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HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,
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(54) Title: SOLAR PANEL AND EQUIPMENT MOUNTING APPARATUS FOR ROOFS

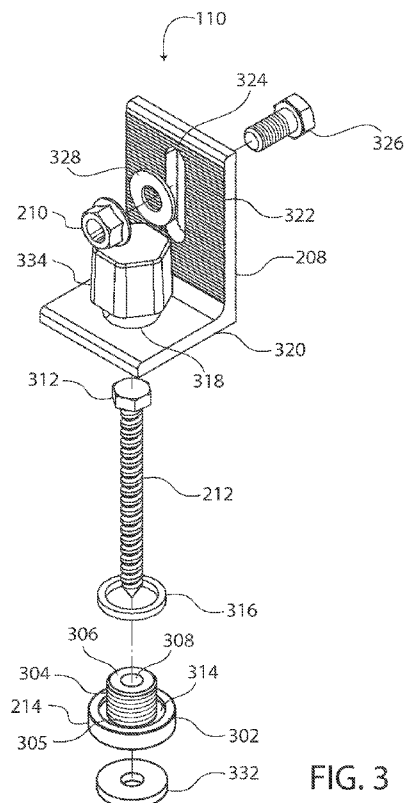


FIG. 3

(57) Abstract: Disclosed is an apparatus for mounting equipment or solar photovoltaic structures to roofs where the apparatus base plate (214) engages the roof surface directly, creating a water resistant seal, without the need for flashing. The base plate (214) upper surface includes an upwardly projected portion (304) that is circumscribed by a groove (314). The base plate (214) lower surface includes a counterbore (406). Both the counterbore (406) and the groove (314) are disposed to receive annular seals. A threaded fastener (212) is received and seated by the upwardly projected portion (304) top surface and feeds through the counterbore (406), securing the base plate (214) to the roof structure and creates a water resistant seal by compressing the lower annular seal (332) and by creating surface-to-surface contact with the roof and portion of the base plate (214). An inwardly threaded cover portion (334) engages the upwardly projected portion (304) either directly or through an intermediary, creating a water resistant seal over the fastener (212).



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/029344**A. CLASSIFICATION OF SUBJECT MATTER****E04D 13/18(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

E04D 13/18; E04D 3/36; F16B 43/00; E04F 13/08; E04D 5/00; E04D 13/00; E04F 13/21

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: solar panel, roof, mounting, waterproof, conceal.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 2010-265670 A (SANKO TECHNO CO., LTD.) 25 November 2010 See paragraphs 25-51 and figures 3-5.	1-16
A	KR 10-2008-0083792 A (POSCO) 19 September 2008 See paragraph 51 and figure 2.	1-16
A	JP 08-296311 A (SANYO ELECTRIC CO., LTD.) 12 November 1996 See paragraphs 18-19 and figures 7-8.	1-16
A	JP 2008-133697 A (RIKEN LIGHT METAL IND CO LTD) 12 June 2008 See paragraphs 23-24 and figure 4.	1-16
A	JP 2000-120236 A (TAISEI CORP.) 25 April 2000 See paragraphs 27-37 and figures 4-5.	1-16



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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None

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None

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None