Jan. 5, 1932. C. J. SOMMER 1,839,711

ADJUSTABLE STAIR RAIL TEE

Filed May 12, 1931

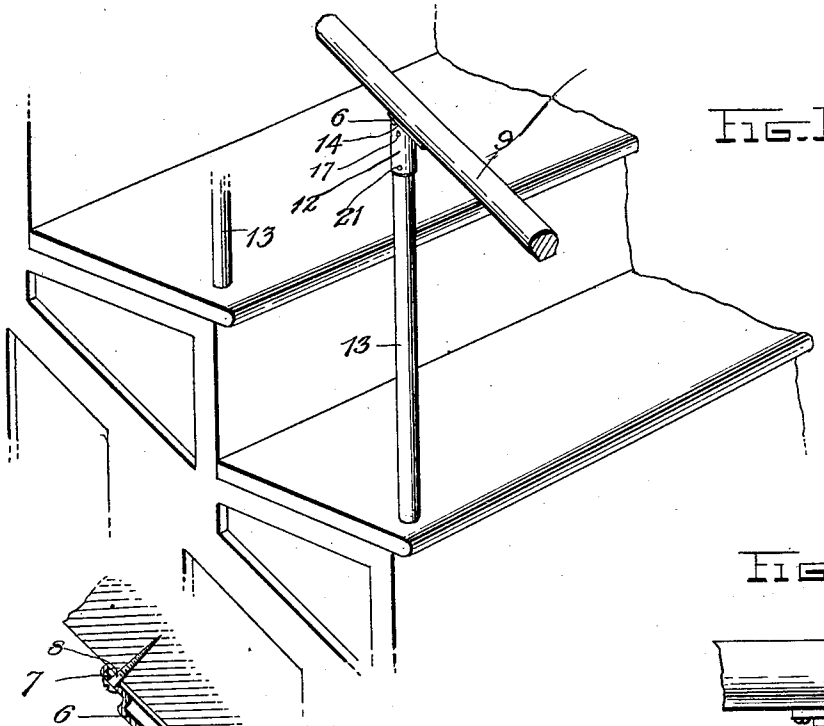


Fig. 1.

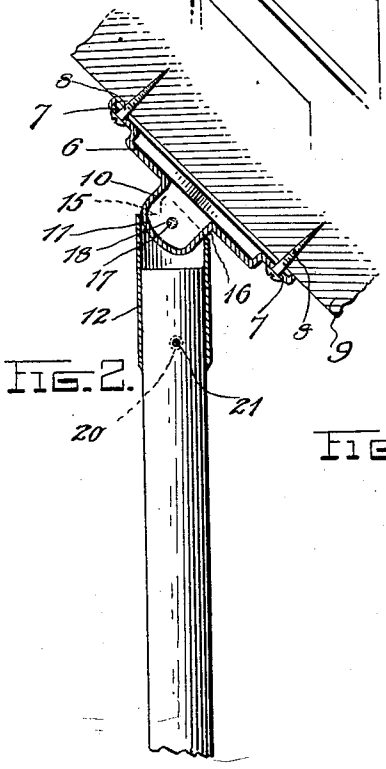


Fig. 2.

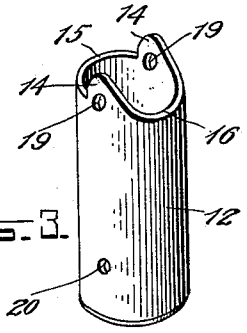


Fig. 3.

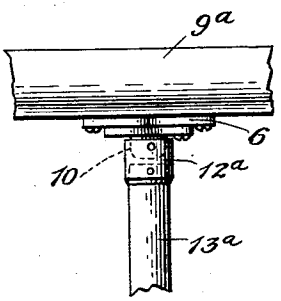


Fig. 5.

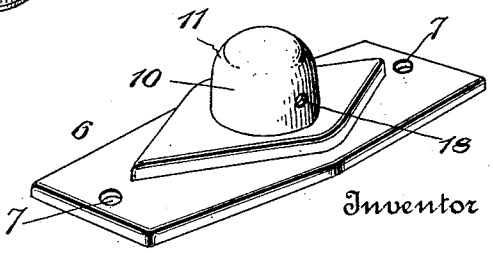


Fig. 4.

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UNITED STATES PATENT OFFICE

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ADJUSTABLE STAIR RAIL TEE

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In securing spindles of stairway railings to the hand rails, steps, landings and floors, it is customary to bore spindle-receiving openings in the steps, landings and floors, cut the spindles to proper lengths and place their lower ends in the openings, temporarily anchor the hand rail in proper position, plumb the spindles and mark the rail at the upper ends thereof, remove the rail, bore the openings in the latter for the upper ends of the spindles, replace the rail and insert the upper ends of said spindles into the rail openings, and finally anchor the rail. Such procedure entails a great deal of time and care and it is the object of my invention to provide an improved connection between the spindles and the hand rail, by means of which a great saving in time, labor and care may be effected.

With the foregoing in view, the invention resides in the novel subject matter hereinafter described and claimed, description being accomplished by reference to the accompanying drawings.

Fig. 1 is a perspective view showing one of the improved T's in use for connecting a spindle with an inclined hand rail.

