Feb. 28, 1967 L. BLUM ETAL 3,306,641

HANDRAIL

Filed Sept. 1, 1964

FIG. 5

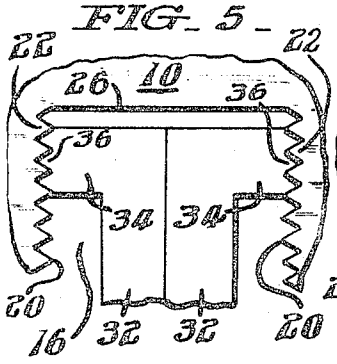


FIG. 6

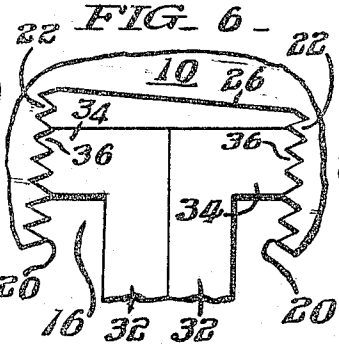


FIG. 1

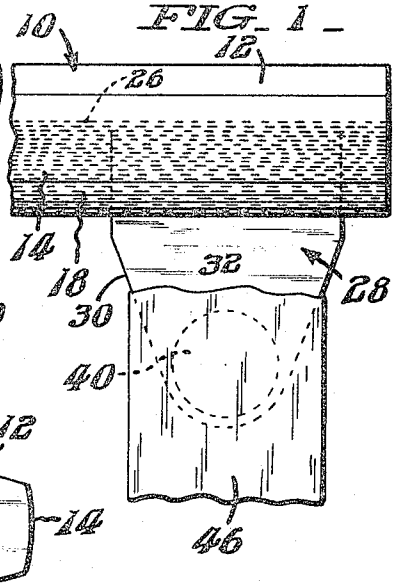


FIG. 2

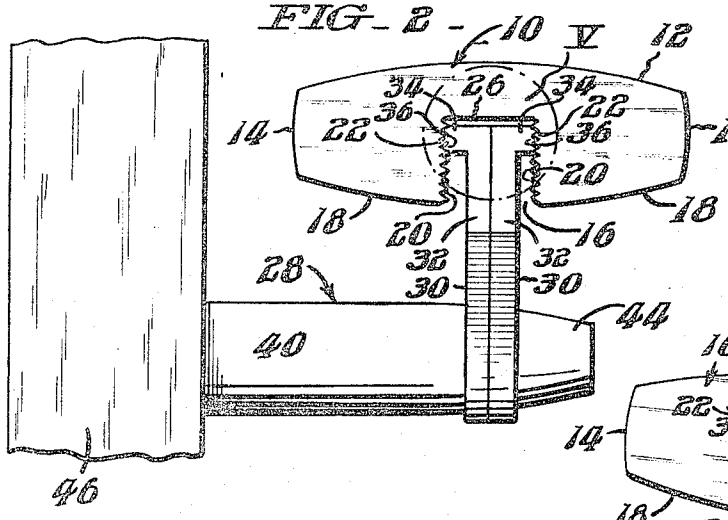


FIG. 3

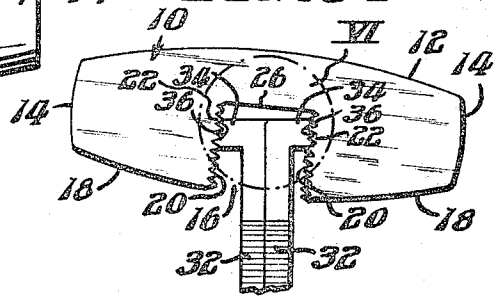


FIG. 7

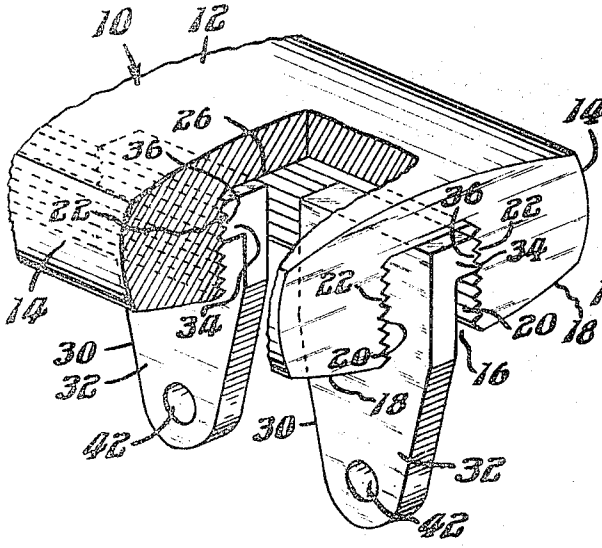
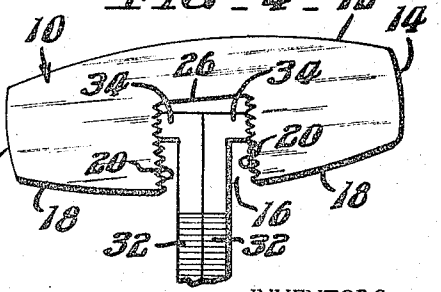


FIG. 4



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HANDRAIL

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5 Claims. (Cl. 287—189.36)

This invention relates generally to handrails and particularly to improvements in handrails and supporting structures therefor.

