

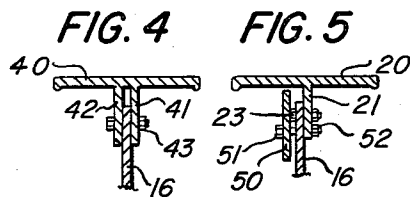
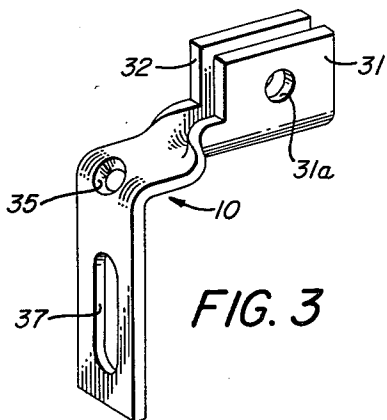
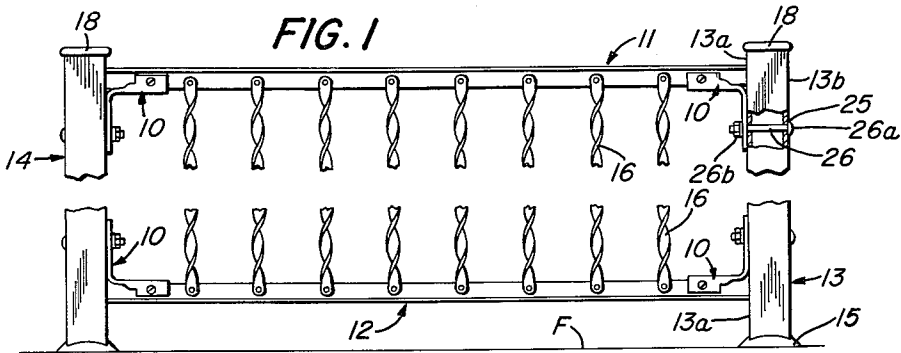
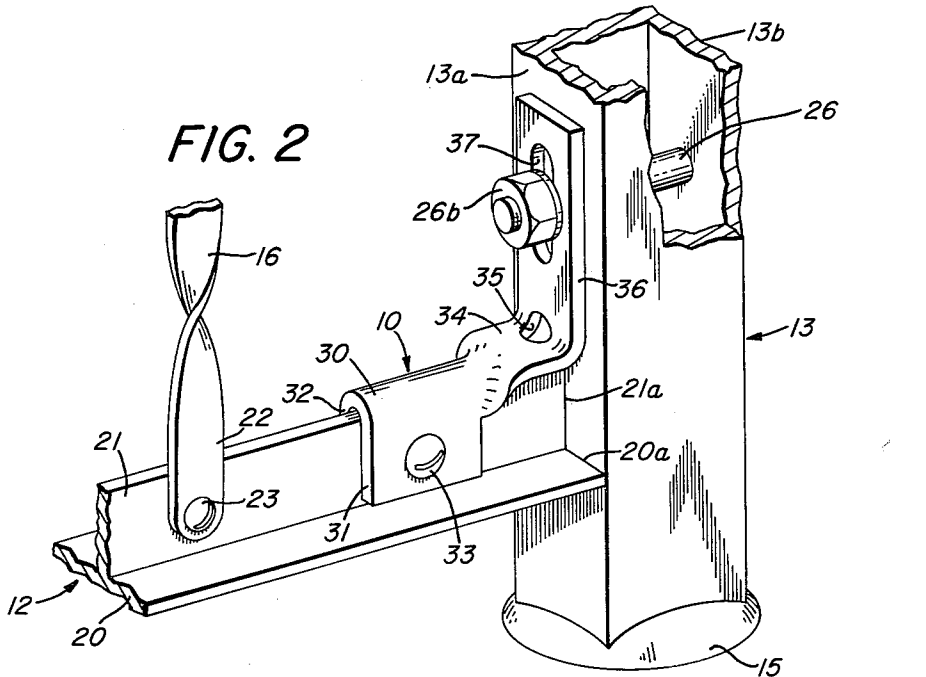
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ADAPTOR FITTING FOR WROUGHT IRON RAILING

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**ADAPTOR FITTING FOR WROUGHT
 IRON RAILING**

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This invention relates to the art of wrought iron railings, and in particular, relates to an improved type of adaptor fitting for interconnecting the component parts of such railings in an efficient and operable fashion.

In the art of wrought iron railing construction, a series of posts, conventionally referred to as newel posts, are vertically disposed with respect to a floor or other surface. These posts are then interconnected by a railing section that usually comprises top and bottom rail sections that are interconnected by a series of vertical spindles, with the spindles being arranged in parallelism with each other and with said posts. In the general prior art type of construction, it is customary to first fix the post with regard to the surface upon which the same are mounted, at which time the railing section is then connected between the posts. In the normal case, the railing sections are pre-bent at the point of fabrication so as to be connectable to the posts upon installation of the same.

