Sept. 22, 1959 L. BLUM 2,905,445

ORNAMENTAL RAIL STRUCTURES

Filed June 16, 1955

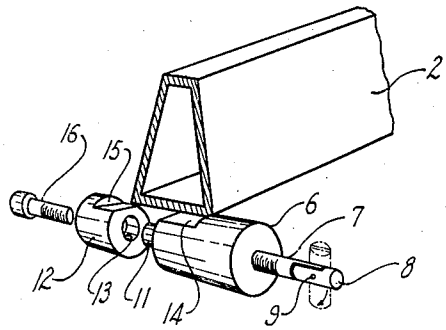


Fig. 2

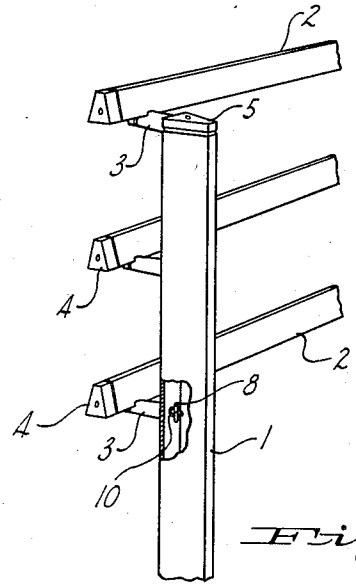


Fig. 1

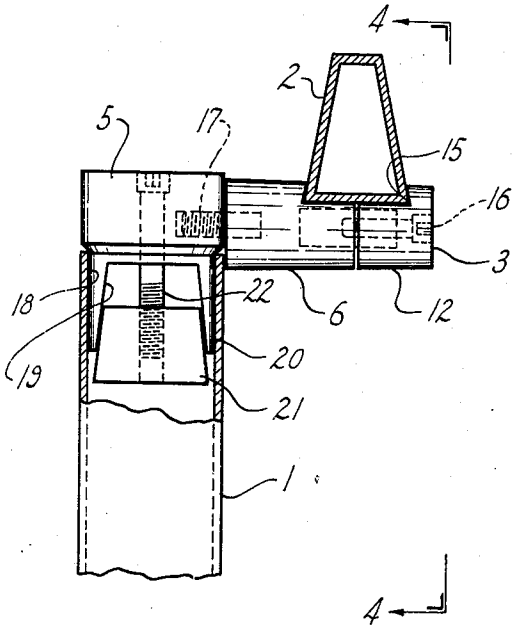


Fig. 3

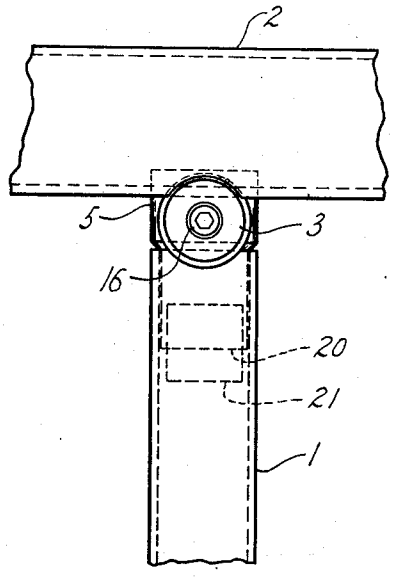


Fig. 4

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ORNAMENTAL RAIL STRUCTURES

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6 Claims. (Cl. 256—65)

This invention relates to new and useful improvements in ornamental rail structures, more particularly to means for mounting and fastening ornamental rails to wall brackets or supporting posts, and it is among the objects thereof to provide special clamping means for securing ornamental shaped rails at the under face thereof without engaging or obstructing the top and side faces of the rail to interfere with the gripping thereof.

It is a further object of the invention to provide special means for anchoring the rail clamping members to a hollow rail support.

