

RECEIPT NUMBER

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ORIGINAL

37
EX A-C

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

TAPCO INTERNATIONAL CORPORATION,
A Michigan corporation,

Plaintiff,

JUDGE : Duggan, Patrick J.
DECK : S. Division Civil Deck
DATE : 02/04/2005 @ 16:11:09
CASE NUMBER : 2:05CV70462
CMP TAPCO INTL CORP V. ALCOA
BLDG PROD INC (DA)

vs.

ALCOA BUILDING PRODUCTS, INC,
An Ohio Corporation,

Defendant.

Complaint and
Demand for Jury trial

HOWARD & HOWARD ATTORNEYS, P.C.

By: Jeffrey A. Sadowski (P28163)
John P. Scuryneck (P54146)

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MAGISTRATE JUDGE SCHEER

COMPLAINT AND DEMAND FOR JURY TRIAL

Plaintiff, Tapco International Corporation ("Tapco" or "Plaintiff") by and through its attorneys, Howard & Howard Attorneys, P.C. hereby demands a jury trial and alleges upon knowledge as to its own acts and upon information and belief as to all other matters as follows:

NATURE OF THE ACTION

1. This is an action for patent infringement under the Patent Laws of the United States. Tapco seeks a preliminary and permanent injunction to enjoin Alcoa Building Products, Inc. ("Alcoa" or "Defendant") from infringing Tapco's patents. Specifically, Alcoa designs, manufactures, and markets, *inter alia*, a certain plastic electrical block mounting product

("Alcoa Electrical Block") that infringe several of Tapco's patents. Tapco also seeks an award of damages as well as costs and attorneys' fees, for Alcoa's infringement of Tapco's rights.

JURISDICTION AND VENUE

2. This Court has jurisdiction pursuant to 28 U.S.C. §§1331 and 1332 as there is a federal question, as well as diversity between the parties, and the matter in controversy exceeds, exclusive of interests and costs, the sum of Seventy-Five Thousand and 00/100 (\$75,000.00) Dollars.

3. The cause of action for patent infringement arises under the Patent Laws of the United States, Title 35 U.S.C. § 271 and this Court has federal jurisdiction of this claim pursuant to §§1331, 1338, and 2201 et seq.

4. Jurisdiction over Alcoa comports with the United States Constitution and the long arm statute for the State of Michigan, §600.715 of Michigan Laws Annotated, because based on information and belief, Alcoa transacts significant business activities in Michigan.

5. Venue is proper in this District pursuant to 28 U.S.C. §1391 because Alcoa, a corporation, conducts business within this District, Alcoa engaged in, and continues to engage in, acts of offering for sale, selling and/or distributing Alcoa Electrical Blocks within this District, and Alcoa's Electrical Blocks, to which this action relates are marketed and sold within this District.

THE PARTIES

6. Plaintiff, Tapco International Corporation is a corporation of the State of Michigan with its principal place of business at 29797 Beck Road, Wixom, Michigan 48393.

7. Tapco is engaged in the design, manufacture, distribution and sale residential and commercial building products including various electrical and other wall mount blocks used for finishing the exterior of buildings around utility outlets ("Tapco Products").

8. Upon information and belief, Defendant Alcoa Building Products, Inc. is an Ohio corporation having its principal place of business located at 1501 West Michigan Avenue, Sidney, Ohio 45365. Alcoa Building Products is a wholly owned subsidiary of Aluminum Company of America.

9. Alcoa is engaged in the manufacture, distribution, sale, offer for sale and/or advertisement of a broad range of building supply products, including the Alcoa Electrical Block which is used for finishing the exterior of buildings around electrical outlets.

10. Tapco owns United States Patent No. 6,310,287 that was duly issued on October 30, 2001 for an invention entitled "Electrical Block" ("the '287 Patent")(Attached as Exhibit A is a true and correct copy of the '287 Patent).

11. Tapco owns United States Patent No. 6,359,220 that was duly issued on March 19, 2002 for an invention entitled "Electrical Block" ("the '220 Patent")(Attached as Exhibit B is a true and correct copy of the '220 Patent).

12. Tapco owns United States Patent No. 4,875,318 that was duly issued on October 24, 1989 for an invention entitled "Plastic Building Product" ("the '318 Patent")(Attached as Exhibit C is a true and correct copy of the '318 Patent).

13. Upon information and belief, Alcoa makes, uses, offers to sell, and/or sells the Alcoa Electrical Block, or components thereof, or otherwise engages in acts in violation of 35 U.S.C. §§ 271(a), (b), and (c).

COUNT I

**INFRINGEMENT OF THE '287 PATENT
(VIOLATION OF 35 U.S.C. §§ 101 AND 271)**

14. Tapco repeats and re-alleges each and every allegation contained in paragraphs 1 through 13 of this Complaint as if fully set forth herein.

15. Alcoa's willful and knowing unauthorized sale, manufacture, distribution, use and/or offer for sale of the Alcoa Electrical Block product that employs the subject matter of various claims of the '287 Patent violates Tapco's rights pursuant to Section 271 of Title 35 of the United States Code. As a result, Tapco is entitled to injunctive relief pursuant to 35 U.S.C. §283, and is entitled to damages, profits, costs and attorneys' fees pursuant to 17 U.S.C. §§284 and 285.

20. Unless Alcoa is enjoined from continuing the aforementioned acts, Tapco will continue to suffer irreparable harm.

COUNT II

**INFRINGEMENT OF THE '220 PATENT
(VIOLATION OF 35 U.S.C. §§ 101 AND 271)**

21. Tapco repeats and re-alleges each and every allegation contained in paragraphs 1 through 20 of this Complaint as if fully set forth herein.

22. Alcoa's willful and knowing unauthorized sale, manufacture, distribution, use and/or offer for sale of the Alcoa Electrical Block product that employs the subject matter of various claims of the '220 Patent violates Tapco's rights pursuant to Section 271 of Title 35 of the United States Code. As a result, Tapco is entitled to injunctive relief pursuant to 35 U.S.C.

§283, and is entitled to damages, profits, costs and attorneys' fees pursuant to 17 U.S.C. §§284 and 285.

23. Unless Alcoa is enjoined from continuing the aforementioned acts, Tapco will continue to suffer irreparable harm.

COUNT III

INFRINGEMENT OF THE '318 PATENT (VIOLATION OF 35 U.S.C. §§ 101 AND 271)

24. Tapco repeats and re-alleges each and every allegation contained in paragraphs 1 through 23 of this Complaint as if fully set forth herein.

25. Alcoa's willful and knowing unauthorized sale, manufacture, distribution, use and/or offer for sale of the Alcoa Electrical Block product that employs the subject matter of various claims of the '318 Patent violates Tapco's rights pursuant to Section 271 of Title 35 of the United States Code. As a result, Tapco is entitled to injunctive relief pursuant to 35 U.S.C. §283, and is entitled to damages, profits, costs and attorneys' fees pursuant to 17 U.S.C. §§284 and 285.

26. Unless Alcoa is enjoined from continuing the aforementioned acts, Tapco will continue to suffer irreparable harm.

PRAYER FOR RELIEF

WHEREFORE, Tapco prays for relief as follows:

- (a) That this Court find that Alcoa is willfully and knowingly infringing the patents in suit;

- (b) That actual damages sustained by Tapco attributable to Alcoa's unauthorized sale, manufacture, use and offer for sale of products that infringe the patents in suit be awarded and trebled;
- (c) That preliminary and permanent injunction issue against Alcoa for its infringing activity;
- (d) That Tapco be awarded its costs of the action;
- (e) That this case be deemed exceptional under 35 U.S.C. §285 for the conduct of Alcoa and that attorneys' fees be awarded to Tapco; and
- (f) Such other and further relief as the Court deems just and proper.

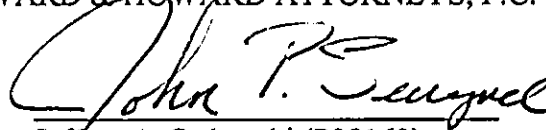
DEMAND FOR TRIAL BY JURY

TAPCO INTERNATIONAL CORPORATION, by and through its undersigned attorneys, and, pursuant to F. R. Civ. P. 38, hereby demands a trial by jury on all claims triable by a jury.

Respectfully submitted,

HOWARD & HOWARD ATTORNEYS, P.C.

By:



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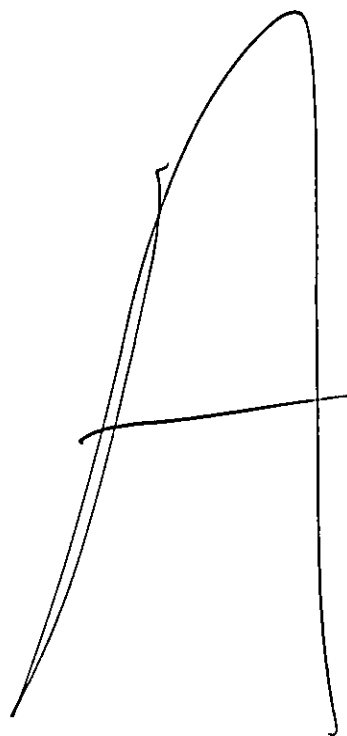
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Dated: Feb. 3, 2005

A handwritten signature consisting of a single capital letter 'A'. The letter is formed with a single continuous stroke that starts at the bottom left, curves upwards and to the right to form the top arch, then curves downwards and to the left to form the vertical stem. A horizontal crossbar is drawn across the middle of the letter.



US006310287B1

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

(10) **Patent No.:** **US 6,310,287 B1**
 (45) **Date of Patent:** **Oct. 30, 2001**

(54) **ELECTRICAL BLOCK**
 (75) **Inventors:** Charles E. Schiedegger, Metamora;
 Aundrea Nurenberg, Brown City;
 Clyde D. Allen, North Branch; Michael
 C. Clark, Columbiaville; J. Richard
 Logan, Oxford, all of MI (US)

(73) **Assignee:** Tapco International Corporation,
 Plymouth, MI (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.

(21) **Appl. No.:** 09/342,572

(22) **Filed:** Jun. 29, 1999

(51) **Int. Cl. 7** H01J 5/00

(52) **U.S. Cl.** 174/50; 174/17 CT; 174/48;
 174/50; 220/3.8; 220/3.9; 220/3.92; 439/535

(58) **Field of Search** 174/48, 50, 58,
 174/17 R, 63, 53, 66; 220/3.2, 3.3, 4.02,
 241, 3.8; 439/535; 248/343, 906; D13/152;
 D8/350-353

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Primary Examiner—Dean A. Reichard

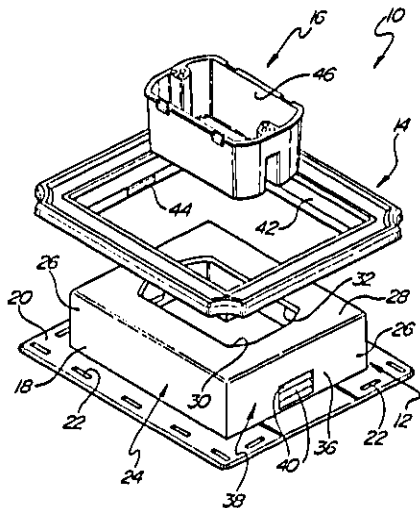
Assistant Examiner—Dhiru R Patel

(74) *Attorney, Agent, or Firm*—Howard & Howard

(57) **ABSTRACT**

An electrical block trim assembly that has a mount, a decorative ring, and a separate electrical box is provided. The mount has a base adapted to be secured to an exterior surface of a structure. The mount also has a housing extending from the base with a top portion that has an opening. Exterior covering, or siding, is attached to the exterior surface to surround a portion of the mount. A decorative ring is secured to the mount over the siding to conceal the edges of the siding that are adjacent to the mount. The decorative ring has an inner perimeter that is adjacent to the housing. An electrical box having walls with an upper portion is securely received and retained within the opening. The electrical box is interposed between the exterior surface and the top portion. The electrical box may be constructed of a different material than the mount and decorative ring.

