



(12) **United States Patent Header**

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(45) **Date of Patent:** \*Dec. 28, 2021

(54) **SNOW GUARD**

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(72) Inventor: **Gregory A Header**, Richland, PA (US)

(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **17/248,150**

(22) Filed: **Jan. 11, 2021**

(65) **Prior Publication Data**

US 2021/0131108 A1 May 6, 2021

**Related U.S. Application Data**

(63) Continuation of application No. 15/929,231, filed on Feb. 24, 2020, now Pat. No. 10,954,674, which is a (Continued)

(51) **Int. Cl.**

**E04D 13/076** (2006.01)  
**H05B 3/06** (2006.01)  
**E04D 13/10** (2006.01)

(52) **U.S. Cl.**

CPC ..... **E04D 13/0762** (2013.01); **E04D 13/103** (2013.01); **H05B 3/06** (2013.01); **H05B 2214/02** (2013.01)

(58) **Field of Classification Search**

CPC ..... E04D 13/103; H05B 3/0033; H05B 2203/032; H05B 3/42

(Continued)

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*Primary Examiner* — Brian E Glessner

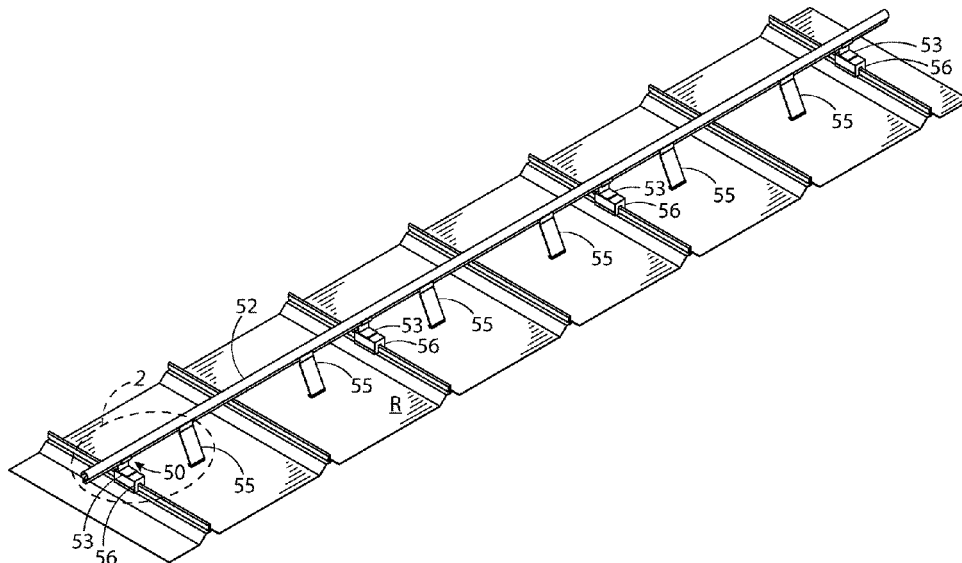
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(57) **ABSTRACT**

A snow guard assembly heated within one or more snow guard tubes. Heating of the snow guard tube prevents excessive accumulation of snow and helps prevent snow build up and spill over above the top of the snow guard. The tubes can be length-wise separable to place and service the heating elements. The heating element can be standard heat tape or infrared LEDs. The snow guard tubes can optionally have a non-uniform cross-sectional thickness to direct the heat more efficiently in a desired orientation. The interior of the snow guard tubes can be selectively coated with infrared absorbing or reflective material to direct the heat in a desired orientation when infrared LEDs are used as a heat source. The snow guard can be attached to many types of roof surfaces including tile roofs, metal roofs with or without standing seams, and shingle roofs.

**19 Claims, 37 Drawing Sheets**



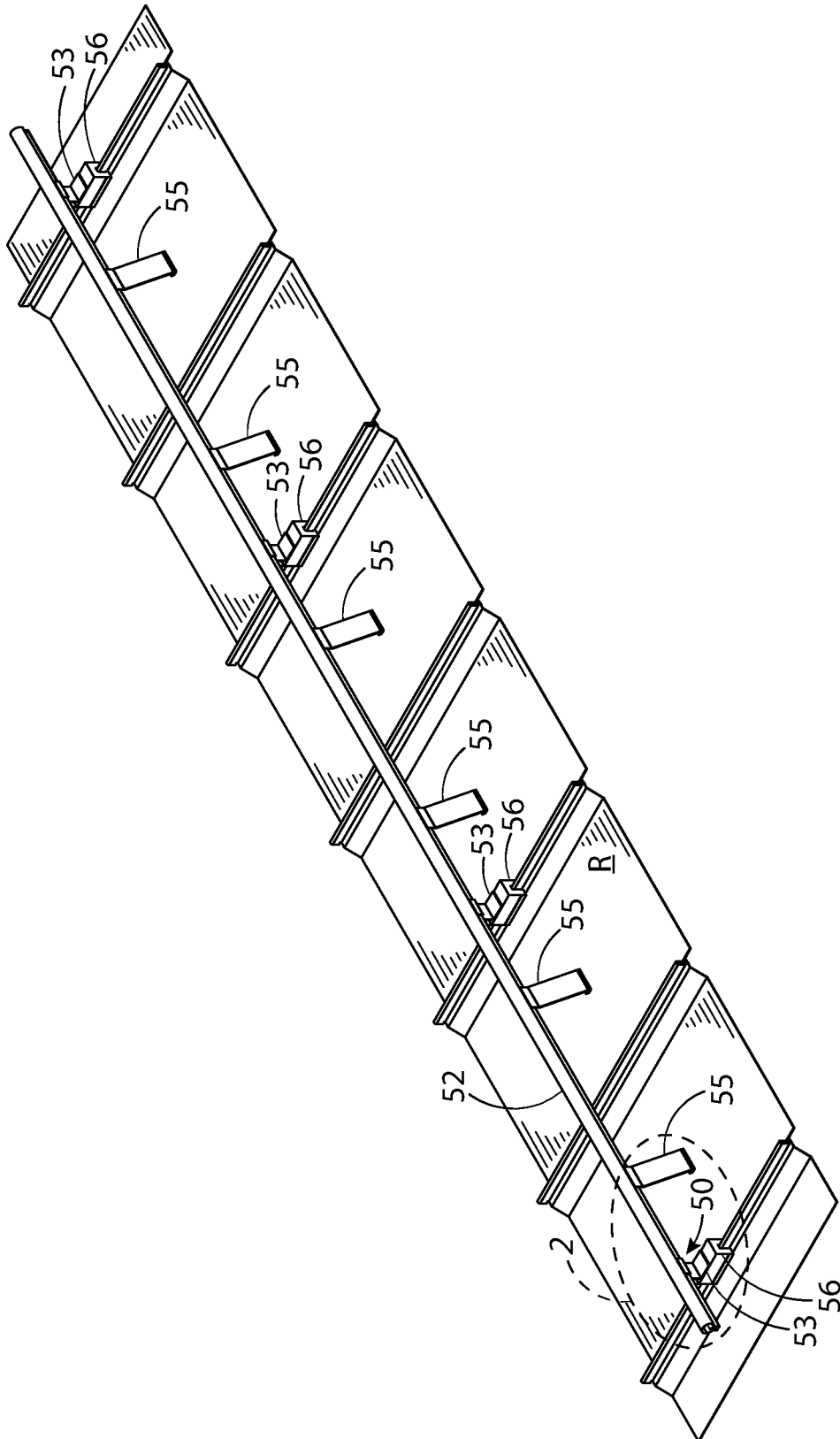


FIG. 1

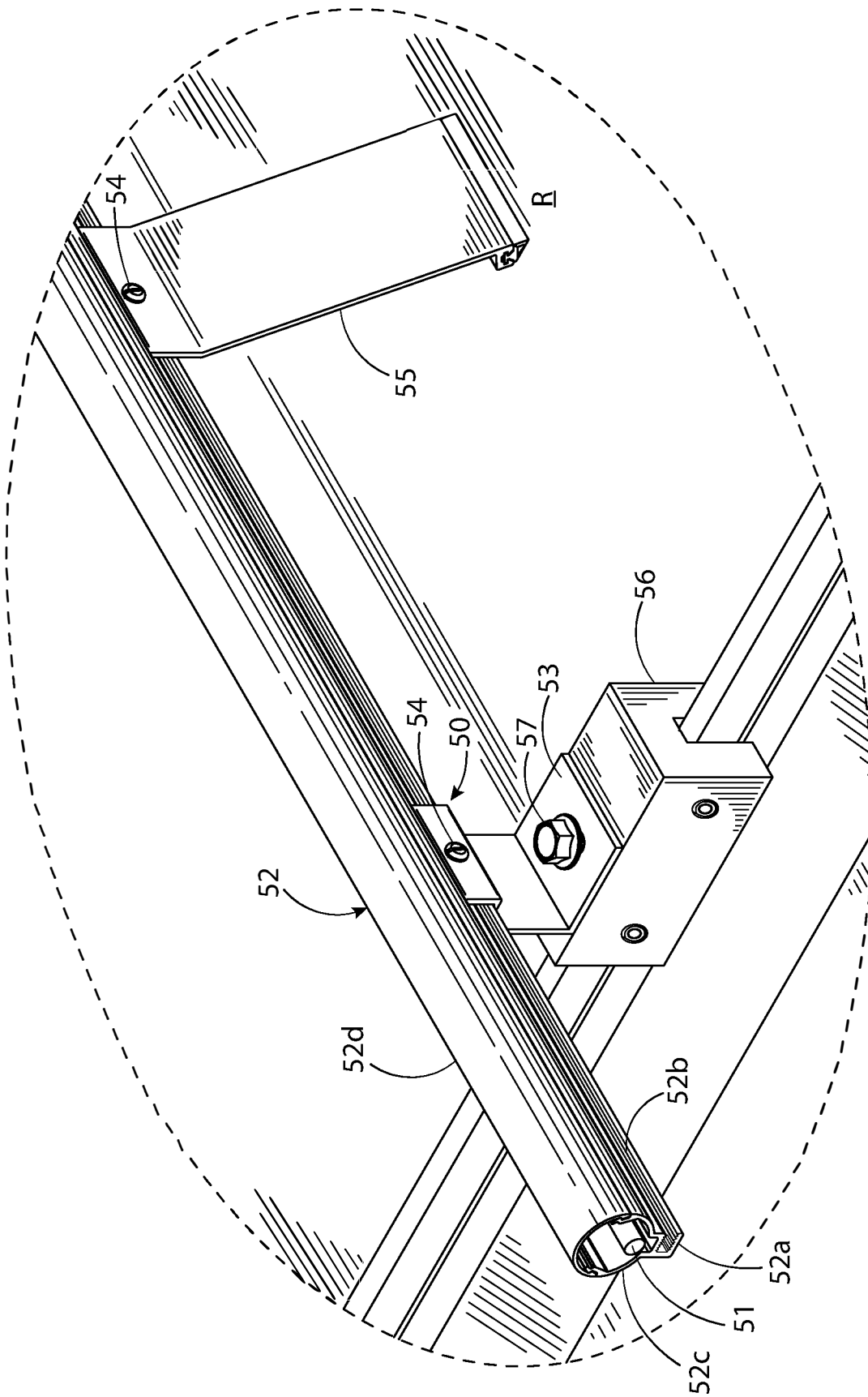


FIG. 2

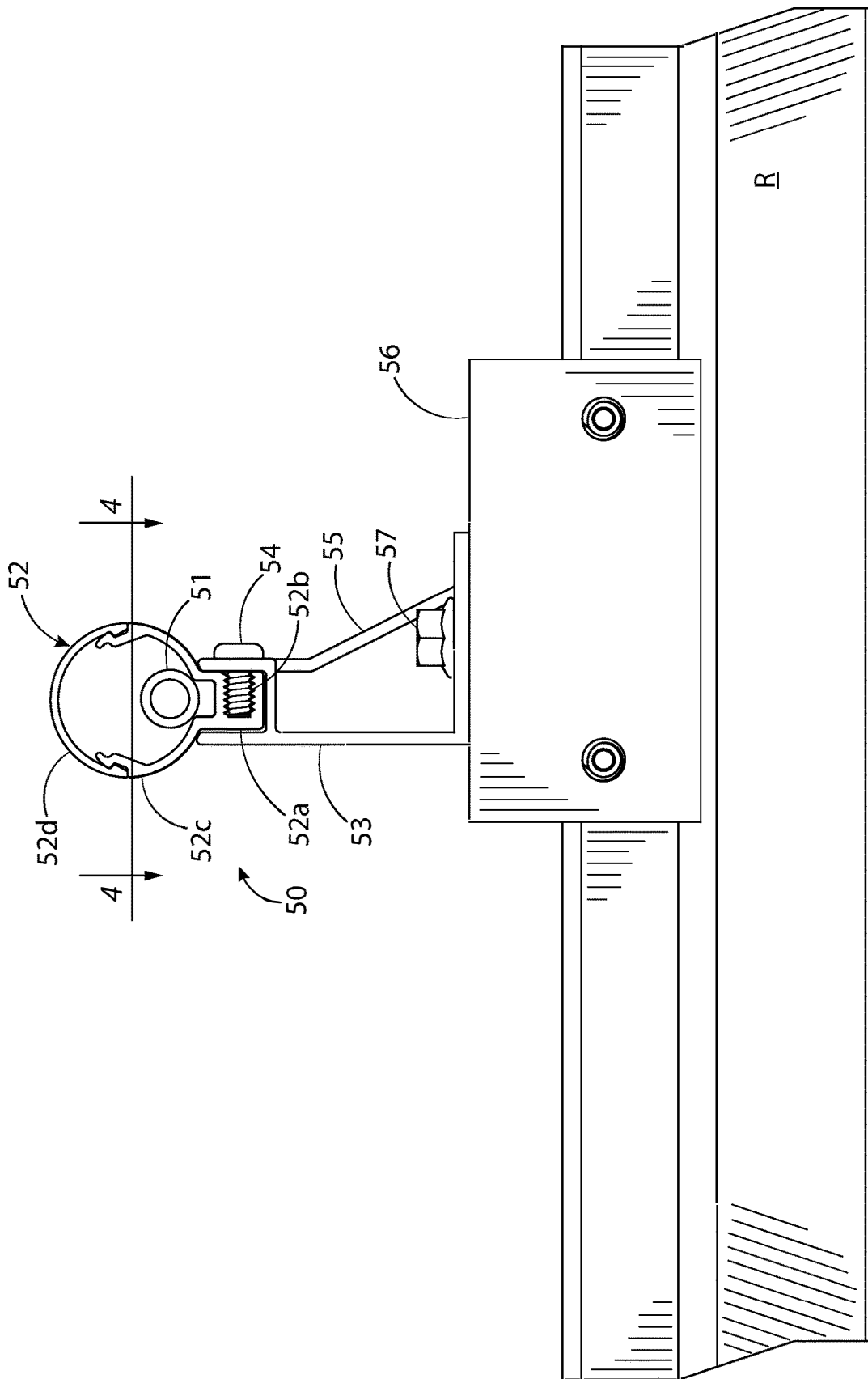
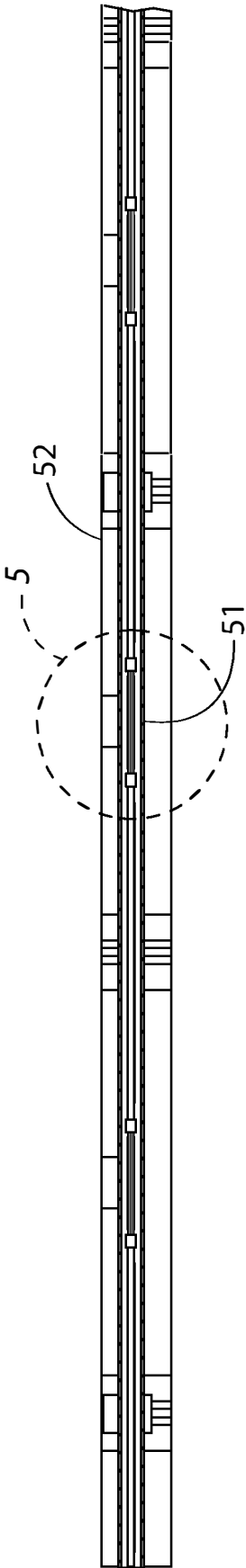
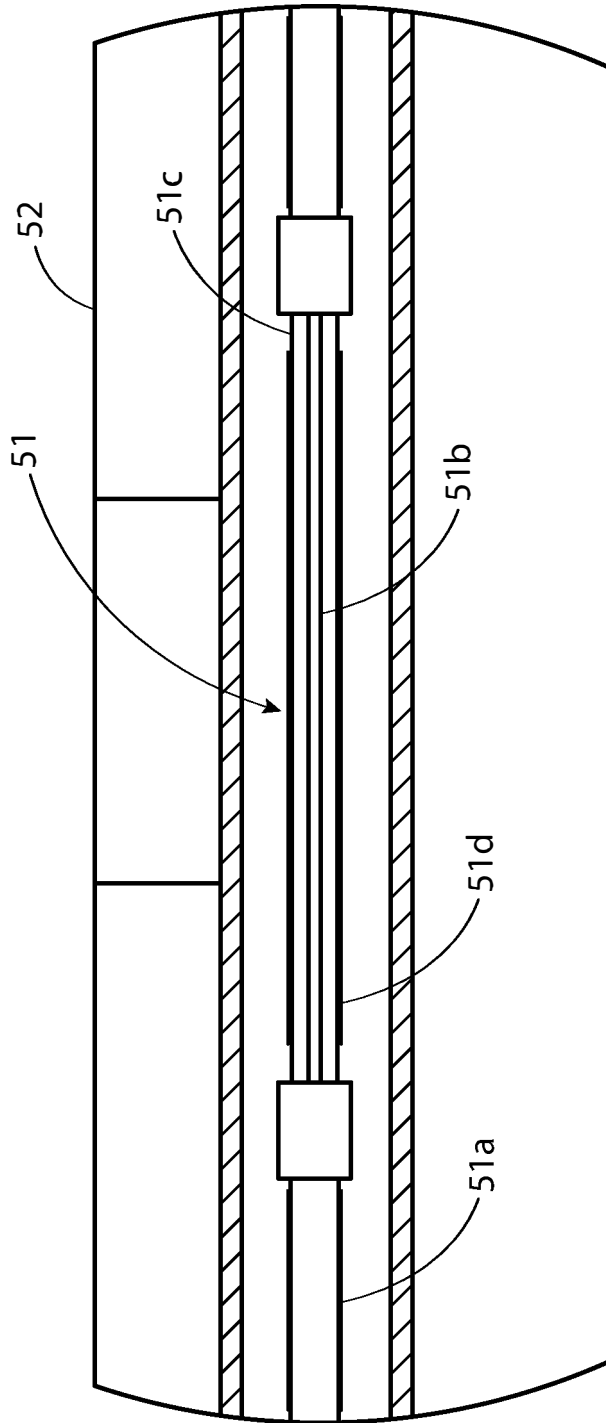


