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BALUSTRADES

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Fig. 1

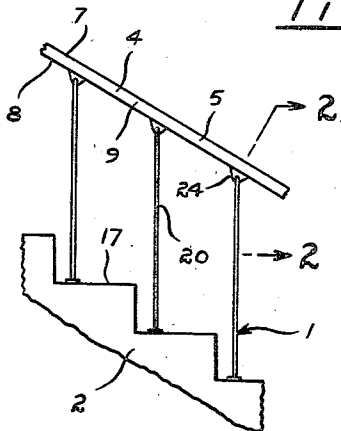


Fig. 2

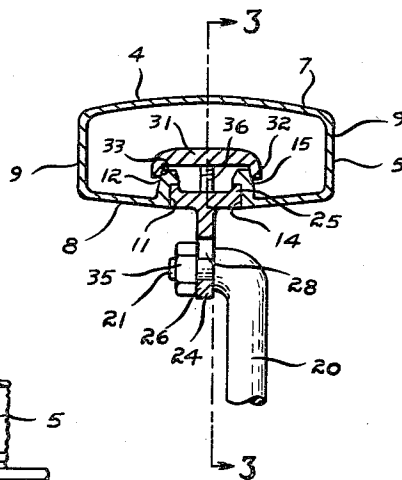


Fig. 3

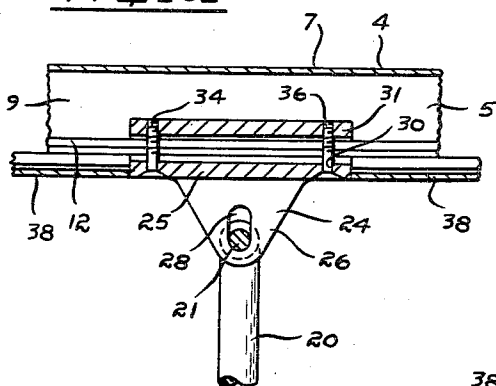
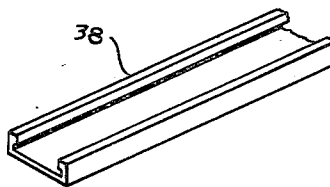


Fig. 4



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2 Claims. (Cl. 256—21)

My invention relates to improvements in balustrades. The objects of the invention are to provide a balustrade having a handrail made up of lengths of tubular material which may be perfectly aligned with one another even though some of the supporting balusters are somewhat improperly spaced as to distance from centre to centre or some other inaccuracy of fitting had occurred during the setting of the balustrades with respect to the risers or treads of the staircase.

Other objects are to provide means for securing the handrail to the balusters whereby the connecting means are concealed in part within a slot formed in the underside of said handrail, and to provide a strip of material for closing the slot between adjoining balusters, so that a completely closed structure is presented to the hand and eye.

Referring to the accompanying drawings:

Figure 1 is a fragmentary elevation of the invention.

Figure 2 is an enlarged section taken on the line 2—2 of Figure 1.

Figure 3 is a section taken on line 3—3 of Figure 2.

Figure 4 is a perspective view of a portion of the filler strip.

In the drawings like characters of reference indicate corresponding parts in each figure.

The numeral 1 indicates generally a balustrade shown as being mounted upon a staircase 2 and having a handrail 4 which is made up of lengths 5 of tubular material. The lengths 5 have arcuate top and bottom walls 7 and 8 respectively and side walls 9. A central slot 11 is defined in the bottom wall 8 of each length between inwardly turned flanges 12 and the lower edges of said flanges are provided with rebates 14, see Figure 2. The remote faces of the flanges 12 are inclined towards the centre of the handrail as shown in Figure 2.

The treads 17 of the staircase 2 are fitted with suitably spaced balusters 20 each having at its upper end a horizontally disposed bolt 21. Each bolt 21 is adapted to be fitted with a connector 24 consisting of a short length of channel 25 having a depending lug 26 which is provided with a vertical slot 28. The channels 25 of the connectors are provided with a pair of longitudinally spaced openings 30, see Figure 3 only. A cap 31 is adapted to coat with each connector 24 and is provided with depending sides 32 which have their opposing faces inclined as at 33. The caps 31 are provided with spaced threaded openings 34.

The balusters 20 are erected upon the treads 17 with appropriate care being taken to align the balusters with one another, although it is not absolutely necessary that the spacing between adjoining balusters be the same nor that the vertical distance the bolts 21 are disposed above the treads should all be exactly the same.

Assuming that a length 5 of the handrail is to be

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mounted upon its supporting balusters it is approximately aligned with the last erected section of the balustrade and a connector 24 is fitted to a conveniently located bolt 21 which is projected through the slot 28. The channel 25 of the connector is lodged within the rebates 14 and a nut 35 is fitted to the bolt and is tightened sufficiently to permit sliding movement of the lug 26 upon said bolt. A cap 31 is entered into the handrail and is positioned so as to bridge the flanges 12 directly above the channel 25 of the connector and with the faces 33 engaging the faces 15 of said flanges. Screws 36 are thrust through the openings 30 and are loosely threaded into the corresponding openings 34 in the cap. The length of tubular material is similarly connected to the remaining balusters and said length may then be exactly aligned with the last erected section of balustrade by adjusting it vertically as required with the bolts 21 moving within the slots 28 of the lugs 26 to permit this adjustment. The nuts 35 may then be tightened to securely clamp the connectors to the balusters. The lengths 5 are moved endwise relative to the connectors until the abutting ends of the adjacent lengths are in close contact with one another, whereupon the screws 36 are tightened to clamp the flanges 12 between the channels 25 and their coacting caps 31. During this clamping movement the sides 32 of the caps slide a short distance down the inclined faces 15 to exert a wedging action which assists in retaining the channel 25 within the slot.

In order to close the slots 11 between adjoining connectors, a filler strip 38 is provided, see Figure 4. The strip 38 is preferably of channel section and has the substantially same cross sectional dimension as the channel 25 of the connectors so as to closely fit the sides of the rebates 14. The strip is required to be cut to the desired length by the workmen erecting the balustrade and to be sprung into position within the slot so that no fastening devices are required.

What I claim as my invention is:

1. A balustrade comprising a tubular handrail having a bottom wall, said bottom wall having a central slot defined by inwardly projecting flanges, said flanges having rebates formed at their lower edges, spaced balusters for supporting said handrail, a connector secured to the upper end of each baluster and adapted to be partly seated in said rebates, a cap bridging the upper edges of said flanges above each connector, and means extending between each connector and a cap for clamping the flanges between the cap and the connector, each connector being provided with a depending lug, said lug having a vertical slot, each of said balusters being secured to a connector by nut and bolt means extending through the said slots.

2. A balustrade comprising a tubular handrail having a bottom wall, said bottom wall having a central slot defined by inwardly projecting flanges, said flanges having rebates formed at their lower edges, spaced balusters for supporting said handrail, a connector secured to the upper end of each baluster and adapted to be partly seated in said rebates, a cap bridging the upper edges of said flanges above each connector, and means extending between each connector and a cap for clamping the flanges between the cap and the connector, each connector being provided with a depending lug, and each baluster being hingedly connected to the depending lug at its upper end.

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