Fig. 2 is an enlarged vertical sectional view partly in elevation through the T shown in Fig. 1, and adjacent portions of the hand rail and spindle.

Fig. 3 is a perspective view of the spindle carried sleeve.

Fig. 4 is a perspective view of the rail-carried plate.

Fig. 5 is a detail side elevation showing the form of T employed between a horizontal rail and a spindle.

An attaching plate 6 is provided having openings 7 to receive screws 8 by means of which it may be secured to an inclined hand rail 9 (Figs. 1 and 2), or a horizontal hand rail 9^a (Fig. 5). The plate 6 is provided with a central downwardly projecting boss 10, said boss being substantially cylindrical but having a rounded lower end 11. In the preferred construction, the plate 6 and the boss 11 are stamped at one operation from a single piece of sheet metal which may be suitably finished to agree with or harmonize with the hardware used in the house in which the invention is to be employed.

A thin metal sleeve 12 is employed for connecting the inclined rail 9 with each spindle 13, and a somewhat different sleeve 12^a is used for connecting the horizontal hand rail 9^a with each vertical spindle 13^a. The sleeve 12 or sleeve 12^a is preferably finished in the same manner as the plate 6 to present a good appearance.

The sleeve 12 slidably though snugly receives the upper end of the spindle 13, and the upper end of said sleeve is provided with two diametrically opposite upstanding lugs 14. The upper edge of the sleeve 12 between the lugs 14, is straight and horizontal throughout substantially half the circumference of the sleeve, as shown at 15. Substantially the other circumferential half of the upper edge of the sleeve declines from the lugs 14 as shown at 16, and in use is substantially parallel with the plate 6. The boss 11 is seated upon the edge portion 16 of the sleeve 12, extends into the upper end of said sleeve and has its rounded end 11 lying against the inner side of the sleeve along the edge 15, so that the boss closes the upper end of the sleeve and will not allow the latter to collect dust or dirt. The boss 11 is connected with the ears 14 by a pivot pin 17 passing through openings 18 in said boss and through openings 19 in said ears, the ends of the pin being preferably filed off flush with the periphery of the sleeve 12. The lower portion of the sleeve 12 is formed with small openings such as 20, through which attaching nails such as 21, may be driven into the spindle 13 to finally connect said sleeve and spindles.

The sleeve 12^a shown in Fig. 5, is similar to the sleeve 12 but is provided with a squarely cut upper end. This upper end of the sleeve 12^a will receive the boss 11 of the plate 6 when the latter is attached to a horizontal rail 9^a.

In using the invention, the spindles are mounted at their lower ends in the usual way, the sleeves 12 or 12^a with the plates 6 connected thereto, are engaged with the upper ends of said spindles, and the hand rail 9 or 9^a is permanently secured in place. The

spindles 13 or 13ª are now "plumbed" one at a time and when any one is at its exact position, the associated plate 6 is secured to the rail by the screws 8. Incident to plumbing the spindles, each sleeve 12 or 12ª will have to slide somewhat upon its spindle, particularly when connecting the latter with an inclined hand rail, and after the spindle has been properly set and the plate 6 secured, the sleeve is fastened by small nails such as 21, to the spindle, thus establishing a rigid and sightly connection between spindle and rail, and saving a great deal of time, labor and care, now required in stairway construction.

The details disclosed are preferably followed, but within the scope of the invention as claimed, variations may be made.

I claim:—

1. An adjustable stair rail tee comprising a plate having openings to receive fasteners for attaching it to the lower side of a rail, said plate having a downwardly projecting boss, a thin metal sleeve whose upper end receives said boss, and a pivot pin passing through said boss and sleeve, the lower end of said sleeve being adapted to slidably receive the upper end of a spindle and having an opening to receive a fastener for securing said sleeve and spindle together after plumbing said spindle.

2. An adjustable stair rail tee comprising an inclined plate having openings to receive fasteners for attaching it to the lower side of an inclined rail, said plate being provided with a downwardly projecting boss, a vertical thin metal sleeve whose upper end receives said boss, said sleeve having an inclined upper edge substantially parallel with said plate, and a pivot pin passing through said boss and sleeve, the lower end of said sleeve being adapted to slidably receive the upper end of a spindle and having an opening to receive a fastener for securing said sleeve and spindle together after plumbing said spindle.

3. An adjustable stair rail tee comprising an inclined plate having openings to receive fasteners for attaching it to the lower side of an inclined rail, said plate being provided with a downwardly projecting substantially cylindrical boss perpendicular to said plate and having a rounded lower end, a vertical thin metal sleeve having two diametrically opposed upstanding ears at its upper end, the upper edge of said sleeve being horizontal between said ears throughout substantially half the circumference of the sleeve and being declined from said ears throughout substantially the other half of said circumference, said plate being disposed over said sleeve substantially parallel with said declined edge portion thereof, said boss being snugly received in the upper end of said sleeve and having its rounded lower end disposed against the inner side of the sleeve along said straight edge portion of the latter, and a pivot pin passing through said ears and said boss, the lower end of said sleeve being adapted to slidably receive the upper end of a spindle and having an opening to receive a fastener for securing said spindle and sleeve together after plumbing said spindle.

In testimony whereof I affix my signature.

CHARLES J. SOMMER.