FIG. 3

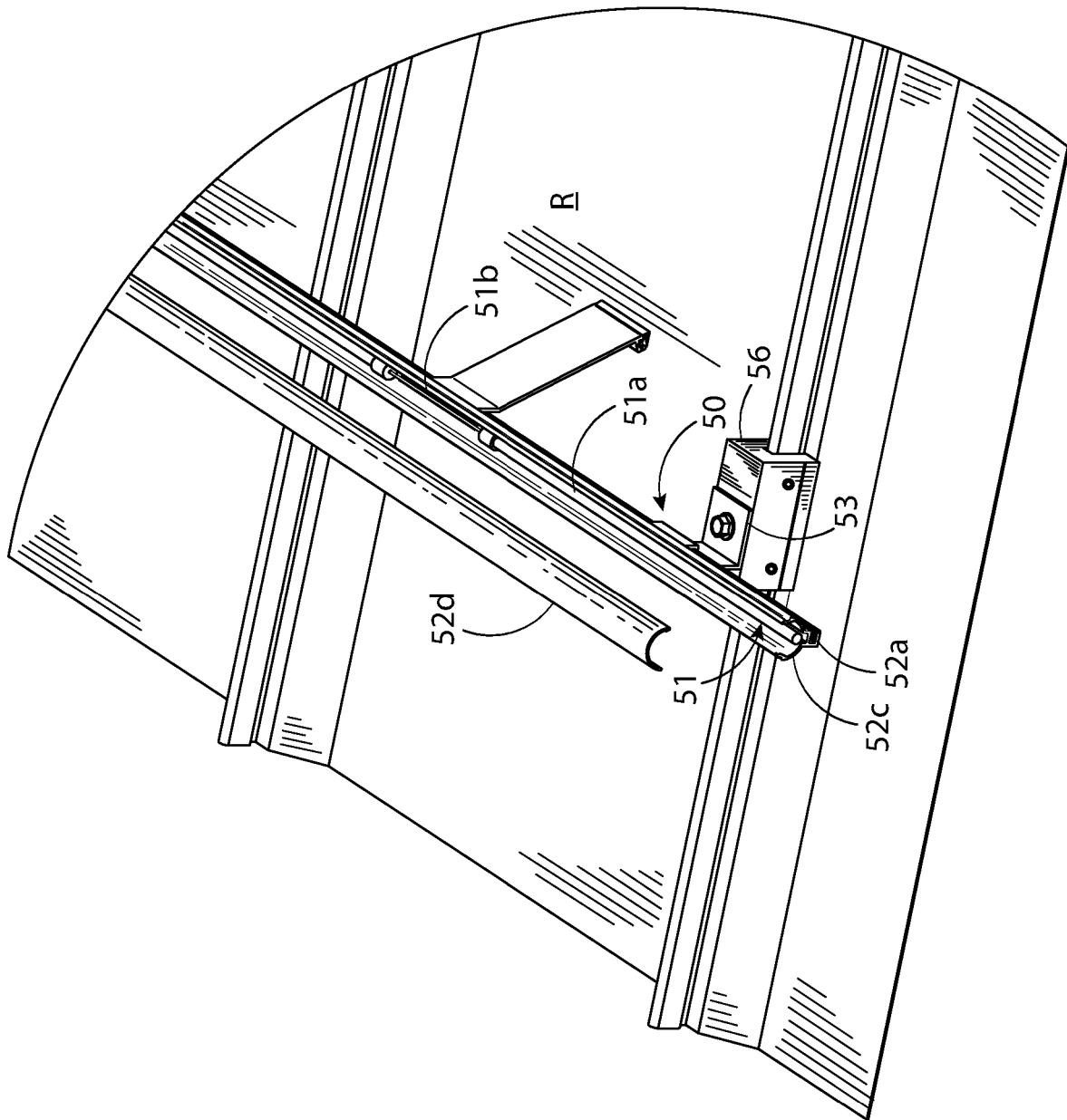


**FIG. 4**



**FIG. 5**

FIG. 6



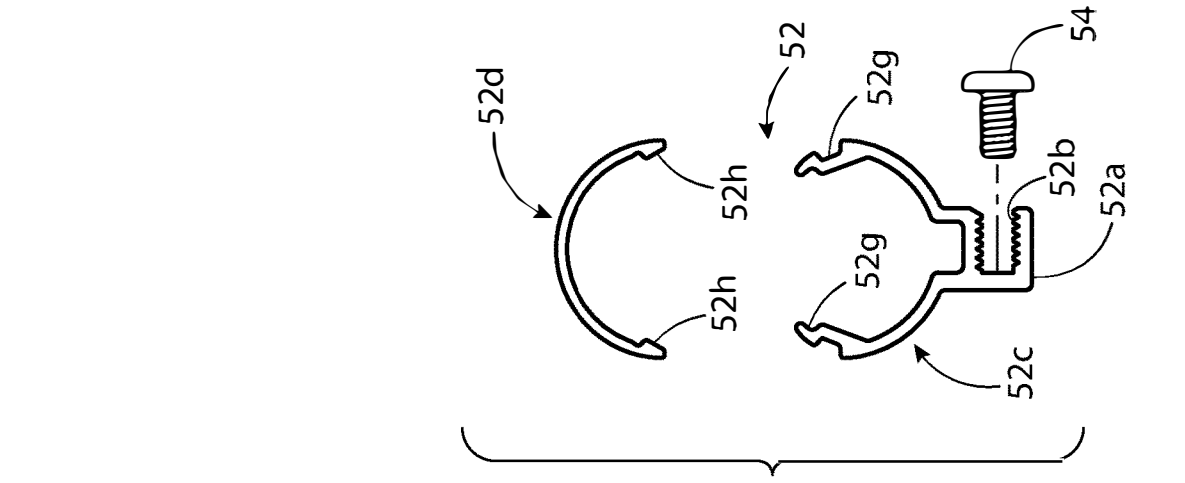


FIG. 8

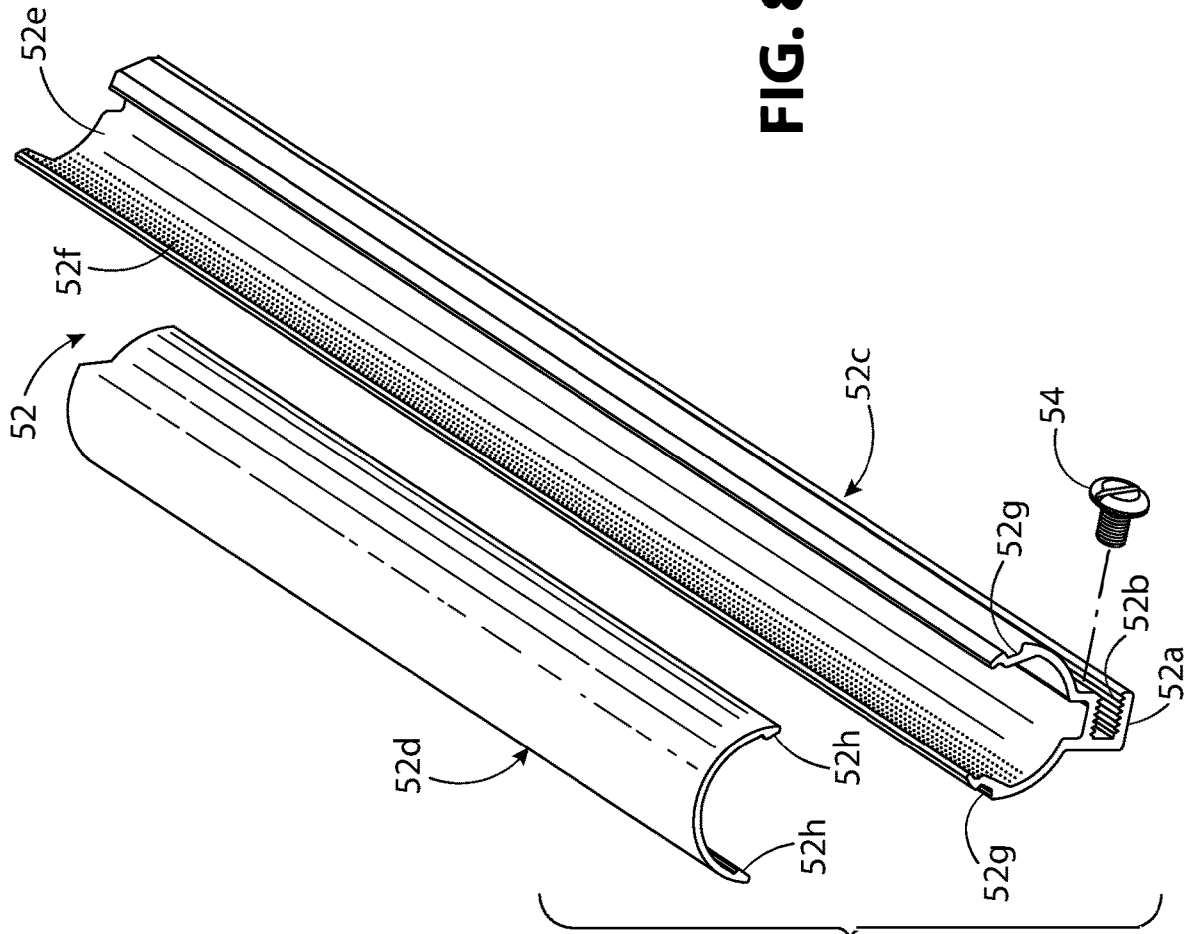
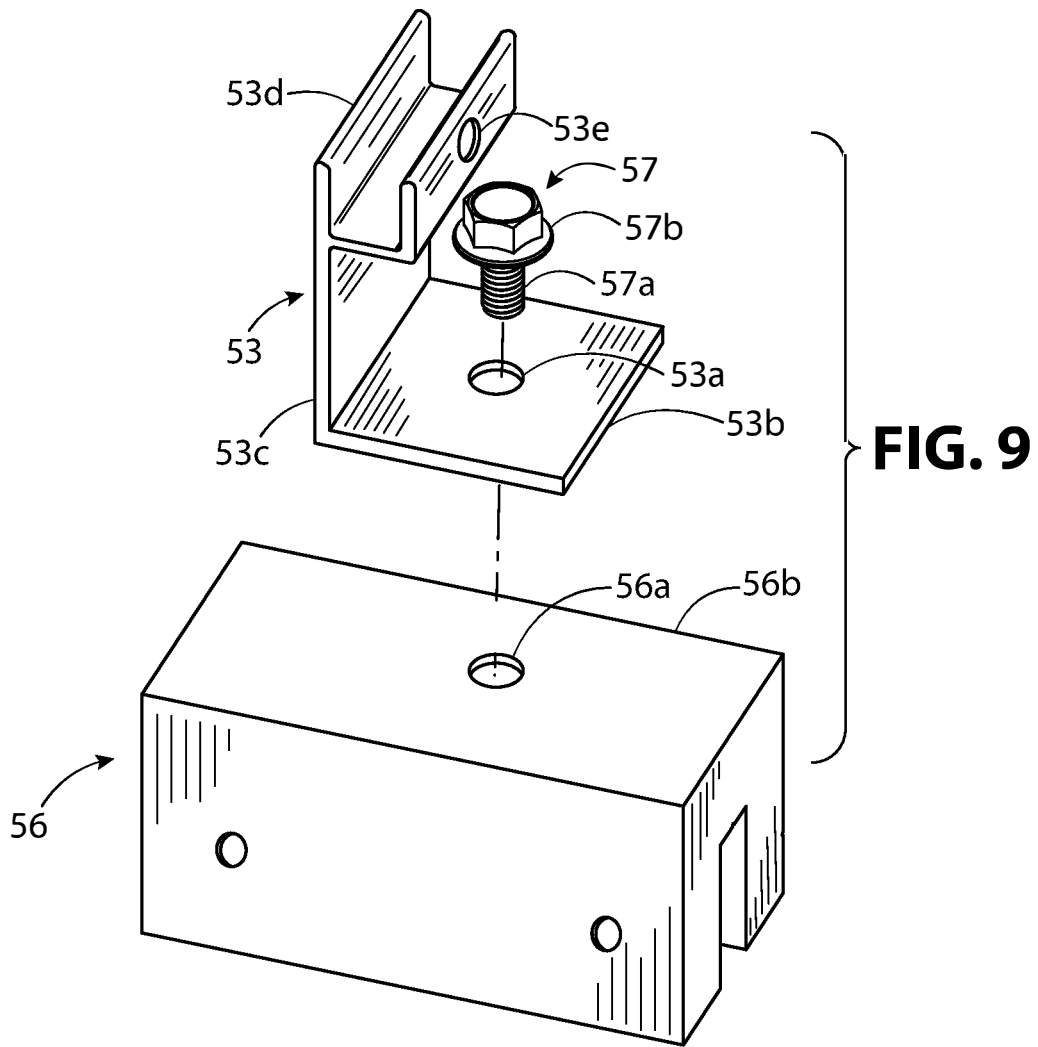
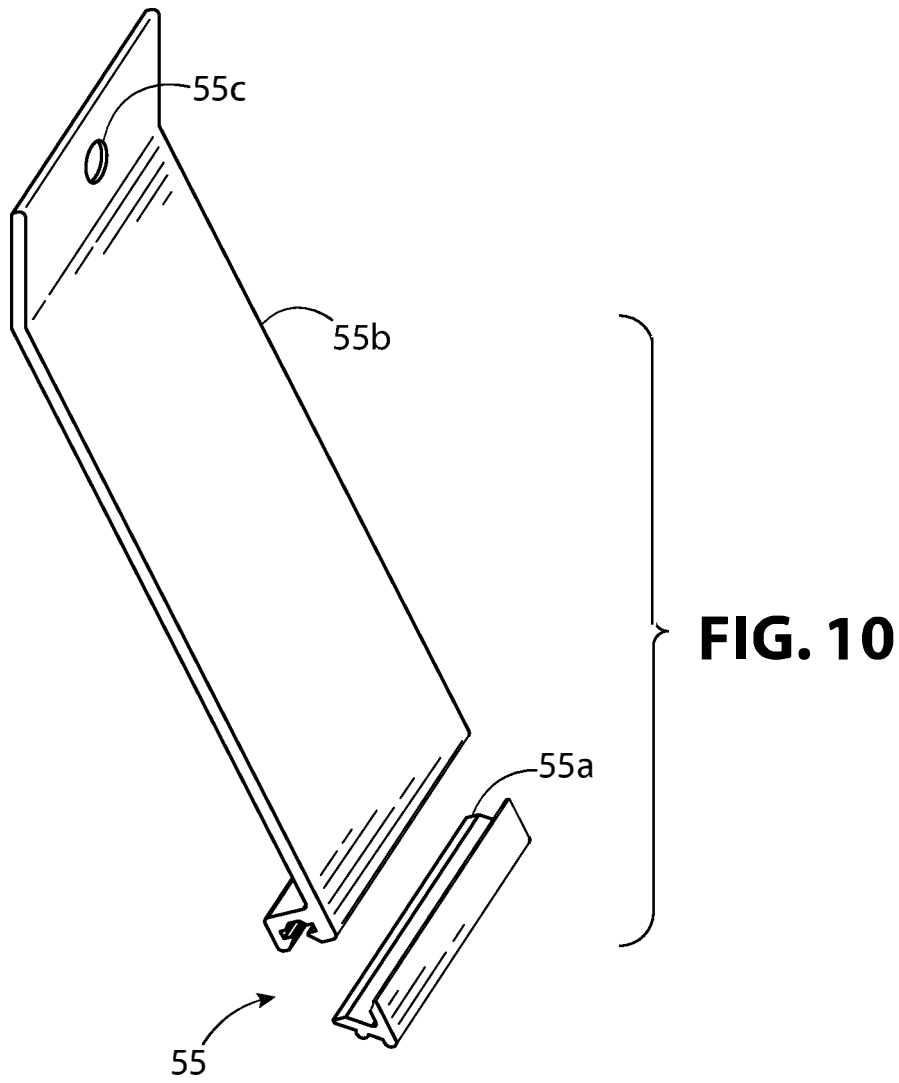


