

Feb. 5, 1957

F. W. KRIEGER
HAND RAIL CONSTRUCTION

2,780,440

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2 Sheets-Sheet 2

Fig. 2

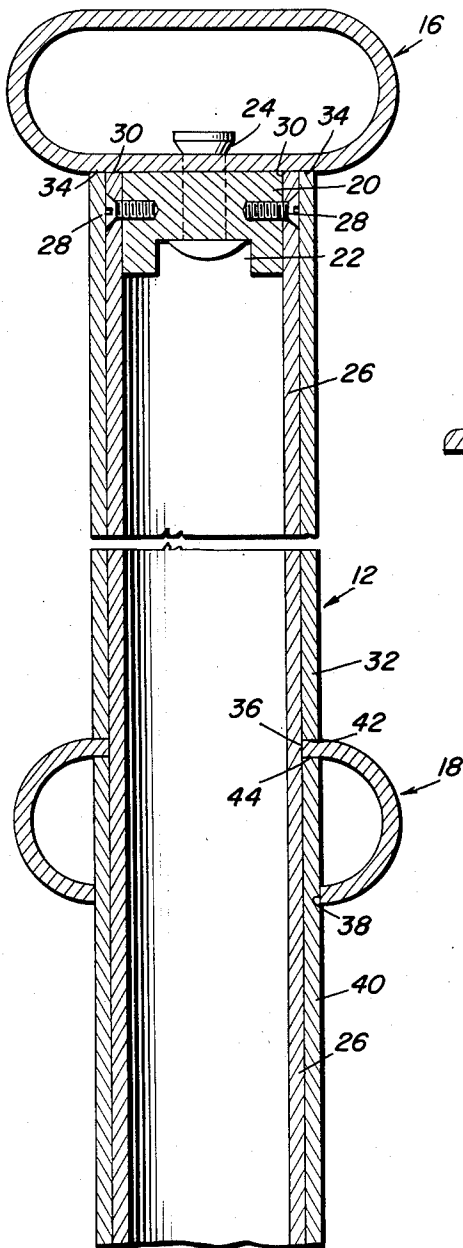
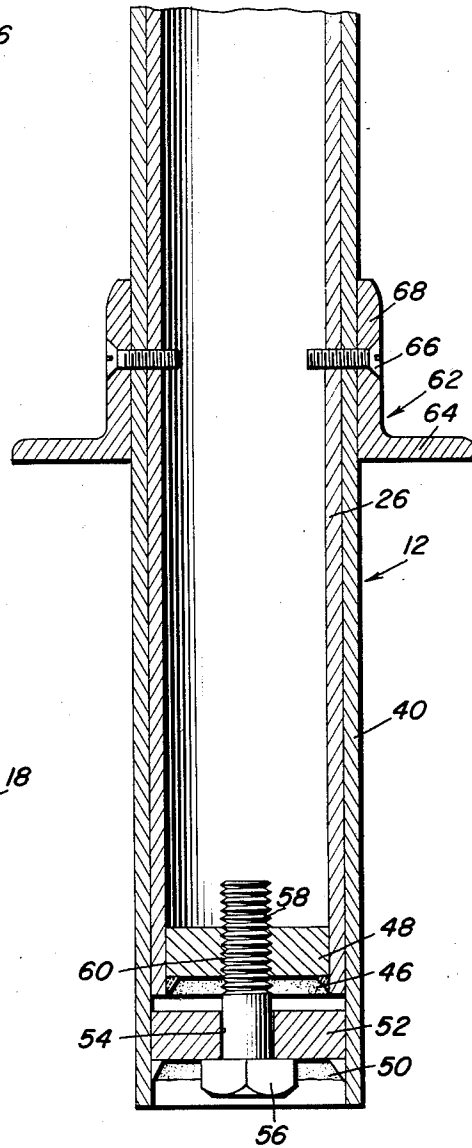


