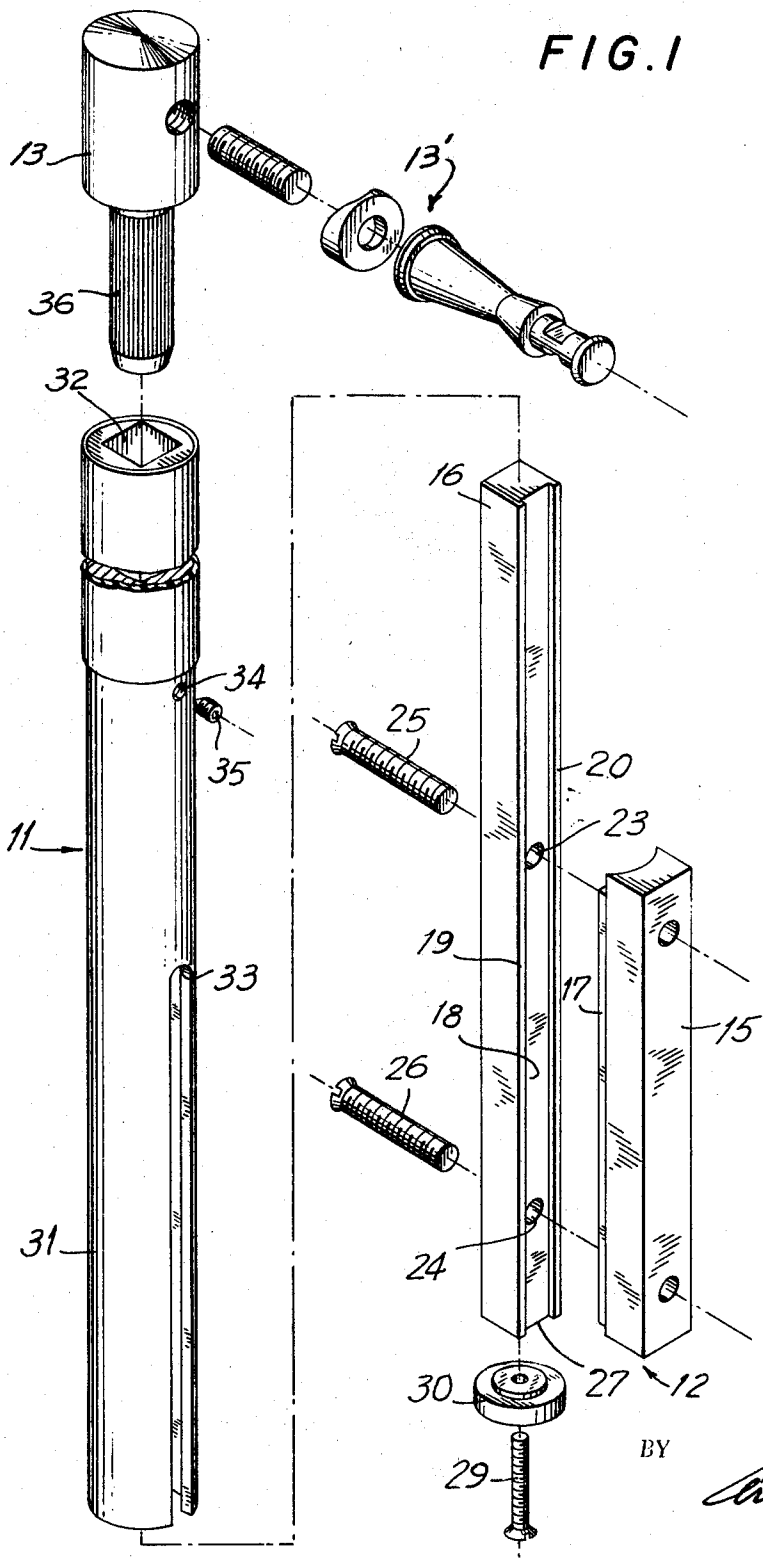
May 12, 1970 R. F. SEERY 3,511,477

ADJUSTABLE STANCHION ASSEMBLY

Filed Oct. 23, 1968 2 Sheets-Sheet 1

FIG. 1



INVENTOR.
ROBERT F. SEERY

BY

ATTORNEY

May 12, 1970 R. F. SEERY 3,511,477

ADJUSTABLE STANCHION ASSEMBLY

Filed Oct. 23, 1968

2 Sheets-Sheet 2

FIG. 2

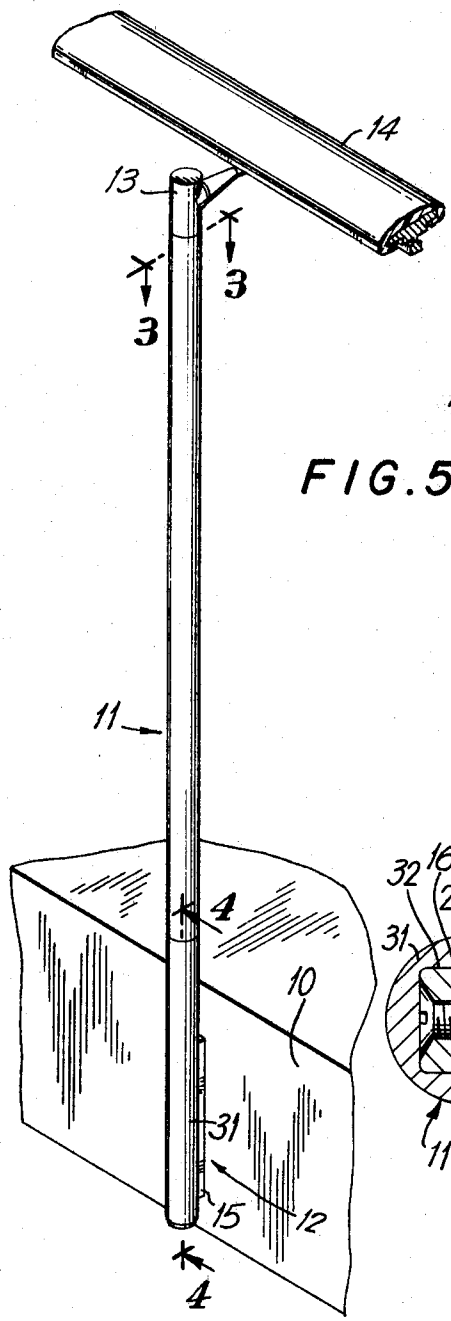


FIG. 3

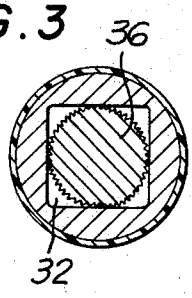


FIG. 4

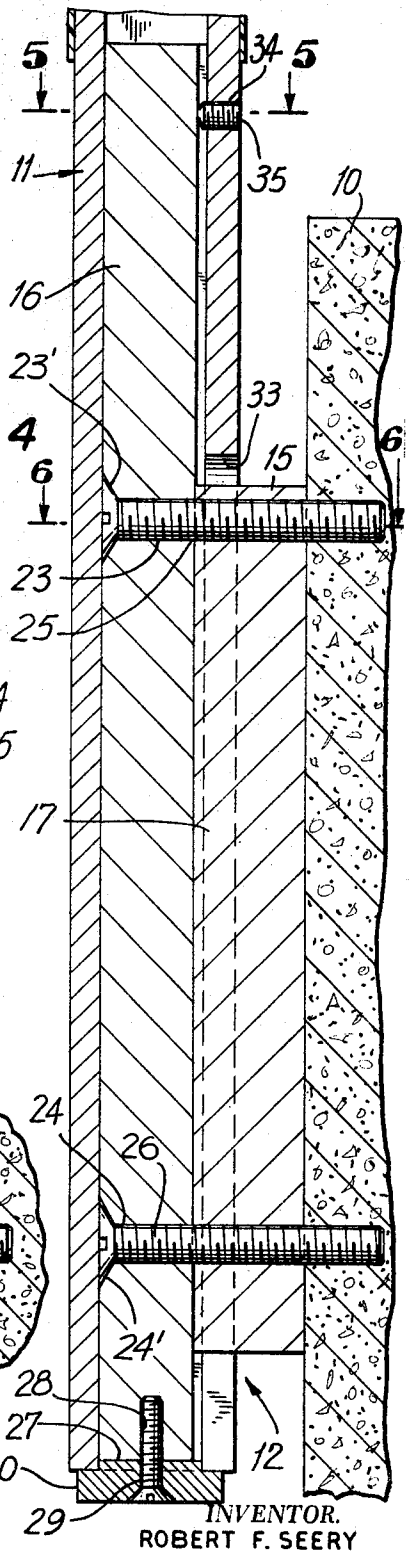


FIG. 5

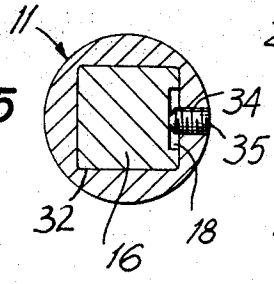
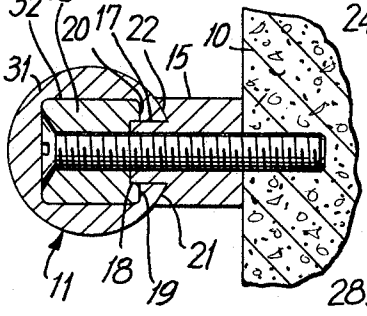


FIG. 6



INVENTOR.
ROBERT F. SEERY

BY

ATTORNEY

United States Patent Office 3,511,477
Patented May 12, 1970

3,511,477

ADJUSTABLE STANCHION ASSEMBLY

Robert F. Seery, Lake Forest, Ill., assignor to Julius Blum & Co., Inc., Carlstadt, N.J., a corporation of New York

Filed Oct. 23, 1968, Ser. No. 769,953
Int. Cl. E04h 17/22
U.S. Cl. 256—65 4 Claims

ABSTRACT OF THE DISCLOSURE

An adjustable stanchion assembly of the type used to secure a handrail or the like to a bulkhead or wall, wherein precise vertical adjustment of the stanchion to provide proper support for a handrail may be readily effected after mounting of the stanchion assembly and handrail.

As conducive to an understanding of the invention, it is noted that handrails, bannisters and similar structural components are typically supported by vertically directed stanchions which may be bolted or otherwise secured to vertically directed structures such as walls and bulkheads. Where longitudinally extended handrails are to be mounted on a series of spaced stanchions, considerable