It is still a further object of the invention to provide end caps for the ends of the rails and the top of the posts, which shall be secured therein by a wedging member, and which shall also be serviceable as a clamp anchoring means. These and other objects of the invention will become more apparent from a consideration of the accompanying drawing constituting a part hereof, in which like reference characters designate like parts and in which:

Fig. 1 is an isometric view in elevation, partially in section, of a fragmentary portion of ornamental hand rails and supporting posts;

Fig. 2, an exploded view of a portion of an ornamental rail and clamp therefor;

Fig. 3, an end elevational view, partially in cross-section, of an ornamental rail clamp post and clamp supporting bracket; and,

Fig. 4 is a side elevational view taken along the line 4—4 of Fig. 3.

In the drawing, the numeral 1 designates a dovetail shape rail supporting posts of hollow construction extruded of aluminum or the like; the numeral 2, an ornamental rail of similar shape supported on the post 1 by clamps 3. The rails 2 are of hollow construction and are provided with end caps 4, which are secured inside of the rail 2 by a wedging action, as will be hereinafter explained. The rail supporting post 1 is also provided with an end cap 5 of similar construction as the end caps 4, to which the clamping element 3 of the upper rail is secured, as shown in Fig. 3. With reference to Fig. 2 of the drawing, the dovetail shape hollow rails 2 are engaged by clamps generally designated by the numeral 3, which consists of a cylindrical member 6 having a threaded interior for receiving a stud 7 having a swivel end 8 pivotally mounted at 9, so that when inserted in an opening 10 of the rail supporting post 1, the swivel member 8 will assume the upright position, as shown in Fig. 1, and as shown in dotted lines in Fig. 2. By turning the barrel, or cylindrical member 6, on the threaded portion of the stud 7, it can be drawn up tight to cause the swivel end 8 of the stud 7 to abut the wall of the rail supporting post 1 to securely hold the barrel 6 thereon. The member 6 is provided with a reduced portion 11, which acts as a pilot or guide for a clamping cylinder 12, that has a cylindrical recess 13 for sliding engagement with the pilot element 11. Both the members 6 and 12 are provided with flat seating surfaces 14, with V-shaped notches 15, as is more clearly shown in Fig. 3 of the

drawing, so that when assembled, as shown in Fig. 3, they constitute a dovetail recess for receiving the base of the ornamental rail 2. A screw 16 passes through the end of the member 12 and into a threaded portion of the reduced pilot 11 of cylinder 6, and when the screw 16 is drawn up, it will force the cylindrical clamping element 12 to slide on the pilot element 11 to effect clamping engagement with the notched portion of cylinder 6 to firmly engage the rail element 2 and secure it in place.

The type of mounting and clamping element of Fig. 2 is utilized on the bottom and intermediate rails of Fig. 1 and the top rail, while it employs the clamping element of Fig. 2, utilizes a stud bolt 17 for mounting the cylindrical member 6 on the end closure 5 of the supporting post 1. This end closure 5, as shown in Fig. 1, is of dovetail shape and has a reduced portion 18 that fits in the inner wall of the supporting post 1 having sliding engagement therewith. The member 5 is recessed at 19 to form prongs 20, and a plunger of dovetail shape 21 is disposed in the recess 19 where it may be drawn upward by means of a bolt 22. As the bolt is turned, the plunger 21, which is also of dovetail shape, will be drawn upward and spread the prongs 20 to effect clamping engagement with the rail post 1 that is serving the twofold purpose of a clamp support for the clamp 6 and a closure for the top of the post 1.

The end closures 4 with the hollow rails 2, are of the same construction as the closure 5 on the post 1, to effect clamping engagement with the inner wall of the rails 2 to firmly secure the end closures in place.

It is evident from the foregoing description of this invention that ornamental rail clamps and closures made in accordance therewith, provide a simple expedient assembly and efficient support without interference with the free use of the railing and greatly enhance the ornamental effect where dovetail shape designs and extrusions are employed. It is evident that such railings may be assembled at the place of use with no tools required except a drill for drilling the openings 10 in the post for receiving the studs 7.

Although one embodiment of the invention has been herein illustrated and described, it will be evident to those skilled in the art that various modifications may be made in the details of construction without departing from the principles herein set forth.