17 Claims, 3 Drawing Sheets



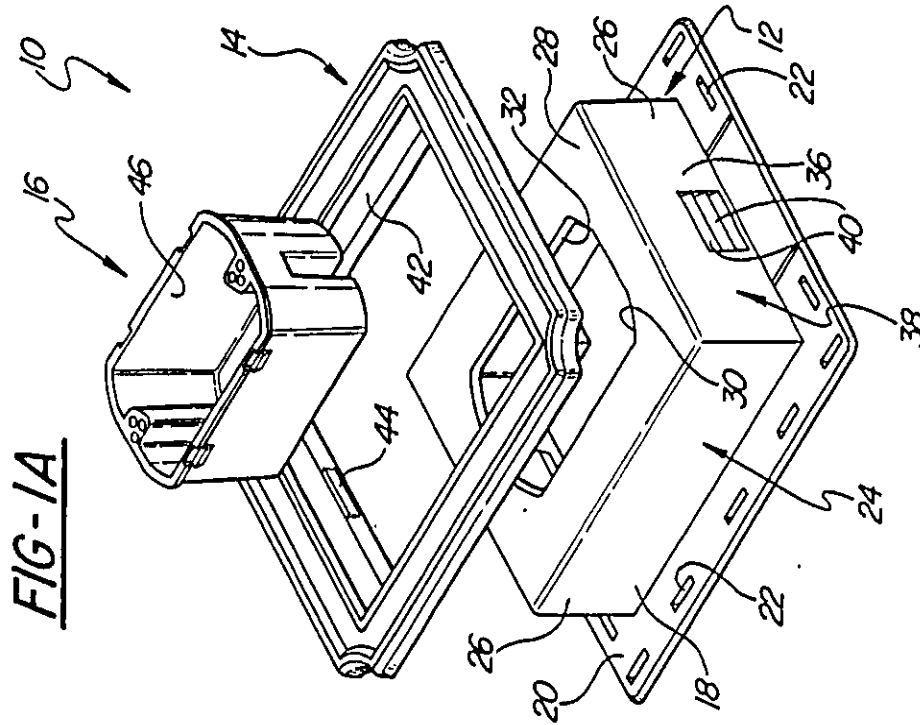


FIG-1A

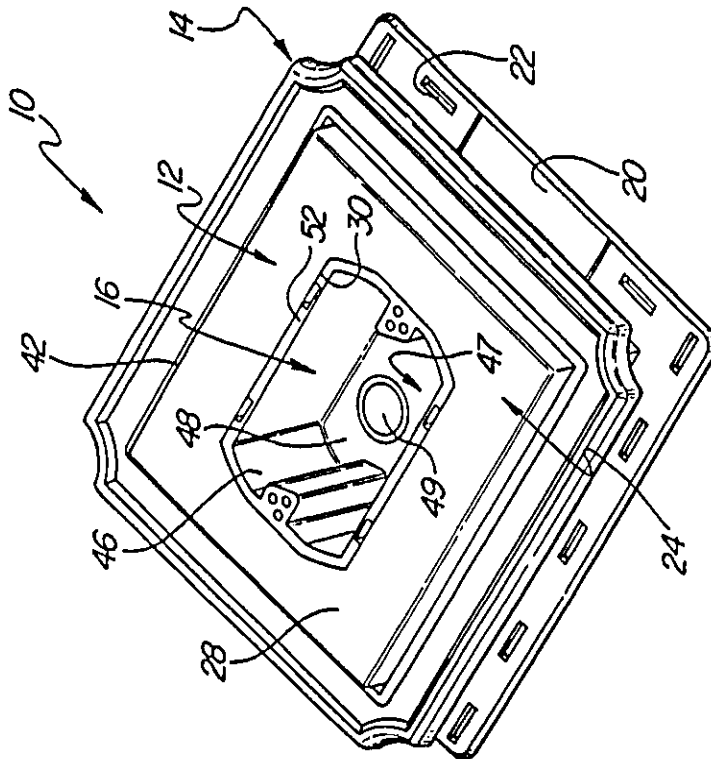
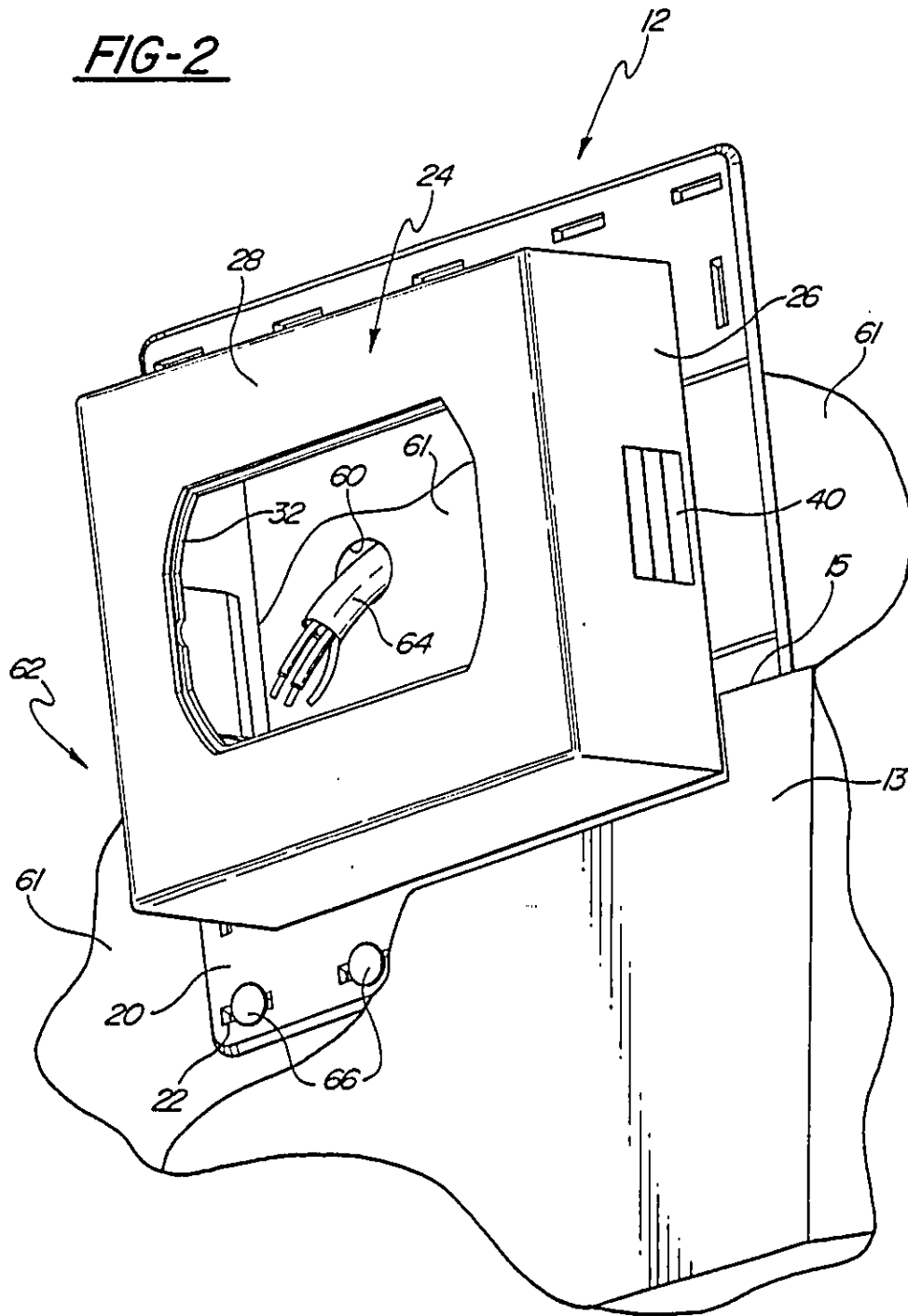


FIG-1B

FIG-2



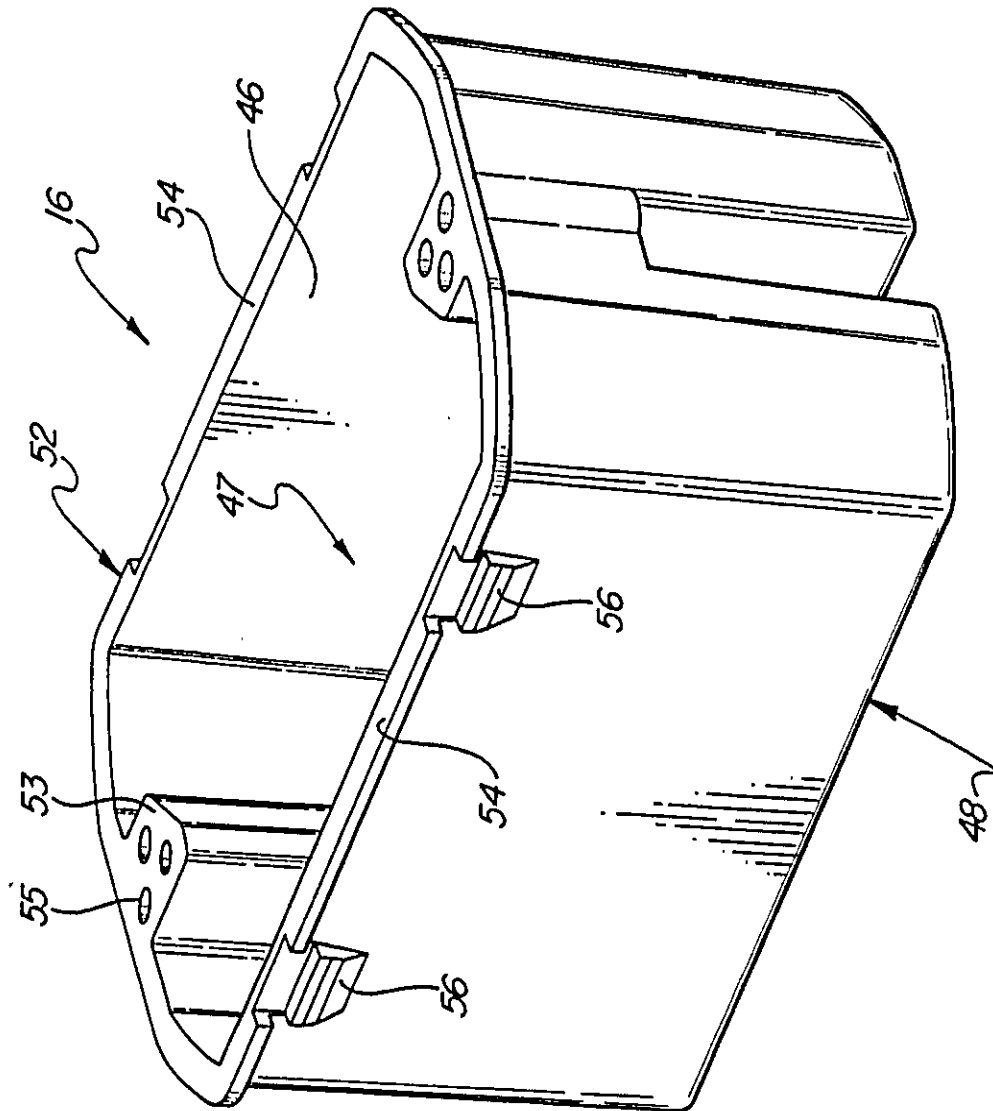


FIG-3

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ELECTRICAL BLOCK**BACKGROUND OF THE INVENTION****1. Technical Field**

This invention relates to a multi-piece electrical block trim assembly for use on an exterior surface of a structure. The assembly supports an electrical outlet or other electrical fixture, and is adapted to be used with siding or other exterior surface covering.

2. Discussion

Electrical blocks have been developed for use on the exterior surfaces of a structure. The electrical blocks provide a decorative means of attaching an electrical fixture or outlet to structures having an uneven surface, such as a surface to which vinyl or aluminum siding has been attached. The electrical blocks typically have a mount that is attached directly to the structure. Siding or some other decorative covering is attached to the structure around the mount. A decorative ring, which may either be integral with the mount or a separate piece, covers the edges of the siding that are adjacent to the mount, thus providing a more pleasing appearance. In the prior art, the electrical box either has been integrally formed with the mount, or the electrical box has been at least partially recessed into the surface of the structure. Both of these electrical block configurations have posed problems.

Electrical block assemblies which are at least partially recessed into the surface of the structure are inconvenient because the hole in the structure that receives the electrical box must be placed in a position in which it does not interfere with the supporting structure underlying the surface. Designs having electrical boxes that are integrally formed with the mount typically cannot be molded with a plastic material that has good weatherability and color characteristics while still providing a design that meets suggested safety requirements, such as those provided by Underwriters Laboratories.

Accordingly, it is an object of the present invention to provide a multi-piece electrical block that has good weatherability and color characteristics and has an electrical box that is capable of meeting suggested safety standards.

SUMMARY OF THE INVENTION

An electrical block trim assembly that has a mount, a decorative ring, and a separate electrical box provides the above and other objects of the invention. The mount has a base adapted to be secured to an exterior surface of a structure. The mount also has a housing extending from the base with a top portion that has an opening. Exterior covering, or siding, is attached to the exterior surface to surround a portion of the mount. A decorative ring is secured to the mount over the siding to conceal the edges of the siding that are adjacent to the mount. The decorative ring has an inner perimeter that is adjacent to the housing. An electrical box having walls with an upper portion is securely received and retained within the opening. The electrical box is interposed between the exterior surface and the top portion. The electrical box may be constructed of a different material than the mount and decorative ring.

DESCRIPTION OF THE DRAWINGS

The various advantages of the present invention will become apparent to one skilled in the art by reading the following specification and subjoined claims and by referencing the following drawings in which:

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FIG. 1A is an exploded perspective view of the electrical block of the present invention;

FIG. 1B is a perspective view of the present invention assembled;

FIG. 2 is a partial perspective view of a mount of the present invention attached to an exterior surface to which siding is attached; and

FIG. 3 is an enlarged perspective view of an electrical box of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIGS. 1A and 1B, an electrical block trim assembly 10 for use on an exterior surface of a structure is shown. The assembly 10 has three main components: a mount 12, a decorative ring 14, and an electrical box 16. The mount 12 has a base 18, or lower portion, from which a flange 20 extends. The flange 20 has a plurality of holes 22 adapted to accommodate fasteners which are used to attach the mount 12 to the exterior surface. A rectangular housing 24 is defined by a plurality of side walls 26 that extend from the base 18. Although using a rectangular shaped housing simplifies installation of siding around the assembly, it is to be understood that the housing 24 can be any desired shape.