In instances involving installation of railings of this type on inclined surfaces, it is normally the procedure to prebend the railing sections at the factory with the flanges and spindles then being disposed at an acute angle with respect to the top and rails of the section dependent upon the particular pitch involved.

With the advent of "Do It Yourself," efforts have been made to eliminate the pre-bending in preforming of the railings to a predetermined pitch, and accordingly, there have been provided railing sections wherein the spindles are weakened at their point of attachment to the top and bottom rails so that the spindles can easily be bent to any acute angle with respect to the top and bottom rails. A representative patent illustrating this type of construction is U.S. Patent Number 2,715,513.

While the foregoing type of construction has eliminated the necessity for pre-bending of the railing sections at the factory, the same is still relatively expensive in view of the fact that a special type of connection is necessary between each spindle and the rail section, and accordingly, the railing and spindle parts must still accurately be produced and assembled at the factory and then shipped in a relatively large package to the ultimate consumer.

It has been found that even further improved results with regard to economy and cost can be obtained by making the railing section of such a construction that the same may be shipped to the user in a completely "knocked down" condition, with the result that the user can then assemble the component parts at the place of installation. In this regard, it has been found that by employing a T-type of construction in the top and bottom rails that these improved results will be easier and quickly obtained.

It has been further found, in this regard, that by use of an improved adaptor fitting that can be adjusted to accommodate any pitch of railing, that the conventional problem of mounting the railing section with regard to the newel post can be greatly simplified.

Accordingly, it becomes the principal object of this invention to provide a new and improved type of wrought iron railing, characterized by the fact that the same is capable of being shipped in "knocked down" condition for assembling at the point of installation to any desired pitch that may be required.

It is still further object of this invention to provide

railing components of this type that are characterized by the fact that the same are of low cost and are further capable of installation on any desired pitch of stair, or other surface by the average homeowner.

These and other objects of the invention will become more apparent upon a reading of the following brief specification, considered and interpreted in the light of the accompanying drawings:

Of the drawings:

FIGURE 1 is an elevational view of an improved railing section.

FIGURE 2 is a perspective view, in enlarged scale, partly broken away in section and showing the mounting adaptor interconnecting a railing section with a newel post.

FIGURE 3 is an enlarged scale perspective view taken from a different angle and showing the improved mounting bracket.

FIGURES 4 and 5 are enlarged scale sectional views of modifications of the invention.

Referring now to the drawings, and in particular to FIGURE 1 thereof, the improved mounting brackets 10, 10 are shown inter-connecting top and bottom railings 11 and 12, with spaced newel posts 13 and 14; the arrangement being such that the newel posts are secured to a floor surface F by floor flanges 15, while spindles 16, 16 interconnect the top and bottom rails 11 and 12 in parallelism with each other, as is shown in FIGURE 1. The conventional cap members 18, 18 are shown received on the top portion of the newel posts to cover off the same in normal fashion.

Referring next to FIGURE 2, it will be seen that the railing section 12 is of generally T-shaped cross-sectional configuration, so as to include a base portion 20 and a central leg portion 21, with the ends 20a and 21a of base 20 and leg 21 butting against one flat face 13a of newel post 13. In the preferred embodiment, the newel post 13 is preferably of hollow square type of cross-sectional configuration with posts 13 and 14 as well as rails 11 and 12, being of identical configuration.

Interconnecting the rails 11 and 12 are a series of spindles 16, 16 that are all illustrated as being spiral in shape, while having flat end surfaces 22, 22 that facilitate attachment against either one of opposed flat spindle receiving surfaces of leg portions 21, 21 of rails 11 and 12 by use of a conventional bolt 23, it being understood that an appropriate aperture (not shown) is provided in each member 21 for this purpose. Additionally, and as shown best in FIGURE 1, the newel post 13, as well as the newel post 14 have their opposed walls 13a and 13b provided with apertures 25 through which a bolt 26 can be passed, with the head 26a of said bolt being shown received against wall 13b while nut 26b is positioned over a component of the adaptor 10, as will hereinafter be more fully described.

Turning next to the construction of the adaptor 10, it will be seen that the same includes a U-shaped portion generally indicated by the numeral 30 and being defined by spaced legs 31 and 32 which may be received over each member 21, with bolt 33, upon reception in apertures 31a, 31a of leg members 32 and 31 facilitating attachment to the member 21 in known fashion. Projecting longitudinally from one end of the U-shaped portion 30, is a flat strap portion 34 that is shown bent adjacent aperture 35 so as to define a right-angle flange portion 36 that is intended to lie against wall 13a, as is clearly shown in FIGURE 1 of the drawings. In this regard, the flange portion 36 has an elongate slot within which the bolt 26 can be received.