FIG. 7







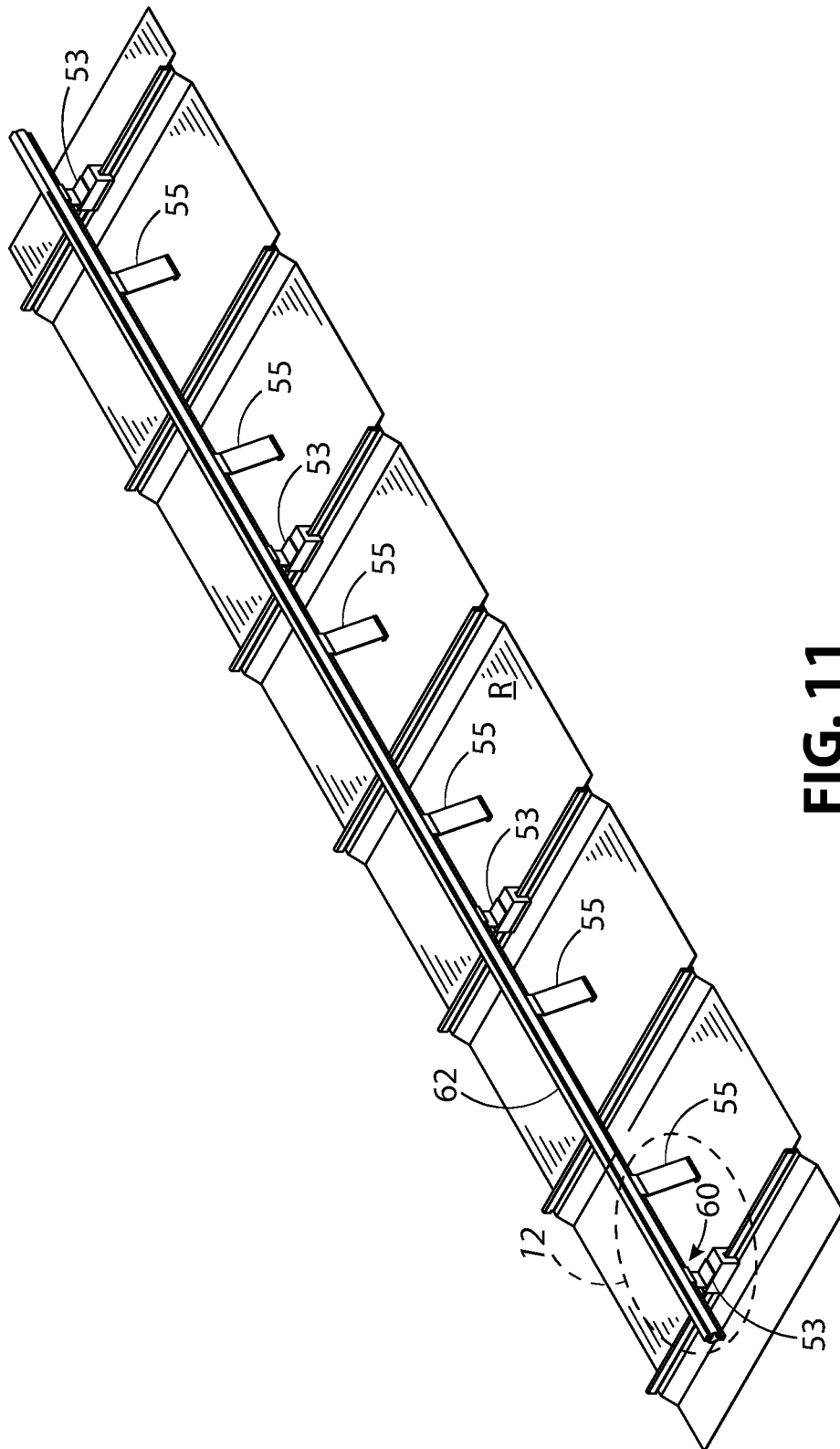


FIG. 11

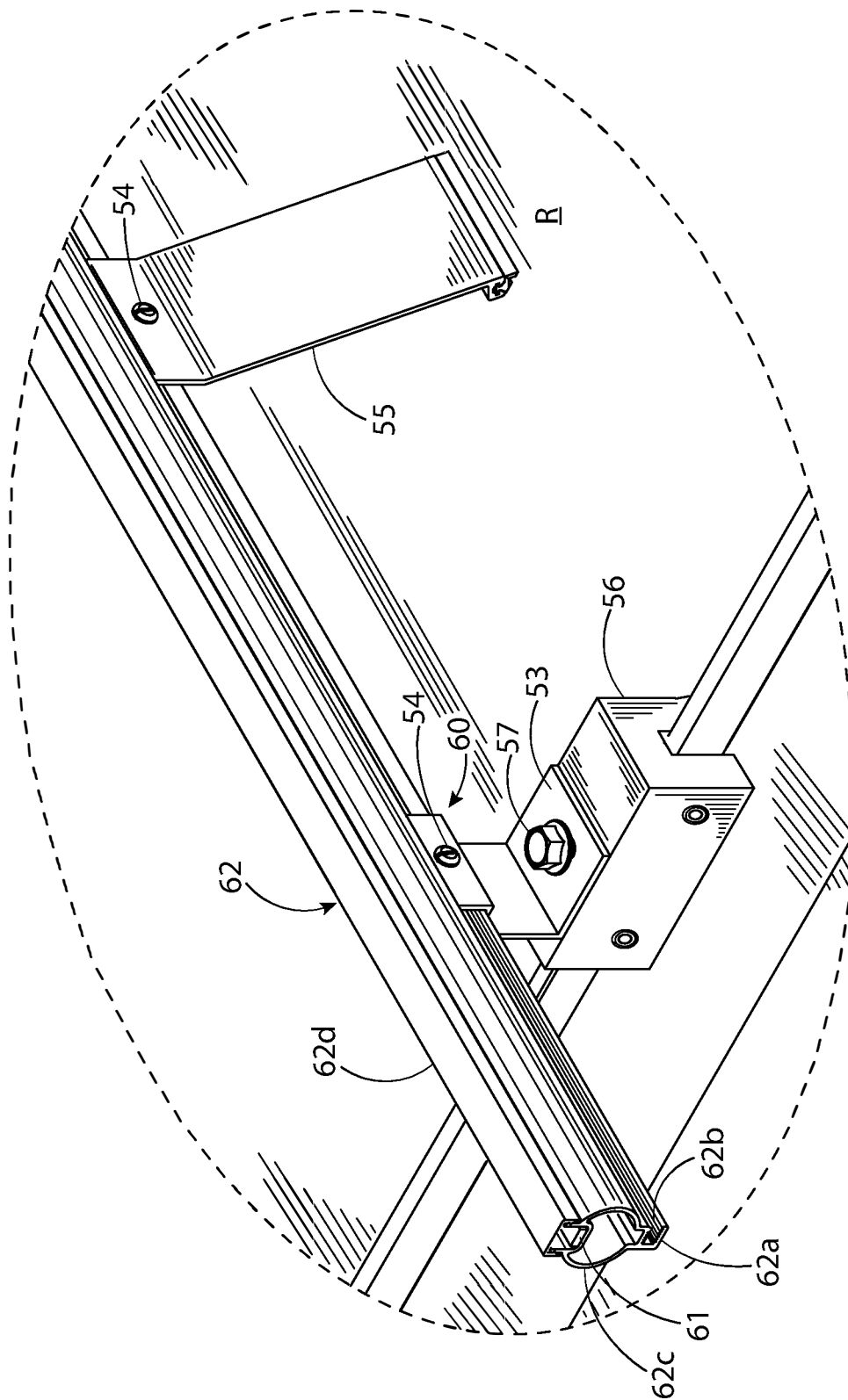


FIG. 12

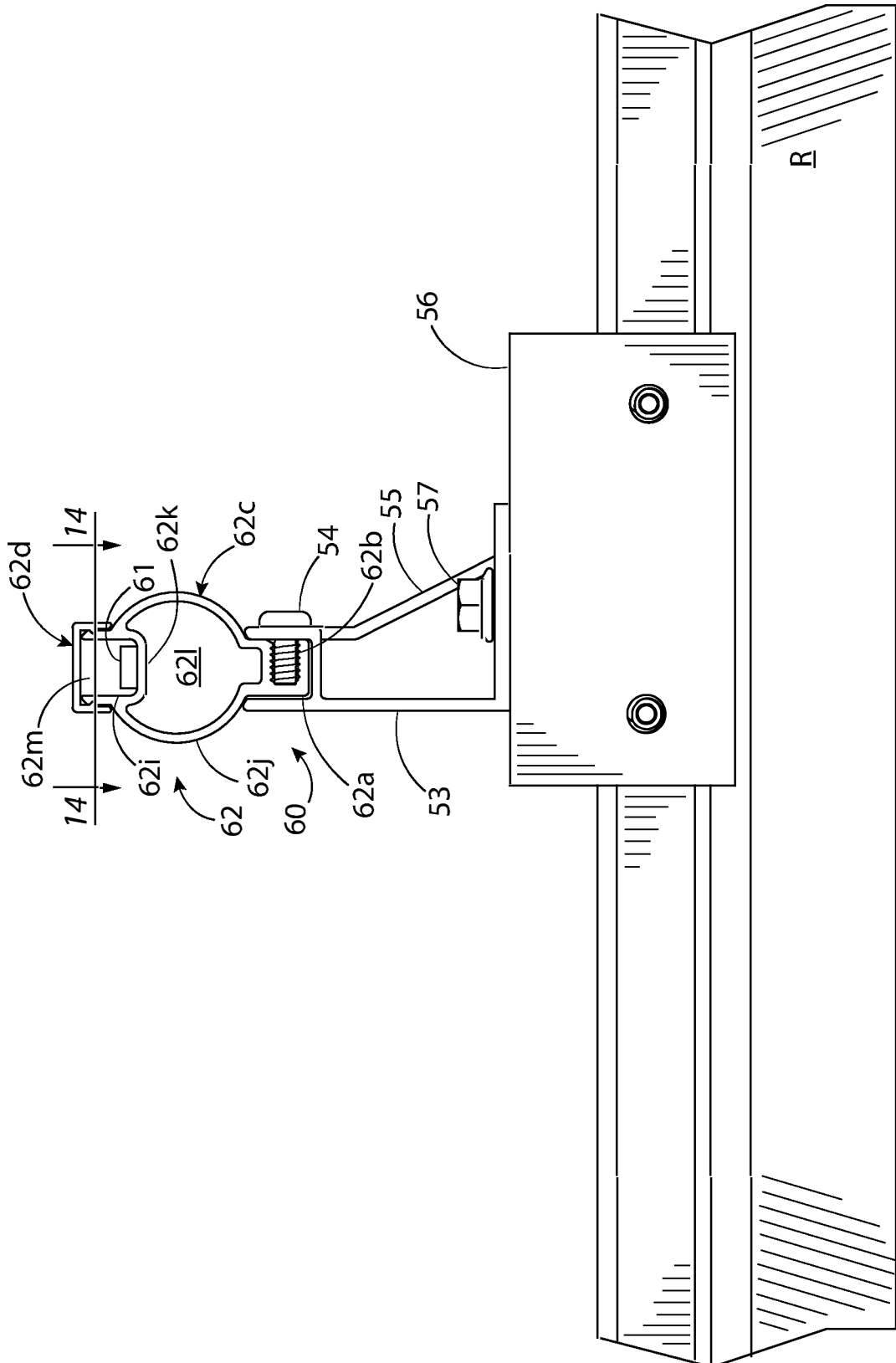
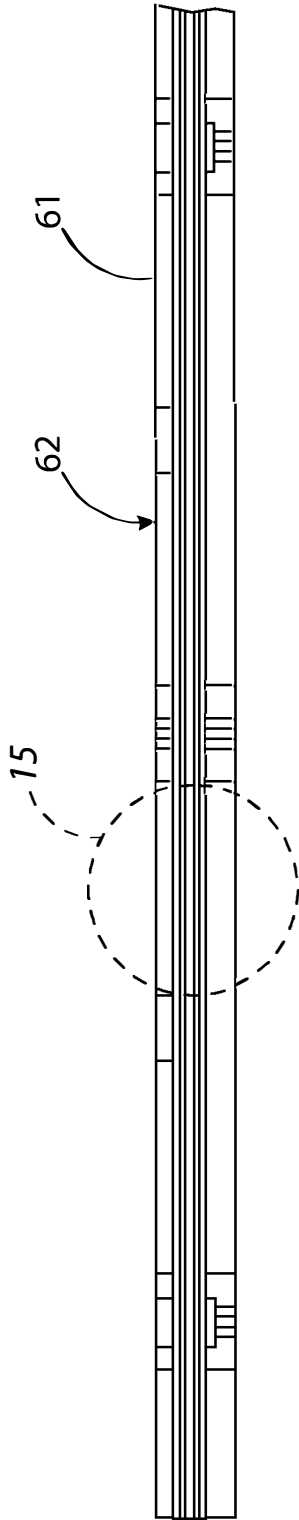
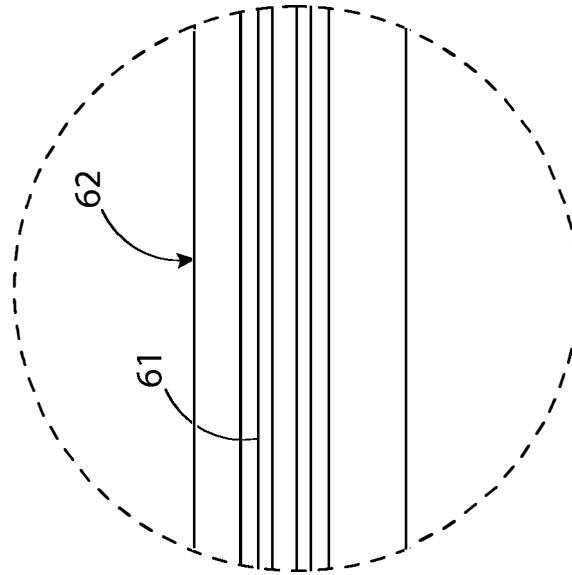


