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(54) **BOAT TRIM STRIP AND COVER ATTACHMENT SYSTEM**

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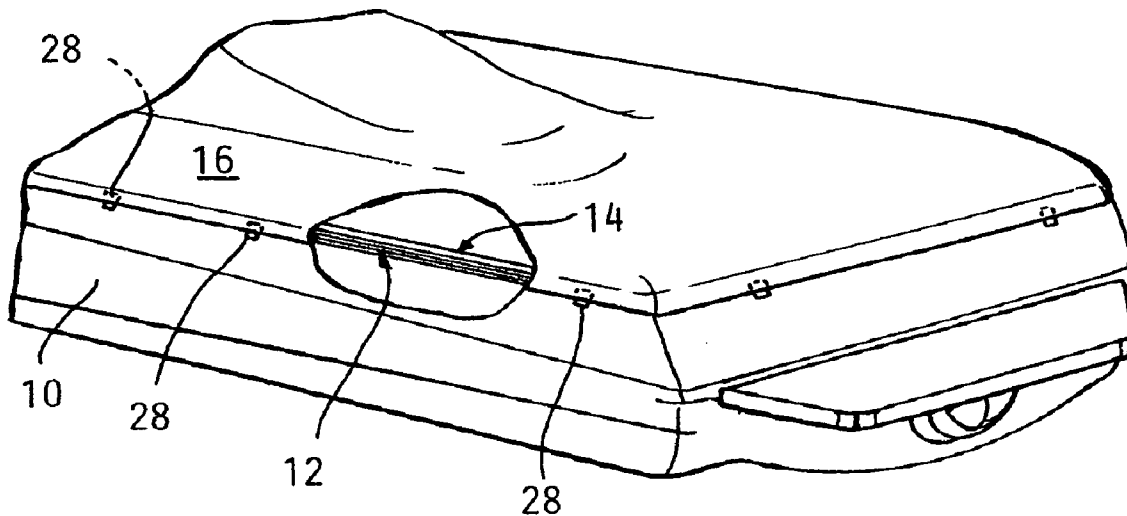
(57) **ABSTRACT**

(22) Filed: **Nov. 25, 2008**

Related U.S. Application Data

(60) Provisional application No. 61/004,392, filed on Nov. 27, 2007, provisional application No. 61/010,791, filed on Jan. 11, 2008.

A boat trim strip attached to the perimeter of a boat which has a chrome laminate bonded to one or more exposed surfaces and embedded in a clear plastic cover layer to be resistant to bumps and abrasions. The trip strip can also be used in a boat cover attachment system having a retainer clip attached to the boat cover and mateable with a slot in the trim strip.



