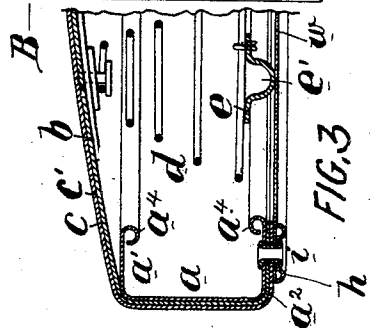
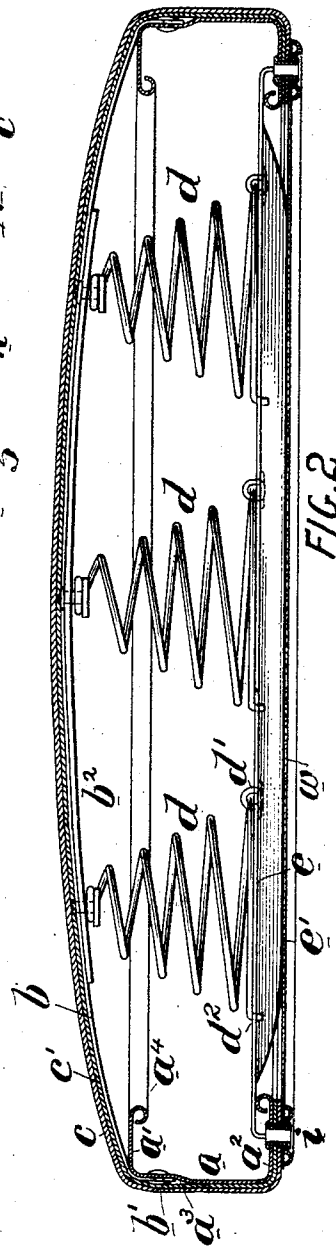
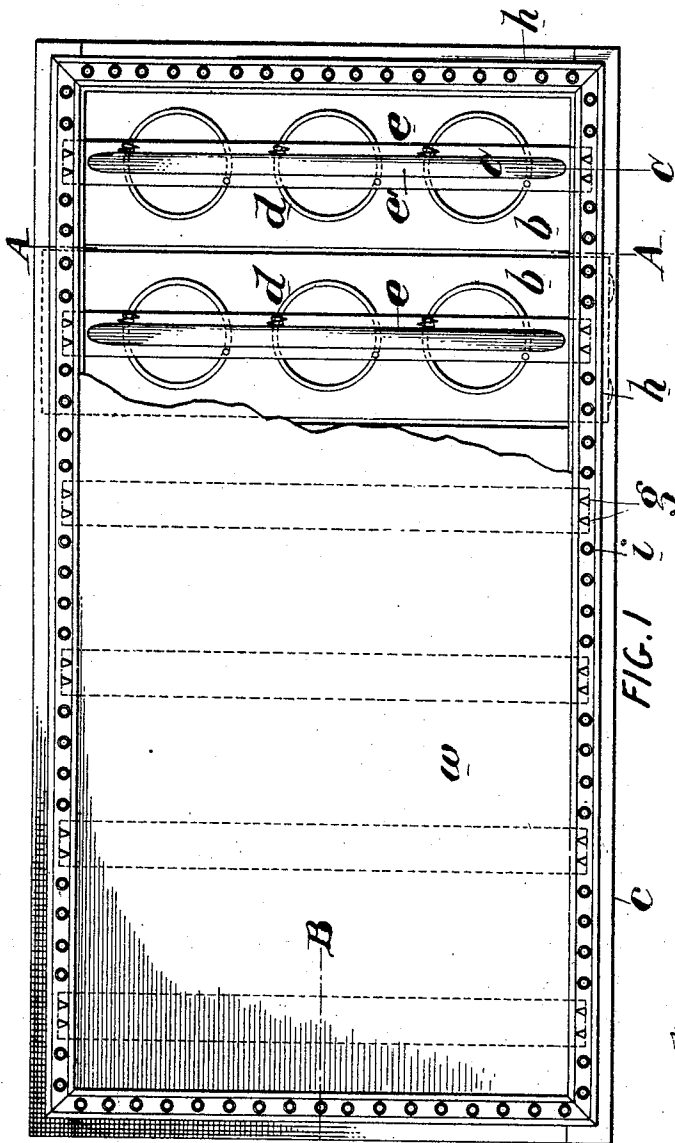


