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M. ROTH

1,772,159

RAIL CONNECTION

Filed April 29, 1927

FIG. 1.

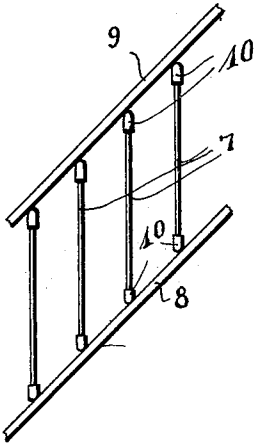


FIG. 2.

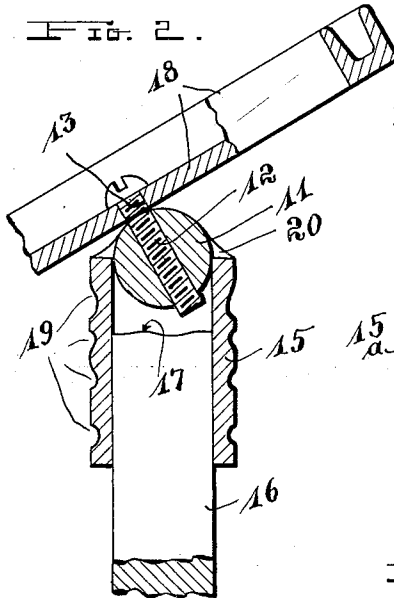


FIG. 3.

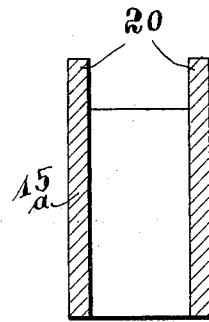


FIG. 4.

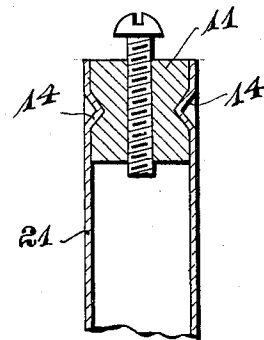


FIG. 5.

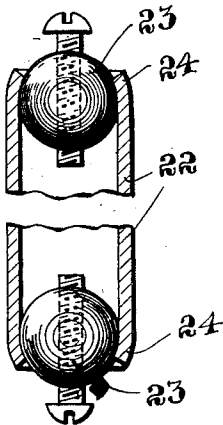
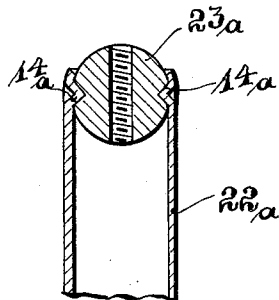


FIG. 6.



INVENTOR:

MARTIN ROTH,

By: Otto H. Kugel,
his Atty.

UNITED STATES PATENT OFFICE

MARTIN ROTH, OF HOLLYWOOD, CALIFORNIA

RAIL CONNECTION

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This invention relates to devices used for connecting the small pilasters, or posts to the upper and lower rails in a staircase, or balustrade.

5 One of the objects of this invention is to provide a connection of standardized form, easily applicable to rails by which small pilasters, columns, or posts may be inserted without any material fitting.

10 Another object is to provide a connection by which small pilasters, columns, or posts may be applied to rails at any angle without any fitting.

15 Other objects will appear from the following description and appended claims as well as from the accompanying drawing, in which—

20 Fig. 1 is a fragmentary side elevation of a staircase balustrade roughly outlining the location of small swivel-like connections between the rails and the small pilasters, columns, or posts.

25 Fig. 2 is a fragmentary detail general mid-sectional view through a connection applied to a rail of channel form, and having the end of a bar inserted into the connection.

30 Fig. 3 is a detail longitudinal section of the sleeve member, shown at right angles to the illustration in Fig. 2, detached and in a form as it appears before being center punched.

35 Fig. 4 is a slightly modified form, in which the end of a thin tubular baluster is shifted over the cylindrical connecting block and center-punched over the ends of the block.

40 Fig. 5 is a slightly modified form of a connecting block of globular form for round bar connections instead of the square bar connections illustrated in Figs. 2, 3 and 4.