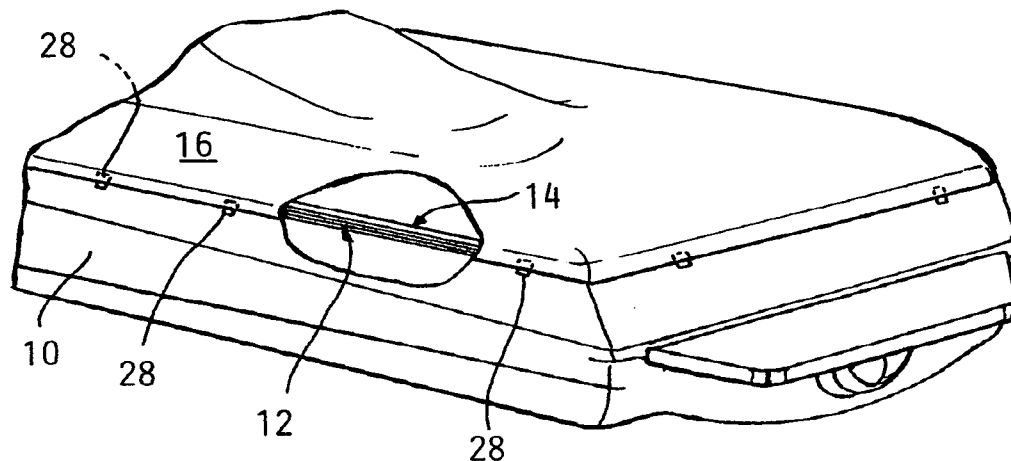


FIG. 1

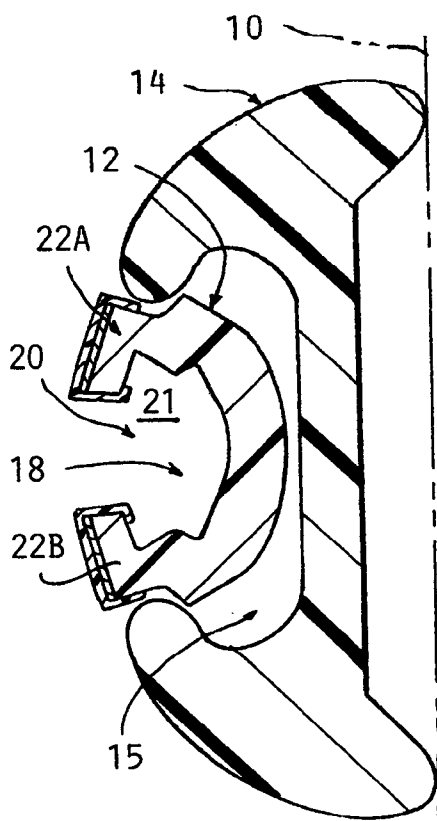


FIG. 2

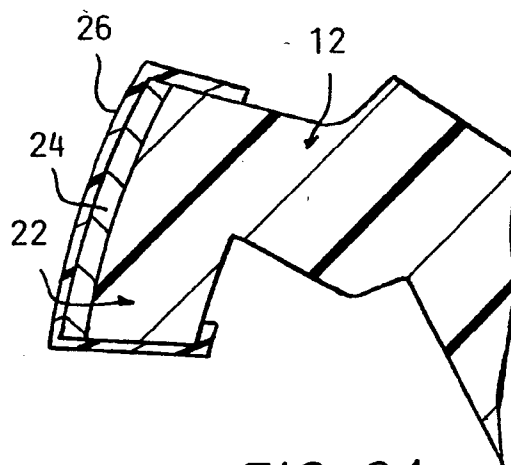


FIG. 2A