E. G. BUDD.
CUSHION FOR CAR SEATS.
APPLICATION FILED DEC. 26, 1903.

2 SHEETS—SHEET 1.

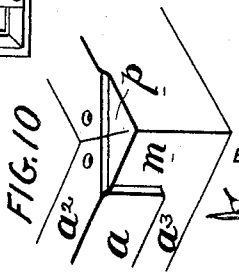
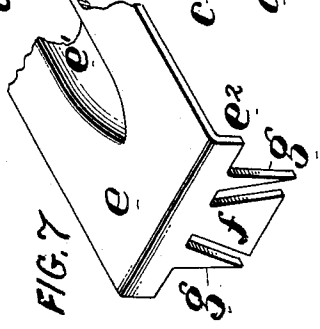
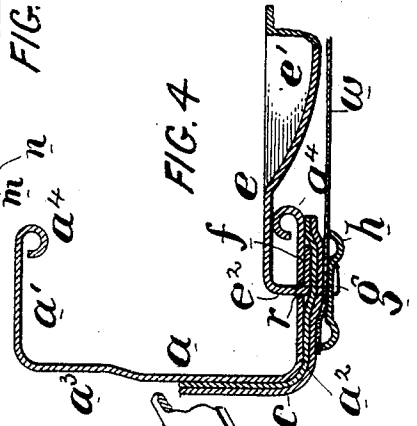
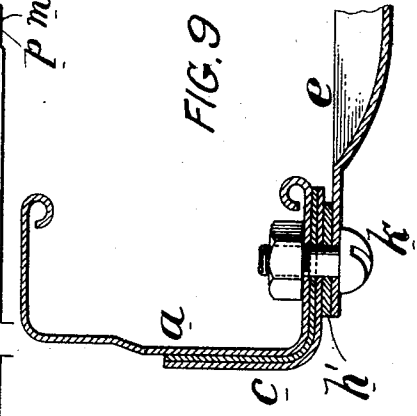
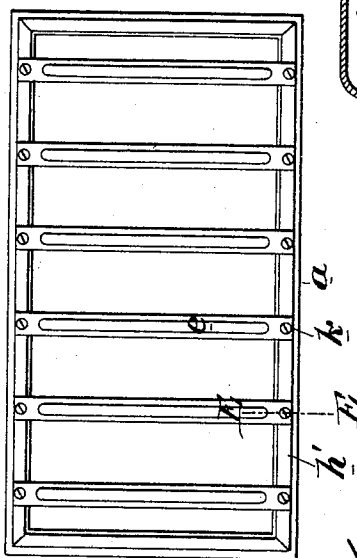
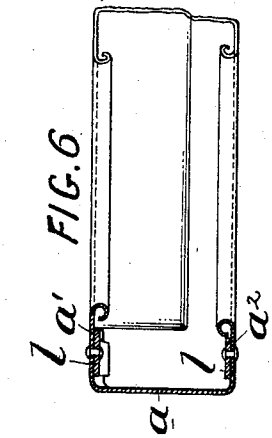
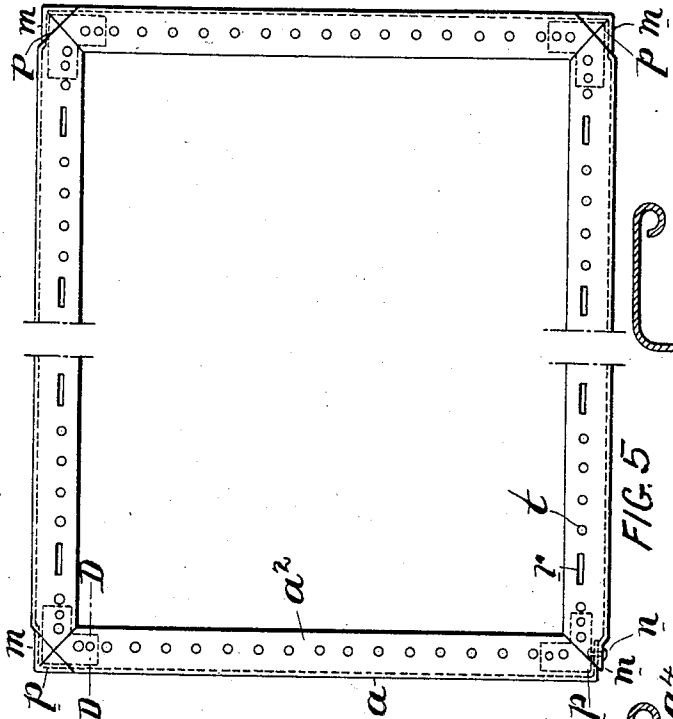