difficulty has been experienced in affixing the stanchions to the wall or bulkhead in such manner that each stanchion is at the precise desired height for providing optimum support to the handrail. This is particularly true in situations where the handrail is to be supported at an angle adjacent a ramp or stairway, such constructions providing no common reference point from which the stanchion heights may be measured.

Where, to facilitate mounting a stanchion, a mounting assembly is provided which includes a vertical member having spaced vertically aligned slots through which bolts are passed and secured to the wall or bulkhead and the stanchion is a tubular member that slidably encompasses the vertical member and conceals the heads of the bolts, if the stanchion must be moved upwardly to expose the heads of the bolts to permit adjustment of the vertical height of the stanchion, the operation is time-consuming and adds to the cost of installation. This problem is enhanced by the fact that the normal handrail installation requires a plurality of stanchions and associated vertical members, each of which may require separate adjustment.

SUMMARY OF THE INVENTION

The adjustable stanchion assembly comprises a bracket assembly adapted to be permanently affixed to a bulkhead or wall by a plurality of through bolts. The bracket assembly includes a vertical filler section adapted to be received within a hollow interior portion formed at the lower end of the stanchion through a vertical slot in said lower end. Clamping means which may be mounted on the stanchion and operated without removal of the stanchion from the bracket, permits the stanchion to be clamped to the vertical filler section of the bracket in any of a plurality of desired vertical positions, so as to permit adjustment of the stanchions relative to a handrail without demounting the stanchions and without adjustment of the through bolts holding the bracket in position.

Heightwise adjustment is further facilitated by a threaded capping member which may temporarily support the stanchion in a desired vertically adjusted position until the desired position of the stanchion is achieved, the stanchion being locked in such desired position by subsequent activation of the clamping means.

It is accordingly an object of the invention to provide an improved, vertically adjustable stanchion assembly which permits ready heightwise orientation of a stanchion of the type used to support handrails and bannisters without need to remove the stanchion from the bracket on which it is mounted.

A further object of the invention is the provision of a device of the class described which may be temporarily adjusted and which, after the adjustment has been determined to be correct, may be permanently clamped into position.

Still a further object of the invention is the provision of a vertically adjustable stanchion assembly of the type described wherein the adjustment may be effected without removal of the stanchion after initial mounting, the adjustment mechanism being concealed in normal usage.

In the accompanying drawings in which are shown one of various possible embodiments of the several features of the invention.