The housing 24 has a top portion 28 disposed between the side walls 26 opposite from the base 18. The top portion 28 has an opening 30 and a ledge 32 formed about the opening 30, which is best shown in FIG. 2. The ledge 32 forms a first interlocking member that is used to secure and retain the electrical box 16 to the mount 12, as described in detail below. With continuing reference to FIGS. 1A and 1B, the housing 24 has an outer surface 36 with opposing portions 38 located on opposite side walls 26, only one of which can be seen in the Figures. Each of the portions 38 has grooves 40 that are adjacent to one another and that run parallel to the base 18.

The decorative ring 14 is secured to the mount 12 over the siding 13 to conceal the edges 15, as best shown in FIG. 2. With continuing reference to FIGS. 1A and 1B, the decorative ring 14 has an rectangular inner perimeter 42 that corresponds to the contour of the housing 24. The inner perimeter 42 has opposing protrusions 44, only one of which can be seen in the Figures, that are aligned with the grooves 40 so that the protrusions 44 interlock with the grooves 40 when the decorative ring 14 is installed over the mount 12. By providing multiple adjacent grooves 40, the decorative ring 14 may be installed closely to sidings 13 of varying thickness.

The electrical box 16 is secured to the mount 12 during installation of the assembly 10. The electrical box 16 has walls 46 with a bottom portion 48 disposed between lower portions of the walls 46, which form a cavity 47 to accommodate wires and other electrical components. At least one knock-out 49 is provided on the bottom portion 48 so that the knock-out 49 may be removed and wires may be passed through the resulting opening and into the electrical box cavity 47.

The electrical box 16 has a second interlocking member that coacts with said first interlocking member and secures said electrical box to the mount 12. As best shown in FIG. 3, the walls 46 have an upper portion 52 with a lip 54 that is securely received and retained within the opening 30 and supported by the ledge 32. The upper portion 52 has attachment portions 53 with holes 55 to which electrical fixtures may be fastened.

The upper portion 52 has at least one tab 56 that is proximate to the lip 54. The ledge 32 forms the first

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interlocking member and the lip 54 and at least one tab 56 form the second interlocking member. The tabs 56 secure the electrical box 16 to the mount 12 by receiving the ledge 32 between the lip 54 and the tabs 56. In this manner, the electrical box 16 is snapped into the opening 30 in the mount 12. However, it is to be understood that the electrical box 16 may be retained in the opening 30 using any suitable mechanism. For example, a different interlocking configuration may be used, or an interference fit between the electrical box 16 and opening 30 may be used.

The present invention provides an improved method of installation. Returning now to FIG. 2, a hole 60 is made in a surface 61 of a structure 62 through which electrical wires 64 are fed. The mount 12 is secured to the surface 61 by a plurality of fasteners 66 disposed within holes 22. Exterior covering, or siding 13, is installed on the surface 61 surrounding a portion of the mount 12. The decorative ring 14 (not shown) is installed over the siding 13 and secured to the mount 12 by protrusions 44 and grooves 40. The electrical box 16 is snapped into the opening 30 so that it is positioned between the exterior surface 61 and the top portion 28. First and second interlocking members secure the electrical box 16 to the mount 12. The wires 64 are received in the cavity 47 through a removed knock-out 49.

Since the mount 12 and the electrical box 16 are separate components of the assembly 10, they may be constructed from different plastic materials. This enables plastic materials having different characteristics to be used. For example, a plastic suitable for electrical boxes may be used when constructing the electrical box, and a plastic suitable for molding in a wide variety of colors and which has good weatherability may be used for the mount 12 and decorative ring 14. It is also contemplated by Applicants that the mount 12 and electrical box 16 be provided as a preassembled unit, securely snapped together.

Those skilled in the art can now appreciate from the foregoing description that the broad teachings of the present invention can be implemented in a variety of forms. Therefore, while this invention has been described in connection with particular examples thereof, the true scope of the invention should not be so limited since other modifications will become apparent to the skilled practitioner upon a study of the drawings, specification and following claims.

What is claimed is:

1. An electrical block trim assembly for use on an exterior surface of a structure comprising:

a mount having a base adapted to be secured to an exterior surface and a housing extending from said base, said housing having top portion with an opening;

exterior covering surrounding a portion of said mount;

a decorative ring secured to said mount over siding, said decorative ring having an inner perimeter adjacent to said housing; and

an electrical box having walls with an upper portion that is securely received and retained within said opening, said electrical box interposed between the exterior surface and said top portion.

2. The assembly as set forth in claim 1 wherein said base has a flange extending therefrom, said flange having a plurality of holes adapted to accommodate fasteners to attach said mount to the exterior surface.

3. The assembly as set forth in claim 1 wherein said housing has an outer surface with opposing portions, one of said opposing portions and said inner perimeter of said ring having grooves and the other of said opposing portions and said inner perimeter of said ring having opposing protrusions that are aligned with said grooves wherein said protrusions interlocks with said grooves.

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4. The assembly as set forth in claim 3 wherein said opposing portions have opposing grooves and inner perimeter has said opposing protrusions.

5. The assembly as set forth in claim 1 wherein said inner perimeter has a rectangular shape and said housing has a complementary rectangular shape.

6. The assembly as set forth in claim 1 wherein said mount has a first interlocking member and said electrical box has a second interlocking member that coacts with said first interlocking member and secures said electrical box to said mount.

7. The assembly as set forth in claim 6 wherein said top portion of the mount has a ledge about said opening, and said upper portion of said electrical box has a lip that abuts said ledge.

8. The assembly as set forth in claim 7 wherein said upper portion has at least one tab proximate to said lip, said ledge forming said first interlocking member and said lip and said at least one tab forming said second interlocking member, said at least one tab secures said electrical box to said mount by receiving said ledge between said lip and said at least one tab.

9. The assembly as set forth in claim 1 wherein said mount is constructed from a first plastic material and said electrical box is constructed from a second plastic material that is different from said first plastic material.

10. The assembly as set forth in claim 1 wherein said exterior covering is siding.

11. A multi-piece electrical block device for attaching to a surface of a structure comprising:

a mount having a base adapted to abut a surface and a housing extending from said base, said housing having an opening; and

an electrical box having walls with an upper portion, said opening sized to receive and adapted to securely retain said upper portion; and

a ring having an inner perimeter sized to receive said housing.

12. A multi-piece electrical block device for attaching to a surface of a structure comprising:

a mount having a base adapted to abut a surface and a housing extending from said base, said housing having an opening; and

an electrical box having walls with an upper portion, said opening sized to receive and adapted to securely retain said upper portion; and

a ring having an inner perimeter sized to receive said housing;

wherein said housing has an exterior surface with opposing portions, one of said opposing portions in said inner perimeter of said ring having opposing grooves and the other of said opposing portions and said inner perimeter having opposing protrusions that are aligned with said opposing grooves wherein said protrusions are adapted to interlock with said grooves when said ring receives said housing.

13. A multi-piece electrical block device for attaching to a surface of a structure comprising:

a mount having a base adapted to abut a surface and a housing extending from said base, said housing having an opening; and

an electrical box having walls with an upper portion, said opening sized to receive and adapted to securely retain said upper portion; and

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a ring having an inner perimeter sized to receive said housing;

wherein said housing has an exterior surface with opposing portions, having opposing grooves and said inner perimeter of said ring having opposing protrusions that are aligned with said opposing grooves wherein said protrusions are adapted to interlock with said grooves when said ring receives said housing.

14. A multi-piece electrical block device for attaching to a surface of a structure comprising:

a mount having a base adapted to abut a surface and a housing extending from said base, said housing having an opening; and

an electrical box having walls with an upper portion, said opening sized to receive and adapted to securely retain said upper portion;

wherein said mount has a first interlocking member and said electrical box has a second interlocking member adapted to co-act with said first interlocking member and secure said electrical box to said mount when said mount receives said electrical box.

15. A multi-piece electrical box device for attaching to a surface of a structure comprising:

a mount having a base adapted to abut a surface and a housing extending from said base, said housing having an opening, wherein said housing has a top portion with said opening in said top portion, said top portion having a ledge about said opening; and

an electrical box having walls with an upper portion, said opening sized to receive and adapted to securely retain said upper portion, said upper portion having a lip

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adapted to abut said ledge when said opening receives said electrical box;

wherein said mount has a first interlocking member and said electrical box has a second interlocking member adapted to co-act with said first interlocking member and secure said electrical box to said mount when said mount receives said electrical box.

16. A multi-piece electrical block device for attaching to a surface of a structure comprising:

a mount having a base adapted to abut a surface and a housing extending from said base, said housing having an opening, wherein said housing has a top portion with said opening in said top portion, said top portion having a ledge about said opening; and

an electrical box having walls with an upper portion, said opening sized to receive and adapted to securely retain said upper portion, said upper portion having a lip adapted to abut said ledge when said opening receives said electrical box;

wherein said upper portion has at least one tab proximate to said lip, said ledge forming said first interlocking member and said lip and said at least one tab forming said second interlocking member, said at least one tab being adapted to secure said electrical box to said mount by receiving said ledge between said lip and said at least one tab.

17. The multi-piece electrical box device for attaching to a surface of a structure of claim 11 wherein said mount is constructed of a first plastic material and said electrical box is constructed of a second plastic material.

* * * * *

B



US006359220B2



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

(10) **Patent No.:** US 6,359,220 B2
 (45) **Date of Patent:** *Mar. 19, 2002

(54) **ELECTRICAL BLOCK**

(76) **Inventors:** Charles E. Schiedegger, 2848 Galway Bay, Metamora, MI (US) 48455; Aundrea Nurenberg, 1734 Wellman Rd., Brown City, MI (US) 48416; Clyde D. Allen, 4819 Millis Rd., North Branch, MI (US) 48461; Michael C. Clark, 4104 Flint River Rd., Columbiaville, MI (US) 48421; J. Richard Logan, 539 Thornehill Trail, Oxford, MI (US) 48371

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(*) **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.

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* cited by examiner

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(22) **Filed:** Feb. 21, 2001

Related U.S. Application Data

(63) Continuation of application No. 09/342,572, filed on Jun. 29, 1999.

(51) **Int. Cl.⁷** H02G 3/08

(52) **U.S. Cl.** 174/50; 174/58; 174/63; 220/3.8; 220/3.9; 439/535

(58) **Field of Search** 174/48, 50, 58, 174/63, 60, 17 R, 53; 220/3.6, 3.8, 4.02, 3.2, 3.9; 439/535; 248/906; 33/528, DIG. 10; 361/641

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Primary Examiner—Dean A. Reichard

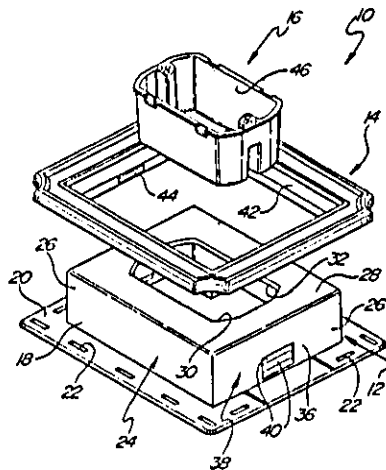
Assistant Examiner—Dhiru R Patel

(74) *Attorney, Agent, or Firm*—Howard & Howard

(57) **ABSTRACT**

An electrical block trim assembly that has a mount, a decorative ring, and a separate electrical box is provided. The mount has a base adapted to be secured to an exterior surface of a structure. The mount also has a housing extending from the base with a top portion that has an opening. Exterior covering, or siding, is attached to the exterior surface to surround a portion of the mount. A decorative ring is secured to the mount over the siding to conceal the edges of the siding that are adjacent to the mount. The decorative ring has an inner perimeter that is adjacent to the housing. An electrical box having walls with an upper portion is securely received and retained within the opening. The electrical box is interposed between the exterior surface and the top portion. The electrical box may be constructed of a different material than the mount and decorative ring.

