



US009725946B1

(12) **United States Patent**  
**Vassilev et al.**

(10) **Patent No.:** **US 9,725,946 B1**  
(45) **Date of Patent:** **Aug. 8, 2017**

(54) **CLADDING SYSTEM FOR GLAZED DOORS AND WINDOWS**

3,815,285 A 6/1974 Kuyper  
3,984,954 A \* 10/1976 Takeda ..... E06B 1/342  
160/90

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4,122,633 A 10/1978 Holdiman  
4,139,973 A \* 2/1979 Fujita ..... E06B 3/5409  
52/204.591

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4,207,707 A 6/1980 Holdiman et al.  
(Continued)

(73) Assignee: **Gregory A Header**, Pine Grove, PA (US)

**FOREIGN PATENT DOCUMENTS**

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

CH 705792 A2 \* 5/2013 ..... E06B 1/342  
CN 204152386 U 2/2015  
(Continued)

(21) Appl. No.: **15/260,155**

DW Outward Opening Alu-Clad Window Technical Details, Apr. 10, 2012, Nordica UK Ltd., United Kingdom.

(22) Filed: **Sep. 8, 2016**

(Continued)

(51) **Int. Cl.**  
**E06B 3/30** (2006.01)  
**E06B 1/34** (2006.01)

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(52) **U.S. Cl.**  
CPC ..... **E06B 3/302** (2013.01); **E06B 1/34** (2013.01)

(57) **ABSTRACT**

(58) **Field of Classification Search**  
CPC ..... E06B 3/302; E06B 1/34; E06B 1/342  
See application file for complete search history.

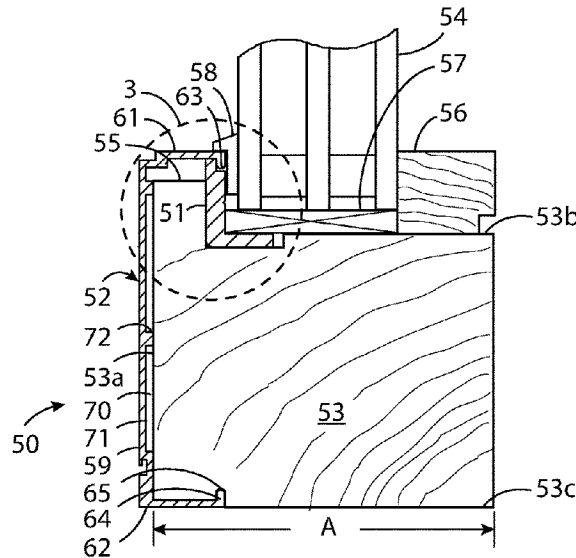
A low-profile cladding system that can be readily applied to doors, windows, fixed light openings, or curtain walls where thermal performance is important. The cladding system utilizes a cladding member in combination with an L-shaped bracket to attach and secure the cladding member to a frame or sash. The cladding member is held to the frame or sash by tension or pressure between opposite ends of the cladding member. This tension is created by the L-shaped bracket in combination with the cladding ends as the L-shaped bracket engages one cladding member end and is pivoted into an indentation, or recess, in the frame or sash. The other cladding member end engages a groove along the side of the frame or sash opposite to the indentation.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

1,041,645 A 10/1912 MacDowney  
3,130,455 A \* 4/1964 Borlenghi ..... E06B 1/32  
49/504  
3,662,494 A \* 5/1972 Sitterly ..... E06B 1/342  
49/504  
3,667,179 A 6/1972 Eisenberg  
3,803,779 A \* 4/1974 Kuyper ..... E06B 3/5454  
52/476

**19 Claims, 17 Drawing Sheets**



(56)

References Cited

U.S. PATENT DOCUMENTS

4,307,543 A \* 12/1981 Schulthess ..... E06B 5/164  
49/501

4,341,048 A 7/1982 Minter

4,479,331 A \* 10/1984 Bertolami ..... E06B 3/302  
49/404

5,072,547 A \* 12/1991 DiFazio ..... E06B 1/34  
49/504

5,182,880 A 2/1993 Berge, Jr. et al.

5,339,583 A 8/1994 Hrdlicka et al.

5,584,150 A \* 12/1996 Newman ..... E04C 3/02  
52/204.2

5,669,192 A \* 9/1997 Opdyke ..... E06B 1/34  
52/211

5,836,118 A \* 11/1998 Thornton ..... E06B 1/34  
49/504

5,836,119 A \* 11/1998 Emmanuel ..... E06B 3/26345  
52/204.54

5,916,077 A \* 6/1999 Tang ..... E06B 1/325  
49/501

6,125,605 A \* 10/2000 Young ..... E06B 1/34  
52/211

6,167,661 B1 1/2001 Christensen

6,223,484 B1 \* 5/2001 Minter ..... E06B 1/6015  
49/504

6,604,334 B2 8/2003 Rochman

6,631,595 B1 \* 10/2003 Minter ..... E06B 1/62  
49/504

6,740,187 B2 \* 5/2004 Schweikart ..... E06B 3/30  
156/250

7,204,059 B2 4/2007 Schiffmann et al.

8,074,410 B1 \* 12/2011 Ryba ..... E06B 1/702  
52/204.1

8,511,012 B2 \* 8/2013 Scalzi ..... E04F 13/0864  
52/204.53

8,776,460 B2 \* 7/2014 Carlson ..... E06B 3/4618  
52/204.55

8,959,851 B1 \* 2/2015 Cardinal ..... E06B 3/26341  
49/489.1

9,598,892 B2 \* 3/2017 Header ..... E06B 1/34

2001/0034985 A1 \* 11/2001 Schweikart ..... E06B 3/30  
52/204.5

2002/0046532 A1 \* 4/2002 Rochman ..... E06B 1/34  
52/656.4

2004/0006938 A1 \* 1/2004 Schiffmann ..... E04G 21/30  
52/211

2004/0206025 A1 \* 10/2004 Panto ..... E06B 3/10  
52/211

2008/0196342 A1 \* 8/2008 Franklin ..... E06B 3/2675  
52/309.1

2010/0251642 A1 \* 10/2010 Erickson ..... E06B 1/34  
52/204.1

2015/0068141 A1 \* 3/2015 Cardinal ..... E06B 3/56  
52/209

2015/0361712 A1 \* 12/2015 Eisenbarth ..... E06B 1/08  
52/204.5

2016/0076298 A1 \* 3/2016 Header ..... E06B 3/303  
52/204.5

FOREIGN PATENT DOCUMENTS

CN 204492489 U 7/2015

DE 2553985 A1 \* 6/1977 ..... E06B 1/34

DE 102016001102 A1 \* 11/2016 ..... E06B 3/302

EP 1258592 B1 11/2004

OTHER PUBLICATIONS

VW12 Outward Opening Alu-Clad Window Technical Details, Oct. 12, 2010, Nordica UK Ltd., UK.

Albo Al-Trend Standard 3+ Hranata Profilace, AL 5000S, Mar. 2010, Alois Bouchai Company, Czech Republic.

Albo Al-Trend Standard 3+ Kulata Profilace, AL 5000S, Mar. 2010, Alois Bouchai Company, Czech Republic.

Bronze and Aluminum Clad Windows and Doors, Mar. 17, 2006, SwissShade + Security Inc., Tucson, AZ, United States.

Zola Windows Perspective Section Illustration downloaded from the Internet at <http://www.zolawindows.com/wp-content/uploads/2015/11/classic-upvc-clad.png> on Jul. 22, 2016.

Nood Products Catalog, Feb. 23, 2013, European Architectural Supply, Sudbury, MA, United States.

Wood-Aluminum Systems Gutman CORA, Apr. 25, 2014, Gutmann AG, Germany.

Wood-Aluminum Systems Gutman MIRA contour, Apr. 25, 2014, Gutmann AG, Germany.

Wood-Aluminum Systems Gutman MIRA contour integral, Apr. 25, 2014, Gutmann AG, Germany.

Wood-Aluminum Systems Gutman Nordwin, Apr. 25, 2014, Gutmann AG, Germany.

Internorm Windows Highlights of Architecture 2014/15, Mar. 14, 2014, Internorm Windows UK Ltd, United Kingdom.

HM-Metal Clad Wood Windows and Doors, Oct. 24, 2014, Menck Windows, Chicopee, MA, United States.

Sun Clad Exterior—Comparison of Exterior Sash and Frame Materials Downloaded from the Internet at: <http://sunwindows.com/Why%20Sun/CladComparison.html> on Jul. 21, 2016.