FIG. 1 is an exploded perspective view of a stanchion assembly in accordance with the invention illustratively shown supporting a handrail.

FIG. 2 is a perspective view of a stanchion and a section of a handrail supported thereon;

FIG. 3 is an enlarged transverse sectional view taken on line 3—3 of FIG. 2;

FIG. 4 is an enlarged vertical sectional view taken on line 4—4 of FIG. 2;

FIG. 5 is a transverse sectional view taken on line 5—5 of FIG. 4, and

FIG. 6 is a transverse sectional view taken on line 6—6 of FIG. 4.

Referring now to the drawings, **10** is a vertical wall, bulkhead, stairwell or like structure to which is mounted a stanchion assembly **11**. The stanchion assembly **11** is carried by a mounting bracket **12** fastened to the bulkhead **10**. A connector assembly **13** is disposed at the upper end of the stanchion **11** and supports a handrail **14**. It will be appreciated that while only a short section of handrail **14** is shown in conjunction with a single support stanchion, a typical installation will involve extended sections of handrail supported at regularly spaced points by a plurality of stanchions by means of strut assemblies **13'** of the type shown in U.S. Pat. No. 3,379,414.

In the illustrated embodiment of the invention, the bracket assembly **12** comprises a verticaly directed spacer block **15**, a vertically directed filler block **16**, a separator strut **17** of lesser vertical extent than the filler block being interposed between the spacer and filler blocks.

In the illustrated embodiment, the separator strut **17** is shown to be integral with the spacer block **15**, although it should be understood that the strut **17** may comprise an extension of the filler block **16** or may be an independent structural component sandwiched between the noted blocks.

As best seen from FIGS. 5 and 6, the filler block **16** is shown to be essentially square in horizontal section.

The filler block includes a vertically extending recess **18** on the surface of the block which is directed toward the wall and toward the spacer block. Separator strut **17** enters with close tolerances within the recess **18**.

It will be observed from FIG. 6 that the inwardly facing walls **19, 20** of the filler block and the outwardly facing walls **21, 22** of the spacer block define a vertically directed channel or channels to either side of the separator strut. The walls **21, 22** in the illustrated embodiment are shown as arcuately formed so as closely to embrace and mate with the curved peripheral outer surface of the stanchion.

The separator strut and the filler and spacer blocks are provided with horizontally directed but vertically spaced apart apertures **23, 24**, through which attachment bolts **25, 26** are passed to hold the blocks and separator in predetermined relation to each other and to the bulkhead **10**. The heads of the bolts **25, 26** are disposed within countersunk portions **23', 24'** in the filler block adjoining the apertures **23, 24** in known manner, so that the heads do not project beyond the surface of the block.

The lowermost end **27** of the filler block is formed with a blind threaded bore **28**. An adjustment screw **29** is threaded within the bore **28**, the screw supporting an adjustment cap member **30**.

The stanchion assembly **11** is hollow, ta least at its lowermost portion **31**, to define a vertically directed interior clearance way or bore **32**, of cross section corresponding closely to the cross-sectional dimensions of the filler block **16**, so as to permit the filler block to be received within the bore **32**. Adidtionally, a downwardly opening, vertically directed slot **33** extends upwardly from the lower end **31** of the stanchion, the transverse dimension of the slot **33** permitting the slot walls to straddle the separtor strut **17**. A tapped aperture **34** is formed through a side wall of lower portion **31** of the stanchion **11** in vertical alignment with the slot **33** at a position slightly thereabove. A locking member, such as a set screw **35** is threaded into the aperture **34**.

The stanchion **11** is assembled to the bracket assembly **12** by sleeving the lower end **31** over the filler block **16**, the slot **33** straddling the separator strut **17**. Preferably, the outwardly open channels defined between the opposed faces **19, 20** of the filler block and **21, 22** of the spacer block are conformed to receive, with close tolerances, the lower portions of the stanchion which are received in such channels.

The handrail supports **13** may be mounted in the upper end of the stanchions and may be connected to the handrail, if desired, prior to final adjustment of the stanchions with relation to the brackets. Optionally, but preferably, the connection between the handrail support **13** and the stanchion may be effected by a depending serrated plug **36** which may be forced into the interior of the bore **32**, which bore, in the illustrated embodiment of the stanchion, extends throughout the entire lengths of the stanchion. The fit between the plug and bore is such as to preclude rotary movement of the parts once they have been assembled but to permit the plug to be driven into the bore in a variety of relative angular positions.