20 Claims, 3 Drawing Sheets



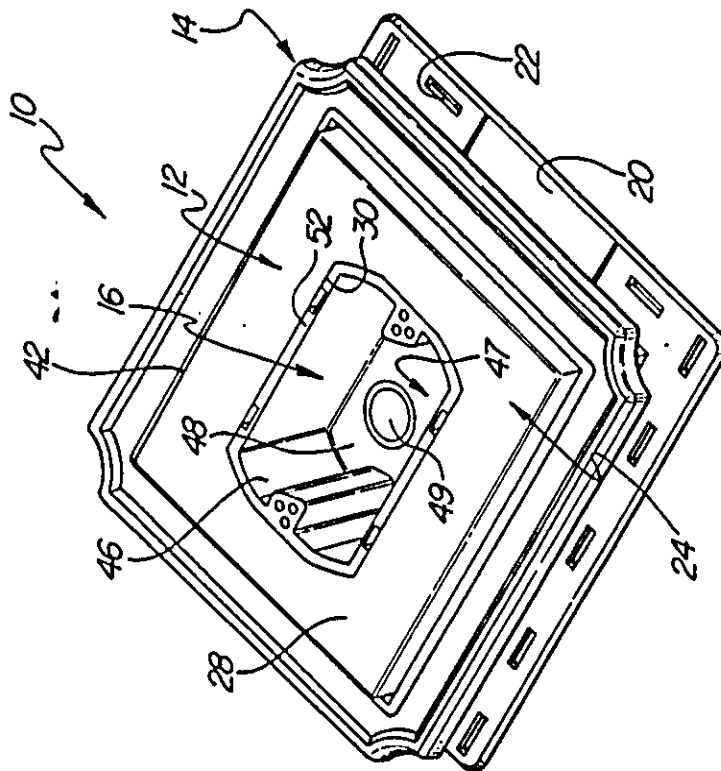
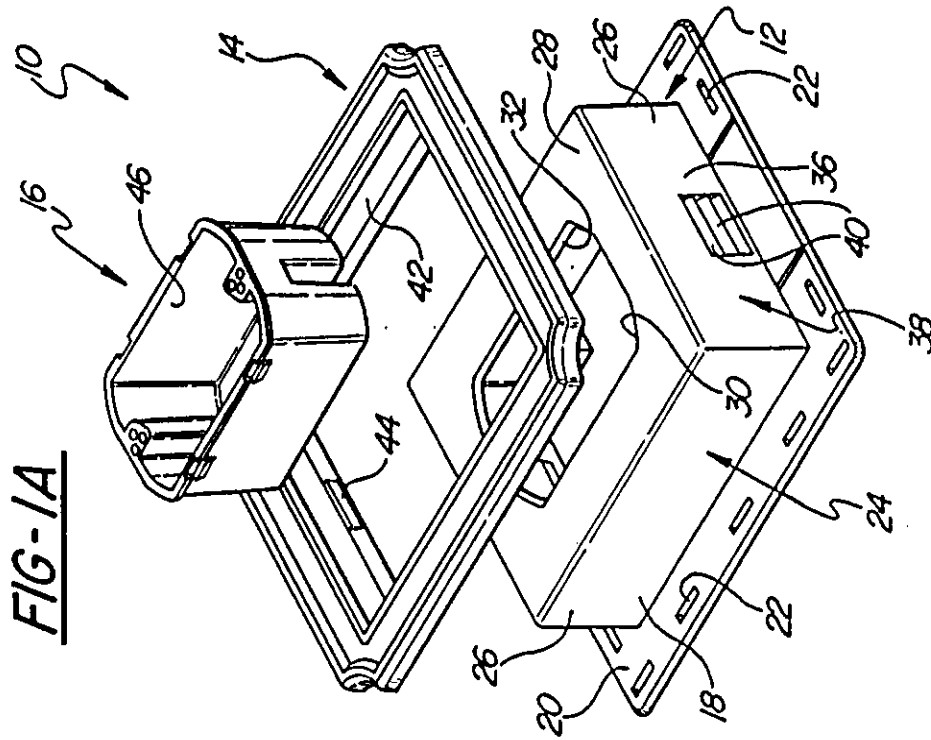
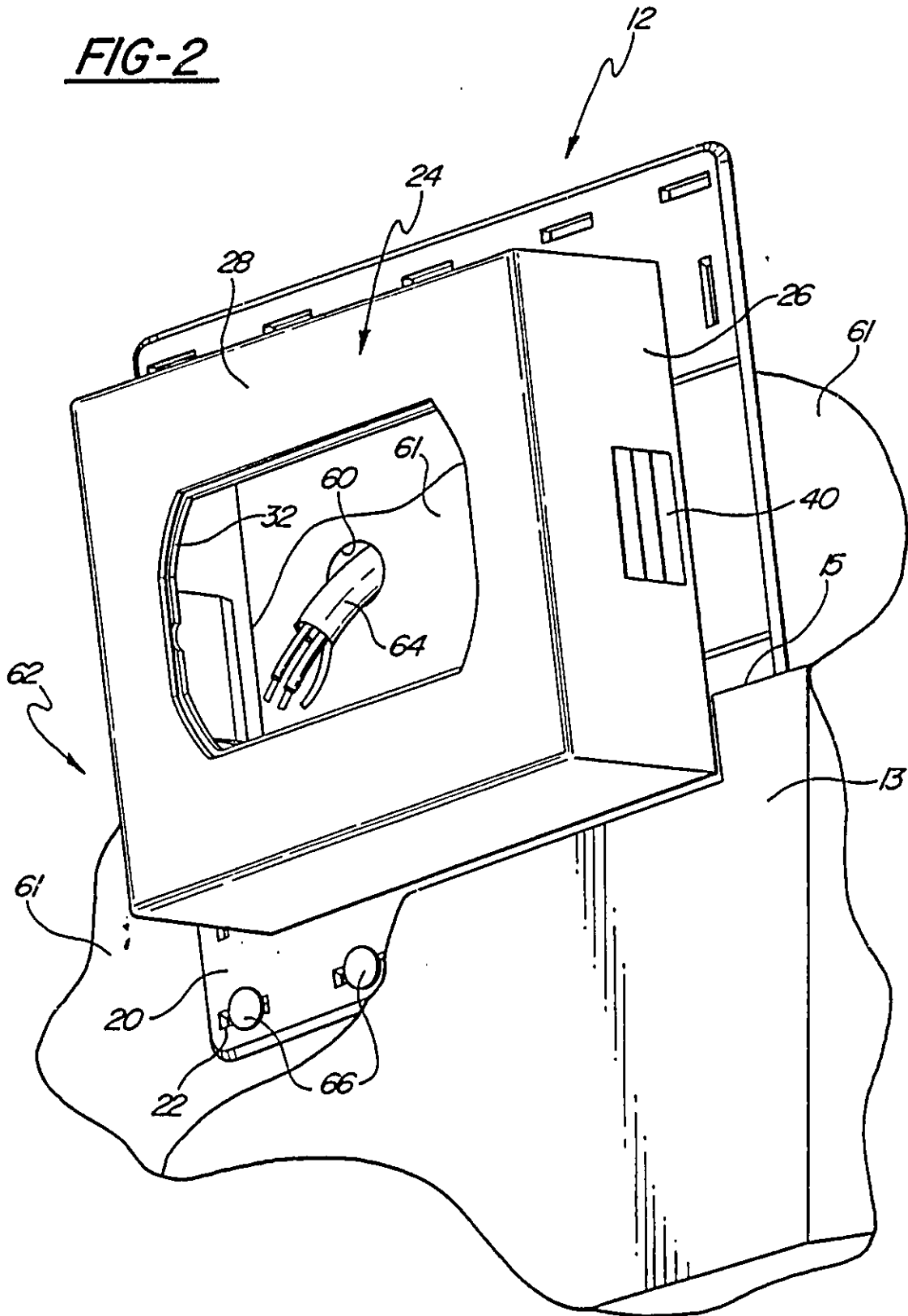


FIG-2



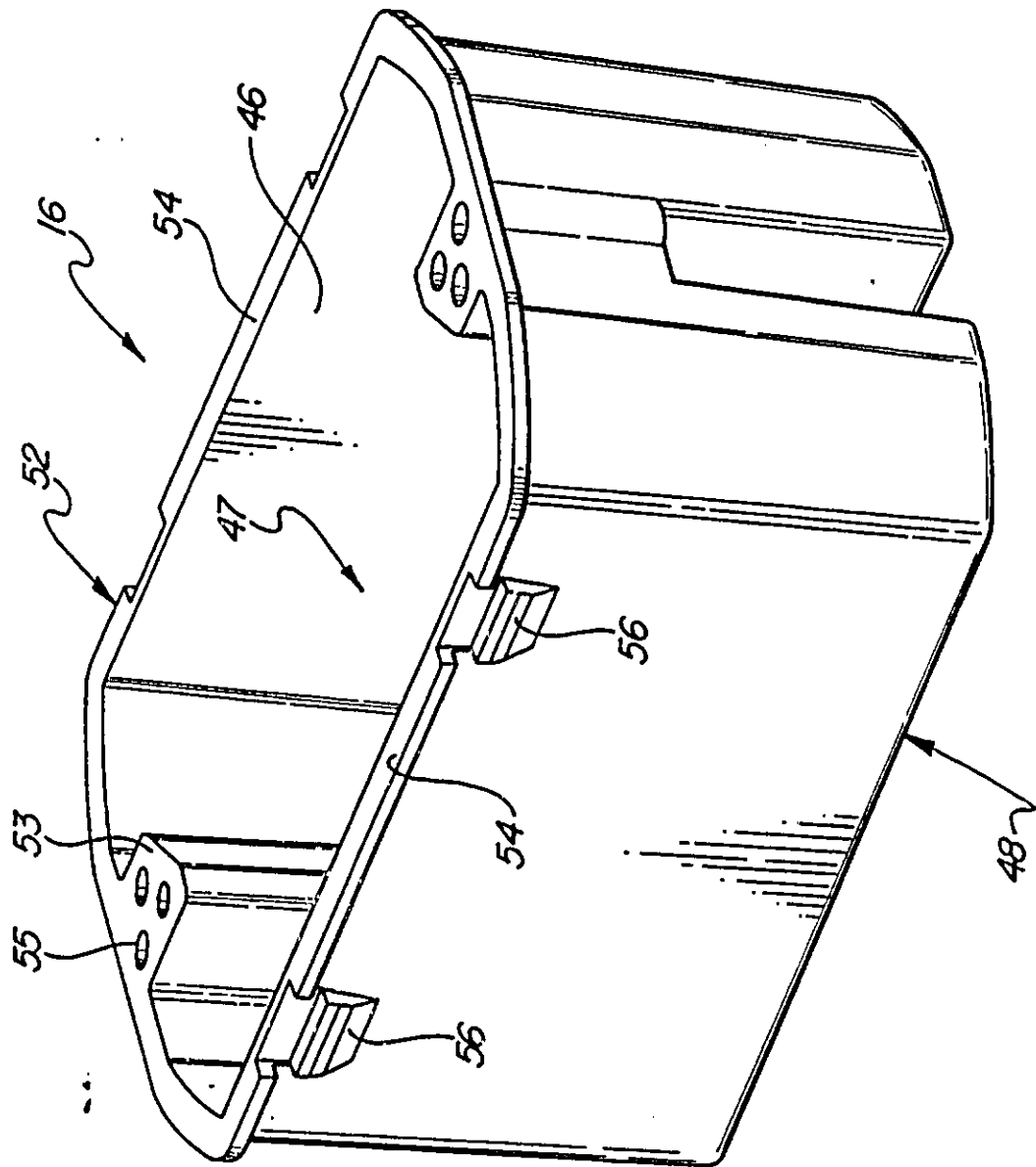


FIG-3

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ELECTRICAL BLOCK

This application is a continuation of presently U.S. Ser. No. 09/342,572 filed Jun. 29, 1999.

BACKGROUND OF THE INVENTION

1. Technical Field

This invention relates to a multi-piece electrical block trim assembly for use on an exterior surface of a structure. The assembly supports an electrical outlet or other electrical fixture, and is adapted to be used with siding or other exterior surface covering.

2. Discussion

Electrical blocks have been developed for use on the exterior surfaces of a structure. The electrical blocks provide a decorative means of attaching an electrical fixture or outlet to structures having an uneven surface, such as a surface to which vinyl or aluminum siding has been attached. The electrical blocks typically have a mount that is attached directly to the structure. Siding or some other decorative covering is attached to the structure around the mount. A decorative ring, which may either be integral with the mount or a separate piece, covers the edges of the siding that are adjacent to the mount, thus providing a more pleasing appearance. In the prior art, the electrical box either has been integrally formed with the mount, or the electrical box has been at least partially recessed into the surface of the structure. Both of these electrical block configurations have posed problems.

Electrical block assemblies which are at least partially recessed into the surface of the structure are inconvenient because the hole in the structure that receives the electrical box must be placed in a position in which it does not interfere with the supporting structure underlying the surface. Designs having electrical boxes that are integrally formed with the mount typically cannot be molded with a plastic material that has good weatherability and color characteristics while still providing a design that meets suggested safety requirements, such as those provided by Underwriters Laboratories.

Accordingly, it is an object of the present invention to provide a multi-piece electrical block that has good weatherability and color characteristics and has an electrical box that is capable of meeting suggested safety standards.

SUMMARY OF THE INVENTION

An electrical block trim assembly that has a mount, a decorative ring, and a separate electrical box provides the above and other objects of the invention. The mount has a base adapted to be secured to an exterior surface of a structure. The mount also has a housing extending from the base with a top portion that has an opening. Exterior covering, or siding, is attached to the exterior surface to surround a portion of the mount. A decorative ring is secured to the mount over the siding to conceal the edges of the siding that are adjacent to the mount. The decorative ring has an inner perimeter that is adjacent to the housing. An electrical box having walls with an upper portion is securely received and retained within the opening. The electrical box is interposed between the exterior surface and the top portion. The electrical box may be constructed of a different material than the mount and decorative ring.

BRIEF DESCRIPTION OF THE DRAWINGS

The various advantages of the present invention will become apparent to one skilled in the art by reading the

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following specification and subjoined claims and by referring to the following drawings in which:

FIG. 1A is an exploded perspective view of the electrical block of the present invention;

FIG. 1B is a perspective view of the present invention assembled;

FIG. 2 is a partial perspective view of a mount of the present invention attached to an exterior surface to which siding is attached; and

FIG. 3 is an enlarged perspective view of an electrical box of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIGS. 1A and 1B, an electrical block trim assembly 10 for use on an exterior surface of a structure is shown. The assembly 10 has three main components: a mount 12, a decorative ring 14, and an electrical box 16. The mount 12 has a base 18, or lower portion, from which a flange 20 extends. The flange 20 has a plurality of holes 22 adapted to accommodate fasteners which are used to attach the mount 12 to the exterior surface. A rectangular housing 24 is defined by a plurality of side walls 26 that extend from the base 18. Although using a rectangular shaped housing simplifies installation of siding around the assembly, it is to be understood that the housing 24 can be any desired shape.

