblies described above in connection with the embodiments of Figs. 1-74. Accordingly, the following description focuses primarily upon structure and features that are different than the embodiments described above in connection with Figs. 1-74. Reference should be made to the description above in connection with Figs. 1-74 for additional information regarding the structure and features, and possible alternatives to the structure and features of the roofing assemblies 2126, 2146 illustrated in Figs. 75-78 and described below. Features and elements in the embodiment of Figs. 75-78 corresponding to features and elements in the embodiments described above in connection with of Figs. 1-74 are numbered in the 2100 series of reference numbers.

[00224] The roofing assembly 2126 includes flashing 2116, a seal 2118, a first bracket 2120, a first fastener 2122 and a washer 2128. The flashing 2116, seal 2118, fastener 2122 and washer 2128 are similar to the flashing, seal, fastener and washer of previously-described embodiments. Reference should be made to the description of Figs. 1-70 for the flashing 2116, seal 2118, fastener 2122 and washer 2128.

[00225] The illustrated first bracket 2120 includes a substantially planar first end 2130, a first side arm 2132, a middle arm 2133, a second side arm 2134, and a substantially planar second end 2136. The first end 2130 defines an aperture 2138 extending therethrough, through which the seal 2118 and fastener 2122 extend. The first bracket 2120 has generally the same overall shape as the first bracket 2020, but has a generally Z-shaped cross section. The middle arm 2133 includes an aperture 2138 extending therethrough proximate a head of the first fastener 2122. The aperture 2138 can permit fluid to drain away from the seal 2118, the first fastener 2122, and the washer 2128.

[00226] The illustrated second end 2136 defines an aperture 2142 sized to receive a second fastener 2144 therethrough. The second fastener 2144 is part of the second roofing assembly

2146 that further includes a plate 2148, a first nut 2150, a second nut 2152 and a second bracket 2154. The second roofing assembly 2146 is coupled to the roofing assembly 2126 by the engagement of the fastener 2144 in the aperture 2142 in the second end 2136 of the first bracket 2120. The first nut 2150 can be positioned along the second fastener 2144 to adjust the length of the second fastener 2144 extending above the aperture 2142 in the second end 2136. The second roofing assembly 2146 is similar to the second roofing assembly 2046 in the previous embodiment.

[00227] The illustrated second bracket 2154 is substantially U-shaped and includes a first flange 2156 and a second flange 2158. Other sizes, shapes and configurations can be utilized in place of the illustrated second bracket 2154. The first and second nuts 2150, 2152 permit adjustment of the relative length of the second fastener 2144 above the first bracket 2120. Specifically, a length L1 between the plate 2148 and the first and second flanges 2156, 2158 is variable due to the engagement of the first and second nuts 2150, 2152 and the second fastener 2144. The length L1 is adjustable to retain any of a variety of roof-mounted structures between the plate 2148 and the flanges 2156, 2158.

[00228] The first fastener 2122 defines a first axis A11 and the second fastener 2144 defines a second axis A12. A distance d1 between the first axis A11 and the second axis A12 is shown in Fig. 76. The second fastener 2144 is offset from the first fastener 2122 by the distance d1. The first fastener 2122 extends into one of the beams 2012 (illustrated in Figs. 71 and 72) and supports the second roofing assembly 2146 spaced from the beam 2012. This provides much greater flexibility for installation of the roofing system 2010 (illustrated in Figs. 71 and 72), such that the second roofing assembly 2146 can be offset from the beams 2012 and still be supported by the beams 2012.

[00229] Figs. 79-82 illustrate another embodiment of a first bracket 2220 according to the present invention. This embodiment employs much of the same structure and has many of the same properties as the embodiments of the brackets described above in connection with Figs. 1-78. Accordingly, the following description focuses primarily upon structure and features that are different than the embodiments described above in connection with Figs. 1-78. Reference should be made to the description above in connection with Figs. 1-78 for additional information

regarding the structure and features, and possible alternatives to the structure and features of the first bracket 2220 illustrated in Figs. 79-82 and described below. Features and elements in the embodiment of Figs. 79-82 corresponding to features and elements in the embodiments described above in connection with of Figs. 1-78 are numbered in the 2200 series of reference numbers.

[00230] The illustrated first bracket 2220 includes a substantially planar first end 2230, first and second arms 2232, 2234 and a substantially planar second end 2236. The first end 2230 defines an aperture 2238 extending therethrough, through which a seal and fastener can extend. The illustrated aperture 2238 includes a vertical portion 2238a and a tapered portion 2238b.

[00231] The illustrated first bracket 2220 defines an aperture 2240 bound by the first end 2230, the first and second arms 2232, 2234 and the second end 2236. The illustrated aperture 2240 is substantially rectangular in cross-section. Other aperture shapes, sizes and locations can be formed by the first bracket 2220. The first bracket 2220 can be cast, extruded, molded, or otherwise formed. In some embodiments, the first bracket 2220 is formed from steel, but in other embodiments, other metals or non-metallic materials can be utilized to form the first bracket 2220.

[00232] The illustrated second end 2236 defines an aperture 2242 sized to receive a fastener, such as the second fastener 2244 therethrough. The aperture 2238 is spaced from the aperture 2242 by a distance d_2 . As described in greater detail above, this provides much greater flexibility for installation of the bracket 2220 on a roof, such that a second assembly (such as 2046, 2146) can be offset from the beams 2012 and still be supported by the beams 2012.

[00233] Figs. 83-85 illustrate another embodiment of roofing assemblies 2326, 2346 according to the present invention. This embodiment employs much of the same structure and has many of the same properties as the embodiments of the roofing assemblies described above in connection with Figs. 1-82. Accordingly, the following description focuses primarily upon structure and features that are different than the embodiments described above in connection with Figs. 1-82. Reference should be made to the description above in connection with Figs. 1-82 for additional information regarding the structure and features, and possible alternatives to the structure and features of the roofing assemblies 2326, 2346 illustrated in Figs. 83-85 and

described below. Features and elements in the embodiment of Figs. 83-85 corresponding to features and elements in the embodiments described above in connection with of Figs. 1-82 are numbered in the 2300 series of reference numbers.

[00234] The roof mounting assembly 2326 includes flashing 2316, a seal (not shown), a first bracket 2320, a first fastener 2322 and a washer 2328. The flashing 2316, seal, fastener 2322 and washer 2328 are similar to the flashing, seal, fastener and washer of previously-described embodiments. Reference should be made to the description of Figs. 1-82 for the flashing 2316, seal, fastener 2322 and washer 2328.

[00235] The illustrated first bracket 2320 includes a substantially planar first end 2330, a first side arm 2332, a middle arm 2333, a second side arm 2334 and a substantially planar second end 2336. The first end 2330 defines an aperture through which the fastener 2322 extends. The first bracket 2320 has the same general overall shape as the bracket 2120. The middle arm 2333 can include an aperture extending therethrough to permit fluid to drain away from the first fastener 2322 and the washer 2328.

[00236] The illustrated second end 2336 defines an aperture 2342 sized to receive a second fastener 2344 therethrough. The second fastener 2344 is part of a second roof mounting assembly 2346 that further includes a plate 2348, a first nut 2350, a second nut 2352 and a second bracket 2354. The second roof mounting assembly 2346 is coupled to the roof mounting assembly 2326 by the engagement of the second fastener 2344 in the aperture 2342 in the second end 2336 of the first bracket 2320. The first nut 2350 can be positioned along the second fastener 2344 to adjust the length of the second fastener 2344 extending above the second aperture 2342. The second roof mounting assembly 2346 is similar to the second roofing assembly 2046 in the previously-described embodiment. Reference should be made to the description of Figs. 1-82 for details of the second roof mounting assembly 2346.

[00237] The illustrated second bracket 2354 is substantially U-shaped and includes a first flange 2356 and a second flange 2358. Other sizes, shapes and configurations can be utilized in place of the illustrated second bracket 2354. The first and second nuts 2350, 2352 permit adjustment of the relative length of the second fastener 2344 above the first bracket 2320. Specifically, a length between the plate 2348 and the first and second flanges 2356, 2358 is

variable due to the engagement of the first and second nuts 2350, 2352 and the second fastener 2344, to retain any of a variety of roof-mounted structures between the plate 2348 and the flanges 2356, 2358.

[00238] As in the above-described embodiments, the first fastener 2322 is spaced from the second fastener 2344. The first fastener 2322 can extend into one of the beams 2012 (illustrated in Figs. 71 and 72) and support the second roof mounting assembly 2346 spaced from the beam 2012. This provides much greater flexibility for installation of the roofing system 2010 (illustrated in Figs. 71 and 72), such that the second roof mounting assembly 2346 can be offset from the beams 2012 and still be supported by the beams 2012.

[00239] Additionally, Figs. 83 and 84 illustrate the first roof mounting assembly 2326 in a first orientation and Fig. 85 illustrates the first roof mounting assembly 2326 in a second orientation, rotated about the first fastener 2322 from the first orientation. In some embodiments, the first roof mounting assembly 2326 can rotate about 360 degrees to permit infinite adjustment of spacing between the first and second fasteners 2322, 2344 along an axis, within a range of distances. Such adjustment permits the second roof mounting assembly 2346 to be offset from the beam 2012 by varying distances without sacrificing structural integrity of the roof mounting structure.

[00240] Figs. 86-88 illustrate another embodiment of roofing assemblies 2426, 2446 according to the present invention. This embodiment employs much of the same structure and has many of the same properties as the embodiments of the roofing assemblies described above in connection with Figs. 1-85. Accordingly, the following description focuses primarily upon structure and features that are different than the embodiments described above in connection with Figs. 1-85. Reference should be made to the description above in connection with Figs. 1-85 for additional information regarding the structure and features, and possible alternatives to the structure and features of the roofing assemblies 2426, 2446 illustrated in Figs. 86-88 and described below. Features and elements in the embodiment of Figs. 86-88 corresponding to features and elements in the embodiments described above in connection with of Figs. 1-85 are numbered in the 2400 series of reference numbers.

[00241] The roof mounting assembly 2426 includes flashing 2416 a seal 2418, a first bracket 2420, a first fastener 2422 and a washer 2428. The flashing 2416, seal 2418, fastener 2422 and washer 2428 are similar to the flashing, seal, fastener and washer of the previously-described embodiments. Reference should be made to the description of Figs. 1-85 for the flashing 2416, seal 2418, fastener 2422 and washer 2428.

[00242] The illustrated first bracket 2420 includes a substantially planar first end 2430, a first side arm 2432, a second side arm 2434, and a substantially planar second end 2436. The first end 2430 defines an aperture 2438 extending therethrough, through which the seal 2418 and fastener 2422 extend. The first bracket 2420 has the same general overall shape as the first bracket 2020.

[00243] The illustrated first bracket 2420 defines an aperture 2440 bound by the first end 2430, the first and second arms 2432, 2434 and the second end 2436. The illustrated aperture 2440 is substantially rectangular in cross-section. Other aperture shapes, sizes and locations can be formed by the first bracket 2420. The first bracket 2420 can be cast, extruded, molded, or otherwise formed. In some embodiments, the first bracket 2420 is formed steel, but in other embodiments, other metals or non-metallic materials can be utilized to form the first bracket 2420.

[00244] The illustrated second end 2436 defines an aperture 2442 sized to receive a second fastener 2444 therethrough. The second fastener 2444 is part of the second roof mounting assembly 2446 that further includes a nut 2452, a second bracket 2454 and a third bracket 2445. The second and third brackets 2454, 2456 each include a respective slot 2457, 2459 through which the second fastener 2444 extends. The nut 2452 retains the second and third bracket 2454, 2456 on the first bracket 2420. The illustrated embodiment includes a washer 2460 positioned between the nut 2452 and the third bracket 2456. The illustrated second and third brackets 2454, 2456 are substantially J-shaped. Other sizes, shapes and configurations can be utilized in place of the illustrated second and third brackets 2454, 2456.

[00245] The illustrated second roof mounting assembly 2446 further includes a third fastener 2462 coupled to the second bracket 2454 and a fourth fastener 2464 coupled to the third bracket

2456. The third and fourth fasteners 2462, 2464 are positioned to selectively releasably retain one or more roof mounted structures on the second and third bracket 2454, 2456.

[00246] The slots 2457, 2459 permit movement of the second and third brackets 2454, 2456 toward and away from the first fastener 2422 to provide greater flexibility for installation. Specifically, the fastener 2422 extends into one of the beams 2012 (illustrated in Figs. 71 and 72) and supports the second roof mounting assembly 2446 spaced from the beam 2012. This provides much greater flexibility for installation of the roofing system 2010 (illustrated in Figs. 71 and 72), such that the second roof mounting assembly 2446 can be offset from the beams 2012 and still be supported by the beams 2012. Further, the distance between the third and fourth fasteners 2462, 2464 is variable within a range, to permit the second roof mounting assembly 2446 to be coupled to any of a variety of roof mountable structures.

[00247] Figs. 90-94 illustrate another embodiment of roofing assemblies 2526, 2546 according to the present invention. This embodiment employs much of the same structure and has many of the same properties as the embodiments of the roofing assemblies described above in connection with Figs. 1-89. Accordingly, the following description focuses primarily upon structure and features that are different than the embodiments described above in connection with Figs. 1-89. Reference should be made to the description above in connection with Figs. 1-89 for additional information regarding the structure and features, and possible alternatives to the structure and features of the roofing assemblies 2526, 2546 illustrated in Figs. 90-94 and described below. Features and elements in the embodiment of Figs. 90-94 corresponding to features and elements in the embodiments described above in connection with of Figs. 1-89 are numbered in the 2500 series of reference numbers.

[00248] The roof mounting assembly 2526 includes flashing 2516 a pair of seals 2518, a first bracket 2520, a first pair of fasteners 2522 and a pair of washers 2528. In some embodiments, the pair of washers 2528 include Neoprene bonded washers. The flashing 2516, seals 2518, fasteners 2522 and washers 2528 are similar to the flashing, seal, fastener and washer of the previously-described embodiments. Reference should be made to the description of Figs. 1-89 for the flashing 2516, seals 2518, fasteners 2522 and washers 2528.

[00249] The illustrated first bracket 2520 includes a first substantially planar portion 2568 and a second substantially planar portion 2570. The first portion 2568 extends substantially perpendicular to the second portion 2570. The illustrated first bracket 2520 is substantially L-shaped. The first portion 2568 defines a pair of apertures (not shown) extending therethrough, through which the seals 2518 and fasteners 2522 extend. The first bracket 2520 can be cast, extruded, molded, or otherwise formed. In some embodiments, the first bracket 2520 is formed from steel, but in other embodiments, other metals or non-metallic materials can be utilized to form the first bracket 2520.

[00250] The second portion 2570 defines a pair of slots 2572 extending therethrough. The illustrated slots 2572 extend in a substantially vertical direction, but other shapes, sizes and orientations of slots can be formed in the first bracket 2520. The slots 2572 are sized to receive a respective one of a pair of second fastener 2544 therethrough. The pair of second fasteners 2544 is part of the second roof mounting assembly 2546 that further includes a first plate 2574, a second plate 2576 a pair of nuts 2578 and optionally, a plurality of washers 2580. The first plate 2574 includes a pair of apertures 2582 and the second plate 2576 includes a pair of apertures 2584, such that the apertures 2582, 2584 are sized to receive one of the second fasteners 2544.

[00251] The second roof mounting assembly 2546 is coupled to the first roof mounting assembly 2526 by the engagement of the fasteners 2544 in the slots 2572 in the second portion 2570 of the first bracket 2520 and the apertures 2582, 2584 in the first and second plates 2574, 2576, respectively. The pair of nuts 2578 is coupled to a respective one of the pair of fasteners 2544 to retain the fasteners 2544 in the slots 2572 and apertures 2582, 2584. The first plate 2574 is positioned on a first side of the second portion 2570 and the second plate 2576 is positioned on a second side of the second portion 2570, such that the second portion 2570 is sandwiched between the first and second plates 2574, 2576. In some embodiments, one or more of the second portion 2570, first plate 2574 and second plate 2576 include at least one textured surface. In the illustrated embodiment, the first and second sides of the second portion 2570 include serrated portions and the first plate 2574 includes a serrated portion, sized to engage the serrated portion(s) of the second portion 2570. The textured surface(s) can increase friction and thereby strength the engagement between the second portion 2570 and the first and second plates 2574, 2576.

[00252] The illustrated second plate 2576 includes a first flange 2586 and a second flange 2588. The first flange 2586 extends substantially parallel to the flashing 2516 and the second flange extends substantially perpendicular to the flashing 2516. The illustrated first and second flanges 2586, 2588 are sized and shaped to receive and support an L-shaped bar 2590. In some embodiments, the L-shaped bar 2590 is part of a structure to be mounted to a roof. In other embodiments, the L-shaped bar 2590 is sized to support a structure to be mounted to a roof. Other bars, brackets, rods, or other fixtures can be coupled to the second roof mounting assembly 2546 and the L-shaped bar 2590 is provided by way of example only.

[00253] The slots 2572 permit adjustment of the relative location of the first and second plates 2574, 2576 and thus the L-shaped bar 2590 with respect to the flashing 2516. The length and location of the slots 2572 are selected at least partially based upon the desired range of heights between the first flange 2586 and the flashing 2516. In a first position, the first flange 2586 is spaced above the flashing 2516 a first height h_1 , and in a second position, the first flange 2586 is spaced above the flashing 2516 a second height h_2 , greater than the first height h_1 , see Fig. 93.

[00254] The embodiments described above and illustrated in the figures are presented by way of example only and are not intended as a limitation upon the concepts and principles of the present invention. Various features and advantages of the invention are set forth in the following claims.

CLAIMS

What is claimed is:

1. A roof mounting system for mounting a solar panel to a roof, the roof mounting system comprising:
 - a roof substrate;
 - a first roof mounting assembly including
 - a first flashing positionable on the substrate, the flashing defining a first surface, a second surface opposite the first surface and an aperture extending therethrough,
 - a first fastener extending through the aperture and into the roof substrate to couple the first flashing to the roof, and
 - a first bracket coupled to the first flashing;
 - a second roof mounting assembling including
 - a second flashing positionable on the substrate, the flashing defining a first surface, a second surface opposite the first surface and an aperture extending therethrough,
 - a second fastener extending through the aperture and into the roof substrate to couple the second flashing to the roof, and
 - a second bracket coupled to the second flashing; and
 - a track coupled to the first bracket by a third fastener and coupled to the second bracket by a fourth fastener,
 - wherein the track is operable to support a solar panel on the roof at a distance above the roof substrate.


ABSTRACT

A roof mount assembly mounts a structure to a roof having a rafter and a substrate supported by the rafter. The roof mount assembly includes a piece of flashing positioned on the substrate. The flashing includes a first surface, a second surface opposite the first surface and an aperture extending through the flashing. A fastener extends through the flashing aperture. A bracket is connected to the flashing via the fastener, and the bracket is sized to support at least one roof-mounted structure on the roof. A seal is positioned between the flashing aperture and the fastener. The seal is sized to form a water-tight seal with the aperture to inhibit flow of fluid through the aperture. The seal includes a first portion and a second portion, in which the first portion is positioned to abut the flashing first surface and the second portion is positioned to extend through the aperture.

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

Title of Invention	ROOFING GROMMET FORMING A SEAL BETWEEN A ROOF-MOUNTED STRUCTURE AND A ROOF
<p>As the below named inventor, I hereby declare that:</p> <p>This declaration is directed to: <input type="checkbox"/> The attached application, or <input checked="" type="checkbox"/> United States application or PCT international application number <u>14/253,687</u> filed on <u>April 15, 2014</u></p> <p>The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. I have reviewed and understand the contents of the above identified application, including the claims. I acknowledge the duty to disclose to the United States Patent & Trademark Office all information known to me to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application. I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.</p> <p align="center">WARNING:</p> <p>Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.</p>	
<p>LEGAL NAME OF INVENTOR</p> <p>Inventor: <u>Brian Cecil Stearns</u> Date (Optional): _____</p> <p>Signature: <u>Brian Cecil Stearns</u></p>	
<p><small>Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use an additional PTO/AIA/01 form for each additional inventor.</small></p>	

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

Title of Invention	ROOFING GROMMET FORMING A SEAL BETWEEN A ROOF-MOUNTED STRUCTURE AND A ROOF
<p>As the below named inventor, I hereby declare that:</p> <p>This declaration is directed to: <input type="checkbox"/> The attached application, or <input checked="" type="checkbox"/> United States application or PCT international application number <u>14/253,687</u> filed on <u>April 15, 2014</u></p> <p>The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. I have reviewed and understand the contents of the above identified application, including the claims. I acknowledge the duty to disclose to the United States Patent & Trademark Office all information known to me to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application. I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.</p> <p align="center">WARNING:</p> <p>Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.</p>	
<p>LEGAL NAME OF INVENTOR</p> <p>Inventor: <u>Douglas Timothy Lounsbury</u> Date (Optional): _____</p> <p>Signature: </p>	
<p><small>Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use an additional PTO/AIA/01 form for each additional inventor.</small></p>	

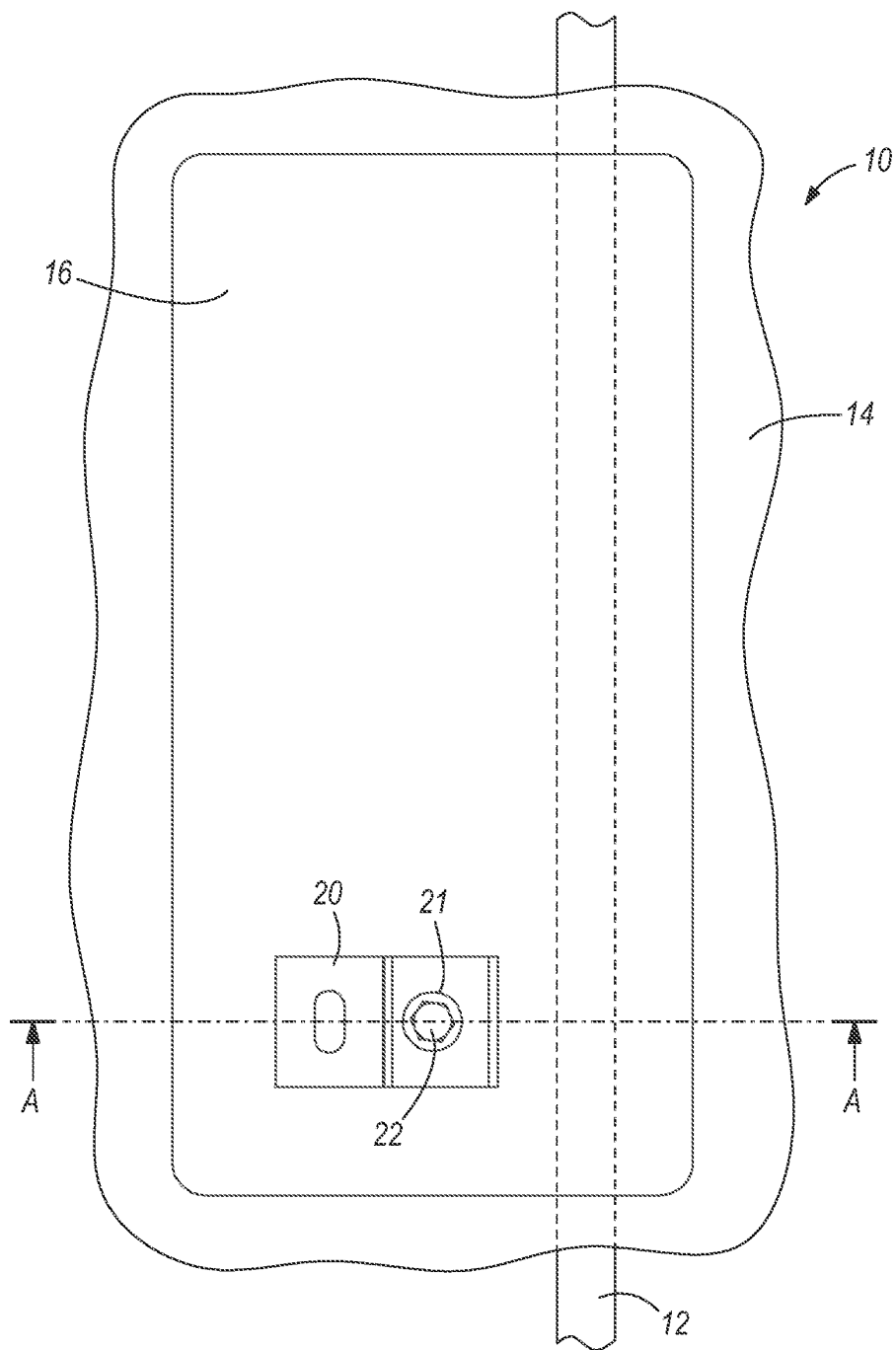
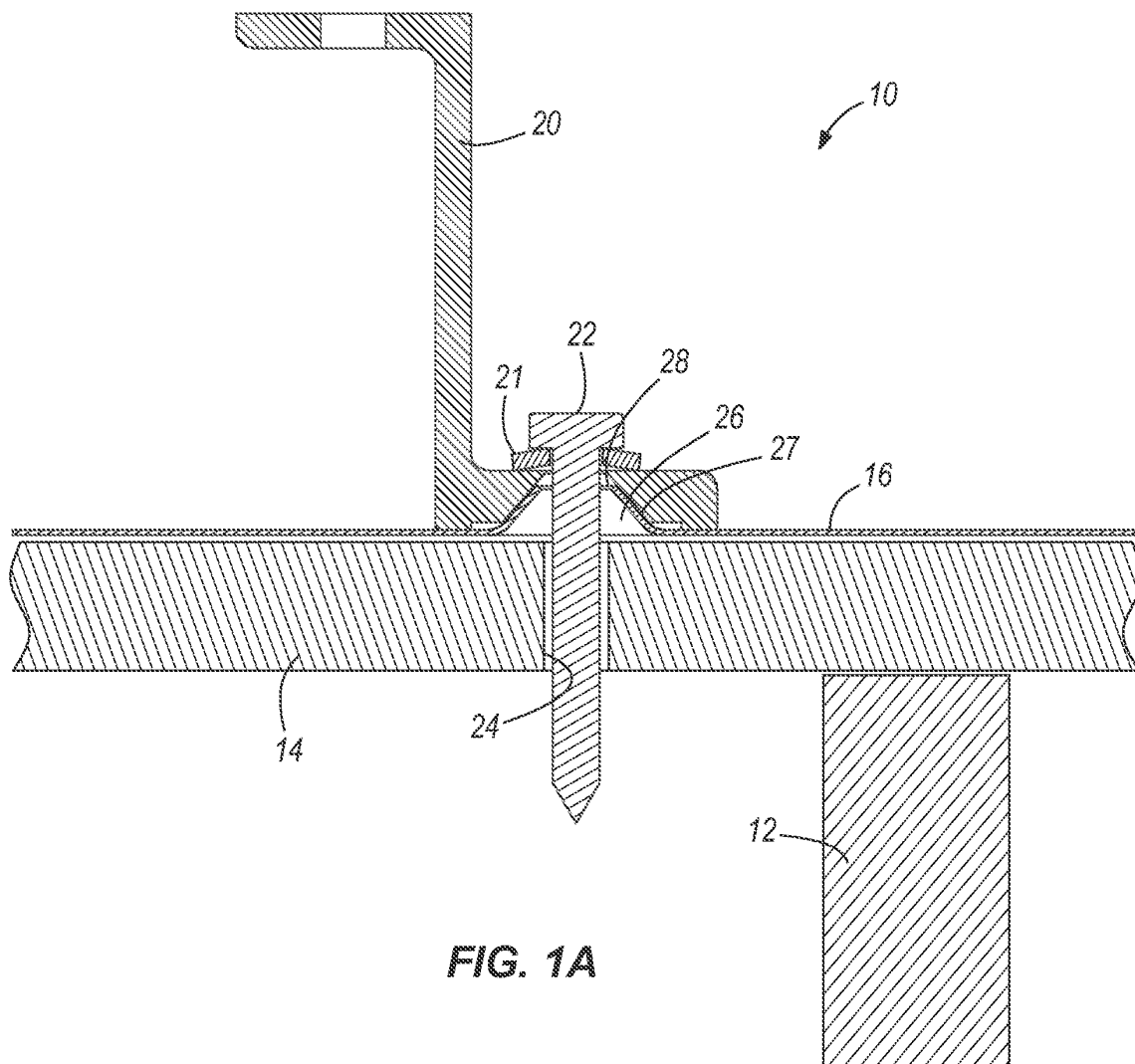