Fig. 3



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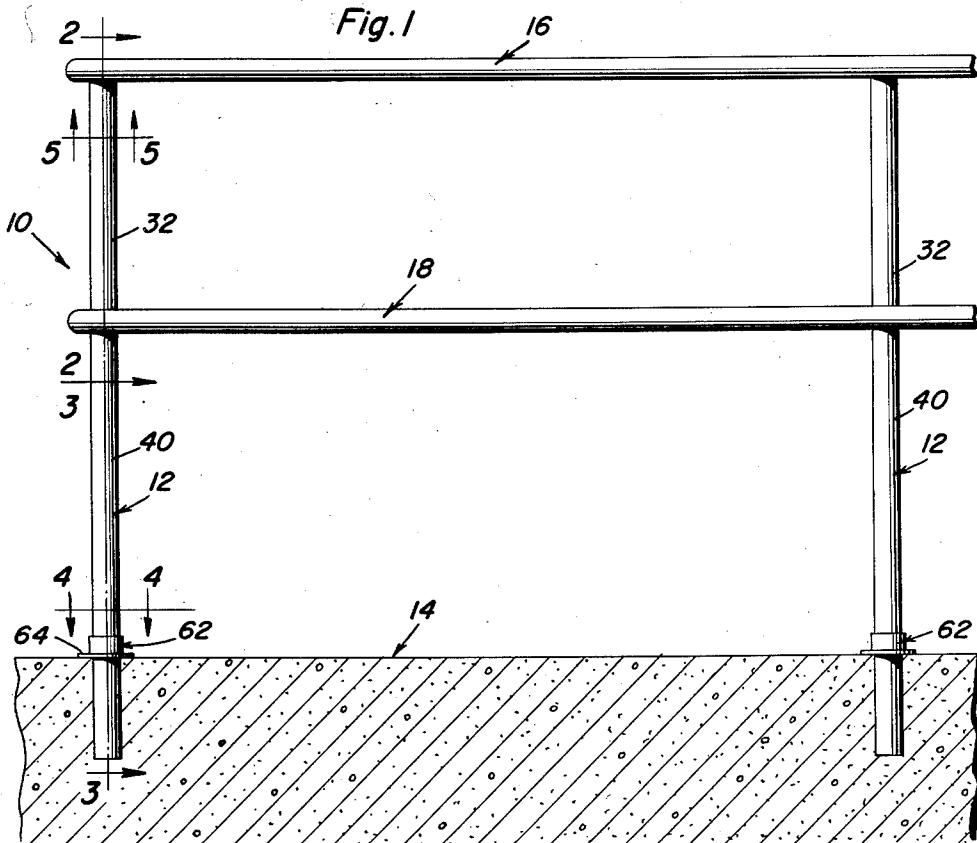


Fig. 4

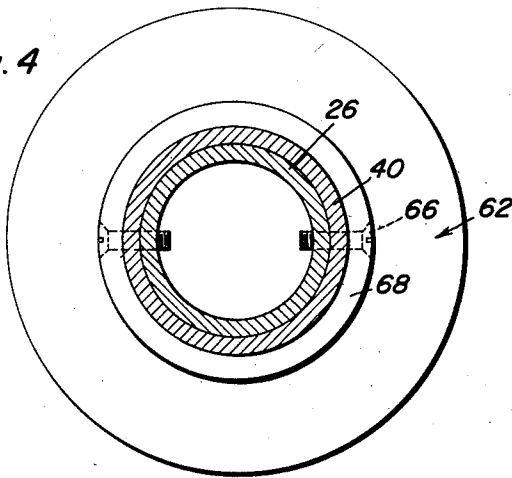
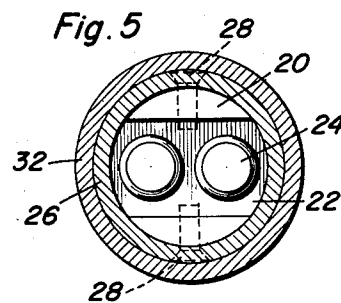


Fig. 5



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2,780,440

HAND RAIL CONSTRUCTION

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Application February 4, 1955, Serial No. 486,259

2 Claims. (Cl. 256—21)

This invention relates generally to new and useful improvements in hand or guard rails for porches, steps and any other places where guard rails are necessary, and is more particularly directed to a hand or guard rail construction which is readily assembled on the site of installation.

Another object of invention in conformance with that set forth above is to provide a guard rail construction utilizing readily assembled parts including novel fastening means giving rise to a rigid, economical and sturdy construction.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view of the novel railing;

Figure 2 is an enlarged vertical sectional view taken substantially on line 2—2 of Figure 1 with portions broken away;

Figure 3 is an enlarged vertical sectional view taken substantially on line 3—3 of Figure 1;

Figure 4 is an enlarged horizontal sectional view taken substantially on line 4—4 of Figure 1; and

Figure 5 is an enlarged horizontal sectional view taken substantially on line 5—5 of Figure 1.

The novel railing construction is indicated generally at 10 and includes a plurality of vertical support and securing posts 12 suitably supported in a concrete foundation 14, for example, said vertical support members 12 being connected at their top portions by the top horizontal hand rail members 16 which extend therebetween, and including intermediately thereof intermediate rail members 18. It is to be understood that all of the vertical support members 12 are of identical construction and accordingly only one thereof will be described in detail. The material to be utilized in the construction of the novel railing will be a metal of any suitable character to conform to the specifications of the particular installation.