The housing 24 has a top portion 28 disposed between the side walls 26 opposite from the base 18. The top portion 28 has an opening 30 and a ledge 32 formed about the opening 30, which is best shown in FIG. 2. The ledge 32 forms a first interlocking member that is used to secure and retain the electrical box 16 to the mount 12, as described in detail below. With continuing reference to FIGS. 1A and 1B, the housing 24 has an outer surface 36 with opposing portions 38 located on opposite side walls 26, only one of which can be seen in the Figures. Each of the portions 38 has grooves 40 that are adjacent to one another and that run parallel to the base 18.

The decorative ring 14 is secured to the mount 12 over the siding 13 to conceal the edges 15, as best shown in FIG. 2. With continuing reference to FIGS. 1A and 1B, the decorative ring 14 has an rectangular inner perimeter 42 that corresponds to the contour of the housing 24. The inner perimeter 42 has opposing protrusions 44, only one of which can be seen in the Figures, that are aligned with the grooves 40 so that the protrusions 44 interlock with the grooves 40 when the decorative ring 14 is installed over the mount 12. By providing multiple adjacent grooves 40, the decorative ring 14 may be installed closely to sidings 13 of varying thickness.

The electrical box 16 is secured to the mount 12 during installation of the assembly 10. The electrical box 16 has walls 46 with a bottom portion 48 disposed between lower portions of the walls 46, which form a cavity 47 to accommodate wires and other electrical components. At least one knock-out 49 is provided on the bottom portion 48 so that the knock-out 49 may be removed and wires may be passed through the resulting opening and into the electrical box cavity 47.

The electrical box 16 has a second interlocking member that coacts with said first interlocking member and secures said electrical box to the mount 12. As best shown in FIG. 3, the walls 46 have an upper portion 52 with a lip 54 that is securely received and retained within the opening 30 and supported by the ledge 32. The upper portion 52 has

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attachment portions 53 with holes 55 to which electrical fixtures may be fastened.

The upper portion 52 has at least one tab 56 that is proximate to the lip 54. The ledge 32 forms the first interlocking member and the lip 54 and at least one tab 56 form the second interlocking member. The tabs 56 secure the electrical box 16 to the mount 12 by receiving the ledge 32 between the lip 54 and the tabs 56. In this manner, the electrical box 16 is snapped into the opening 30 in the mount 12. However, it is to be understood that the electrical box 16 may be retained in the opening 30 using any suitable mechanism. For example, a different interlocking configuration may be used, or an interference fit between the electrical box 16 and opening 30 may be used.

The present invention provides an improved method of installation. Returning now to FIG. 2, a hole 60 is made in a surface 61 of a structure 62 through which electrical wires 64 are fed. The mount 12 is secured to the surface 61 by a plurality of fasteners 66 disposed within holes 22. Exterior covering, or siding 13, is installed on the surface 61 surrounding a portion of the mount 12. The decorative ring 14 (not shown) is installed over the siding 13 and secured to the mount 12 by protrusions 44 and groves 40. The electrical box 16 is snapped into the opening 30 so that it is positioned between the exterior surface 61 and the top portion 28. First and second interlocking members secure the electrical box 16 to the mount 12. The wires 64 are received in the cavity 47 through a removed knock-out 49.

Since the mount 12 and the electrical box 16 are separate components of the assembly 10, they may be constructed from different plastic materials. This enables plastic materials having different characteristics to be used. For example, a plastic suitable for electrical boxes may be used when constructing the electrical box, and a plastic suitable for molding in a wide variety of colors and which has good weatherability may be used for the mount 12 and decorative ring 14. It is also contemplated by Applicants that the mount 12 and electrical box 16 be provided as a preassembled unit, securely snapped together.

Those skilled in the art can now appreciate from the foregoing description that the broad teachings of the present invention can be implemented in a variety of forms. Therefore, while this invention has been described in connection with particular examples thereof, the true scope of the invention should not be so limited since other modifications will become apparent to the skilled practitioner upon a study of the drawings, specification and following claims.

What is claimed is:

1. A multi-piece electrical block device for attaching to a surface of a structure comprising:

a mount having a base adapted to abut a surface and a housing extending from said base, said housing having an opening; and

an electrical box having walls with an upper portion, said upper portion including a lip that is securely received and retained within said opening, said opening sized to receive and adapted to securely retain said upper portion.

2. The device as set forth in claim 1 wherein said base has a flange extending therefrom, said flange having a plurality of holes adapted to accommodate fasteners to attach said mount to the surface.

3. The device as set forth in claim 1 further comprising, a decorative ring having an inner perimeter sized to receive said housing.

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4. The device as set forth in claim 3 wherein said housing has an exterior surface with opposing portions, one of said opposing portions and said inner perimeter of said ring having opposing grooves and the other of said opposing portions and said inner perimeter having opposing protrusions that are aligned with said opposing grooves wherein said protrusions are adapted to interlock with said grooves when said ring receives said housing.

5. The device as set forth in claim 4 wherein said opposing portions have said opposing grooves and said inner perimeter has said opposing protrusions.

6. The device as set forth in claim 3 wherein an inner perimeter has a rectangular shape and said housing has a complementary rectangular shape adapted to be received by said inner perimeter.

7. The device as set forth in claim 1 wherein said mount has a first interlocking member and said electrical box has a second interlocking member adapted to coact with said first interlocking member and secure said electrical box to said mount when said mount receives said electrical box.

8. The device as set forth in claim 7 wherein said housing has a top portion with said opening in said top portion, said top portion having a ledge about said opening, and said upper portion has a lip adapted to abut said ledge when said opening receives said electrical box.

9. The device as set forth in claim 8 wherein said upper portion has at least one tab proximate to said lip, said ledge forming said first interlocking member and said lip and said at least one tab forming said second interlocking member, said at least one tab being adapted to secure said electrical box to said mount by receiving said ledge between said lip and said at least one tab.

10. The device as set forth in claim 1 wherein said mount is constructed from a first plastic material and said electrical box is constructed from a second plastic material that is different from said first plastic material.

11. An electrical block trim assembly for use on an exterior surface of a structure comprising:

a mount having a base adapted to be secured to an exterior surface and a housing extending from said base, said housing having top portion with an opening;

to exterior covering surrounding a portion of said mount; a decorative ring secured to said mount over siding, said decorative ring having an inner perimeter adjacent to said housing; and

an electrical box having walls with an upper portion that is securely received and retained within said opening, said electrical box interposed between the exterior surface and said top portion.

12. The assembly as set forth in claim 11 wherein said base has a flange extending therefrom, said flange having a plurality of holes adapted to accommodate fasteners to attach said mount to the exterior surface.

13. The assembly as set forth in claim 11 wherein said housing has an outer surface with opposing portions, one of said opposing portions and said inner perimeter of said ring having grooves and the other of said opposing portions and said inner perimeter of said ring having opposing protrusions that are aligned with said grooves wherein said protrusions interlocks with said grooves.

14. The assembly as set forth in claim 13 wherein said opposing portions have said opposing grooves and said inner perimeter has said opposing protrusions.

15. The assembly as set forth in claim 11 wherein said inner perimeter has a rectangular shape and said housing has a complementary rectangular shape.

16. The assembly as set forth in claim 11 wherein said mount has a first interlocking member and said electrical

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box has a second interlocking member that coacts with said first interlocking member and secures said electrical box to said mount.

17. The assembly as set forth in claim 16 wherein said top portion of the mount has a ledge about said opening, and said upper portion of said electrical box has a lip that abuts said ledge.

18. The assembly as set forth in claim 17 wherein said upper portion has at least one tab proximate to said lip, said ledge forming said first interlocking member and said lip and said at least one tab forming said second interlocking

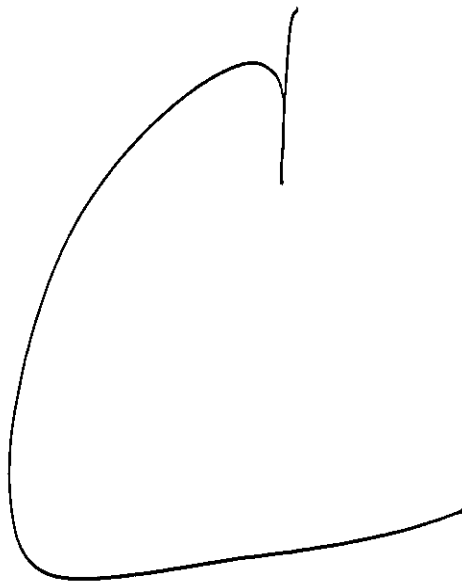
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member, said at least one tab secures said electrical box to said mount by receiving said ledge between said lip and said at least one tab.

19. The assembly as set forth in claim 11 wherein said mount is constructed from a first plastic material and said electrical box is constructed from a second plastic material that is different from said first plastic material.

20. The assembly as set forth in claim 11 wherein said exterior covering is siding.

* * * * *

A handwritten mark or signature consisting of a large, sweeping curve that starts on the left, goes up and over to the right, then comes down and curves back to the left, ending in a small vertical stroke pointing upwards.

United States Patent [19]

[11] Patent Number: **4,875,318**

MacLeod et al.

[45] Date of Patent: **Oct. 24, 1989**

[54] **PLASTIC BUILDING PRODUCT**

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2149494 9/1984 United Kingdom 98/37

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Attorney, Agent, or Firm—Barnes, Kisselle, Raisch,
Choate, Whittemore & Hulbert

[21] Appl. No.: 192,237

[57] **ABSTRACT**

[22] Filed: May 10, 1988

A plastic building product for placement on the wall of a building to provide a louver or window wherein siding abuts the product the product comprises a plastic body having a peripheral wall circumscribing the louver or window, an integral flange extending laterally from the wall for fastening the body to the wall of a building, and a movable flange member telescoped over the peripheral wall of the body. The flange member includes a laterally extending flange adapted to overlie portions of abutting siding or the like. The flange member and the peripheral wall include interengaging portions for selectively positioning the flange member at predetermined distances which respect to the flange on the body to accommodate siding of varying thickness.

[51] Int. Cl.⁴ E06B 1/04

[52] U.S. Cl. 52/211; 52/302

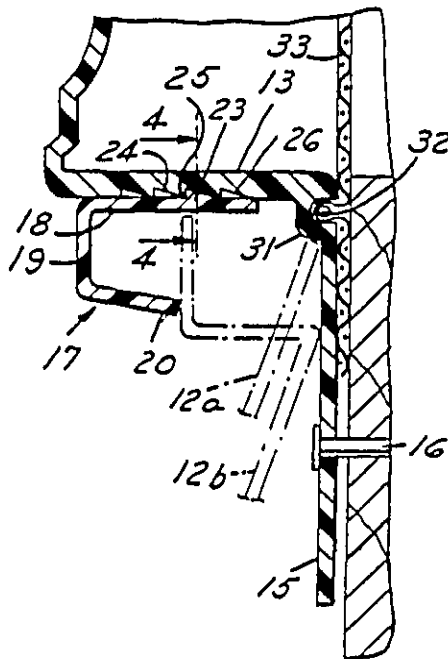
[58] Field of Search 52/58, 200, 208, 211,
52/212, 302, 303; 98/32, 37, 121.1

[56] **References Cited**

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21 Claims, 4 Drawing Sheets



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FIG. 8

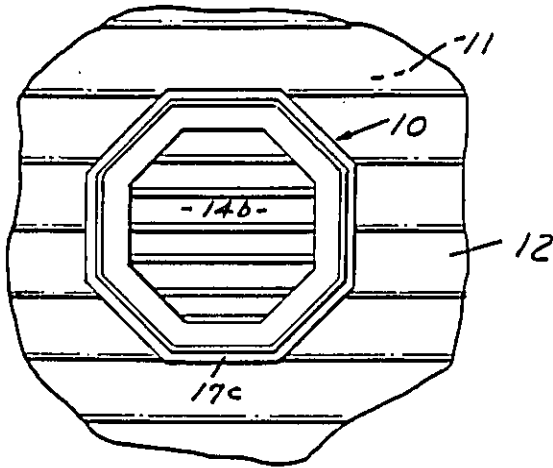


FIG. 9

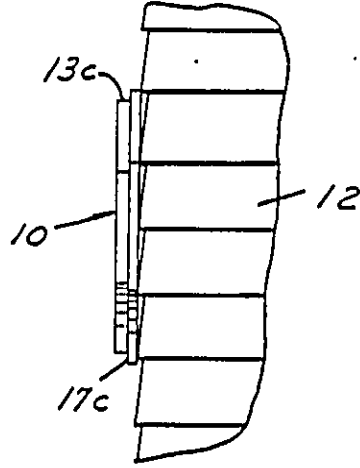


FIG. 10

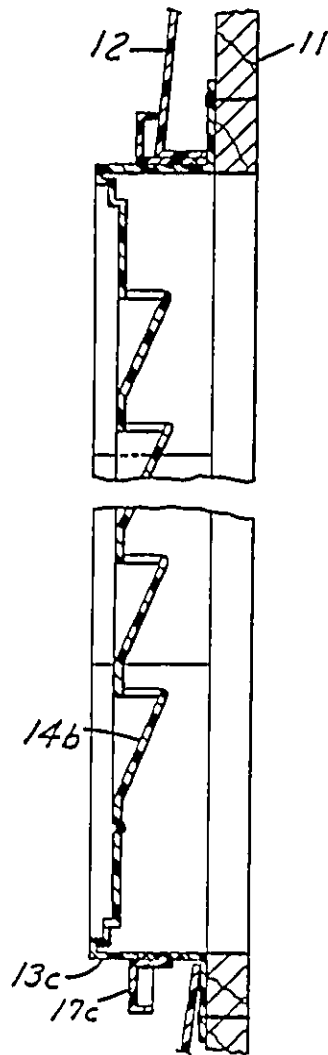
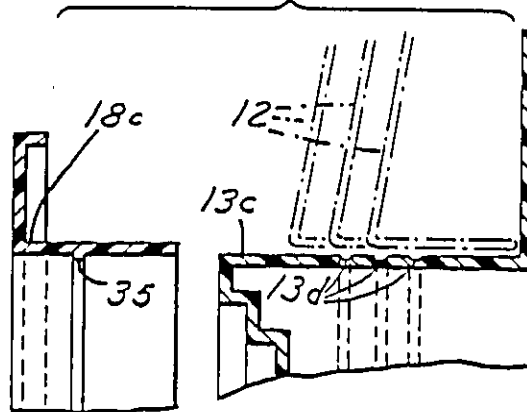