FIG. 13



**FIG. 14**



**FIG. 15**

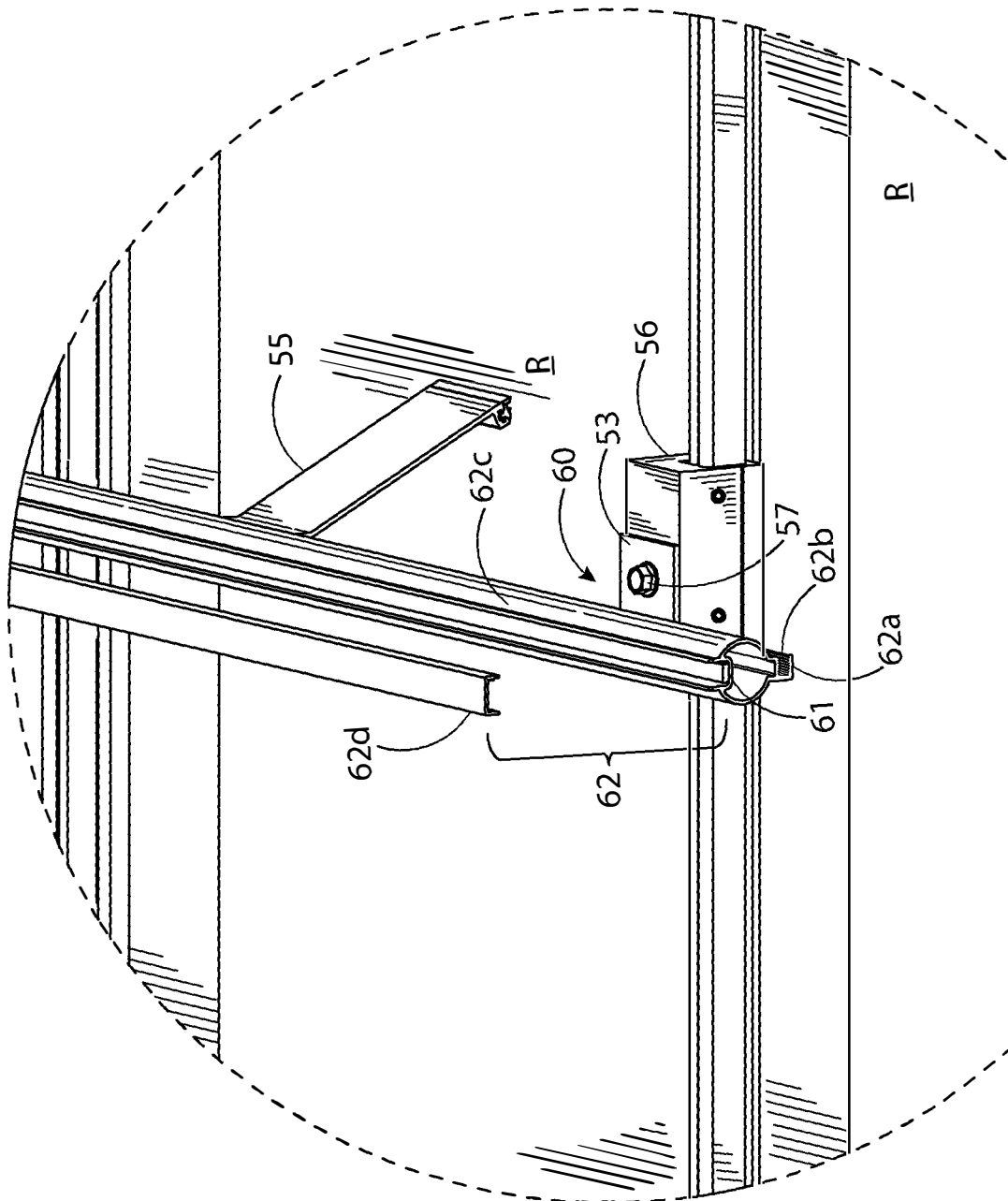


FIG. 16

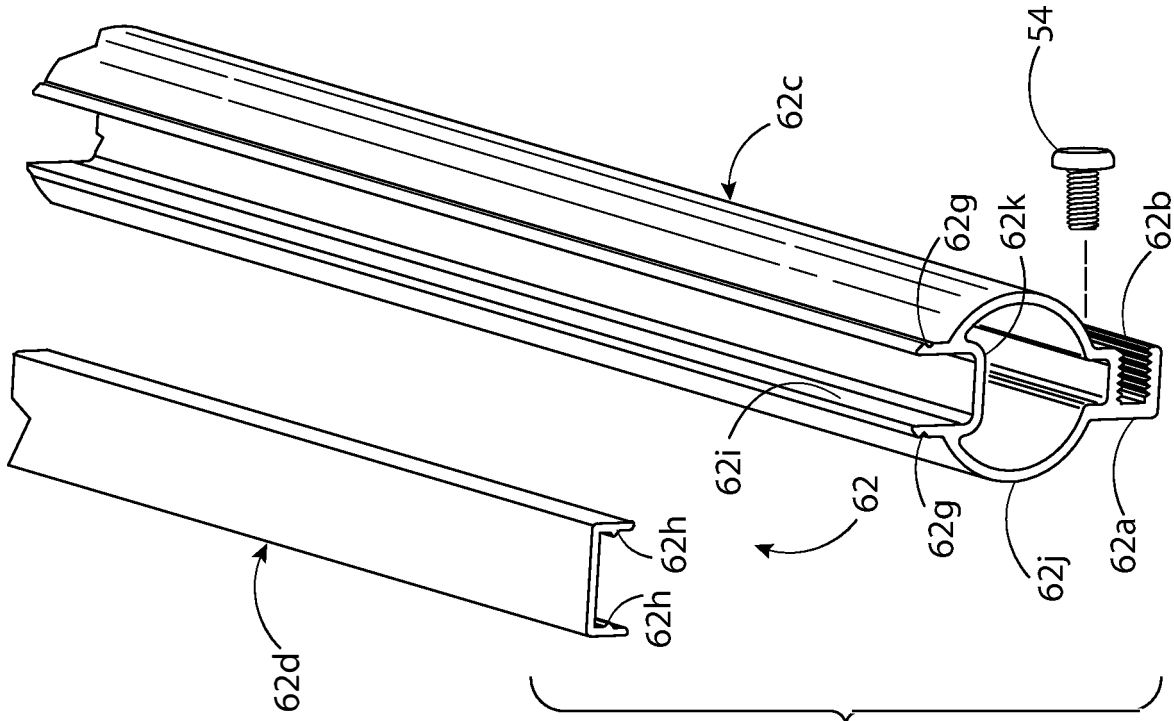


FIG. 17

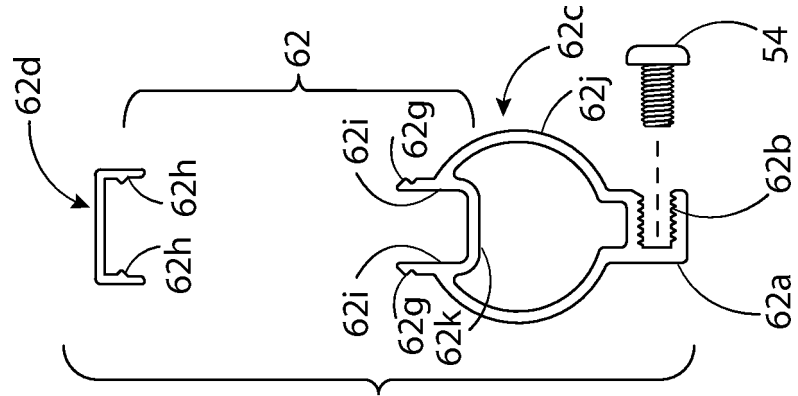


FIG. 18

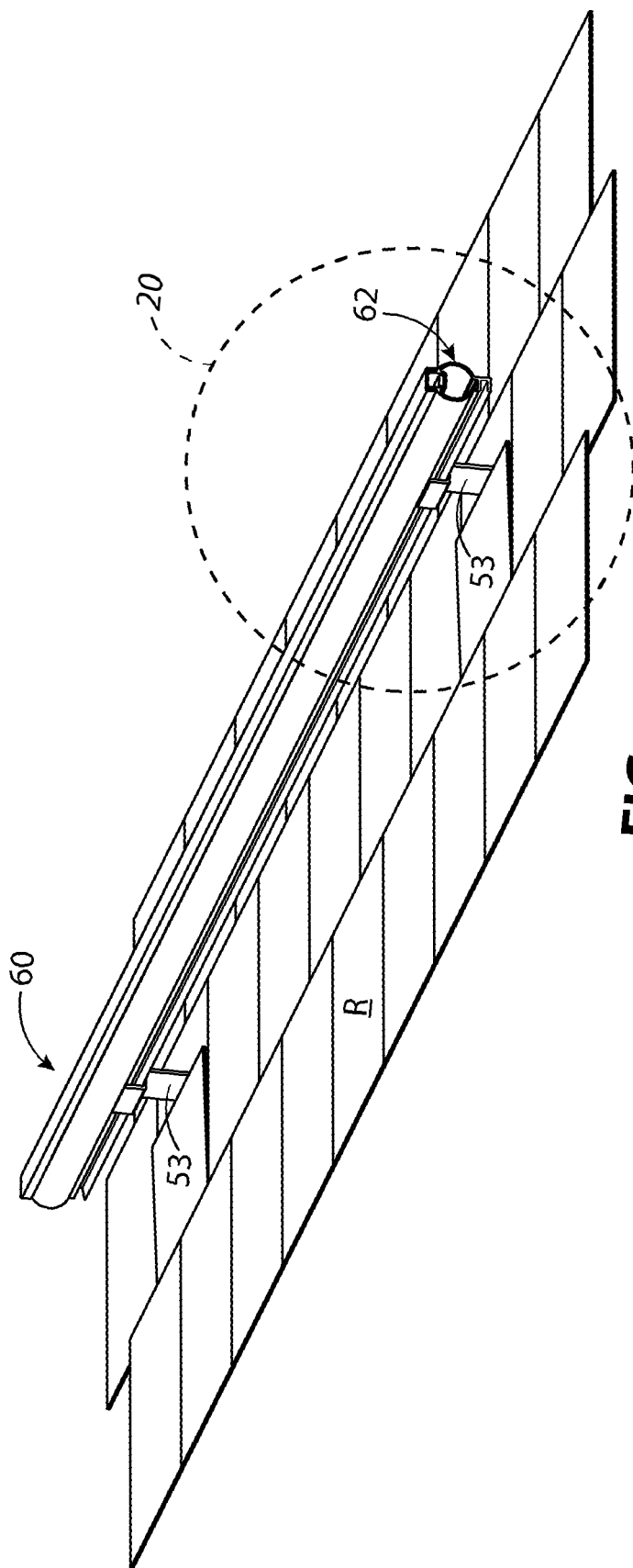


FIG. 19



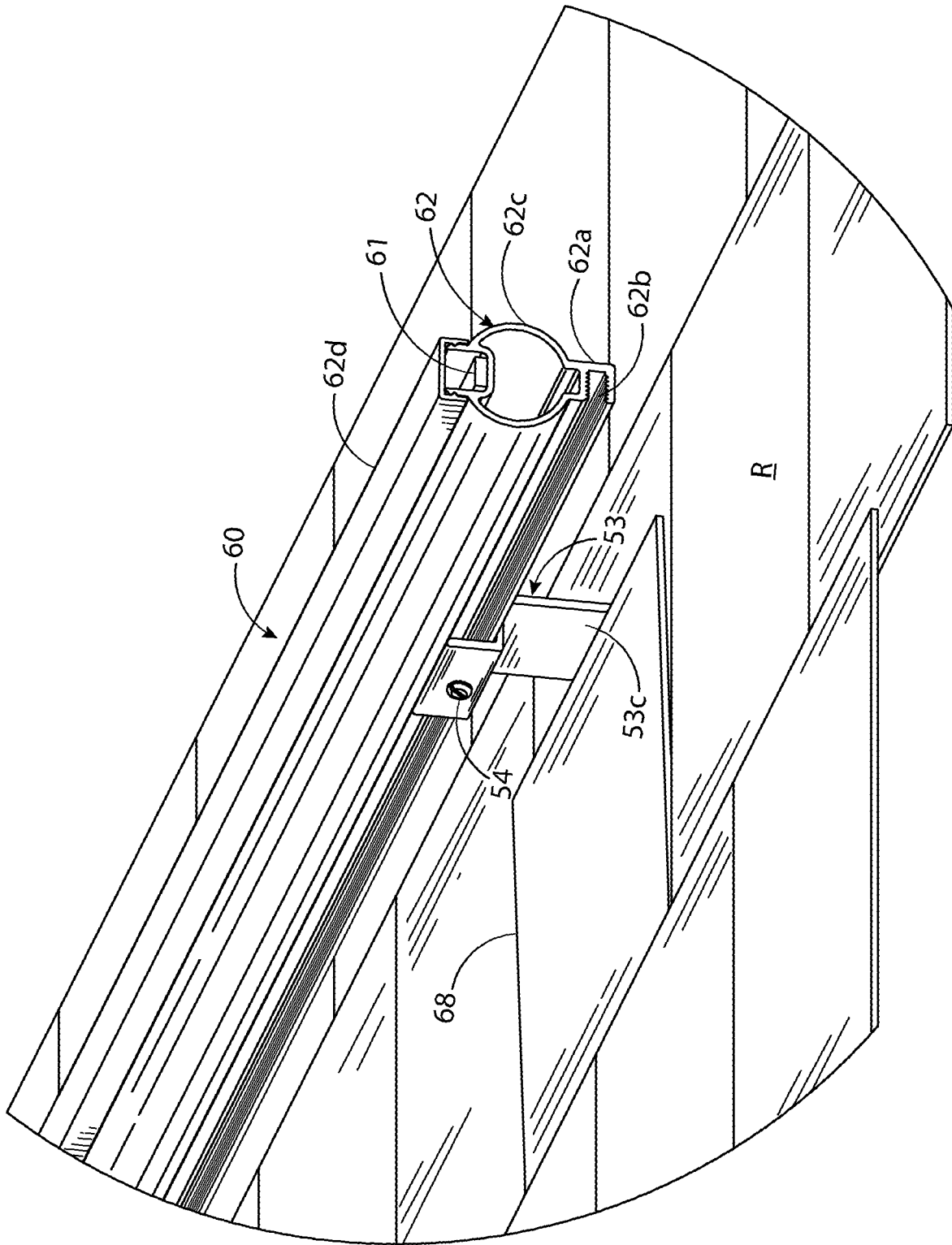


FIG. 20