In use or operation of the improved device, it is merely necessary that the spindles 16, 16 be assembled between the top and bottom rails 11 and 12, so as to, in effect,

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create a railing section. In this regard, it is to be understood that the apertures (not shown) of the flat end portions 22, 22 will be aligned with the apertures of the section 21, and then secured together by conventional bolts 33.

With the railing thus assembled, the U-shaped portion 30, may have the leg portions 31 and 32 thereof positioned over the portion 21, with the apertures 31a, 31a being aligned with the aperture (not shown) that is provided in the base portion 21. Upon application of the bolt 33 through these aligned apertures followed by placing of the nut thereon, the mounting bracket 10 will be assembled with respect to one railing member. When the above procedure has been repeated until the requisite number of mounting brackets have thus been assembled, it is merely necessary that the bolts 26 be passed through the apertures provided in wall sections 13a and 13b of each newel post 13 and 14, and at this point, the slot 37 can be passed over the projecting end of bolt 26, followed by attachment of a nut thereon to secure the unit in place. At this time, upon tightening of the bolt members, the unit is fully assembled.

In the preceding paragraphs, the invention has been described in connection with installation of a railing section on a horizontal surface. It is to be understood that the device is equally applicable to installation on inclined surfaces, and accordingly, in such types of installation the newel posts would first be positioned on the surfaces so as to be vertically extending with respect thereto. At this point, the flange 37 would be bent out of its 90° relationship with the strap 34, with this bending being facilitated by the provision of the weakening hole 35. It is to be understood that the bending would be such that the flange 37 would be disposed at an angle to the member 34 that was equivalent to the pitch of the rail sections 11 and 12. Also, and at this time, the railing members 11 and 12 would have their ends sawed off at this pitch so as to facilitate abutment with the newel posts angle. When the flange 27 has been bent to the complementary angle required to obtain the necessary pitch, and when the end of the railings 11 and 12 has been sawed off to this angle, installation could proceed as before.

It will be seen from the foregoing that there has been provided a new and highly simplified type of wrought iron rail that is characterized by the fact that the same can be shipped completely "knocked down," thus greatly reducing the cost of shipment that is involved.

It has been further shown how this railing can then be easily assembled by the average homeowner with a minimum amount of tools and effort, regardless of the pitch of installation that is involved.

In FIGURE 4 of the drawings, there is shown a modified form of the invention wherein the basic construction of the T-bar railing 12 is modified so as to have the leg portion thereof defined by parallel spaced leg members 41 and 42, with these leg members projecting from the base 40 medianally so as to receive the ends of spindles 16, 16 therebetween as is clearly shown in FIGURE 4 of the drawings, with bolt 43 being employed in this regard. In this manner, an improved aesthetic appearance is provided and it will be seen that the same does not interfere with the function of the adaptor 10 since the same may still have the leg portions 31 and 32 thereof straddle the members 41 and 42, as has been previously described.

The modified form of the invention shown in FIGURE 5 is similar to that previously described in connection with FIGURES 1 through 3, and accordingly, where indicated, like numerals designate like parts. In this modification of the invention, improved aesthetic appearance is provided by an elongate covering plate 50 that overlies the spindle 16 at the point of juncture with leg 21, with the elongate plate 50 being secured at two or more spaced points to the leg 21 by bolt 51 and nut 52. In this

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form of the invention, the covering plate 50 would also overlie the member 10 so as to cover the same at its point of juncture with the member 12 as has been previously described and in assembly or disassembly, it would be merely necessary that the member 50 be either last applied or first removed during use.

While a full and complete disclosure of the invention has been set forth in accordance with the dictates of the Patent Statutes, the invention is not intended to be restricted to the species disclosed. Accordingly, modification of the invention may be resorted to without departing from the spirit hereof or the scope of the appended claims.

What is claimed is:

1. A railing section for use with a pair of spaced upright support surfaces, comprising; first and second parallel rails of T-shaped cross-sectional configuration, with each said rail having a base portion and a leg portion that includes a flat spindle receiving surface and with said respective leg portions projecting towards each other from said parallel base portions; a plurality of elongate spindles having flat parallel opposed ends respectively receivable against said spindle receiving surfaces; fastening means for pivotally securing the ends of said spindles to said leg portions in coplanar relationship and with the ends of said spindles being spaced from said base, whereby said spindle may rotate relatively of said rails; adaptor units provided for attachment with the opposed ends of said rails; said adaptor units being identical and each including a U-shaped portion that is receivable over the projecting edge of said leg section; a mounting flange defined by said adaptor unit and being receivable against said upright support surfaces; first fastening means releasably interconnecting each said U-shaped portion with said leg portion of said rail adjacent thereto and retaining said U-shaped portion in position over said leg portion; second fastening means releasably retaining said mounting flange against said upright support surfaces; said adaptor units being locally weakened intermediate the point of connection with said first and second fastening means, whereby the angular relationship of each said U-shaped portion can be varied with respect to each said adjacent mounting flange.