FIG. 1



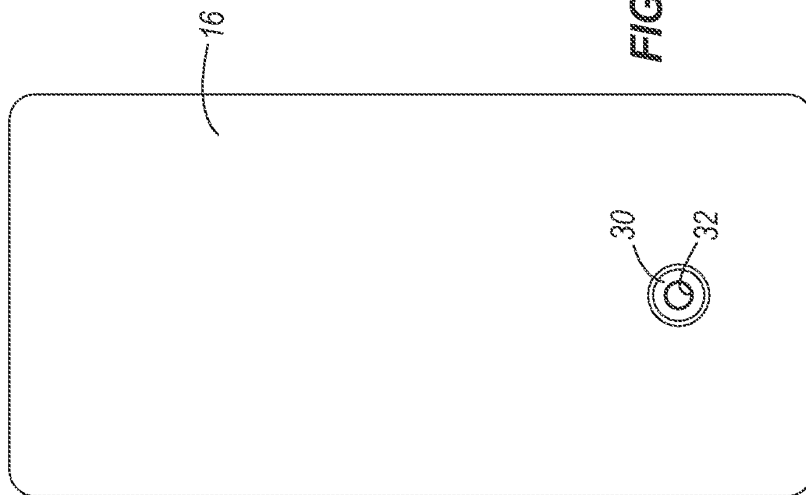


FIG. 2

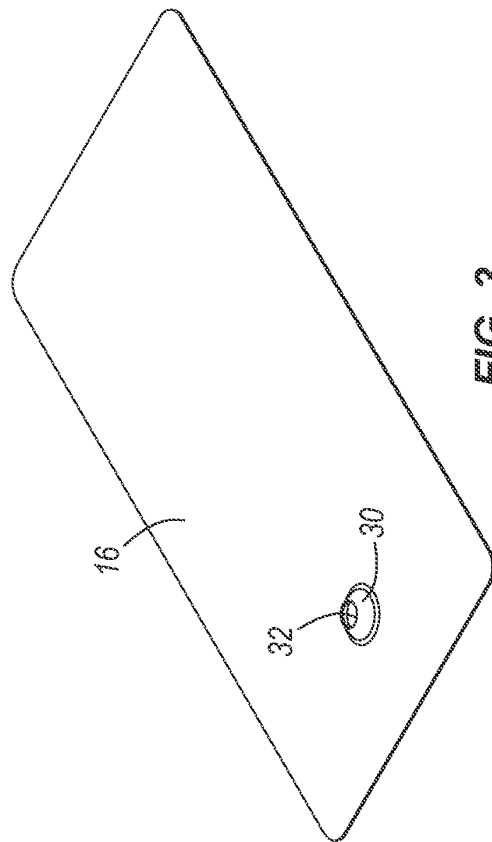


FIG. 3

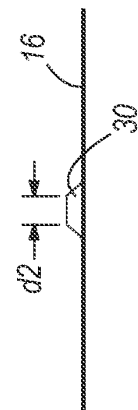


FIG. 4

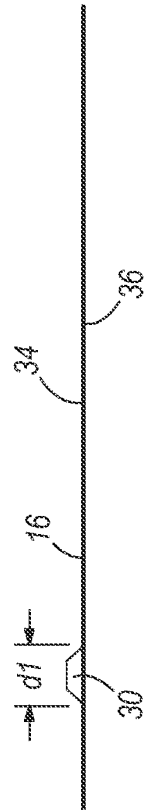


FIG. 5

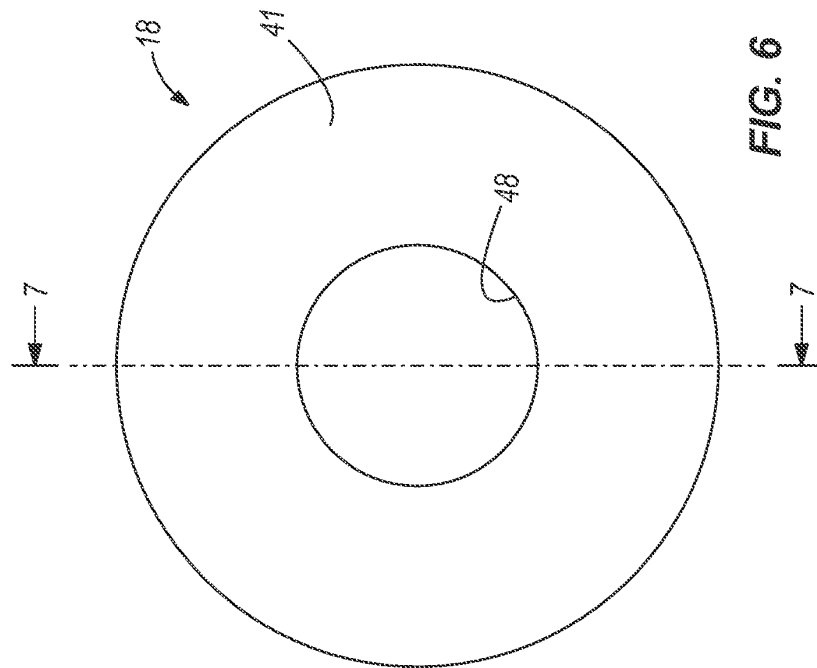


FIG. 6

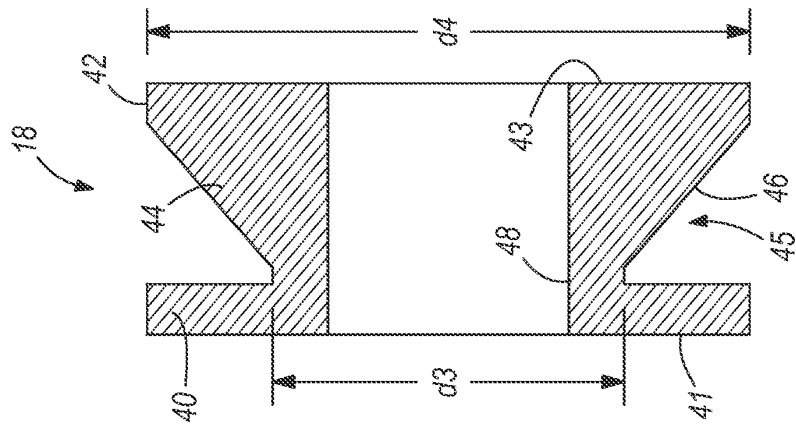
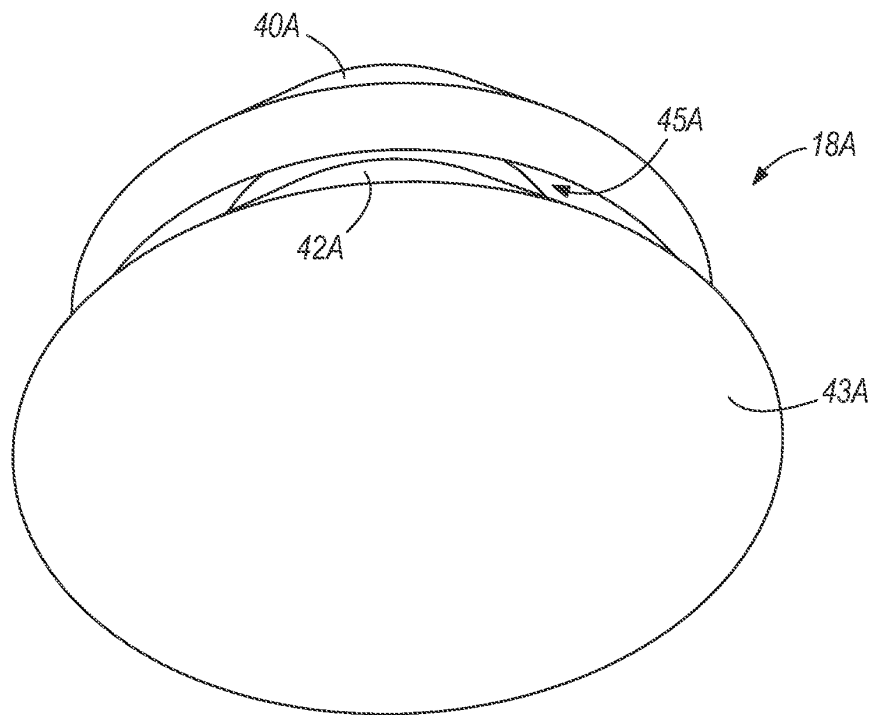
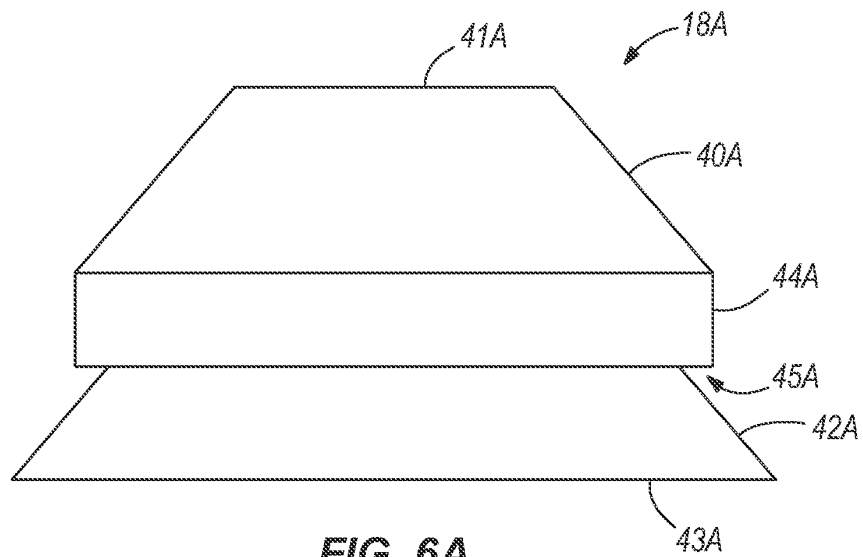


FIG. 7



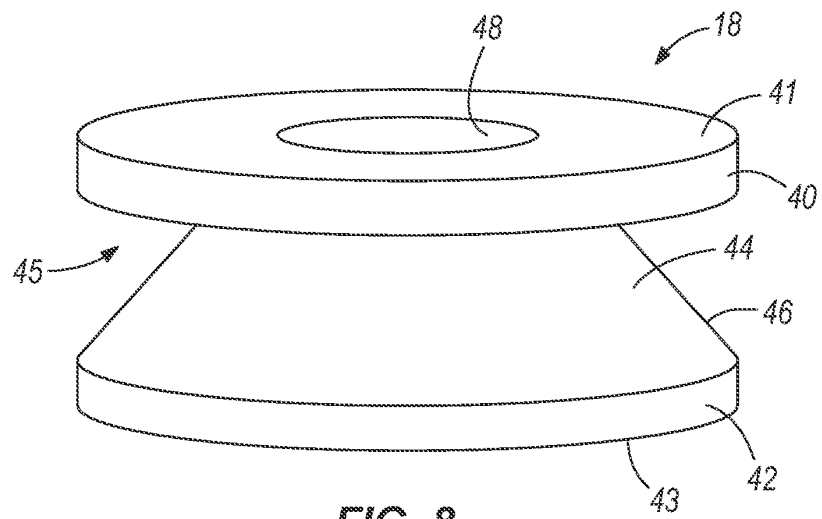


FIG. 8

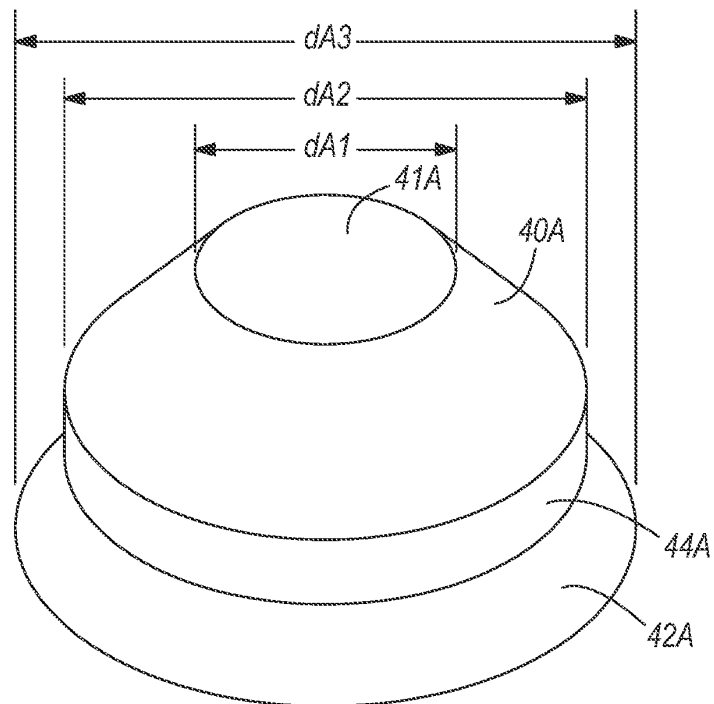


FIG. 8A

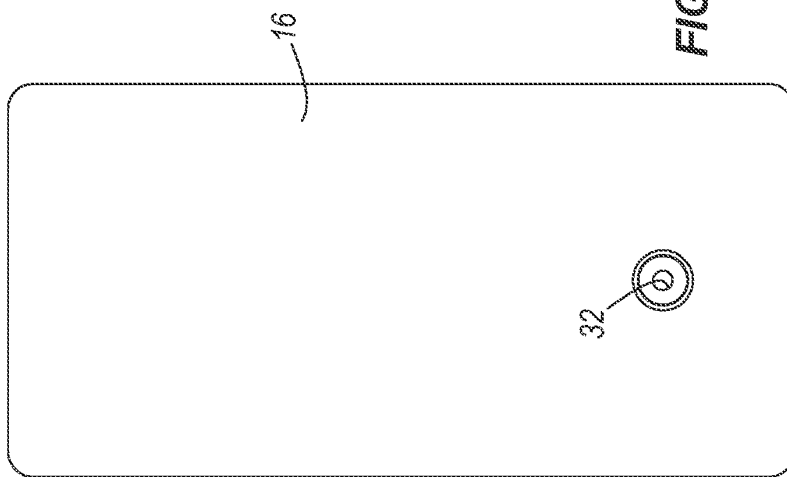


FIG. 9

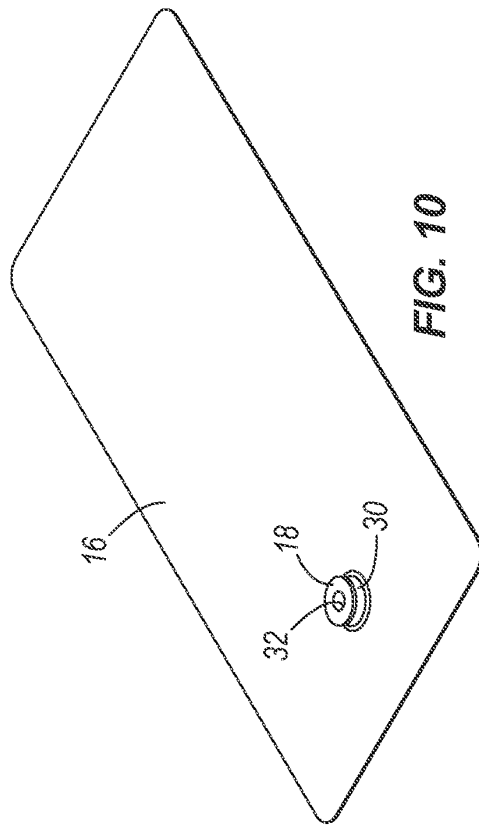


FIG. 10

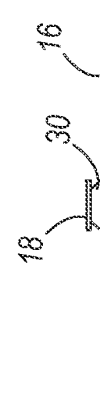


FIG. 11

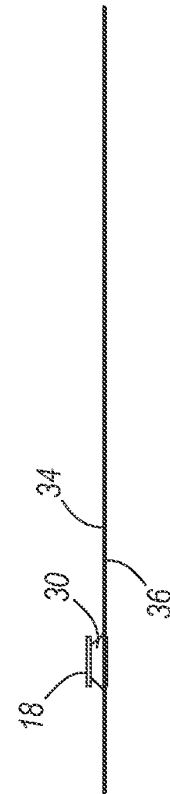


FIG. 12

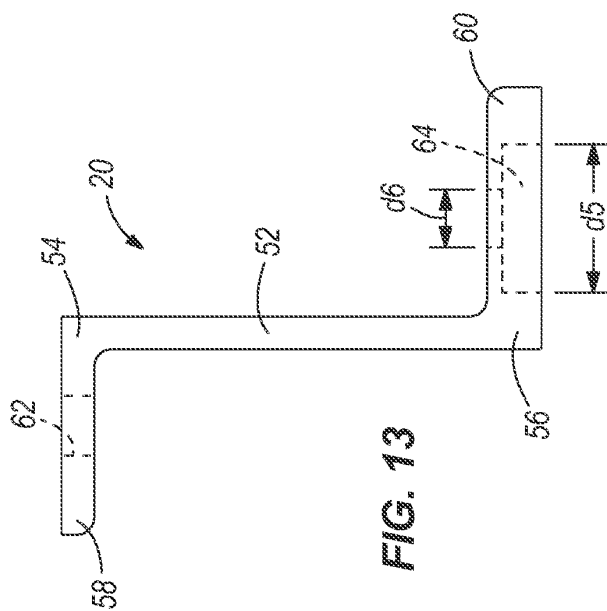


FIG. 13

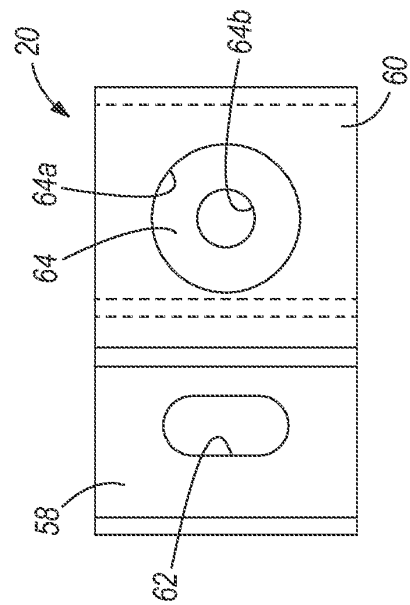


FIG. 14

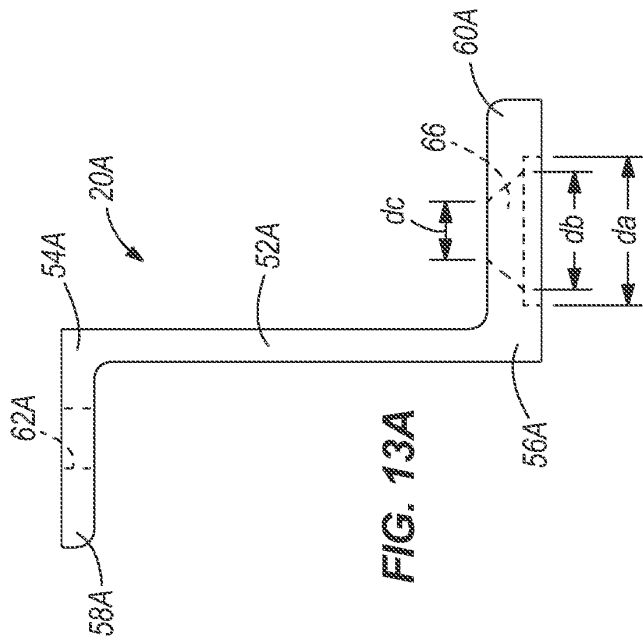


FIG. 13A

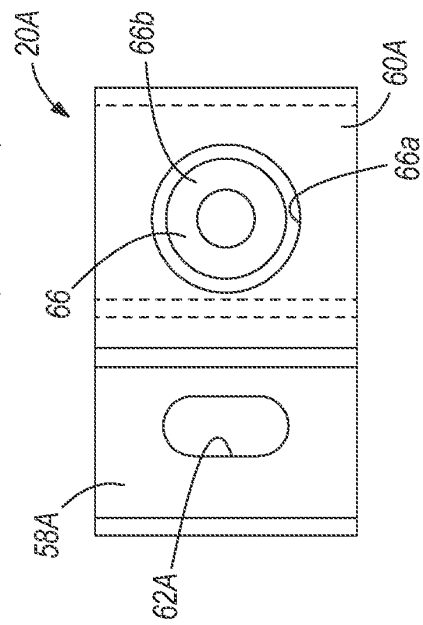
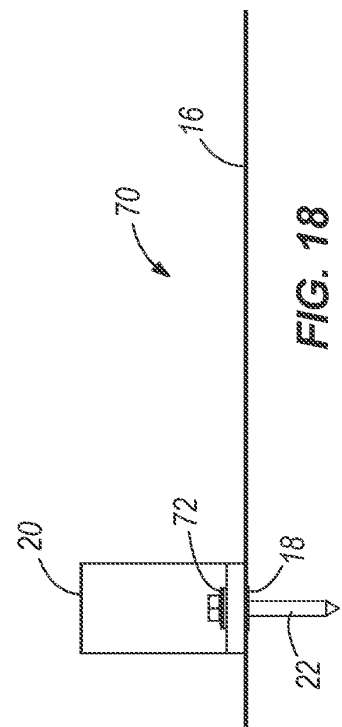
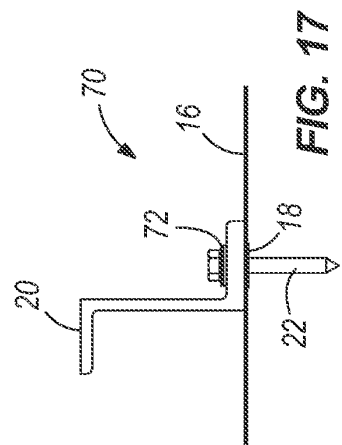
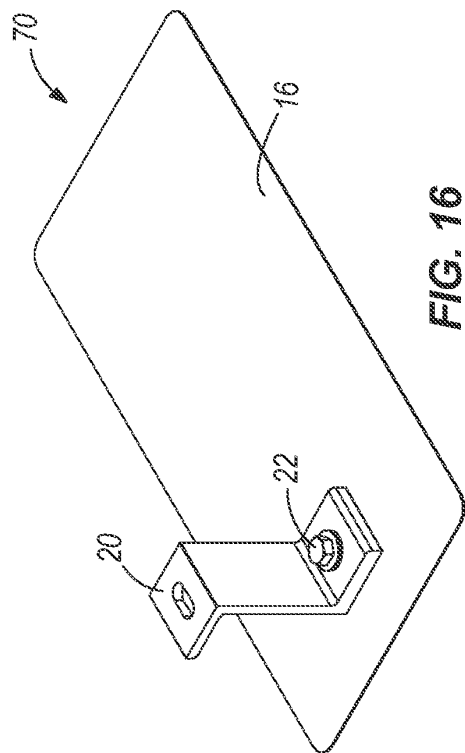
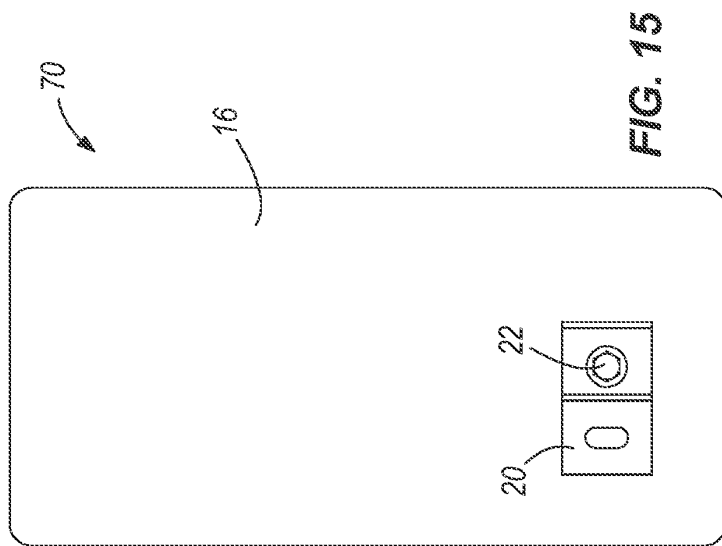