Secured at predetermined locations on the underside of the top hand rail 16, depending upon the spacing of the vertical supports 12 are a plurality of lug elements 20 which includes a recessed portion 22 for accommodating suitable fastening means 24 which may be "Cherry" rivets, suitable screws, etc. The lug elements 20 will conform to the inner peripheral configuration of a tension tube 26 which is secured thereto by means of tap screws 28 in juxtaposition with the top rail member 16 as indicated at 30. A spacing sleeve 32 having an inner peripheral configuration conforming to the outer peripheral configuration of the tubular elements 26 is positioned thereon in a juxtaposition at its upper portion with the hand rail 16 as indicated at 34. The intermediate rail 18 includes plural apertures therethrough conforming to the spacing of the previously mentioned lugs 20. The plural apertures are identified at 36 and 38, the aperture 36 conforming to the outer peripheral configuration of the tu-

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bular element 26 and the aperture 38 conforming to the outer peripheral configuration of a second tubular sleeve 40 which conforms to that of the spacing sleeve 32. As seen in Figure 2, the intermediate rail 18 is placed on the tubular sleeve 40 wherein the upper portions thereof adjacent the aperture 36 are in juxtaposition with the spacing sleeve 32 as seen at 42 and underlies and supports the spacing sleeve 32. It will be noted that the second tubular sleeve element 40 passes through the aperture 38 in the intermediate rail 18 and has its top end portion 44 seating the inner surface of the rail member 18 adjacent the aperture 36 to support the intermediate rail 18. Secured by a suitable weld 46, for example, to the lower portion of tubular element 26 is a centrally tapped or threaded plug element 48. The second sleeve element 40 extends beyond the lower portion of the inner tubular elements 26 when it is in juxtaposition with the intermediate rail 18, and includes inside thereof on its lower end by means of a weld 50, for example, a stop plug element 52 which has a central aperture 54 through which a bolt 56 is rotatable therein, said bolt including the threaded end portion 58 which cooperates with the thread 60 of element 48.

It is believed readily apparent when the bolt 56 is tightened to turn to draw the threaded member 48 downwardly, the lower tubular element 40 and the spacing sleeve 32 will be urged into tight engagement with the intermediate rail 18 and the top rail 16 thus providing a rigid and readily assembled railing assembly.

After the railing has been assembled as heretofore described, suitable slip flange members 62 may be provided, however, it is readily perceptible that such slip flanges are not necessary for retaining the invention conforming with the objects set forth above. The slip flanges may include a lower angular flange portion 64 for contacting the support surface 14, and may be secured to the support elements 12 by means of suitable securing elements, such as screws 66 passing through an upwardly extending flange portion 68 of the slip flange element, said screws also passing through suitably aligned apertures in the tubular elements 26 and 40.

Although this invention has been disclosed with the various structural elements indicated as having a particular configuration, it is to be understood that the inventive concept disclosed herein may be utilized with any tubular elements, regardless of their configuration, thus the elements for forming the heretofore disclosed novel railing may have a cross sectional configuration of a square, rectangular, oval, ellipse, circle, etc.

The various positional directional terms such as "front," "rear," "top," "bottom" or any other terms of this character are intended to have only a relative connotation to aid in describing the device and are not intended to be permanent as requiring any particular orientation with respect to any external elements.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

What is claimed as new is as follows:

1. In a rail assembly, a tubular support comprising a lower member, an intermediate hollow rail having a bottom aperture fitting around said lower member and also having a top aperture providing a circular edge on the intermediate rail seating on the upper end of said lower member, said support further including a spacing sleeve having a lower end seating on said edge of the intermediate rail, an upper rail seating on the upper end of said

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spacing sleeve, a tension tube slidably fitting in said lower member and spacing sleeve and in said top aperture and having an upper end juxtaposed to said upper rail, means in said tension tube and on said upper rail securing said upper rail to the upper end of said tension tube, and screw feed means in the lower ends of said lower member and tension tube for sliding said tension tube downwardly to tightly seat the top rail on the upper end of the spacing sleeve and thereby tightly seat the lower end of the spacing sleeve on said edge and said edge on the upper end of the lower member.

2. The combination of claim 1, said screw feed means comprising a pair of plug members fitting in and secured to the lower ends of the tension tube and lower member, and a screw bolt connecting said plug members.

References Cited in the file of this patent

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