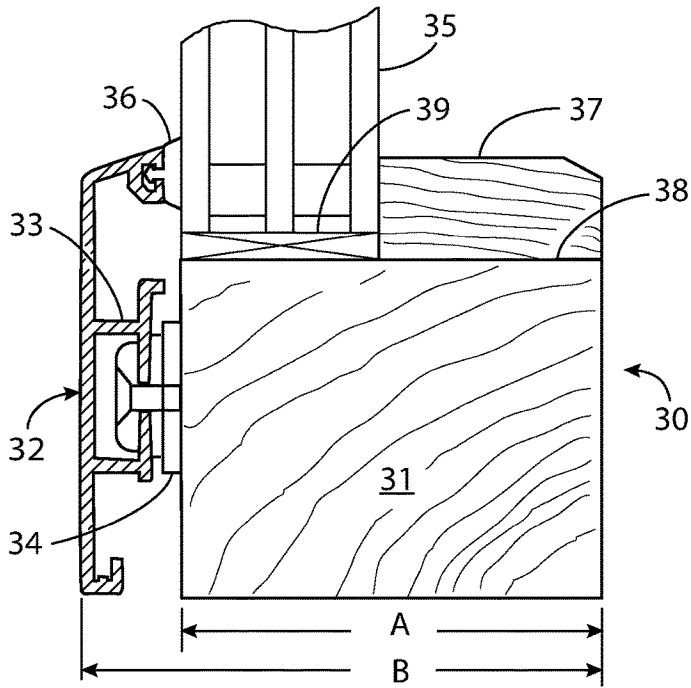
Make Window: an idea log of windows, window details, and ideas that make us rethink the way we make windows, blog entries from Aug. 27, 2012 to Oct. 20, 2012, p. 4 of 15 of blog, accessed on the Internet at <http://makewindow.tumblr.com/page/4> on Aug. 18, 2016.

Make Window: an idea log of windows, window details, and ideas that make us rethink the way we make windows, blog entries from Jul. 15, 2013 to Mar. 12, 2014, p. 2 of 15 of blog, accessed on the Internet at <http://makewindow.tumblr.com/page/4> on Aug. 18, 2016.

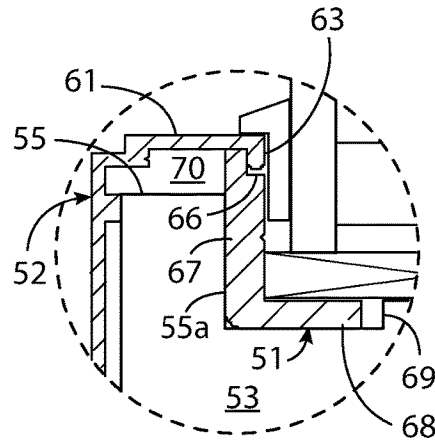
Make Window: an idea log of windows, window details, and ideas that make us rethink the way we make windows, blog entries from May 12, 2014 to May 30, 2016, p. 1 of 15 of blog, accessed on the Internet at <http://makewindow.tumblr.com/> on Aug. 18, 2016.

Brighton LS Series Wood Window Quality and Performance, Nov. 11, 2014, Quaker Window Products, Freeburg, Missouri, US, downloaded from the Internet from <http://quakerwindows.com/wp-content/uploads/2014/08/Quality-Performance.pdf> on Aug. 18, 2016.

