

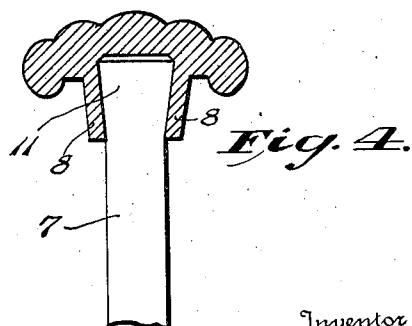
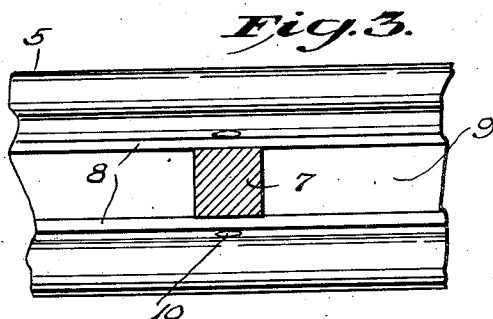
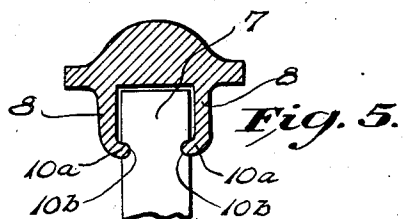
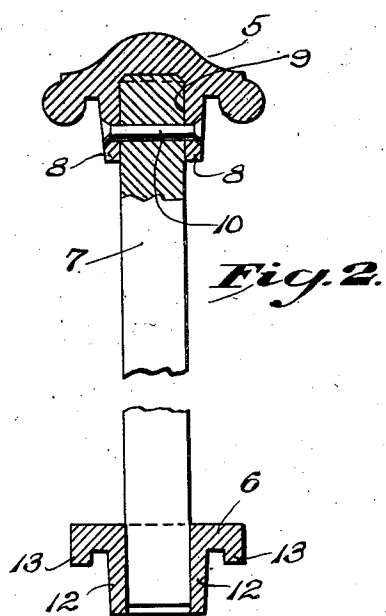
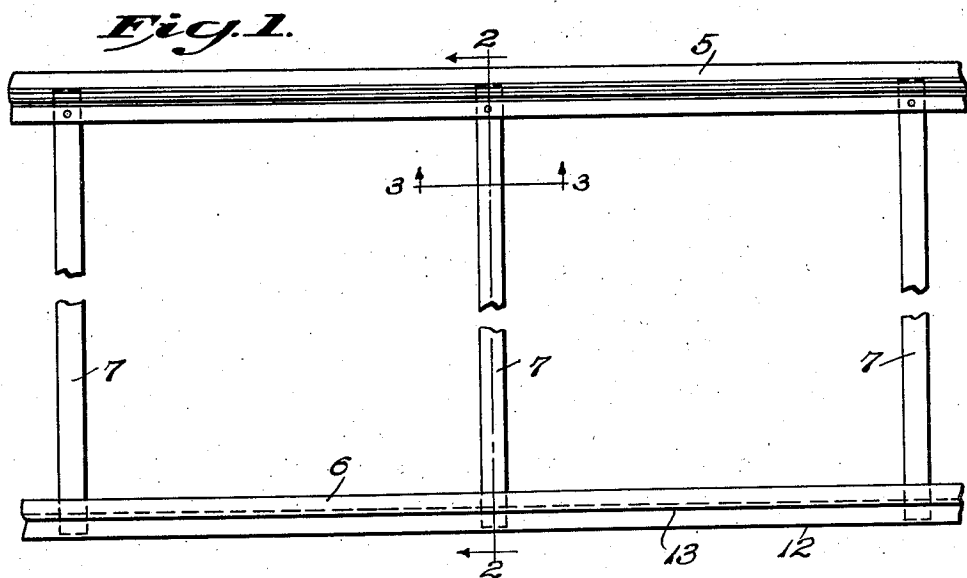
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METALLIC RAILING CONSTRUCTION

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METALLIC RAILING CONSTRUCTION

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2 Claims. (Cl. 256—22)

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This invention relates to railing construction and, more particularly, to metallic railing for use on buildings or houses in such locations as porches, stairways or the like.

Such railing, as it is now customarily formed, provides a series of spaced vertically extending posts or balusters stationarily connected at their lower ends to a supporting base and rigidly joined at their upper ends with a composite top rail. Usually, the top rail is composed of a lower bar or channel member to which is welded, or secured by drilling and tapping, the upper ends of the associated posts or balusters. Placed on the upper surface of this bar or channel member and suitably secured thereto is an ornamental cap strip, the latter being fastened to the bar or channel member by welding, tapping, riveting or other means, the cap strip differing in cross sectional configuration from that of the bar or channel member to produce a composite rail of desired strength and appearance. Such a composite rail is necessarily relatively costly to manufacture and in use is subject to the objection that due to the effects of corrosion, or differences in expansion and contraction, the upper or cap bar will flex or distort vertically relative to the lower bar, thereby producing an unsightly condition that usually necessitates repair or replacement.