WITNESSES:
Henry D. ...
P. M. Kelly

INVENTOR
 Edward G. Budd
 BY
[Signature]
 ATTORNEY.

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2 SHEETS—SHEET 2.



WITNESSES:
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FIG. 8

INVENTOR
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UNITED STATES PATENT OFFICE.

EDWARD G. BUDD, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
HALE AND KILBURN MANUFACTURING COMPANY, A CORPORATION
OF PENNSYLVANIA.

CUSHION FOR CAR-SEATS.

SPECIFICATION forming part of Letters Patent No. 782,823, dated February 21, 1905.

Application filed December 26, 1903. Serial No. 186,609.

To all whom it may concern:

Be it known that I, EDWARD G. BUDD, of the city and county of Philadelphia, State of Pennsylvania, have invented an Improvement in Cushions for Car-Seats, of which the following is a specification.

My invention has reference to cushions for car-seats; and it consists of certain improvements which are fully set forth in the following specification and shown in the accompanying drawings, which form a part thereof.

The object of my invention is to provide a construction for cushion-frame, adapted to both seat and back, which shall be metallic and fireproof.

My invention is especially adapted for use in the railway-car seats where the danger to loss of life from fire is very great in case of collision.

In carrying out my invention I employ an outer or box frame of metal, preferably \square in cross-section and bent into the requisite shape, and combine therewith sheet-steel bands arched over the top from side to side, coil-springs under said steel bands, and transverse metallic slats or cross-bars supporting said springs and united at their ends to the side portions of the outer frame.

My invention also includes in such a structure a covering of woven ratan or other upholstery, the free edges of which are folded under the outer frame and united thereto by eyelets or other suitable fastening devices and preferably shielded at its edges by metallic strips which impart both protection and finish.

My invention further embodies a fireproof covering for the under side of the cushion to prevent flames passing upward to the interior and destroying the more combustible portions of the upholstery.

In addition to the above-mentioned features my improvements comprehend many details of construction which, together with said above-mentioned structures, will be better understood by reference to the drawings, in which—

Figure 1 is an inverted plan view of my im-

proved seat with a portion of the fireproof bottom-covering broken away to show the interior. Fig. 2 is a cross-section of same on line A A. Fig. 3 is a cross-section of same on line B B. Fig. 4 is a cross-section of same on line C C. Fig. 5 is an inverted plan view of the box-frame structure. Fig. 6 is a cross-section of same on line D D. Fig. 7 is a perspective view of the end of one of the cross bars or slats. Fig. 8 is an inverted plan view of a seat embodying a modified form of my invention. Fig. 9 is a cross-section of same on line E E, and Fig. 10 is a perspective view of one corner of the box-frame.

The box-frame is rectangular and made of rolled sheet metal of substantial \square in cross-section, the outer wall a , having the top flange a' and bottom flange a'' . The free edges of these flanges may be curved, folded, or beaded, as shown at a^3 , which adds greatly to the strength. The two longest sides of the box-frame have their upper outer surfaces depressed, as a^4 , to receive the ends of the springs b and rivets b' . I prefer to make the box-frame of one continuous strip of sheet metal, with the parts a' and a'' cut so as to form miter-joints at the corners, as shown in Fig. 5. These miter-joints may be reinforced by angle-plates l , riveted in place. The parts a of the strip are overlapped and riveted, as at n , Fig. 5, to complete the continuity of the frame. The under surfaces of the corners, as at m , are depressed, as are also the ends of the parts a upon two opposite bars of the frame, as at p , these depressions being to permit the upholstery to be folded upon itself without projecting beyond the remaining surface.