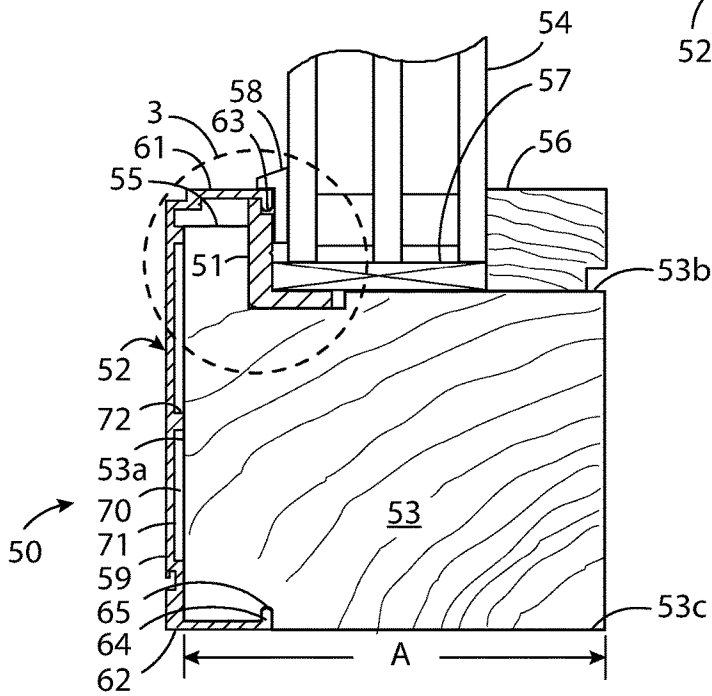
\* cited by examiner



**FIG. 1** Prior Art



**FIG. 3**



**FIG. 2**

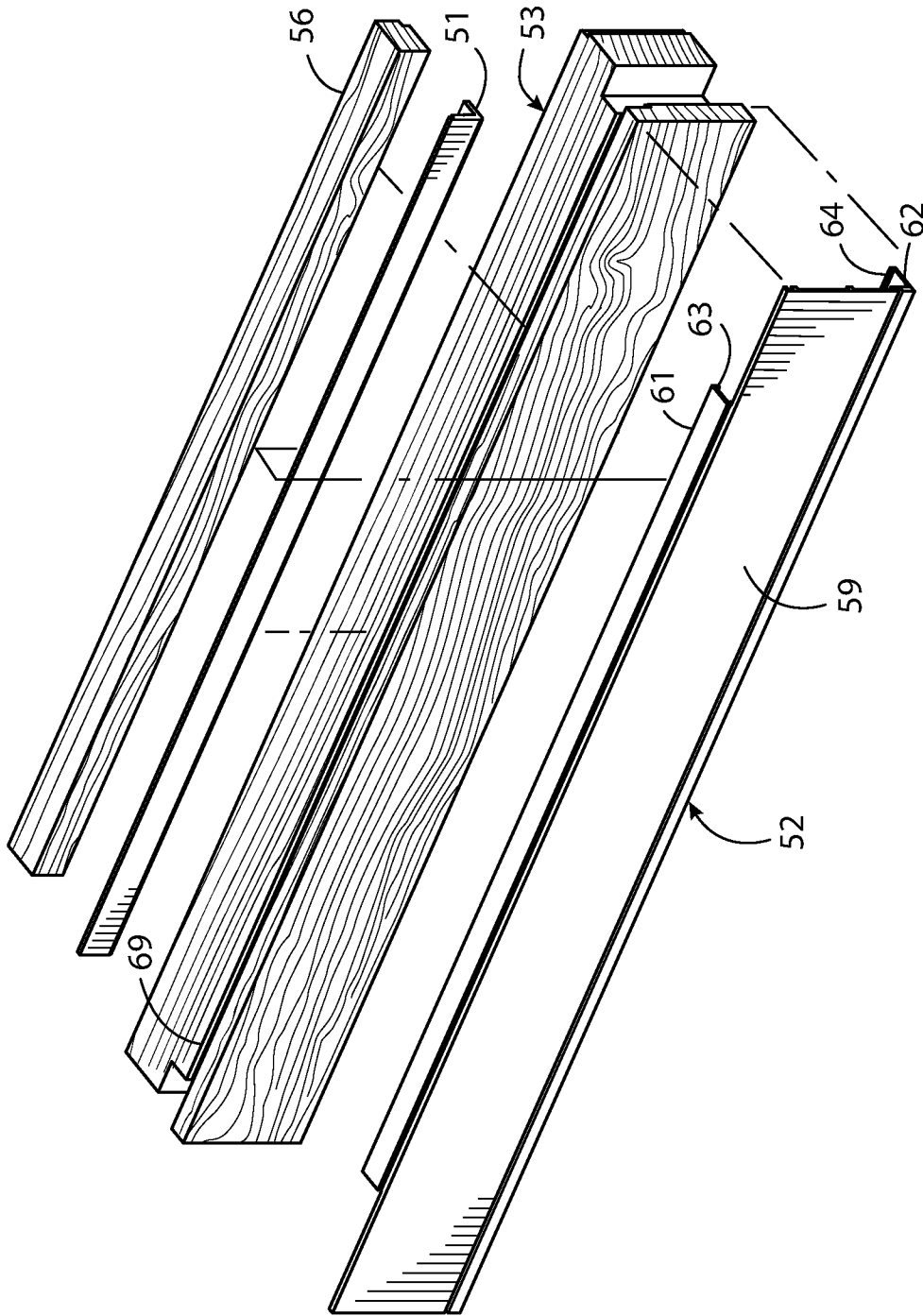


FIG. 4

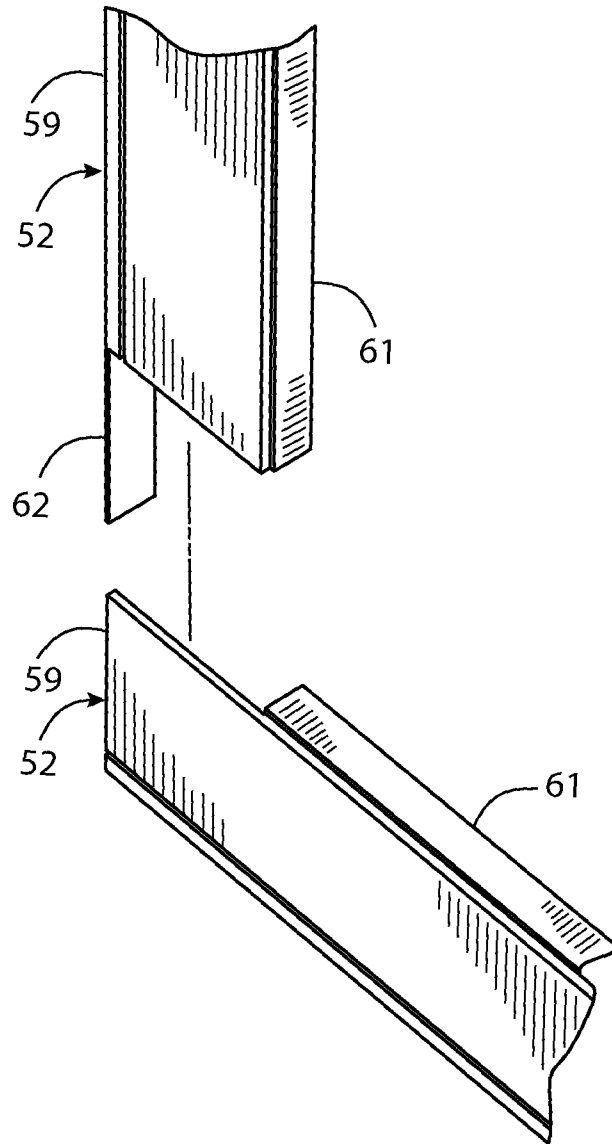


FIG. 5

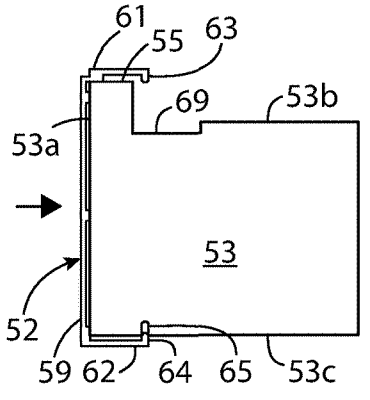


FIG. 6A

