July 6, 1965 C. CHION 3,193,228

RAILING ASSEMBLY

Filed March 24, 1964 2 Sheets-Sheet 1

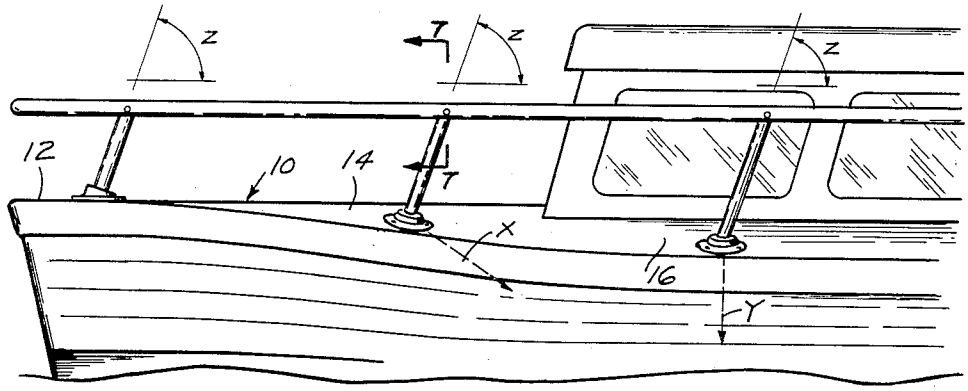


FIG. 1

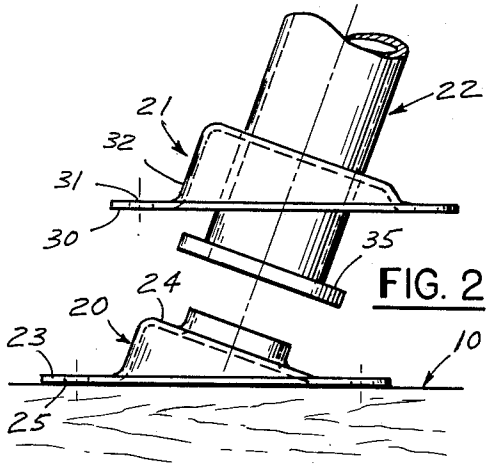


FIG. 2

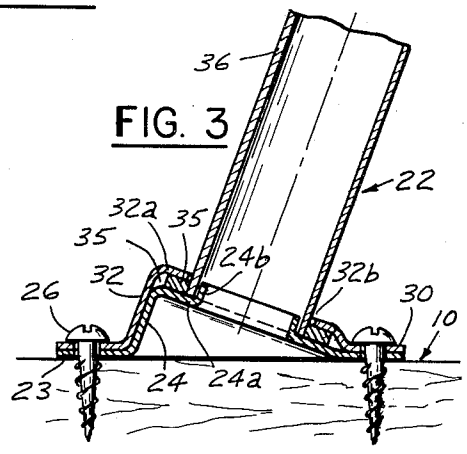


FIG. 3

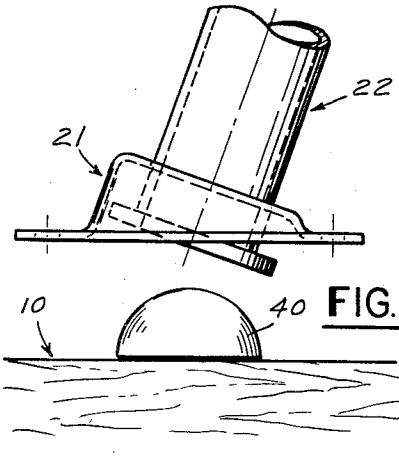


FIG. 4

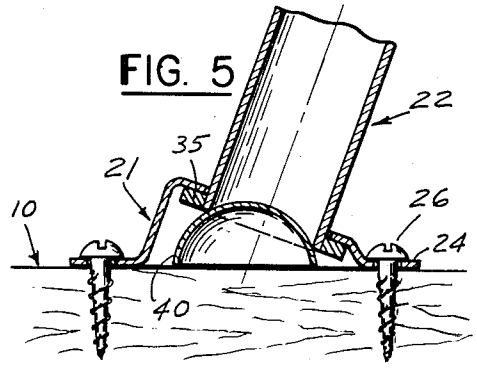


FIG. 5

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RAILING ASSEMBLY

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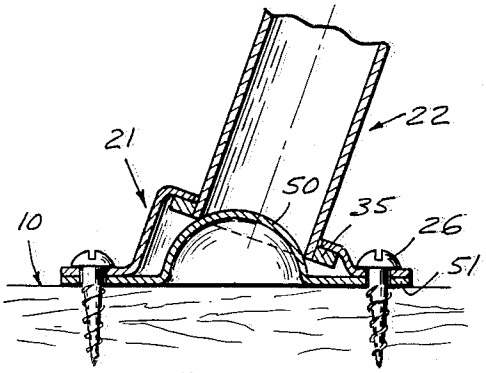