FIG. 11

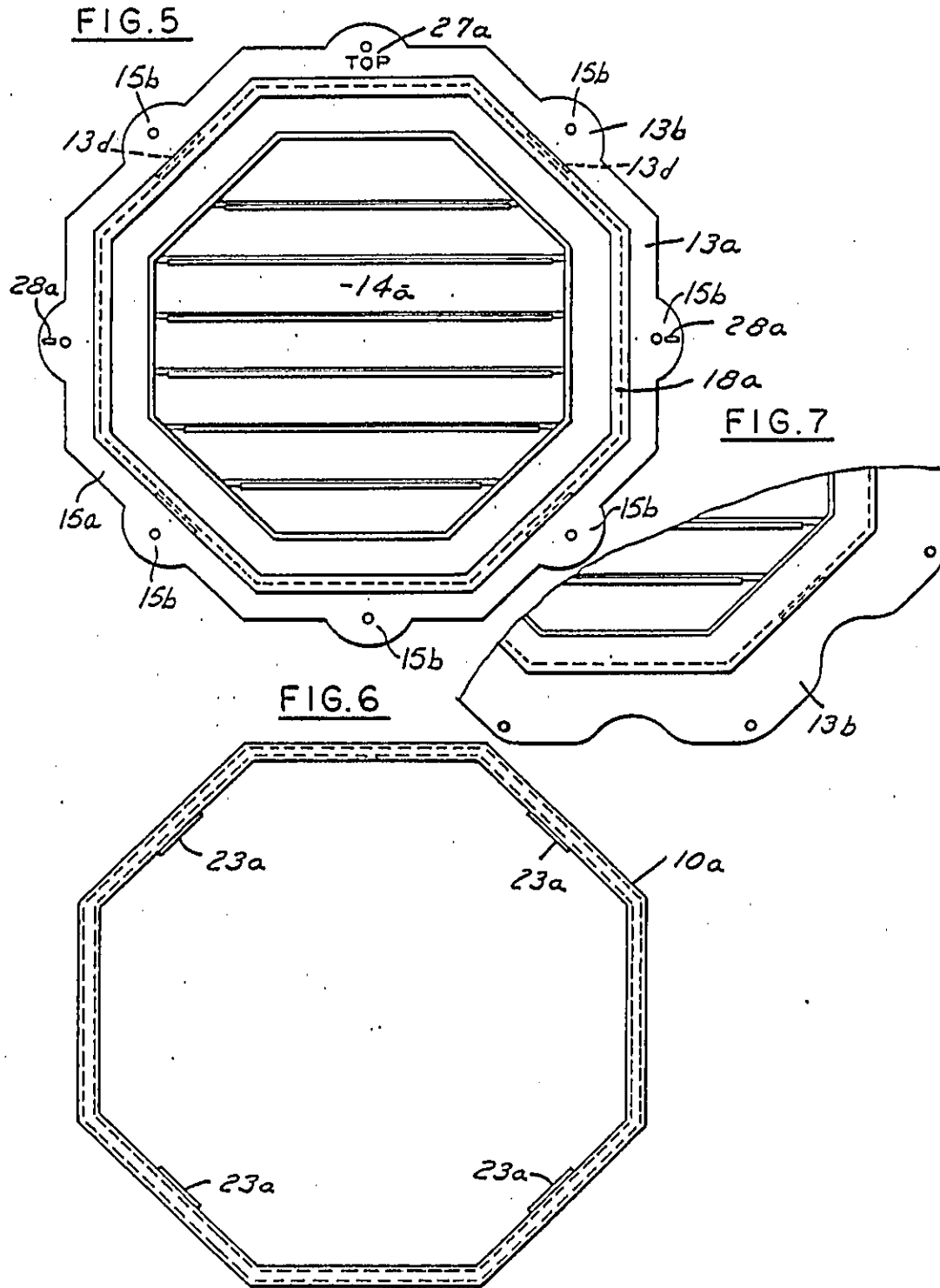


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FIG. 1

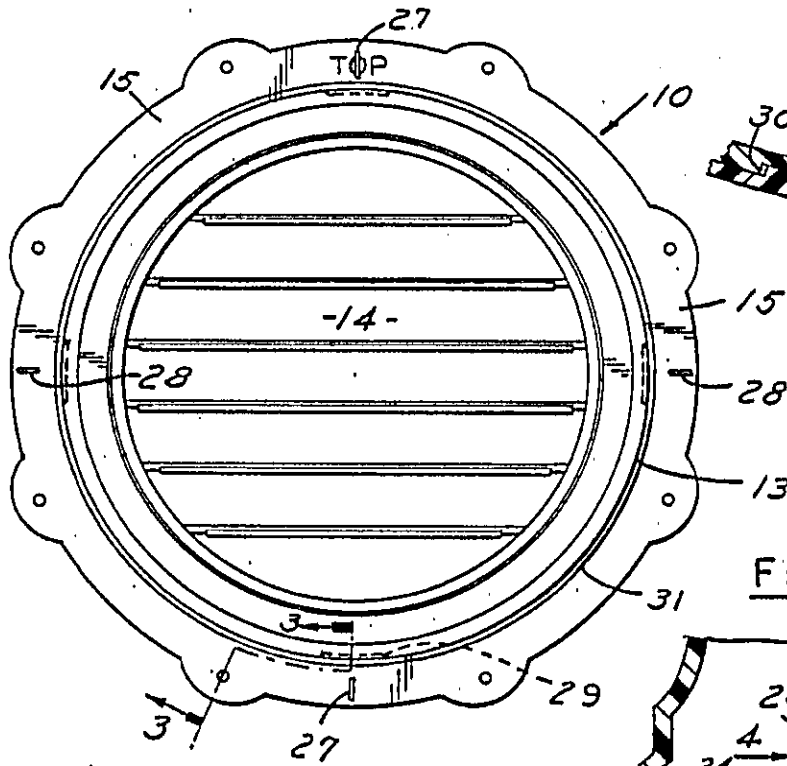


FIG. 4

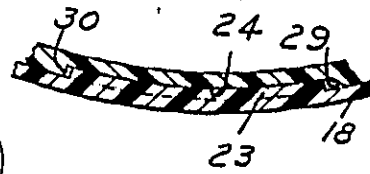


FIG. 3

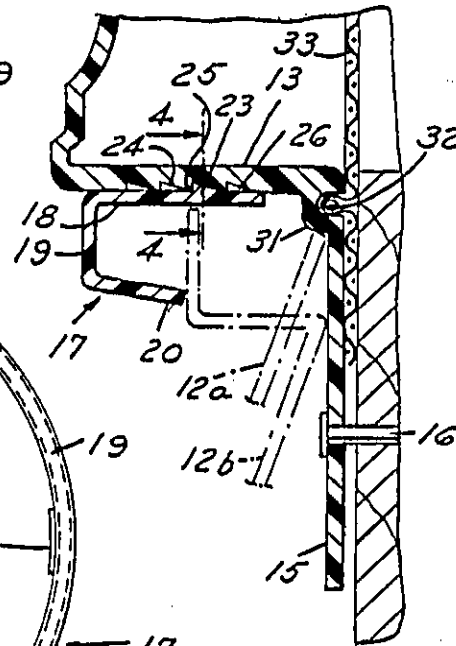
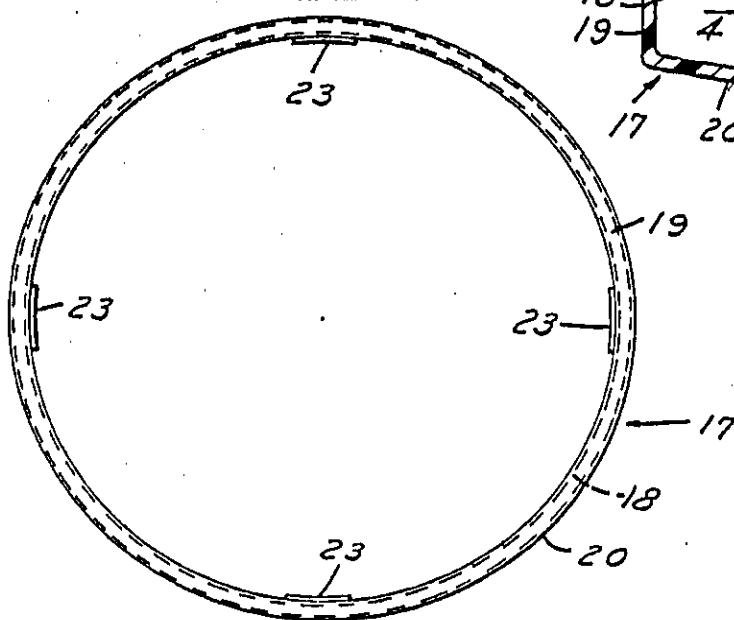


FIG. 2



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FIG.12

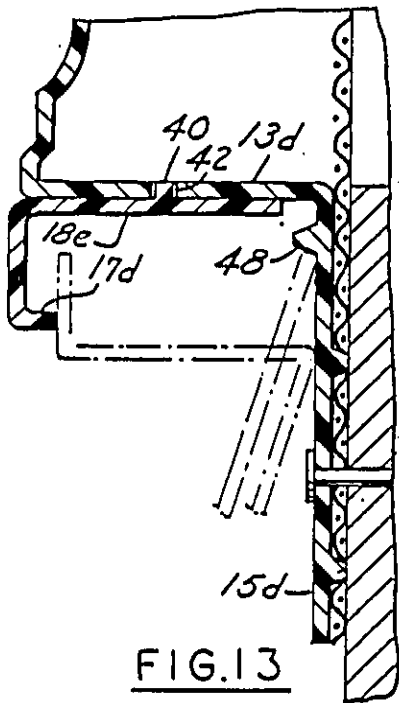


FIG.14

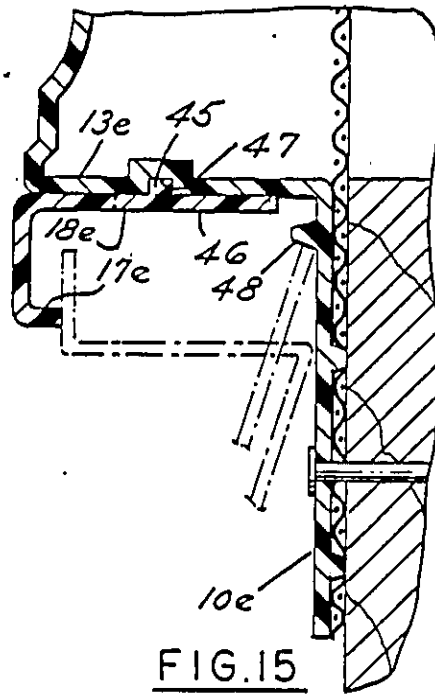


FIG.13

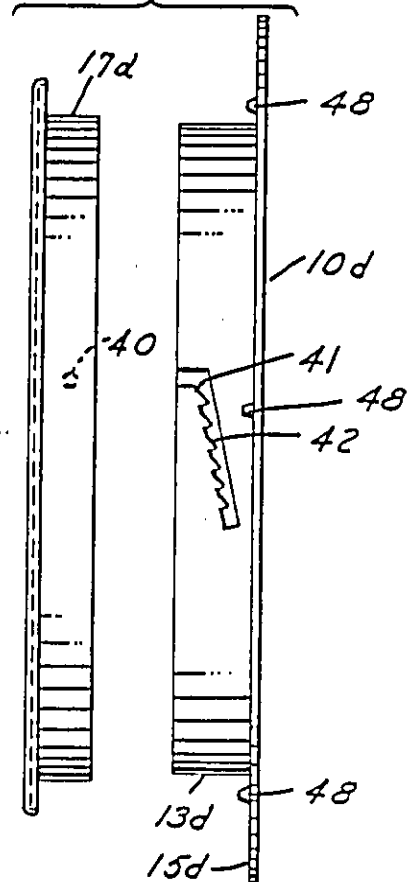
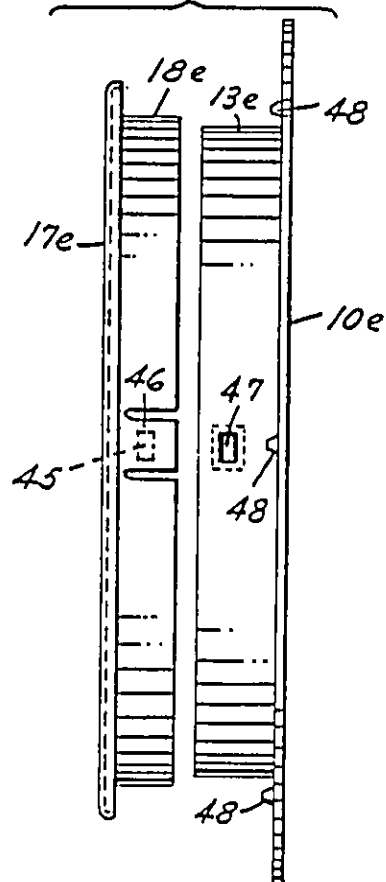


FIG.15



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PLASTIC BUILDING PRODUCT

This invention relates to plastic building products for attachment to the wall of a building having siding or the like such as louvers or windows.