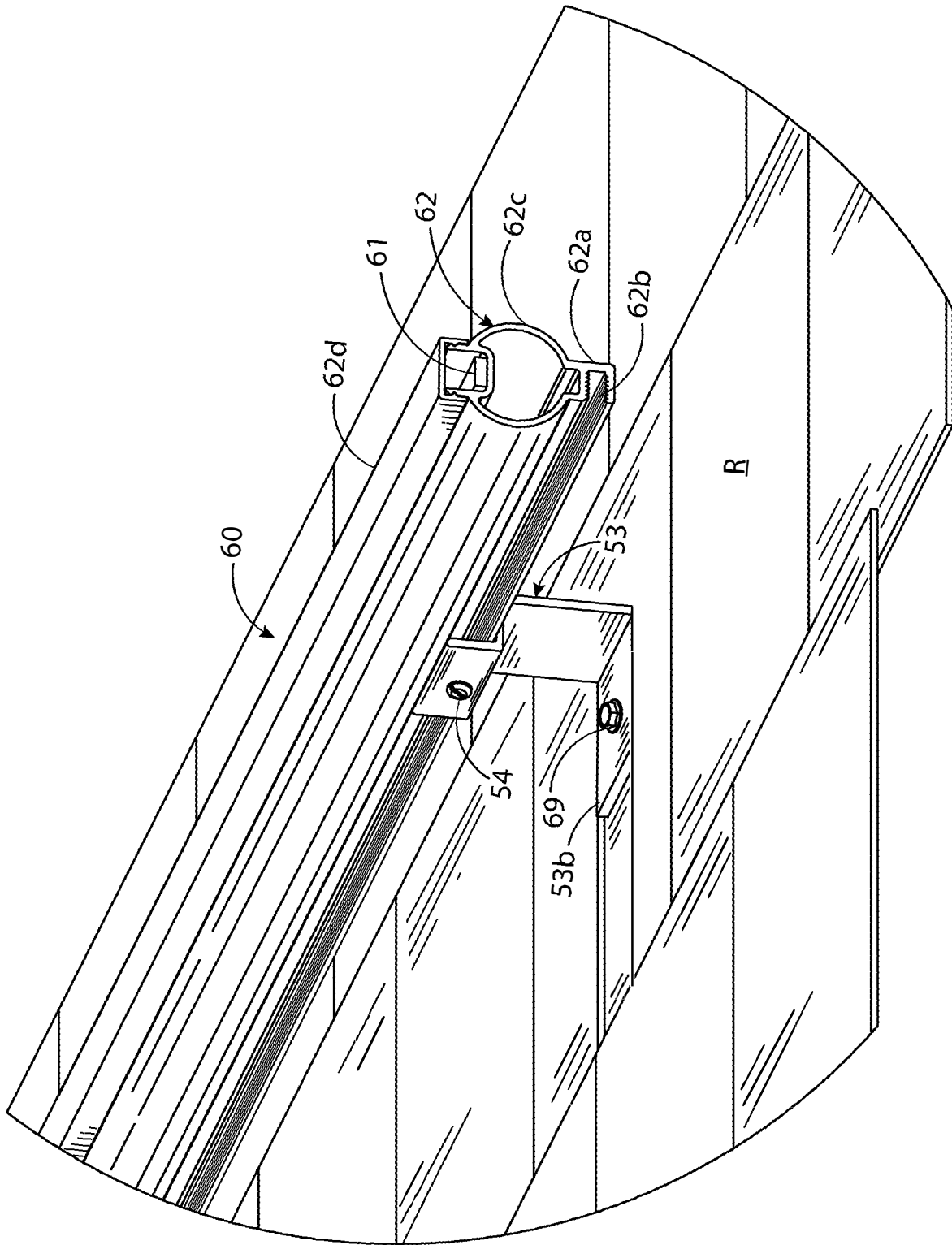


FIG. 21

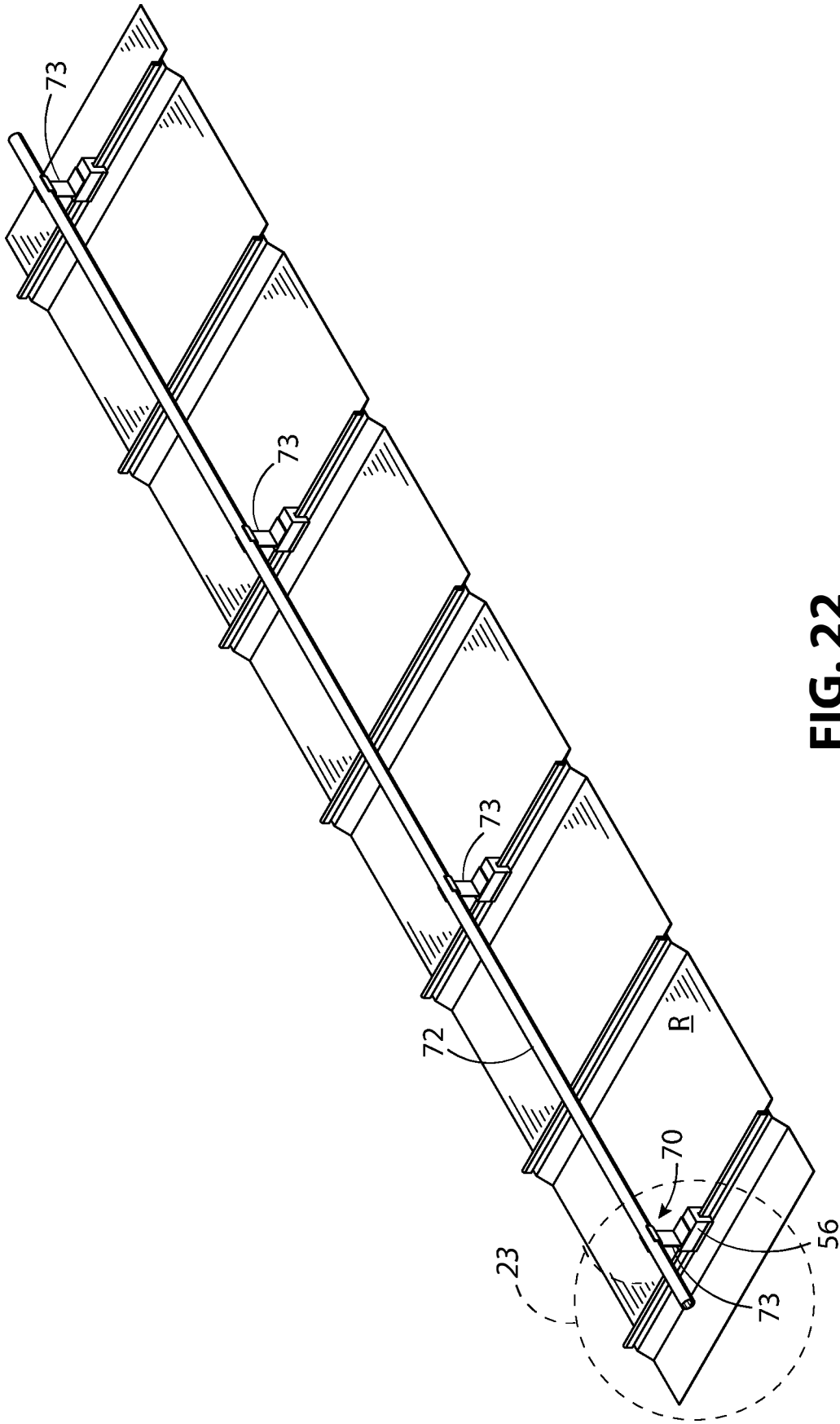


FIG. 22

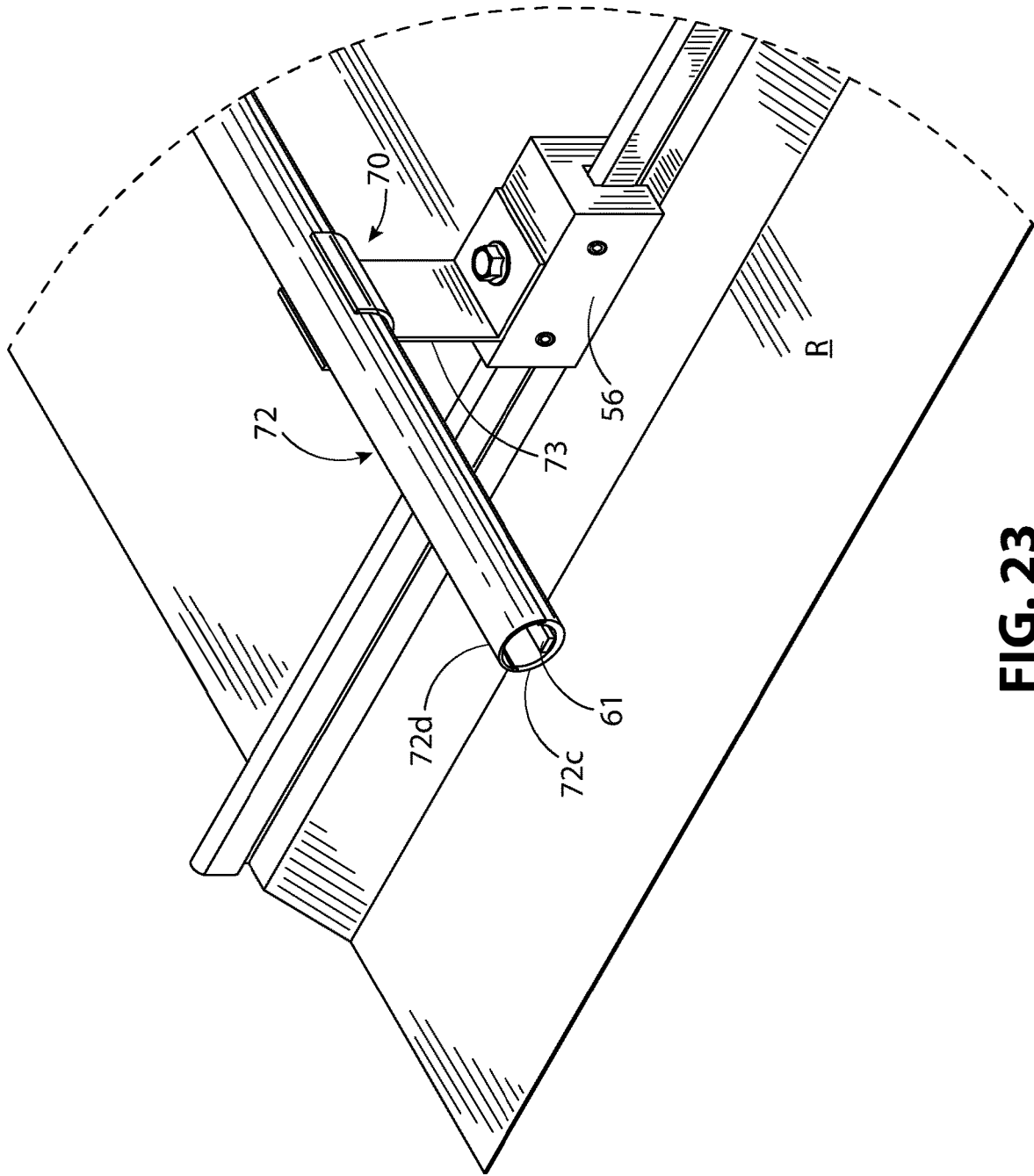


FIG. 23

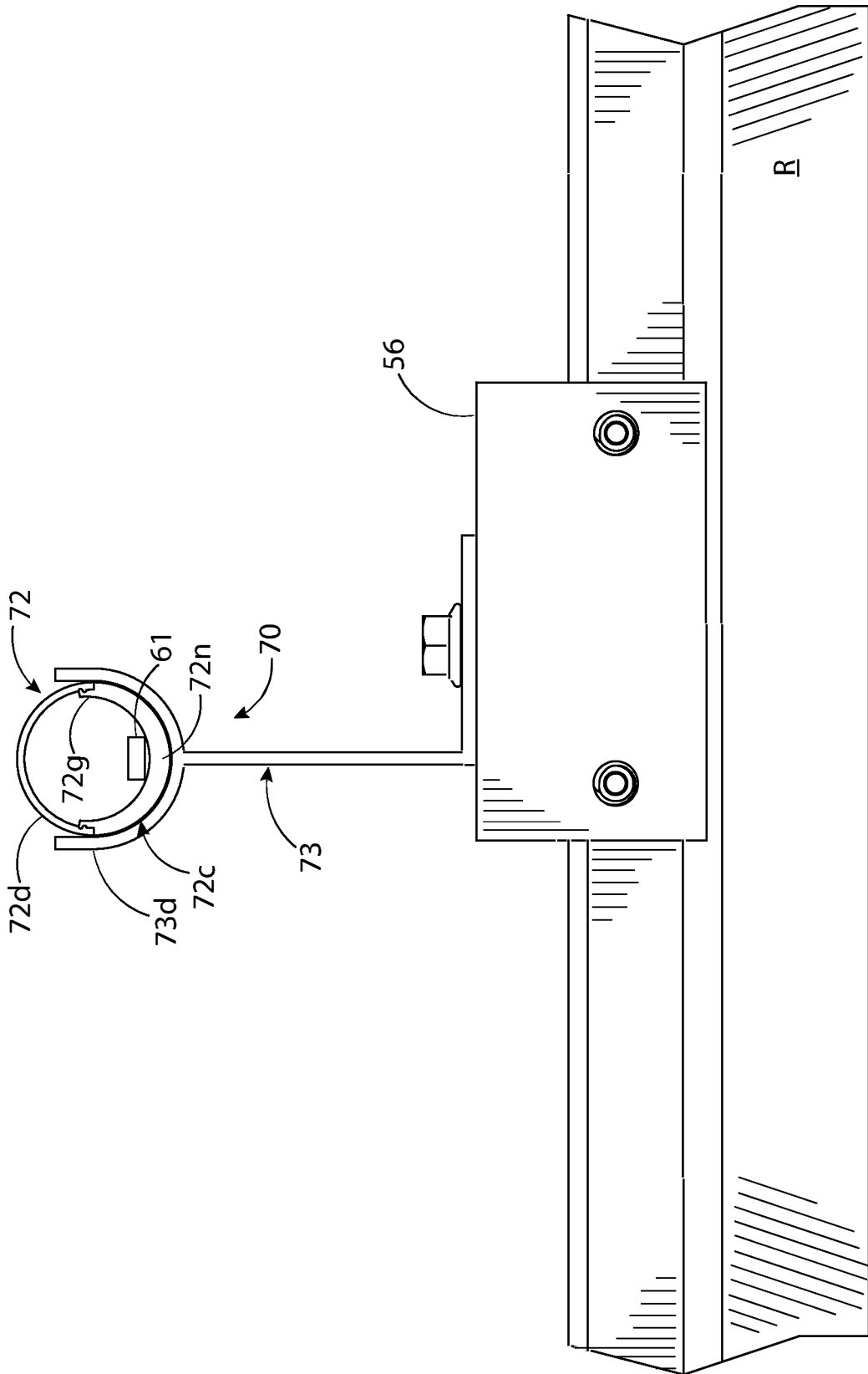


FIG. 24

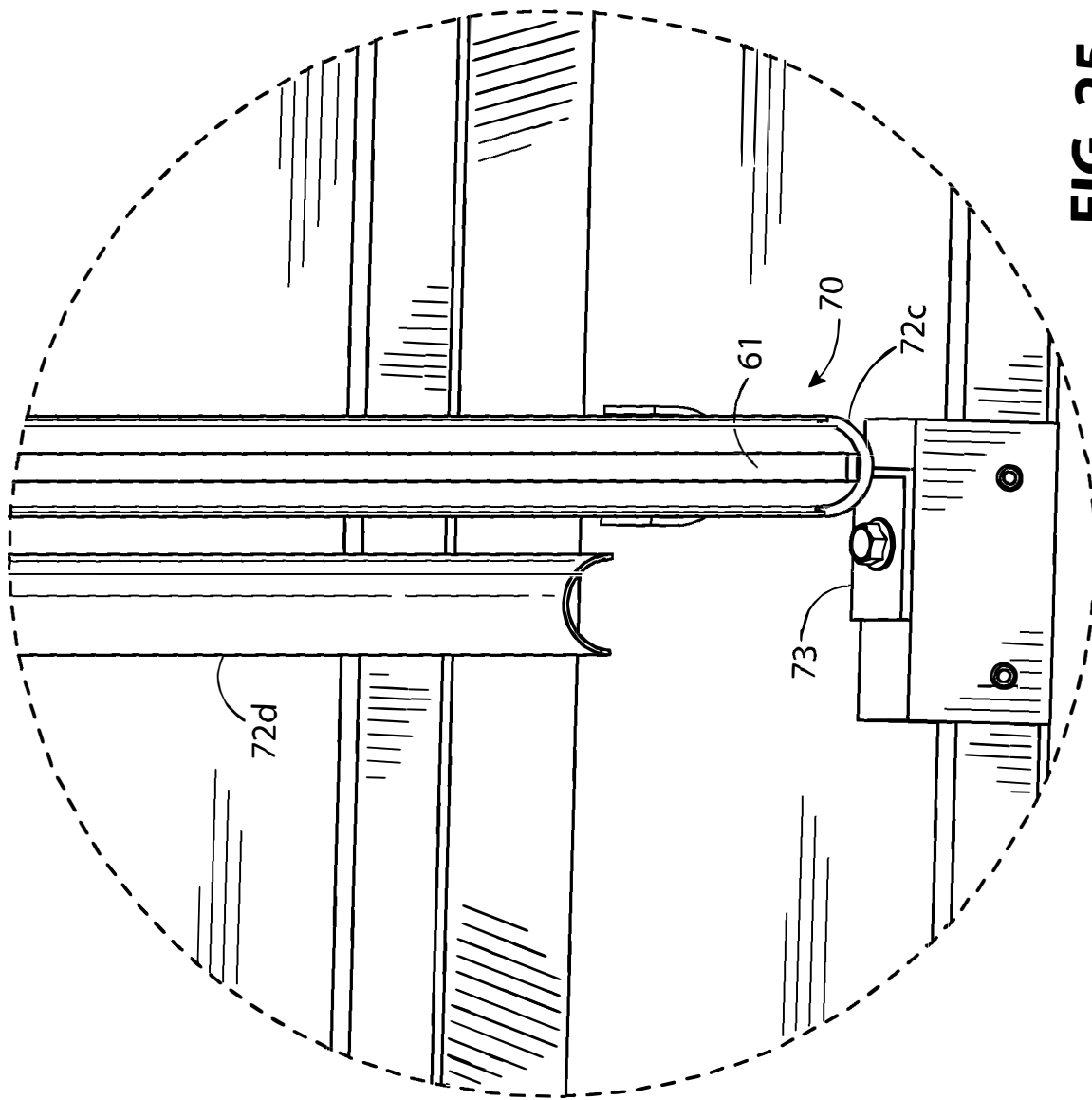


FIG. 25

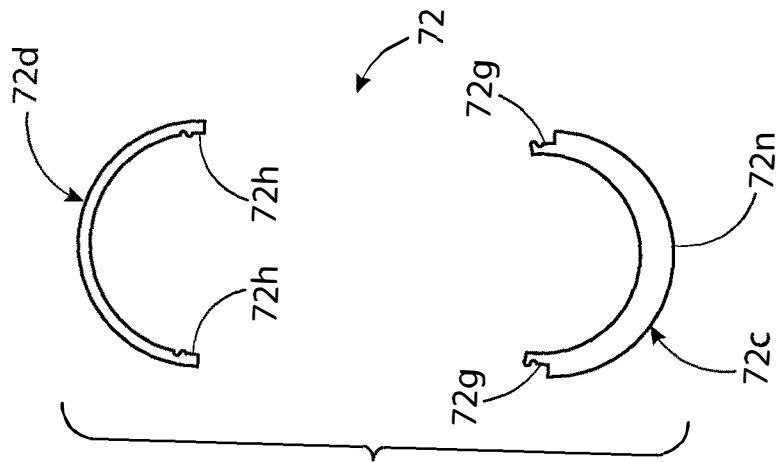


FIG. 27