FIG. 6

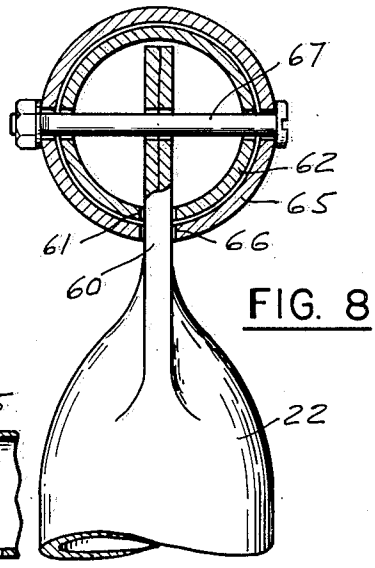


FIG. 8

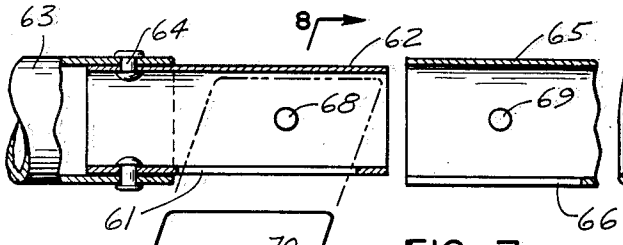


FIG. 7

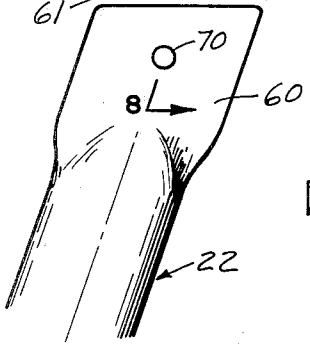




FIG. 9

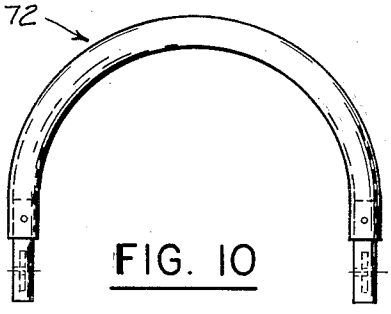


FIG. 10

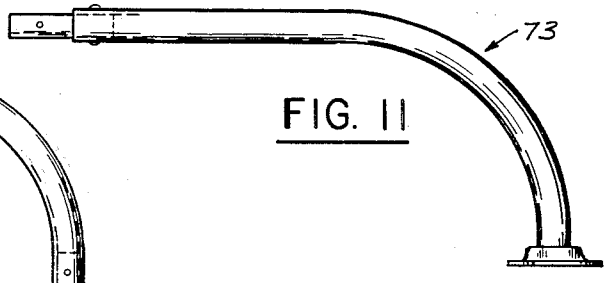


FIG. 11

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RAILING ASSEMBLY

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7 Claims. (Cl. 248—40)

This invention relates to railing assemblies, and more particularly to railing assemblies for supporting railing posts at a predetermined rake, irrespective of the slope or slant of the structure on which the posts are supported.

The invention may be used, for example, in railings installed on the decks of boats where the slant of the deck may vary along different portions of the desk. In fitting a railing on the decks of such boats, it is desirous that all the posts of the railing extend from the deck at or substantially constant rake or angle relative to the horizontal or relative to some other fixed plane of reference. Since as mentioned before, the slant of such decks often varies, the means for supporting the posts must take into account such variations in order to provide the constant rake.

A constant rake may be obtained, for example, by providing individual posts each having fixed thereto support flanges with a different angle between the plane of the support flange and the longitudinal center line of the post whereby a particular post is selected, depending on the particular slant of the deck. This has the disadvantage that a wide selection of supports has to be kept in stock or otherwise made available to meet individual requirements.

