E. G. BUDD.

SEAT END.

APPLICATION FILED JUNE 23, 1908.

933,742. Patented Sept. 14, 1909.

Fig. 1.

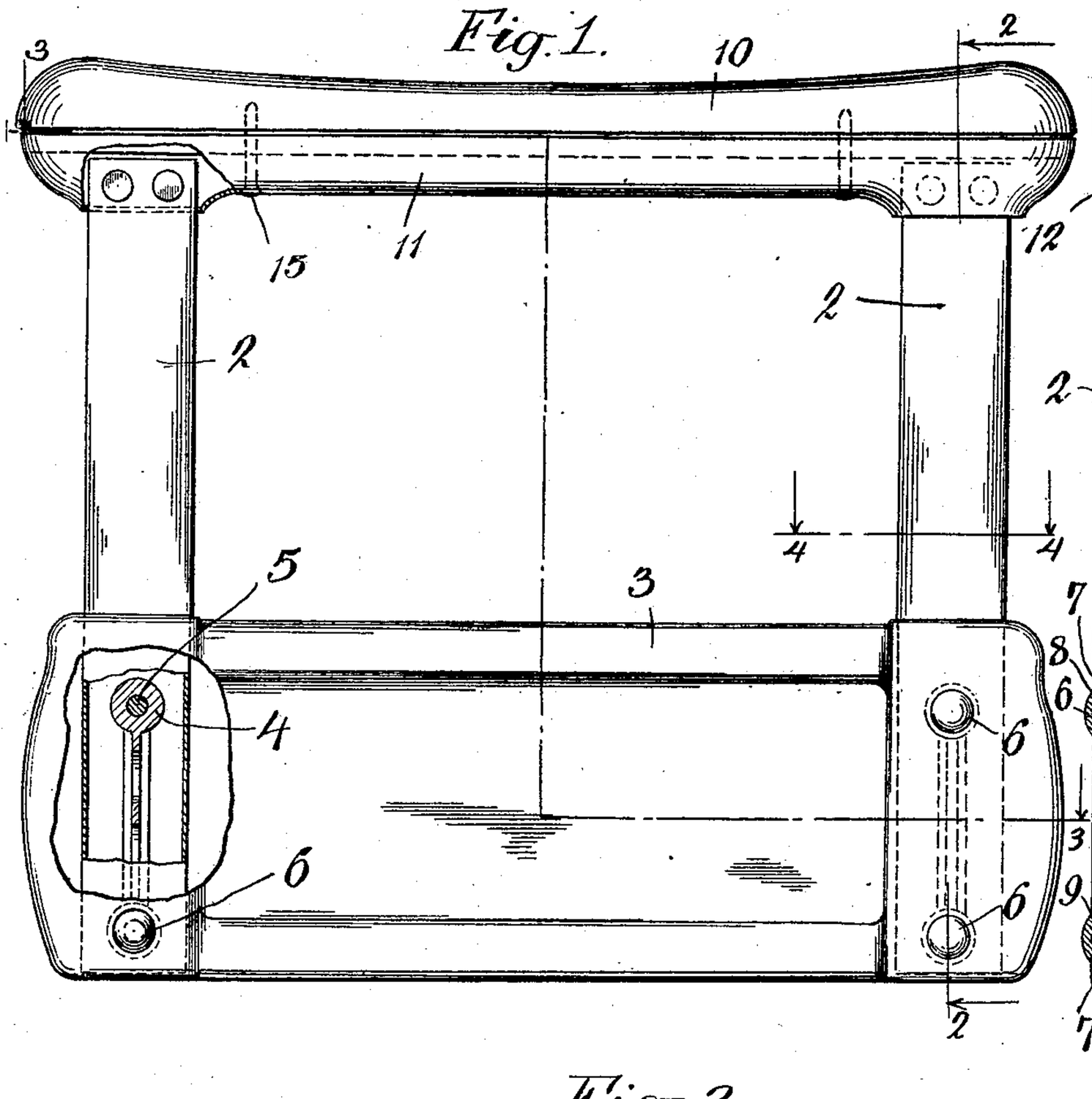


Fig. 2.