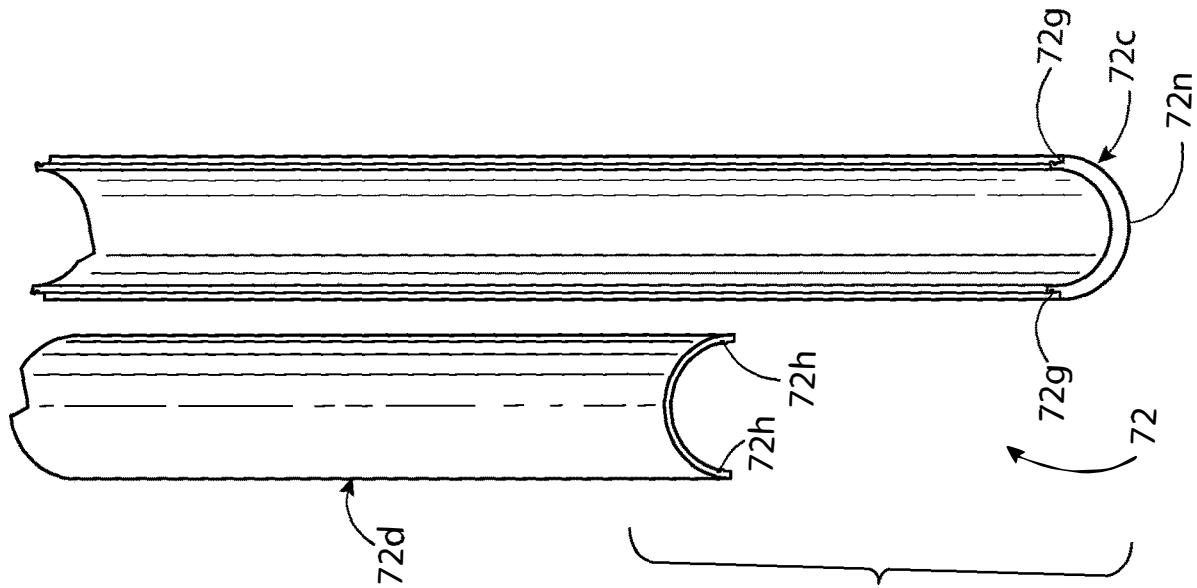
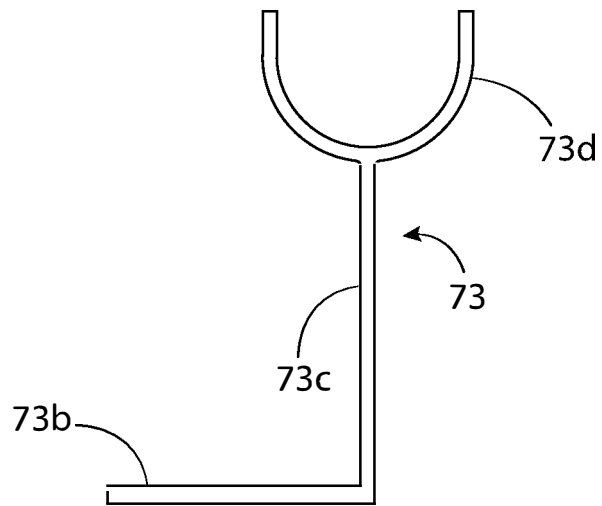
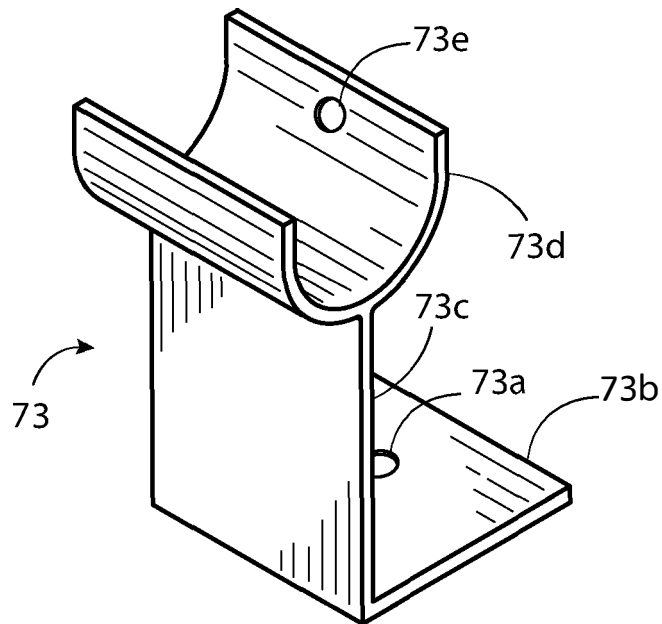


FIG. 26



**FIG. 28**



**FIG. 29**



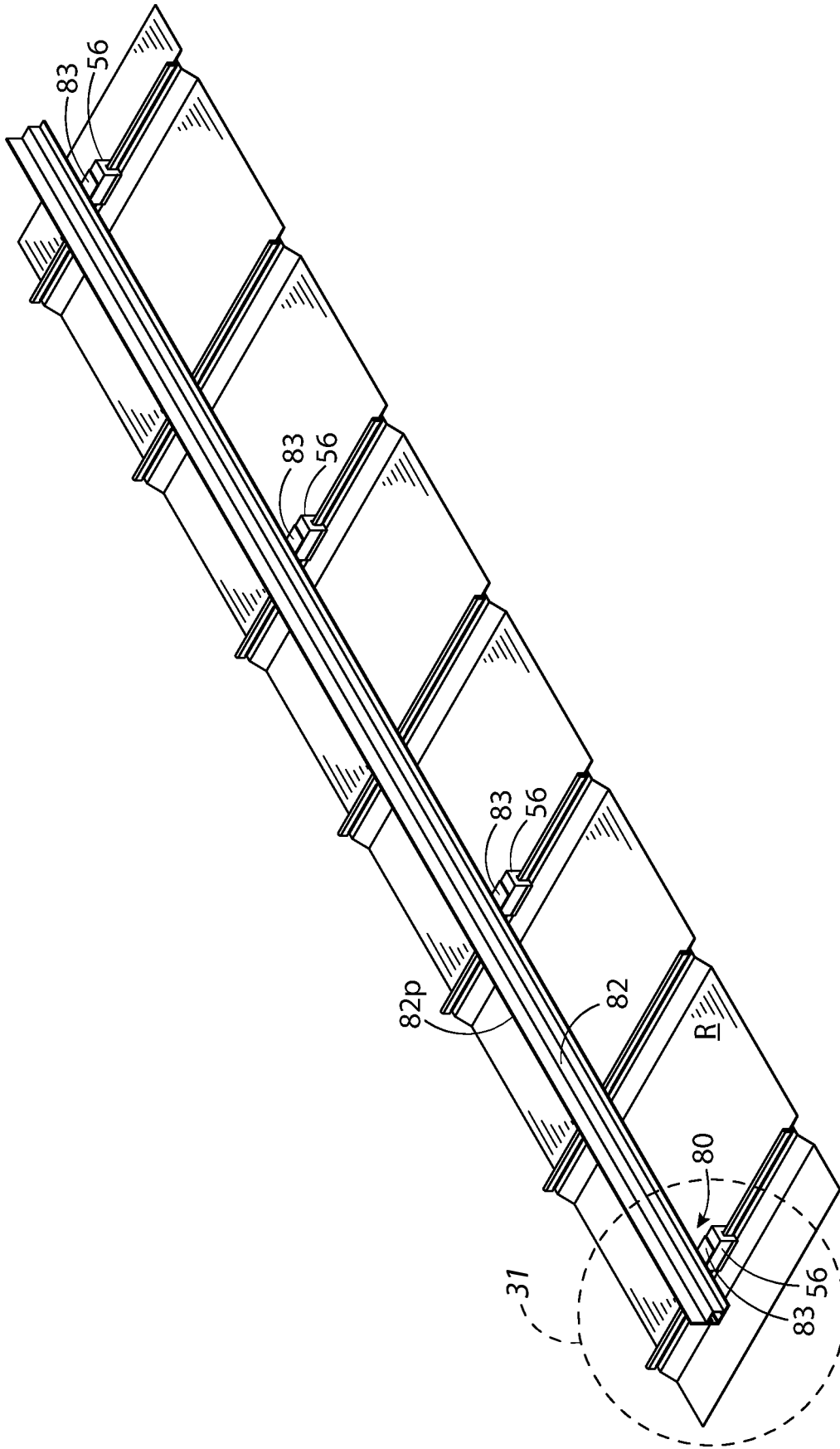


FIG. 30

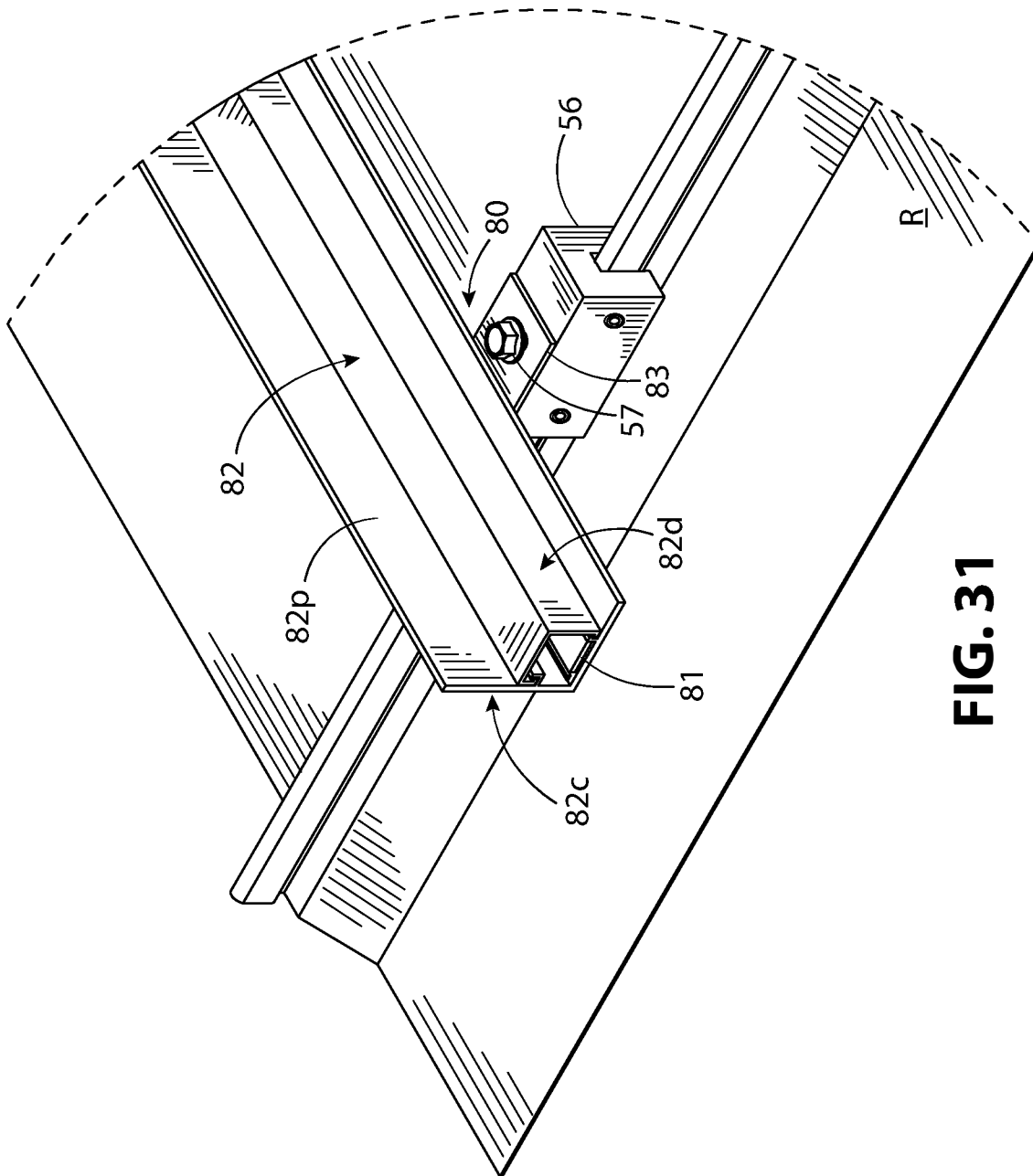
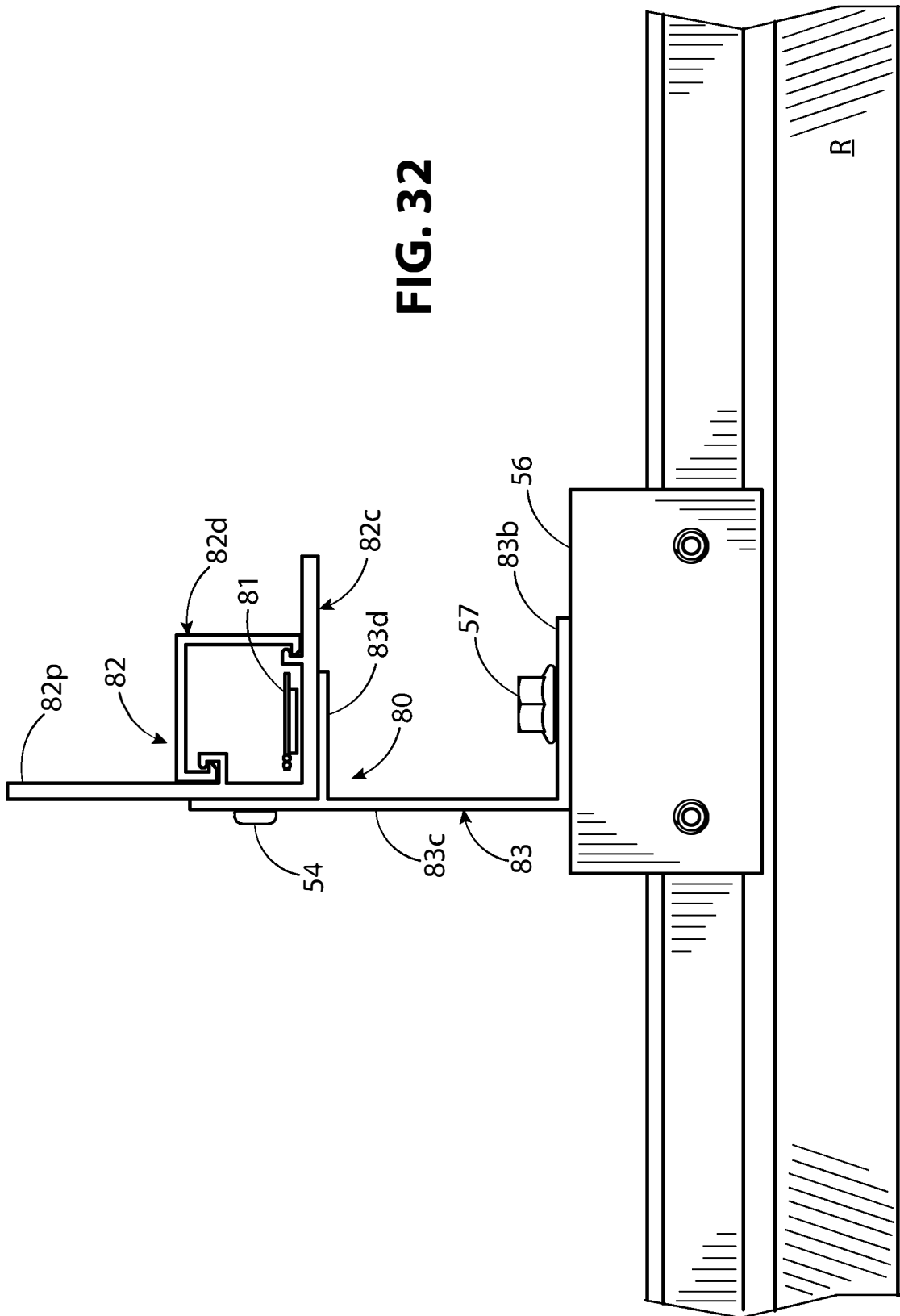