It is also possible to provide support flanges each having the same configuration and individually shaped filter pieces between the deck and the support flange. This has the disadvantage that the support flange will not be flush mounted on the deck and will therefore mar its appearance. Also, each such filter piece will have to be individually shaped, or a wide selection of filler pieces must be made available to meet each particular requirement.

It is an object of the present invention to avoid and overcome the foregoing and other difficulties by providing a novel and improved railing assembly for the posts of a railing of the general kind above referred to, which will result in a constant rake of the posts independently of the slope of the deck on which the railing is mounted.

Another object is to provide a novel and improved railing assembly which is adjustable to vary the angle between the general plane of the support flange and the angle of the railing posts.

Still another object is to provide a novel and improved railing assembly which may be mass produced to fit on boat decks and other structures having plane surfaces of varying angles while providing a constant rake to the railing posts.

A further object is to provide a novel and improved railing assembly which has a simple structure and which may be produced inexpensively.

The aforesaid objects and other objects which will become apparent as the description proceeds, are achieved by providing a flange having a support portion rising from the plane of the flange slanted to form an acute angle therewith. The flange receives the railing post rotatable in reference thereto and may be mounted on the deck in any selected angular position in reference thereto so that the spatial position of the plane of the flange may be varied to fit flush on a deck having varying slanted surfaces. The post is then placed at the desired rake and it is mounted by simply turning the support in reference to the post until it is parallel to the deck.

For a better understanding of the present invention reference should be had to the accompanying drawings,

wherein like numerals of reference indicate similar parts throughout the several views and wherein:

FIG. 1 is a perspective view of a boat on which is installed a railing assembly according to the invention.

FIG. 2 is a perspective exploded view of one type of a railing assembly according to the invention.

FIG. 3 is a sectional view of the railing assembly according to FIG. 2 in assembled condition.

FIG. 4 is an exploded perspective view of another type of a railing assembly according to the invention.

FIG. 5 is a sectional view of the railing assembly according to FIG. 4 in assembled condition.

FIG. 6 is a sectional view of still another type of the railing assembly according to the invention in assembled condition.

FIG. 7 is a fragmentary sectional view of the joint by which the post of the railing assembly is joined to a rail of the assembly.

FIG. 8 is a section taken on line 8—8 of FIG. 7.

FIG. 9 is a view of a typical intermediate railing section.

FIG. 10 is a plan view of a typical bow section of a railing assembly according to the invention, and

FIG. 11 is a view of a typical aft section of the railing assembly.

Before explaining the present invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also, it is to be understood that the phraseology or terminology employed is for the purpose of description and not of limitation.

In FIG. 1 of the drawing, a railing assembly according to the invention is shown installed by way of illustration on the deck **10** of a boat. Since the decks of boats are not generally formed as a continuous flat plane, the deck **10** illustrated in FIG. 1 is shown as having a generally horizontal flat bow portion **12** and portions extending to the stern of the boat which slope downwardly at different angles toward the sterrn and the sides of the boat. Line X of FIG. 1, for example, represents a portion **14** of the general plane of the deck which slopes downwardly to the stern and the sides of the boat while line Y represents another portion **16** of the deck which slopes only toward the sides.

In order to install a railing assembly having posts with a constant rake on such a sloping deck, the support means for the posts must obviously compensate for such varying slopes.

Referring now to FIGS. 2 and 3 in detail, the railing assembly shown in these figures may be installed on any part of the boat deck shown in FIG. 1, irrespective of the slant thereof.

The railing assembly of FIGS. 2 and 3 comprises a lower support member **20**, an upper support member **21** and a tubular railing post **22**.

The lower support member **20** is in the form of an annular flat flange **23** from which arises a generally cup-shaped portion **24**. Portion **24** is placed at a slant in reference to the plane of flange **23** such that a part of the rim of portion **24** is level or substantially level with flange **23**. The flange **23** has several circumferentially spaced mounting holes **25** to permit a convenient mounting of support member **20** on the boat deck, for instance by means of wood screws **26**. The bottom **24***a* of portion **24** has a central opening from which an upwardly directed peripheral flange **24***b* extends.