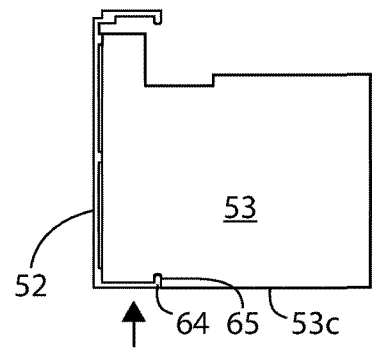


FIG. 6B

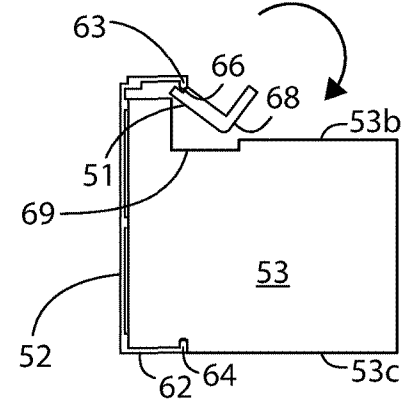


FIG. 6C

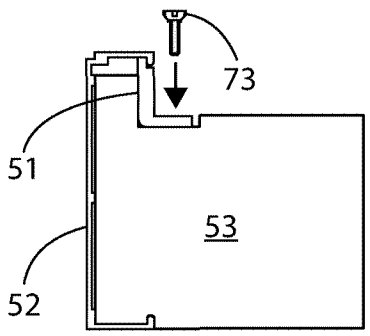


FIG. 6D

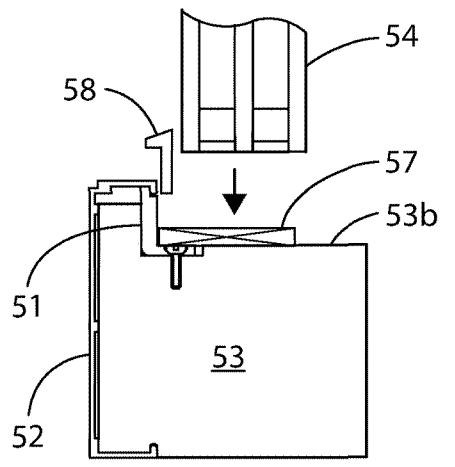


FIG. 6E

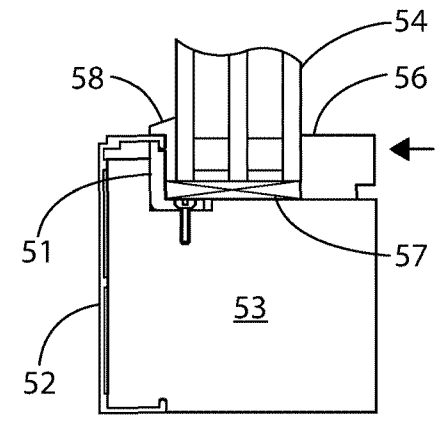
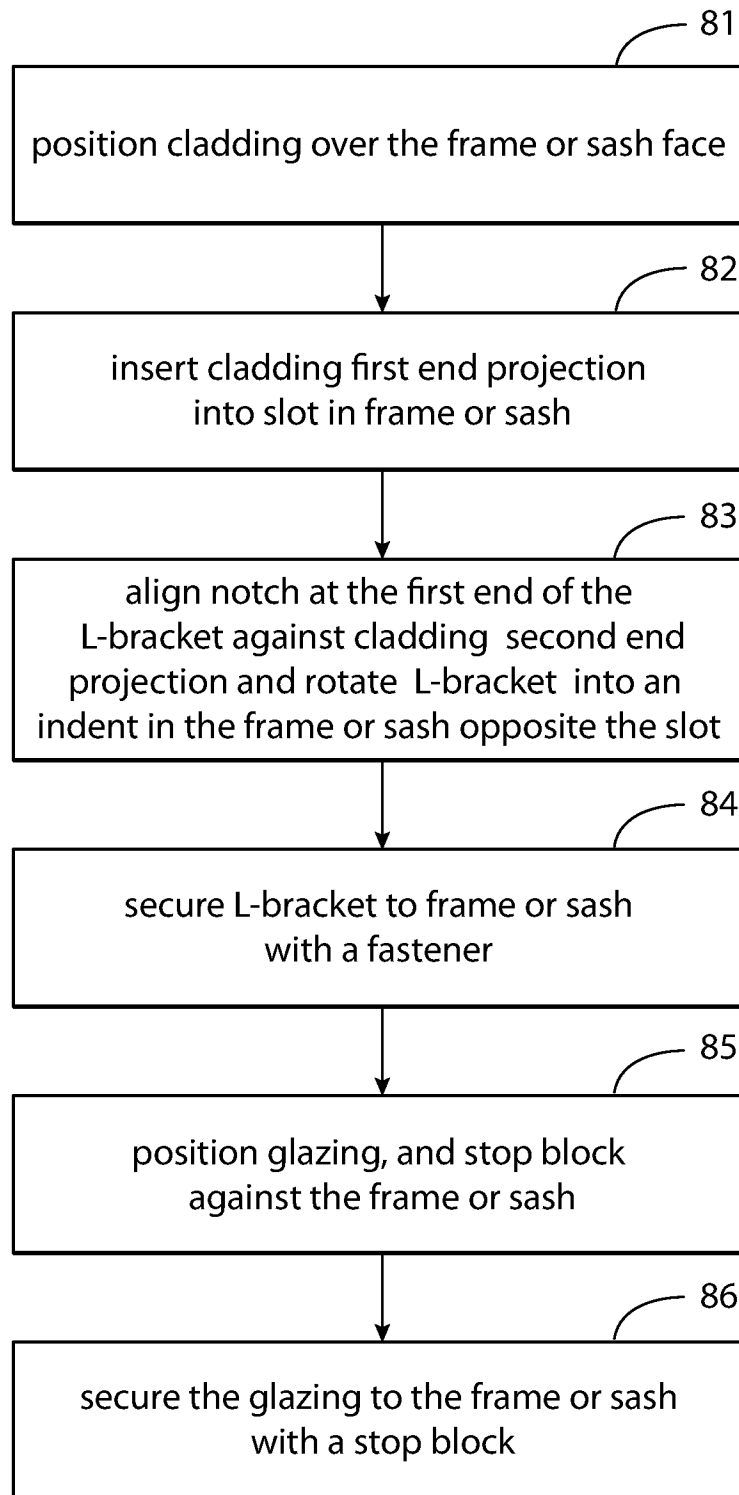