I claim:

1. In an ornamental rail structure, ornamental post means, ornamental rail means having a dovetail shape base portion and an upper hand-gripping portion, separate V-shape clamping means in juxtaposition forming a dovetail shape recess receiving and clamping the dovetail shape base portion of said rail means and exposing the upper portion of said rail means for hand-gripping, connecting means rigidly connecting said clamping means and said rail means in spaced relation to said post means and threaded bolt means passing through said clamping means forcing and retaining said clamping means together.

2. In an ornamental rail structure, ornamental rail means having a dovetail shape base portion and an upper hand-gripping portion, clamping means supporting said rail means comprising a pair of separate clamping members having substantially V-shape portions joined to form a complementary dovetail shape and recess receiving and clamping the said dovetail shape base portion of said rail means with the upper portion of the rail means exposed for hand-gripping and holding means holding said separate clamping members together and rigidly clamping said rail means comprising internally threaded means on one side of said clamping means and a threaded bolt disposed within said clamping means and in threaded engagement with said internally threaded means.

3. In an ornamental rail structure, ornamental post means, ornamental rail means having a dovetail shape base portion and an upper hand-gripping portion, means connecting said rail means in spaced angular relation to said post means comprising a pair of separate clamping members, the first of said clamping members being rigidly affixed to said post means and extending outwardly therefrom, the second of said clamping members being connected to said first clamping member by threaded bolt means, said clamping members having complementary V-shape portions forming a dovetail recess receiving the dovetail shape portion of said rail means and exposing the upper portion of said rail means for hand-gripping.

4. In an ornamental rail structure, ornamental post means, ornamental rail means having a dovetail shape base portion and an upper hand-gripping portion, means for supporting said rail means on said post means comprising a pair of separate clamping members having notches joined to form a dovetail shape recess for receiving the dovetail shape base portion of said rail means with the upper portion thereof exposed for hand-gripping, the first of said clamping members having a recess, the second of said clamping members having means for attachment with said post means and having an interiorly threaded extension for sliding movement in the recess in the first said clamping member, and a bolt extending through said second clamping member into the interiorly threaded extension of said first clamping member for drawing said clamping members into clamping engagement with said rail.

5. In an ornamental rail structure, ornamental rail means having a dovetail shape base portion and an upper hand-gripping portion, clamping means supporting said rail means comprising a pair of separate clamping members, each of said clamping members comprising V-shaped notch means and having an internal bore for receiving a threaded bolt, said V-shape notch means forming a dovetail shape recess receiving the dovetail shape base portion of said rail means and exposing the upper portion of said rail means for hand-gripping, the internal bore of one of said clamping members being threaded for threaded engagement with a bolt and bolt means disposed within said internal bores and threadably engaging the threaded internal bore of one of said clamping members.

6. In an ornamental rail structure, ornamental post means, ornamental rail means having a dovetail shape base portion and an upper hand-gripping portion, means supporting said rail means on said post means comprising a pair of separate clamping members joined to form a dovetail shape recess receiving said dovetail shape base portion with the upper portion of said rail means exposed for hand-gripping, a first bolt with a swivel at one end and threaded at the other end, the first of said clamping members having a threaded end receiving the threaded end of said first bolt, said post means having an opening for receiving the swivel end of said first bolt, the said swivel constituting an abutment within said post for retaining said first clamping member in rigid engagement with said post means, said first clamping member having an interiorly threaded extension at the end thereof opposite said threaded end, the second of said clamping members having a recess for receiving said extension and a second bolt extending through said second clamping member into the threaded extension of said first clamping member for drawing said members into clamping engagement with said rail means.

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UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 2,905,445 September 22, 1959

Louis Blum

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 2, line 64, strike out "and", first occurrence; column 3, line 27, for "second" read -- first --; line 28, for "first" read -- second --; column 4, line 37, for "Hauhenstein" read -- Hauenstein --.

Signed and sealed this 3rd day of April 1962.

(SEAL)
Attest:

ERNEST W. SWIDER
Attesting Officer

DAVID L. LADD
Commissioner of Patents