2. A railing section for use with a pair of spaced upright support surfaces, comprising; first and second parallel rails of T-shaped cross-sectional configuration, with each said rail having a base portion and a leg portion that includes a flat spindle receiving surface and with said respective leg portions projecting towards each other from said parallel base portions; adaptor units provided for attachment with the opposed ends of said rails; said adaptor units being identical and each including a U-shaped portion that is receivable over the projecting edge of said leg section; a mounting flange defined by said adaptor unit and being receivable against said upright support surfaces; first fastening means releasably interconnecting each said U-shaped portion with said leg portion of said rail adjacent thereto and retaining said U-shaped portion in position over said leg portion; second fastening means releasably retaining said mounting flange against said upright support surfaces; said adaptor units being locally weakened intermediate the point of connection with said first and second fastening means, whereby the angular relationship of each said U-shaped portion can be varied with respect to each said adjacent mounting flange.

3. A railing section for use with a pair of spaced upright support surfaces, comprising; first and second parallel rails of T-shaped cross-sectional configuration with each said rail having a base portion and a leg portion that includes a flat spindle receiving surface and with said respective leg portions projecting towards each other from said parallel base portions; a plurality of elongate spindles having flat parallel opposed ends respectively receivable against said spindle receiving surfaces; fasten-

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ing means for pivotally securing the ends of said spindles to said leg portions in coplanar relationship and with the ends of said spindles being spaced from said base, whereby said spindle may rotate relatively of said rails; adaptor units provided for attachment with the opposed ends of said rails; said adaptor units being identical and each including a U-shaped portion that is receivable over the projecting edge of said leg section; a mounting flange defined by said adaptor unit and being receivable against said upright support surfaces; first fastening means releasably interconnecting each said U-shaped portion with said leg portion of said rail adjacent thereto and retaining said U-shaped portion in position over said leg portion; second fastening means releasably retaining said mounting flange against said upright support surfaces; said adaptor units being locally weakened intermediate the point of connection with said first and second fastening means, whereby the angular relationship of each said U-shaped portion can be varied with respect to each said adjacent mounting flange; and a pair of covering plates disposed in spaced parallelism with said leg portions of said rails and overlying the opposed ends of said spindles when the same are in engagement with the spindle receiving surfaces of said leg portions.

4. A railing section for use with a pair of spaced upright support surfaces, comprising; first and second parallel rails of T-shaped cross-sectional configuration with each said rail having a base portion and a leg portion that includes a flat spindle receiving surface and with said respective leg portions projecting towards each other from said parallel base portions; a plurality of elongate spindles having flat parallel opposed ends respectively receivable against said spindle receiving surfaces; fastening means for pivotally securing the ends of said spindles to said leg portions in coplanar relationship and with the ends of said spindles being spaced from said base, whereby said spindle may rotate relatively of said rails; adaptor units provided for attachment with the opposed ends of said rails; said adaptor units being identical and each including a U-shaped portion that is re-

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ceivable over the projecting edge of said leg section; a mounting flange defined by said adaptor unit and being receivable against said upright support surfaces; first fastening means releasably interconnecting each said U-shaped portion with said leg portion of said rail adjacent thereto and retaining said U-shaped portion in position over said leg portion; second fastening means releasably retaining said mounting flange against said upright support surfaces; said adaptor units being locally weakened intermediate the point of connection with said first and second fastening means, whereby the angular relationship of each said U-shaped portion can be varied with respect to each said adjacent mounting flange; and a second leg portion projecting from said base in substantial parallelism with said first leg portion and being spaced therefrom, whereby the same overlies the opposed end of said spindles when the same are positioned between said first and second leg portions.

5. An adaptor unit of the character described, comprising; an elongate rigid strap transversely bent into substantially right angle configuration substantially midway between its longitudinal ends to define leg portions that are disposed at substantially right angles to each other; parallel flanges projecting from the opposed longitudinal edges of one said leg portion and being longitudinally spaced from said transverse bend; said remaining leg portion having a mounting slot intermediate its longitudinal edges; said strap having a weakening aperture located substantially at the point of said transverse bending.

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