FIG. 14A



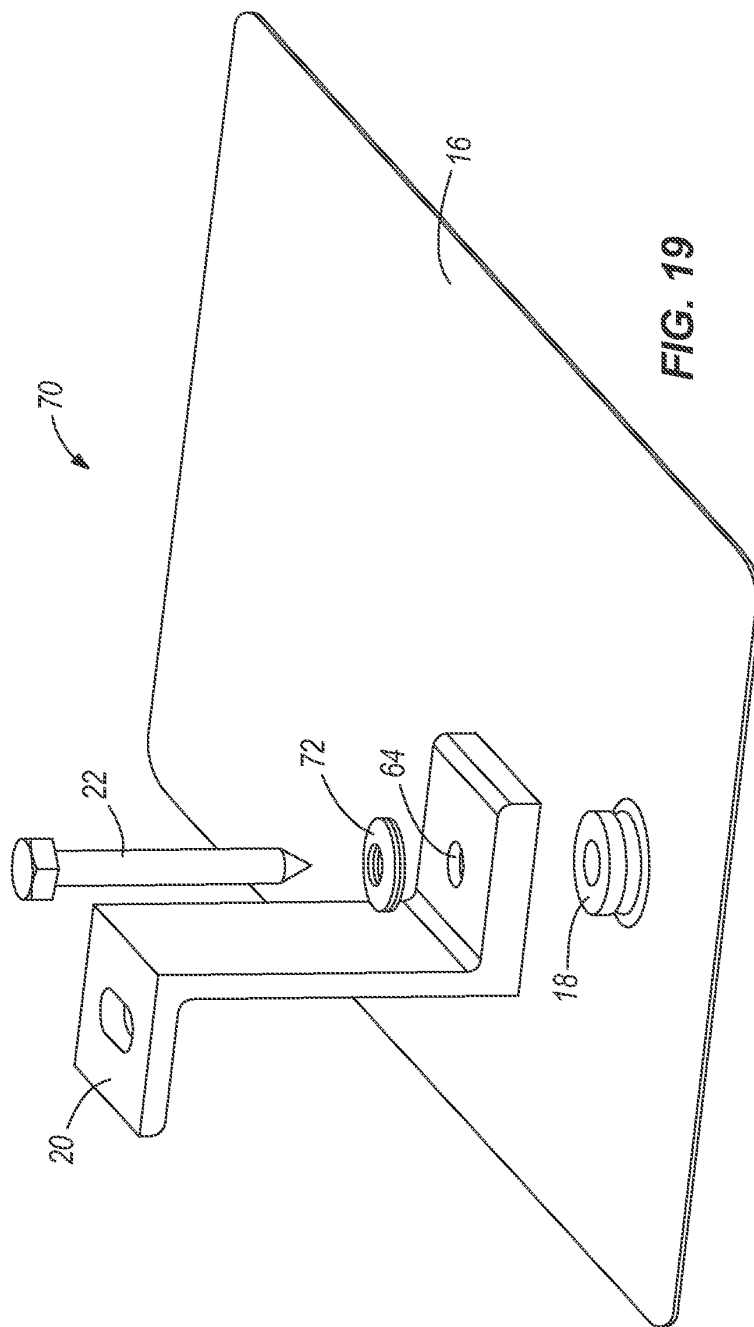


FIG. 19

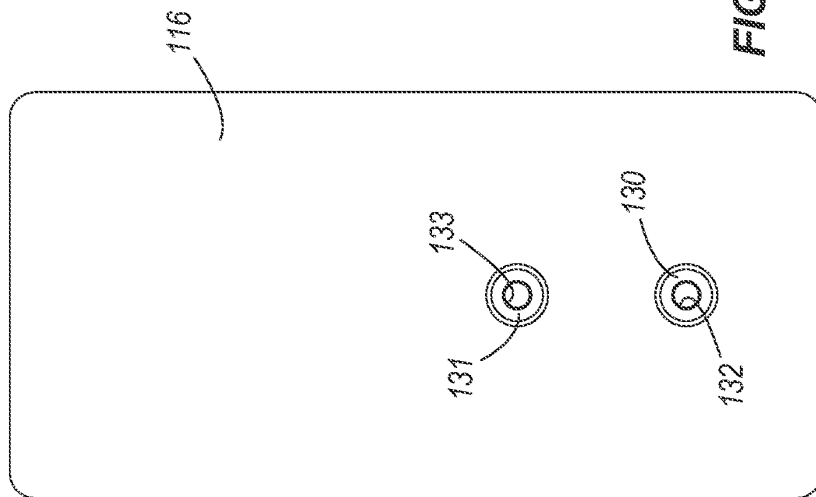


FIG. 20

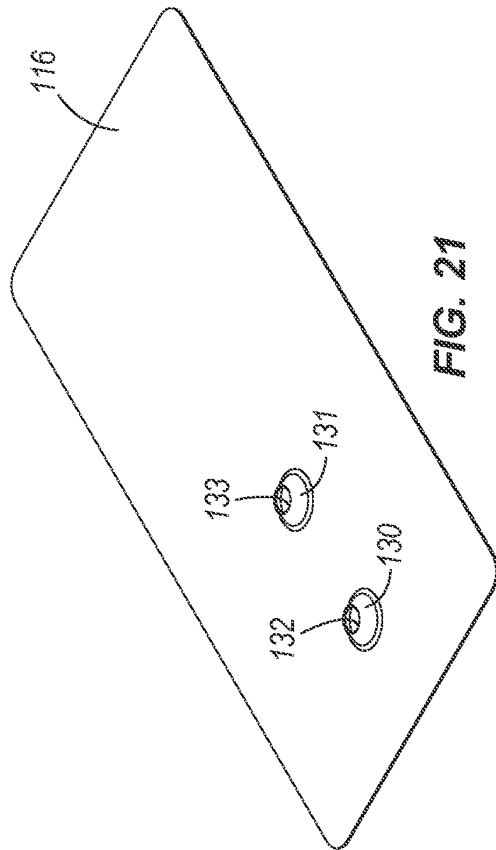


FIG. 21

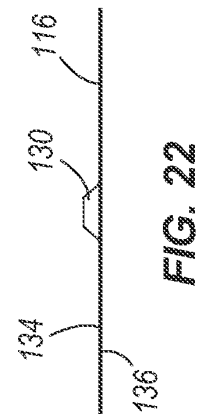


FIG. 22

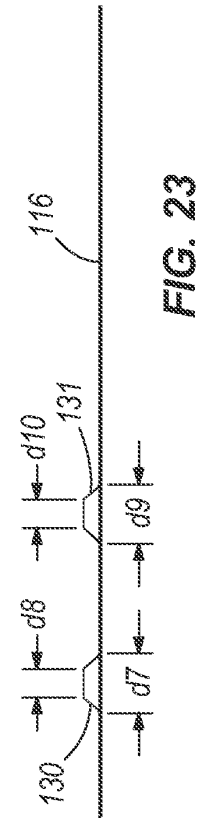


FIG. 23

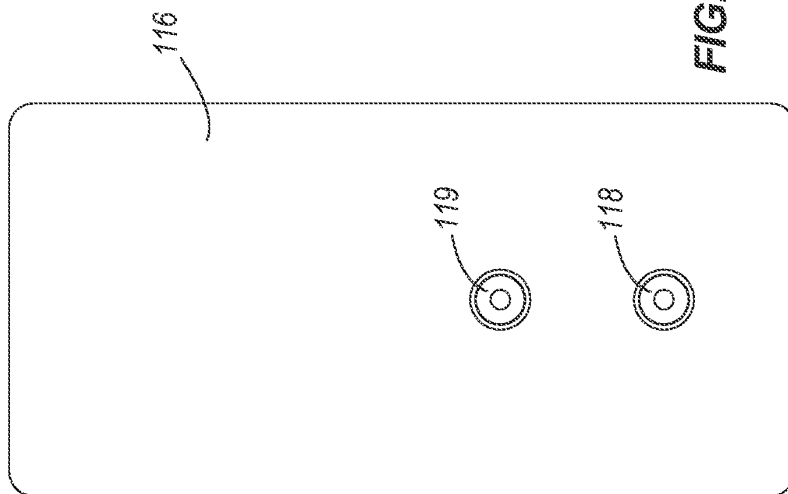


FIG. 24

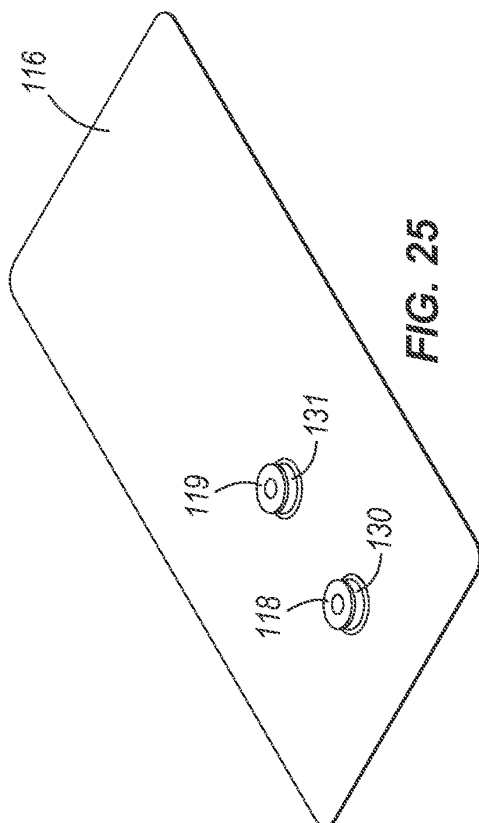


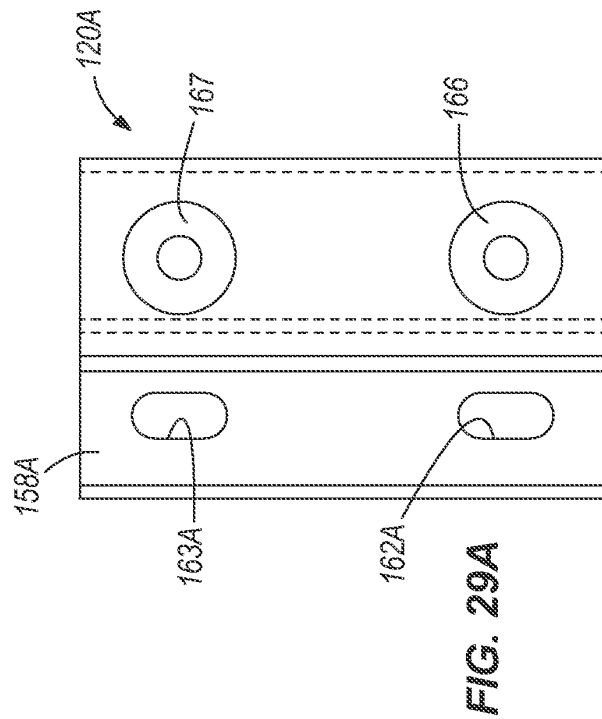
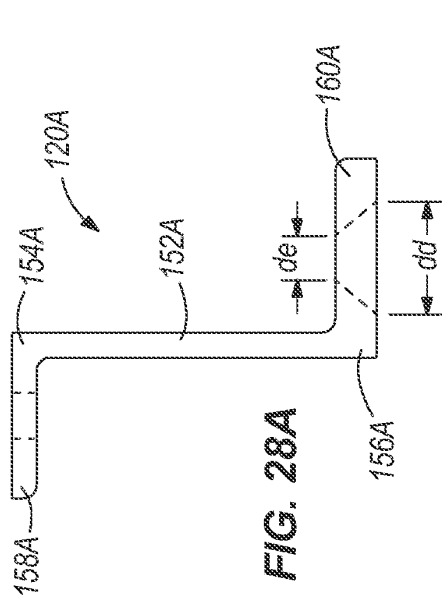
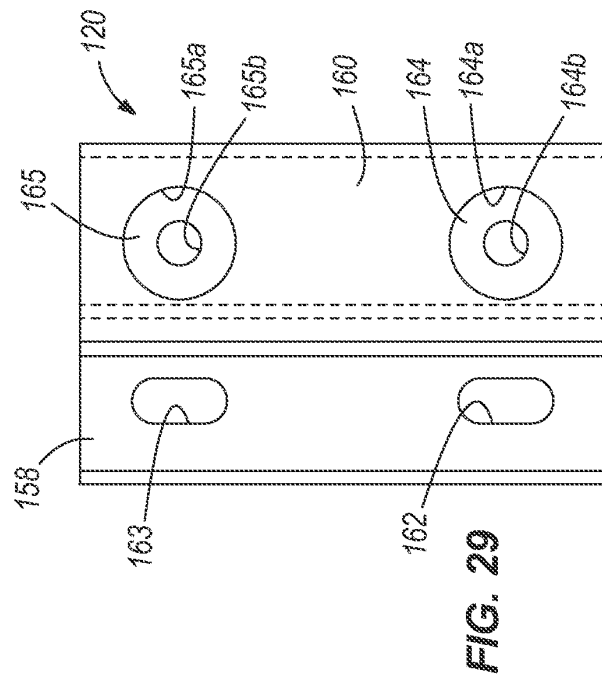
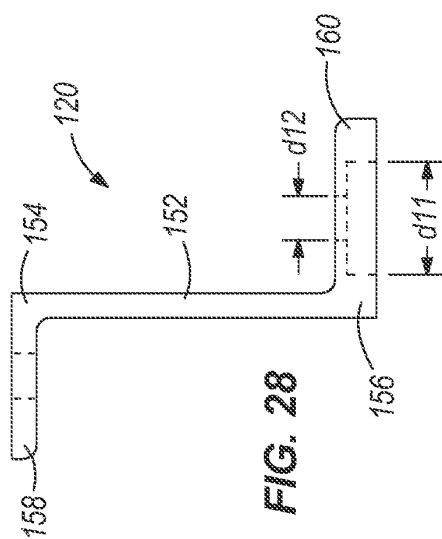
FIG. 25



FIG. 26



FIG. 27



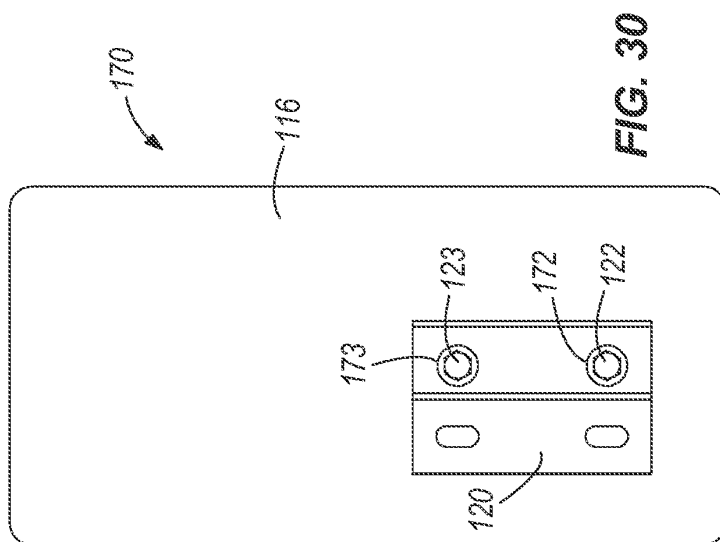


FIG. 30

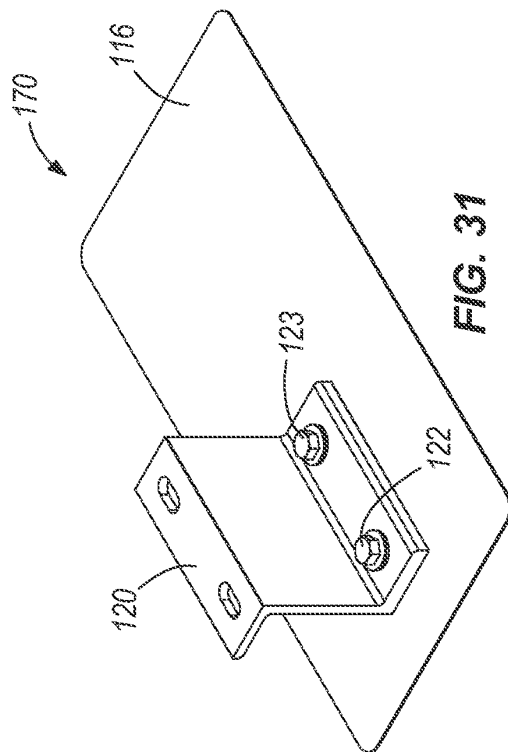


FIG. 31

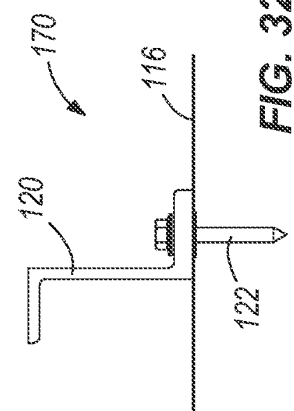


FIG. 32

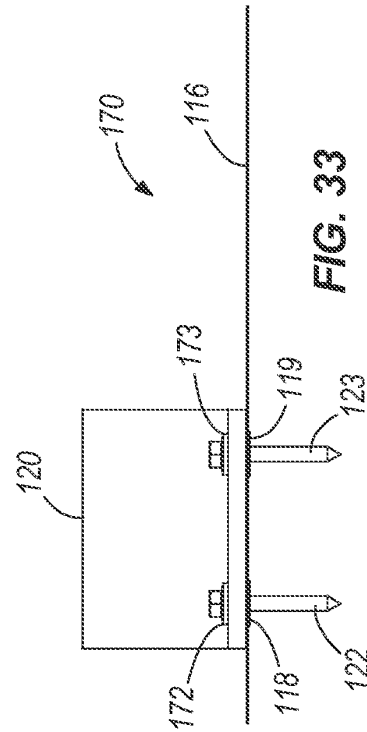


FIG. 33

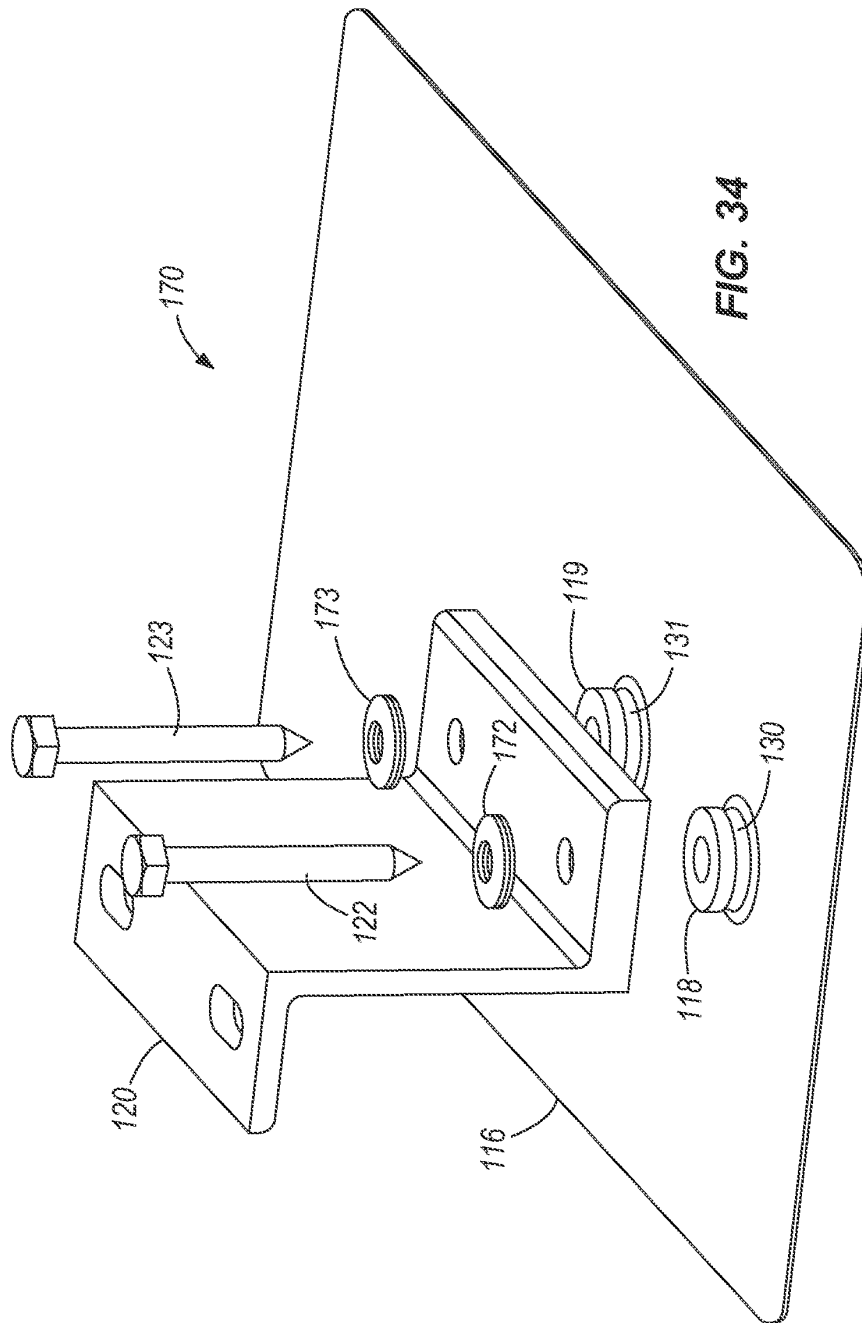


FIG. 34

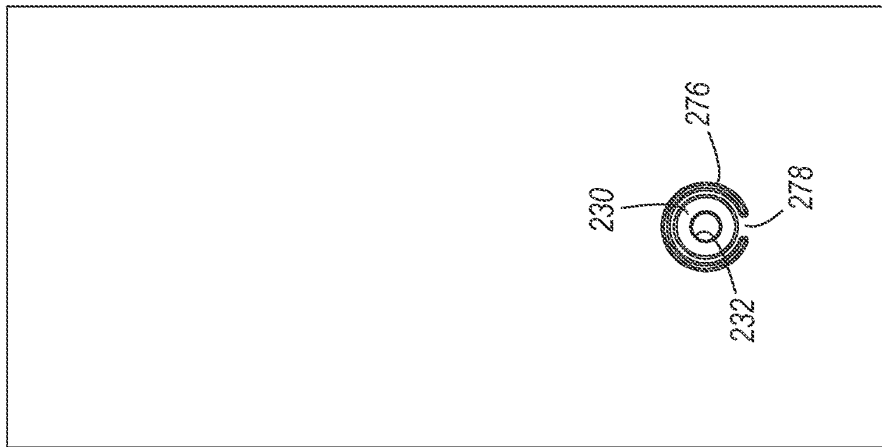


FIG. 35

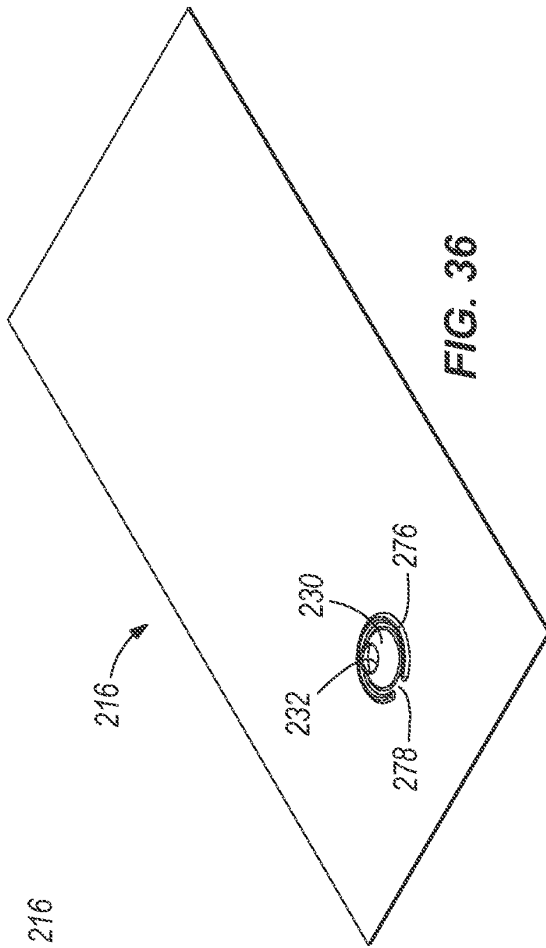


FIG. 36

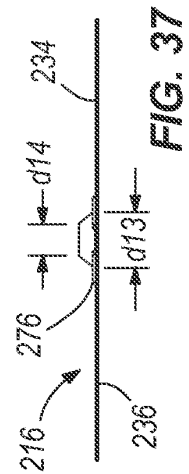


FIG. 37

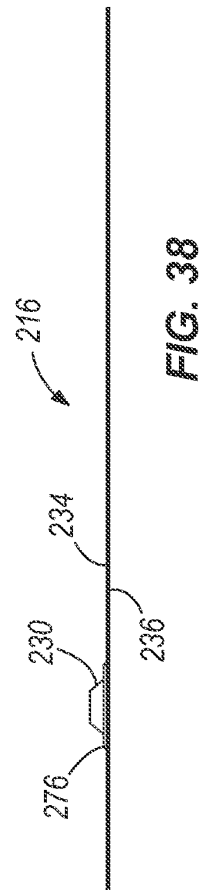


FIG. 38

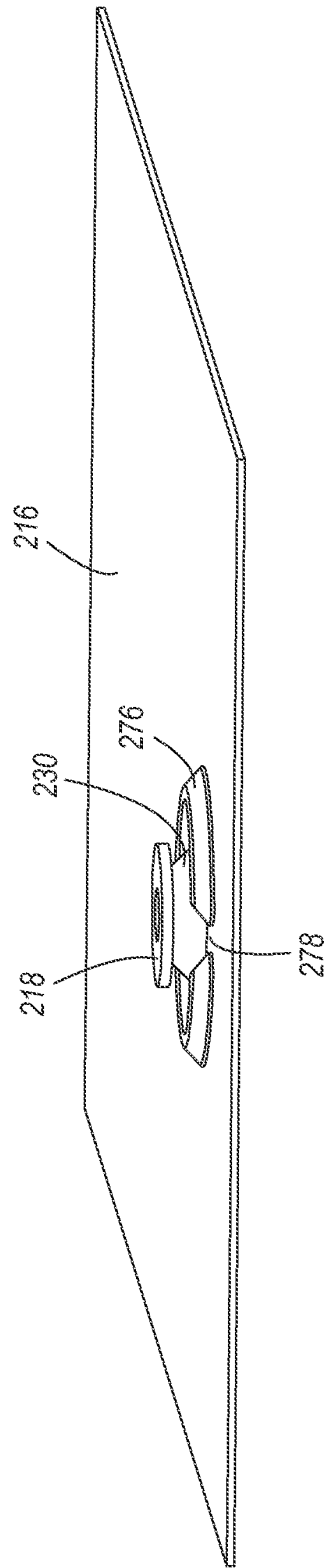
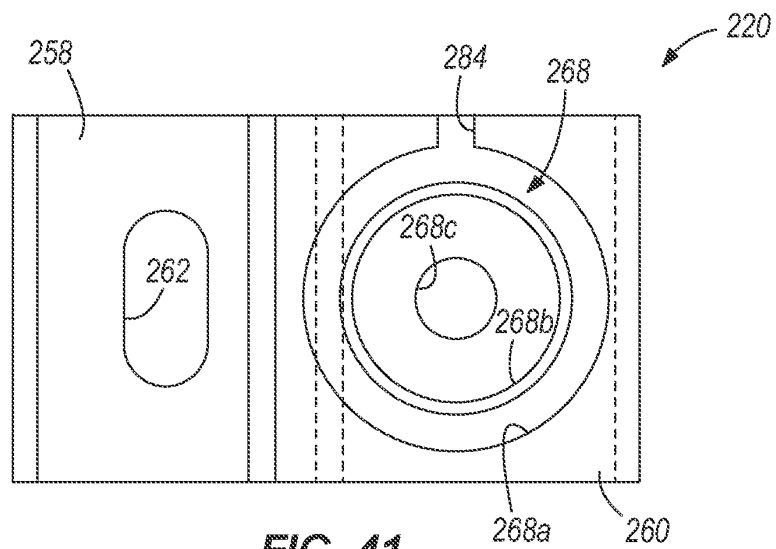
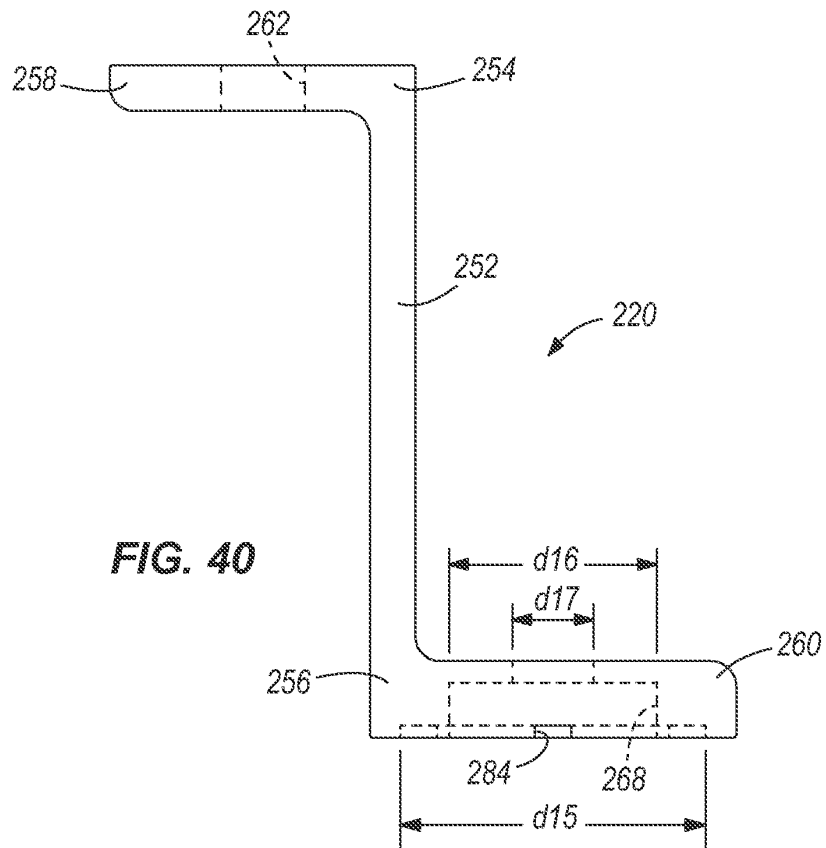