BACKGROUND AND SUMMARY OF THE INVENTION

It has heretofore been suggested that one piece plastic louvers or windows can be provided by vacuum forming plastic so that a peripheral wall of the product circumscribes the louver or window and a laterally extending flange serves as a means for attachment to the wall of the building. It is common to use a J-channel in abutment with such a product to overlie the free edges of siding that abut the product. It has also been suggested that an integral channel be provided for receiving the siding.

Among the objectives of the present invention are to provide a plastic building product of similar construction which will accommodate siding of varying thicknesses.

In accordance with the invention, a plastic building product for placement on the wall of a building to provide a louver or window wherein siding abuts the product comprising a plastic body having a peripheral wall circumscribing the louver or window, an integral flange extending laterally from the wall for fastening the body to the wall of a building, and a movable flange member telescoped over the peripheral wall of the body and including a laterally extending flange adapted to overlie portions of abutting siding or the like. The flange member and the peripheral wall include interengaging means for selectively positioning the flange member at predetermined distances with respect to the flange on the body to accommodate siding of varying thickness.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a plan view of a plastic building product embodying the invention.

FIG. 2 is a plan view of the retaining flange of the product.

FIG. 3 is a fragmentary sectional view on an enlarged scale taken along the line 3—3 in FIG. 1.

FIG. 4 is a fragmentary sectional view on an enlarged scale taken along the line 4—4 in FIG. 3.

FIG. 5 is a plan view of a modified form of plastic building product.

FIG. 6 is a plan view of the building retaining flange of the product shown in FIG. 5.

FIG. 7 is a fragmentary rear elevational view of a portion of the product shown in FIGS. 5 and 6.

FIG. 8 is a fragmentary elevational view of the wall of a building embodying the invention.

FIG. 9 is a fragmentary side elevational view of the building.

FIG. 10 is a fragmentary sectional view of a further modified form of the invention.

FIG. 11 is a fragmentary exploded sectional view of a portion of the building product shown in FIG. 10.

FIG. 12 is a sectional view of the modified building product shown in FIG. 13.

FIG. 13 is an exploded view of a modified building product.

FIG. 14 is a sectional view of the modified building product shown in FIG. 15.

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FIG. 15 is an exploded view of another modified building product.

DESCRIPTION

In accordance with the invention, the plastic building product 10 embodying the invention is adapted to be mounted in a wall 11 having siding 12 of aluminum, plastic or the like (FIG. 8). Referring to FIGS. 1-4, the body 10 includes a continuous peripheral wall 13 that extends axially and circumscribes the louver or window, herein shown as a louver 14, which is integral with the body 10. The body of the product 10 further includes a peripheral flange 15 which abuts the building wall 11 for attachment as by nails or screws 16.

In accordance with the invention, the plastic building product further includes an annular flange member 17 that has an internal configuration corresponding to the external configuration of the peripheral wall 13. As shown in the drawings, the wall 13 is, herein shown as circular, but may be non-circular or other configuration, as presently described. The member 17 includes a continuous axial wall 18 that telescopes over the wall 13 and an integral flange 19 having a lip 20 adapted to engage the siding 12. Interengaging means are provided on the inner surface 21 of the wall 18 of the flange member 17 for engagement with the external surface 22 of the wall 13 to selectively position the flange member 17 in predetermined spaced relationships with respect to the flange 16 in order to accommodate siding of various axial thickness as shown at 12a and 12b in FIG. 4. The interengaging means is herein shown as tooth 23 on the inner surface of the wall 18 and a plurality of circumferentially spaced teeth in the form of complementary recesses or grooves 24, 25, 26 on wall 13 adapted to selectively engaged by the rib 23.

A tooth 23 is preferably provided at circumferentially spaced points along the wall, herein shown as four in number. Similarly, an equal number of sets of recesses 24, 25, 26 are provided on wall 13. Teeth 23 and recesses 24, 25, 26 are provided and they have nonsymmetrical cross sections which are unsymmetrical cross sections such that when the flange member 18 is moved axially inwardly it causes the teeth 23 to successively engage the teeth 24, 25 or 26 until the flange member 18 abuts the siding.

In practice, the flange member 17 may be shipped apart from body 10. Alternatively, the flange member 17 is applied to the body 10 with teeth at 45° to recesses 24, 25 and 26 so that the teeth and recesses are not engaged. When delivered to the job site, the body 10 is applied to the wall and the siding is then applied. After the siding has been applied, the flange is rotated relative to the body 10 with the teeth 23 oriented to engage the recesses 24. The flange member 17 is then moved axially inwardly to engage the teeth 24, 25 or 26 until the flange member 17 engages the siding. When the teeth 23 are in engagement with one of the ribs of teeth 24, 25, 26, the wall 18 of the retaining member 17 is in flush engagement with wall 13 of body 10.

In order to facilitate application, body 10 is provided with indicia 27 in the form of the integral word "TOP" to indicate the proper orientation of the circular body 10 on the wall 11. In addition indicia 28 in the form of integral lines are provided to indicate the horizontal line. In application to a wall, the indicia 28 can be aligned with a horizontal chalk line to insure proper orientation of the non-circular body 10.

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Further, in accordance with the invention, the teeth 23 and recesses 24, 25, 26 are arcuate having generally a radius having a center about the center of body 10 (FIG. 4). In addition, each recess 24, 25, 26 has an inclined surface 29 at one end to facilitate engagement of tooth 23 with a recess when the flange member 18 is rotated. In addition, each recess has its other end formed with a radial surface 30 forming an abutment for limiting the rotation and properly align the tooth 23 with recesses 24, 25, 26.

As further shown in FIG. 3, body 10 is formed with an integral annular shoulder 31 which forms an abutment to prevent the siding from moving radially inwardly sufficiently to preclude the movement of the wall 18 to an extent to prevent the flange member 17 from moving into contact with the siding. The shoulder 31 is hollow and provides an annular groove 32 for mounting a screen 33 which is deformed into the groove 32 and held in position by a deformable seal thereby holding seam 33 in position behind louver 14.

In the modified form shown in FIGS. 5-7, body 10a and retaining member are hexagonal. The various parts are designated with corresponding numbers with the suffix "a". In this form the teeth 23a are straight as are the recesses 24a, 25a, 26a. In addition, flange 15a is provided with enlarged portions 15b to facilitate attachment of body 10a to a wall. In the form shown in FIGS. 8-11 interengaging means comprises an annular bead 35 on the continuous inner wall 18b of the flange member 17c which selectively engages one of a series of axially spaced grooves 13d on the external wall 13c of body 10b.

In the form shown in FIGS. 12 and 13, the interengaging means between flange member 17d and wall 13d comprises a tooth 40 on wall 13d which selectively engages teeth 41 on wall 13d of flange member 17d. The teeth 41 are in a slot 42 and are at an angle such that when the flange member 17d is rotated, successive teeth 41 are engaged moving the flange member axially inwardly until it engages the siding.

In the form shown in FIGS. 14 and 15, the interengaging means comprises a radial projection 45 on wall 13e of the body which engages as opening 46 on an integral spring tab 47 in wall 18e of the continuous flange member 17e.

In the forms shown in FIGS. 12-15, the projection 48 for limiting the inward movement of siding comprises a solid annular or interrupted axial bead 48.

It can thus be seen that there has been provided a plastic building product for placement in the wall of a building to provide a louver or window wherein siding abuts the product comprising a plastic body having a peripheral wall circumscribing the louver or window, an integral flange extending laterally from the wall for fastening the body to the wall of a building, and a movable flange member telescoped over the peripheral wall of the body and including a laterally extending flange adapted to overlie portions of abutting siding or the like. The flange member and the peripheral wall include interengaging means for selectively positioning the flange member at predetermined distances with respect to the flange on the body to accommodate siding of varying thickness.

We claim:

1. A plastic building product for use on walls of a building having an outer and inner surface to provide a louver or opening wherein siding on said outer surface abuts the product comprising

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a one-piece plastic body having an integral central portion defining a louver or opening, an integral continuous peripheral wall circumscribing the louver or opening,

an integral flange extending laterally from the peripheral wall for fastening the body to said outer surface, and

a removable plastic flange member telescoped over the peripheral wall of the body and including a continuous axial wall and an integral laterally extending continuous flange adapted to overlie portions of abutting siding or the like,

the flange and the peripheral wall including interengaging means for selectively positioning the flange member at predetermined distances with respect to the flange on the body to accommodate siding of varying thicknesses,

said interengaging means being provided at circumferentially spaced positions along said continuous peripheral wall and continuous flange.

2. The plastic building product set forth in claim 1 wherein said interengaging means is provided between an inner surface of the wall of the flange member and an outer surface of the wall on the body.

3. The plastic building product set forth in claim 2 wherein said interengaging means comprises means defining an annular bead on the inner surface of the axial wall of the flange member and a plurality of axially spaced circumferentially extending grooves on the outer surface of the wall of the body.

4. The plastic building product set forth in claim 3 wherein said annular bead is a continuous bead.

5. The plastic building product set forth in claim 2 wherein said interengaging means comprises a tooth on one of said wall of said body and said wall of said flange member and a helical row of teeth on the other of said body and said flange member.

6. The plastic building product set forth in claim 2 wherein said interengaging means comprises spring tabs on one of said body and said flange member and a complementary member on the other of said body and said flange member.

7. The plastic building product set forth in claim 2 wherein said interengaging means comprises a plurality of axially spaced teeth on said body member and a complementary tooth on said flange member.

8. The plastic building product set forth in claim 7 wherein said teeth on said flange member and said body are straight.

9. The plastic building product set forth in claim 7 wherein said axially spaced teeth are in circumferentially spaced sets on said body, and complementary teeth are provided at corresponding equally spaced circumferential positions on said flange member.

10. The plastic building product set forth in claim 9 wherein said teeth have unsymmetrical cross sections.

11. The plastic building product set forth in claim 10 wherein said wall of said flange member and said wall of said body are in flush relationship when said interengaging means are engaged.

12. The plastic building product set forth in claim 11 wherein said wall of said flange member and said body are non circular.

13. The plastic building product set forth in claim 12 wherein said tooth on said flange member and said body are straight.

14. The plastic building product set forth in claim 11 wherein said wall of said flange member and the wall of

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said body are circular and said teeth are arcuate in a circumferential direction.

15. The plastic building product set forth in claim 14 wherein said teeth on said wall of said body member comprise recesses.

16. The plastic body set forth in claim 15 wherein at least one of said recesses comprises an abutment at one end to serve as a stop to prevent relative rotational movement between said flange member and said body.

17. The plastic building product set forth in claim 16 wherein said recess comprises an inclined portion on the outer end of said recess to facilitate rotation of the tooth on said flange member into said recess.

18. A plastic building product for placement in the wall of a building having an outer and inner surface to provide a louver or opening wherein siding of said outer surface abuts the product comprising

a plastic body having a peripheral wall circumscribing the louver or opening,

an integral flange extending laterally from the wall for fastening the body to said outer surface,

a movable flange member telescoped over the peripheral wall of the body and including a laterally extending flange adapted to overlie portions of abutting siding or the like,

the flange member and the peripheral wall including interengaging means for selectively positioning the flange member at predetermined distances with respect to the flange on the body to accommodate siding of varying thickness,

said interengaging means being provided between the inner surface of the wall of the flange member and the outer surface of the wall on the body,

said interengaging means comprising a plurality of axially spaced teeth on said body member and a complementary tooth on said flange member,

said axially spaced teeth being in circumferentially spaced sets on said body, and complementary teeth are provided at corresponding equally spaced circumferential positions on said flange member,

said teeth having unsymmetrical cross sections, said wall of said flange member and said wall of said body being in flush relationship when said interengaging means are engaged, and

said wall of said flange member and the wall of said body being circular and said teeth being arcuate in a circumferential direction.