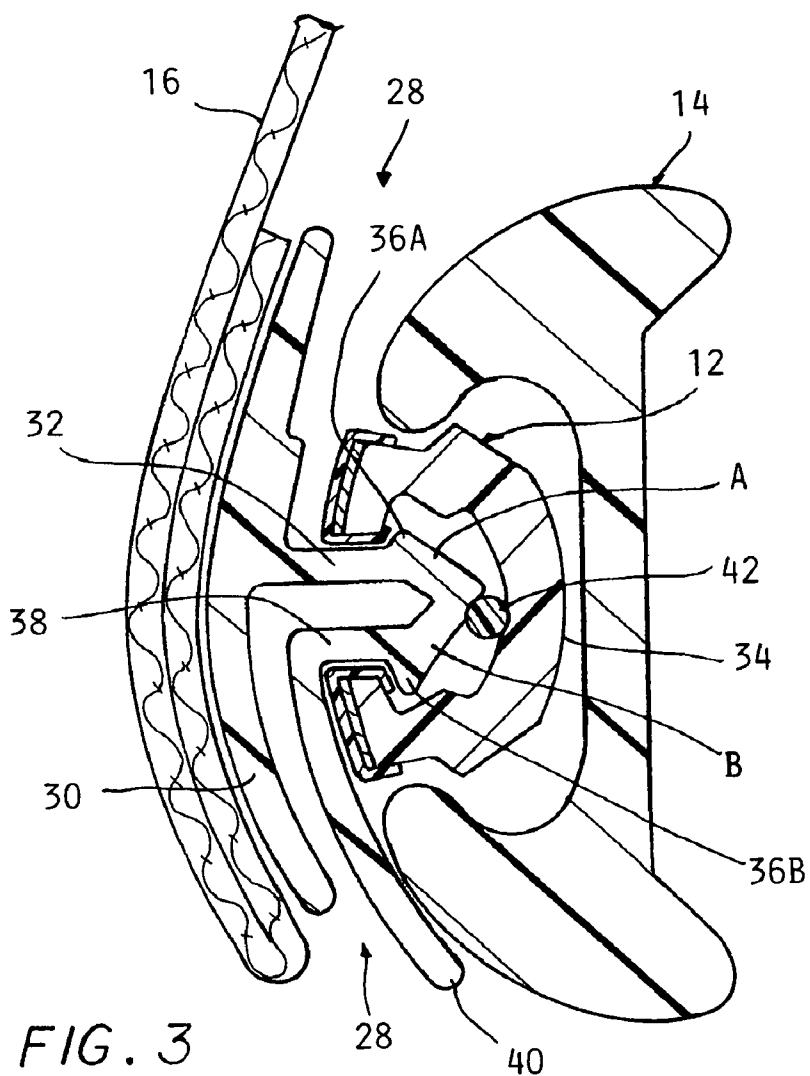


FIG. 3

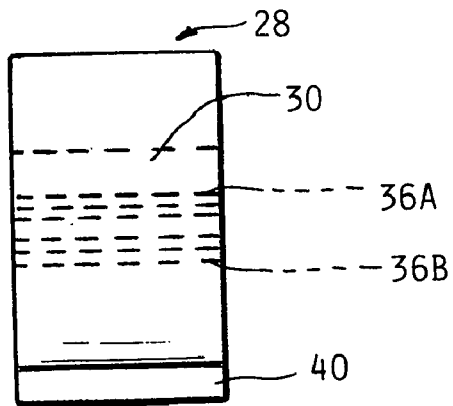
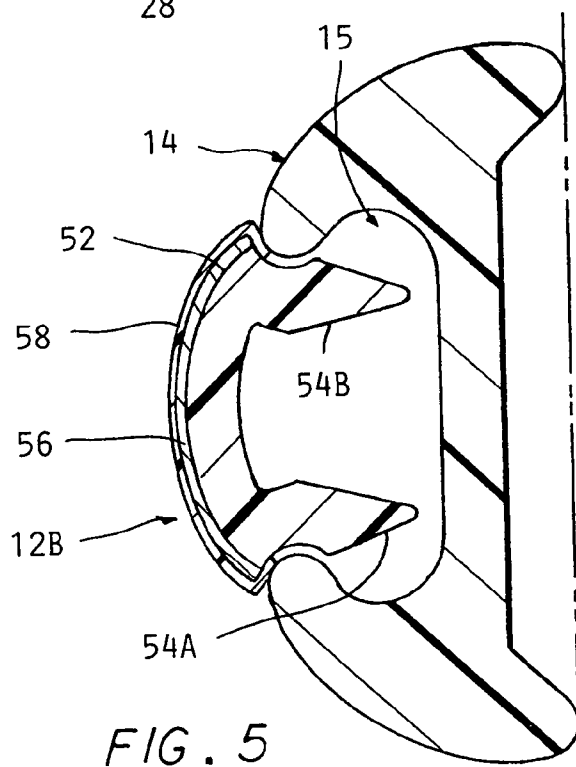
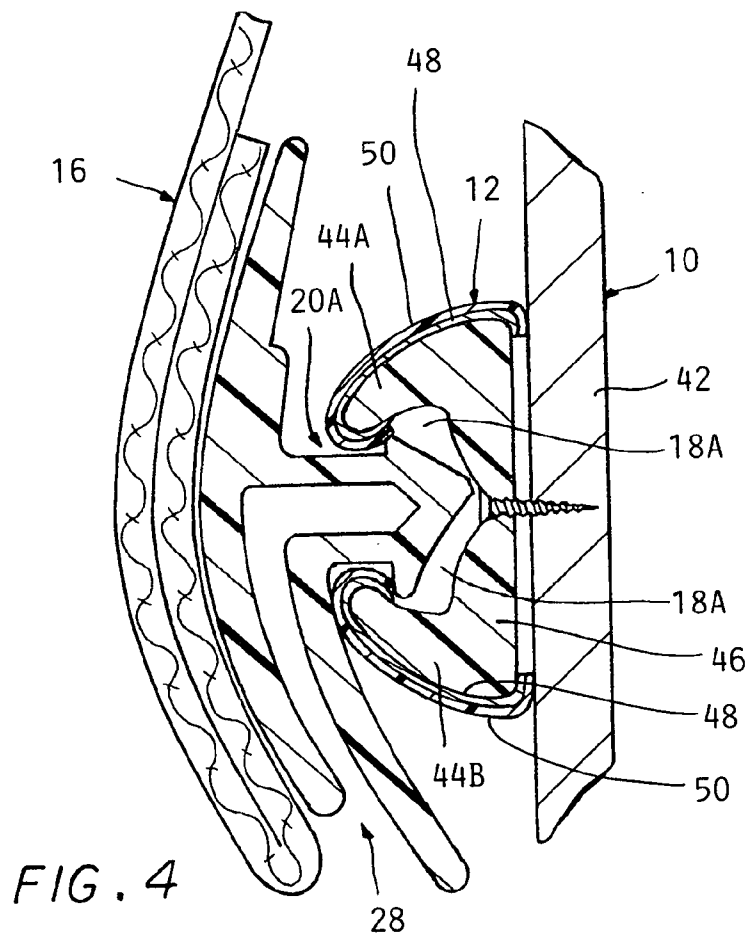