FIG. 39



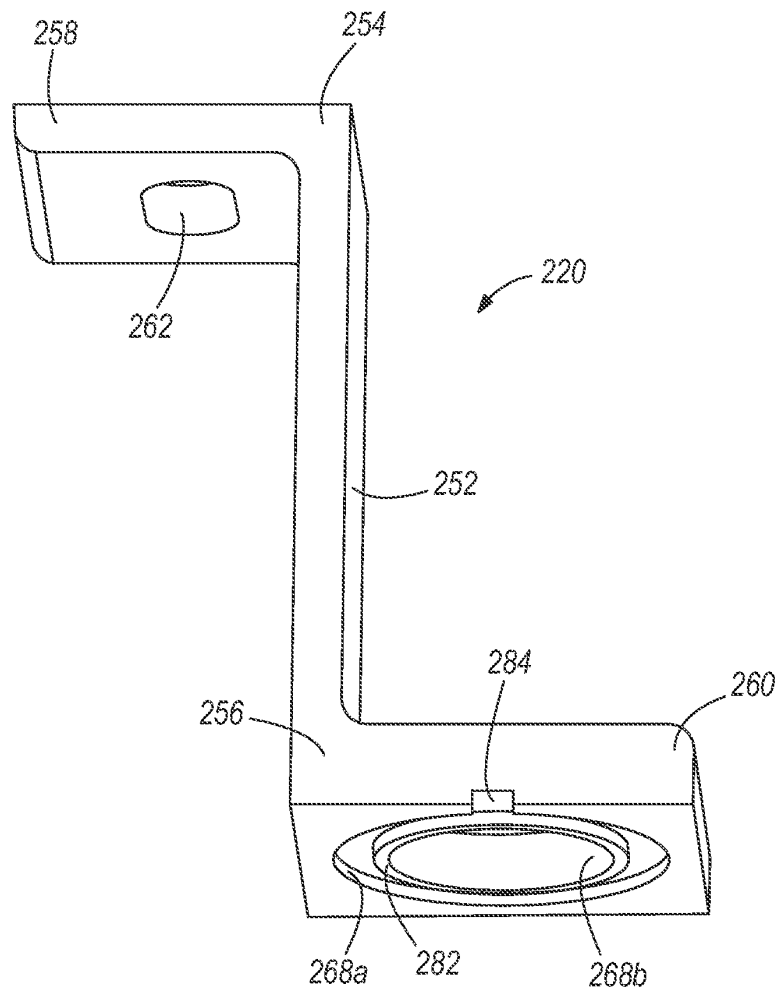


FIG. 42

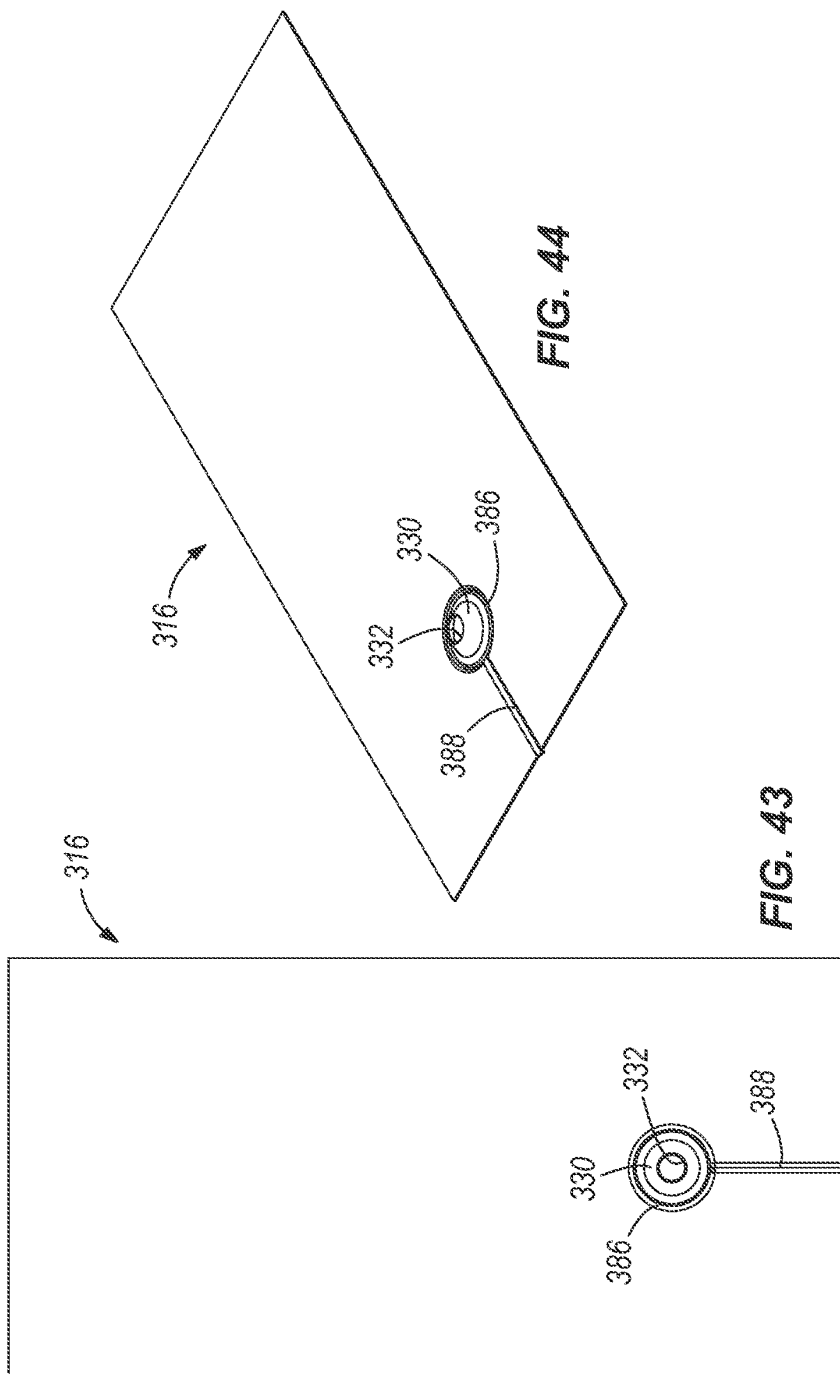


FIG. 43

FIG. 44

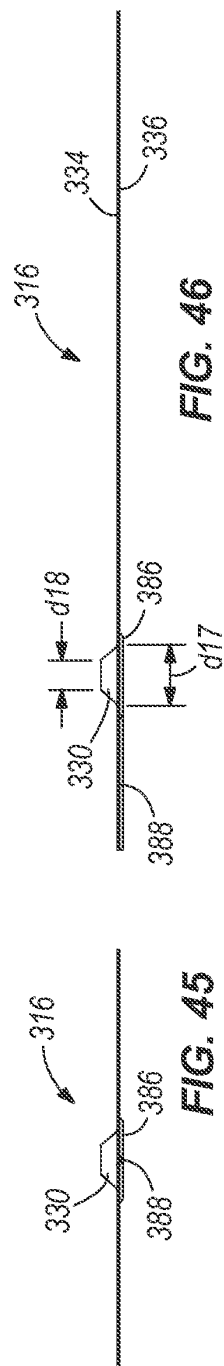


FIG. 45

FIG. 46

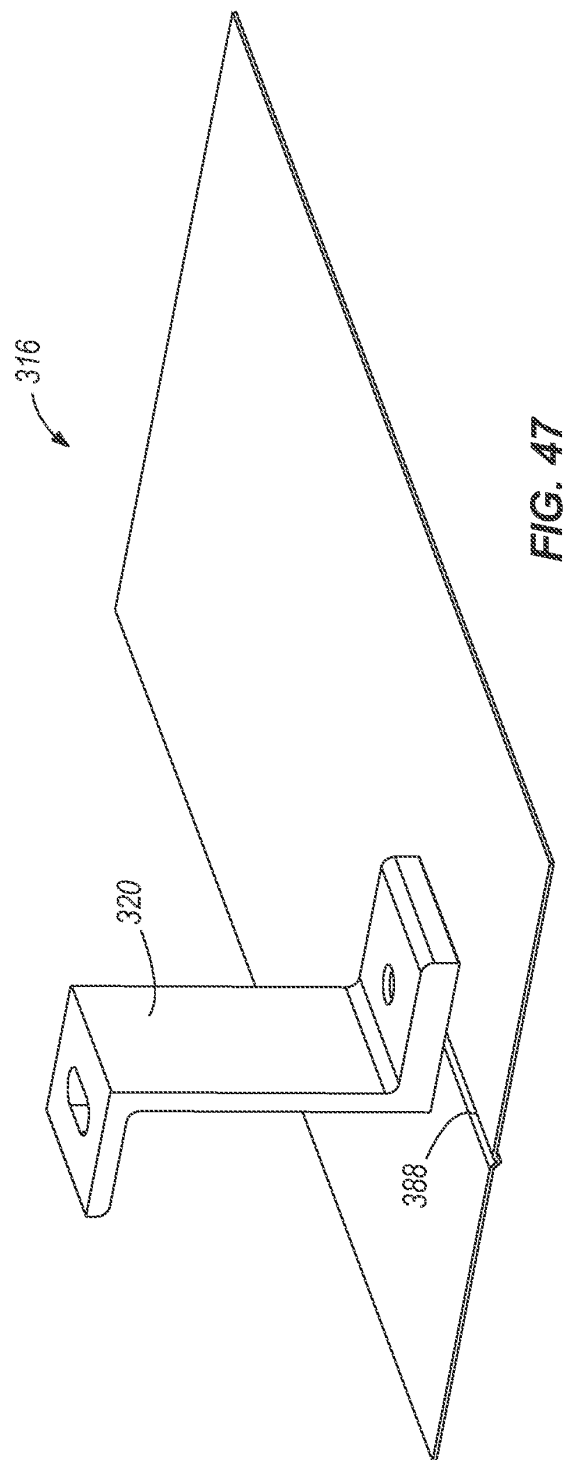
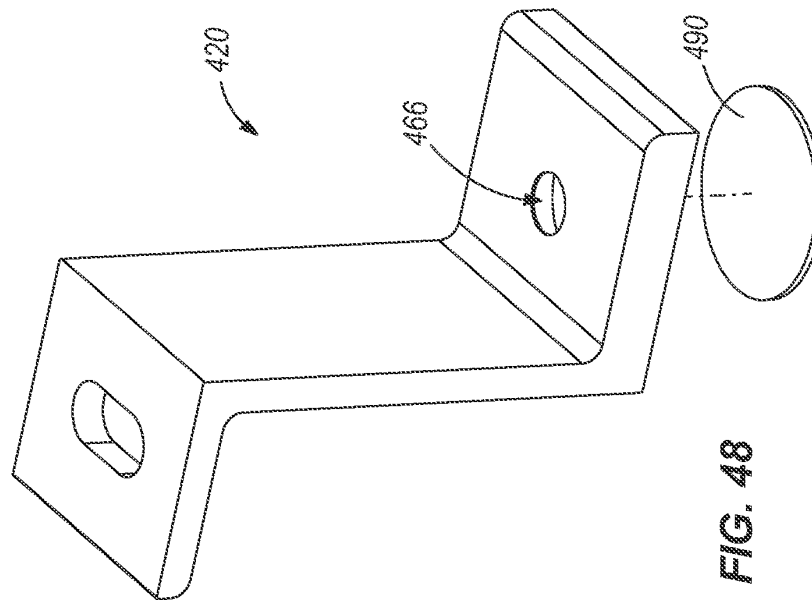
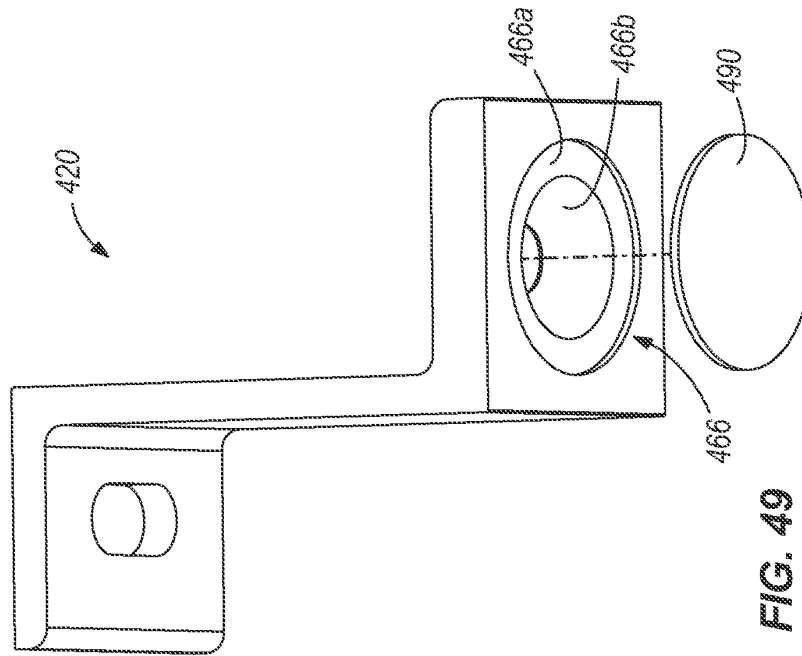


FIG. 47



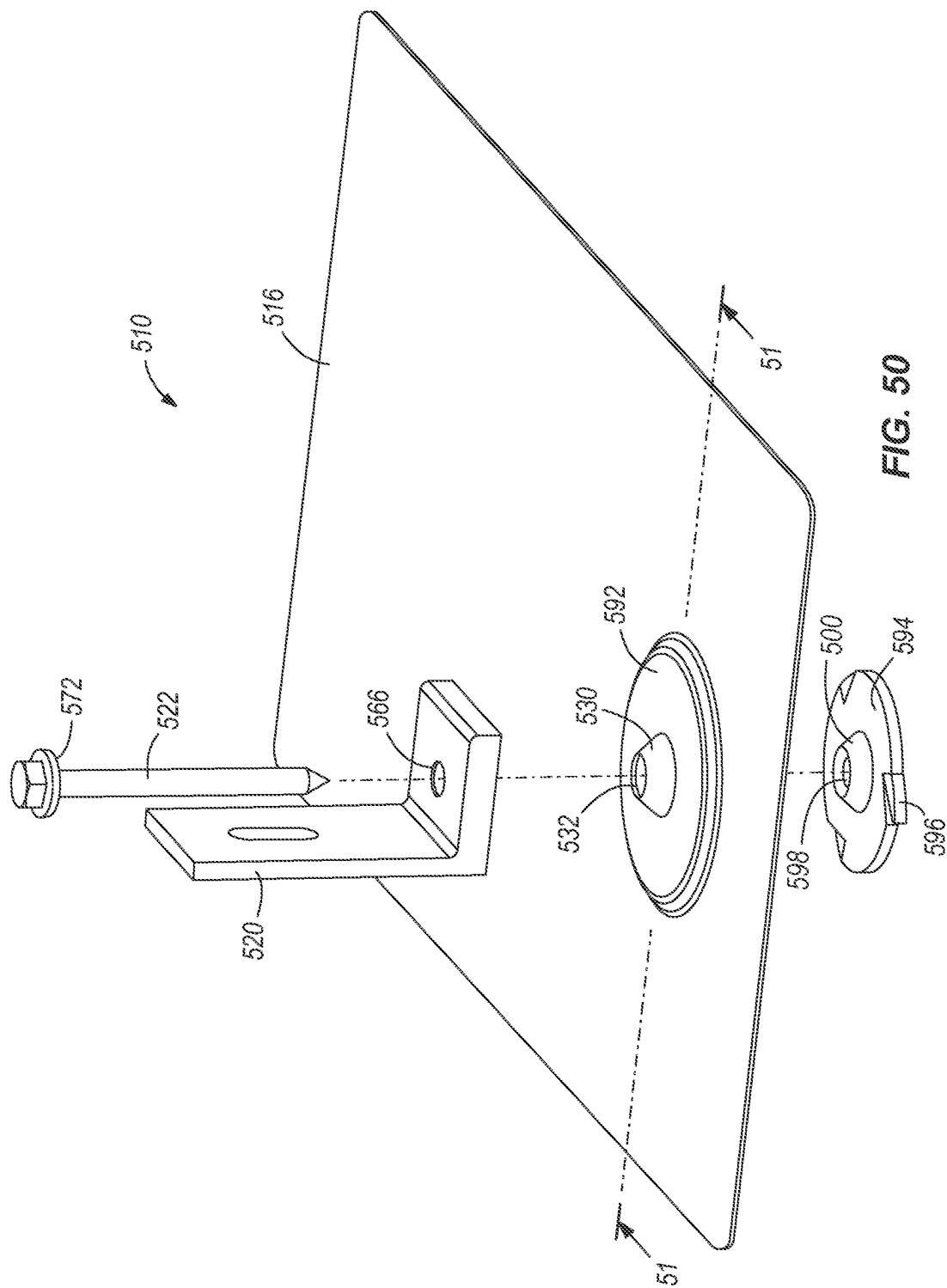


FIG. 50

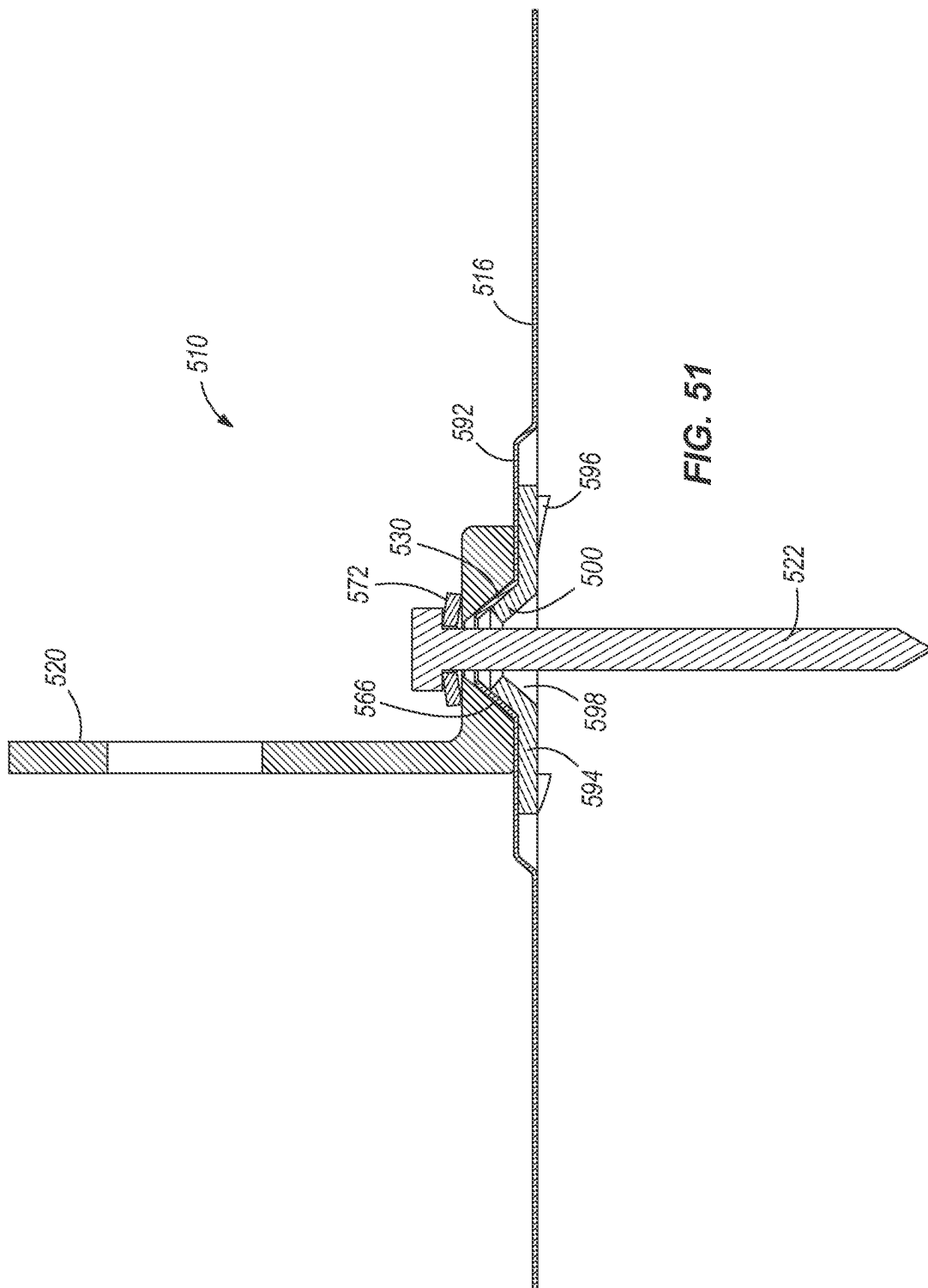


FIG. 51

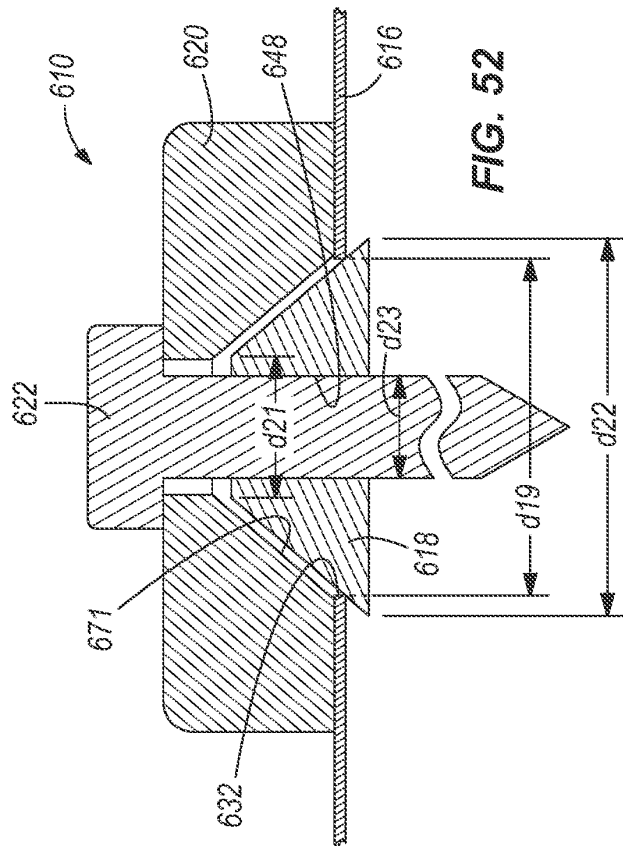


FIG. 52

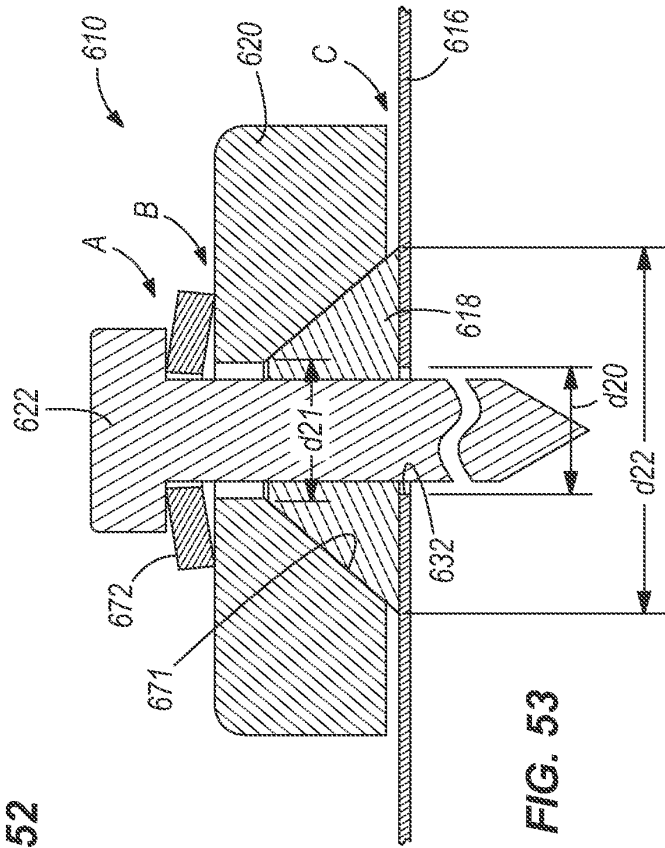


FIG. 53

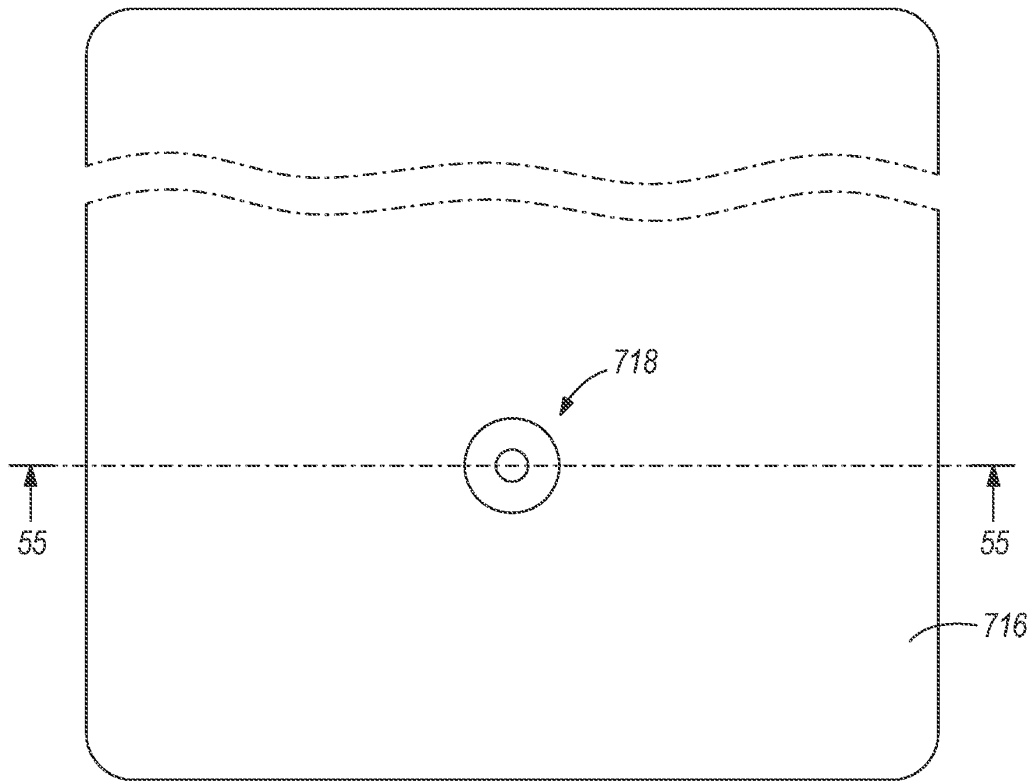


FIG. 54

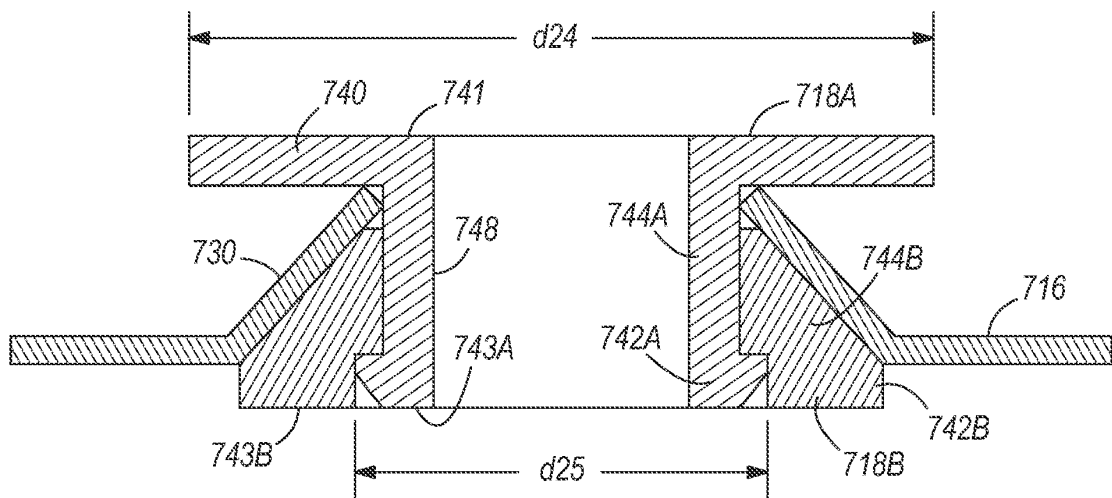
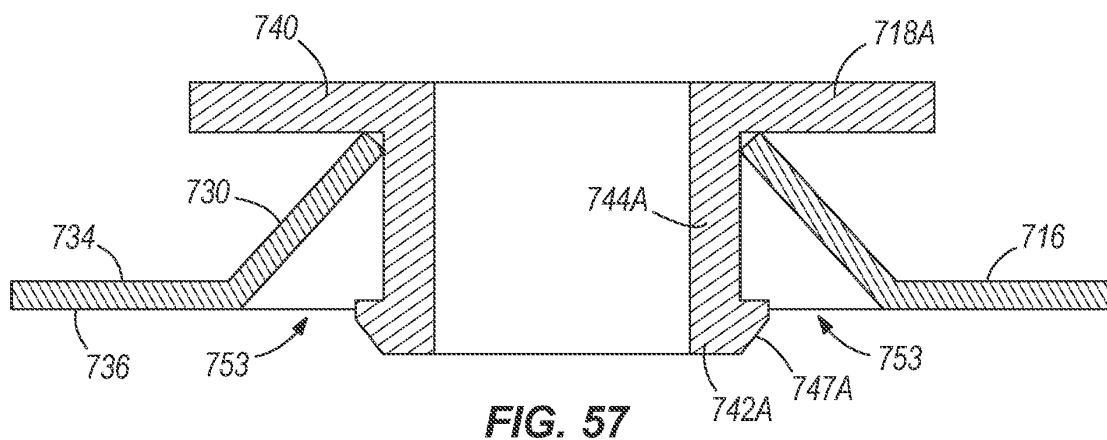
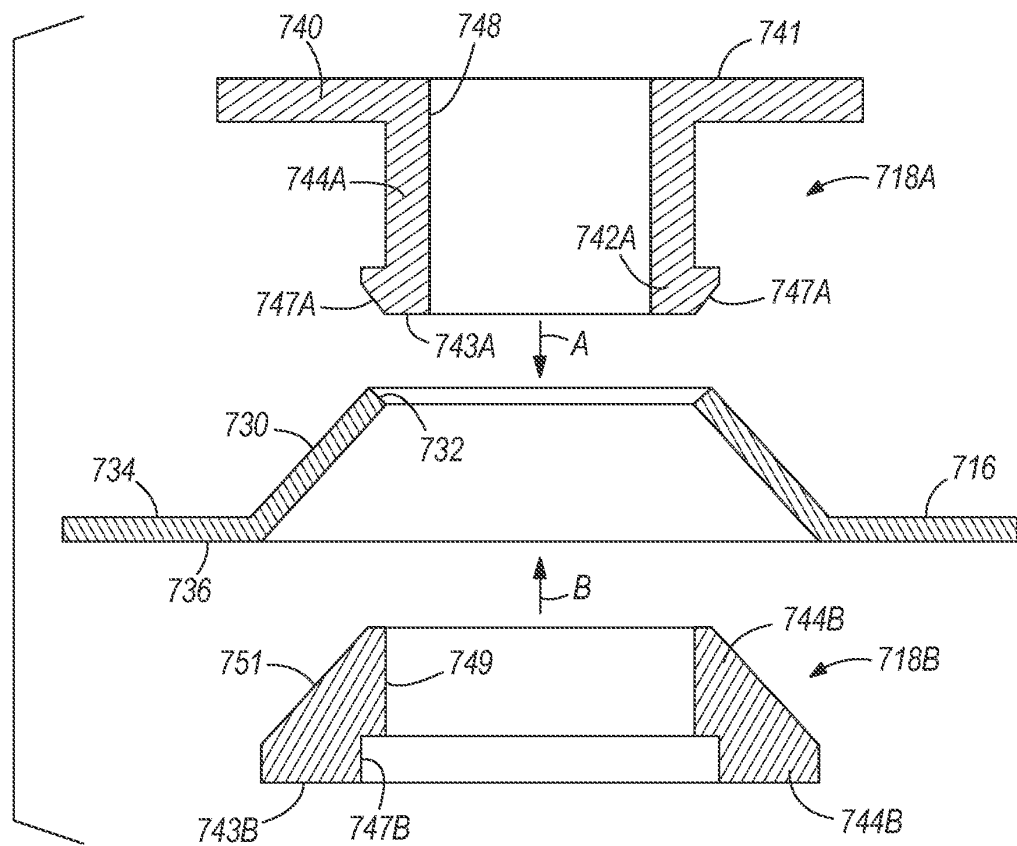