FIG. 6F

**FIG. 7**

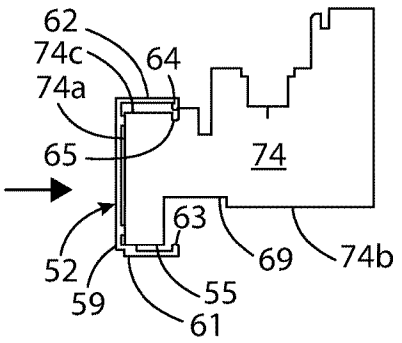


FIG. 8A

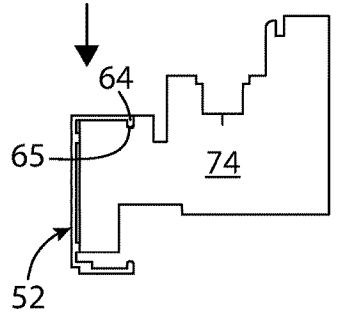


FIG. 8B

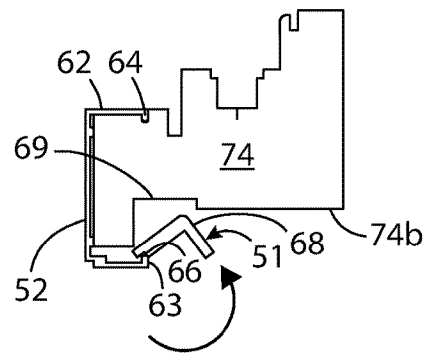


FIG. 8C

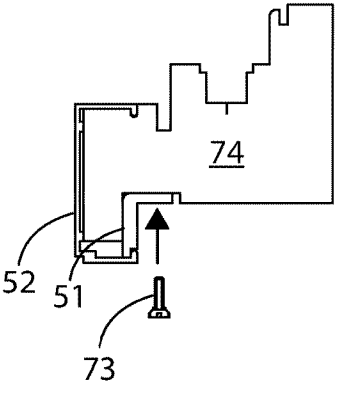


FIG. 8D

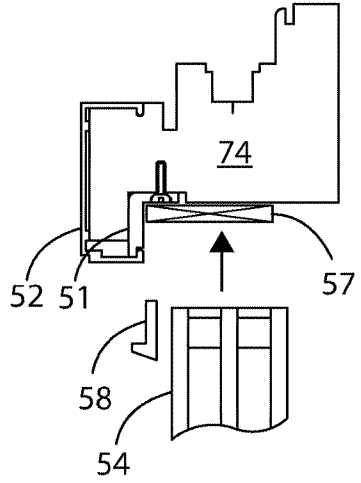


FIG. 8E

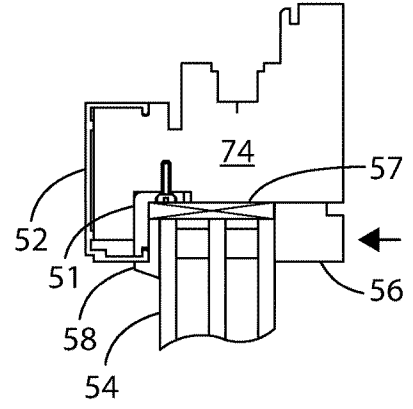


FIG. 8F



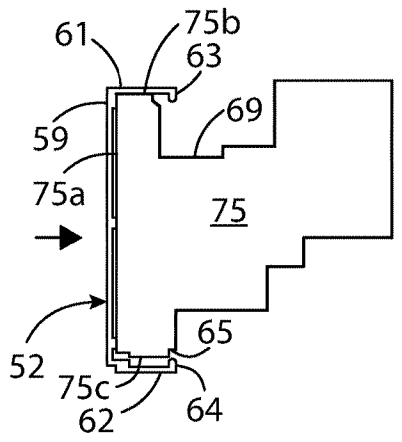


FIG. 9A

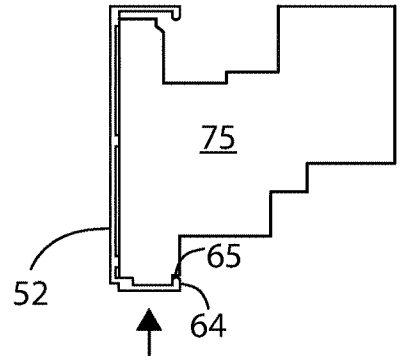


FIG. 9B

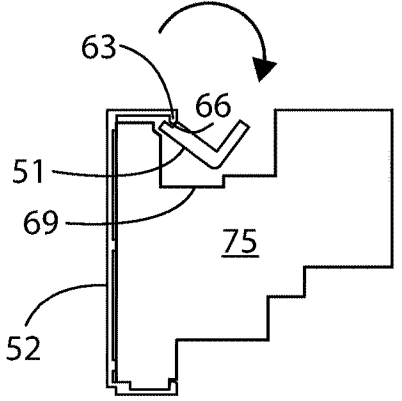


FIG. 9C

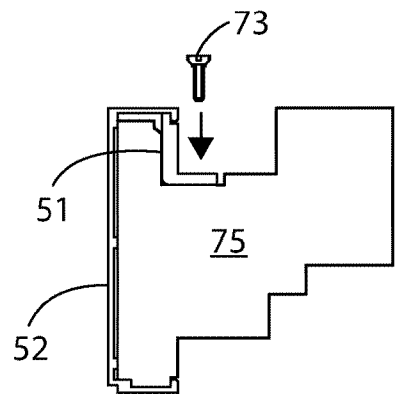


FIG. 9D

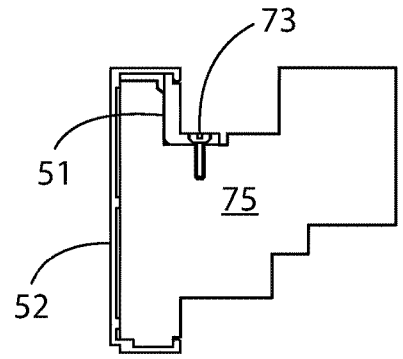
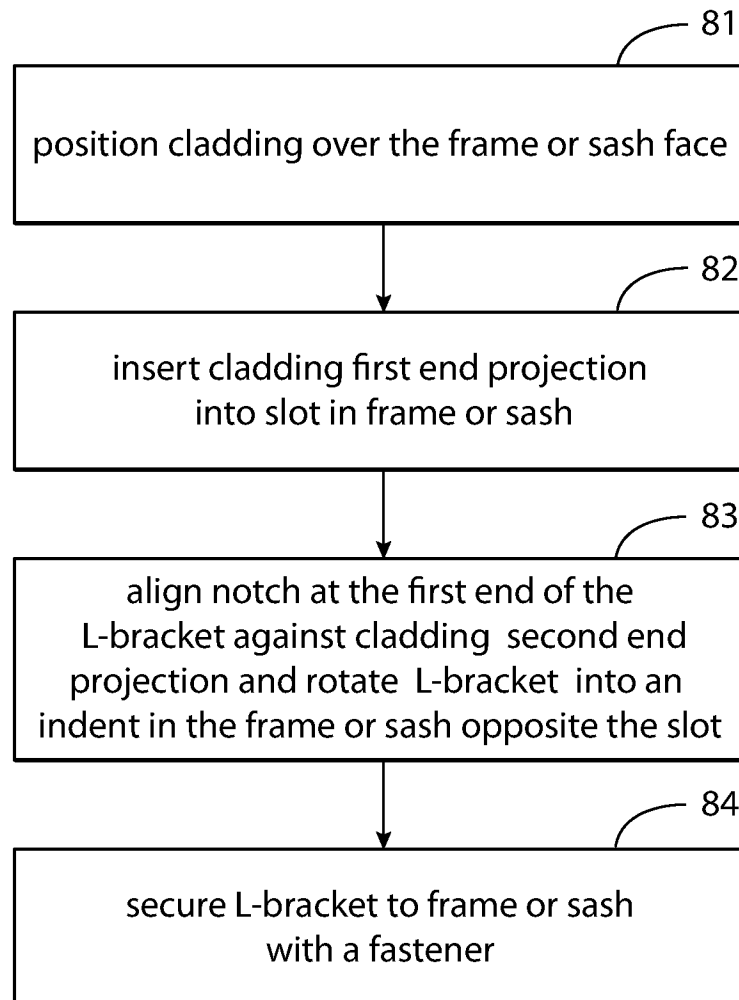