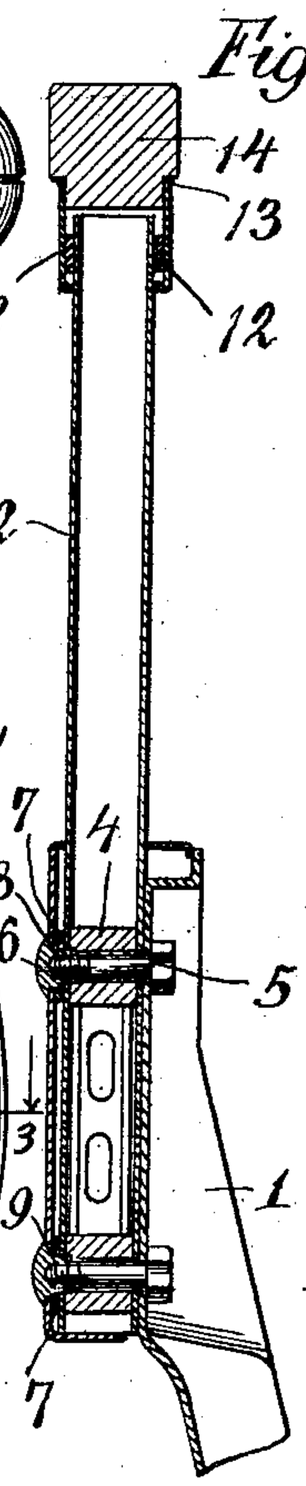


Fig. 3.

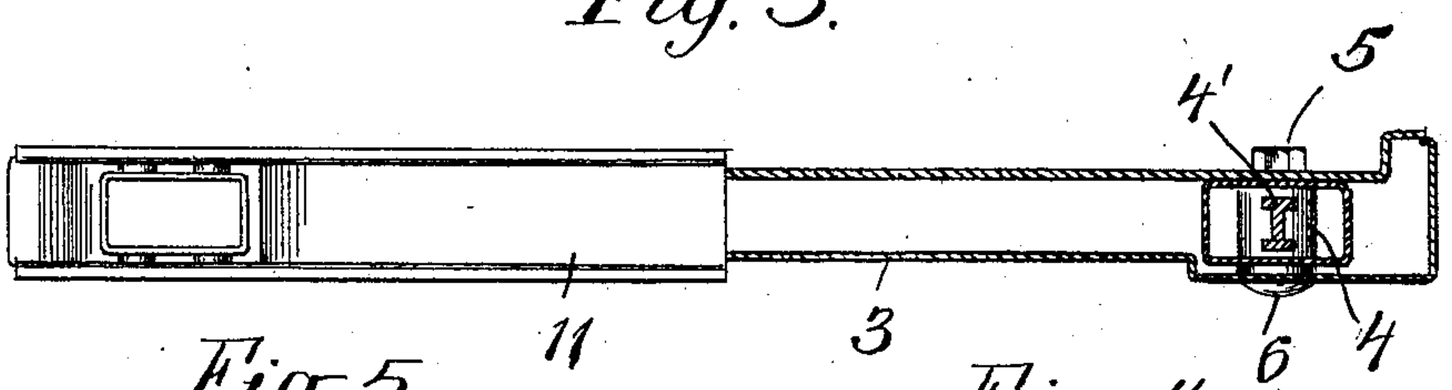
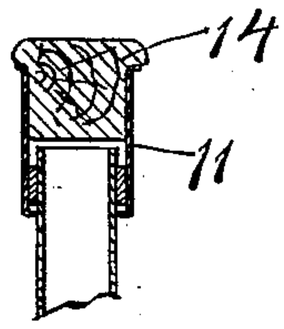
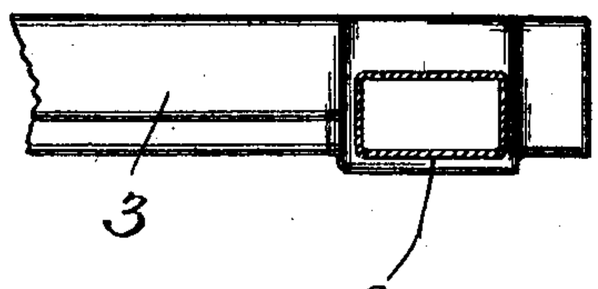