FIG. 55



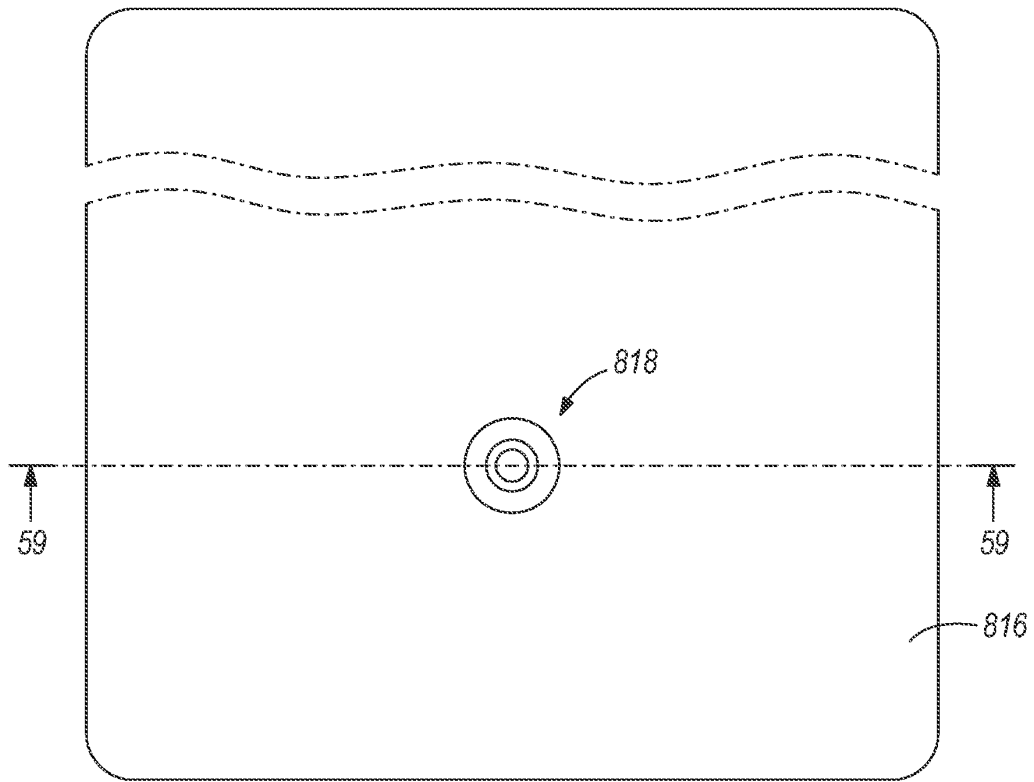


FIG. 58

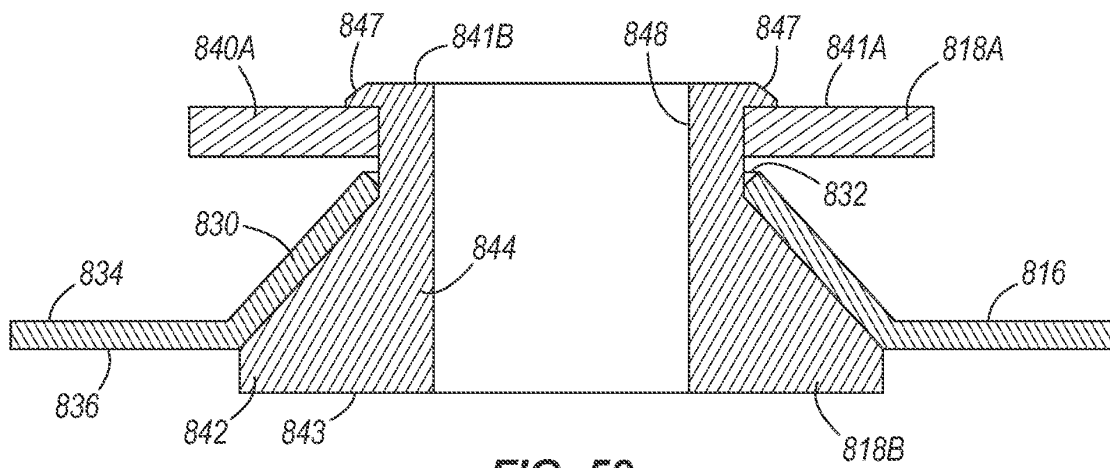


FIG. 59

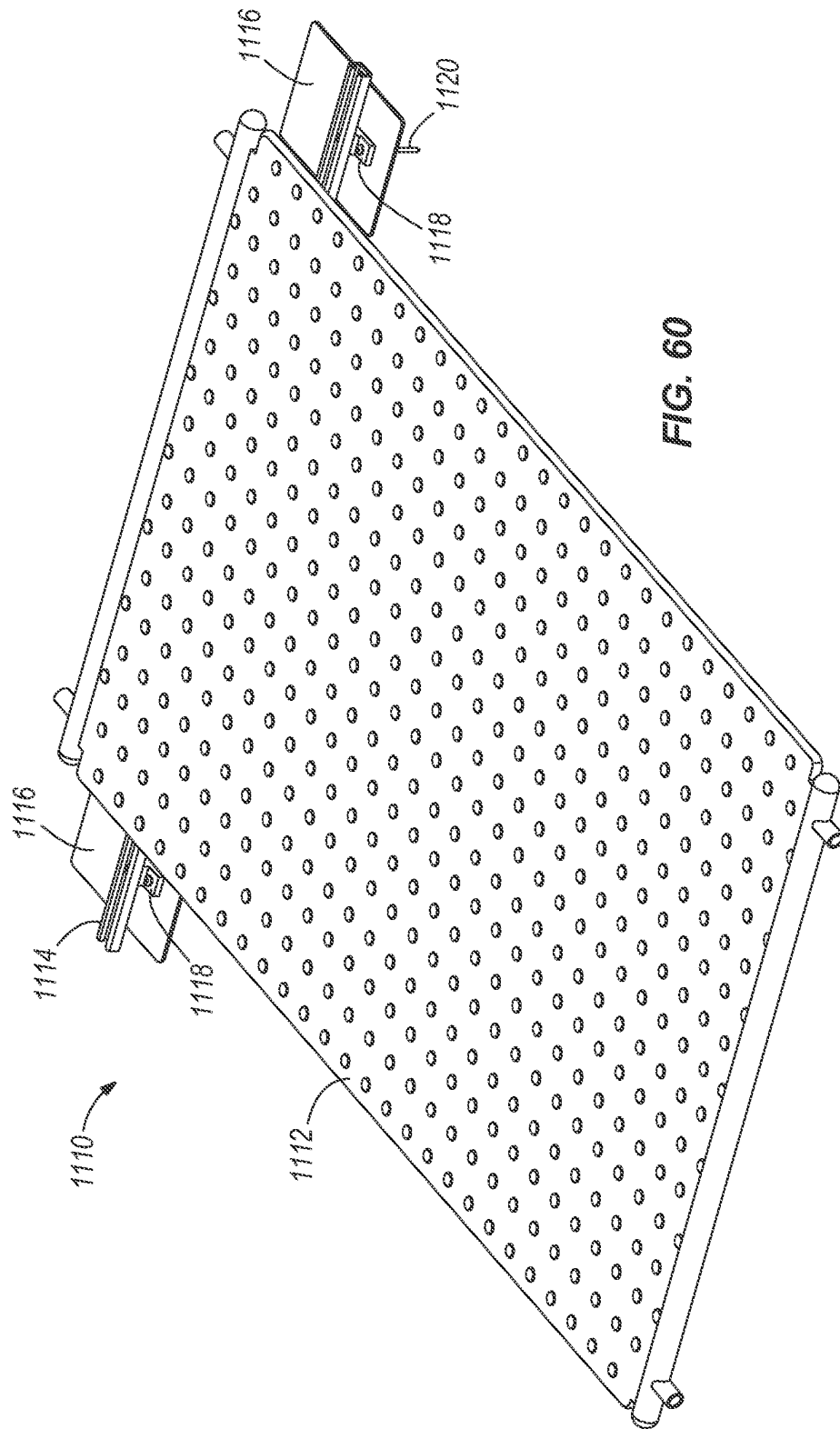


FIG. 60

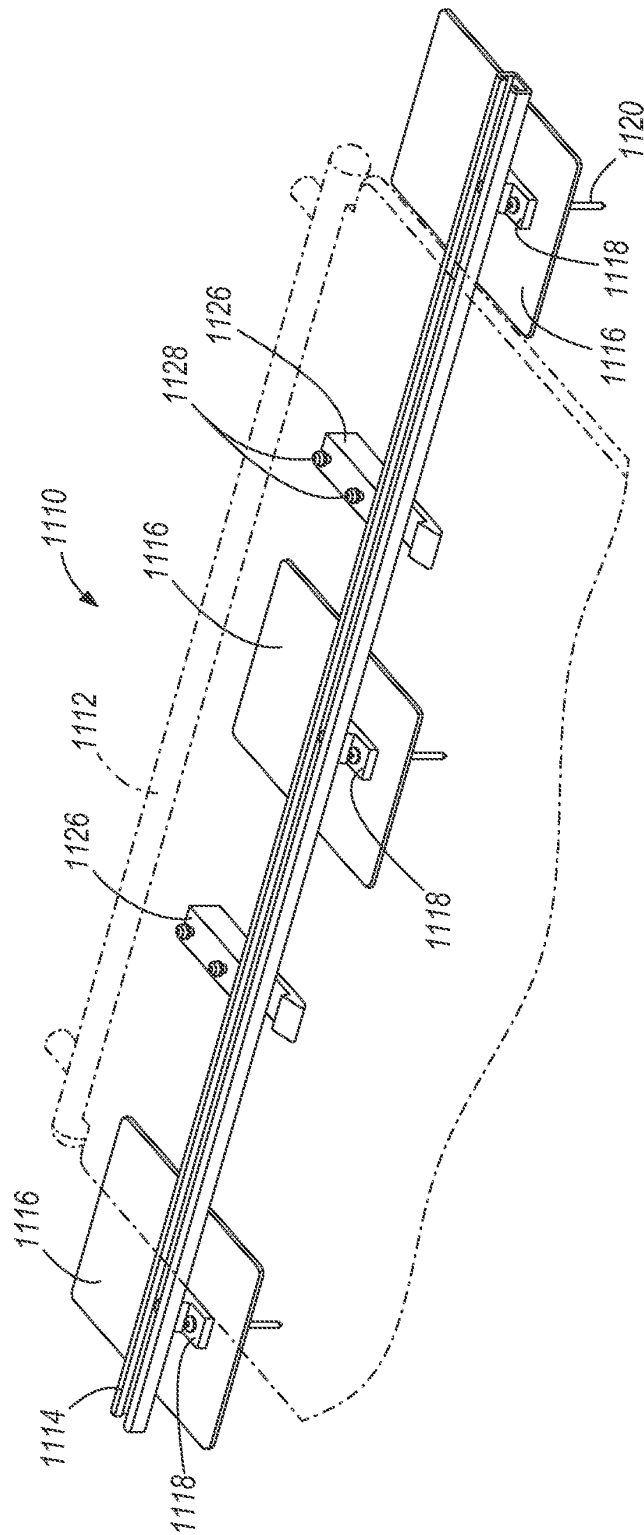


FIG. 61

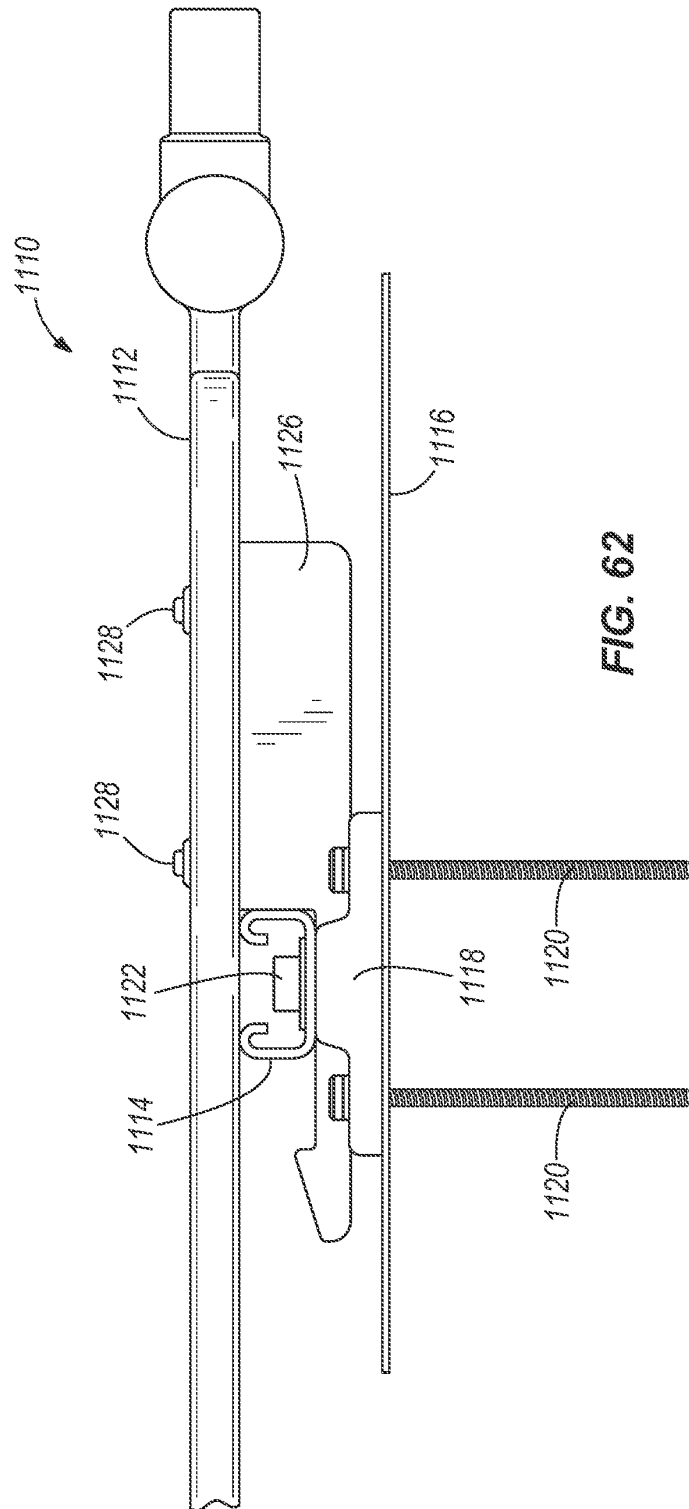


FIG. 62

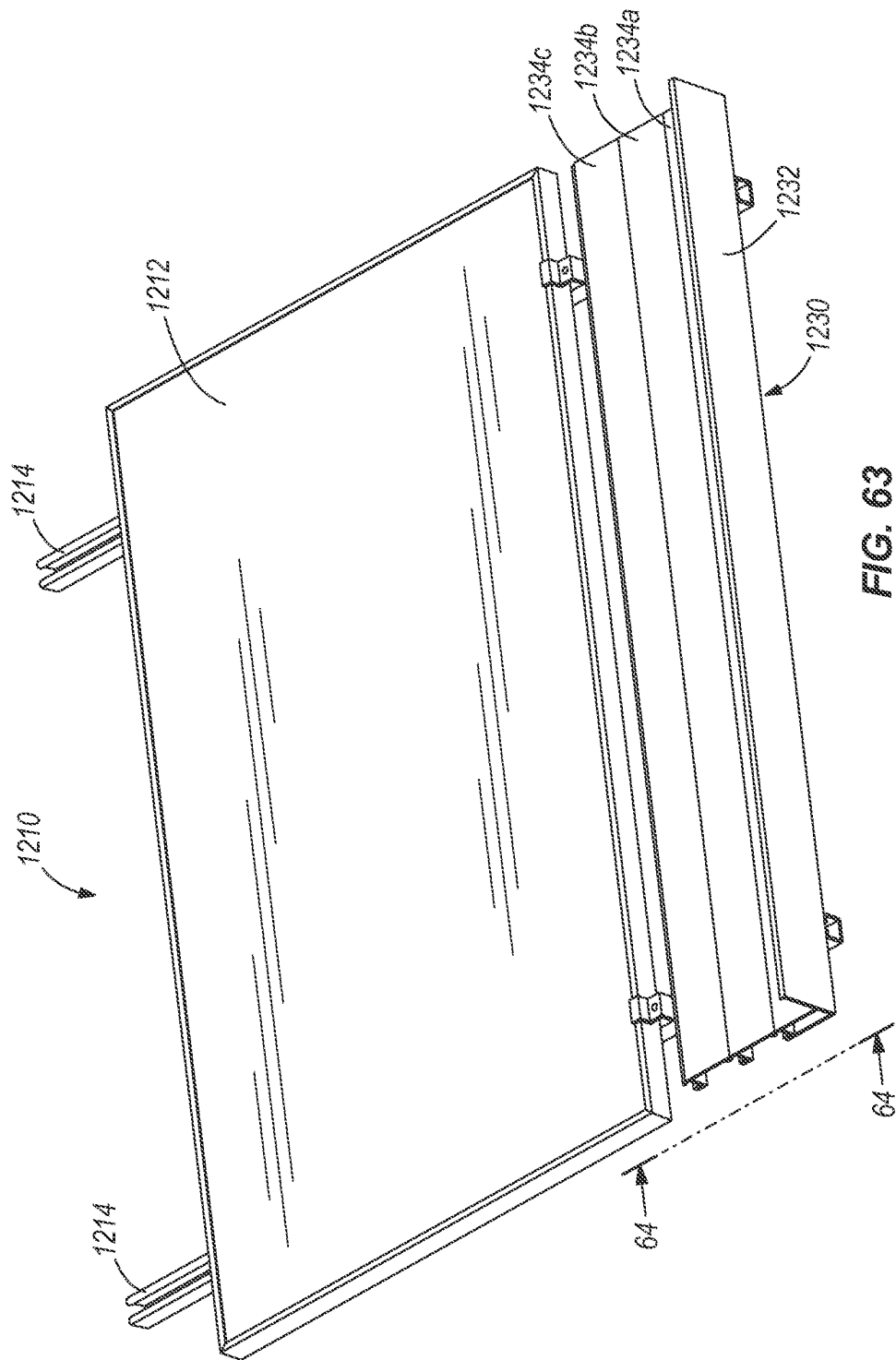


FIG. 63

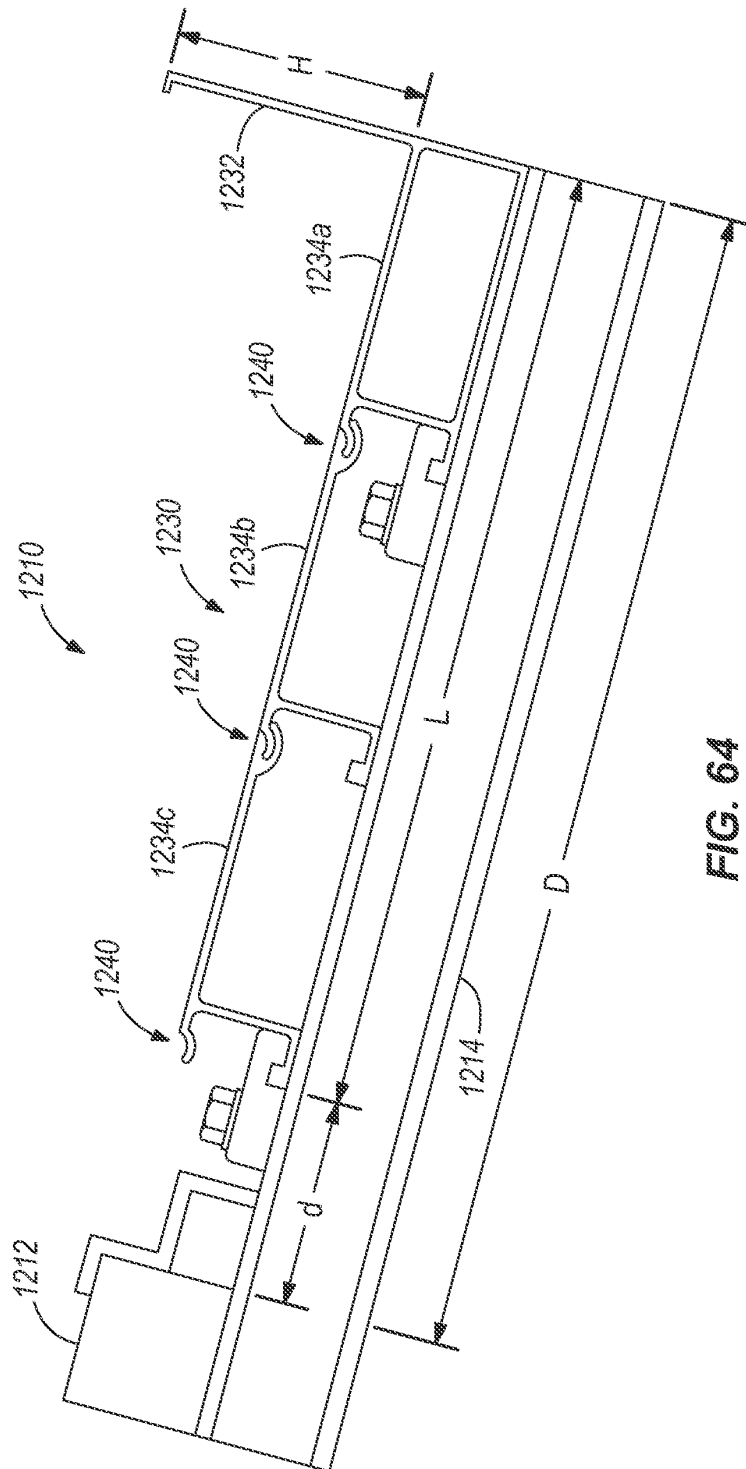


FIG. 64

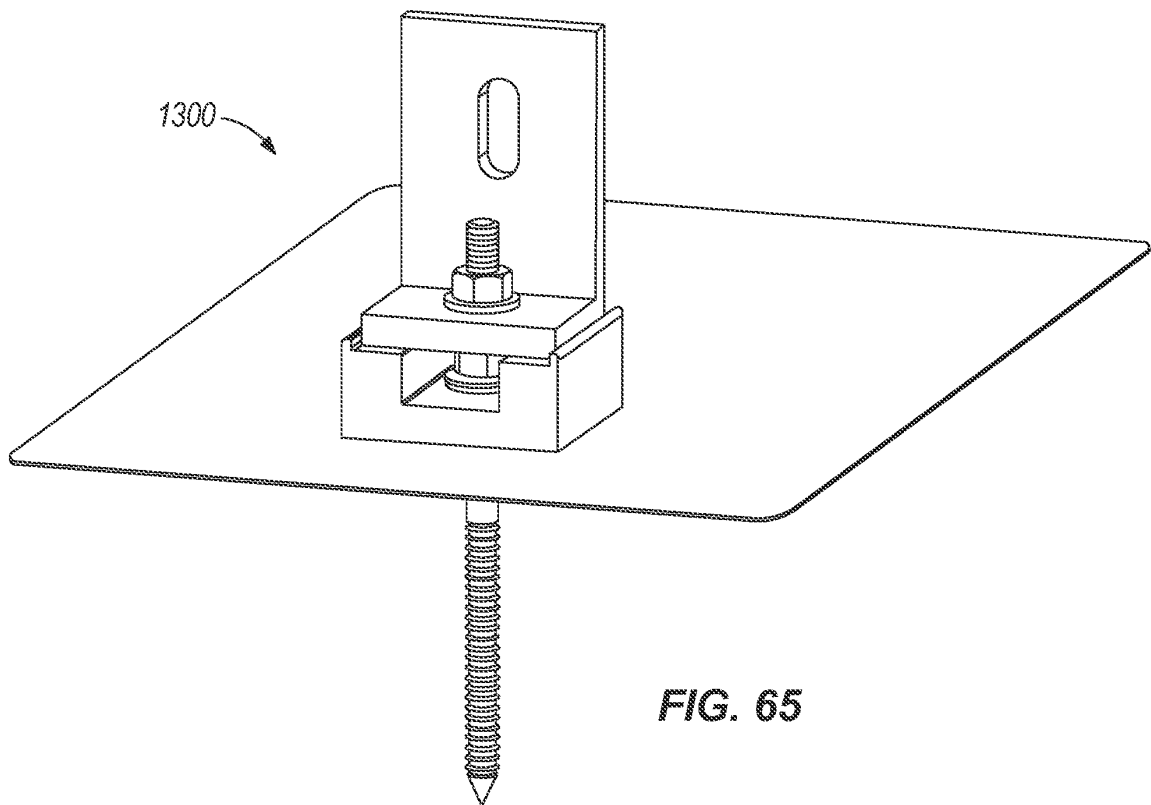
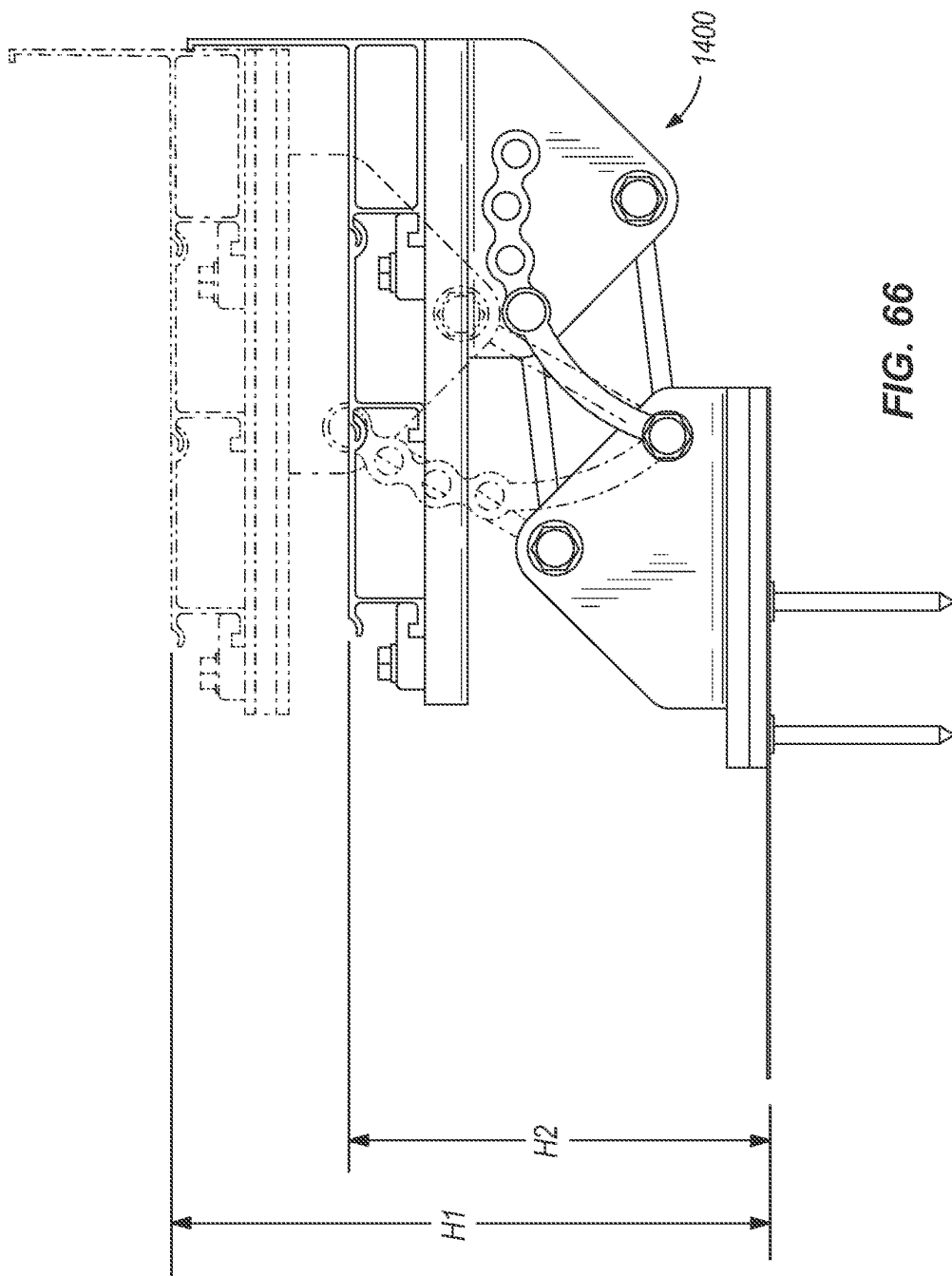