FIG. 3A



BOAT TRIM STRIP AND COVER ATTACHMENT SYSTEM

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. provisional application No. 61/004,392 filed on Nov. 27, 2007 and No. 61/010,791 filed on Jan. 11, 2008.

BACKGROUND OF THE INVENTION

[0002] This invention concerns boats and more particularly decorative trim strips installed on boats extending about the perimeter which also prevent damage to the boat from contact with stationary dock structures or other boats.

[0003] Conventional "rub rail" strips are typically extruded from a hard rubber or plastic material. In some cases, the aesthetic appeal of the rub rail is enhanced by the installation of a decorative stainless steel strip onto the center of the rub rail. However, stainless steel strips are difficult to install and repair when deformed by impacts. The metal screws securing the strips are unsightly and can gouge surfaces impacting the strip.

[0004] Such rub rails are described as being used to with an attachment system mount boat covers in U.S. Pat. No. 7,143,717 issued on Dec. 5, 2006 to the present inventor, incorporated herein by reference.

[0005] In that system, cover attaching retainer clips are sewn to the boat cover and have a projecting portion inserted into a slot in the strip, the slot having a narrower entry portion extending into a wider interior portion. The retainer clip is held in the slot (or released therefrom) by orienting the projection portion of the retainer clip in a position which engages the slot sides or a position in which the projecting portion may be withdrawn from the slot.

[0006] The reliability of the connection of the retainer clip to the strip and the ease of inserting and releasing of the projecting portion is an important consideration in the design of the retainer clip.

[0007] An object of the present invention is to provide an enhancement of the appearance of boat trim strips without the difficulties presented by the stainless steel trim described above.

[0008] It is a further object to provide a retainer clip configuration able to be mated with a decorative trim strip which is easily inserted and removed while providing a secure connection to the trim strip.

SUMMARY OF THE INVENTION

[0009] The above object as well as other objects of the present invention which will be appreciated upon a reading of the following specification and claims are achieved by a trim strip main body which has one or more outer exposed surfaces having a chrome laminate bonded thereto as by a coextrusion process forming the strip body itself. The chrome laminate at the same time is embedded in an outer clear plastic cover layer formed by coextrusion with the strip main body and the chrome laminate to produce a durable decorative trim strip which is able to withstand bumping and rubbing without damage.

[0010] The cover layer extends around the ends of the chrome laminate to completely embed the chrome laminate,

such as to resist any separation of the chrome laminate caused by contact with a cover retainer clip or impacts with fixed structures.

[0011] The trim strip can be configured to be snap fit into a lengthwise channel formed in a conventional rub rail and to receive retainer clips or can be employed purely for decorative effect. The trim strip may also be directly attached to a boat perimeter with screws or other fastening means rather than being snap fit to a rub rail.

[0012] The trim strip is generally configured in a U-shape with section two spaced apart legs. A slot may be defined between the two sidewalls configured to receive and capture boat cover retainer clips with two lips projecting in from the sidewalls defining a reduced width portion of the slot into which a retainer projecting portion may be inserted. In this configuration, the chrome laminate and clear cover layer extend over outer surfaces of each of the two lips with the clear cover layer extending around the ends of each of the lips to completely embed the chrome laminate portion therein.

[0013] The boat cover attachment system includes a series of retainer clips attached along the hem of the boat cover.

[0014] The retainer clips are each comprised of a plastic base portion attached to the boat cover with a first rib inwardly projecting from the base portion and joined to one side of a hollow compressible tip formed by two convergent angled sides joined at a point of the tip. The other side of the tip is joined to a second rib projecting from a release tab extending generally paralleled to the base portion to be accessible when securing or releasing the cover. The two tip sides project past the connected respective ribs to form projections engaged by the lips on the trim insert to capture the projecting portion in the trim strip slot. The release tab preferably extends past the base portion to be easily accessible and is compressed against the base portion when pulled, which causes tilting of the tip which causes it to be more angled with respect to the entry portion of the slot. This allows the tip to be more easily twisted out from the slot by pulling up on the release tab and thereby pull the retainer clip from the trim strip slot to release the cover. The release tab provides increased leverage in deflecting the tip so as to more easily pull the retainer clip from the slot.

DESCRIPTION OF THE DRAWINGS

[0015] FIG. 1 is a fragmentary view of a boat and cover with a trim strip according to the present invention installed thereon.

[0016] FIG. 2 is an enlarged sectional view taken through the boat perimeter to show the details of the trim strip shown in FIG. 1.

[0017] FIG. 2A is a further enlarged fragmentary sectional view of a portion of the trim strip shown in FIG. 2

[0018] FIG. 3 is an enlarged sectional view showing a portion of the boat cover and attached cover retainer clip installed into the trim strip shown in FIG. 2.

[0019] FIG. 3A is a front view of the retainer clip shown in FIG. 3.

[0020] FIG. 4 is an enlarged sectional view of an alternative embodiment of the trim strip shown with a retainer clip installed therein.

[0021] FIG. 5 is an enlarged section of another embodiment of a trim strip according to the invention installed in a rub rail for decorative purposes only.

DETAILED DESCRIPTION

[0022] In the following detailed description, certain specific terminology will be employed for the sake of clarity and a particular embodiment described in accordance with the requirements of 35 USC 112, but it is to be understood that the same is not intended to be limiting and should not be so construed inasmuch as the invention is capable of taking many forms and variations within the scope of the appended claims.

[0023] Referring to FIG. 1, a boat 10 has a trim strip 12 according to the invention extending along the boat perimeter, installed in a conventional rub rail 14 mounted to the boat hull, the trim strip 12 configured to receive and capture a projecting portion of a series of retainer clips 28 (described below) to provide an attachment system for a boat cover 16. In pontoon boats, the boat perimeter would be defined by a deck attached to the pontoons rather than the hull of a conventional boat and the trim strip 12 would be attached to that structure.

[0024] The rub rail 14 and trim strip 12 extend about the perimeter of the boat 10 at a level above the water line.

[0025] The general shape of the trim strip 12 is similar to that described in U.S. Pat. No. 7,143,717, having a general U-shape configured to be snap fit into a lengthwise extending channel in the conventional rub rail 14 as shown in FIG. 2.

[0026] The trim strip 12 has a central slot 18 with a narrow entry portion 20 defined by a pair of inwardly extending opposing lips 22A, 22B extending into a wider slot portion 21. According to the present invention, the main body of the trim strip 12 has exposed outer surfaces on the lips 22A, 22B which are covered with a chrome laminate 24 which presents an attractive appearance, creating the appearance of a decorative trim piece. The main body of the trim strip 12 may be a suitable plastic material such as polypropylene of a relatively soft 65D hardness.

[0027] An outer protective clear layer 26 of clear plastic such as polypropylene is formulated to be clear and harder than the trim strip 12 itself, i.e. 75D hardness to withstand bumps, wear and abrasion. The outer clear layer 26 is relatively thick (on the order of 1 mm) to completely enclose the chrome laminate 24 to embed the same therein.

[0028] The chrome laminate 24 is of a type sold commercially under the trademark CR CHROME™ by Dorrie International of Norwalk, Conn.

[0029] All three components are preferably tri-extruded together to be all bonded to each other.

[0030] The increased hardness of the clear outer layer 26 slightly stiffens the lips 22A, 22B for better retention of retainer clips (described below) and greater durability.

[0031] Referring to FIG. 3, a molded plastic (polypropylene) retainer clip 28 is shown, sewn or otherwise attached to hem of the boat cover 16. The retainer clip 28 includes a gently curved generally rectangular base portion 30 which has an integral flexible projecting rib 32 extending inwardly toward the boat 10 to a V-shaped hollow compressible tip 34 formed by two angled sides A, B. The rib 32 is integral with the upper side A of the two convergent angled sides A and B forming the tip 34. The side A projects slightly beyond the rib 32 to create a slight projection 36A for catching an inner corner edge of the upper lip 22A of the trim strip 12 to be prevented from being pulled out.

[0032] A second rib 38 is integral with the other side of the tip 34 and projects back towards the base portion 30, the lower side B of the tip 34 longer and extending past the second rib 38 creating a lower projection 36B which is designed to be

engaged by the inner corner edge of lower lip 22B to hold the retainer clip 28 within the slot 18 in the insert trim strip 12.

[0033] A slightly curved release tab 40 which may also be generally rectangular is connected to the inner end of the second rib 38 and extends downwardly in the same general direction as the base portion 30 past the lower side of the base portion 30 to be exposed and thus easily manually accessible when removing the cover 16.

[0034] When the release tab 40 is pulled outwardly, the tip 34 is tilted, moving the projecting portion 36A towards the center of the slot portion 20 to enable the tip 34 to be more easily pulled out through the slot portion 20 by continued movement outwardly of the release tab 40. After the retainer clip 28 is pulled out further thus move the projection 36A past the corner of the lower lip 22B.

[0035] The length of the release tab 40 also provides good leverage for pulling the lower projection 36B out through the entry portion of the slot 18 defined between the ends of the lips 22A, 22B.

[0036] During installation, the release tab 40 can also be compressed against the inside of the base portion 30 to provide easier insertion by the angling of the tip 34.

[0037] A light rope 42 can be optionally mounted within the trim strip 12 as shown for a decorative purpose as well as to provide an aid in seeing the trim strip 12 under low light conditions.

[0038] FIG. 4 shows another alternative installation in which a trim strip 12A is attached directly to the boat hull, as with screws 42. In this embodiment, a pair of inwardly angled sides 44A, 44B define a gap 20A into which the retainer clip 28A is inserted. A flat base 46 side is installed against the boat 10. The outer surfaces C, D of the respective sides 44A, 44B have a chrome laminate 48 and clear cover layer 50 applied thereto, which extends past the chrome laminate 48 to embed the ends thereof.

[0039] In this arrangement the screws are not exposed since within the slot 18A.

[0040] Another configuration of the trim strip 12B is shown in FIG. 5, which is used as a replacement for the known stainless steel trim strip used with conventional rub rails. In this version, a smooth exposed outer surface 52 lies between two legs 54A, 54B which are inwardly directed and spaced to be inserted into the rub rail 14 space 15. The outer surface 52 is covered with a chrome laminate 56 and clear cover layer 58 which extends past the ends of the chrome laminate 56 and around the corners to completely embed the chrome laminate as in the above described embodiments as described above.

[0041] The installation is a simple snap fitting to the rub rail 14, which is much simpler and quicker than the screw mounting previously employed.

1. In combination with a boat comprising:
 - an elongated trim strip attached to said boat extending along the perimeter thereof;
 - said trim strip comprising a main body having at least one exposed outer surface;
 - said exposed surface having a chrome laminate bonded thereto;
 - said chrome laminate embedded in a clear plastic layer formed extending over said chrome laminate.
2. The combination according to claim 1 wherein said trim strip is generally U-shaped with a pair of spaced apart side legs defining a slot therebetween.

3. The combination according to claim 1 wherein said boat has a rub rail extending around said boat perimeter and said trim strip is snap fitted into a space extending along the length of said rub rail.

4. The combination according to claim 1 wherein said trim strip has a pair of legs defining said U-shape which project out from said boat perimeter rub rail with said trim strip installed thereon.

5. The combination according to claim 4 further including a pair of lips each extending in from a respective leg to define a reduced width slot portion therebetween, each lip having an outer surface exposed to view and having said chrome laminate and clear plastic layer bonded thereto, said chrome laminate extending only over said outer surface and said clear coat layer extending beyond said outer surface and wrapped around corners at either end to completely embed said chrome laminate therein.

6. The combination according to claim 5 further including a boat cover and one or more retainer clips attached to said cover and snap fit to said trim strip by portions configured to be inserted through said reduced width slot portion and captured by inner corners formed by said lips.

7. The combination according to claim 1 wherein said trim strip has a flat side abutted against said boat perimeter and a pair of inwardly angled side walls projecting outwardly from said boat perimeter to form said U-shape, said chrome laminate and clear plastic layer extending over an outside surface on each side wall and wrapped around an outer end of each side wall.

8. A boat cover attachment system comprising:
a strip extending around a boat perimeter, said strip having a slot formed therein with a narrow entry portion extending into a larger portion thereof;

a series of retainer clips attached to a hem of said boat cover;

each retainer clip including generally planar base portion attached to said boat cover hem;

a first rib projecting inwardly from said base portion to a hollow compressible tip projecting from said base portion and insertable into said slot through said entry portion thereof and formed by two angled sides joined together at convergent ends of said sides, one side integral with the outer end of said first rub;

a second rib integral with the other side of said tip and extending outwardly from said slot when said retainer clip is inserted therein towards said base portion, said tip one end and other sides each having a portion projecting past said first and second ribs respectively to be wider than said slot entry portions to retain the clip in the slot when inserted therein; and

A release tab separate from said base portion and extending generally parallel thereto and integral with said second rib, said release tab extending downwardly to the edge of said boat hem to be accessible to be squeezed onto said base portion and pulled up to pull said projecting tip out of said slot to release said retainer from said strip.

9. The boat cover attachment system according to claim 8 wherein said trim strip is configured as recited in claim 1.

10. A method of manufacturing the trim strip recited in claim 1 wherein said trim strip main body, said chrome laminate and said clear cover layer are tri-extruded together to form said trim strip.

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