The upper support portion **21** also comprises a flat annular flange **30** provided with circumferentially spaced mounting holes **31**. A generally cup-shaped portion **32**

rises from flange 30 at a slant such that part of the rim of portion 32 is at or substantially at the level of flange 30. The bottom 32*a* of cup portion 32 includes an opening 32*b*. The rise or height of cup portion 24 is slightly less than that of cup portion 32 so that when the two support members are nested in each other as shown in FIG. 3 an annular space 35 is defined between the bottoms of the two cup portions. This space serves to receive a peripheral flange 35 provided at the end of the tubular railing post 22.

In order to mount the railing assembly according to FIGS. 2 and 3, support member 21 is slipped upon the flanged end of post 22 and the lower support is then nested in support member 21. Flange 24*b* of support member 20 will penetrate into the hollow post to steady the same and flange 35 of the post is held between bottoms 24*a* and 32*a* of the cup-shaped portions. The flat flanges 23 and 30 are in superimposition. All the components now occupy the positions shown in FIG. 3.

The post is shown in FIG. 3 as defining a selected acute angle with boat deck 10. As was pointed out in connection with FIG. 1, the slant of the boat deck in reference to the position of the railing post is not the same at all portions of the boat deck. As was further pointed out, it is desirable and it is the purpose of the invention to install the railing assembly so that all the railing posts occupy the same angle of slant or rake, irrespective of the slant of the boat deck at the point at which a particular post is to be mounted.

The railing assembly of the invention permits mounting of each railing post at such fixed angle of rake irrespective of the slant of the boat deck. As is evident, joint rotation of support members 20 and 21 in respect to post 22, which may be considered as spatially fixed, will place the two support members, and more particularly the superimposed flanges 23 and 30 thereof in different positions of slant in reference to the post. Accordingly, the two support members may be turned into angular positions in which the annular flanges are parallel with the boat deck. The support members are then secured to the deck by means of screw 26.

As is shown in FIG. 1, all the railings have the same rake irrespective of the varying slants of the boat deck.

FIGS. 4 and 5 show a railing assembly which employs the same principle as has been described in connection with FIGS. 2 and 3. The upper support member of the assembly of FIGS. 4 and 5 is the same as shown in FIGS. 2 and 3 and is hence designated by reference numeral 21. However, the lower support member of FIGS. 2 and 3 is replaced by a rounded, for instance semi-spherical member 40. This member need not be secured to deck 10, but may be simply nested in support member 21 when the same is mounted. As is shown in FIG. 5, member 40 protrudes into the flanged end of post 22, thus in effect forming a mounting space in which flange 35 of tubular post 36 is received, thus holding the post in position and steadying the same similar to the steadying effected by bottom portions 24*a*, 32*a* and flange 24*b*.

Adjustment of support member 21 is again effected by rotating the same in reference to post 22 into an angular position in which annular flange 23 rests fully upon the deck portion selected for the installation of a particular post.

FIG. 6 shows in effect a combination of the designs shown in FIGS. 2, 3 and 4, 5. The upper support portion 21 is the same as is used in FIGS. 2 through 5, but the lower support member is shown as comprising a rounded, for instance semi-cylindrical portion 50 rising from an annular flange 51. The mounting and function of the railing assembly according to FIG. 6 are evident from the previous description. It suffices to say that support member 21 is first slipped upon the flanged end of the post and that the lower support member is then nested in the upper support member and the post. The two support members are then again rotated until they match the slant of the deck. Finally, the assembly is secured with screws 26 or other suitable fastening means.

The upper end of each post is suitably secured to a railing section. According to FIGS. 7 and 8 the upper end of post 22 is flattened to form a mounting portion 60. This portion extends through a lengthwise slot 61 of a tubular rail section 62. Section 62 is telescoped in a rail section 63 and secured therein by rivets 64 or welding. A second rail section also provided with a longitudinal slot 65 is then pushed upon rail section 62 and secured by a nut and bolt 67 or suitable means extending through mounting holes 68, 69 and 70 in portions 60, 62 and 65, as shown in FIG. 8.

The entire railing along the deck is composed of sections similar to those described, though varying in shape in accordance with the shape of the deck portion for which they are intended. FIG. 9 shows a typical intermediate section 71. FIG. 10 shows a box section 72 and FIG. 11 shows an aft section 73. The mounting of the sections is evident from the previous description.