A principal object of the invention is to provide a handrail and supporting structure which may be assembled so as to effectively compensate, within limits, for a departure of the supporting structure from a desired position.

Another object is to provide such a handrail and supporting structure which may be assembled so that the handrail is tilted to one side or the other relative to the supporting structure.

Other objects of the invention will become apparent when the following description is read with reference to the accompanying drawing, in which:

FIG. 1 is a side elevation of the handrail and supporting structure constructed in accordance with the invention;

FIG. 2 is an end view of the handrail and supporting structure shown in FIG. 1;

FIG. 3 is similar to FIG. 2 but shows the handrail tilted to one side;

FIG. 4 is similar to FIG. 2 but shows the handrail tilted to the opposite side;

FIG. 5 is an enlarged view of the encircled area V in FIG. 2;

FIG. 6 is an enlarged view of the encircled area VI in FIG. 3; and

FIG. 7 is a perspective view of the handrail, with part cut away and sectioned, and of the support brackets, showing a stage in the assembly thereof.

The following description is directed to the specific form of the invention shown in the drawing and is not intended to be addressed to the scope of the invention, which may be practiced in a variety of forms.

Referring to the drawing, the handrail, generally designated **10**, is a channel member of inverted U-shape in transverse section. It has an upper surface area **12** which is convex upwardly and opposite side areas **14** which are convex outwardly. The underside of the handrail **10** is provided with a longitudinally extending slot **16**. On opposite sides of the slot **16**, the undersurface areas of the handrail, designated **18**, are convex downwardly. The opposed walls of the slots, designated **20**, are provided with a series of longitudinally extending parallel serrations **22**.

The structure for supporting the handrail, generally designated **28**, comprises a two part bracket, the parts **30** of which are disposed back to back. Each bracket part **30** includes an upright leg **32** and a laterally extending leg **34**. The laterally extending leg **34** is provided with a series of longitudinally extending parallel serrations **36**.

The bracket parts **30** are connected to a post **46** by means of a suitable coupling assembly **40** including a pin projected through openings **42** in the brackets and fitted with a cap nut **44**.

In the use of the handrail, the post **46** and coupling assembly **40** are erected as close to the desired position as possible. Then the distance from the center of the coupling assembly **40** to the desired elevation of handrail **10** is determined. The departure of the coupling assembly **40** from the elevation required to properly position the handrail determined which serrations **22** should be engaged with serrations **36**. Referring particularly to FIG. 7, the bracket parts **30** are inserted into longitudinally spaced portions of the slot **16**, as shown, with the

serrations **36** engaging the desired serrations **22**. Then the brackets are shifted longitudinally of the handrail until they are positioned back to back. The handrail and the brackets are now moved sideways so that the pin of the coupling assembly **40** is projected through the openings **42** in the brackets, whereupon the nut **44** is threaded upon the pin.

As illustrated in FIGS. 3, 4 and 6, the handrail may not only be erected at various elevations by engaging the serrations **36** with selected serrations **22**, but may be tilted to one side or the other relative to the brackets, as, for example, when the handrail is for a curved stairway. Thus the handrail may be fully oriented, i.e., raised or lowered and tilted to either side, relative to the brackets.

What is claimed is:

1. In a handrail and supporting structure therefor, the combination comprising a handrail uniform in transverse section and having a longitudinally extending slot with parallel opposite side walls in the undersurface thereof, a support bracket including two separable parts disposed back to back with their upper end portions in said slot and respectively adjacent the opposite side walls of said slot, longitudinally extending serrations on both side walls of the slot, and serrations on the remote faces of the bracket parts selectively interengaged with opposed ones of the serrations on the side walls of the slot whereby to support said railing without tilting the same to one side, and selectively interengageable with positionally offset serrations respectively on the side walls of the slot whereby to tilt said railing to one side.

2. The combination according to claim **18** wherein the width of the slot is substantially greater than the depth of the serrated faces of the bracket parts.

3. In a handrail and supporting structure therefor, the combination comprising a handrail in the form of a channel member including a web interconnecting a pair of laterally spaced flanges depending from said web, the opposed walls of the flanges being parallel and provided with longitudinally extending serrations, bracket means extending upwardly between said flanges, the remote faces of the bracket means being provided with serrations selectively interengageable with the serrations respectively on said opposed walls of the flanges whereby to support said railing without tilting the same to one side, and selectively interengageable with serrations respectively on said opposed walls of the flanges and positionally offset in the direction of the depth of said flanges whereby to tilt said handrail to either side selectively.

4. The combination according to claim **20** wherein the distance between the flanges is substantially greater than the depth of the serrated remote faces of the bracket means.

5. The combination according to claim **21** wherein the bracket means includes two separable parts disposed back to back and conjointly forming a bracket which is T-shaped in transverse section, and the surfaces at the opposite ends of the head of said T-shaped bracket are serrated for interlocking with the serrations on said opposed walls of the flanges.

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