FIG. 9E

**FIG. 10**

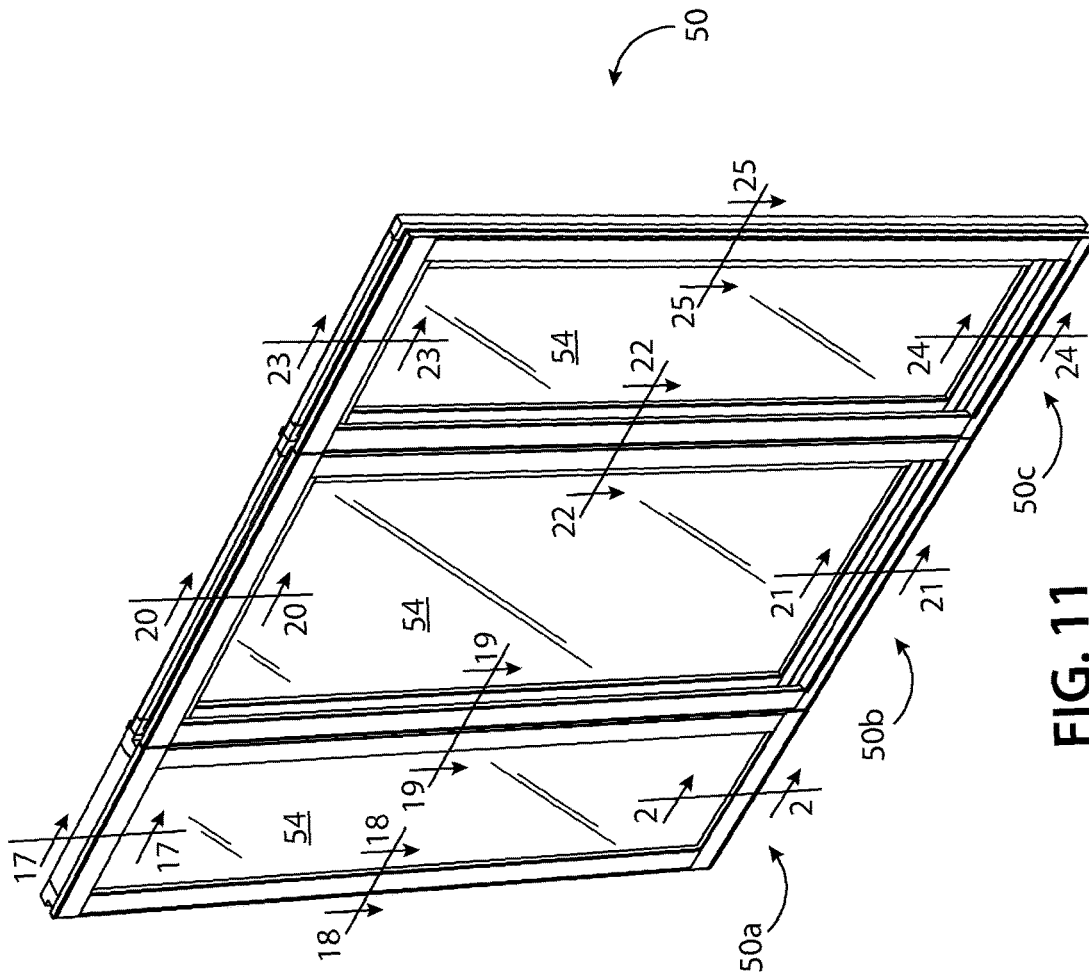


FIG. 11

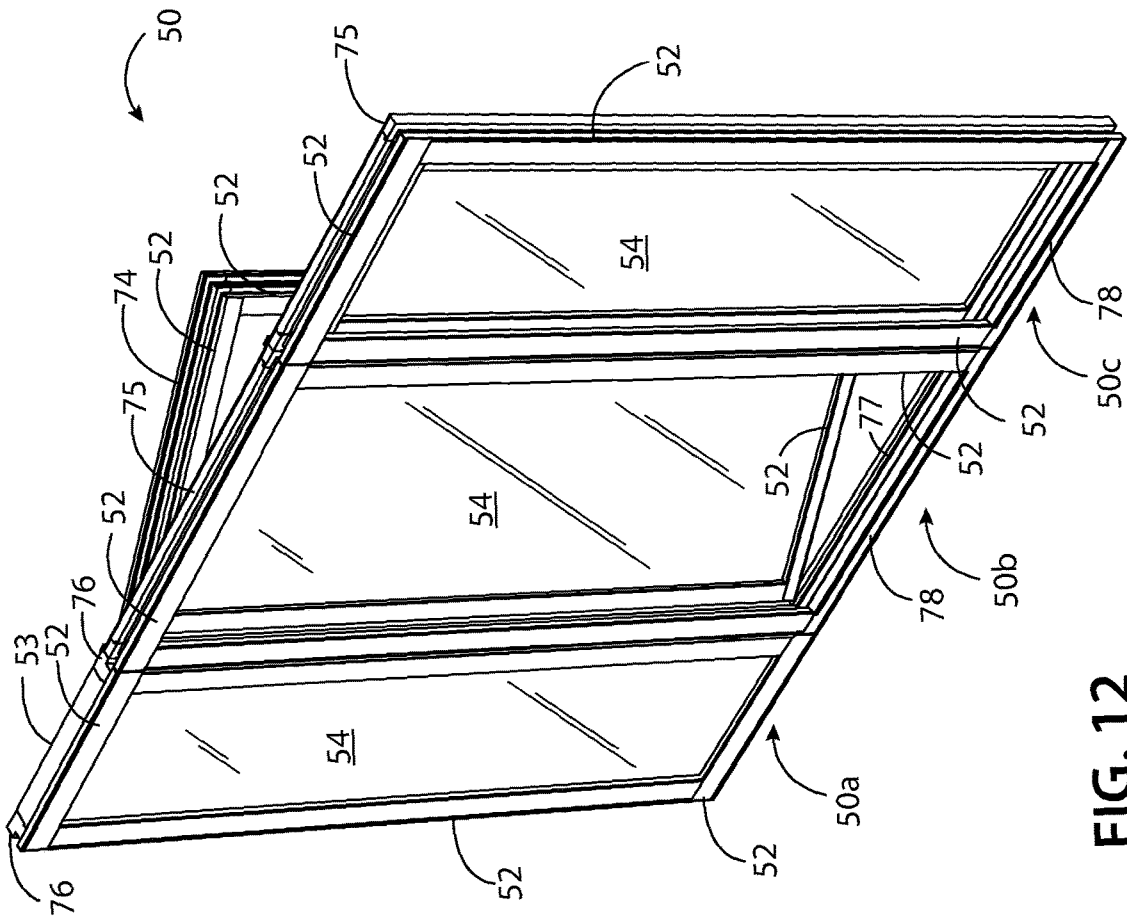
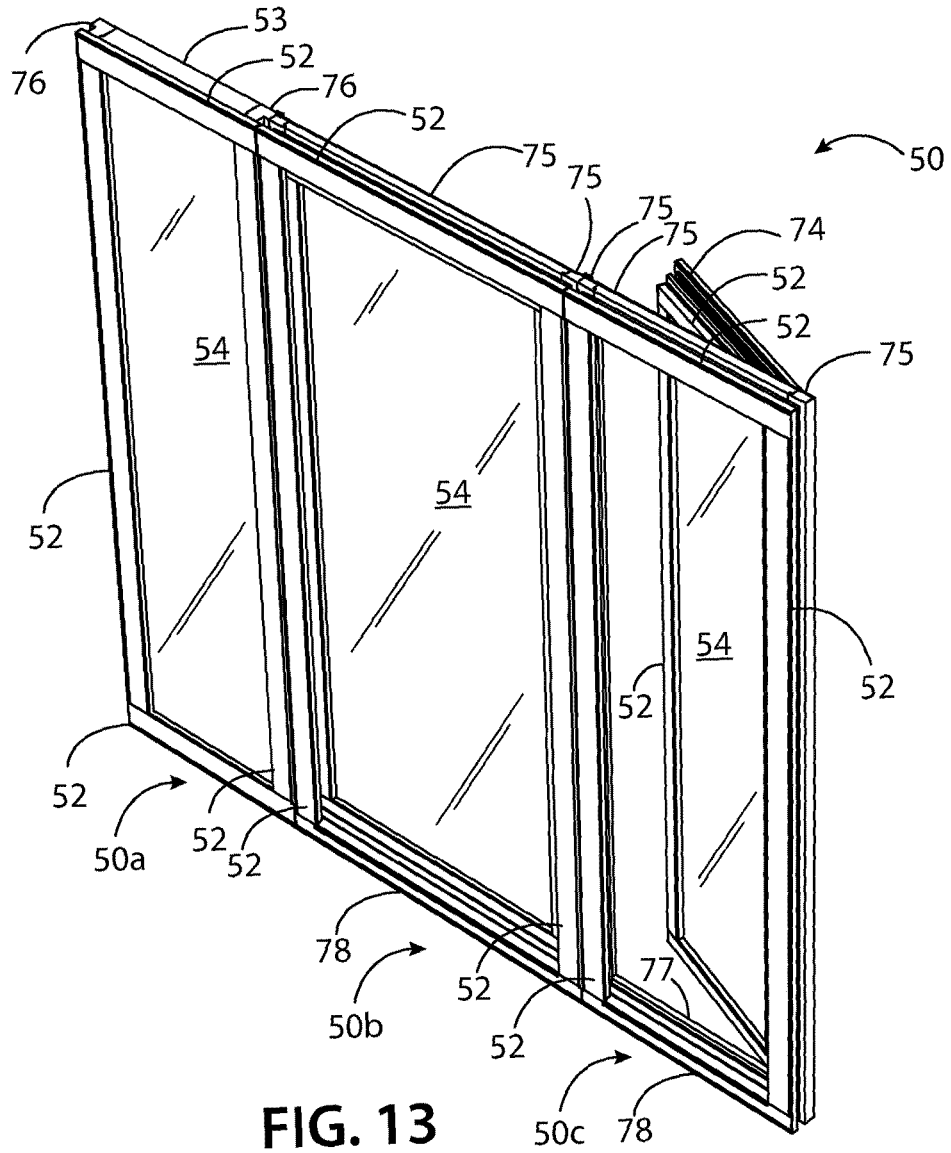