b represents flat springs arched over the upper or outer surface of the box-frame and are seated at their ends upon the opposite side rails and riveted at b' , as before stated. These spring-plates are preferably provided their under sides with a central strip b^2 of greater strength, and to both of which plates the coil-springs c are bolted. The lower ends of these springs are supported upon transverse bars or slats e , formed of stamped steel and ribbed, as at e' , for rigidity. These

ribs do not extend to the ends of the slats, but instead terminate a short distance from each end, and said ends are bent downward, as at e^2 , to form feet which rest against the inner surface of the flange a^2 of the box-frame, Figs. 2 and 4. This flange is perforated, as at r , and through these perforations the extensions $f g$ are passed and the extensions f bent over to lock the slats in place. This leaves the pointed prongs g projecting for purposes described later on. The lower ends of the springs d fit into holes in the slats d , as at d^2 , and the coils may be further secured by the staples d' clenched over them, as shown in Fig. 2.

In practice I prefer to have the spring-plates b come close together, so as to form only a small space between them to insure the structure being more fireproof. Above the spring-plates b is placed the upholstery, and ordinarily this consists of a sheet of canvas c' and a covering of woven ratan c or other outer material. This upholstery may be of any other construction preferred and may be made fireproof in any of the well-known ways. The upholstery is pulled down over the box-frame and folded on the corners into the recesses or depressed portions p and also folded under the bottom flange a^2 and pushed upon the prongs g of the slats. It is thus held in position, and over it projecting strips h are placed and held down by bending over or clenching said prongs g , as shown in Fig. 4. The strips h , the upholstery, and the flange a^2 are further fastened together by eyelets i , as shown in Fig. 2, the eyelets passing through holes in the several parts. The holes in the flange a^2 are shown in Fig. 5 at t . The upholstery is folded over at the corners on the bottom or back of the box-frame, and where they overlap they are received in the depressed portions m to prevent uneven under surfaces.

To make the cushion more fireproof against flames from below, I may use a back-covering of asbestos of any suitable form, as indicated at w . This backing also acts to keep out dust.

In place of the manner of securing the slats to the box-frame described above they may be secured as shown in Figs. 8 and 9. In this case the ends of the slats are extended over the outside of the flanges a^2 and bolted in place by bolts k upon the upholstery. The free edges of the upholstery may be shielded by the metal strip h' and held in position by the eyelets, as before, passing through the plate and flange of the box-frame.

While I have found eyelets excellently adapted as a means for securing the upholstery in place, it is evident that it may be secured in any well-known manner, such as stitching or welting, &c.

From the foregoing description it will be seen that the cushion is essentially fireproof and at the same time both light and strong.

While I prefer the construction herein shown and described, I do not confine myself

to the details, as these may be modified without departing from the spirit of the invention.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. As a new article of manufacture a seat-cushion for railway-car seats consisting of a box-frame of metal having bottom flanges, combined with cross-slats of metal resting on the flanges, coil-springs resting upon the slats, continuous springs of sheet-steel resting upon the springs and having their ends secured to the outside surface of the box-frame near the top, and upholstery covering the springs and box-frame.

2. As a new article of manufacture a seat-cushion for railway-car seats consisting of a box-frame of metal having bottom flanges, combined with cross-slats of metal resting on the flanges, coil-springs resting upon the slats, continuous springs of sheet-steel resting upon the springs and having their ends secured to the box-frame, upholstery covering the springs and box-frame and extending under the flange of the box-frame and eyelets uniting the edges of the upholstery to the lower flanges of the box-frame.

3. A seat-cushion for railway-car seats and having a sheet-metal box-frame provided with top and bottom flanges beaded on their edges for rigidity, metal slats carried by the lower flange of the box-frame, and springs secured to the slats, in combination with upholstery covering the springs and extended over the outside of the box-frame and secured to its lower flange.

4. In a seat-cushion for railway-car seats, a box-frame of metal having a lower or back flange, combined with transverse metal slats having their ends bent to form feet e^2 united to the flanges of the box-frame by extensions clenched through the flanges of the box-frame, springs resting upon said slats and upholstery supported by the springs and box-frame.

5. In a seat-cushion for railway-car seats, a box-frame of metal having a lower or back flange, combined with transverse metal slats having their ends bent to form feet e^2 and united to the flanges of the box-frame by extensions clenched through the flanges of the box-frame, springs resting upon said slats and upholstery supported by the springs and box-frame, protecting-strips covering the free edges of the upholstery, and means uniting the protecting-strips upholstery and flanges of the box-frame together.