Accordingly, it is an object of the present invention to obviate these objections by providing a metallic railing in which the upper rail member comprises a single unitary element of desired ornamental configuration but wherein the multiple parts of prior constructions are eliminated.

Another object is to provide such an integral upper rail member in which the under side thereof is formed with improved and simplified means for the reception and attachment of the adjoining upper ends of the associated vertical posts or balusters.

In providing a railing embodying the above general objects, I have developed further novel features of construction and arrangement which will be readily understood by reference to the following description and the accompanying drawings, wherein:

Fig. 1 is a side elevational view of a metallic porch or stair railing formed in accordance with the present invention;

Fig. 2 is a transverse sectional view taken through the railing on the plane indicated by the line 2—2 of Fig. 1;

Fig. 3 is a horizontal sectional view on the line 3—3 of Fig. 1;

Fig. 4 is a transverse sectional view showing a

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slightly modified form of the present invention; Fig. 5 is a similar view of another modified form of my improved railing.

Referring more particularly to the drawings, my improved railing comprises a top rail 5, parallel bottom rail 6 and a plurality of relatively spaced vertically extending posts or balusters 7, the latter being rigidly joined at their upper and lower ends with the rails 5 and 6.

The rail 5 comprises an integral one-piece body formed ordinarily by rolling or extrusion methods. In transverse cross section, the same may possess any suitable ornamental design consistent with the mechanical strength required. In this instance, the under part of the rail 5 is formed to embody a pair of relatively spaced depending webs or flanges 8, which are coextensive with the length of the rail, the said webs or flanges forming between them a groove or channel 9 in which the upper ends of the posts 7 are received, confined and secured. The upper ends of the posts or balusters may be welded to the webs or flanges or, if desired, the same may be held by pressing the webs or flanges inwardly at positions between the posts so that the latter will be held against displacement, as indicated at 10 in Fig. 3.

Another alternative arrangement has been disclosed in Fig. 4 of the drawing, wherein the upper ends of the posts are upwardly and outwardly tapered as at 11, and the webs or flanges 8 are forced inwardly and thereby deformed to closely engage the flat sides of the posts, holding the latter against displacement. Ordinarily, this construction will hold the posts against movement relative to the rail but, if desired, the same may be supplemented either by welding or by the use of metallic fasteners, as in the first-described form of the invention.

While the posts 7 have been shown as being approximately square in horizontal cross section, which is their preferred form, nevertheless, it will be appreciated that other configurations may be utilized.

As shown in Fig. 5, the webs or flanges 8 may have their lower portions provided with inwardly turned lips 10a which may be received within grooves 10b formed in the upper ends of the balusters 7, whereby to hold the latter against displacement. In practice, a number of the balusters are placed between the webs or flanges and by the use of a single pressing operation, a desired number of balusters will be securely gripped and held against movement by the channel-forming flanges. This operation considerably reduces the cost of manufacture with respect to welding or by

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using mechanical fasteners for uniting the balusters with the rail member.

By the use of the construction set forth, it will be observed that the upper rail 5 is formed from but a single body of material, which eliminates the complexity found in the composite rails of the prior art, simplifies the problem of uniting the upper ends of the posts with the top rail and, in addition, provides a construction possessing a long life and high mechanical strength.

The lower rail 6, advantageously, may comprise a bar 12 slotted to receive the lower ends of the posts 7 or balusters. The posts may be joined with the bar 12 by welding, or through the use of transversely extending mechanical fastening elements. The bar 12 may be provided at its outer edge with depending flanges 13 by which the same may be securely anchored or embedded in a concrete or other base to assist in the vertical stability of the railing as a whole. However, any other suitable means may be used for anchoring the lower ends of the posts 7 in connection with the bottom rail, the present invention being concerned chiefly with the above-described construction of the top rail and its attachment to the upper ends of the posts 7.

I claim:

1. Railing construction comprising an upper rail member of integral one-piece construction, said member having the under side thereof formed with a pair of transversely spaced longitudinally extending webs, the latter forming therebetween a post-receiving channel, and a plurality of vertically disposed longitudinally spaced post members having polygonal upper ends receivable between said webs, the said upper ends of said post members being outwardly flared so that the extreme upper portions thereof possess a greater cross sectional area than their body

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portions, the webs of said rail member being shaped to conform with the flaring upper ends of the post members.

2. Hand rail construction comprising an upper rail member of integral one-piece formation, said member having the under side thereof formed with a pair of depending transversely spaced longitudinally extending webs, the latter forming therebetween a post-receiving channel, and a plurality of vertically disposed longitudinally spaced posts having polygonal upper ends received between said webs, the upper ends of said posts being outwardly and angularly flared so that the extreme upper portions thereof possess a greater cross-sectional area than the body portions of said posts, the webs of said rail member having their inner surfaces downwardly and angularly tapered so that the width of the channel at the lower edges of said webs is less than that of the upper portions of said channel, whereby to preclude separation between said rail member and posts.

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