FIG. 31



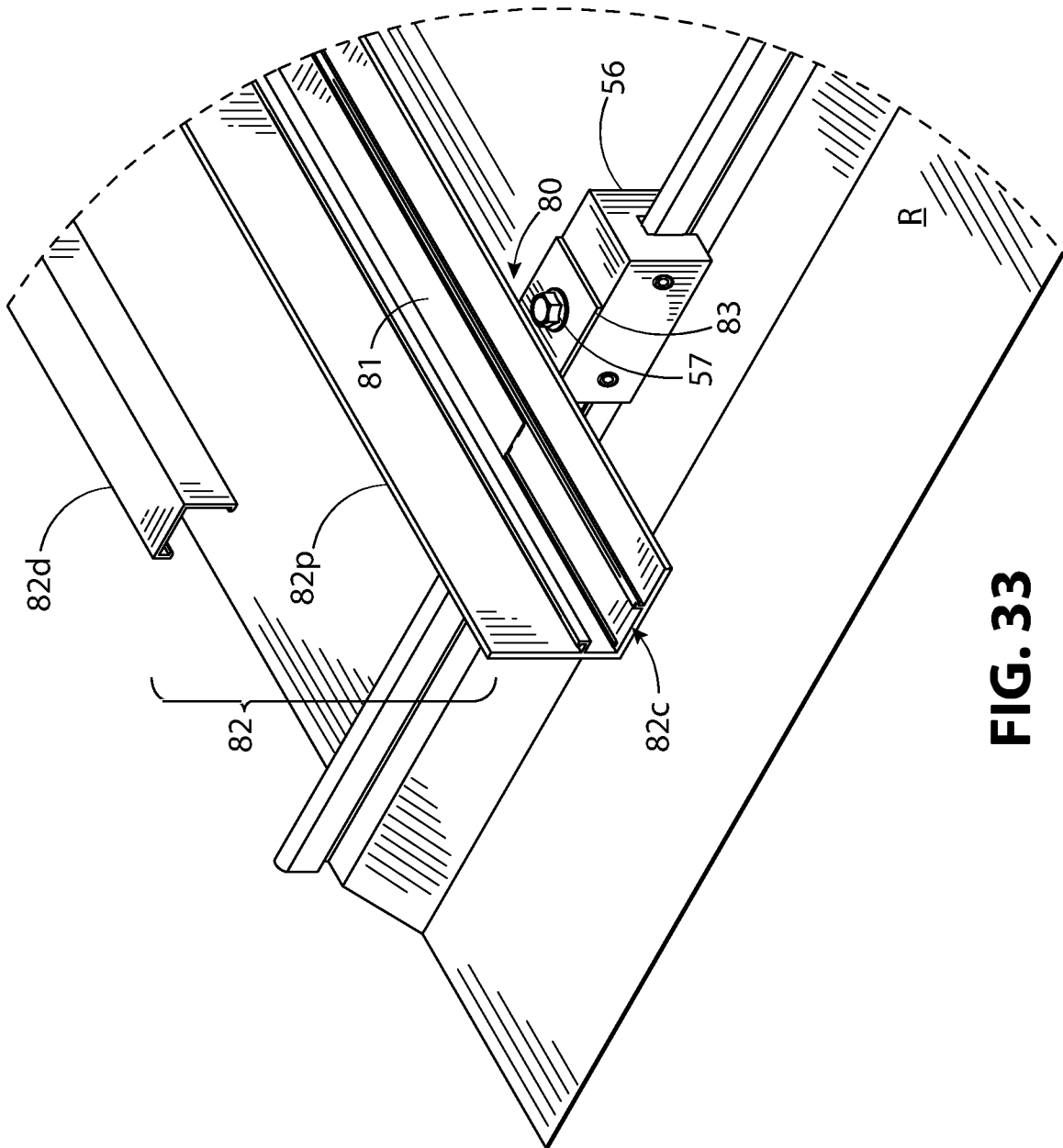


FIG. 33

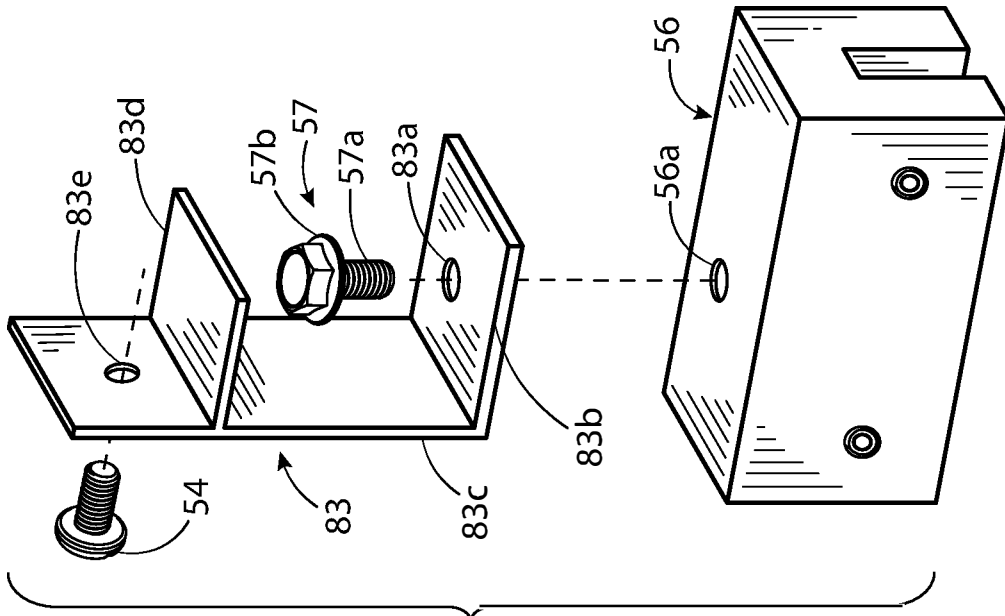


FIG. 35

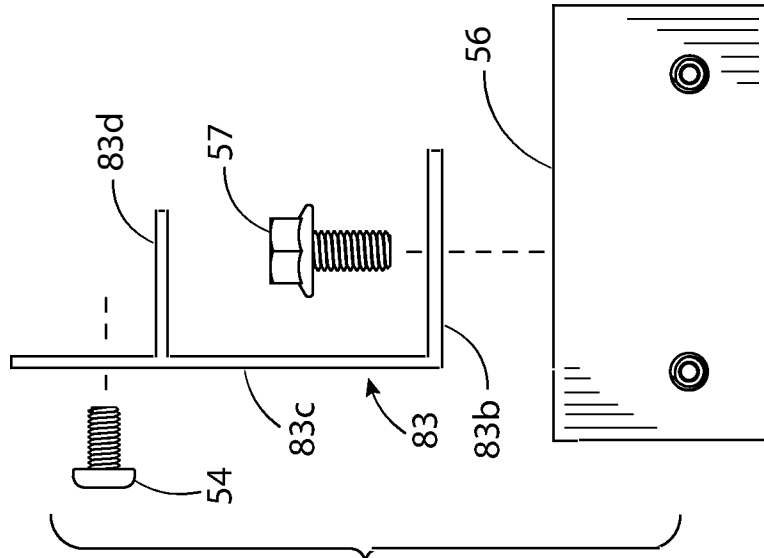


FIG. 34

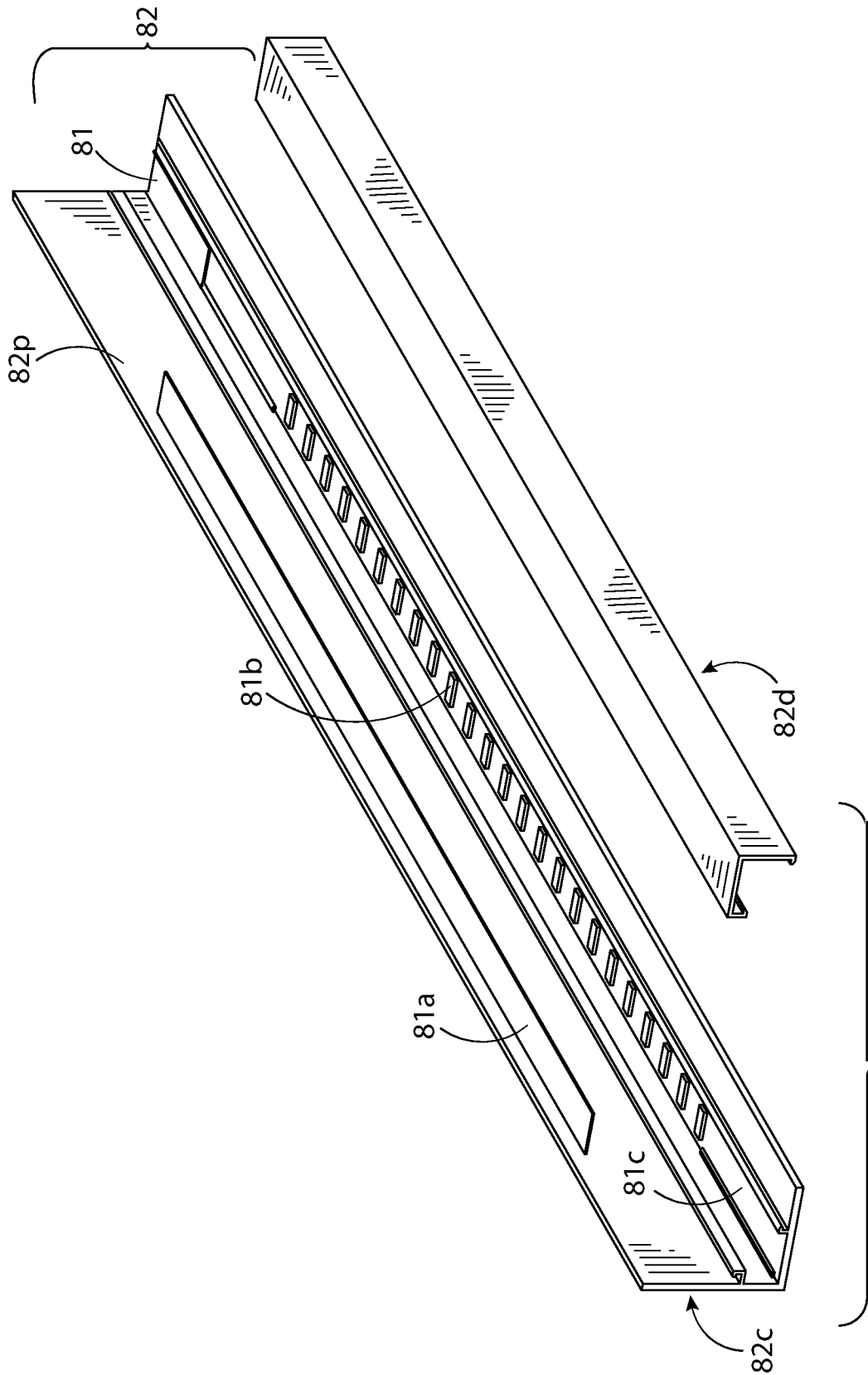
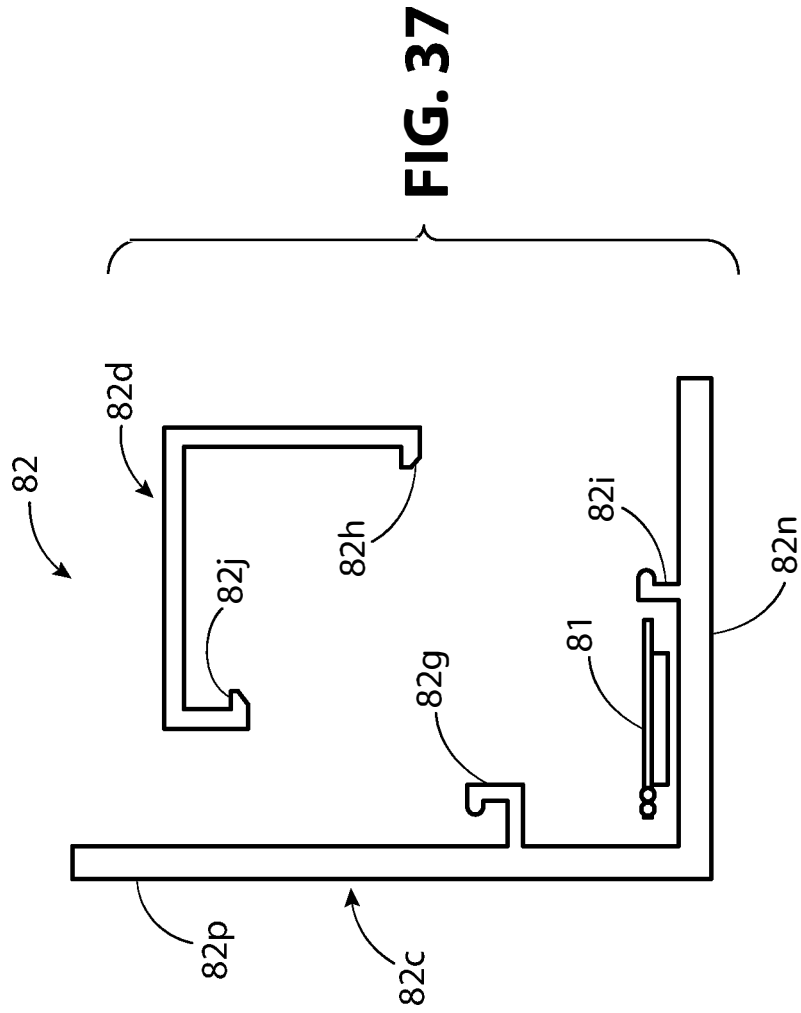