While the invention has been described in detail with respect to certain now preferred examples and embodiments of the invention, it will be understood by those skilled in the art after understanding the invention, that various changes and modifications may be made without departing from the spirit and scope of the invention, and it is intended, therefore, to cover all such changes and modifications in the appended claims.

What is claimed as new and desired to be secured by Letters Patent is:

1. A railing assembly for mounting upon a support structure having a generally flat surface, said assembly comprising a post, and mounting means, said mounting means including a base member having a flange and a hollow projection extending from the flange beyond the plane thereof, and a support member having a flange and a hollow projection protruding from the plane of said flange, said hollow projection of the support member having an opening for receiving one end of the post to support said post in a position defining an acute angle relative to the plane of the flange of the support member, and fastening means for securing both said flanges to each other and to said support structure, said hollow projections and to said support structure, said hollow projections complementing each other to define a cavity the walls of which support the post in said position.

2. A railing assembly, said assembly compirisng a lower support member having a flange and a hollow projection protruding from the plane of the flange, an upper support member having a flange and a hollow projetcion protruding from the plane of the flange thereof, said upper support member and said lower support member complementing each to a structure in which said flanges occupy parallel positions and said projections extend in the same directions in reference to said flanges to form a cavity having an axis which defines an acute angle relative to the planes of the flanges and a post having a flange at one end, said projection of the upper support member having an opening for rotatably receiving said post, said flange of the post cooperating with the walls defining said cavity for supporting said post at a selected acute angle relative to the planes of the flanges of the support members.

3. A railing assembly for mounting upon a substantially flat surface, said assembly comprising a railing post having an annular flange at one end, and a pair of complementary support members, each of said support members having a flat flange portion and a generally cup-shaped portion rising from said flange portion at a slant in reference thereto, the rise of one of said cup-shaped portions being shorter than that of the other portion, the higher one of said portions having an opening in its bottom whereby upon nesting the shorter portion in the other portion the two flange portions are superimposed and an annular space is defined between the bottoms of said two

cup-shaped portions for receiving therebetween the flange of said post through said bottom opening to support said support members rotatable about the post at a variable slant in reference thereto, the flange portions of said support members being attachable to said flat surface in said superimposed positions.

4. A railing assembly as set forth in claim 3 wherein said railing post is hollow and the shorter one of said cup-shaped portions has a collar protruding from the bottom of said portion into the flanged end of the post to steady the same.

5. A railing assembly for mounting upon a substantially flat surface, said assembly comprising a railing post having an annular flange at one end, and a pair of support members, each of said support members having a flat flange portion and one of said support members have a generally cup-shaped portion rising from the respective flange portion at a slant in reference thereto, the bottom of said cup-shaped portion including an opening, the other of said suport members having a rounded portion rising from the respective flange portion whereby upon nesting the rounded portion into the cup-shaped portion the two flange portions are superimposed and an annular space is defined between the bottom of the cup-shaped portion and the rounded portion for receiving therebetween the flange of said post extended through said opening to support the support members rotatable about the post at a slant variable in reference thereto, the flange portions of said two support members being attachable to said flat surfaces in said superimposed positions.

6. A railing assembly for mounting upon a substantially flat surface, said assembly comprising a hollow railing post, and a pair of support members, one of said members having a flat flange and a generally cup-shaped portion rising from the flange at a slant in reference thereto, the bottom of said cup-shaped portion including an opening, the other of said support members having a generally semi-spherical portion whereby upon nesting the semi-spherical portion into the cup-shaped portion an annular space is defined between said two portions for receiving through said bottom opening the flange of said post to support said one support member rotatable about the post at a slant variable in reference thereto, the flange of said one support member being attachable to said surface, and said other support member in the nested position thereof protruding into the flanged end of the post to steady the same.

7. A railing assembly as set forth in claim 1 wherein the other end of said post terminates in a flattened portion, and wherein said assembly further comprises a tubular rail member having a lengthwise slot in its wall, said flattened portion of the post being receiving in said slot, and fastening means extending through said rail member and said flattened post portion to secure said flattened post portion to the rail member.

References Cited by the Examiner

UNITED STATES PATENTS

2,172,137	9/39	Ewing	287—54
2,580,045	12/51	Reed	248—188
2,710,053	6/55	Hamilton	248—163
3,055,024	9/62	Schmitt	9—1

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