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Koehler

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(54) **ADVANCED FRAME DESIGN FOR ROOF-INTEGRATED SOLAR PANELS**

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(71) Applicant: **Integrated Solar Technology, LLC**,
Larchmont, NY (US)

(72) Inventor: **Oliver Koehler**, Larchmont, NY (US)

(73) Assignee: **Integrated Solar Technology, LLC**,
Larchmont, NY (US)

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CPC **E04D 13/10** (2013.01); **E04D 13/17** (2013.01); **F24J 2/52** (2013.01); **F24J 2/5245** (2013.01); **H02S 20/25** (2014.12); **Y02E 10/47** (2013.01)

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See application file for complete search history.

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Primary Examiner — Adriana Figueroa

(74) *Attorney, Agent, or Firm* — Saile Ackerman LLC; Stephen B. Ackerman; Rosemary L. S. Pike

(57) **ABSTRACT**

The roof-integrated solar panel of the disclosure comprises a mounting frame having a top side for facing away from a roof, a bottom side for facing toward the roof, an upper side for facing an upslope direction, a lower side for facing a downslope direction, a left side and a right side, a solar panel mounted within the mounting frame, and a plurality of nose vents in the lower side of the mounting frame, a plurality of flow-through vents in the upper side of the mounting frame, and a plurality of exhaust vents in the top side of the mounting frame at an upper edge of the upper side wherein air is drawn up through the nose vents and out through the exhaust vents to cool the solar panel.

26 Claims, 15 Drawing Sheets