Fig. 5.

Fig. 4.





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SEAT-END.

933,742. Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed June 23, 1908. Serial No. 439,906.

To all whom it may concern:

Be it known that I, EDWARD G. BUDD, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Seat-Ends, of which the following is a specification.

This invention relates to seats and while adaptable for use in seats of various types, is of special utility in those of the type commonly employed in railway cars.

The invention has reference more particularly to the construction of the aisle-end of such seats, that is, the part usually known as the seat-end.

The invention is directed to the provision of a seat-end which is constructed largely or entirely of metal so that it is fire-proof, which is of light weight, which possesses great strength, which is of attractive appearance, and which may be manufactured at small cost.

I have illustrated the preferred embodiment of my invention, by which these objects are attained, in the accompanying drawings in which—

Figure 1 is an elevation of a seat-end broken away and sectioned in part, Fig. 2 is a vertical section on lines 2—2 of Fig. 1, Fig. 3 is a transverse section on line 3—3 of Fig. 1, Fig. 4 is a sectional detail view on line 4—4 of Fig. 1, with the shape of the cover-plate changed somewhat, and Fig. 5 is a sectional detail view illustrating a modification.

Referring to these drawings, a portion of the supporting structure or pedestal at the aisle-end of a car-seat is shown at 1, this pedestal being of the usual or any suitable construction and provided with an upwardly extending portion as shown, to which the seat-end is secured. The seat-end, generally considered, consists of four parts, two posts, one at either side of the seat-end, an arm-rest secured upon the upper ends of these posts and a cover-plate overlying the lower ends of the posts and formed to provide a decorative design for the seat-end. The posts are shown at 2, they are made of sheet-metal and are of substantial size; in the drawings the posts are shown as rectangular in cross-section and as of uniform section throughout, these being made either by flattening a sheet-metal tube to the desired rectangular shape or by bending a piece of sheet-metal along parallel lines to form a rectangle and uniting the edges of the piece. The cover-plate is shown at 3 and consists of a piece of thin sheet-metal flanged inwardly at its edges to the form of a pan. In the flange constituting the upper edge of the pan are two openings corresponding in size to the posts 2 and through each of which the lower end of one of the posts is passed until the movement of the post is arrested by the flange at the bottom edge of the pan. Within each of the posts 2 are a pair of sleeves 4, or as here shown, a casting consisting of a pair of sleeves united by a suitable web 4′. Each of the sleeves 4 is adapted to receive a bolt 5 which passes through openings in pedestal 1 and in the walls of the post 2 in order to secure the seat-end to the pedestal. The bolt 5 is adapted to coact with a nut 6 provided with a threaded opening to receive the end of the bolt, but this opening does not extend entirely through the nut 6. Between the outer wall of the post 2 and the inner face of the pan 3 is a spacer 7 in the form of a washer. The nut 6 is provided with an extension 8 which passes through an opening in the pan 3 and into the spacer 7 so as to hold the spacer in position, or the spacer is independently fixed to the inner face of pan 3. Beyond the extension 8 is a further extension 9 of smaller cross-section which passes through an opening in the wall of post 2 and into a countersink in the sleeve 4. If desired, one or more of the openings through which the nut 6 extends may be provided with flattened walls and the corresponding portions of nut 6 may be shaped to coact with these flattened walls so as to hold the nut against turning when bolt 5 is tightened up. In assembling these parts, the ends of the nuts 6 are passed through the openings in the pan 3 and the spacers 7 are positioned upon these ends. The posts 2 with the sleeves 4 therein are then inserted through the openings in the upper edge of pan 3 and are moved downwardly into position with their lower ends abutting against the lower edge of the pan. The bolts 5 are then passed through openings in pedestal 1, the posts 2 and the sleeves 4, and their ends are engaged with the nuts 6. The bolts 5 are then