FIG. 65



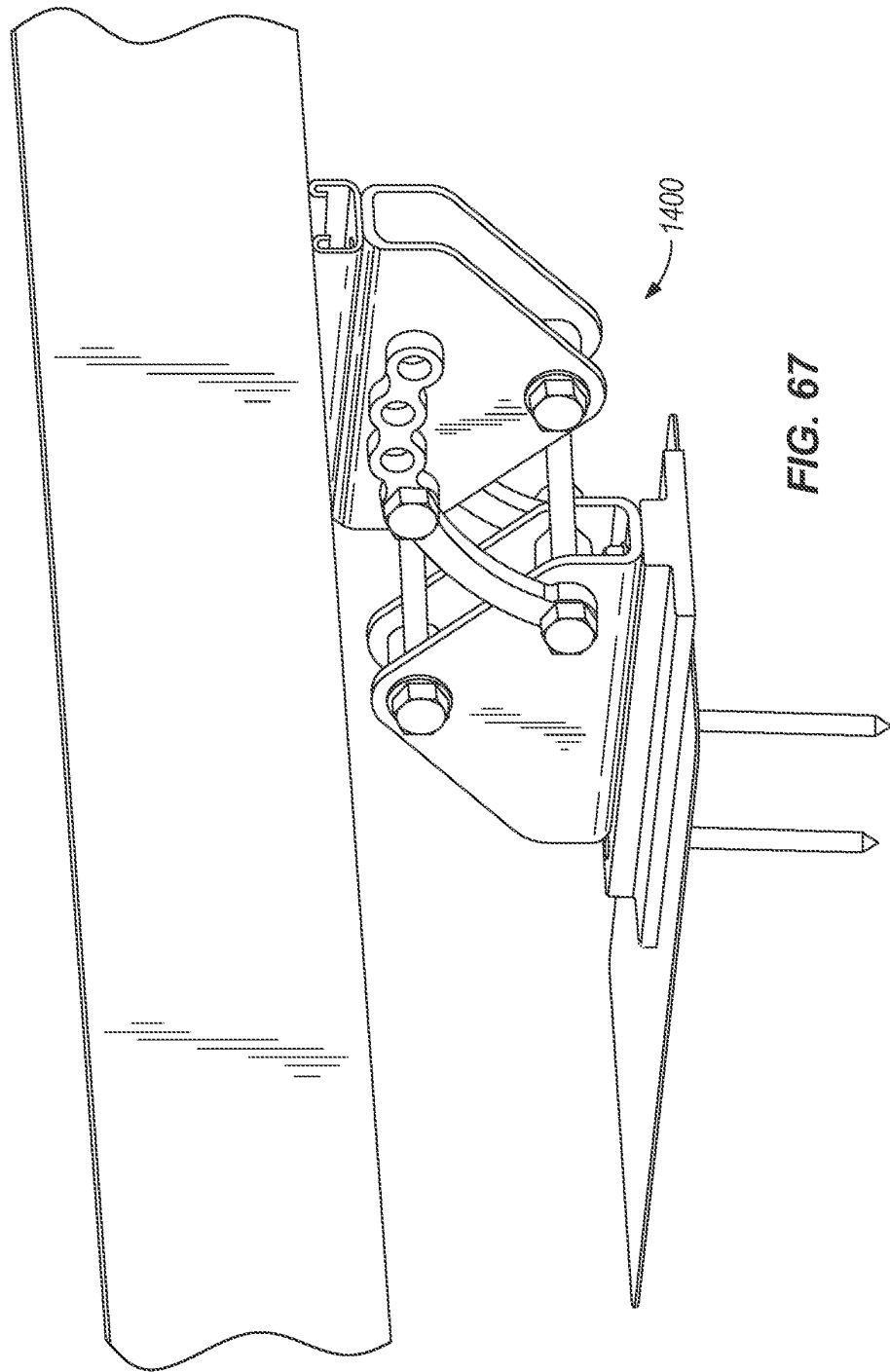


FIG. 67

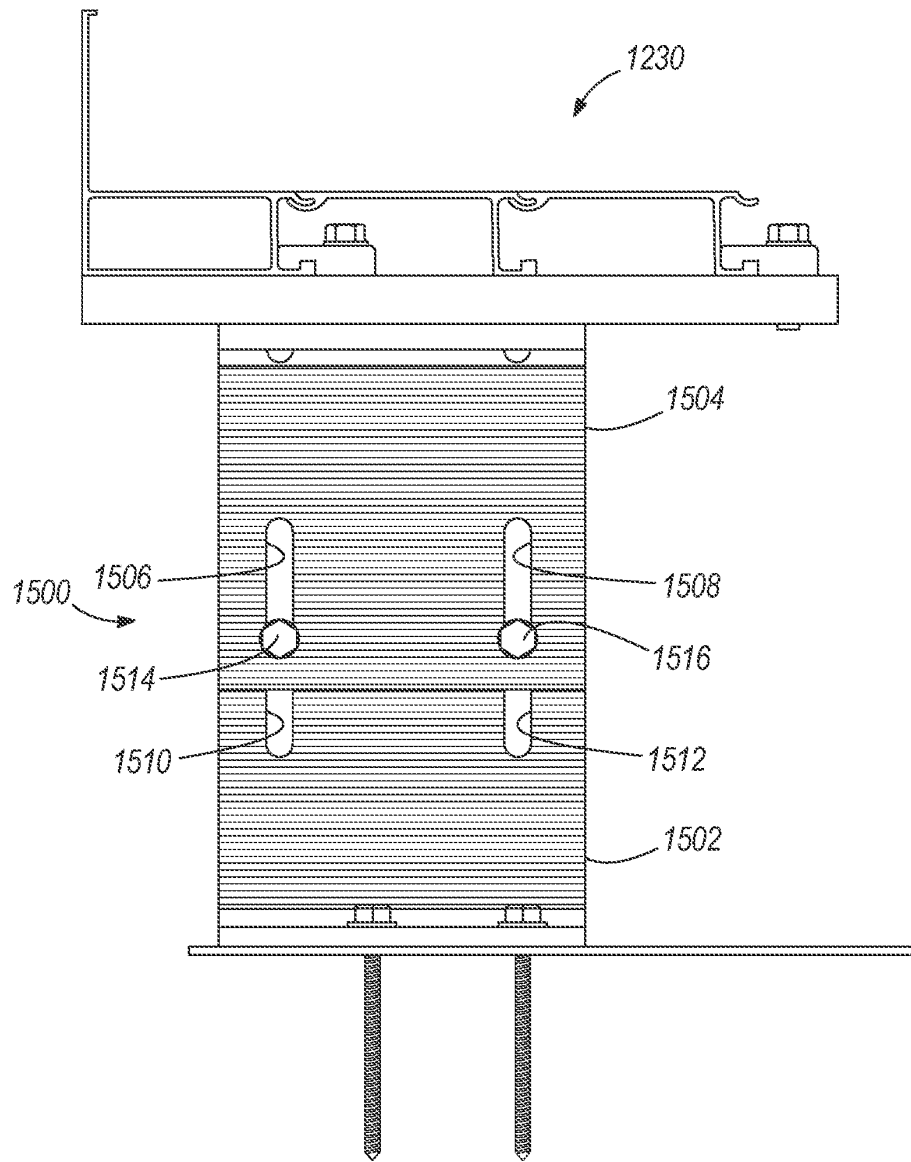


FIG. 68

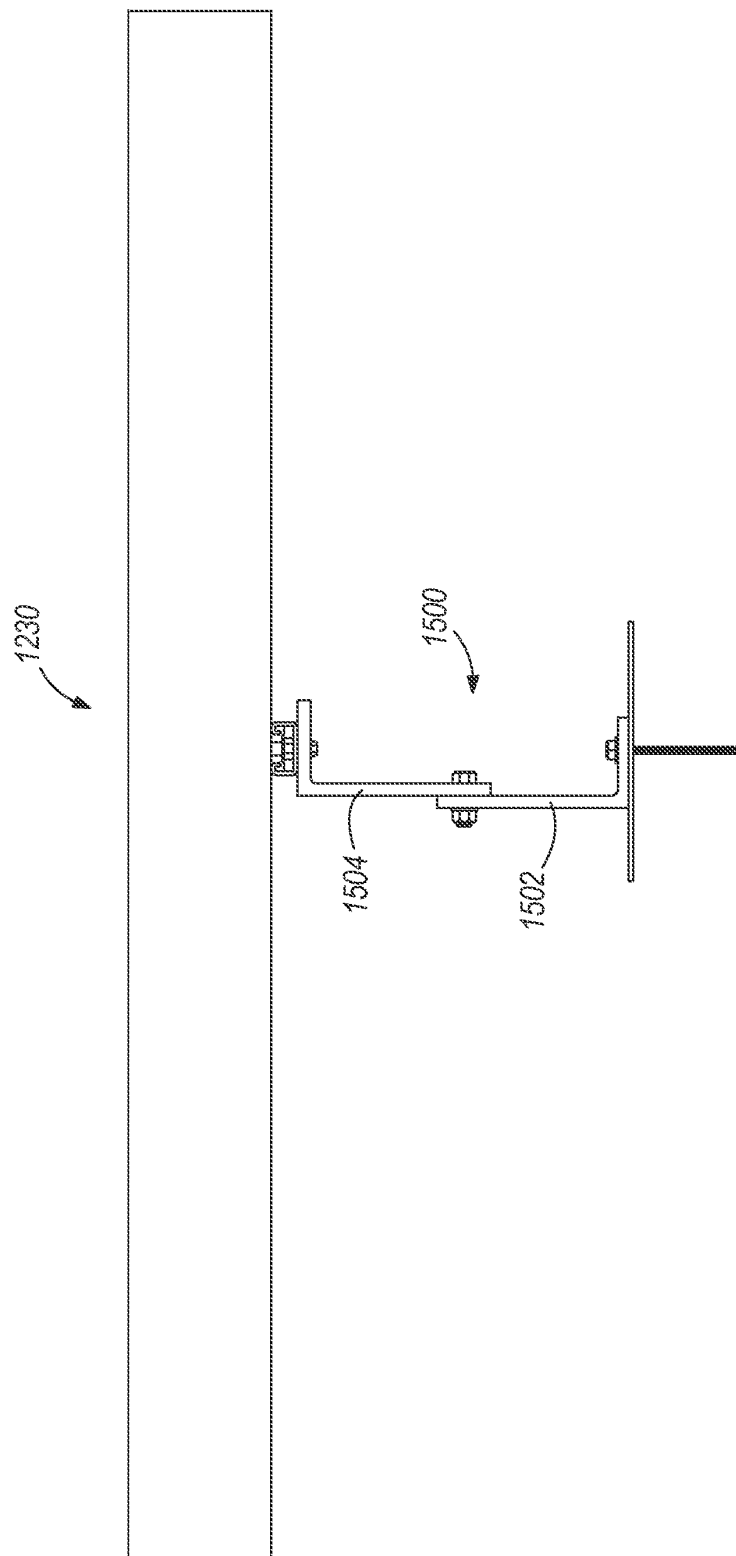


FIG. 69

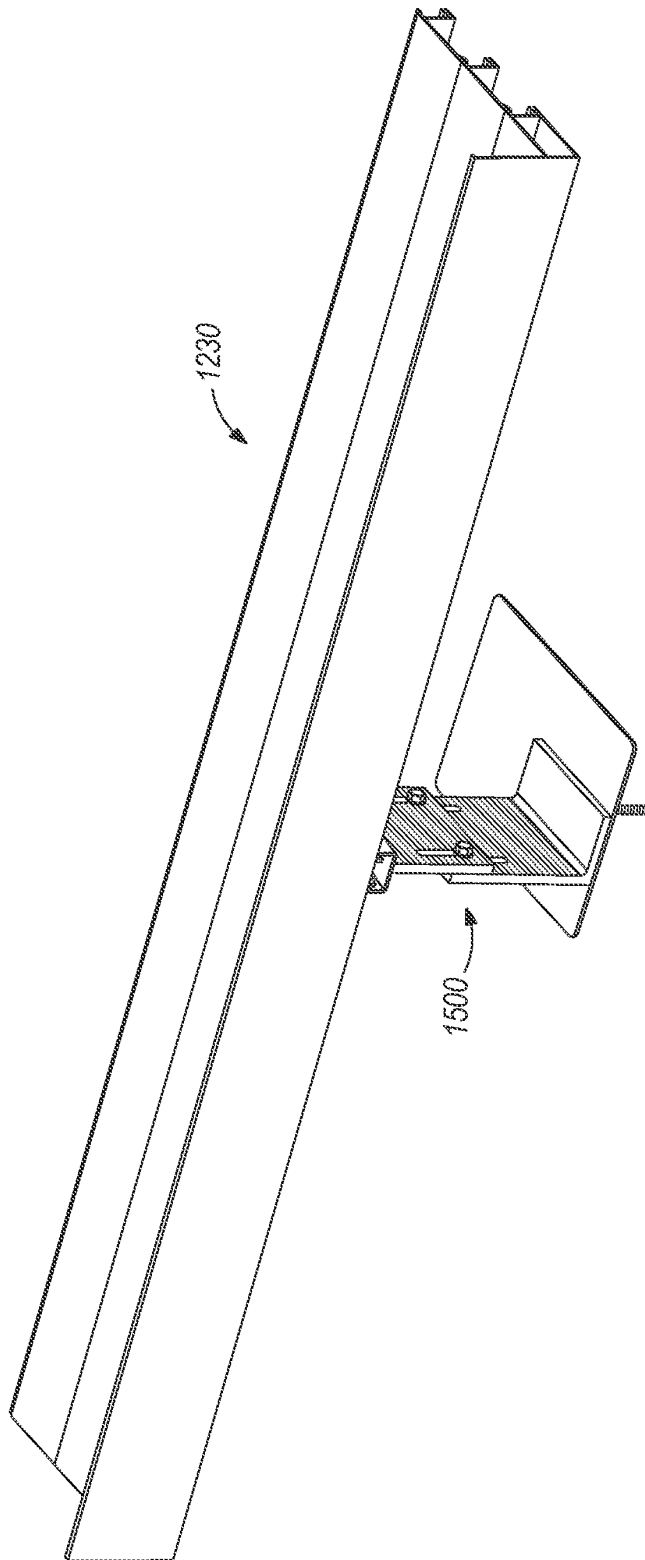
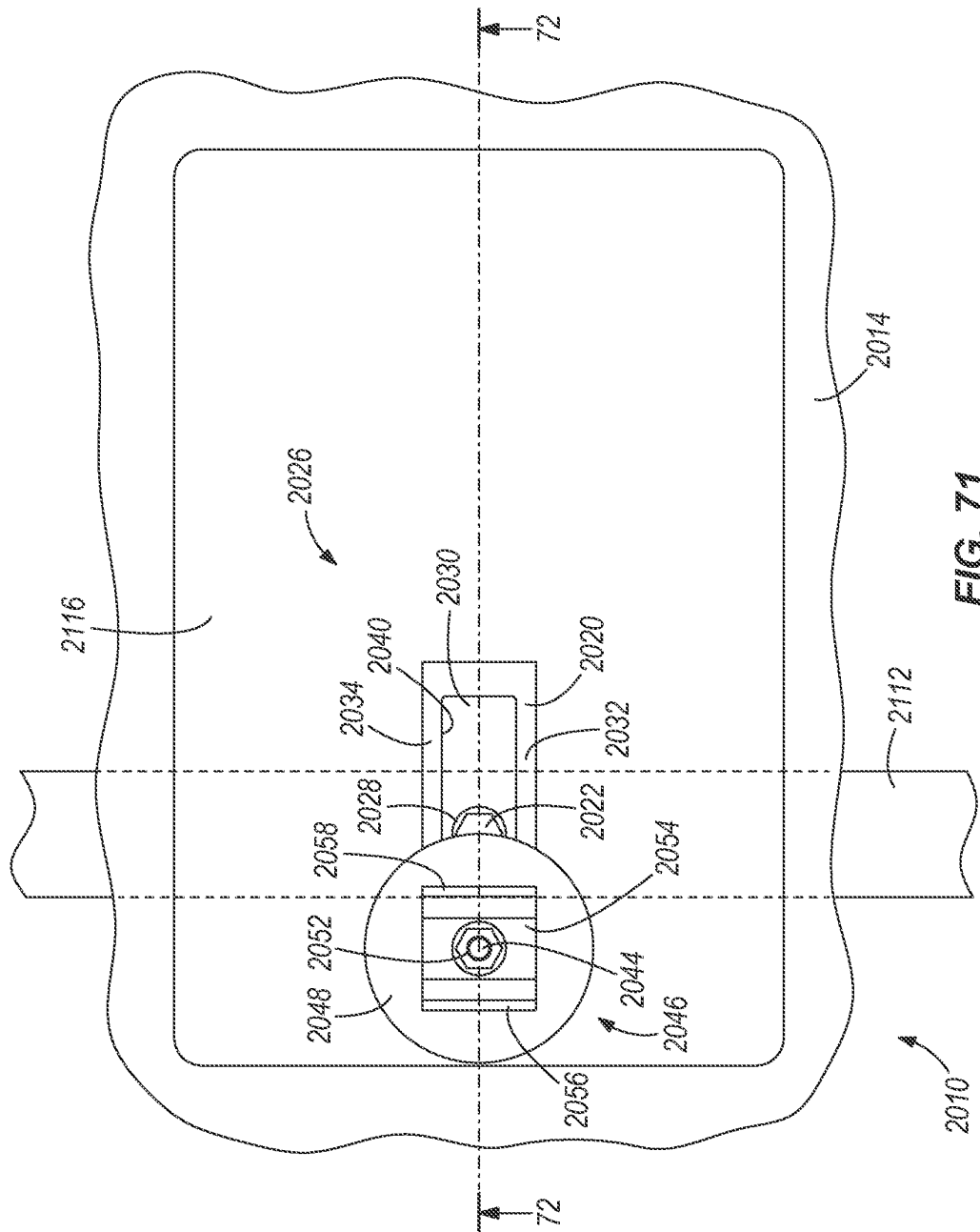
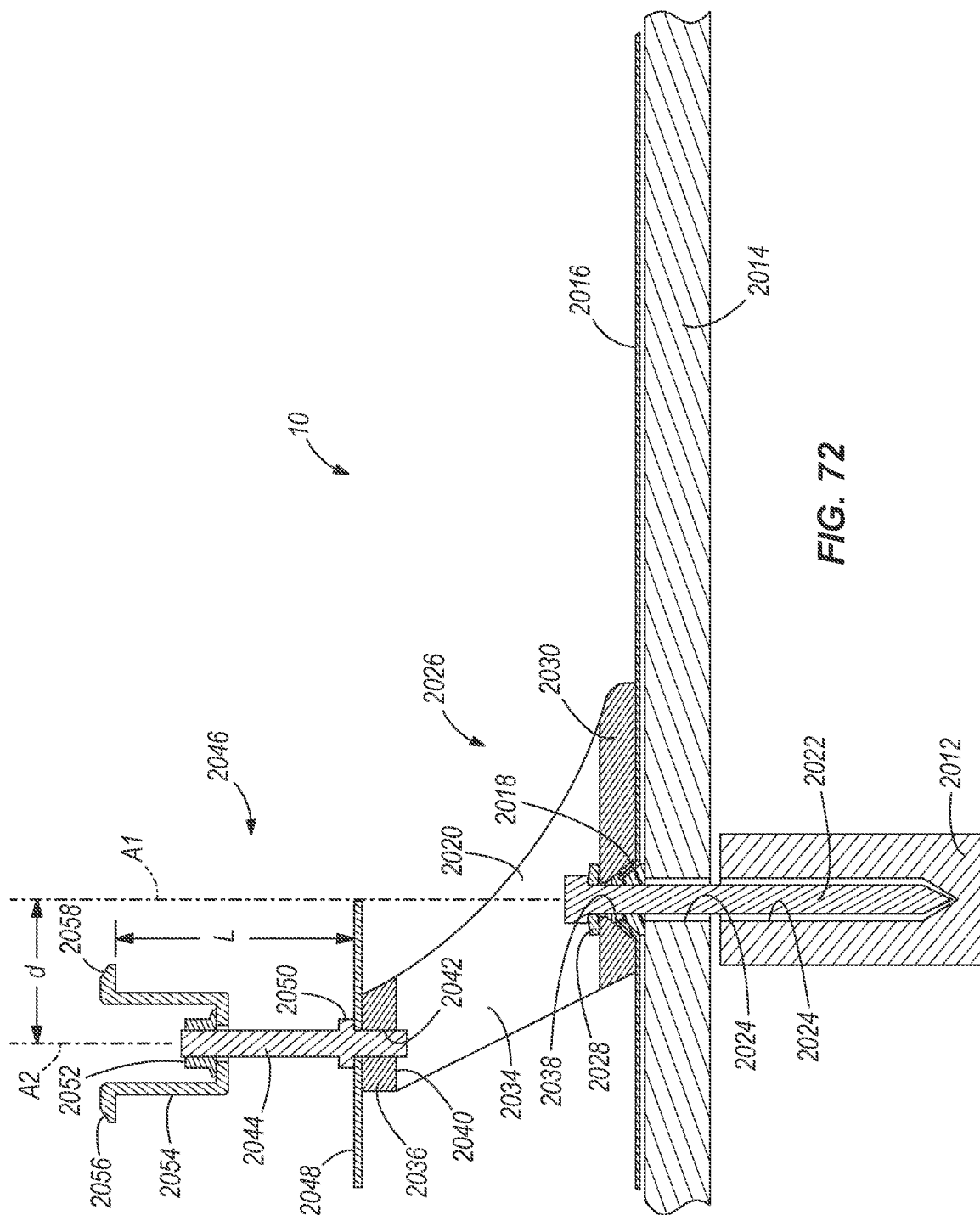