FIG. 12



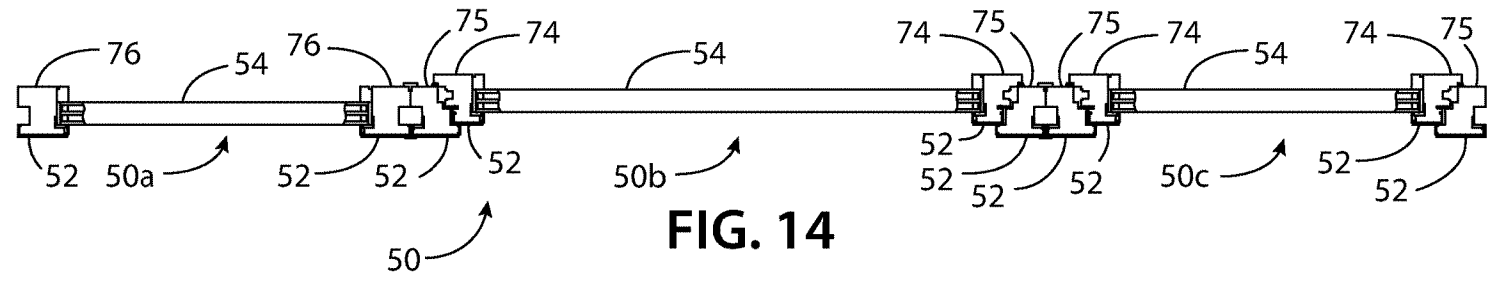


FIG. 14

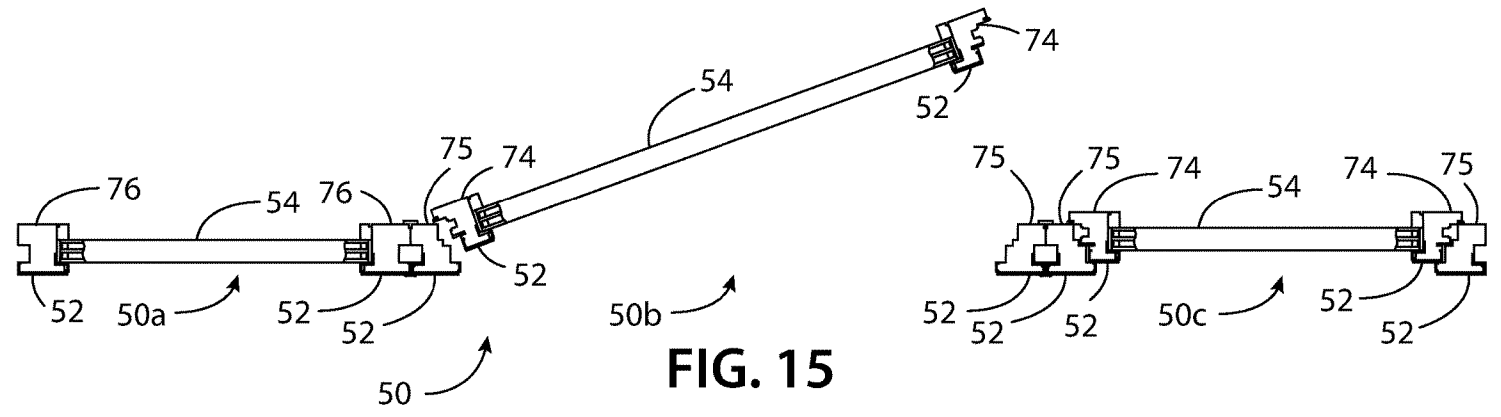


FIG. 15

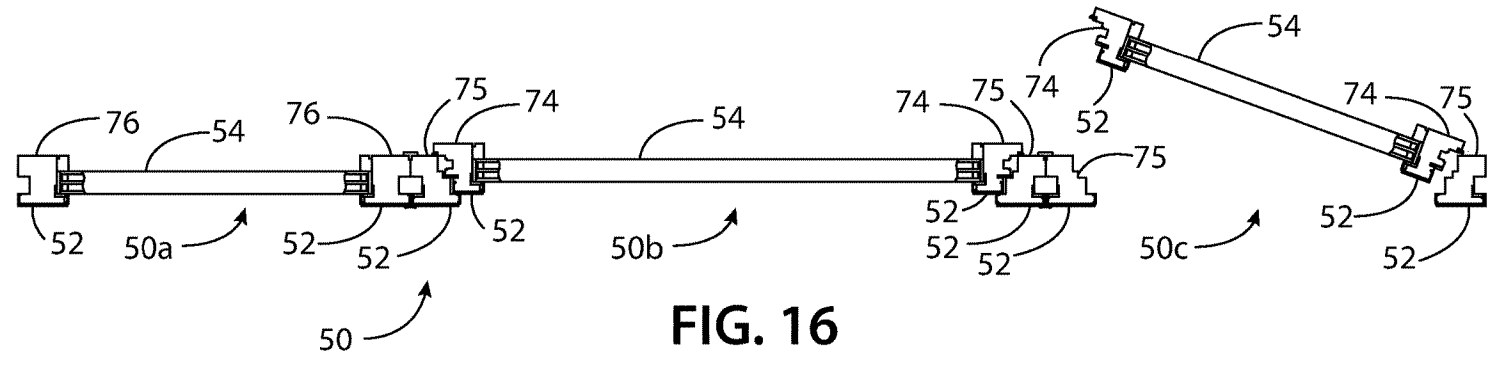


FIG. 16

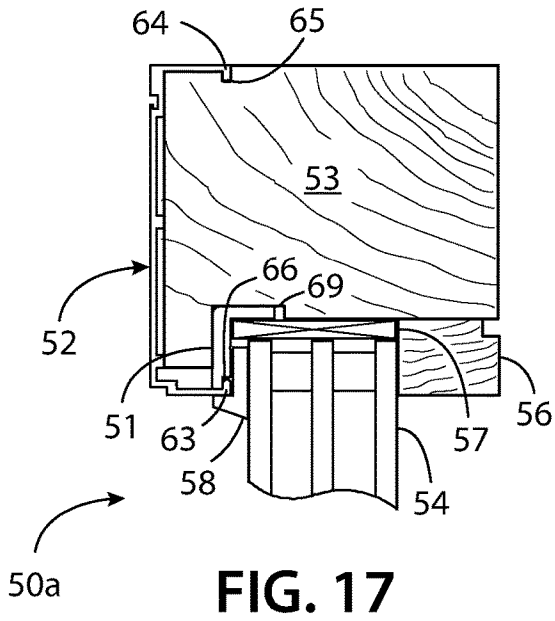


FIG. 17

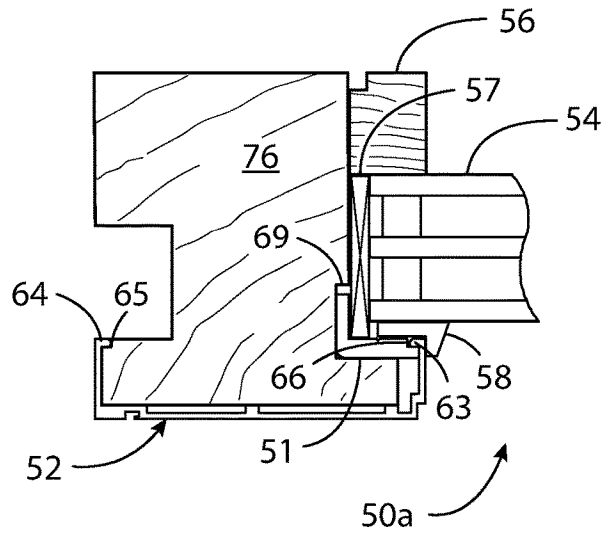


FIG. 18

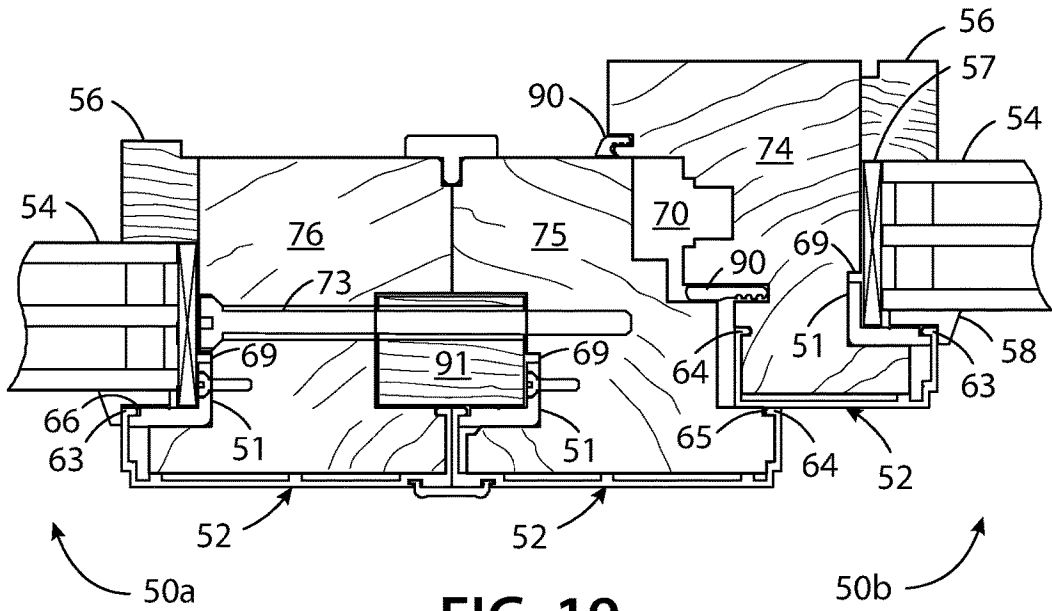


FIG. 19

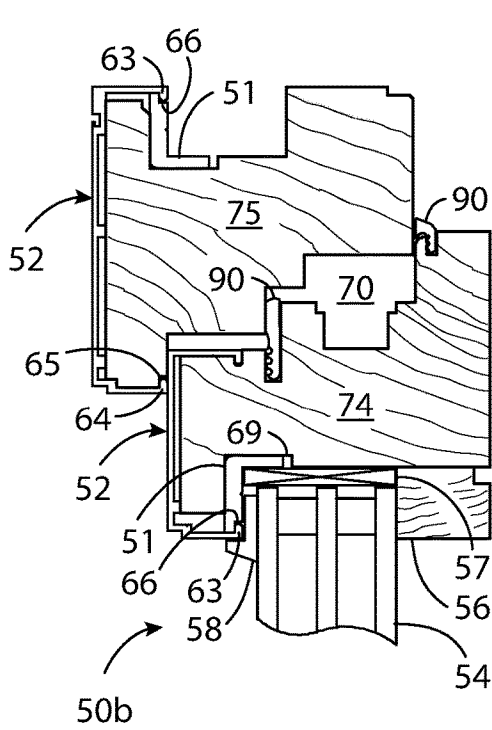


FIG. 20

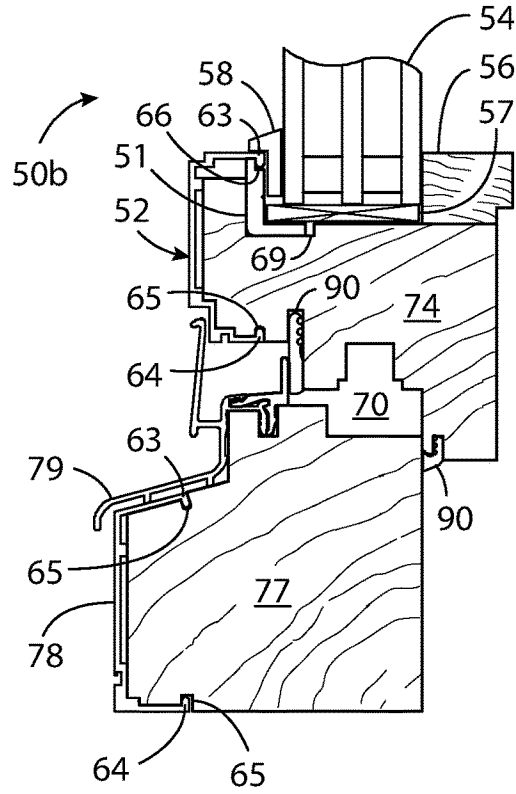


FIG. 21

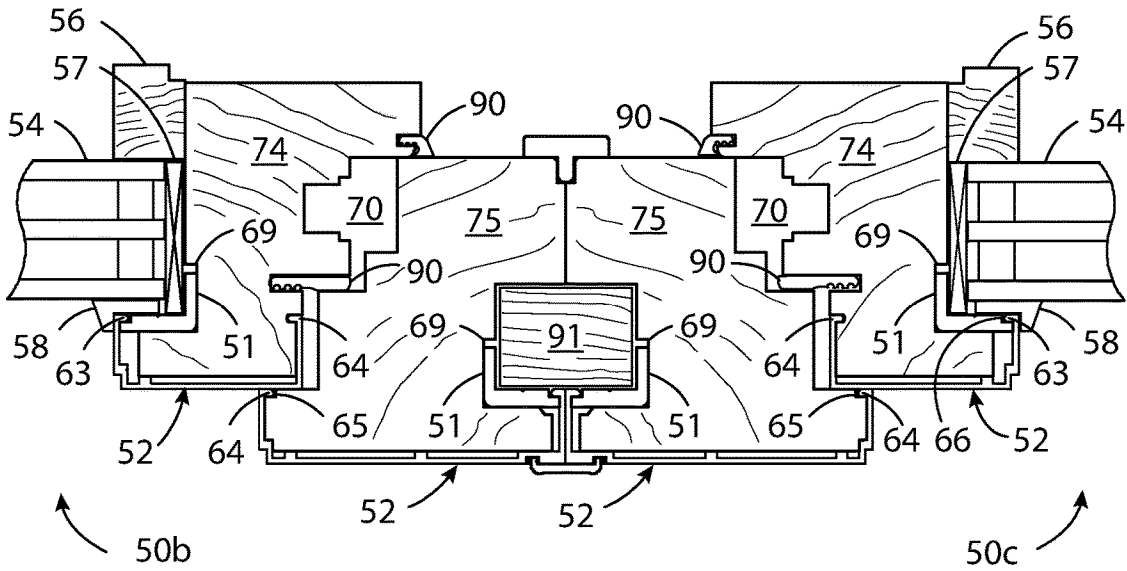


FIG. 22



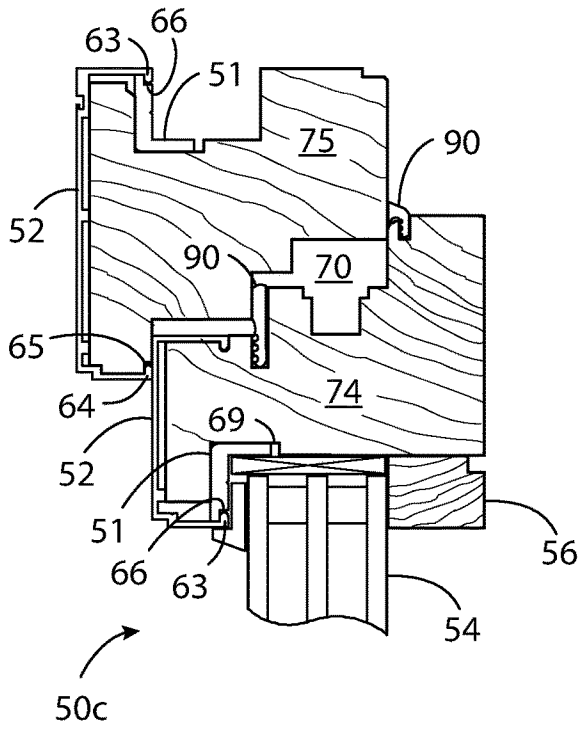


FIG. 23

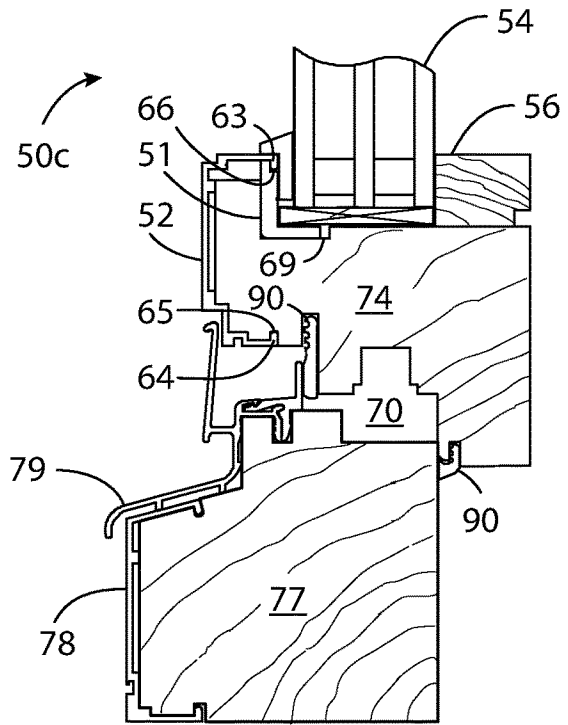