tightened up to draw the several parts closely together. When the bolts 5 are tightened up in this manner, the strain due to drawing up the nuts 6 is transmitted from the nuts 6 to the posts 2 and sleeves 4 by the spacers 7 so that the posts 2 are held firmly and rigidly to the pedestal 1.

The arm-rest 10 is secured upon the upper ends of the posts 2. As here shown, the arm-rest consists of two parts secured together, the division between them being on a horizontal plane. The lower part 11 is formed from a sheet-metal piece by pressing that piece to the desired configuration and in the bottom of this piece two openings are formed corresponding in size and shape to the cross-section of the posts 2. Spacing pieces 12 are then inserted between the side walls of the posts 2 and the side walls of the piece 11, these pieces 12 being of sufficient width to fill these spaces. These parts are then firmly united as by riveting or welding the posts 2, spacers 12 and the piece 11 together. At its upper edge the piece 11 is flanged outwardly, as shown at 13, and in this open upper end of piece 11, the upper portion 14 of the arm-rest is inserted and secured. In Fig. 2, I have shown this upper portion 14 as made of wood, its lower edges being under-cut so as to receive the upper edge of the sheet-metal piece 11. The upper portion 14 is preferably of such size that the sheet-metal portion 11 exerts a clamping action when the tongue formed on the bottom of the portion 14 is inserted within the sheet-metal portion 11 so that the parts are thereby held together. In order to guard against separation of these parts, screws 15 may be inserted through the openings provided in the bottom of the sheet-metal portion 11, their ends entering the wooden portion 14. The wooden portion 14 is shown in Fig. 2 as of substantial thickness, and extends considerably above the edge of the lower sheet-metal portion 11, the upper surface of the portion 14 being shaped to give the desired contour to the upper surface of the arm-rest. If desired, however, the construction may be as shown in Fig. 5 wherein the sides of the sheet-metal portion 11 of the arm-rest are extended upward a somewhat greater extent so that the wooden portion 14 of the arm-rest projects but a short distance above the edge of the sheet-metal portion 11.

By this construction, the seat-end is made entirely of metal except for the surface material of the arm-rest so that the seat-end is fireproof. Also, the structure possesses great strength, this being due particularly to the fact that strains imposed upon the arm-rest are transmitted by the posts 2 directly to the seat-end 1 without passing through or being transmitted to the cover-plate or pan 3; this results from the construction employed whereby the posts and pan are secured to the pedestal. As above pointed out, it will be seen that the pressure of the heads of nuts 6 is transmitted by the spacers 7 to the posts 2 so that tightening up bolts 5 serves only to draw the posts 2 tightly against the pedestal 1 and hold them rigidly thereto; the pan 3 is merely clamped between the heads of nuts 6 and the spacers 7 in order to hold the pan in position. For this reason, pan 3 may be constructed of very light sheet-metal and this may be pressed to an attractive configuration so as to make the seat-end of more decorative appearance. To this end also, the portions of the posts 2 lying between the arm-rest and cover-plate may be given any desired shape instead of making them of uniform cross-sectional shape throughout as here shown. By reason of the lightness of the metal employed for the pan and the fact that the seat-end is open between the pan and the arm-rest, the structure is of very light weight.