FIG. 70





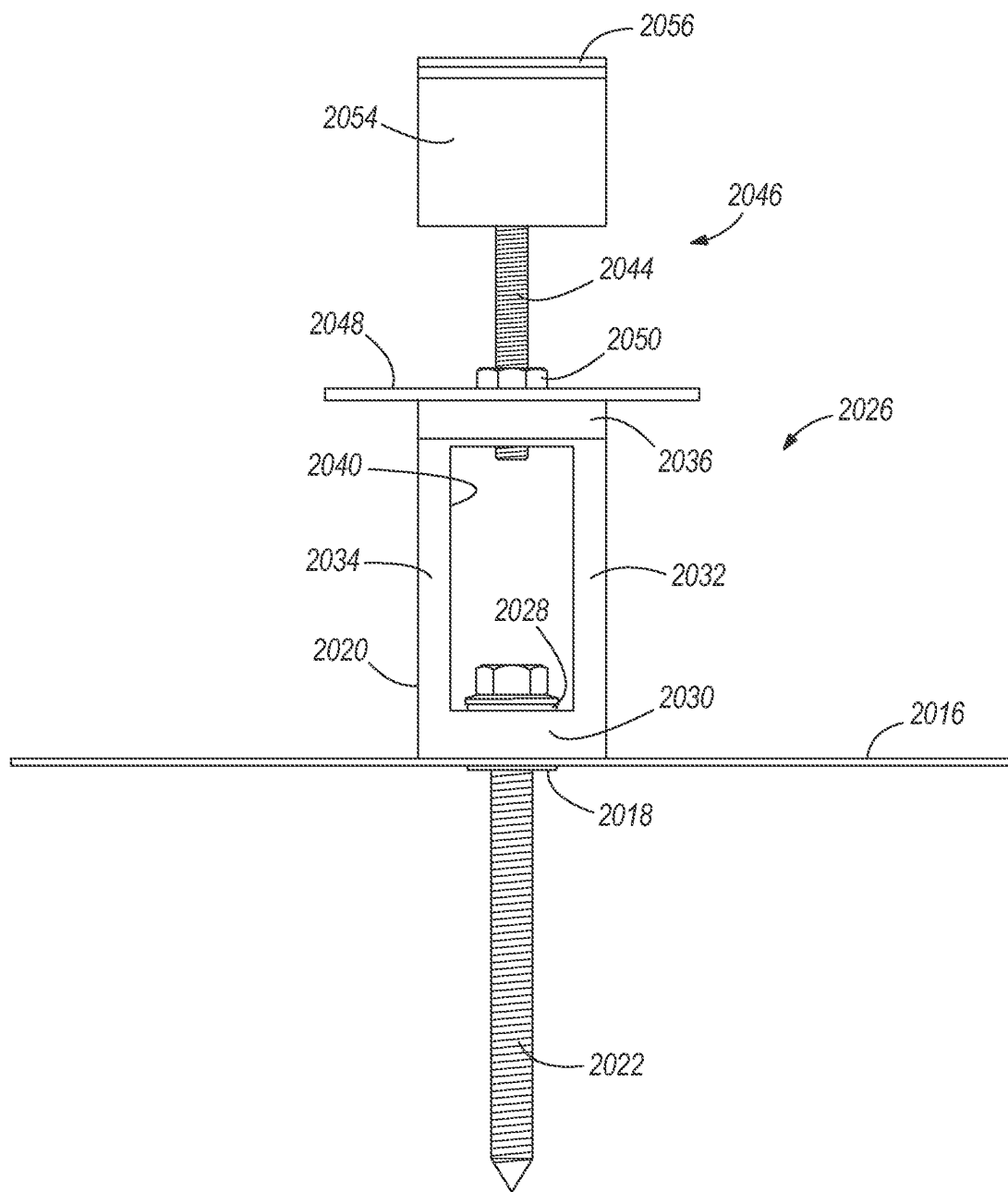


FIG. 73

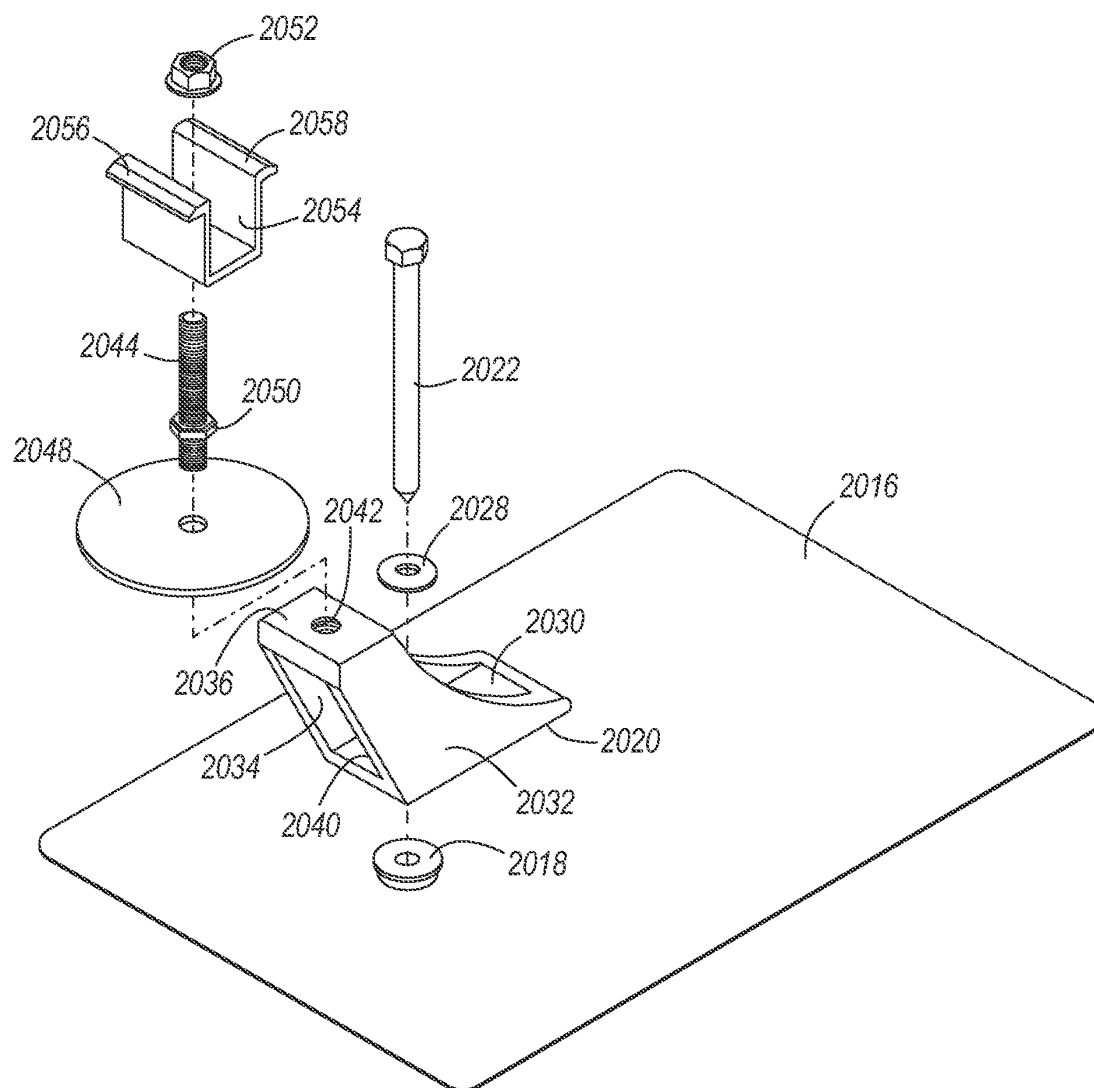


FIG. 74

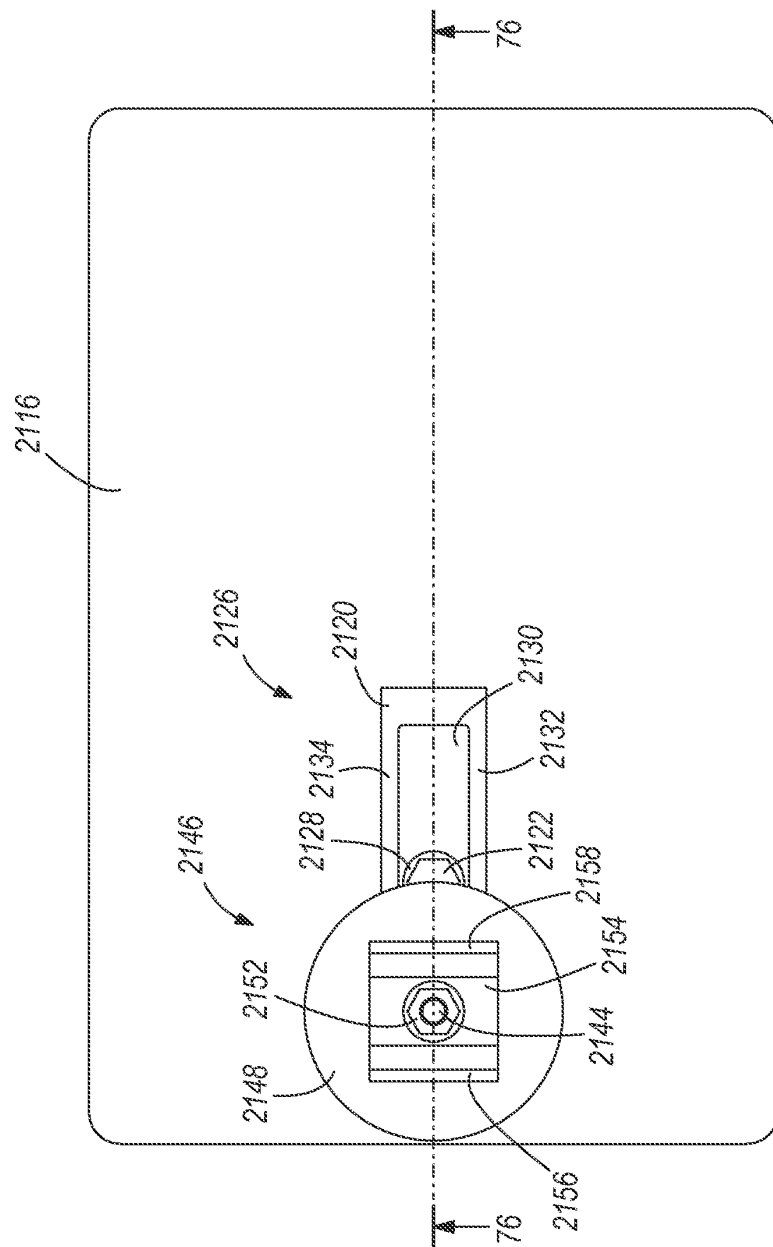
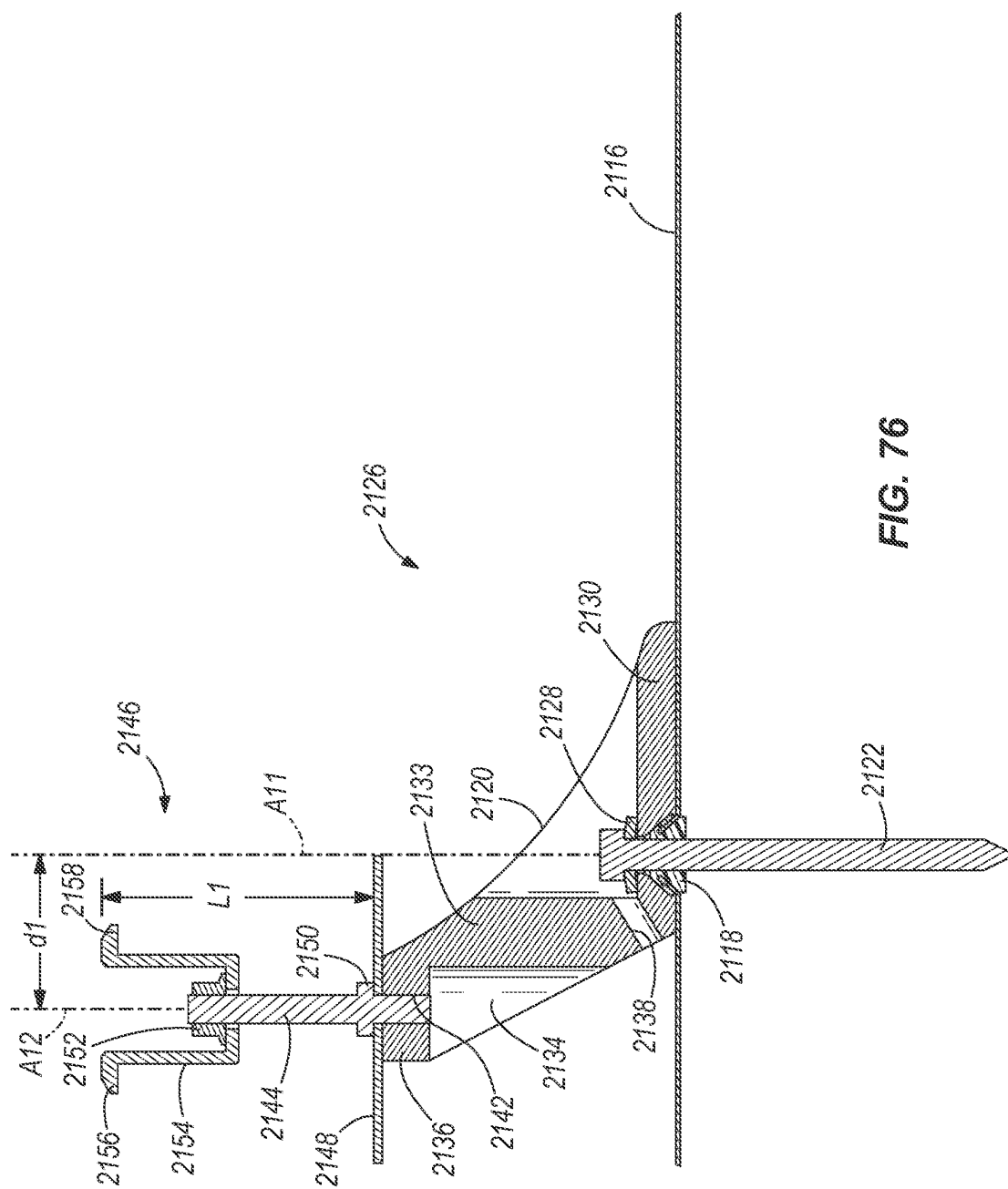


FIG. 75



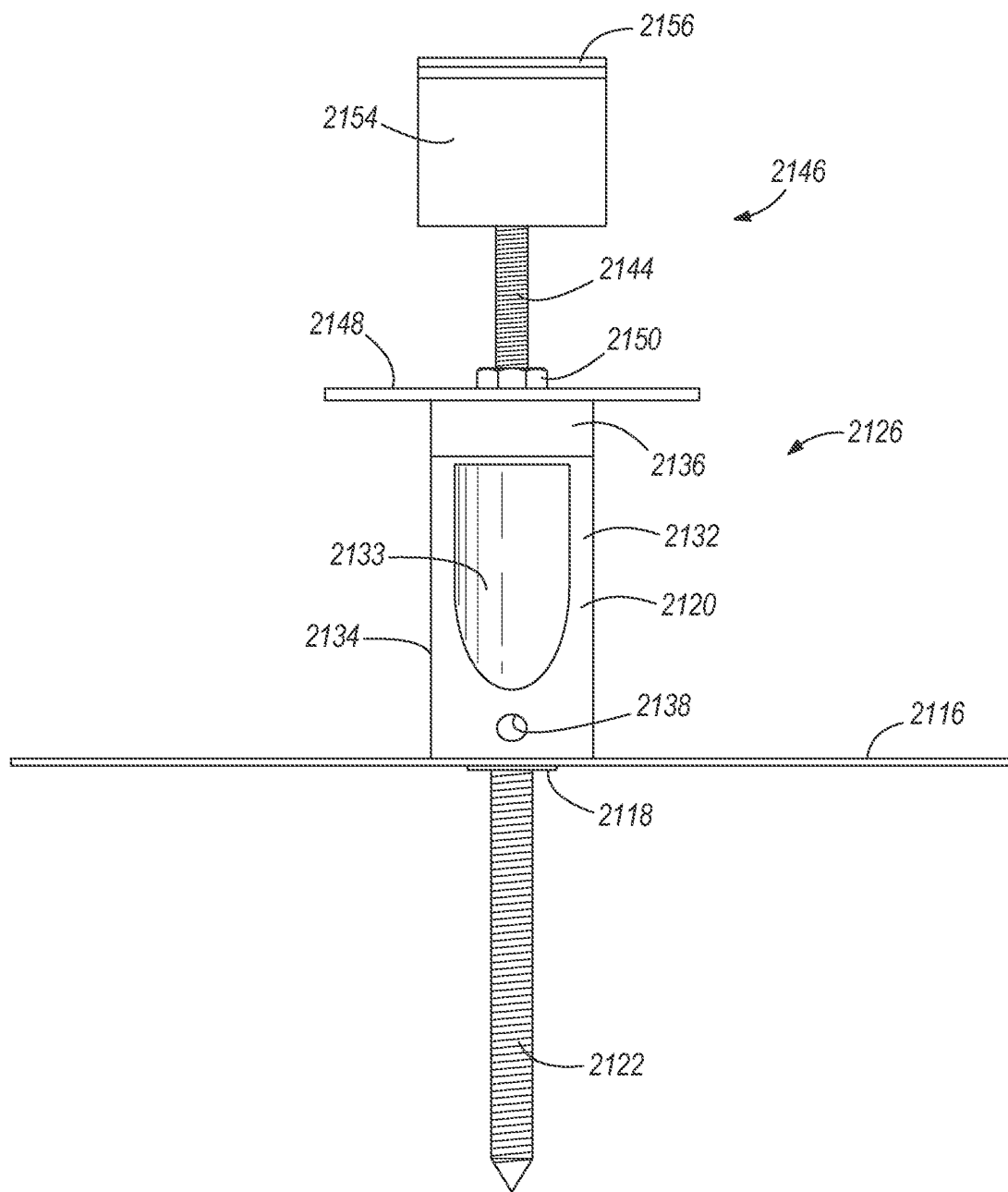


FIG. 77

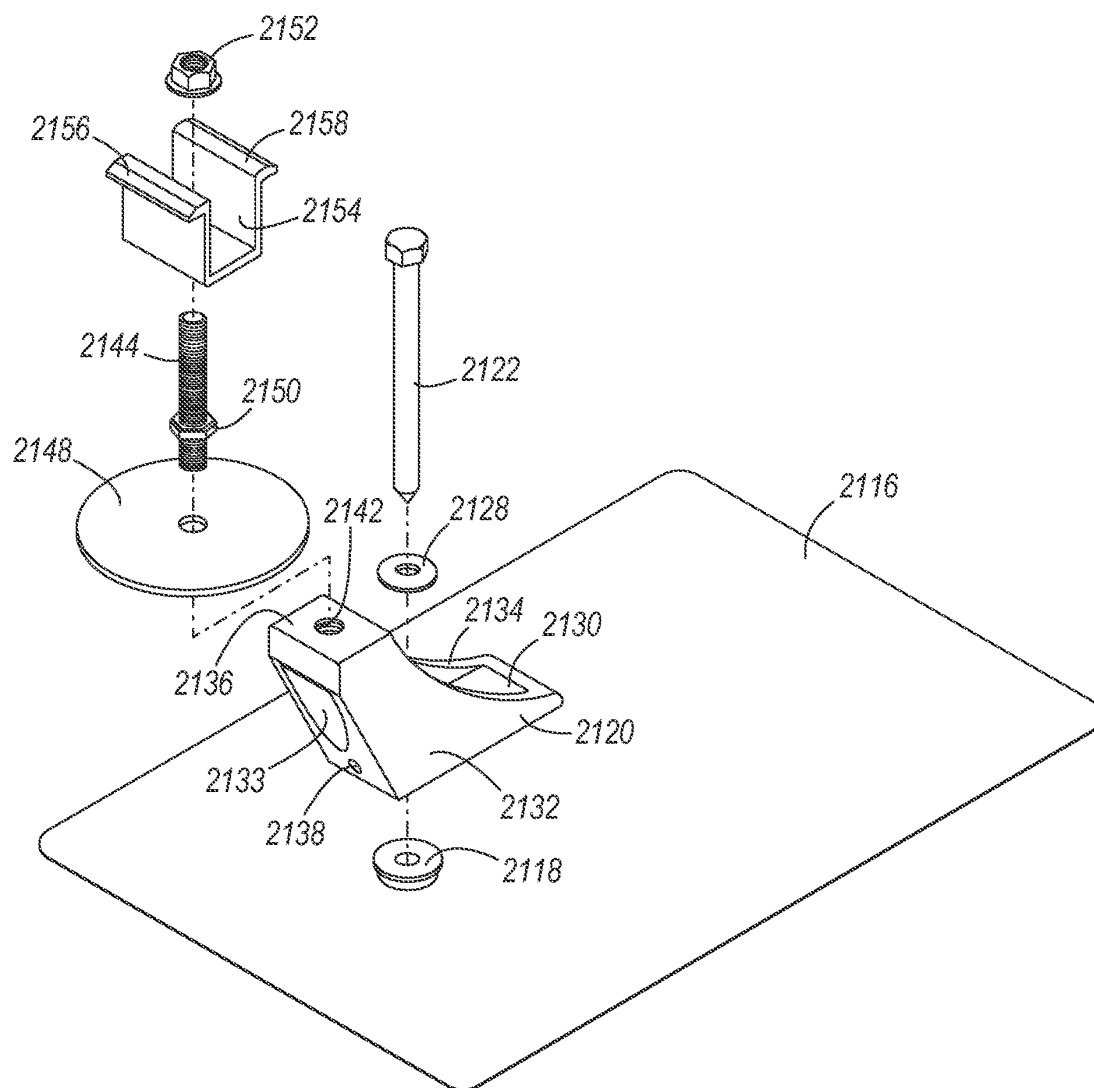


FIG. 78

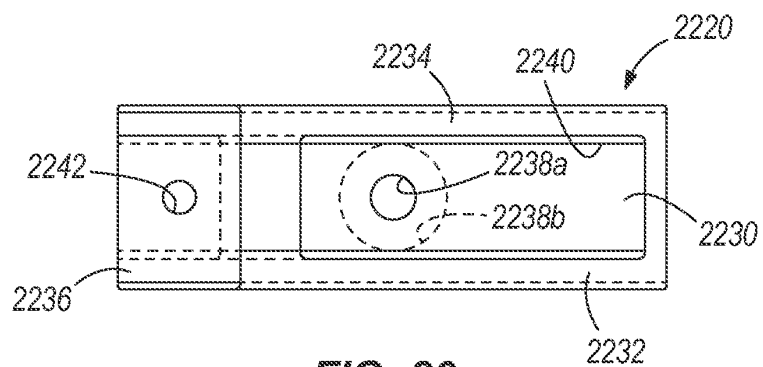


FIG. 80

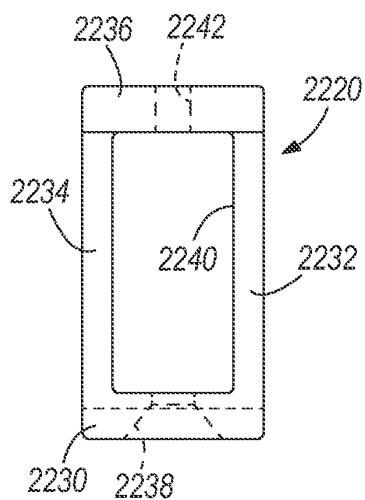


FIG. 79

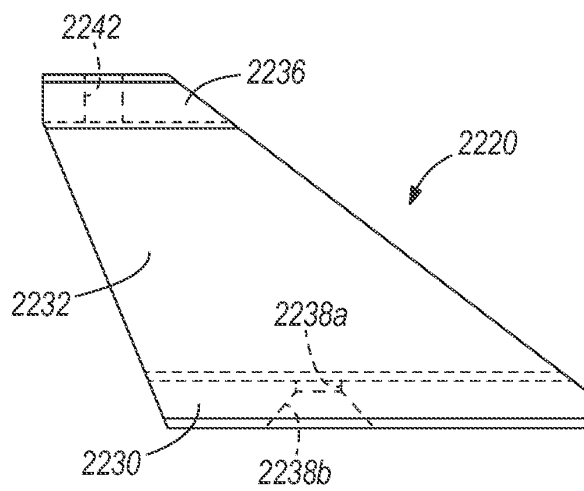


FIG. 81

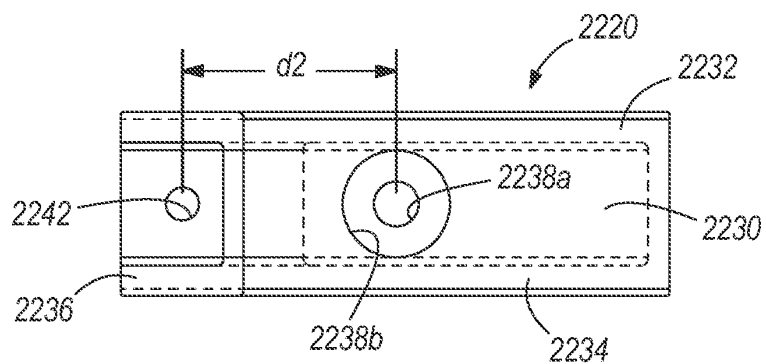
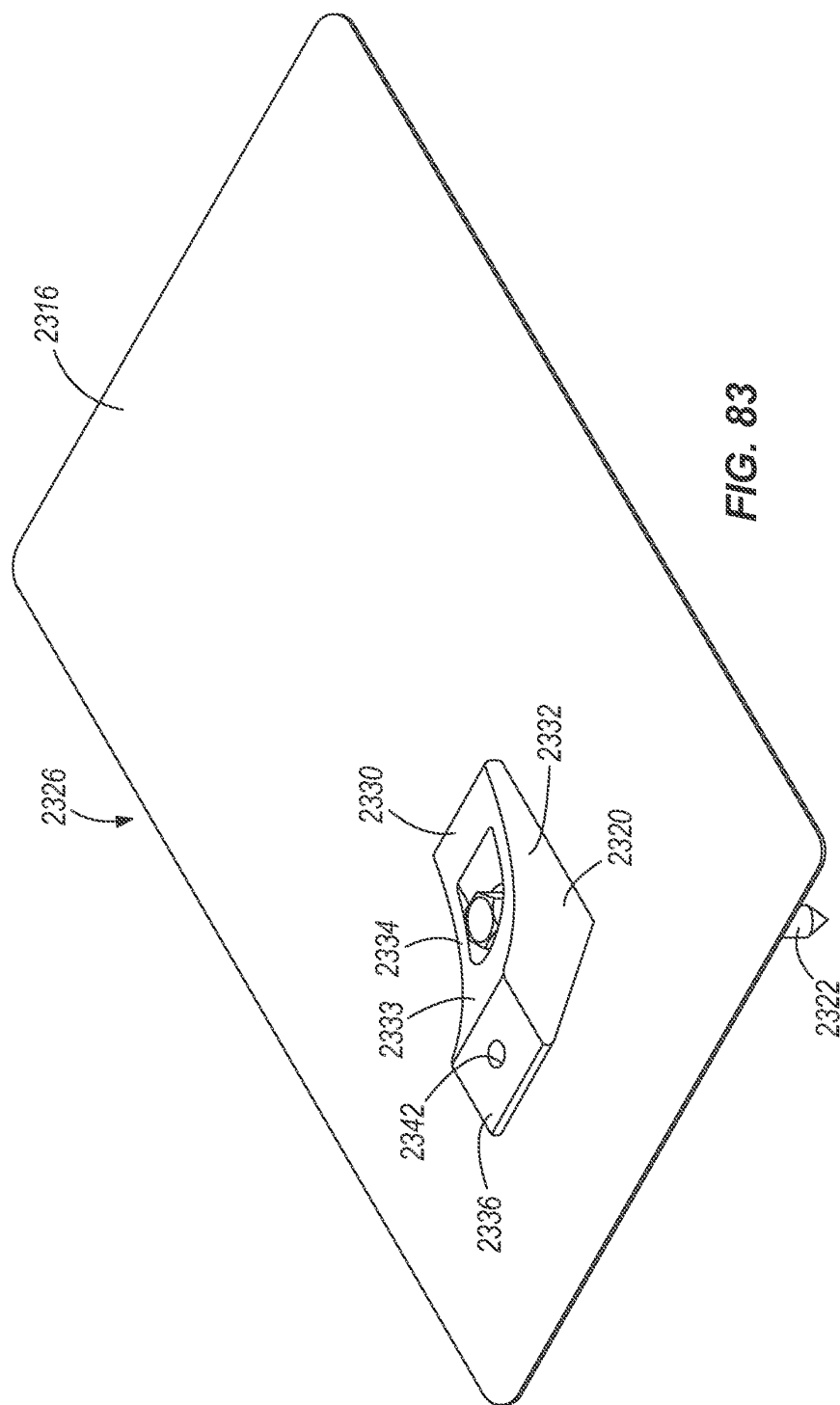