19. A plastic building product for placement in the wall of a building having an outer and inner surface to provide a louver or opening wherein siding on said outer surface abuts the product comprising

a plastic body having a peripheral wall circumscribing the louver or opening,

an integral flange extending laterally from the wall for fastening the body to said outer surface,

a movable flange member telescoped over the peripheral wall of the body and including a laterally extending flange adapted to overlie portions of abutting siding or the like,

the flange member and the peripheral wall including interengaging means for selectively positioning the flange member at predetermined distances with respect to the flange on the body to accommodate siding of varying thickness,

said interengaging means being provided between the inner surface of the wall of the flange member and the outer surface of the wall on the body,

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said interengaging means comprising a plurality of axially spaced teeth on said body member and a complementary tooth on said flange member,

said axially spaced teeth being in circumferentially spaced sets on said body, and complementary teeth are provided at corresponding equally spaced circumferential positions on said flange member,

said teeth having unsymmetrical cross sections, said wall of said flange member and said wall of said body being in flush relationship when said interengaging means are engaged, and

said wall of said flange member and said body being non-circular,

said teeth on said wall of said body member comprising recesses, and

said teeth on said flange member and said body being straight.

20. A plastic building product for placement in the wall of a building having an outer and inner surface wherein siding on said outer surface abuts the product comprising

a one-piece plastic body having an integral central portion, a continuous integral peripheral wall circumscribing the louver or opening,

an integral flange extending laterally from the wall for fastening the body to said outer surface,

a movable plastic flange member telescoped over the peripheral wall of the body and including a continuous axial wall and an integral laterally extending flange adapted to overlie portions of abutting siding or the like,

the flange member and the peripheral wall including interengaging means for selectively positioning the flange member at predetermined distances with respect to the flange on the body to accommodate siding of varying thickness,

said interengaging means being provided between the inner surface of the wall of the flange member and the outer surface of the wall on the body,

said interengaging means comprising a plurality of axially spaced teeth on said body member and a complementary tooth on said flange member,

said axially spaced teeth being in circumferentially spaced sets on said body, and complementary teeth are provided at corresponding equally spaced circumferential positions on said flange member,

said teeth having unsymmetrical cross sections, said wall of said flange member and said wall of said body being in flush relationship when said interengaging means are engaged, and

said wall of said flange member and the wall of said body being circular and said teeth being arcuate in a circumferential direction.

21. A plastic building product for placement in the wall of a building having an outer and inner surface wherein siding on said outer surface abuts the product comprising

a one-piece plastic body having an integral central portion, a continuous integral peripheral wall circumscribing the louver or opening,

an integral flange extending laterally from the wall for fastening the body to said outer surface,

a movable flange member telescoped over the peripheral wall of the body and including a laterally extending flange adapted to overlie portions of abutting siding or the like,

the flange member and the peripheral wall including interengaging means for selectively positioning the

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flange member at predetermined distances with respect to the flange on the body to accommodate siding of varying thickness,
 said interengaging means being provided between the inner surface of the wall of the flange member and the outer surface of the wall on the body,
 said interengaging means comprising a plurality of axially spaced teeth on said body member and a complementary tooth on said flange member,
 said axially spaced teeth being in circumferentially spaced sets on said body, and complementary teeth

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are provided at corresponding equally spaced circumferential positions on said flange member, said teeth having unsymmetrical cross sections, said wall of said flange member and said wall of said body being in flush relationship when said interengaging means are engaged,
 said wall of said flange member and said body being non-circular,
 said teeth on said wall of said body member comprising recesses, and
 said teeth on said flange member and said body being straight.

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CIVIL COVER SHEET

COUNTY IN WHICH ACTION AROSE Oakland

The JS-44 civil cover sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. (SEE INSTRUCTIONS ON THE REVERSE OF THE FORM.)

I. (a) PLAINTIFFS

TAPCO INTERNATIONAL CORPORATION

(b) COUNTY OF RESIDENCE OF FIRST LISTED PLAINTIFF Oakland
(EXCEPT IN U.S. PLAINTIFF CASES)

(c) ATTORNEYS (FIRM NAME, ADDRESS, AND TELEPHONE NUMBER)

Jeffrey A. Sadowski
John P. Seuryneck
Howard & Howard Attorneys, P.C.
The Pinehurst Office Center, Suite 101
39400 Woodward Avenue
Bloomfield Hills, MI 48304-5151
(248) 645-1483

DEFENDANTS

ALCOA BUILDING PRODUCTS, INC.

COUNTY OF RESIDENCE OF FIRST LISTED DEFENDANT Foreign
(IN U.S. PLAINTIFF CASES ONLY)

NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE TRACT OF LAND INVOLVED

ATTORNEYS (IF KNOWN)

05-70462
Duggan/DAS
PATRICK J. DUGGAN
20062
MAGISTRATE JUDGE SCHEER

II. BASIS OF JURISDICTION (PLACE AN "X" IN ONE BOX ONLY)

- 1 U.S. Government Plaintiff
- 2 U.S. Government Defendant
- 3 Federal Question (U.S. Government Not a Party)
- 4 Diversity (Indicate Citizenship of Parties in Item III)

III. CITIZENSHIP OF PRINCIPAL PARTIES (PLACE AN "X" IN ONE BOX FOR PLAINTIFF AND ONE BOX FOR DEFENDANT)

- | | | | | | |
|---|----------------------------|----------------------------|---|----------------------------|----------------------------|
| | PTF | DEF | | PLT | DEF |
| Citizen of This State | <input type="checkbox"/> 1 | <input type="checkbox"/> 1 | Incorporated or Principal Place of Business In This State | <input type="checkbox"/> 4 | <input type="checkbox"/> 4 |
| Citizen of Another State | <input type="checkbox"/> 2 | <input type="checkbox"/> 2 | Incorporated and Principal Place of Business In Another State | <input type="checkbox"/> 5 | <input type="checkbox"/> 5 |
| Citizen or Subject of a Foreign Country | <input type="checkbox"/> 3 | <input type="checkbox"/> 3 | Foreign Nation | <input type="checkbox"/> 6 | <input type="checkbox"/> 6 |

IV. ORIGIN

(PLACE AN "X" IN ONE BOX ONLY)

- 1 Original Proceeding
- 2 Removed from State Court
- 3 Remanded from Appellate Court
- 4 Reinstated or Reopened
- 5 Transferred from another district (specify)
- 6 Multidistrict Litigation
- 7 Appeal to District Judge from Magistrate Judgment

V. NATURE OF SUIT (PLACE AN "X" IN ONE BOX ONLY)

CONTRACT	TORTS		FORFEITURE/PENALTY	BANKRUPTCY	OTHER STATUTES
<input type="checkbox"/> 110 Insurance <input type="checkbox"/> 120 Marine <input type="checkbox"/> 130 Miller Act <input type="checkbox"/> 140 Negotiable Instrument <input checked="" type="checkbox"/> 150 Recovery of Overpayment & Enforcement of Judgment <input type="checkbox"/> 151 Medicare Act <input type="checkbox"/> 152 Recovery of Defaulted Student Loans (Excl. Veterans) <input checked="" type="checkbox"/> 153 Recovery of Overpayment of Veteran's Benefits <input type="checkbox"/> 160 Stockholders' Suits <input type="checkbox"/> 190 Other Contract <input type="checkbox"/> 195 Contract Product Liability	PERSONAL INJURY <input type="checkbox"/> 310 Airplane <input type="checkbox"/> 315 Airplane Product Liability <input type="checkbox"/> 320 Assault, Libel & Slander <input type="checkbox"/> 330 Federal Employers' Liability <input type="checkbox"/> 340 Marine <input type="checkbox"/> 345 Marine Product Liability <input type="checkbox"/> 350 Motor Vehicle <input type="checkbox"/> 355 Motor Vehicle Product Liability <input type="checkbox"/> 360 Other Personal Injury	PERSONAL INJURY <input type="checkbox"/> 362 Personal Injury - Med. Malpractice <input type="checkbox"/> 365 Personal Injury - Product Liability <input type="checkbox"/> 368 Asbestos Personal Injury Product Liability PERSONAL PROPERTY <input type="checkbox"/> 370 Other Fraud <input type="checkbox"/> 371 Truth in Lending <input type="checkbox"/> 380 Other Personal Property Damage <input type="checkbox"/> 385 Property Damage Product Liability	<input type="checkbox"/> 610 Agricultural <input type="checkbox"/> 620 Other Food & Drug <input type="checkbox"/> 625 Drug Related Seizure of Property <input type="checkbox"/> 630 Liquor Laws <input type="checkbox"/> 640 R&R & Truck <input type="checkbox"/> 650 Airline Regs. <input type="checkbox"/> 660 Occupational Safety/Health <input type="checkbox"/> 690 Other LABOR <input type="checkbox"/> 710 Fair Labor Standards Act <input type="checkbox"/> 720 Labor/Mgmt. Relations <input type="checkbox"/> 730 Labor/Mgmt. Reporting & Disclosure Act <input type="checkbox"/> 740 Railway Labor Act <input type="checkbox"/> 790 Other Labor Litigation <input type="checkbox"/> 791 Empl. Rel. Inc. Security Act	<input type="checkbox"/> 422 Appeal <input type="checkbox"/> 28 USC 158 <input type="checkbox"/> 423 Withdrawal <input type="checkbox"/> 28 USC 157 PROPERTY RIGHTS <input type="checkbox"/> 820 Copyrights <input checked="" type="checkbox"/> 830 Patent <input checked="" type="checkbox"/> 840 Trademark SOCIAL SECURITY <input type="checkbox"/> 861 HIA (1395(f)) <input type="checkbox"/> 862 Black Lung (923) <input type="checkbox"/> 863 DIWC/DIWW (405(g)) <input type="checkbox"/> 864 SSID Title XVI <input type="checkbox"/> 865 RSI (405(g)) FEDERAL TAX SUITS <input type="checkbox"/> 870 Taxes (U.S. Plaintiff or Defendant) <input type="checkbox"/> 871 IRS - Third Party <input type="checkbox"/> 26 USC 7609	<input type="checkbox"/> 400 State Reapportionment <input type="checkbox"/> 410 Antitrust <input type="checkbox"/> 430 Banks and Banking <input type="checkbox"/> 450 Commerce/CC Rates/etc. <input type="checkbox"/> 460 Deportation <input type="checkbox"/> 470 Racketeer Influenced and Corrupt Organizations <input type="checkbox"/> 810 Selective Service <input type="checkbox"/> 850 Securities/Commodities/Exchange <input type="checkbox"/> 875 Customer Challenge 12 USC 3410 <input type="checkbox"/> 891 Agricultural Acts <input type="checkbox"/> 892 Economic Stabilization Act <input type="checkbox"/> 893 Environmental Matters <input type="checkbox"/> 894 Energy Allocation Act <input type="checkbox"/> 895 Freedom of Information Act <input type="checkbox"/> 900 Appeal of Fee Determination Under Equal Access to Justice <input type="checkbox"/> 950 Constitutionality of State Statutes <input type="checkbox"/> 890 Other Statutory Actions
REAL PROPERTY <input type="checkbox"/> 210 Land Condemnation <input type="checkbox"/> 220 Foreclosure <input type="checkbox"/> 230 Rent Lease & Ejectment <input type="checkbox"/> 240 Torts to Land <input type="checkbox"/> 245 Tort Product Liability <input type="checkbox"/> 290 All Other Real Property	CIVIL RIGHTS <input type="checkbox"/> 441 Voting <input type="checkbox"/> 442 Employment <input type="checkbox"/> 443 Housing/Accommodations Welfare <input type="checkbox"/> 440 Other Civil Rights	PRISONER PETITIONS <input type="checkbox"/> 510 Motions to Vacate Sentence HABEAS CORPUS: <input type="checkbox"/> 530 General <input type="checkbox"/> 535 Death Penalty <input type="checkbox"/> 540 Mandamus & Other <input type="checkbox"/> 550 Civil Rights <input type="checkbox"/> 555 Prison Condition			

VI. CAUSE OF ACTION

(CITE THE U.S. CIVIL STATUTE UNDER WHICH YOU ARE FILING AND WRITE BRIEF STATEMENT OF CAUSE. DO NOT CITE JURISDICTIONAL UNLESS DIVERSITY.)

35 U.S.C. Section 271- Patent Infringement

VII. REQUESTED IN COMPLAINT:

CHECK IF THIS IS A CLASS ACTION DEMAND \$
 UNDER F.R.C.P. 23

CHECK YES only if demanded in complaint:
JURY DEMAND: YES NO

VIII. RELATED CASE(S) IF ANY

(See Instructions)

JUDGE

DOCKET NUMBER

DATE

February 4, 2005

SIGNATURE OF ATTORNEY OF RECORD

FOR OFFICE USE ONLY

RECEIPT # _____ AMOUNT _____ APPLYING IFP _____ JUDGE _____ MAG. JUDGE _____

PURSUANT TO LOCAL RULE 83.11

1. Is this a case that has been previously discontinued or dismissed?

YES

NO

If yes, give the following information:

Court: _____

Case No. _____

Judge: _____

2. Other than stated above, are there any pending or previously discontinued or dismissed companion cases in this or any other court, including state court? (Companion cases are matters in which it appears substantially similar evidence will be offered or the same or related parties are present and the cases arise out of the same transaction or occurrence.)

YES

NO

If yes, give the following information:

Court: _____

Case No. _____

Judge: _____

NOTES: