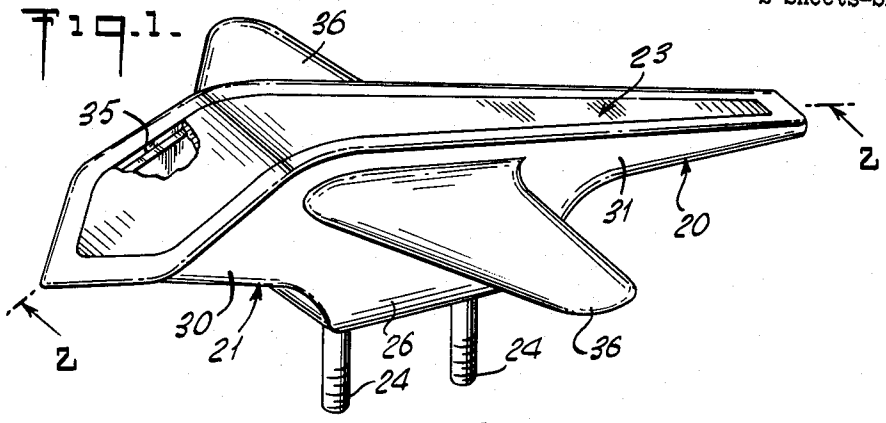
Jan. 21, 1964 T. L. FAUL 3,118,418

DECK HARDWARE

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Fig. 1.



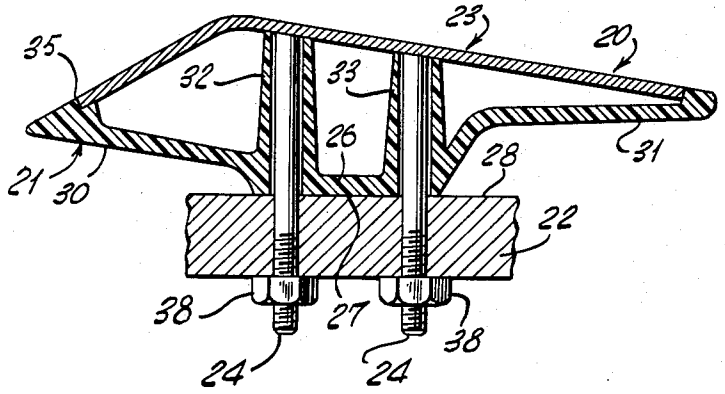


Fig. 2.

Fig. 3.

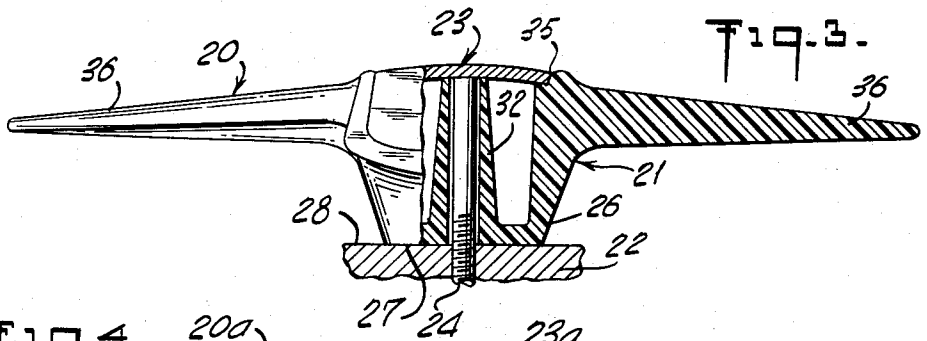
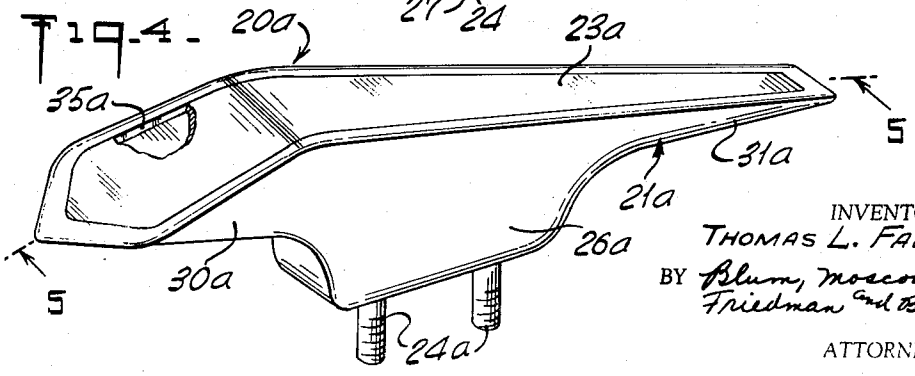


Fig. 4.



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FIG. 5.

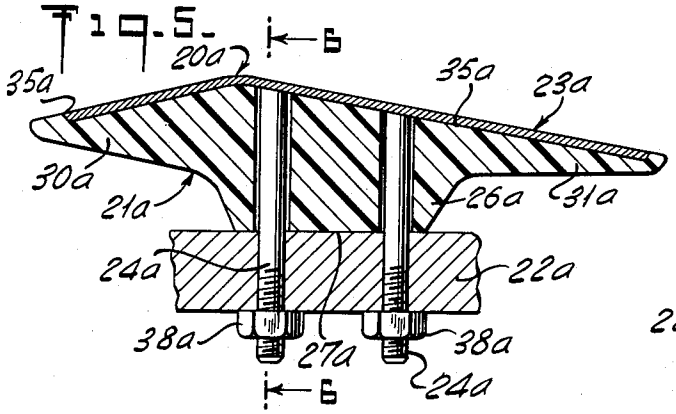


FIG. 6.

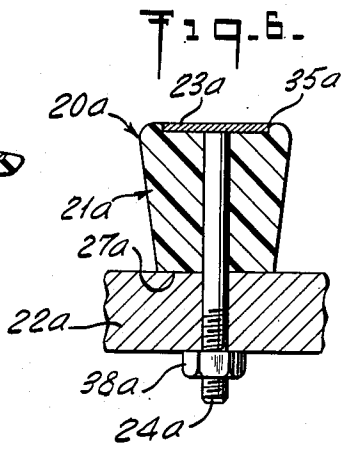


FIG. 7.

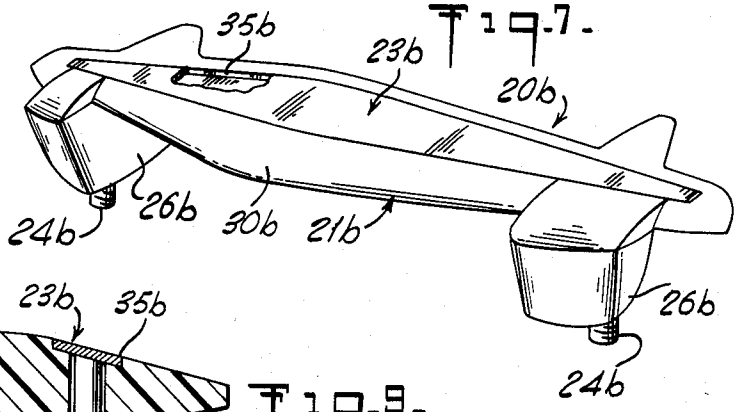


FIG. 9.

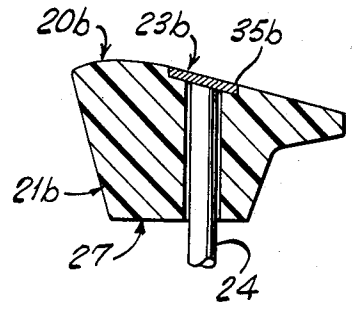
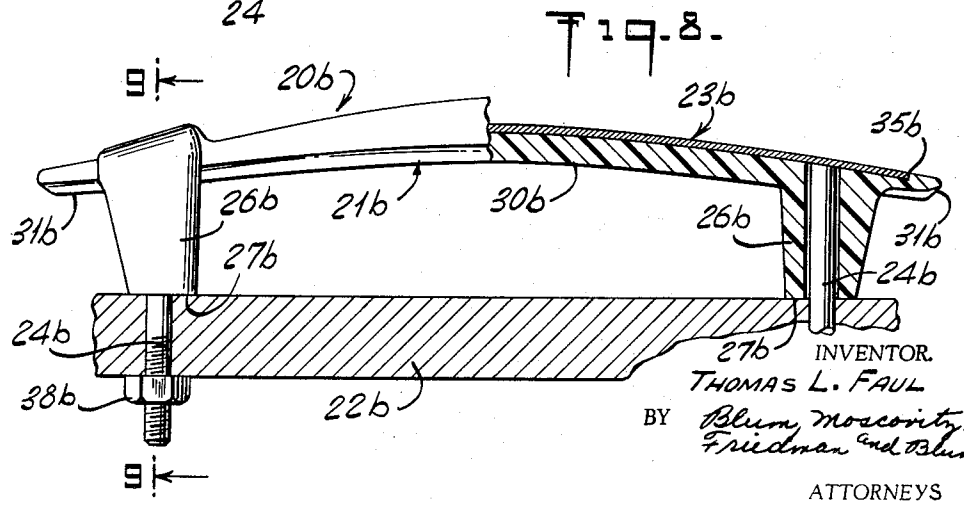


FIG. 8.



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DECK HARDWARE

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Filed May 8, 1962, Ser. No. 193,253
7 Claims. (Cl. 114—218)

This invention relates generally to marine hardware, and is especially concerned with unique and highly advantageous deck hardware.

As is well known, marine-deck hardware, such as chocks, cleats, grab rails and the like, has for many years been produced by conventional metalworking procedures, such as casting and die-casting. This is quite expensive, especially as conventionally produced integral articles of hardware require plating and other expensive finishing operations.

Accordingly, it is one object of the present invention to provide a highly improved marine-hardware construction wherein relatively inexpensive metal components combine with relatively inexpensive plastic components to achieve remarkable economies in manufacturing costs, greatly enhance esthetic appearance, and more than satisfactory characteristics of strength and durability.

The invention more particularly contemplates the provision in marine-deck hardware of a unique structural interaction of metal and plastic, wherein the former effectively reinforces the latter where required, and substantial economies are effected in production, assembly and installation, while permitting an infinite variety of attractive designs utilizing to maximum advantage the color, configuration, surface finishes, and contrasts therebetween of the plastic and metal components.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings, which form a material part of this disclosure.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts, which will be exemplified in the construction hereinafter described, and of which the scope will be indicated by the appended claims.

In the drawings:

FIG. 1 is a top perspective view showing an article in the nature of a bow cleat, apart from a deck;

FIG. 2 is a longitudinal sectional view taken substantially along the line 2—2 of FIG. 1, and illustrating the cleat thereof installed on a deck;

FIG. 3 is a front elevational view of the cleat of FIG. 1, in an installed condition and partly broken away;

FIG. 4 is a top perspective view showing another cleat constructed in accordance with the teachings of the present invention;

FIG. 5 is a longitudinal sectional elevational view taken substantially along the line 5—5 of FIG. 4, and illustrating the installed condition;

FIG. 6 is a transverse sectional elevational view taken substantially along the line 6—6 of FIG. 5;

FIG. 7 is a top perspective view showing a grab rail constructed in accordance with the teachings of the present invention;

FIG. 8 is a front elevational view showing the grab rail of FIG. 7 in installed condition, and partially in section; and

FIG. 9 is a sectional elevational view taken substantially along the line 9—9 of FIG. 8.

Referring now more particularly to the drawings, and specifically to FIGS. 1–3 thereof, a bow cleat is there generally designated 20 and includes a plastic, preferably integrally molded understructure 21 adapted to seat on the upper surface of a deck 22, and a metal top piece 23 superposed on the understructure. Connected to the top piece 23, and depending therefrom through the understructure are tie means, such as bolts 24 for securement to the deck 22.

More specifically, the plastic understructure 21 includes a pedestal portion 26 having its undersurface 27 adapted to seat on the upper surface 28 of the deck 22, and upstanding from the deck. The pedestal portion 26 may be formed with elevated, outstanding extensions, such as a forward extension 30 and a rearward extension 31. The extensions 30 and 31 are elevated over or spaced above the deck 22, and advantageously of plastic integral with the plastic of pedestal portion 26.

As best seen in FIGS. 2 and 3, the integral pedestal portion 26 and elevated extensions 30 and 31 may be interiorly hollow, so as to constitute a generally hollow body having bottom and side walls and an open top. Interiorly of the hollow, upwardly opening pedestal portion 26 there may be formed a pair of forwardly and rearwardly spaced, upstanding tubular bosses 32 and 33, each defining a vertical opening or bore through the pedestal portion 26 for receiving a respective tie rod or bolt 24.

The upper bounding region of the interior hollow of pedestal portion 26 and elevated extensions 30 and 31 may be formed with a peripheral recess 35. That is, the peripheral recess 35 bounds the interior hollow of pedestal portion 26 and elevated extensions 30 and 31, and defines a downwardly offset shoulder in the upper side of the understructure 21. Extending oppositely outward from respective side walls of the pedestal portion 26 may be a pair of elevated lateral extensions or wings 36. The wings 36 are preferably of plastic and integral with the remainder of the understructure 21.

The top piece 23 may consist of a metal plate, preferably fabricated of corrosion-resistant material, such as stainless steel or the like, and may be configured to conformably overlie and close the upper side of the hollow understructure 21. More specifically, the top piece or plate 23 is of an outline configuration and contoured to seat in the upwardly facing peripheral recess 35, entirely thereabout, so as to completely close the upper side of the understructure 21 and provide effective structural reinforcement to the understructure, especially the extensions 30 and 31. The metal top piece may also conformably seat on the upper ends of tubular bosses 32 and 33, see FIGS. 2 and 3; and, the tie members 24 are each fixedly secured to and depend from the top piece through respective tubular bosses. Thus, the tie members 32 and 33 may be welded or otherwise fixed to the underside of top piece 23 and depend therefrom through the bosses 32 and 33 and the deck 22. The lower ends of tie members 24 may be threaded and carry nuts 38 in abutting engagement with the underside of the deck.

By this construction, the assembly and installation is extremely simple and capable of rapid and economical performance, even by unskilled persons. Further, it is apparent that the understructure 21 and top piece 23 are effectively maintained in their assembled relation, and positively anchored in position on the deck 22, the understructure being effectively sandwiched between the top piece and dack, while any tendency of the understructure to shift along the deck is effectively prevented by the bolts 24 in the bosses 32 and 33, and the conforming engagement of the top piece 23 in the upwardly facing peripheral recess 35. Also, the recess 35 permits the upper surface of the top piece 23 to lie flush with the upper surface of the understructure 21 so as to be ideally smooth for lineholding purposes. Further, the unique attractiveness of sparkling metal and colorful plastic is particularly well combined by the upper surface of plastic understructure 21 in circumferentially bounding relation with the top piece 23.

In FIGS. 4–6 are shown a slightly modified embodiment of cleat generally designated **20***a*, which is similar in many respects to the cleat **20**, differing primarily thereover in that the plastic understructure **21***a* is of solid rather than hollow construction and devoid of wings **36**.

More particularly, the understructure **21***a* includes a plastic pedestal portion **26***a* having its nether surface **27***a* adapted to seat on a deck **22***a* and upstanding therefrom. Forward and rearward extensions **30***a* and **31***a* project from the pedestal portion **26***a* in spaced or elevated relation over the deck **22***a*. The extensions **30***a* and **31***a* are preferably formed integrally with the pedestal portion **26***a*, as of plastic. The upper side of the understructure **21***a* is formed with a recess **35***a* overlying the pedestal portion **26***a*, and extensions **30***a* and **31***a*, but spaced inward from the sides and ends thereof.

A top piece **23***a*, such as a metal plate is configured to conformably seat in the recess **35***a* overlying the understructure **21***a* and flush with the upper surface thereof, so as to structurally reinforce the understructure in a manner similar to that described in connection with the top piece **23**.

A pair of tie members or bolts **24***a* are fixedly secured to and depend from the underside of top piece **23***a* through the plastic pedestal portion **26***a* and the deck **22***a*, where they may be provided with holding nuts **38***a* to retain the entire device **28***a* in assembled relation and fixed to the deck.

A further embodiment is shown in FIGS. 7–9, wherein a grab rail or bar is generally designated **20***b* and constructed in accordance with the teachings of the instant invention.

The grab rail **20***b* includes a plastic understructure generally designated **21***b*, and a metal top piece **23***b*.

The understructure **21***b* includes a pair of spaced-apart, upstanding pedestal portions **26***b*, each having its undersurface **27***b* adapted to seat on the upper surface of a deck **22***b*. An elevated extension **30***b* extends between the pedestals **26***b*, preferably being integral therewith, and in spaced relation over the deck **22***b*, while an additional lateral extension **31***b* projects from each pedestal portion **26***b* in elevated relation oppositely away from the extension **30***b*.

The upper side of the understructure **21***b* is formed with a recess **35***b*, extending over the extension **30***b*, the pedestals **26***b*, and partially over each of the extensions **31***b*.

The top piece or plate **23***b* is conformably seated in the recess **35***b*, having its upper surface flush with the marginal region bounding the recess, so as to structurally reinforce the plastic understructure.

A pair of tie members **24***b* are fixedly secured to and depend from the underside of the top piece **35***b*, each passing through a respective pedestal portion **26***b* and thence through the deck **22***b* for provision on the underside thereof with a holding nut **38***b*.

Of course, the embodiment of FIGS. 7–9, as well as the embodiment of FIGS. 3–6, are both possessed of the advantageous characteristics mentioned in connection with the first-described embodiment. While the metal top piece has been suggested as being fabricated of stainless steel, it is appreciated that different metals may be employed, if desired. Also, the plastic component or understructure may be formed of Delrin, Implex, or other plastic having the requisite characteristics.

From the foregoing, it is seen that the present invention provides a marine-hardware construction which fully accomplishes its intended objects and is well adapted to meet practical conditions of manufacture, installation and use.

Although the present invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be made within the spirit of the invention and scope of the appended claims.

What is claimed is:

1. A deck hardware construction comprising a plastic understructure having its lower end closed and adapted to seat on a deck surface, the upper end of said plastic understructure being formed with an upwardly facing recess defined within a circumferential bounding wall, said understructure being formed with a through hole opening upwardly into said recess and downwardly through the lower end of said understructure, a metal top piece superposed on said understructure conformably within said recess, and tie means depending from said top piece through said hole for securement to a deck surface.

2. A deck-hardware construction according to claim 1, said plastic understructure including a pedestal portion adapted to seat on a deck surface, and an elevated extension outstanding from said pedestal portion, said recess being formed in said pedestal portion and extension, said top piece overlying said pedestal portion and extension to reinforce and secure the same.

3. A deck-hardware construction according to claim 1, said understructure being formed with an internal hollow having its lower side closed and having its upper side opening into said recess, said top piece overlying and closing the upper side of said hollow.

4. A deck-hardware construction according to claim 1, said understructure including a pair of laterally spaced pedestal portions adapted to seat on a deck surface, and an elevated extension extending between said pedestal portions, said recess being formed in said pedestal portion and extension, said top piece overlying said pedestal portions and extension to reinforce and secure the same.

5. A deck-hardware construction comprising a plastic pedestal portion adapted to seat on a deck surface, an elevated plastic extension outstanding from said pedestal portion, said pedestal portion and extension being provided in their upper sides with an upwardly facing recess defined within a circumferential bounding wall, a metal plate superposed on said pedestal portion and lateral extension conformably within said recess and flush with the upper surfaces of said pedestal portion and extension, and tie means depending from said plate through said pedestal portion for securement to a deck surface.

6. A deck-hardware construction according to claim 5, said pedestal portion and lateral extension being interiorly hollow and opening upward into said recess, and said plate conformably overlying and closing the hollow of said pedestal portion and lateral extension.

7. A deck-hardware construction according to claim 5, in combination with an additional plastic pedestal portion adapted to seat on a deck surface, said extension extending between said first-named and additional pedestal portions, said upwardly facing recess being formed in said pedestal portion and extension, and said plate being conformably received in said recess overlying said extension and pedestal portions to reinforce and secure the same.

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