Final heightwise adjustment of the stanchions is preferably effected by threading the adjustment bolts **29** which support caps **30** upwardly or downwardly, it being understood that the weight of the stanchions is temporarily carried on the caps **30**. When the desired heightwise orientation is obtained by varying the adjusted positions of bolts **29**, the clamping screws **35** are tightened so that its inner end is tightly compressed into the filler block **16** to preclude further movement. Preferably, the structural components are made of extruded aluminum sections and thus the tapered nose of the hardened screw may be indented into the filler block to provide a permanent connection.

It will be observed that since the screw **35** faces the bulkhead **10**, it is hidden from an inspection or tampering.

Similarly, the adjustment bolt **29**, being directed toward the floor of stairs, is hidden from view in ordinary usage.

From the foregoing it will be evident that there is provided a simple but effective and inconspicuous means for making final adjustments in the height of stanchions for supporting handrails or bannisters. The adjustment may be effected without removing the stanchions from their assembled position on the stanchion support brackets and without loosening the through bolts which hold the brackets to the bulkhead.

The use of vertically adjustable capping members at the lower end of the stanchions permits temperoray vertical adjustments to be made, to assure proper alignment of all of the stanchions, in advance of tightening of the stanchion clamp screws.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. An adjustable stanchion assembly for securing a handrail or the like to a bulkhead or wall, comprising a mounting bracket adapted to be fixed to a wall, said bracket including a spacer block having an inner face portion arranged to be disposed against the wall, a filler block having an inner face in parallel spaced relation to the outer face of said spacer block, a separator strut disposed between said blocks and spacing said blocks apart, a stanchion member having a tubular lower end portion of a cross-section maching and adapted to receive said filler block therein, said lower end portion including a vertically directed, downwardly open slot of a transverse dimension adapted to straddle said separator strut, a vertically adjustable member mounted on the lower end of said filler block positioned to engage and provide temporary support for the lower end of said stanchion member, and means extending transversely through said stanchion for locking said stanchion to said filler block at a desired vertical adjusted position.

2. An adjustable stanchion assembly for securing a handrail or the like to a bulkhead or wall, comprising a mounting bracket adapted to be fixed to a wall, said bracket including a spacer block having an inner face portion arranged to be disposed against the wall, a filler block having an inner face in parallel spaced relation to the outer face of said space block, a separator strut disposed between said blocks and spacing said blocks apart, a stanchion member having a tubular lower end portion of a cross-section matching and adapted to receive said filler block therein, said lower end portion including a vertically directed, downwardly open slot of a transverse dimension adapted to straddle said separator strut, and means extending transversely through said stanchion for locking said stanchion to said filler block at a desired vertical adjusted position, said locking means comprising a threaded aperture formed in said stanchion in spaced relation to said lower end portion and in substantial alignment with said slot, and a locking screw complementally threaded in said aperture and shiftable toward and away from said filler block.

3. An adjustable stanchion assembly for securing a handrail or the like to a bulkhead or wall, comprising a mounting bracket adapted to be fixed to a wall, said bracket including a spacer block having an inner face portion arranged to be disposed against the wall, a filler block having an inner face in parallel spaced relation to the outer face of said spacer block, a separator strut disposed between said blocks and spacing said blocks apart, a stanchion member having a tubular lower end portion of a cross-section matching and adapted to receive said filler block therein, said lower end portion including a vertically directed, downwardly open slot of a transverse dimension adapted to straddle said separator strut, and means extending transversely through said stanchion for locking said stanchion to said filler block at a desired vertical adjusted position, said separator strut being of lesser transverse dimension than said blocks, whereby

said blocks define a vertical channel therebetween, and said lower end portions of said stanchion adjacent said slot fit with close tolerances within said channel.

4. A device in accordance with claim 1 wherein said vertical adjustment member includes a cap portion disposed in closing position of the lower end of said stanchion member.

References Cited

UNITED STATES PATENTS

2,904,314	9/1959	Thom	256—65
2,918,150	12/1959	Blum.	
3,076,636	2/1963	Blum	256—65
3,182,963	5/1965	Thom	256—65
3,256,658	6/1966	Seery.	
3,351,324	11/1967	Blum et al.	256—68
3,352,084	11/1967	Seery	256—65 X

DENNIS L. TAYLOR, Primary Examiner

U.S. Cl. X.R.

256—69