6. In a seat-cushion, the combination of a sheet-metal box-frame having an inwardly-directed lower flange a^2 strengthened by a beaded edge, with cross-slats of sheet metal having their ends bent at an angle to form feet e^2 resting against the inner face of the flange and also provided with prongs which extend through and are clenched over the flange, and springs supported upon the cross-slats.

7. In a seat-cushion, the combination of a sheet-metal box-frame having an inwardly-directed lower flange a^2 strengthened by a beaded edge, with cross-slats of sheet metal having their ends bent at an angle to form feet e^2 resting against the inner face of the flange and also provided with prongs which extend through and are clenched over the flange, springs supported upon the cross-slats, and upholstery drawn over the springs and box-frame and extended under and held by the prongs.

8. In a seat-cushion, the combination of a sheet-metal box-frame having an inwardly-directed lower flange a^2 strengthened by a beaded edge, with cross-slats of sheet metal having their ends bent at an angle to form feet e^2 resting against the inner face of the flange and also provided with prongs which extend through and are clenched over the flange, springs supported upon the cross-slats, upholstery drawn over the springs and box-frame and extended under and held by the prongs, and additional means for attaching the upholstery to the flange of the box-frame at each side of the slats.

9. In a cushion, the combination of a sheet-metal box-frame having upper and lower flanges, upholstery extending over the frame and folded under and against the lower flange thereof, and metallic fastening devices extending through the upholstery and lower flange of the box-frame.

10. In a cushion, the combination of a sheet-metal box-frame having upper and lower flanges, upholstery extending over the box-frame and folded under and against the lower flange thereof, metallic protecting-strips arranged over the free edge of the upholstery, and metallic fastening devices extending through the metallic protecting-strips upholstery and lower flange of the box-frame.

11. In a cushion, a metallic cross-slat having its body ribbed and its ends bent at right angles to form feet and also provided with clenching-prongs extending beyond the feet and of less width than them.

12. In a cushion, a box-frame formed of sheet metal having upper and lower flanges a' and upright wall a and in which the latter is depressed at its upper part as at a^3 .

13. In a cushion, a box-frame formed of sheet metal having upper and lower flanges a' and upright wall a and in which the latter is depressed at its upper part as at a^3 , in combination with flat springs b having their ends

fitting said depressed portion and secured in place by fastening devices extending through the springs and part a of the frame.

14. In a cushion, a box-frame of sheet metal having the upright wall a , top flange a' and bottom flange a^2 and further having the corners of the bottom flange depressed as at p .

15. In a cushion, a box-frame of sheet metal having the upright wall a , top flange a' and bottom flange a^2 and further having the corners of two of the opposite upright walls depressed as at m .

16. The combination of a sheet-metal cross-slat having two side flanges and a central rib, with coil-springs resting upon the slat and having their extreme ends bent downward and projecting through holes in the flange of the slat and also attached in place by staples z .

17. As a new article of manufacture, a cushion for railway-car seats formed of a metal box-frame having top and bottom flanges, combined with metal cross-slats secured to the flanges of the box-frame, metal springs upon the slats, sheet-steel spring-plates resting upon the springs and also connected to the box-frame adjacent to the top flange the whole constituting a fireproof structure.

18. A sheet-metal box-frame for a seat-cushion consisting of the four rigid sides connected at the corners and each side having a rigid vertical wall, a top flange united to the vertical wall in a rounded edge and a bottom flange uniting with the lower part of the vertical wall and in which said top and bottom flanges are supported by and rigidly held apart by said side walls.

19. In a cushion, a metal box-frame formed of vertical walls having top flanges and also bottom flanges provided with beaded edges in combination with metal slats for supporting the cushion-springs extending over the beaded edges of the lower flanges having their ends bent downward to form feet to rest upon the flange back of the beaded portion.

20. In a cushion a metal cross-slat consisting of a flat plate e having the central downwardly-extending hollow rib e' whereby two parallel flat upper surfaces are provided for supporting the springs.

In testimony of which invention I hereunto set my hand.

EDWARD G. BUDD.

Witnesses:

ERNEST HOWARD HUNTER,
M. J. EYRE.