FIG. 24

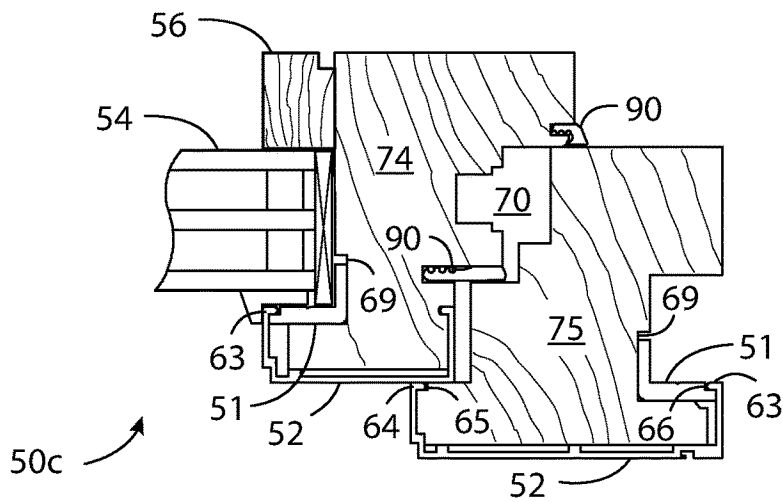


FIG. 25

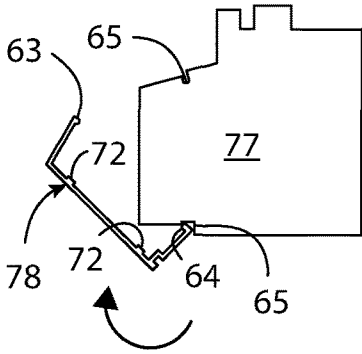


FIG. 26A

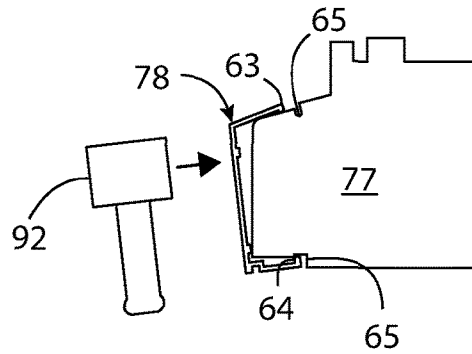


FIG. 26B

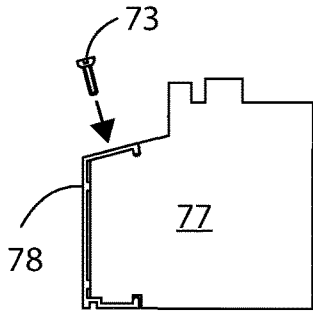


FIG. 26C

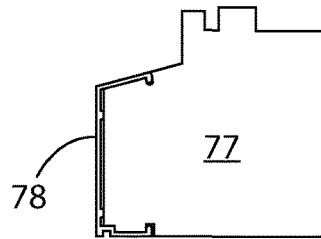


FIG. 26D

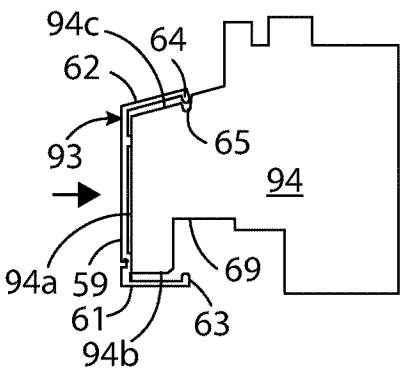


FIG. 27A

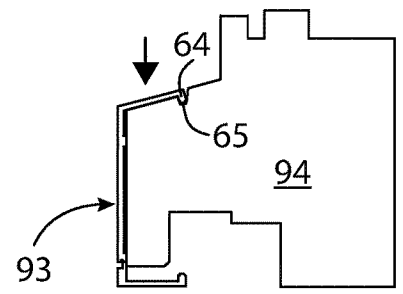


FIG. 27B

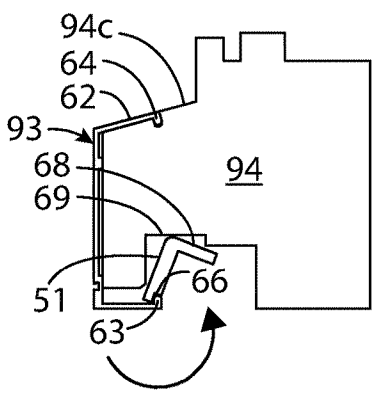


FIG. 27C

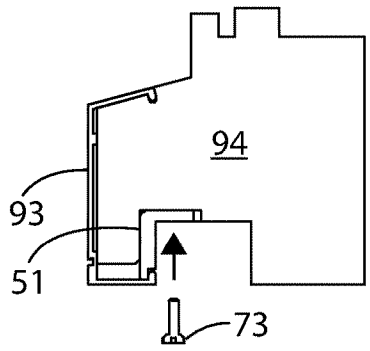


FIG. 27D

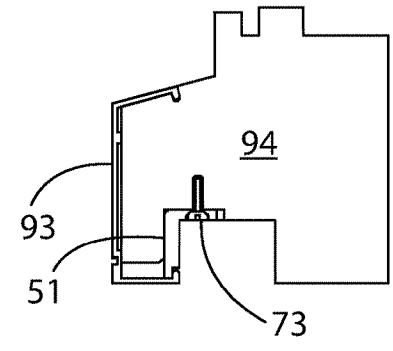


FIG. 27E