FIG. 36



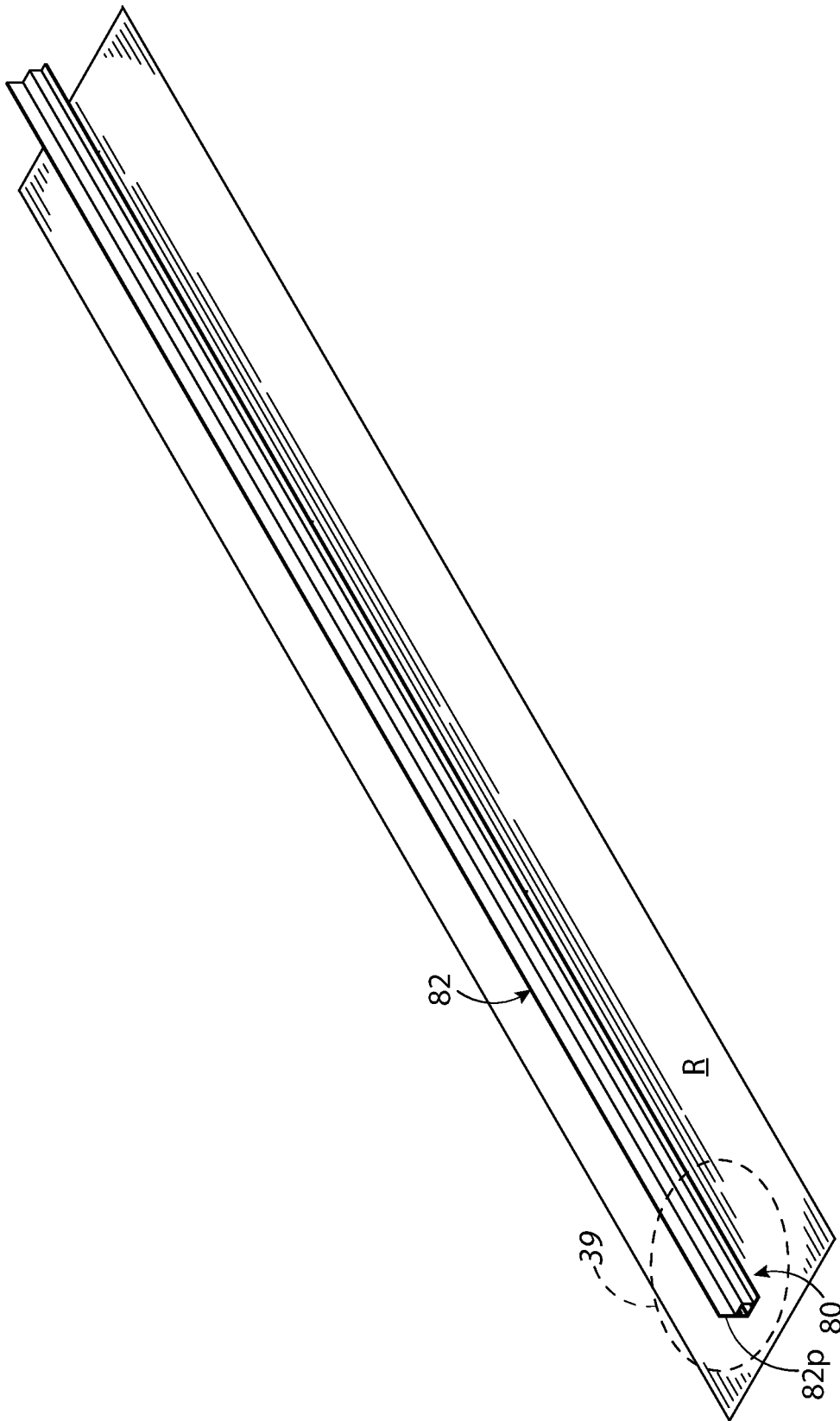


FIG. 38



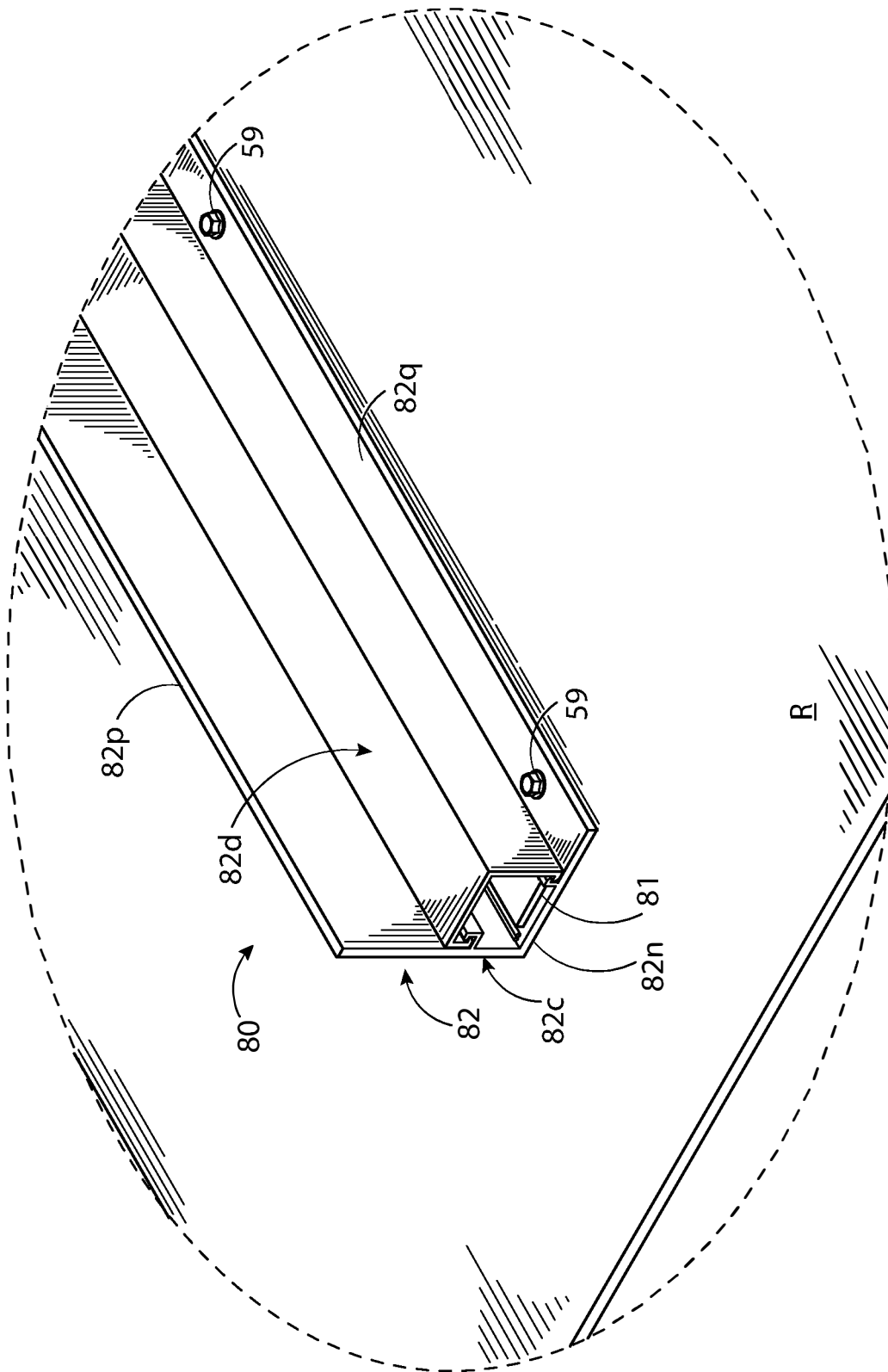


FIG. 39

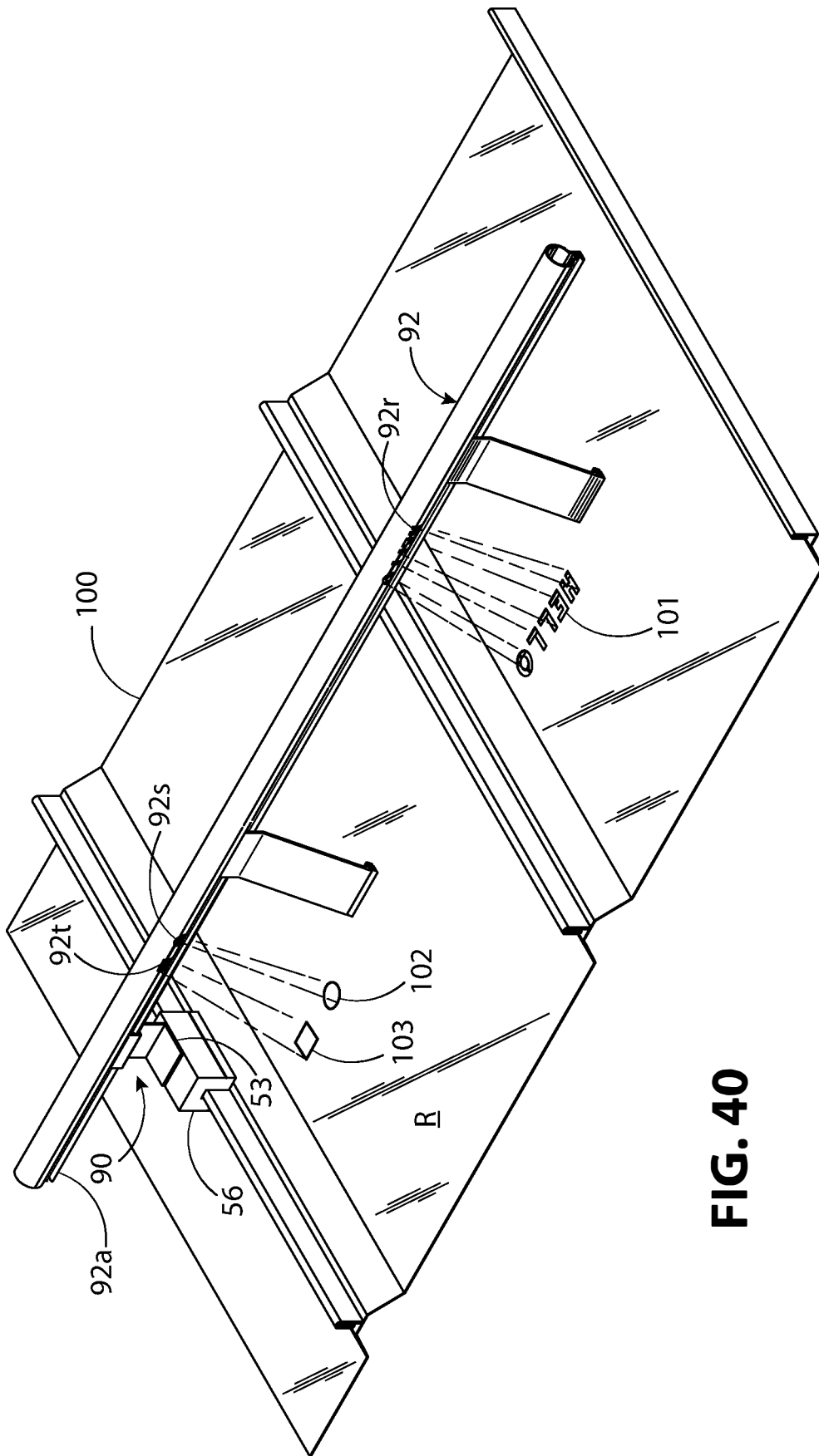


FIG. 40

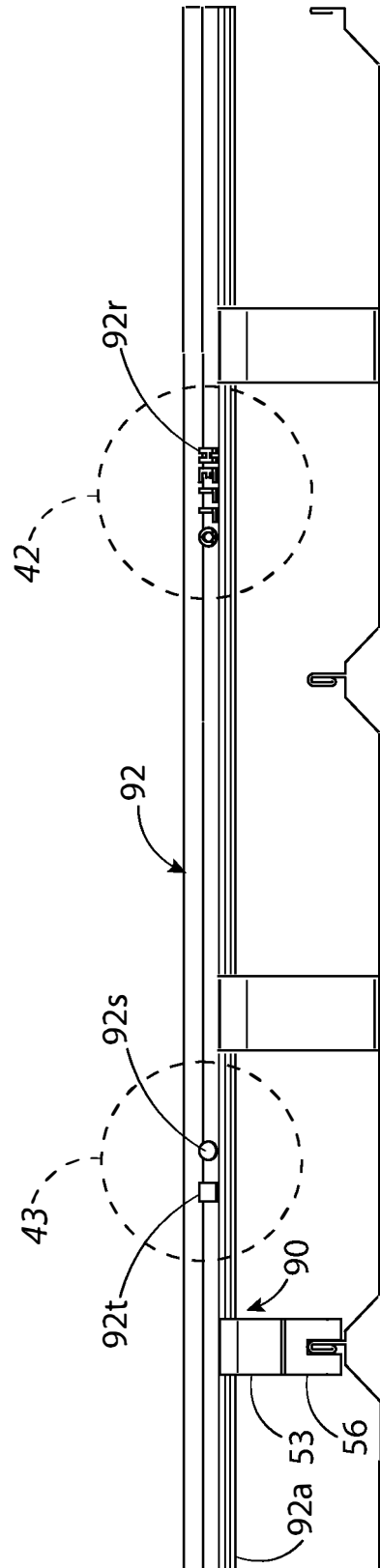
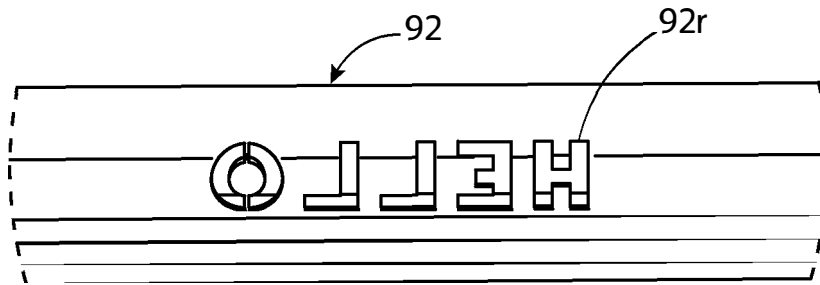
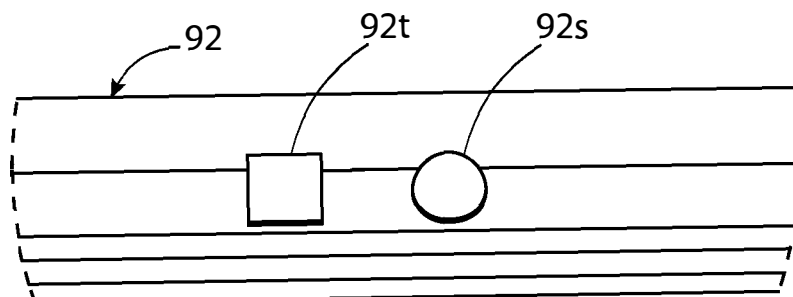


FIG. 41



**FIG. 42**



**FIG. 43**

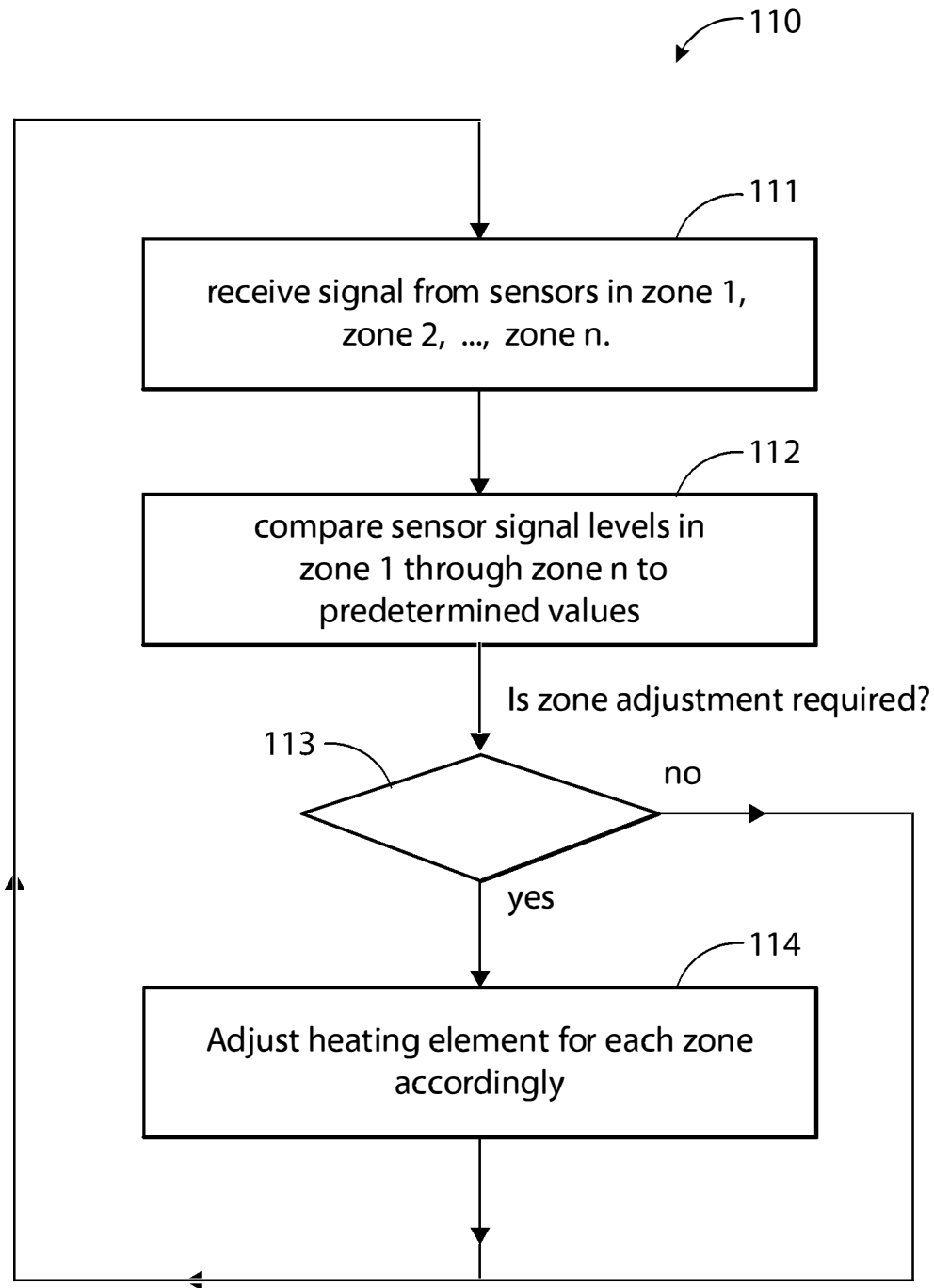


FIG. 44

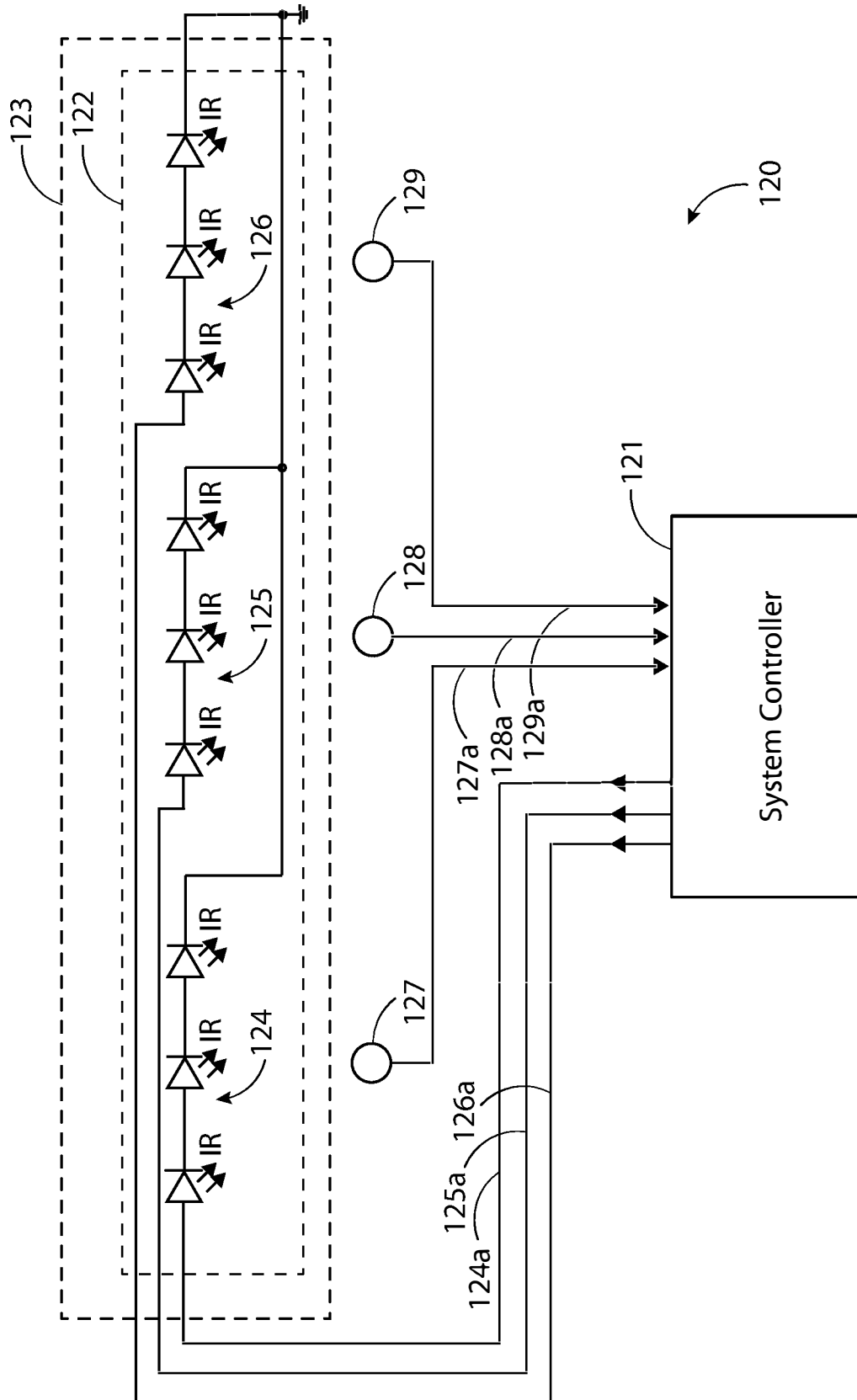


FIG. 45