45 Fig. 6 is another slightly modified form with the end of a tube center-punched to the globular connecting member.

50 In constructing metal balustrades, the small columns or pilasters, or posts have generally to be fitted to the rail at an angle according to the construction of the balustrade. The fragmentary illustration of Fig. 1, for instance, shows a staircase balustrade with a rise of about 45 degrees. The small balusters, or posts 7, in this case, are inserted between the lower rail 8 and the upper rail 9.

In the normal, customary manner of fitting, these balusters 7 must be fitted at both of their ends at the proper angle of 45 degrees to abut against the rails 8 and 9.

In this illustration, however, small connecting members 10 are inserted between the rails and the balusters.

These connecting ends may be made of various forms, only a few of which having been illustrated in the drawing.

One specific form is illustrated in Figs. 2, 3 and 4. A cylindrical block 11 is provided with a threaded hole 12 by which this block can be fastened to any form of a rail by a screw 13. The block 11 is provided at its two opposite ends with conical recesses 14, as illustrated in Fig. 4, concentric to the axis of this cylindrical body 11, so that any tubular member applied over the ends of this cylindrical block may swing around the axis of the block when impinged, or center-punched in the manner illustrated in Fig. 4.

The sleeve connecting member 15 illustrated in Figs. 2 and 3 is of a special form to be connected in conjunction with the block, suitable to receive any rough square bar without any fitting to the end of the bar, a bar end being inserted as indicated at 16 in Fig. 2, the termination 17 of this rod end being distinctly shown rough and not in any manner beveled to fit the angle of the rail 18.

From this it will be clear that any rough bar, tubular or solid, may be inserted into the sleeve connection 15 to properly appear fitted between railings without any actual fitting.

The sleeve connection member 15, as illustrated in Figs. 2 and 3 is made of a special form, and as indicated in Fig. 2 at 19 may be ornamented on the outside to add to the appearance in a balustrade.

A connection of this sort may then be bought by any iron worker and without any artistic mind assembled to result in a nicely appearing balustrade with mere rough rails and rough rods connected by this special block and tubular connection.

The tubular connection 15 is provided with extension ends 20 to overlap or extend over the ends of the cylindrical block member 11

to allow a center-punching over the center and recessed sides in a manner indicated at 14 in Fig. 4 to allow a swinging of the tubular member 15 to various angles in relation to an attached rail, as will be clear from the illustration of Fig. 2.

However, the block member 11 may be attached to a rail and instead of solid rods inserted into the tubular connecting end, tubular rods may be shifted over the connecting block 11 and center-punched as illustrated in Fig. 4. In such a case, both ends of the tubular rods 21 are shifted over the circular blocks 11 on oppositely disposed rails.

The illustration in Fig. 5 shows a slightly modified form by which a tubular rod 22 is impinched over globular connecting blocks 23 at the opposite ends, the impinching being indicated at 24, by which the ends of the rough tube are firmly applied to the two globular blocks 23.

Connecting such globular blocks to the rails in the manner set forth above with reference to Figs. 1 and 2, it will be clear that round tubular rods may be used in a balustrade without material fitting as to the angle of any rails by using these globular blocks.

The slightly modified form in Fig. 6 shows the globular blocks 23_a provided with recesses 14_a, by which the tubular rod 22_a may be firmly secured to this globular block 23_a, by a center-punching at the ends of the tubular rods 22_a in a similar manner as described above with reference to the illustration of Fig. 4.

Having thus described my invention, I claim:

1. In a balustrade, a rail, a baluster, and a connecting block having an aperture to allow an insertion of a bolt by which the block can be attached to the rail, the block having recesses on opposite sides in an axis crosswise to the axis of said aperture by which the baluster may be pivotally connected to the block and thereby to the rail.

2. In a balustrade, a rail, a baluster, a block having means by which it can be secured to a rail, and a sleeve member pivotally connected to the block and adapted to receive an unfitted end of the baluster to appear fitted to the rail at any angle by reason of the pivotal connection between the sleeve member and the block.

In testimony that I claim the foregoing as my invention I have signed my name.

MARTIN ROTH.