FIG. 82



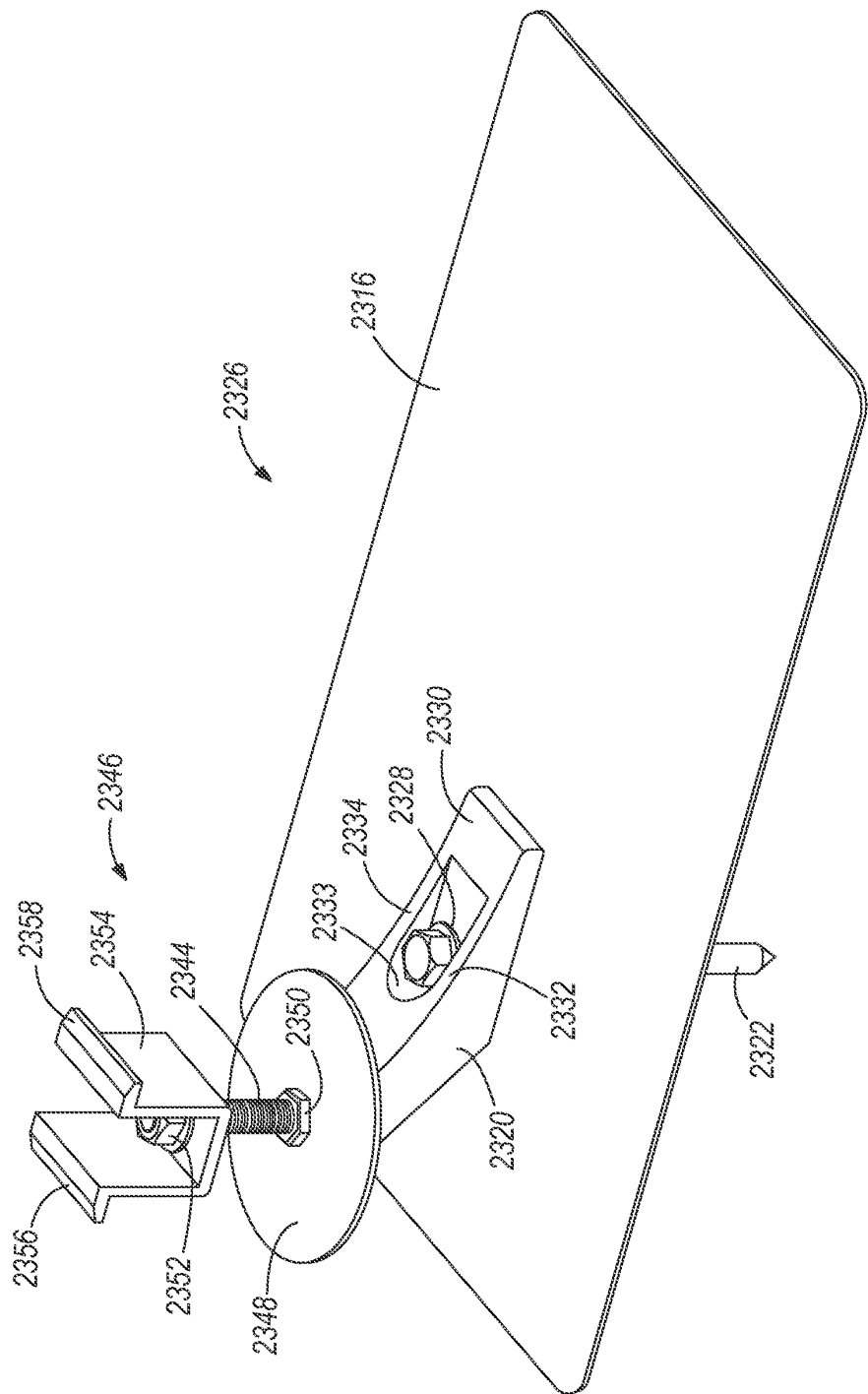


FIG. 84

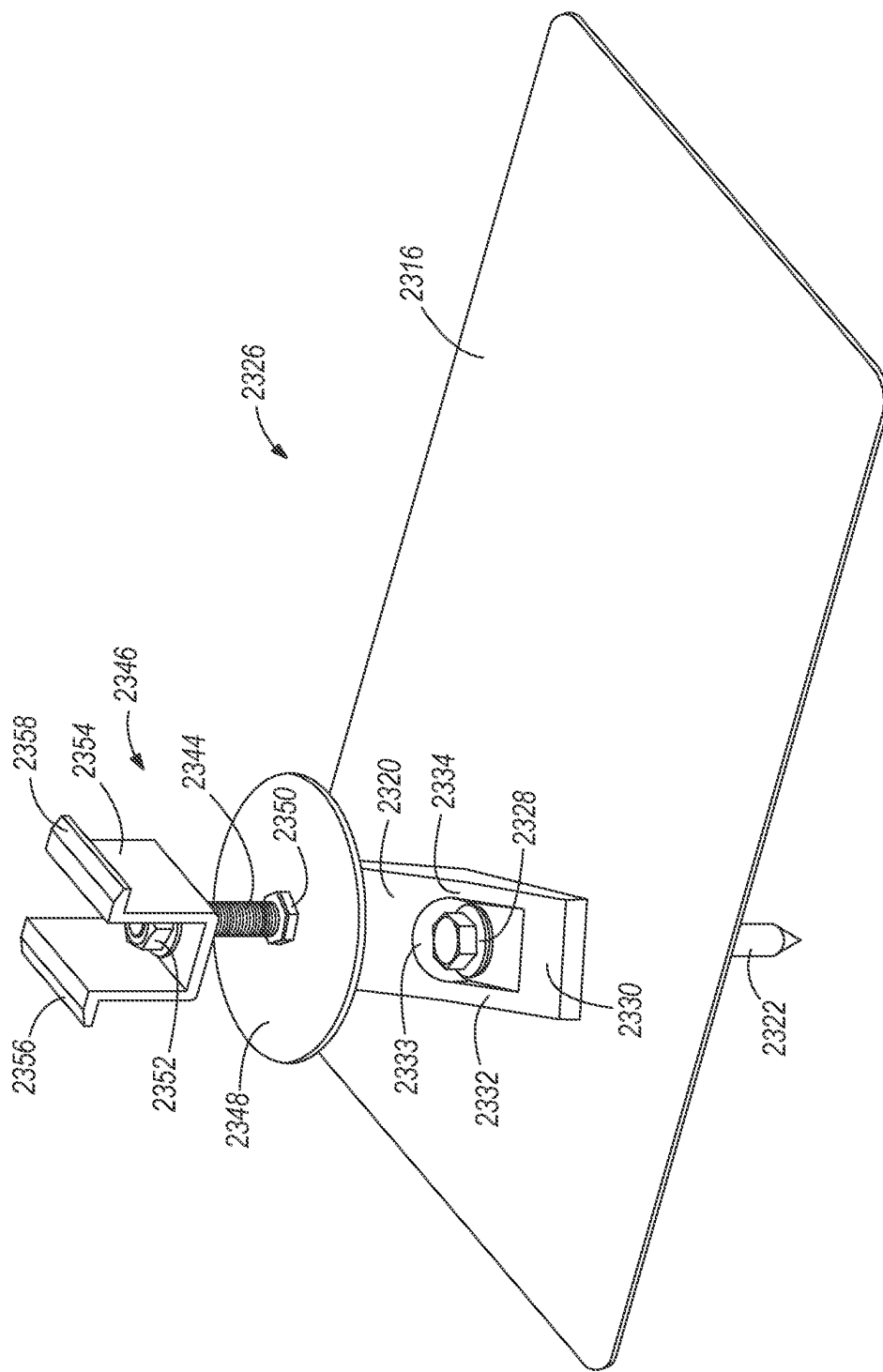


FIG. 85

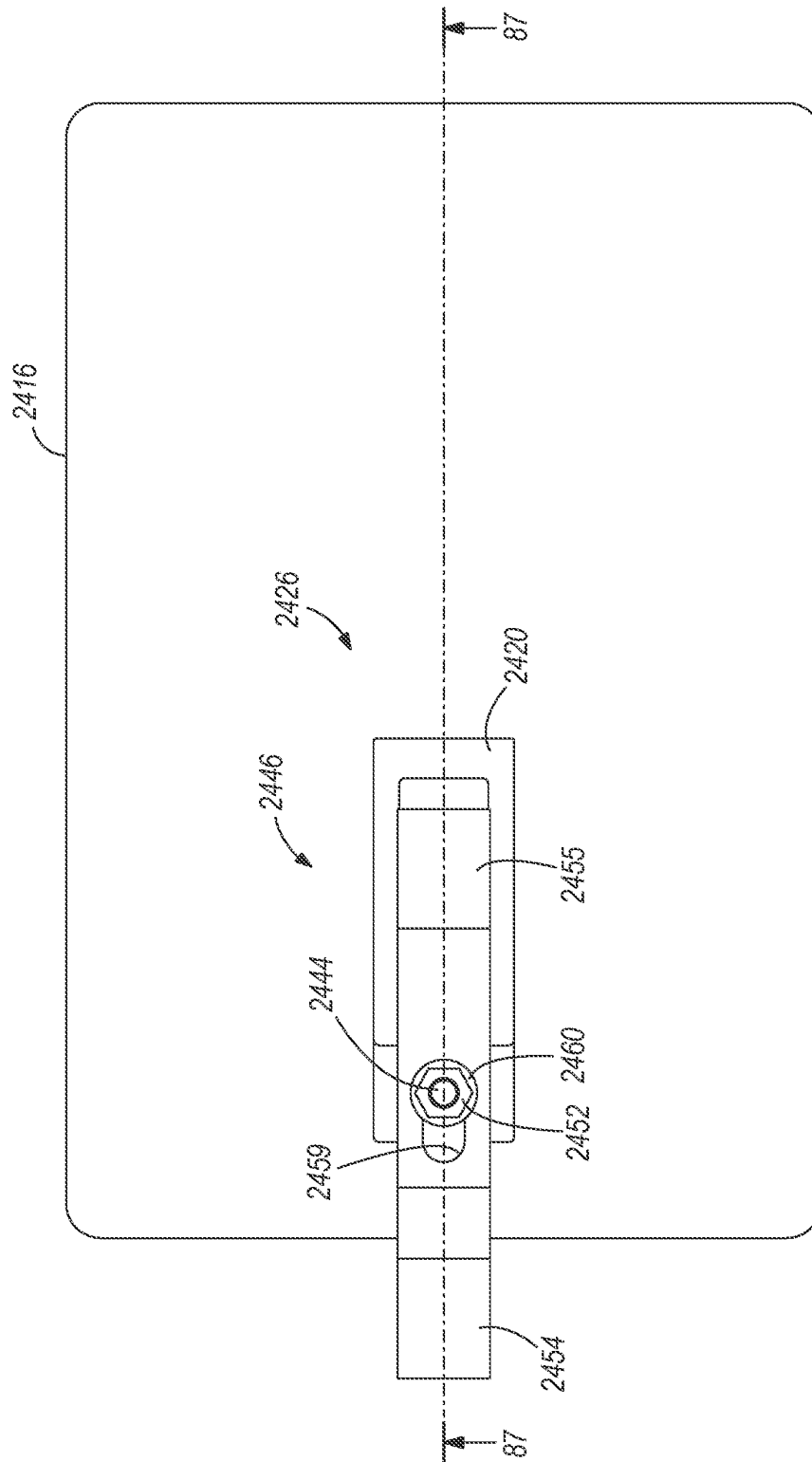


FIG. 86

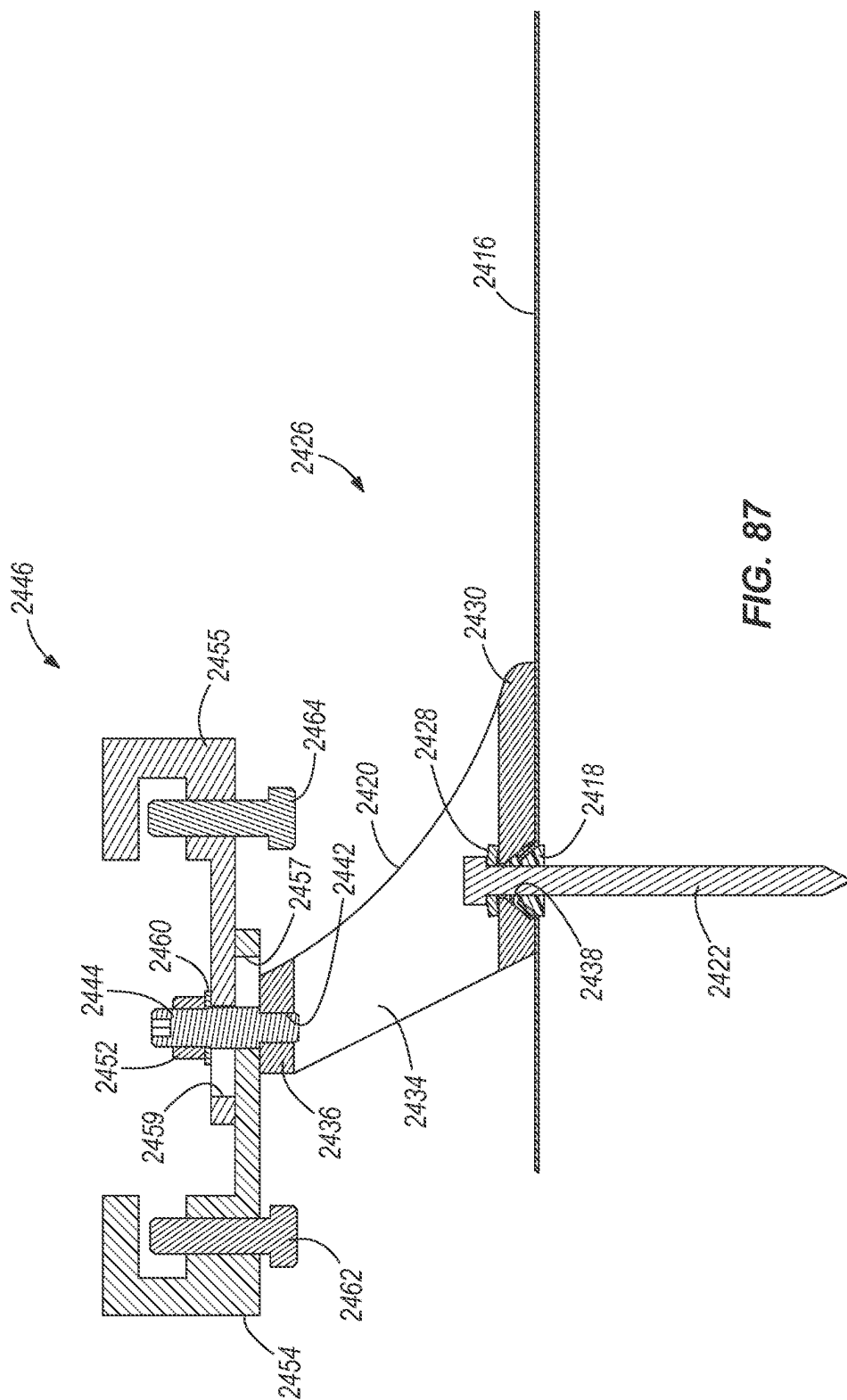


FIG. 87

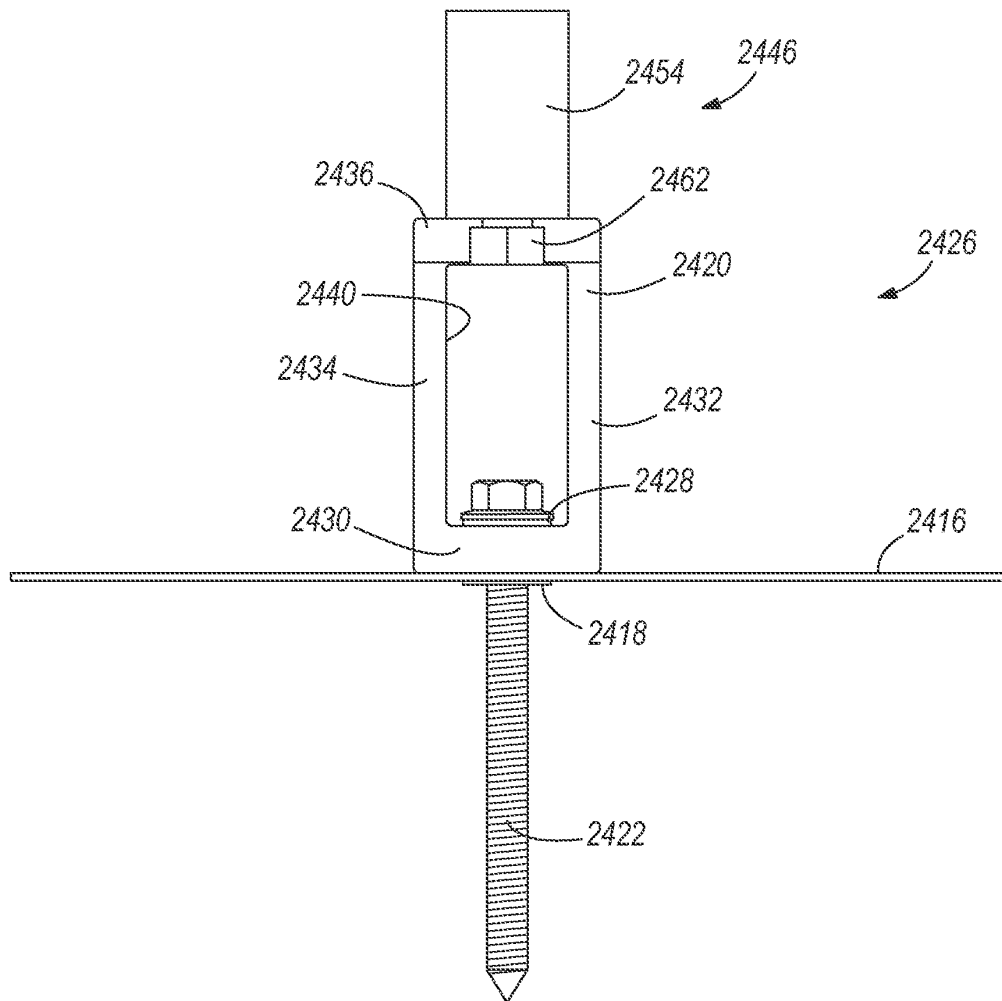


FIG. 88

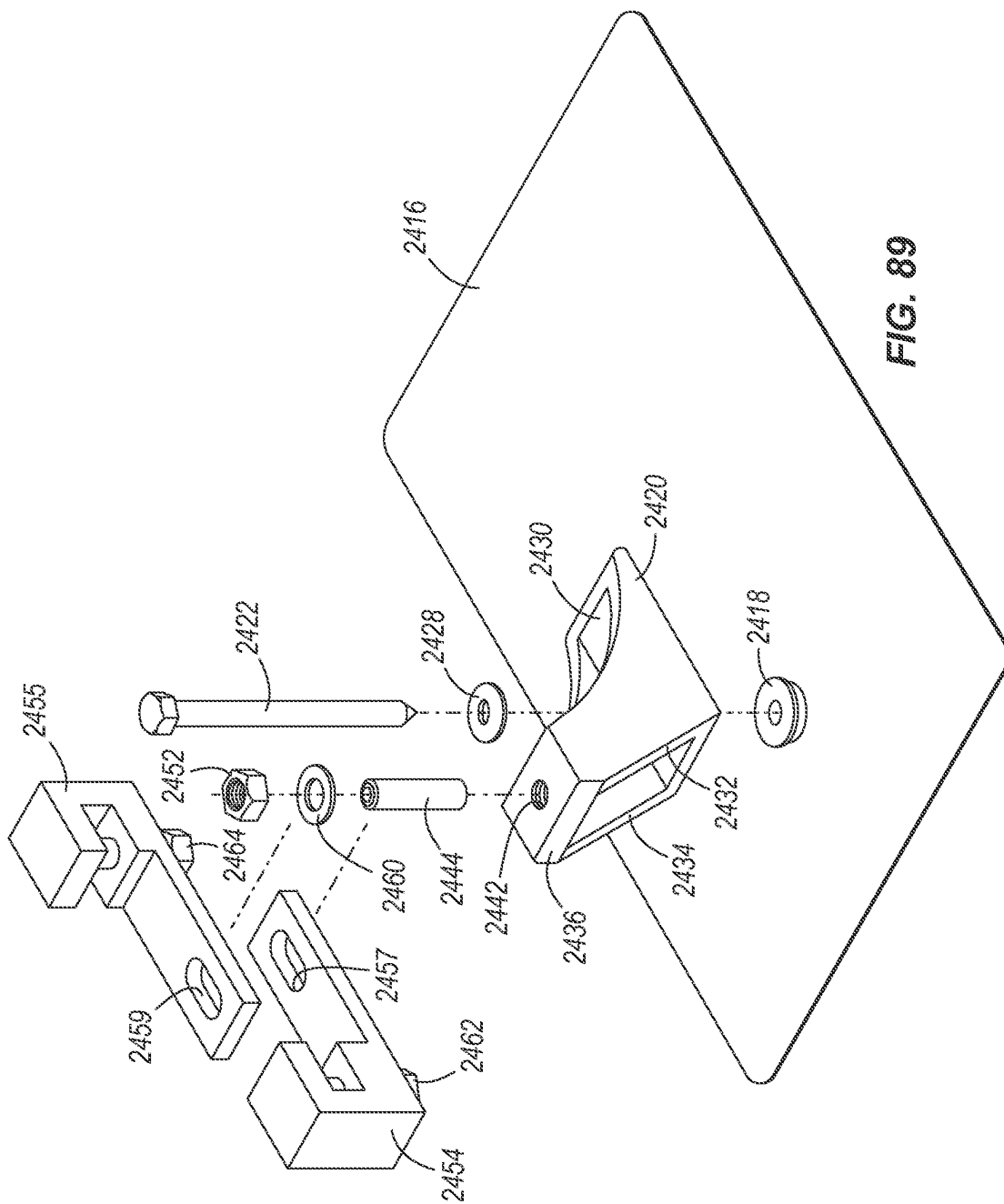
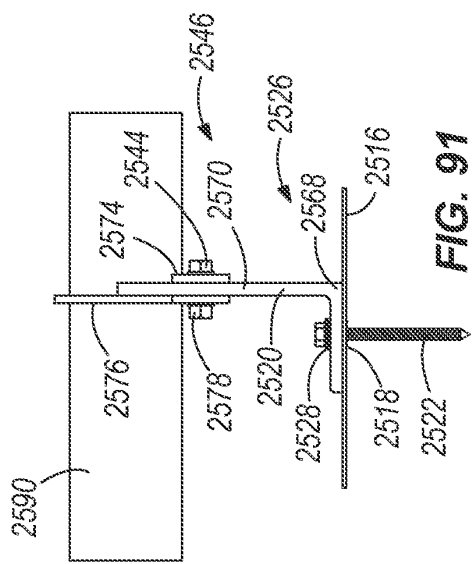
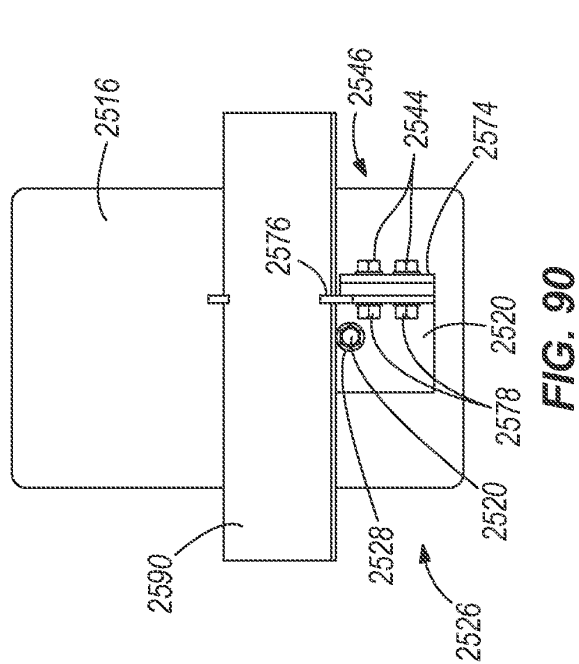
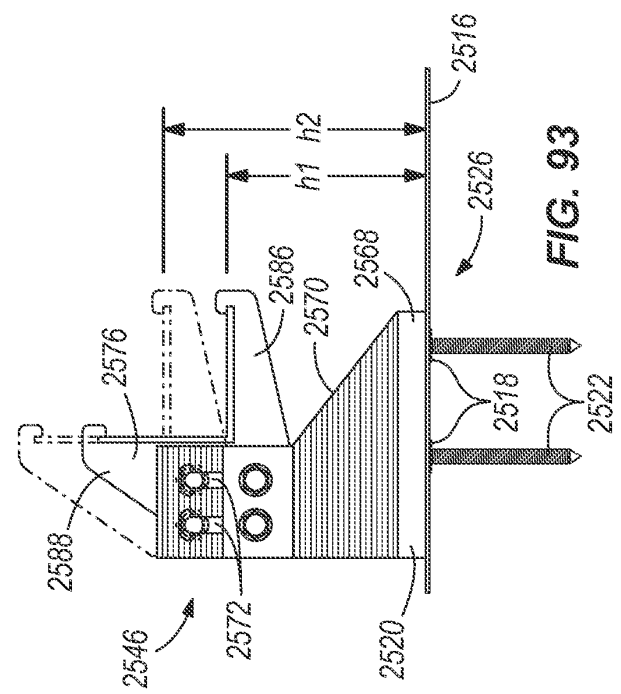
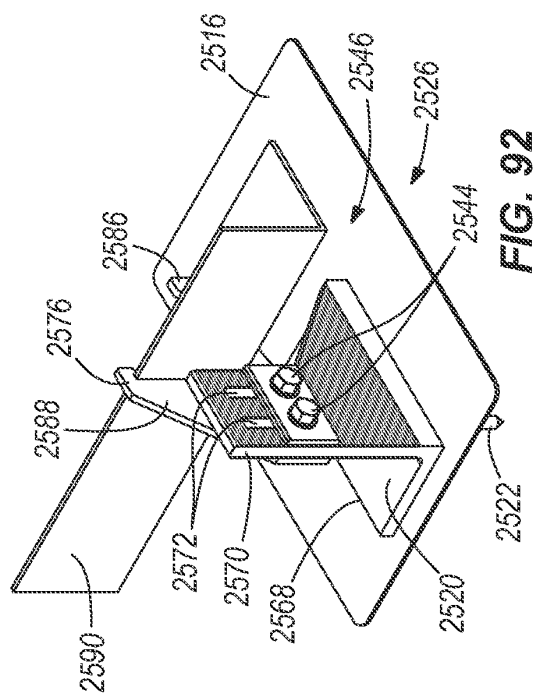
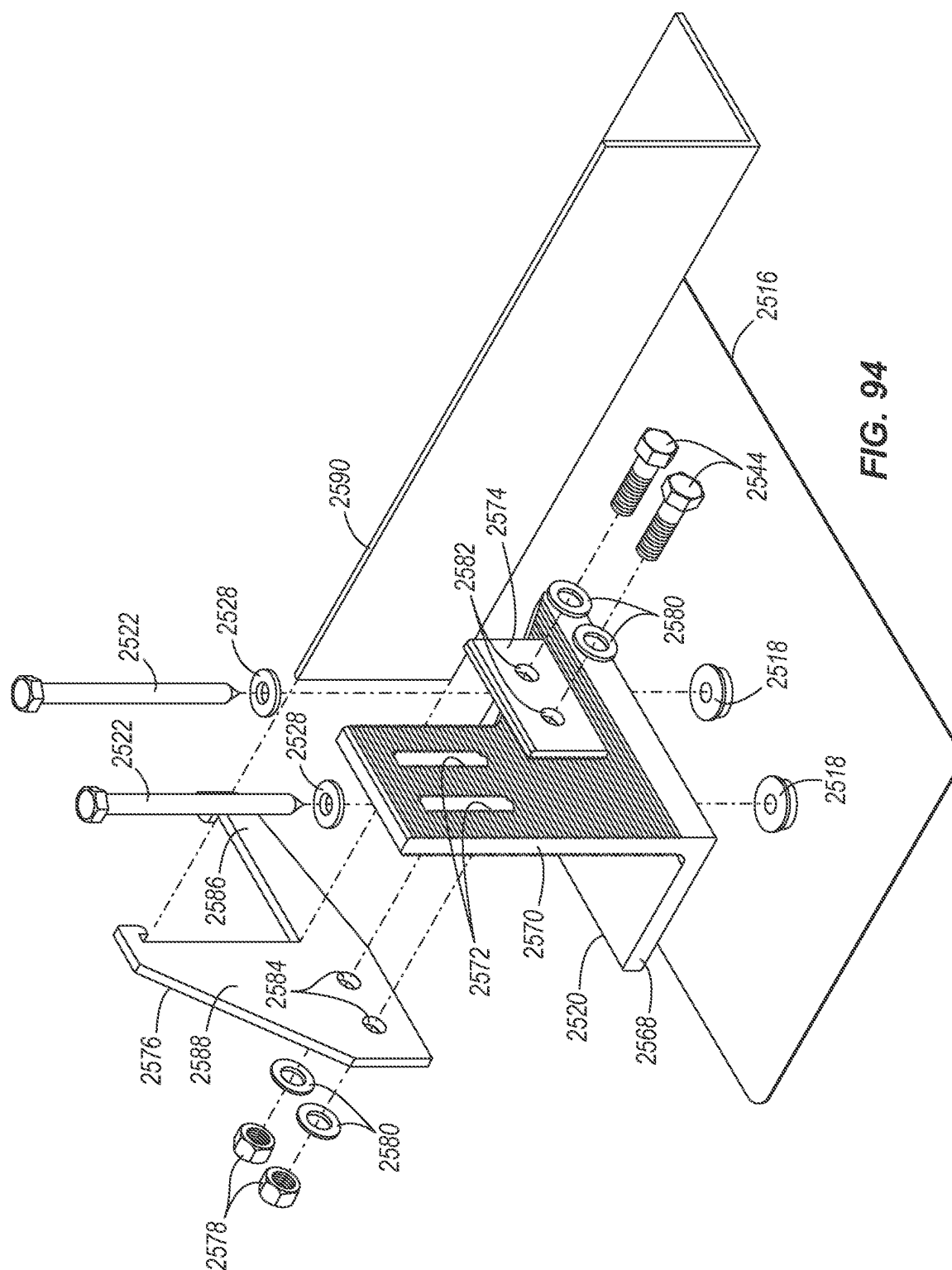


FIG. 89





Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		ROOF MOUNTING SYSTEM		
First Named Inventor/Applicant Name:		Brian Cecil Stearns		
Filer:		Mark W. Williams		
Attorney Docket Number:		1000-00632		
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
UTILITY APPLICATION FILING	1011	1	300	300
UTILITY SEARCH FEE	1111	1	660	660
UTILITY EXAMINATION FEE	1311	1	760	760
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1720

Electronic Acknowledgement Receipt	
EFS ID:	38399704
Application Number:	16752667
International Application Number:	
Confirmation Number:	3794
Title of Invention:	ROOF MOUNTING SYSTEM
First Named Inventor/Applicant Name:	Brian Cecil Stearns
Customer Number:	145438
Filer:	Mark W. Williams
Filer Authorized By:	
Attorney Docket Number:	1000-00632
Receipt Date:	26-JAN-2020
Filing Date:	
Time Stamp:	15:03:52
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$1720
RAM confirmation Number	E20201PF04122357
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	Application Data Sheet	WebADS.pdf	204103	no	10
			76ac8f810683e56c866de0be3b06e11f7f13e007		
Warnings:					
Information:					
2		1000-00632_USPA.pdf	206871	yes	53
			00655521b34b899ec42d3f0e01cf57cdd4b563f		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	51	
	Claims		52	52	
	Abstract		53	53	
Warnings:					
Information:					
3	Oath or Declaration filed	Declaration.pdf	635551	no	2
			5ac3dc4dbbc89cccc60f606c18a3896662298d23		
Warnings:					
Information:					
4	Drawings-only black and white line drawings	1000-00632_Figs.pdf	1302292	no	57
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Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	34551	no	2
			8ca191fb0ef7045f708dd5688c2ff91b50466beb		

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