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

1. In a seat, a supporting structure, two separately-formed sheet-metal posts secured thereto and rising therefrom, an arm-rest secured upon the upper ends of said posts, and a metallic cover-plate overlying the lower ends of said posts and extending beyond the non-adjacent edges thereof, substantially as set forth.

2. In a seat, a seat-end comprising two sheet-metal posts, an arm-rest secured upon the upper ends thereof, and a metallic cover-plate overlying the lower ends of said posts and secured thereto, said plate being flanged inwardly at its upper edge and said flange having openings therein to receive said posts, substantially as set forth.

3. In a seat, a seat-end comprising two sheet-metal posts, an arm-rest secured upon the upper ends thereof, and a metallic cover-plate overlying the lower ends of said posts and secured thereto, said plate having an integral inwardly-turned flange at its upper edge extending inwardly between said posts, substantially as set forth.

4. In a seat, a seat-end comprising two sheet-metal posts, an arm-rest secured upon the upper ends thereof, and a metallic cover-plate overlying the lower ends of said posts, the ends of said plate extending beyond the non-adjacent edges of said posts and having inwardly-turned integral flanges thereon, substantially as set forth.

5. In a seat, a seat-end comprising two sheet-metal posts, an arm-rest secured upon the upper ends thereof, a metallic cover-plate overlying the lower ends of said posts, its ends extending beyond the non-adjacent edges of the posts, an integral flange on the upper edge of the plate extending inwardly

between said posts, and integral inwardly-turned flanges on the ends of the plate, substantially as set forth.

6. In a seat, a supporting structure, two separately formed hollow posts made of sheet-metal, means for securing the lower ends of the posts to said structure, a metallic plate overlying the lower ends of said posts, an arm-rest consisting of an upper portion and a hollow lower portion the edges of which are secured to the upper portion, said lower portion being made of pressed sheet-metal and having openings therein through which the upper ends of said posts extend, and means for securing the upper ends of the posts to the interior walls of the lower portion of the arm-rest, substantially as set forth.

7. In a seat, a supporting structure, two posts made of sheet-metal, means for securing the lower ends of said posts to the supporting structure, an arm-rest having the bottom portion thereof formed of sheet-metal and provided with openings in which the upper ends of the posts are received, spacers between the sides of said posts and the sides of said bottom portion, and means for securing the posts, spacers and arm-rest together, substantially as set forth.

8. In a seat, a supporting structure, two sheet-metal posts, an arm-rest secured upon the upper ends of said posts, a cover-plate of sheet-metal overlying the lower ends of the posts, spacers between the cover-plate and posts, and bolts securing the cover-plate and posts to the supporting structure, substantially as set forth.

9. In a seat, a supporting structure, two sheet-metal posts, an arm-rest secured upon the upper ends of said posts, a cover-plate of sheet-metal overlying the lower ends of the posts, sleeves within said posts, spacers between the cover-plate and posts, and bolts extending through said sleeves and securing the cover-plate and posts to the supporting structure, substantially as set forth.

10. In a seat, a supporting structure, two sheet-metal posts, an arm-rest secured upon the upper ends of said posts, a cover-plate of sheet-metal overlying the lower ends of the posts, sleeves within said posts, spacers between the cover-plate and posts in line with said sleeves, and bolts extending through said sleeves and spacers and securing the cover-plate and posts to the supporting structure, substantially as set forth.

11. In a seat, a supporting structure, two sheet-metal posts, an arm-rest secured upon the upper ends of said posts, a cover-plate of sheet-metal overlying the lower ends of the posts, spacers between the cover-plate and posts, bolts securing the cover-plate and posts to the supporting structure, and nuts coacting with said bolts and provided with extensions passing through openings in the cover-plate and said spacers, substantially as set forth.

This specification signed and witnessed this 6th day of June, 1908.

EDWARD G. BUDD.

Witnesses:
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P. J. TUCKER.